Structural Contour Map, Top of Minnelusa Formation, Rapid City West Quadrangle

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Map base modified from U.S.G.S. 1:24,000-scale Rapid City West digital line graph.
Water well data digitized from Water well data collected and digitized from SD Dept. of Environment & Natural Resources "Online Oil/Gas/Injection Well Data" database.
Geology layer from J.L. Lester and P.H. Rahn, 2001; S.L. Miller, 2005.
Projection is Universal Transverse Mercator, Zone 13, North American Datum 1983.

Digital Cartography: S.L. Miller, 2005, and D.J. Brewer, 2011.
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REFERENCE SCALE 1:24,000

1 0.5 0 1 Miles

1,000 0 1,000 2,000 3,000 4,000 5,000 6,000 7,000 Feet

1 0.5 0 1 Kilometers

TOPOGRAPHIC CONTOUR INTERVAL 20 FEET

NORTH

UTM GRID AND 1971 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

South Dakota

Quadrangle location

Structural Contours

Structural contours mark lines of equal elevation of the top of a geological formation. The contours help to define unseen folds and faults present below the land surface. Dashed where projected above surface. Number indicates elevation above sea level.

3400 Structural Contour on top of Minnelusa Formation

Structural Contour Interval 100 feet

EXPLANATION

3565 Wells penetrating Minnelusa aquifer
Number indicates elevation of top of Minnelusa Fm, in feet

- Trail
- Unimproved Road
- Paved Road
- Highway
- Interstate
- Railroad
- Lake
- Springs
- Intermittent Stream
- Perennial Stream
- Karst Features
- Rapid City Limits
- Black Hills Nat. Forest Boundary

- **Contact** — Solid where location certain; dashed where approximately located.
- **Fault** — Solid where location certain; dashed where approximately located; queried where probable. Bar and ball on downthrown side.
- **Anticline** — Showing crestline and direction of plunge. Solid where location certain; dashed where approximately located.
- **Syncline** — Showing troughline and direction of plunge. Solid where location certain; dashed where approximately located.
- **Monocline - Anticlinal bend** — Axis located on steepest part of structure. Solid where location certain; dashed where approximately located.
- **Monocline - Synclinal bend** — Axis located on steepest part of structure. Solid where location certain; dashed where approximately located.

Geologic Units

Quaternary — **Floodplain Surficial Deposits** — Includes alluvium (Qal), alluvial fan deposits (Qaf) and terrace deposits (Qt). Increased potential for full saturation.

Quaternary — **Other Surficial Deposits** — Includes landslide (Ql), gravel deposits (Tg), and terrace deposits (Qto, Qts). Decreased potential for full saturation.

Unconformity

Pennsylvanian — PPm — **Minnelusa Formation - Recharge Area** — Beige, white, and gray colored unit dominanted carbonates and anhydrite with an upper sandstone unit.

Minnelusa Formation Absent