Geophysics 150: Home set due Nov. 17, 2000

2. Now assume that the dunite extends 33 km down to the moho. (Everything below that is mostly olivine so the density contrast exists only above 33 km depth.) Make simple assumptions to find.

a. What is excess mass per length of this body.

b. What is expected width of anomaly.

c. Does thin slab or body to moho fit data better. Explain.

d. Now inappropriately use Nettleton©'s method to get denisty of topography. The center of the dunite body is several hundred meters higher than its surroundings. Use actual data points (four) from Figure 4 or 5. Make simple assumptions and plot elevation versus Bouguer anomaly. Is your density too high or too low? 2.67 gm/cc is used on the figure for the Bouguer correction on the figure.