

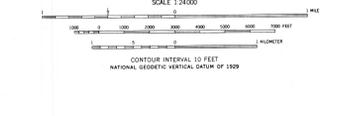
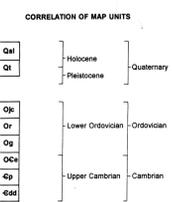
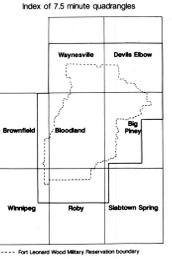
**EXPLANATION OF MAP SYMBOLS**

- CONTACT—Approximately located, dotted where concealed
- FAULTS—Approximately located, dotted where concealed, queried where uncertain
  - Normal fault—Ball and bar on down thrown block
  - Strike-slip fault—Arrows show relative direction of movement
- FOLDS**
  - Axis of anticline with attitude of limbs; arrow on trace of axial plunge shows direction of plunge
  - Axis of syncline with attitude of limbs; arrow on trace of axial plunge shows direction of plunge
  - Axis of monocline
- PLANAR FEATURES**
  - Strike and dip of bedding
    - Inclined
    - Horizontal
  - Strike and dip of contact derived from three point solution from drill hole data
    - Inclined
    - Horizontal
  - Strike and dip of cataclastic shear zones
    - Inclined
    - Vertical
- FRACTURE SETS—Shown as northern hemisphere vector rays**
  - Frequency
    - Widely spaced, greater than 6 ft
    - Medium or moderately spaced, 2 to 6 ft
    - Closely spaced, less than 2 ft
  - Attitude and persistence
    - Through going, vertical
    - Through going, inclined
    - Nonthrough going, vertical
    - Nonthrough going, inclined
  - Aperture
    - Very wide, greater than 8 in
    - Wide, 2 to 8 in
    - Moderately wide, .5 to 2 in
    - Narrow, less than .5 in
  - Infilling
    - Closed
    - Open
  - Multiple sets
  - Seepage along joint
- OTHER FEATURES**
  - Breccia
  - Cave entrance
  - Sinkhole
    - Large sinkhole, greater than 200 ft diameter
    - Small depression, less than 200 ft diameter
  - Spring
  - Seepage area
  - Drilled well—number corresponds to file number at Missouri Department of Natural Resources, Division of Geology and Land Survey, Rolla, Missouri
  - Quarry

Based on U.S. Geological Survey maps: Big Piney, Brownfield, Bowerfield, Roby, Stillman Spring, Wynneville, 1954, photorevised 1976; Cowles Stone, Wynneville, 1954, photorevised 1985.

**DESCRIPTION OF MAP UNITS**

- Qal** Alluvium (Holocene)—Gravel, sand, clay, and silt. In general, correlates with T0, T1, T61, and T62 units of Abertson and others (1960). Ranges from 0 to 40 ft in thickness.
- Qt** Terrace deposits (Holocene and Pleistocene)—Gravel, sand, silt, and clay. Correlates with T3, T4, T5, T6, and T7 units of Abertson and others (1960). As much as 50 ft thick.
- Ql** Loess deposits (Pleistocene)—Silt. Wind-blown deposits that occur in unlined areas. Contacts with other units were not mapped. Ql symbols on map mark sites where deposits were observed. Less than 3 ft thick.
- Qc** Jefferson City Dolomite (Lower Ordovician, Beekmantown)—Dolomite, quartz sandstone, chert, and minor shale. Dolomite is light gray and typically buff weathering color; fine to medium grained, and thin to thick bedded. A massive bed of gray, fine grained argillaceous dolomite (common rock) containing quartz, and/or calcite-lined pits is present throughout the map area, approximately 20 ft above the base of the formation. This unit is 20-30 ft thick and is referred to as the informal Quarry Lodge member, indicated by Ql symbol on the geologic map. Sandstone is thin to thick bedded, fine grained, and commonly contains irregular nodules of chert. Chert occurs as both thin layers (some brecciated) and irregular nodules, is light to dark gray, and consists of porphyroblastic, sandy, banded, and colitic varieties. Shale occurs as thin partings and is green to brown. As much as 150 ft thick, but not present.
- Or** Roubidoux Formation (Lower Ordovician, Beekmantown)—Dolomite, quartz sandstone, orthoquartzite, and chert. Dolomite is light gray to tan, fine to medium grained, pure to sandy, and thin to thick bedded. Contains occasional irregular nodules and angular fragments of chert. Sandstone is fine to coarse grained, poorly sorted, and contains lenses of orthoquartzite, thin (1/8 to 1/2 in.) layers of angular, white chert granules are common; matrix and both symmetrical and asymmetrical ripple marks are very common. Chert is light to dark gray, nodular to irregularly bedded, and consists of banded, sandy, colitic, and porphyroblastic varieties; bedded intervals are generally either stratiolitic or brecciated. Ranges from 110 to 150 ft in thickness.
- Og** Gasconade Dolomite (Lower Ordovician, Beekmantown)—Dolomite and chert. Dolomite is light gray to brownish gray, fine to coarse grained (rarely fine grained), and massive to thin bedded. Upper 30 to 50 ft is typically non-cherty massive, and moderately to very porous, with numerous solution cavities and caves. A persistent stratiolitic chert horizon, as much as 12 ft thick, separates the massive interval from the underlying medium- to thin-bedded, cherty dolomite. Chert in the lower interval occurs as nodules and lenses of white porphyroblastic and gray (less appearance) varieties. Contact with the overlying Roubidoux Formation is sharp; the base of the Gasconade is not exposed in the mapped area. As much as 180 ft thick, base is not exposed.
- Oce** Entombed Formation (Upper Cambrian and Lower Ordovician, Crookston and Beekmantown, Cambrian)—Ranges from 200 to 300 ft in thickness. Shown only on cross section.
- Op** Potomac Formation (Upper Cambrian, Crookston)—Dolomite and crinoid chert. Ranges from 235 to 300 ft in thickness. Shown only on cross section.
- Ed** Derby and Deer Run Formations, undivided (Upper Cambrian, Crookston)—Dolomite, siltstone, and shale. Ranges from 95 to 210 ft in thickness. Shown only on cross section.



**GEOLOGY OF THE FORT LEONARD WOOD MILITARY RESERVATION AND ADJACENT AREAS, SOUTH-CENTRAL MISSOURI**

By  
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