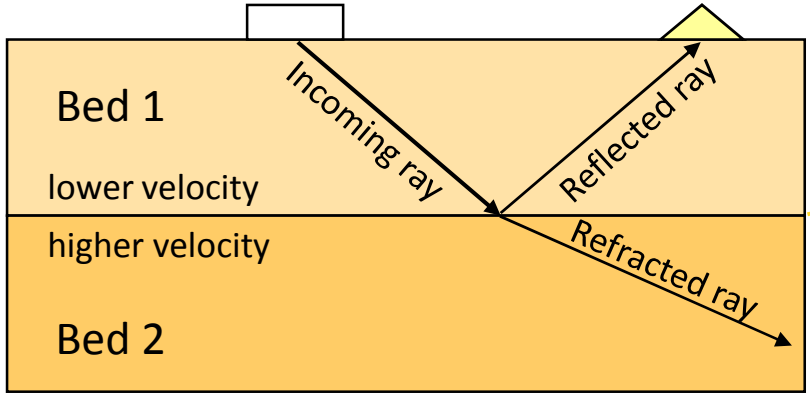
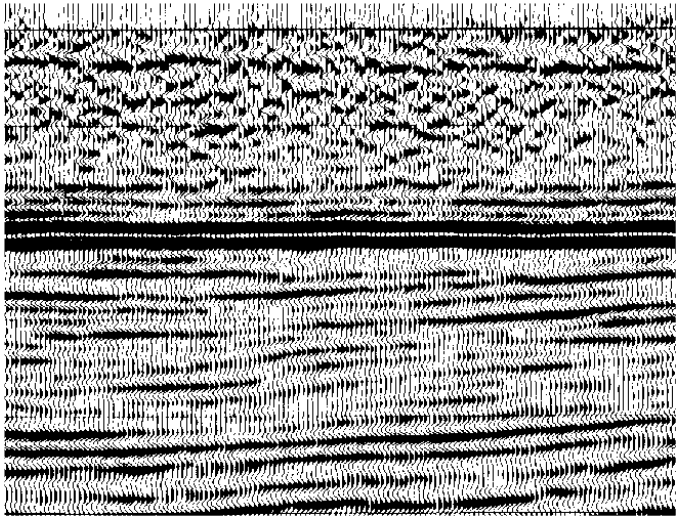
# What is a reflector?

- A seismic reflector is a boundary between beds with different properties. There may be a change of lithology or fluid fill from bed 1 to bed 2.

- These property changes cause some sound waves to be reflected back towards the surface.

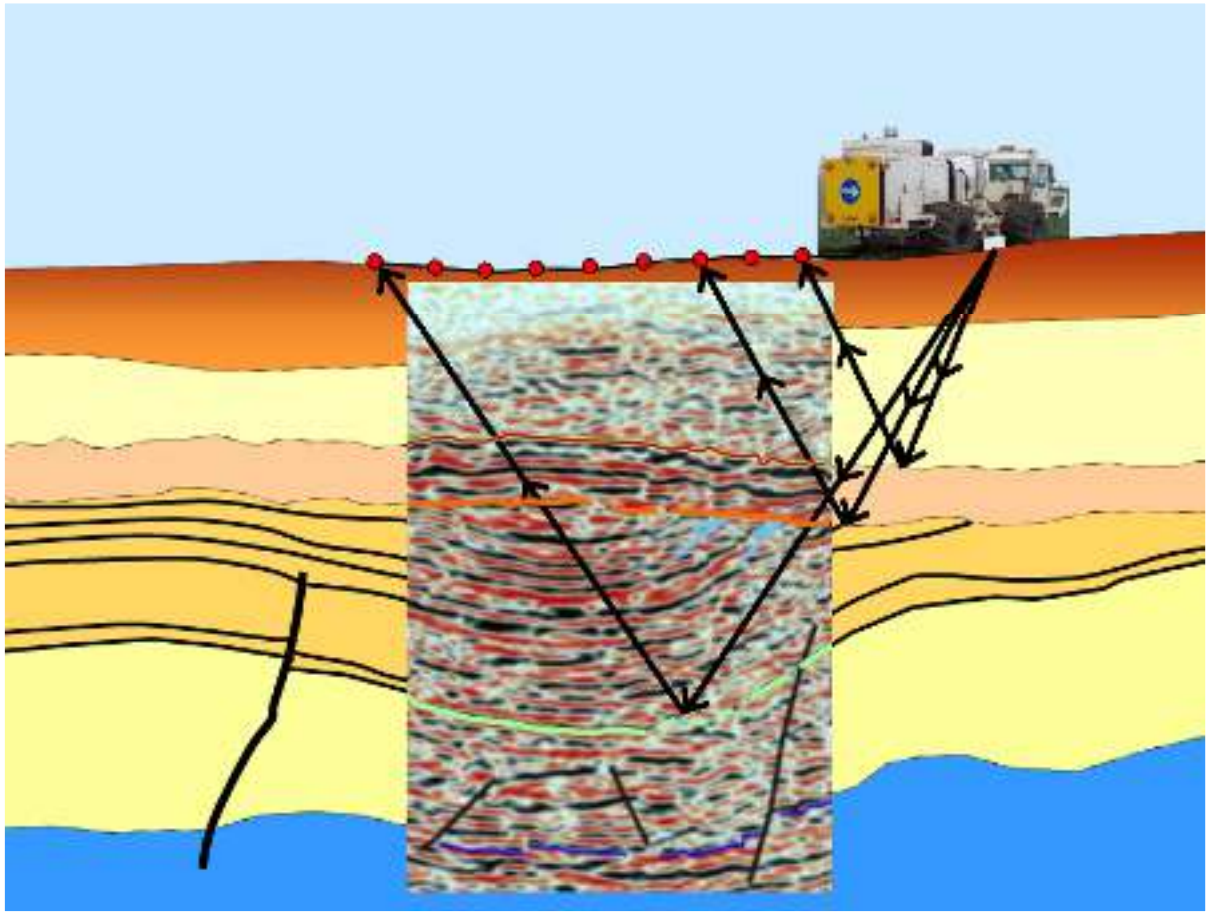
- Major changes in properties usually produce strong, continuous reflectors as shown by the arrow



