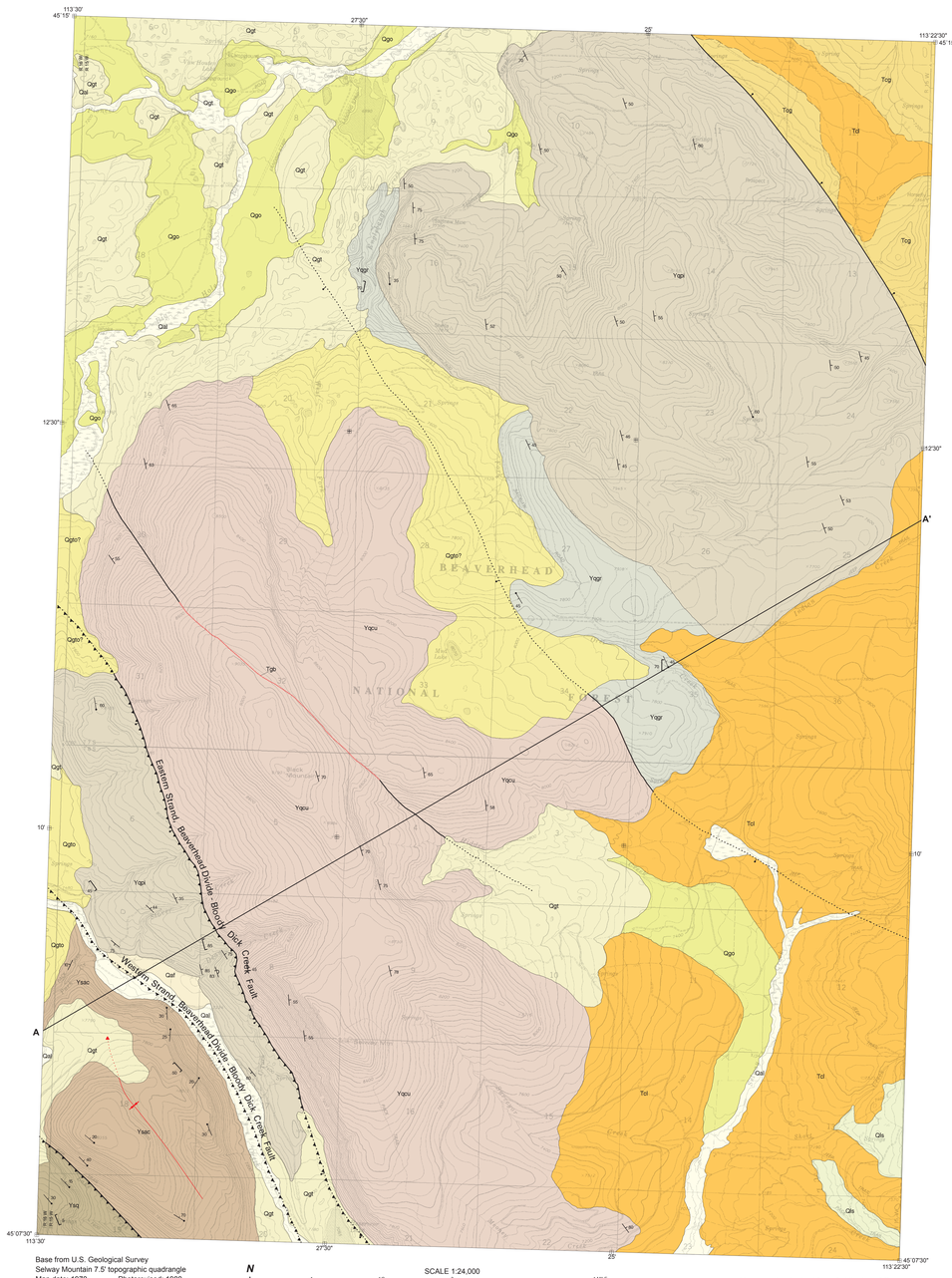


Base from U.S. Geological Survey
Selway Mountain 7.5' topographic quadrangle
Map date: 1978 Photorevised: 1988
Projection: UTM zone 12; 1927 NAD
UTM grid declination 1°44' West
1984 Magnetic north declination 16.5° East

