**Joint Bedding**

*University of Kentucky*

**YRA CIOZORETORP ETAL**

**BEDROCK GEOLOGIC MAP OF THE WEST HALF OF THE COVE CREEK GAP 7.5-MINUTE QUADRANGLE, NORTH CAROLINA**

By

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Geology mapped from September 2012 through April 2013

Previous mapping by J. Hadley and R. Goldsmith (1963) and Southworth et. al. (2005)

Select traverses accompanied by David P. Moecher

**DESCRIPTION OF MAP UNITS**

**QUATERNARY**

**Landslide Deposits**

**Pineville Alluvium**

**Metasedimentary Rocks**

**Rich Butt Sandstone**

**Zsr**

**Zsp**

**Zgt**

**Zsl**

**Wading Branch**

**Meta-igneous Rocks**

**Leucogranite**

**CONTACTS**

**Strikes and dips of planar features**

**Bearings and plunges of linear features**

**Structural features**

**Scale**

**CROSS SECTION A-A’**

**Bedrock geologic map of the West half of the Cove Creek Gap 7.5-Minute Quadrangle, North Carolina**

**UNCONSOLIDATED SEDIMENT**

**LANDSLIDE DEPOSITS (QLS)** - Loose unconsolidated sand to boulder-sized sediment; found on steep slopes and at toe of slopes

**ALLUVIUM (QAL)** - Unconsolidated, proximal, silty to gravel-sized, locally boulder-sized sediment; found in valleys, creeks and stream beds.

**MSESEDIMENTARY ROCKS**

Thunderhead Sandstone (Zgt) - Varially metamorphosed feldspathic sandstone and pebble conglomerate with subordinate slate and schist interlayers. Feldspathic sandstone and conglomerate; light gray to gray, mottled with white to light blue quartz and white to light pink feldspar grains and clasts; medium-to-coarse grained and pebbly, thick-to-massive bouded, locally exhibiting graded bedding. Interbedded locally throughout the sequence is gray to black slate and dark brownish-black feldspathic quartzite-biotite schist.

Rich Butt Sandstone (Zsr) - Varially metamorphosed feldspathic sandstone commonly interbedded with metasiltstone. Sandstone: dark tan to dark brown; fine grained, very thin-to-thin beds, easy to nodular beds, sharp contacts between metaarkose and sandstone. Metasiltstone: dark greenish gray; very fine grained, laminated-to-thin bouded, locally exhibiting wavy bedding.

Rich Butt Sandstone (Zsp) - Metasiltstone with subordinate varially metamorphosed feldspathic sandstone. Metasiltstone: dark greenish gray; very fine grained: laminated-to-thin bouded; Sandstone: dark tan to dark brown; fine grained; very thin-to-thin bouded; sandy to nodular beds.

Roaring Fork Sandstone (Zrf) - Varially metamorphosed feldspathic sandstone and metasiltstone with schist and phyllite. Feldspathic sandstone and metasiltstone; light gray to dark blue-gray; fine-to-medium grained, locally pebbly; fine- to-thick bouded. Interbedded locally throughout the sequence is metagranitic quartz-biotite schist and phyllite.

Longarm Quartzite (Zsl) - Varially metamorphosed arkose and feldspathic sandstone with subordinate metasiltstone and slate. Meta-arkose: tan to light gray to pinkish gray, mottled with white to light blue quartz and light gray to light pink feldspar grains, coarse- to very coarse-grained, locally pebbly; medium-to-thick bouded, cross-bouded and locally graded beds. Interbedded locally throughout the sequence is gray to dark gray metasiltstone, and gray to black slate.

Wading Branch (Zw) - Phyllite interbedded locally with feldspathic metagraywacke with distinctive layers of mylonitic granite-X s. Phyllite- gray-green-gray to brownish-dark gray, fine grained, lepidoblastic, laminated bedding. Mylonitic granite-X-s: light pink to tan feldspar grains; coarse- to gravel sized clasts interlayered with fine-grained micas; mylonitic and characterized by dynamically recrystallized quartz to protomylonitic leucogranite clasts surrounded by biotite folia.

**META-IGNEOUS ROCKS**

Leucogranite (Yl): (1050 Ma) Varially metamorphosed light gray to gray, white, medium to coarse-grained granite, locally porphyritic; massive to strongly foliated and protomylonitic; typically consists of white feldspar, plagioclase, quartz, biotite, muscovite, sericite, with trace amounts of epidote, zircon and allanite.