1934 HANSEL VALLEY EARTHQUAKE

Name of earthquake: 1934 Hansel Valley earthquake.
Comments:
Affected structure(s), segment(s), or section numbers: 2358.
Date of earthquake: March 12, 1934.
Date of compilation: 05/99.
Compiler and affiliation: Bill D. Black, Utah Geological Survey.
Magnitude or intensity: 6.6
Comments: Mainshock magnitude; aftershocks *M* = 6.1 on March 12, *M* = 5.1 on March 15, *M* = 5.6 on April 14, and *M* = 5.6 on May 6, 1934.
Moment magnitude or seismic moment: 6.6
Comments: Based on moment estimates from $8.5 \pm 2.0 \times 10^{25}$ to $8.8 \pm 2.4 \times 10^{25}$ dynes/centimeter (Doser, 1989).
Location of epicenter: 41.658° lat., -112.795° long.
Comments:
Depth of epicenter: 8.5 ± 2 and 9.7 ± 1.4 kilometers.
Comments: Doser (1989) reports aftershock data from the nearby 1975 Pocatello earthquake suggest a maximum regional depth of seismicity between 8.5 and 11 kilometers and that the focal depth was near this maximum.
Sense of movement: S or S/N.
Comments: Waveform modeling by Doser (1989) suggests rupture began at depth along a left-lateral, high-angle, strike-slip fault having a strike similar to the Hansel Valley fault (2358). However, only minor amounts of strike-slip motion (0.25 meters at one location) were observed at the surface (Walter, 1934; dePolo and others, 1989). This suggests fractures at the surface were secondary features due to ground shaking, or movement along the causative fault was mostly strike-slip at depth and mostly dip-slip near the surface (Doser, 1989).
Dip: Near vertical, down to the east.
Comments: Dip based on focal mechanism from inversion of regional and teleseismic body waveforms (Doser, 1989).
Maximum slip at surface: 0.5 meters vertical.
Comments:
Geophysical average slip: No data.
Comments:
Length of surface rupture: 11 kilometers.
Comments: The rupture zone consisted of three en-echelon east-dipping scarps, and a single west-dipping scarp about 5 kilometers to the southeast (Shenon, 1936).

REFERENCES

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Shenon, P.J., 1936, The Utah earthquake of March 12, 1934, *in* Neuman, Frank, editor, United States Earthquakes, 1934: U.S. Coast and Geodetic Survey, Serial 593, p. 43-48.

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