SCALE 1:24,000
1 0 1 MILE
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET
1 0 1 KILOMETER
CONTOUR INTERVAL 40 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

Maps may be obtained from: Publications Office
Montana Bureau of Mines and Geology
1300 West Park Street
Butte, Montana 59701-8997
Phone: (406) 496-4174
Fax: (406) 496-4451
http://www.mbmg.mtech.edu

INTRODUCTION

The Montana Bureau of Mines and Geology (MBMG) and the Idaho Geological Survey (IGS) selected the Selway Mountain 7.5' quadrangle in the Beaverhead Mountains of southwestern Montana for a 1:24,000-scale collaborative mapping project as part of a larger project designed to understand the structural and stratigraphic relationships between two dissimilar Mesoproterozoic sedimentary rock packages. To the northeast, in the Anaconda Range (Figure 1), are exposures of known Belt Supergroup rocks (Ruppel and others, 1993; Lonn and McDonald, 2004), whereas to the southwest in the Lemhi Range and Salmon River Mountains of Idaho are the reference sections of the Lemhi Group, Swauger Formation, and Yellowjacket Formation (Ross, 1934; Ruppel, 1975). In the intervening Beaverhead Mountains, both the stratigraphic and structural interpretations have been controversial among previous workers (Coppinger, 1974; Tucker, 1975; Hansen, 1983; Ruppel and others, 1993; Winston and others, 1999; Evans and Green, 2003; Tysdal and others, 2005; O'Neill and others, 2007). Since 2007, the MBMG/ IGS team has mapped five other 7.5' quadrangles in the region, including the adjacent Goldstone Pass (Lonn and others, 2009) and Kitty Creek (Lewis and others, 2009b) quadrangles, in an ongoing attempt to resolve some of the long-standing controversies.

Data collected in 2009 were supplemented with attitudes from Coppinger's (1974) 1:48,000-scale map that included the entire Selway Mountain quadrangle.

DESCRIPTION OF MAP UNITS

Grain-size classification of unconsolidated and consolidated sediment is based on the Wentworth scale (Lane, 1947). Bedding thicknesses and lamination type are after McKee and Weir (1953), and Winston (1986). Distances and bed thicknesses are given in metric units. Formation thickness and elevation are listed in both meters and feet. Multiple lithologies within a rock unit description are listed in order of decreasing abundance.

CENOZOIC ROCKS

Qal Alluvium (Holocene)—Moderately well- to well-sorted, rounded to subrounded, cobble to boulder gravel and sand. Mostly derived from re-worked till and outwash gravel. Includes minor fine-grained deposits of silt and clay deposited on floodplains and in wetlands.

Qaf Alluvial fan deposits (Holocene)—Poorly sorted, angular to subangular, boulder gravels and sand in fan-shaped accumulations deposited by debris flows.

Qls Landslide deposits (Holocene-Pleistocene)—Unsorted mixtures of silt, clay, sand, gravel and boulders. Typically characterized by hummocky topography. Developed in areas underlain by Tcl.

Qgf Glacial till of last local glacial maximum (Pinedale) (Pleistocene)—Poorly sorted sandy to clayey boulder till. Clasts subangular to subrounded. Also includes younger till deposited near or just below cirque floors. Includes end moraine, recessional moraine, and subordinate outwash deposits. Thickness up to 35 m (120 ft).

Qgto Older glacial till (Pleistocene)—Deposits older than last local glacial maximum. Poorly sorted bouldery till. Dominantly subangular to subrounded quartzite clasts. Thickness 1-5 m (3-15 ft).

Qgo Glacial outwash gravels of last local glacial maximum (Pinedale) (Pleistocene)—Well- to moderately well-sorted, subrounded to rounded, sorted sandy cobble to boulder gravel. Deposit on terrace 3 meters (10 ft) above Qal. Thickness at least 2 m (6 ft).

