

Seismic Experiment at North Arizona To Locate Washington Fault 3D Field Test

Data Acquisition

See Short Video for data recording

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Figure (2): The team recorded the 3D seismic data at Washington Fault, Arizona

No. of receivers in the inline direction: 80

Number of lines: 6

Receiver Interval: 1 m near the fault, 2 m away from the fault (Receivers 1 to 12 at 2 m intervals, receivers 12 to 51 at 1 m intervals, and receivers 51 to 80 at 2 m intervals)

No. of shots in the inline direction: 40

Shot interval: 2 and 4 m (every other receiver location)

See Figure 3 and [Shengdong](#) master thesis for more details on the source/receiver locations

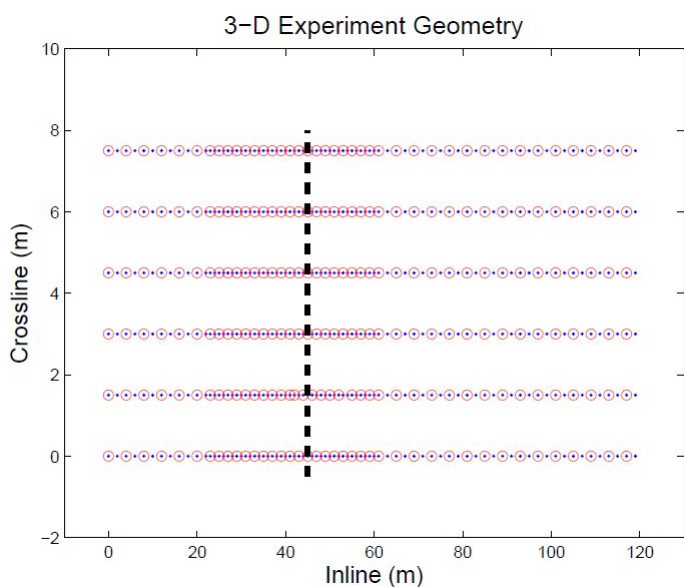


Figure (3): The 3D seismic experiment layout. The open circles are the source locations and the blue dots are the receive locations

All details on this survey are in [Shengdong thesis](#)

The final tomogram is shown on Figure 4

Tomogram and Trench Log

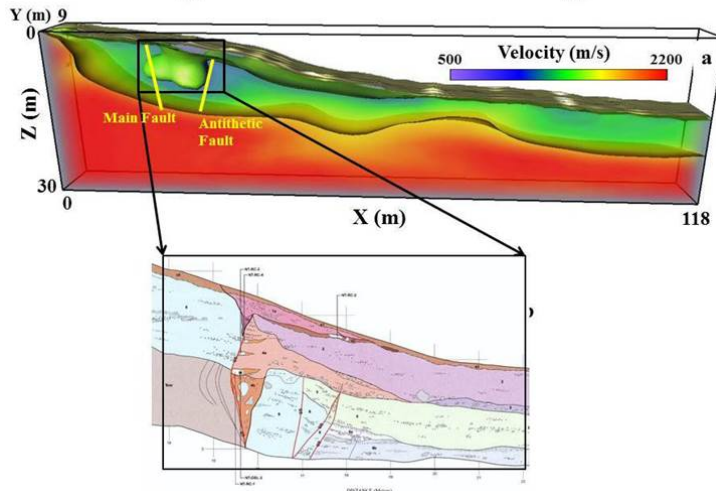


Figure (4): Upper is the 3D traveltime tomogram and the lower is the trench log

Data Recording

The data are recorded using two Bison equipment, each is 120 channels. We shot at all 240 shot locations and simultaneously recorded seismic traces at receivers 1 to 240 (using both Bisons), then we shot again at all 240 shot locations and we recorded at receivers 241 to 480.

The data is rearranged to match the receiver order shown in Figure 3 where receiver 1 is at left-lower corner, receivers increase to 80 at right lower corner, then receiver 81 is back to left side at $Y = 1.5$ m, etc.

Data is converted to matlab format and dpick format

1. Matlab format, sample interval is 0.25 ms, total number of samples/trace = 2000, total recording time = 0.5 s
2. DPick format (Part 1 CSG1-CSG60, Part 2 CSG61-CSG120, Part 3 CSG121-CSG180, and Part 4 CSG181-CSG240), resampled so that sample interval is 1 ms, total number of samples/trace = 500, and total recording time = 0.5 s