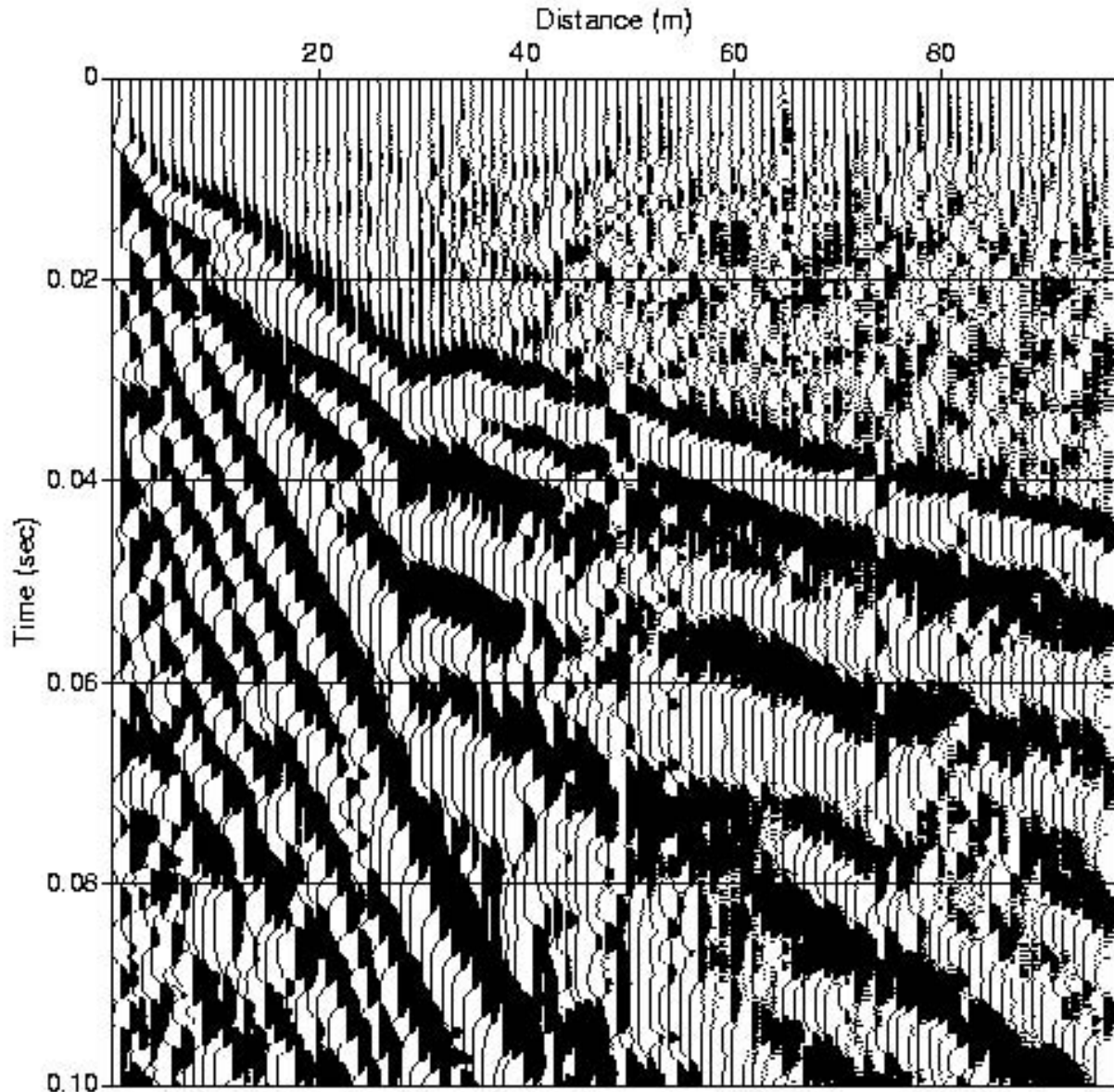


## FOG2 Refraction Lab

Name: \_\_\_\_\_

Below is a shallow refraction section collected using a hammer source. I have purposely not given you the specific equations to do this lab, but we have gone over them in class and they are all in the book. Assume you are being paid to do this project, first you acquired the data and now you need to analyze it and then write a report for your client who wants to build a swimming pool.



**9/4/04 Pipeline SP96N, with AGC**

- 1. Calculate the velocity (m/s) of the upper layer using the direct arrival.**
- 2. Calculate the velocity of the lower layer using the refracted arrival.**
- 3. Calculate the thickness (m) of the upper layer.**
- 4. Calculate the critical angle for the refraction.**
- 5. What type of wave is the arrival that starts at the origin and went only 22 meters in 0.06 seconds: i.e., a velocity of about 367 m/s.**
- 6. On the graph paper, draw and label the raypaths associated with the first arrivals at x-offsets of 20, 40, 60, and 80 meters.**