Tcg Conglomerate (Pliocene to Eocene) — Red to pink, crudely bedded, poorly sorted, angular to sub-angular boulders, cobbles, pebbles and sand. Appears to overlie unit Tcl. Thickness as much as 65 m (200 ft).

Tcl Silt and clay (Oligocene to Eocene) — Light yellowish brown, massive siltstone and claystone containing scarce floating pebbles and boulders. Typically capped by a flat surface of lag deposits containing sub-angular to subrounded cobbles and boulders. Best exposed along Short Creek in sec. 13, T. 8 S., R. 15 W. Minimum thickness 65 m (200 ft).

Tgb Gabbroic dikes and sills (Eocene?)—Dark colored diabase containing plagioclase laths in irregular masses of mafic minerals. Composition typically 50% plagioclase, 40% augite, 5% hornblende, and 5% intergrowths of quartz and feldspar (Coppinger, 1974). Intrudes a fault zone in the west-central part of the quadrangle and found in waste rock at the Saginaw Mine (sec. 16, T. 7 S., R. 15 W.) (Geach, 1972). May be related to altered hornblende diorite that intrudes the western strand of the Beaverhead Divide fault on the adjacent Goldstone Pass quadrangle (Lonn and others, 2009) and has a U-Pb age of 46 Ma (Richard Gaschnig, written communication, 2009).

MESOPROTEROZOIC STRATA

Low metamorphic grade metasedimentary rocks of Mesoproterozoic age underlie most of the Selway Mountain quadrangle. These rocks have been variously assigned by previous workers to the Belt Supergroup, the Lemhi Group, and/or the Yellowjacket Formation. In the west-adjacent Goldstone Pass quadrangle (Lonn and others, 2009), we described three main metasedimentary rock packages separated by the eastern and western strands of the Beaverhead Divide-Bloody Dick Creek fault (see STRUCTURE section): 1) poorly sorted, medium- to coarse-grained quartzite northeast of the eastern strand of the Beaverhead Divide-Bloody Dick Creek fault (eastern sequence); 2) medium- to fine-grained quartzite found between the eastern and western strands of the fault (central sequence); and 3) fine-grained quartzite, siltite, and argillite southwest of the western strand (western sequence). The Selway Mountain quadrangle contains parts of all three sedimentary sequences.

Eastern sequence

Northeast of the eastern strand of the Beaverhead Divide-Bloody Dick Creek fault is a generally east-facing stratigraphic sequence of poorly sorted, feldspathic, medium- to coarse-grained quartzite. This sequence is tentatively correlated with the Swauger Formation that stratigraphically overlies the Lemhi Group in the Lemhi Range to the southwest (Ruppel, 1975). To the northwest in the Homer Youngs Peak quadrangle, we divided this 6,000 m (19,000 ft) thick sequence into four informal units based on grain size and sedimentary structures (Lonn and others, 2008). Only one of those units is exposed in the Selway Mountain quadrangle.

Yqcu Upper coarse-grained quartzite of the Swauger(?) Formation (Mesoproterozoic and/or Neoproterozoic)—White to light gray, poorly sorted, medium- to coarse-grained, trough and planar crossbedded feldspathic quartzite. Contains granule-sized grains and sparse floating pebbles low in the section. Lavender quartz grains and rare granule-sized aggregates of lavender grains are present. Potassium feldspar typically in excess of plagioclase. In the Kitty Creek quadrangle (Lewis and others, 2009b), eight quartzite samples contained 5-16% potassium feldspar and 4-8% plagioclase; one sheared sample lacked potassium feldspar and one sample contained plagioclase in excess of potassium feldspar (15 versus 10 percent). Tysdal and others (2005) cited relatively low feldspar content (5-16% as reported by Coppinger, 1974) as evidence that this quartzite differs from quartzite on the east side of the Beaverhead Divide fault to the north in the Homer Youngs Peak quadrangle. We found higher concentrations of feldspar (13-25%), and did not see significant differences between the quartzite in this quadrangle and what we consider equivalent quartzite east of the Beaverhead Divide fault in the Homer Youngs Peak quadrangle (Lonn and others, 2008). Faulting makes thickness estimates problematic, but unit is at least 1,500 m (5,000 ft) thick on the south-adjacent Kitty Creek quadrangle (Lewis and others, 2009b).

