

2420, EAST TINTIC MOUNTAINS (WEST SIDE) FAULTS

Structure number: 2420.

Comments: Hecker's (1993) fault number 8-16.

Structure name: East Tintic Mountains (west side) faults.

Comments:

Synopsis: Poorly understood Quaternary faults on the west side of the East Tintic Mountains in north-central Utah.

Date of compilation: 10/99.

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State: Utah.

County: Tooele and Juab.

1° x 2° sheet: Delta.

Province: Basin and Range.

Reliability of location: Good.

Comments: Mapping from Goode (1959), Morris (1975, 1987), Anderson and Miller (1979), Bucknam and Anderson (1979), and unpublished 1989 UGS mapping by Hecker (scale 1:24,000; 1:62,500; 1:100,000).

Geologic setting: Northwest- to north-trending range-front faults along the west and south sides of the East Tintic Mountains. The East Tintic Mountains border southwestern Utah Valley, and are south of and on line with the Oquirrh Mountains in the Basin and Range. The mountains expose mainly Paleozoic and Tertiary sedimentary rocks on the west side, and Tertiary volcanic rocks on the east side. Unconsolidated deposits in the valley to the west are mainly lake sediments and alluvium.

Sense of movement: N.

Comments:

Dip: No data.

Comments:

Dip direction: W.

Geomorphic expression: Fault scarps are along the western base of the East Tintic Mountains and to the south, and appear on aerial photos as isolated, highly dissected remnants surrounded by different ages of unfaulted alluvium. The scarps appear to be among the oldest in western Utah. Anderson and Miller (1979) mapped buried Quaternary(?) faults extending to the north and south of the alluvial scarps. At the south end of the East Tintic Mountains, these faults form bedrock-alluvium contacts (Morris, 1987). On the east side of the Mountain range, Goode (1959) recognized faults in pre-Bonneville alluvium in a tunnel at the south end of Goshen Valley. Steep faceted bedrock spurs north and south of Silver City (Goode, 1959) suggest active uplift north of the scarps. Goode (1959) also observed faults in alluvium northwest of Eureka, about 2 kilometers east of the range front.

Age of faulted deposits: Middle to late Pleistocene.

Paleoseismology studies: None.

Timing of most recent paleoevent: (4) Middle and late Quaternary (<750 ka).

Comments:

Recurrence interval: No data.

Comments:

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

Comments:

Length: End to end (km): 33

Cumulative trace (km): 33

Average strike (azimuth): N12°W

REFERENCES

Anderson, L.W., and Miller, D.G., 1979, Quaternary fault map of Utah: Long Beach, California, Fugro, Inc., 35 p., scale 1:500,000.

Bucknam, R.C., and Anderson, R.E., 1979, Map of fault scarps on unconsolidated sediments, Delta 1° x 2° quadrangle, Utah: U.S. Geological Survey Open-File Report 79-366, 21 p., scale 1:250,000.

Goode, H.D., 1959, Surficial deposits, geomorphology, and Cenozoic history of the Eureka quadrangle, Utah: Boulder, University of Colorado, Ph.D. dissertation, 120 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.

Morris, H.T., 1975, Geologic map and sections of the Tintic Mountain quadrangle and adjacent part of the McIntyre quadrangle, Juab and Utah Counties: U.S. Geological Survey Miscellaneous Investigations Series Map I-883, scale 1:24,000.

Morris, H.T., 1987, Preliminary geologic map of the Delta 2° quadrangle, Tooele, Juab, Millard, and Utah Counties, Utah: U.S. Geological Survey Open-File Report 87-185, 18 p., scale 1:250,000.