# Seismic acquisition onshore (1)

- Seismic horizons represent changes in density and allow the subsurface geology to be interpreted.

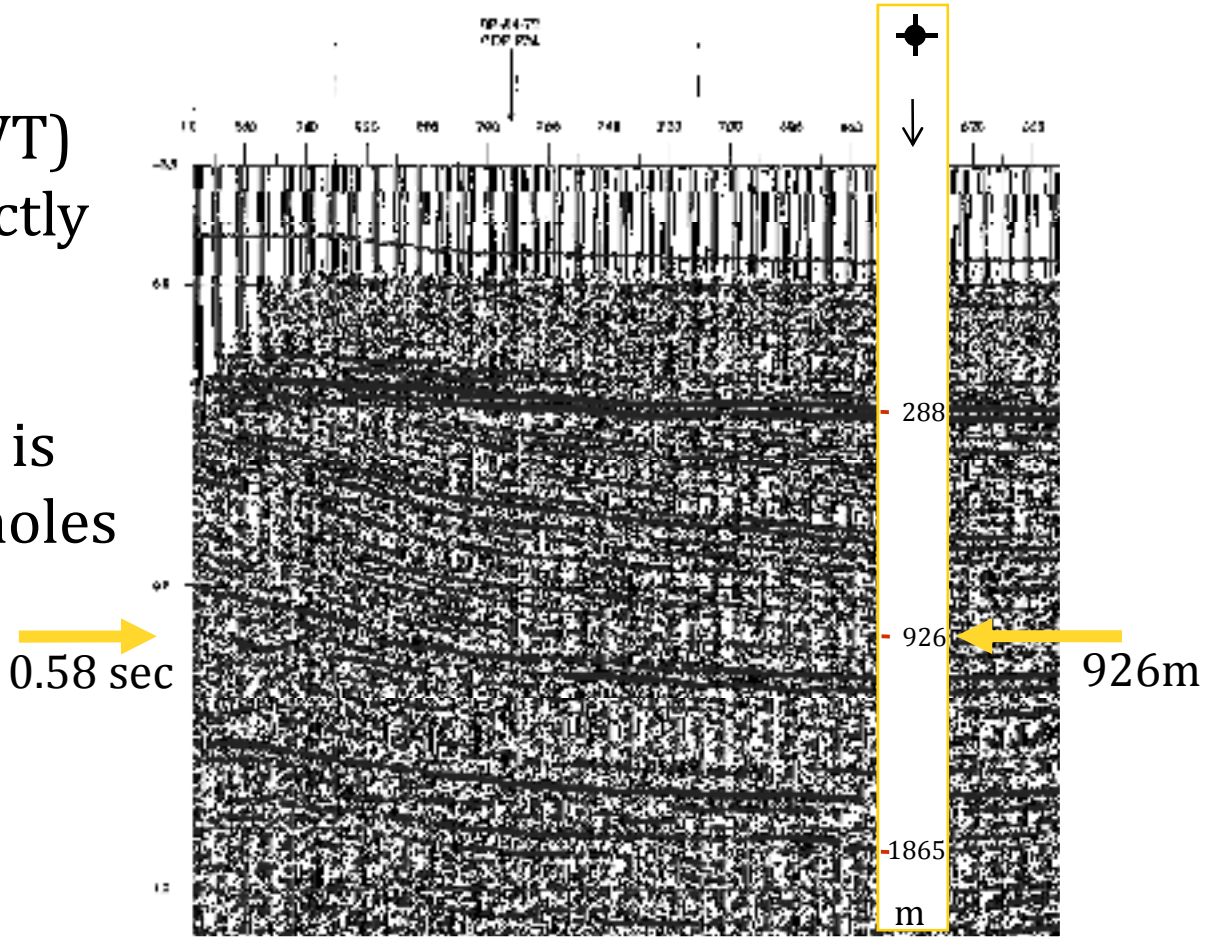


# Time *versus* depth

- Two way time (TWT) does not equate directly to depth
- Depth of a specific reflector can be determined using boreholes
- For example, 926 m depth = 0.58 sec. TWT

- Two Way Time (TWT) does not equate directly to depth

- Depth of a reflector is determined by boreholes



# Well Logs Versus Seismic

- Well logs
  - Great vertical resolution
  - Delimit bounding surfaces
  - Establish lithology of sediments penetrated
- Seismic
  - Great lateral continuity and resolution