Yqmc Multi-colored quartzite of the Swauger(?) Formation (Mesoproterozoic and/or Neoproterozoic)—White, purple, dark gray, and green, fine- to coarse-grained quartzite and siltite. ***In cross section only;*** nearest exposures are on the west-adjacent Goldstone Pass quadrangle (Lonn and others, 2009).

Central Sequence

Between the eastern and western strands of the Beaverhead Divide-Bloody Dick Creek fault is a strongly cleaved, east-facing, 5,300 m (17,000 ft) thick stratigraphic sequence of feldspathic, very fine- to medium-grained quartzite and subordinate siltite that is well-exposed on the west-adjacent Goldstone Pass quadrangle (Lonn and others, 2009). This sequence is tentatively correlated with the Gunsight Formation of the Lemhi Group (Ruppel, 1975). On the Goldstone Pass quadrangle, the central sequence was divided into four informal units; as a result of faulting, only the upper two of these are present on the Selway Mountain quadrangle.

Ygsi Pink quartzite of the Gunsight(?) Formation (Mesoproterozoic)—Medium- to fine-grained, moderately well-sorted feldspathic quartzite that has a pinkish cast on fresh surfaces. Often massive, but also flat-laminated or trough crossbedded in dm to m beds. Siltite and argillite beds are rare, but some intervals contain abundant thin red mud rip-up clasts and muscovite parting surfaces. Plagioclase content greater than or sub-equal to potassium feldspar. Seven samples collected on the Selway Mountain quadrangle contained 10-40% plagioclase and 0-15% potassium feldspar. Of 13 samples collected on the adjacent Goldstone Pass (Lonn and others, 2009) and Kitty Creek (Lewis and others, 2009b) quadrangles, nine contained 5-16% potassium feldspar and 12-28% plagioclase, and four samples lacked potassium feldspar and contained 19-40% plagioclase. Top of unit not exposed, but thickness at least 2,154 m (7,000 ft). Tentatively correlated with the upper part of the Gunsight Formation of the Lemhi Group (Ruppel, 1975). To the northwest, on the Badger Spring Gulch quadrangle (Lewis and others, in preparation), and on the east-adjacent Peterson Lake quadrangle (Lonn and Lewis, in preparation), this unit grades upward into coarse-grained quartzite of the eastern sequence thought to be Swauger Formation of the Lemhi Range (Ruppel, 1975).

Ygqr Gray quartzite of the Gunsight(?) Formation (Mesoproterozoic)—Light gray to pale green, fine-grained feldspathic quartzite. Beds m-to dm-thick. Some beds contain black laminations on a mm scale; others appear massive with no apparent bedding. Mud rip-up chips and mud skins are very rare. Contains uncommon convoluted black laminations that resulted from soft sediment deformation. Plagioclase greater than potassium feldspar content (Coppinger, 1974). Grades upward into unit Yqpi. Very poorly exposed; base not exposed on the Selway Mountain quadrangle, but 2,200 m (7,000 ft) present on the west adjacent Goldstone Pass quadrangle (Lonn and others, 2009). Tentatively correlated with the middle part of the Gunsight Formation of the Lemhi Group (Ruppel, 1975).

