

2504, PAUNSAUGUNT FAULT

Structure number: 2504.

Comments: Hecker's (1993) fault number 14-3.

Structure name: Paunsaugunt fault.

Comments:

Synopsis: Poorly understood Quaternary(?) fault along the western edge of the Aquarius Plateau.

Date of compilation: 10/99.

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State: Utah.

County: Garfield and Piute.

1° x 2° sheet: Salina.

Province: Colorado Plateaus.

Reliability of location: Good.

Comments: Mapped or discussed by Carpenter and others (1967), Rowley and others (1981), and Bowers (1991). Mapping from Williams and Hackman (1971).

Geologic setting: Generally north-trending fault along the east side of Grass Valley west of the Aquarius Plateau, near the southeastern edge of the Basin and Range. Surficial geology of the area is dominated by Tertiary volcanic rock.

Sense of movement: N.

Comments:

Dip: No data.

Comments:

Dip direction: W.

Geomorphic expression: Basalts dated at 5.0-6.4 Ma predate the main uplift of the Awapa and Aquarius Plateaus and are displaced vertically about 500 meters across the Paunsaugunt fault. Preliminary examination of aerial photos by Hecker (1993) revealed no scarps in range-front deposits, although Carpenter and others (1967) show the fault crossing Quaternary deposits at several locations. In the vicinity of Bryce Canyon National Park, differential erosion has produced weakly expressed, obsequent fault-line topography. However, low (~1-meter-high) fault(?) scarps are in remnants of Pleistocene pediments at two locations in this area, indicating possible Quaternary movement along this southern section of the fault (Bowers, 1991).

Age of faulted deposits: Quaternary(?).

Paleoseismology studies: None.

Timing of most recent paleoevent: (5) Quaternary (<1.6 Ma).

Comments:

Recurrence interval: No data.

Comments:

Slip rate: Unknown, probably <0.2 mm/yr.

Comments:

Length: End to end (km): 44

Cumulative trace (km): 47

Average strike (azimuth): N5°E

REFERENCES

- Bowers, W.E., 1991, Geologic map of Bryce Canyon National Park and vicinity, southwestern Utah: U.S. Geological Survey Miscellaneous Investigations Series Map I-2108, scale 1:24,000.
- Carpenter, C.H., Robinson, G.B., and Bjorklund, L.J., 1967, Ground-water conditions and geologic reconnaissance of the upper Sevier River Basin, Utah: U.S. Geological Survey Water-Supply Paper 1836, 91 p.
- Hecker, Suzanne, 1993, Quaternary tectonics of Utah with emphasis on earthquake-hazard characterization: Utah Geological Survey Bulletin 127, 2 plates, scale 1:500,000, 257 p.
- Rowley, P.D., Steven, T.A., and Mehnert, H.H., 1981, Origin and structural implications of upper Miocene rhyolites in Kingston Canyon, Piute County, Utah: Geological Society of America Bulletin v. 92, no. 8, p. 590-602.
- Williams, P.L., and Hackman, R.J., compilers, 1971, Geology, structure, and uranium deposits of the Salina quadrangle, Utah: U.S. Geological Survey Miscellaneous Geologic Investigations Map I-591, scale 1:250,000.