# **GEOP 501 - FALL 2017 - HW # 6 -** (Due Date: 21/11/2017)

Given the acoustic log in the provided worksheet:

1. Calculate the rock velocity at each depth interval.
2. Use the Parameters sheet and the rock velocity from part (a) to compute the rock porosity at each depth interval.
3. Use the Parameters sheet and the rock porosity you calculated in part (b) to compute the rock density at each depth interval.
4. Calculate the average interval velocity and density of each lithologic unit.
5. Calculate the reflection coefficient between each two successive lithologic units.
6. Use Rayleigh's criterion to estimate the required frequency to resolve the shale layer in this log assuming a Ricker wavelet.