Western Sequence

West of the western strand of the Beaverhead Divide-Bloody Dick Creek fault is a folded sequence consisting of siltite, fine- to very fine grained feldspathic quartzite, and argillite. This sequence is better exposed in the west-adjacent Goldstone Pass quadrangle (Lonn and others, 2009) and south-adjacent Kitty Creek quadrangle (Lewis and others, 2009b). We correlate this sequence with the Lemhi Group because of similarities to known Lemhi Group rocks south of Salmon, Idaho. This correlation is in agreement with Evans and Green (2003), although we have been conservative by applying lithologic-unit designations and only offering tentative correlations to specific Lemhi Group formations. To the west, in the Bohannon Spring quadrangle (Lewis and others, 2009a), we divided this sequence into six informal units. Only two of those units are exposed in the Selway Mountain quadrangle.

Ysac Carbonate-bearing siltite, argillite, and quartzite (Mesoproterozoic)—Dark gray siltite and argillite in laterally discontinuous laminae and graded couplets, and thin quartzite beds. Quartzite locally contains medium- to coarse-grained lags of well-rounded quartz. Contains little or no carbonate in this quadrangle, but is carbonate bearing along strike to the northwest in the Goldstone Pass quadrangle (Lonn and others, 2009). Less than 300 m (975 ft) exposed on the Selway Mountain quadrangle, but at least 800 m (2,600 ft) likely on the adjacent Goldstone Pass quadrangle. Tentatively correlated with the rocks of the Yellow Lake area in the Lemhi Range, designated as the reference section for the Apple Creek Formation by Ruppel (1975), that lie stratigraphically below the Gunsight Formation.

Ysq Siltite, quartzite, and argillite (Mesoproterozoic)—Gray siltite and greenish gray argillite in dm-scale graded beds, and 10-30 dm-thick beds of light gray quartzite. Where more completely exposed on the Goldstone Pass quadrangle (Lonn and others, 2009), coarser intervals have quartzite as thin (cm) bases of beds grading to dark siltite and darker argillite, and as thick layers commonly in groups of several beds. Thick siltite beds have soft sediment-deformed laminations; quartzite commonly has bedding defined by dark mm-scale laminations. Eleven slabbed quartzite samples stained for potassium feldspar on the adjacent Goldstone Pass quadrangle (Lonn and others, 2009) contained 22-44% plagioclase and 0-8% potassium feldspar. Where present in these samples, potassium feldspar is patchy, interstitial, and likely not detrital. However, one sample contained only 6% plagioclase and about 8% detrital(?) potassium feldspar, and another contained about 30% plagioclase and 18% potassium feldspar, some of which may have been detrital. Similar to, but overall coarser than unit Ysac. Less than 300 m (975 ft) exposed on the Selway Mountain quadrangle, but a minimum thickness of 2,400 m (8,000 ft) is likely on the Goldstone Pass quadrangle (Lonn and others, 2009). Tentatively correlated with the type Inyo Creek Formation of the Lemhi Group (Ruppel, 1975) and with rocks below the Inyo Creek.

STRUCTURE

Structure is dominated by a series of NW- and NNW-trending faults. The most important of these are the eastern and western strands of the Bloody Dick Creek fault that bound the three major stratigraphic sequences. In the west-adjacent Goldstone Pass quadrangle (Lonn and others, 2009), the Bloody Dick Creek fault system curves northwest and its two strands merge with the eastern and western strands of the Beaverhead Divide fault. We believe this fault system forms a continuous zone of deformation extending at least 70 km from southeast of Lemhi Pass north-northwest to the North Fork of the Salmon River, and therefore refer to it as the Beaverhead Divide-Bloody Dick Creek fault. Coppinger (1974) reported a width of as much as 3.2 km for the Bloody Dick Creek segment, and interpreted the structure as a thrust or high-angle reverse fault. Ruppel and others (1993) mapped it as a major fault separating the Missoula Group to the northeast from the Mesoproterozoic Yellowjacket Formation and Lemhi Group to the southwest. More recently, Tysdal and others (2005) interpreted it as long-lived structure with multiple movements, some with opposite sense of displacement. O'Neill and others (2007) have suggested that the Bloody Dick Creek segment of the fault is a vertical structure that is part of a 500 km-long, left-lateral megashear that juxtaposed the Mesoproterozoic Belt and Lemhi basins. Our mapping suggests that the Bloody Dick Creek segment is a southwest-dipping zone approximately 2-3 km wide. The eastern strand appears to dip steeply west, displays both ductile and brittle deformation, and defines a prominent mountain front. Like its northwestern extension, the eastern strand of the Beaverhead Divide segment, it may represent a Cretaceous, east-directed reverse fault that was reactivated as a Tertiary, down-to-the-west, normal fault.

