

David M. Boore's notes: pinyon\_flat\_locations\_summary.doc

Date: 23 November 2005

Below is a summary figure showing locations of the NSMP instrument at Pinyon Flat, apparently moved on 5 August 1981 from the 1980 site shown in the figure below to another location (but whose location as described in the following excerpt of email is somewhat confusing because of the reference to moving the instrument to the west, whereas the coordinate is to the east; the current location shown in the figure below is accurate, as it was determined in the field using a GPS unit).

From Ron Porcella's email to Chris Stephens on 22 November 2005: "According to our files, John Neilsen wrote on 5 Aug 1981 that the Pinyon Flat SMA-1 was relocated from the Vault (33.61N, 116.46W) to the E-W Laser Bldg (33.607N, 116.453W)--- "approx 1/2 mile (800 m) west of the vault"--- which would have been AFTER the earthquake in question. But these sets of coordinates indicate it was actually moved from west to east, and not east to west. Currently, the COSMOS Data Center lists the Pinyon Flat vault (also a CIT Terrascope station) at 33.612N and 116.459W, which would approx agree with our 1980 station list (33.61N, 116.46W) for the old SMA-1 site."

Note that the old location of 33.61 and 116.46 was probably rounded to two decimal places and thus does not give an accurate location; the true location was probably that of the PFO vault shown in the figure below.

The Fletcher borehole location was computed from a description given in Aster and Shearer (1991), who stated "Geodetic measurements (J. Scott, personal commun.) indicate that the PFO borehole (PFO-BH) is approximately 28 m N268°E of the PFO Anza vault (PFO-AZ; 33.61165°N, 116.45855°W...".

I also include two figures of photos from Kayen et al. (OFR 2005-1366), showing their instrument array and the shelter containing NSMP station 5044. Note that the surroundings seem pretty barren---why was the NSMP instrumented relocated to this site?

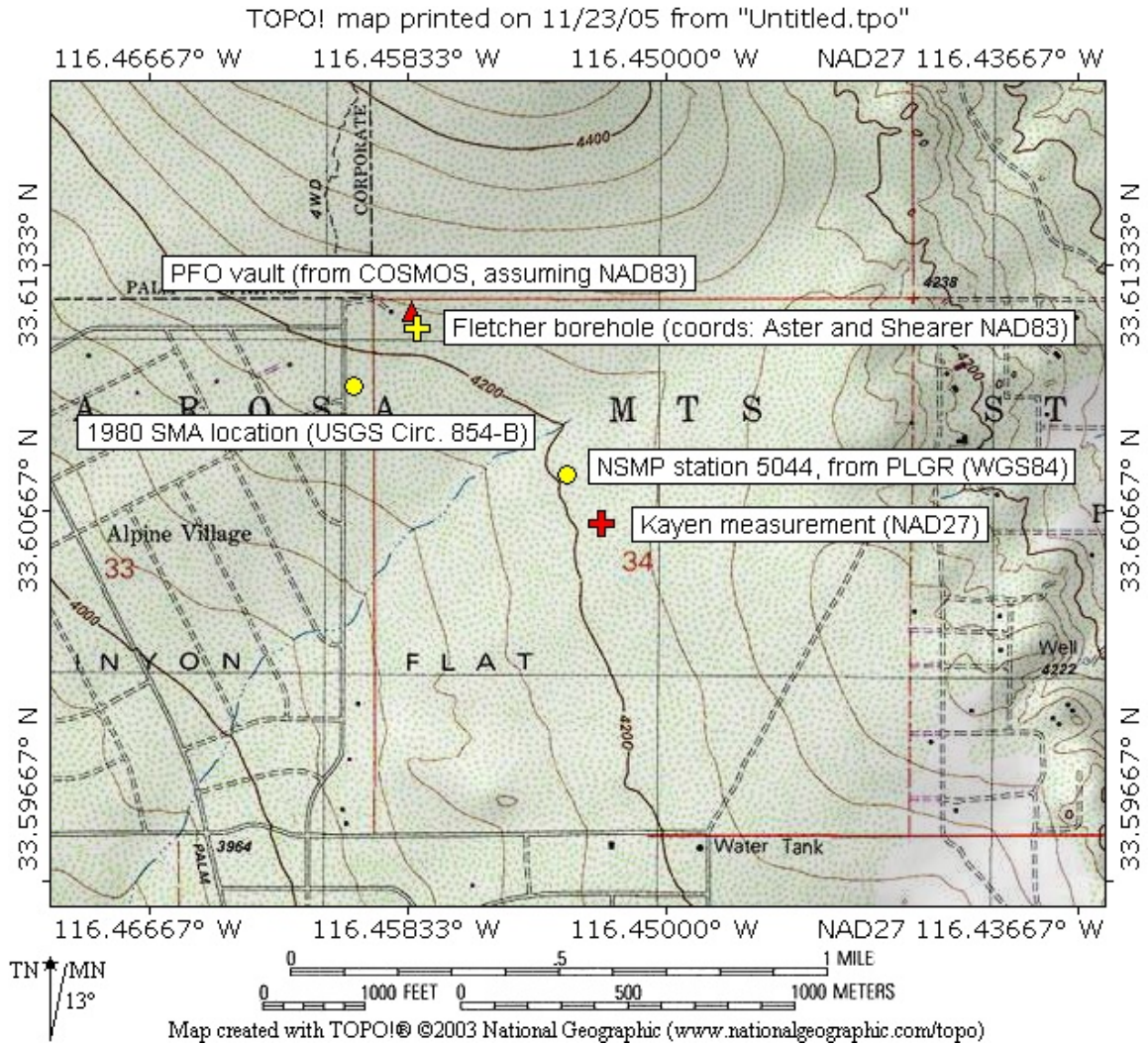
## References

Aster, R.C. and P.M. Shearer (1991). High-frequency borehole seismograms recorded in the San Jacinto fault zone, southern California. Part 1. Polarizations, *Bull. Seism. Soc. Am.* **81**, 1057--1080.

Kayen, R., E. Thompson, D. Minasian, and B. Carkin (2005). Shear-wave velocity of the ground near sixty California strong motion recording sites by the spectral analysis of surface waves (SASW) method and harmonic-wave sources, *U.S. Geol. Survey Open-File Report* **2005-1399**.

Porcella, R. L., Editor (1980). Seismic engineering program report, May--August 1980,

U.S. Geol. Survey Circular 854-B.





Flat, Riverside County, California. Site location  $33.607^{\circ}\text{N}$   $116.453^{\circ}\text{W}$ . we collected this data. Photo A is of the source which is located about y extends to the south from the shaker shown in photo B. Photo C h from the source and the reverse oriented to the south.





Figure A9.—Site 606APF (CSMIP site 5044), located at Anza - Pinyon. The poor quality of the pictures is due to the low light conditions when 7 meters west of the NGA station shown in photo D. The reverse array shows the full array facing south with the forward array extending north.