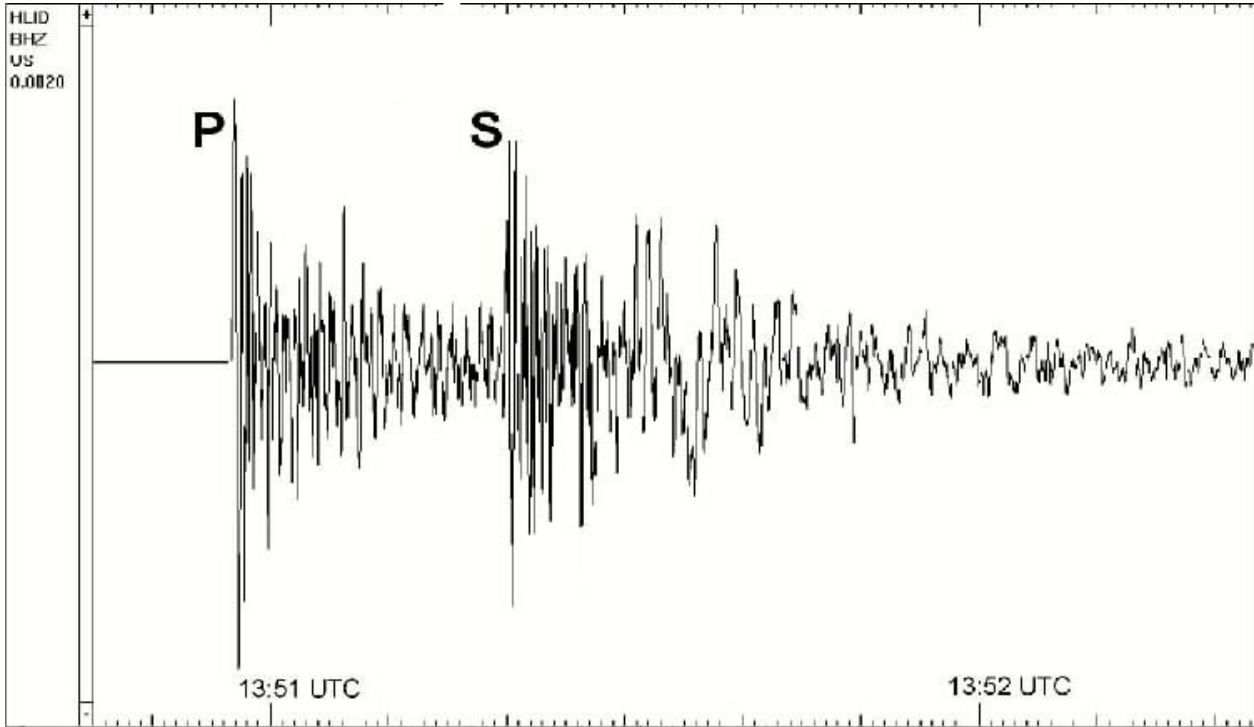


Geophysics – 437; Problems due Wednesday, 12/5

1. Suppose the P-wave velocity is 7.4 km/s and the S-wave velocity is 4.5 km/s. How far was the seismogram below from the earthquake (this was a 1999 magnitude 5.3 earthquake northwest of Dell, Montana in the Red Rock Valley).



2. Construct a T-delta diagram for the phases P, S, PcP, ScS, R, L, and PkP, for the planet below.

For this planet:

- a. Radius = 6,000 kilometers
- b. Mantle thickness is 3,000 kilometers
- c.  $V_p$  in the mantle is 8 km/sec
- d.  $V_s$  in the mantle is 4 km/s
- e.  $V_p$  in the core is 4 km/s
- f.  $V_s$  in the core is 0.