Northeast of the eastern strand of the Bloody Dick Creek fault is a thick, largely east-dipping and locally overturned panel of quartzite (unit Yqcu), tentatively assigned to the Swauger Formation. To the northwest, in the Homer Youngs Peak quadrangle (Lonn and others, 2008), correlative rocks are interpreted to form the west limb of a giant east-verging syncline similar to the gigantic folds mapped by Tysdal (2002) in the Lemhi Range southwest of the map area.

The western strand of the Bloody Dick Creek segment is concealed beneath the valley of Bloody Dick Creek. However, on the south-adjacent Kitty Creek quadrangle, it is a poorly exposed shear zone that locally contains gently west-dipping mylonitic foliation with a down-dip lineation. We interpret the structure in this quadrangle to be an east-directed thrust fault. The central domain east of the fault consists of east-facing strata of the Yqpi unit correlated with the Gunsight Formation. The western strand of the Bloody Dick Creek fault carries units Ysq and Ysac of the Lemhi Group in its hanging wall. The two Lemhi Group units are thought to be separated by a northwest-striking reverse fault. Bedding in both is well-preserved and the rocks are gently folded.

Three other NNW-striking faults cut the rocks northeast of the Bloody Dick Creek fault zone. One is within unit Yqcu and has been intruded by a mafic dike. A more significant down-to-the-southwest normal fault drops eastern sequence strata (unit Yqcu) down against an upthrown block of central sequence rocks (units Yqgr and Yqpi) that underlie most of the northeastern quarter of the map. A northwest-striking, down-to-the-northeast normal fault cuts across the northeastern corner of the map.

PREVIOUS MAPPING

Coppinger, 1974: entire quadrangle at 1:48,000 scale.

Ruppel and others, 1993: entire quadrangle at 1:250,000 scale.

REFERENCES

Coppinger, Walter, 1974, Stratigraphy and structural study of Belt Supergroup and associated rocks in a portion of the Beaverhead Mountains, southwestern Montana and east-central Idaho: Oxford, Ohio, Miami University, Ph.D. dissertation, 224 p.

Evans, K.V., and Green, G.N., 2003, Geologic map of the Salmon National Forest and vicinity, east-central Idaho: U.S. Geological Survey Geologic Investigations Series Map I-2765, 19 p., scale 1:100,000.

Geach, R.D., 1972, Mines and mineral deposits (except fuels), Beaverhead County, Montana: Montana Bureau of Mines and Geology Bulletin 85, 194 p.

Hansen, P.M., 1983, Structure and stratigraphy of the Lemhi Pass area, Beaverhead Range, southwest Montana and east-central Idaho: University Park, Pennsylvania, The Pennsylvania State University, M.S. thesis, 112 p.

Lane, E.W., 1947, Report of the subcommittee on sediment terminology: Transactions of the American Geophysical Union, v. 28, no. 6, p. 936-938.

Lewis, R.S., Burmester, R.F., Stanford, L.R., Lonn, J.D., McFadden, M.D., and Ottoberg, K.L., 2009a, Geologic map of the Bohannon Spring 7.5' quadrangle, Lemhi County, Idaho, and Beaverhead County, Montana: Montana Bureau of Mines and Geology Open-File Report MBMG 583, scale 1:24,000.

Lewis, R.S., Burmester, R.F., Stanford, L.R., Lonn, J.D., McFaddan, M.D., and Ottoberg, K.L., 2009b, Geologic map of the Kitty Creek 7.5' quadrangle, Lemhi County, Idaho, and Beaverhead County, Montana: Montana Bureau of Mines and Geology Open-File Report MBMG 582, scale 1:24,000.