  - Define gross sediment geometry

# Seismic Data Interpretation is more than picking

**Seismic Interpretation**

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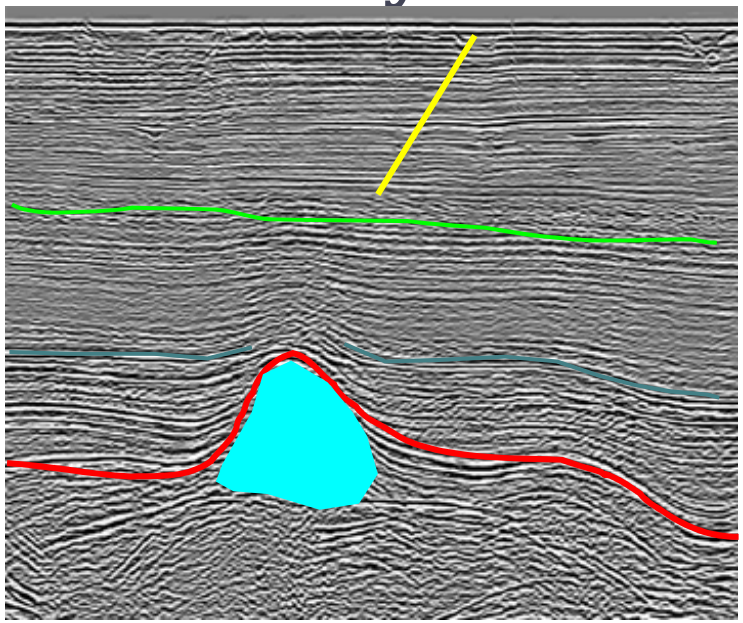
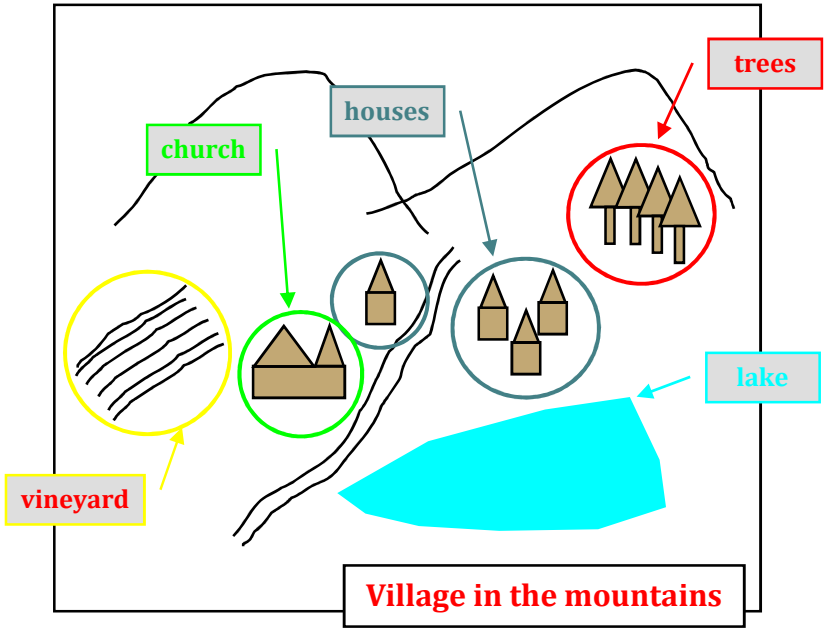
**Understanding the geology of the subsurface**

# Seismic Data Interpretation is a Data Analysis Problem






High Level

**Building the geological model**

**Giving geological meaning to the features**

**Picking the features**

Low Level

**Understanding the system**
Explaining the system.

**Identifying information**
Giving a meaning to objects

**Finding information**
Segmenting information into objects