Lewis, R.S., Burmester, R.F., Stanford, L.R., Lonn, J.D., McFaddan, M.D., and Ottoberg, K.L., in preparation, Geologic map of the Badger Spring Gulch 7.5' quadrangle, Lemhi County, Idaho: Montana Bureau of Mines and Geology, scale 1:24,000.

Lonn, J.D., and Lewis, R.S., in preparation, Geologic map of the Peterson Lake 7.5' quadrangle, Beaverhead County, Montana: Montana Bureau of Mines and Geology, scale 1:24,000.

Lonn, J.D., and McDonald, Catherine, 2004, Geologic map of the Kelly Lake 7.5' quadrangle, western Montana: Montana Bureau of Mines and Geology Open-File Report MBMG 500, 15 p., scale 1:24,000.

Lonn, J.D., Burmester, R.F., Lewis, R.S., and Stanford, L.R., 2008, Geologic map of the Homer Youngs Peak quadrangle, Lemhi County, Idaho, and Beaverhead County, Montana: Idaho Geological Survey Digital Web Map 95 and Montana Bureau of Mines and Geology Open-File Report MBMG 575, scale 1:24,000.

Lonn, J.D., Stanford, L.R., Burmester, R.F., Lewis, R.F., and McFaddan, M.D., 2009, Geologic map of the Goldstone Pass 7.5' quadrangle, Lemhi County, Idaho, and Beaverhead County, Montana: Montana Bureau of Mines and Geology Open-File Report MBMG 584, scale 1:24,000.

McKee, E.D., and Weir, G.W., 1953, Terminology for stratification and cross-stratification in sedimentary rocks: Geological Society of America Bulletin, v. 64, p. 381-390.

O'Neill, J.M., Ruppel, E.T., and Lopez, D.A., 2007, Great Divide megashear, Montana, Idaho, and Washington—an intraplate crustal-scale shear zone recurrently active since the Mesoproterozoic: U.S. Geological Survey Open-File Report 2007-1280-A, 10 p.

Ross, C.P., 1934, Geology and ore deposits of the Casto quadrangle, Idaho: U.S. Geological Survey Bulletin 854, 135 p.

Ruppel, E.T., 1975, Precambrian Y sedimentary rocks in east-central Idaho: U.S. Geological Survey Bulletin 889-A, 23 p.

Ruppel, E.T., O'Neill, J.M., and Lopez, D.A., 1993, Geologic map of the Dillon 1° x 2° quadrangle, Idaho and Montana: U.S. Geological Survey Miscellaneous Investigations Series Map I-1803-H, scale 1:250,000.

Tucker, D.R., 1975, Stratigraphy and structure of Precambrian Y (Belt?) metasedimentary and associated rocks, Goldstone Mountain quadrangle, Lemhi County, Idaho, and Beaverhead County, Montana: Oxford, Ohio, Miami University, Ph.D. dissertation, 221 p., scale 1:48,000.

Tysdal, R.G., 2000, Stratigraphy and depositional environments of Middle Proterozoic rocks, northern part of the Lemhi Range, Lemhi County, Idaho: U.S. Geological Survey Professional Paper 1600, 40 p.

Tysdal, R.G., 2002, Structural geology of the western part of the Lemhi Range, east-central Idaho: U.S. Geological Survey Professional Paper 1659, 33 p.

Tysdal, R.G., Lindsey, D.A., Lund, K.I., and Winkler, G.R., 2005, Alluvial facies, paleocurrents, and source of the Mesoproterozoic Gunsight Formation, east-central Idaho and southwestern Montana, Chapter B, in J.M. O'Neill, and R.G. Tysdal, eds., Stratigraphic studies in southwestern Montana and adjacent Idaho–Lower Tertiary Anaconda Conglomerate and Mesoproterozoic Gunsight Formation: U.S. Geological Survey Professional Paper 1700-B, p. 21-39.

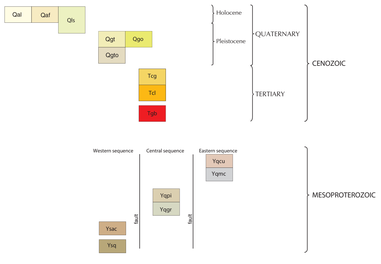
Winston, Don, 1986, Sedimentology of the Ravalli Group, middle Belt carbonate, and Missoula Group, Middle Proterozoic Belt Supergroup, Montana, Idaho and Washington, in S.M. Roberts, ed., Belt Supergroup: A Guide to Proterozoic Rocks of Western Montana and adjacent areas: Montana Bureau of Mines and Geology Special Publication 94, p. 85-124.

Winston, Don, Link, P.K., and Hathaway, Nate, 1999, The Yellowjacket is not the Prichard and other heresies–Belt Supergroup correlations, structure, and paleogeography, east-central Idaho, in S.S. Hughes, and G.D. Thackray, eds., Guidebook to the geology of eastern Idaho: Pocatello, Idaho, Idaho Museum of Natural History, p. 3-20.

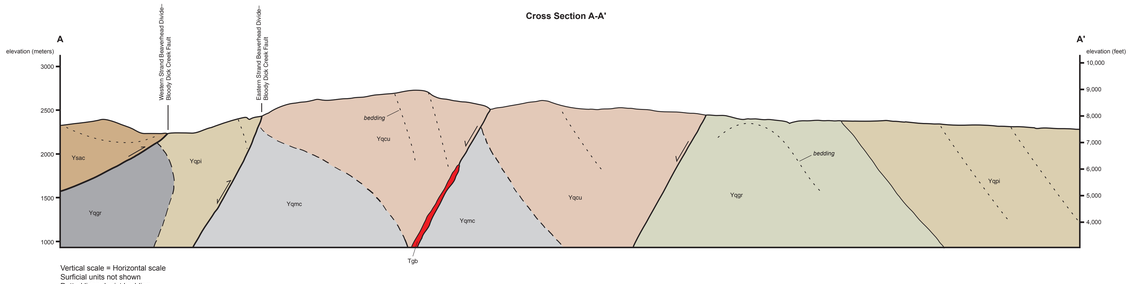
MAP SYMBOLS

- Contact: dashed where approximately located
- Fault: dotted where concealed, bar and ball on downthrown side
- Reverse or thrust fault: teeth on upthrown block; dotted where concealed
- 75 — Strike and dip of inclined beds
- 85 — Strike and dip of overturned bedding
- 20 — Strike and dip of bedding where stratigraphic tops were confirmed using primary sedimentary structures
- 50 — Cleavage
- Anticline: showing trace of axial plane and plunge direction where known; dotted where concealed

CORRELATION OF MAP UNITS



Cross Section A-A'



Vertical scale = Horizontal scale
Surficial units not shown
Dotted lines depict bedding

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Map layout: Susan Smith, MBMG.

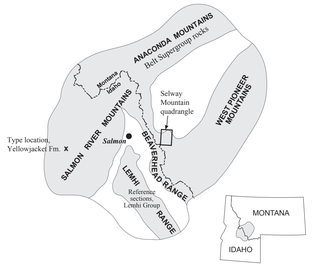

Figure 1. Location of the Selway Mountain 7.5' quadrange with respect to known Belt Supergroup rocks, and the reference and type sections of the Lemhi Group and Yellowjacket Formation. Shaded areas represent mountain ranges containing Mesoproterozoic sedimentary rocks.

MBMG Open-File 598

Geologic Map of the Selway Mountain 7.5' Quadrangle Beaverhead County, Montana

Jeffrey D. Lonn[1], Russell F. Burmester[2], Mark D. McFaddan[2], and Reed S. Lewis[2]

2011

[1]Montana Bureau of Mines and Geology; [2]Idaho Geological Survey