

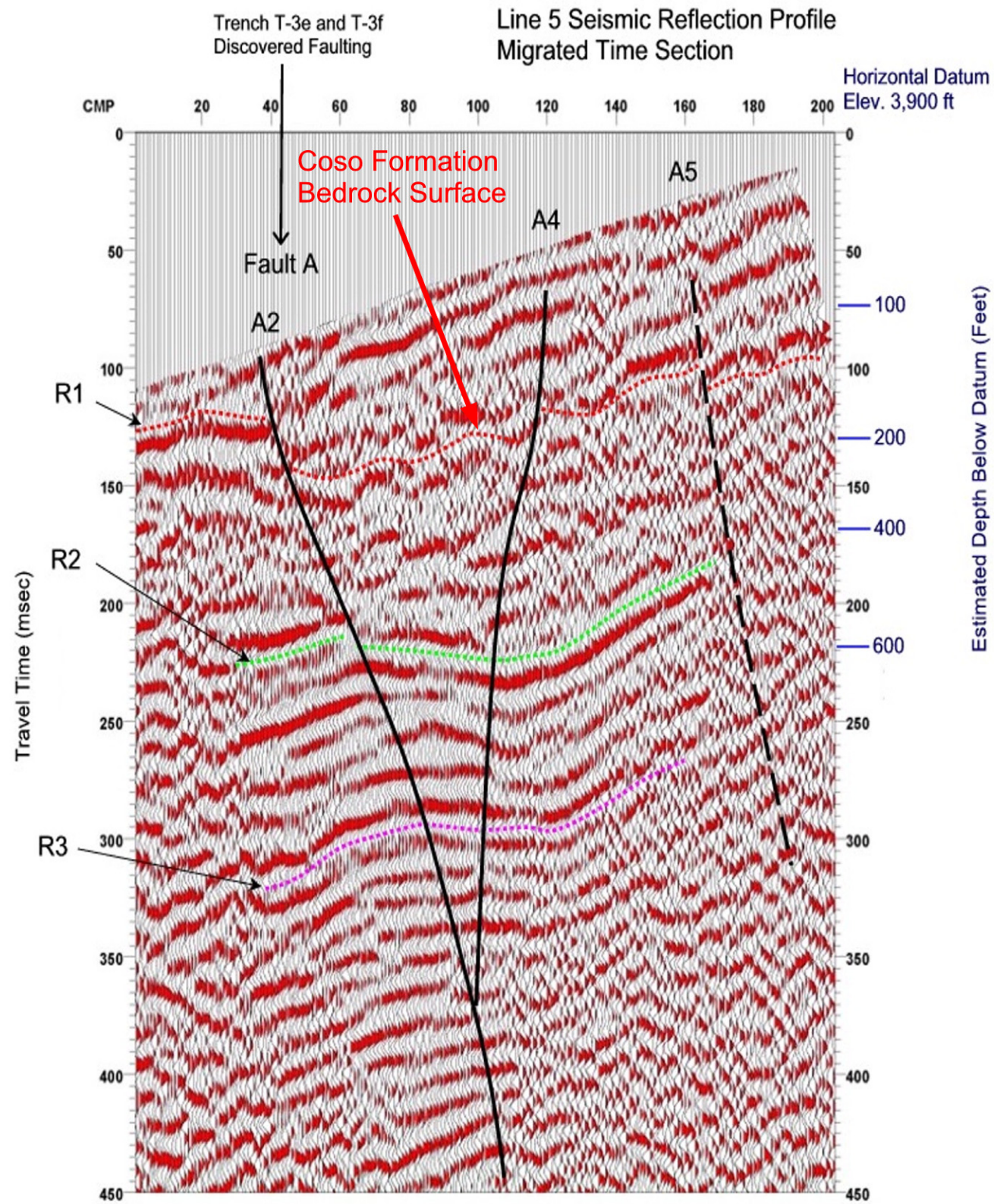
# High-Resolution Seismic Reflection Surveys Offer Best Geophysical Procedure for Fault Investigations

## Typical Survey Objectives Realized:

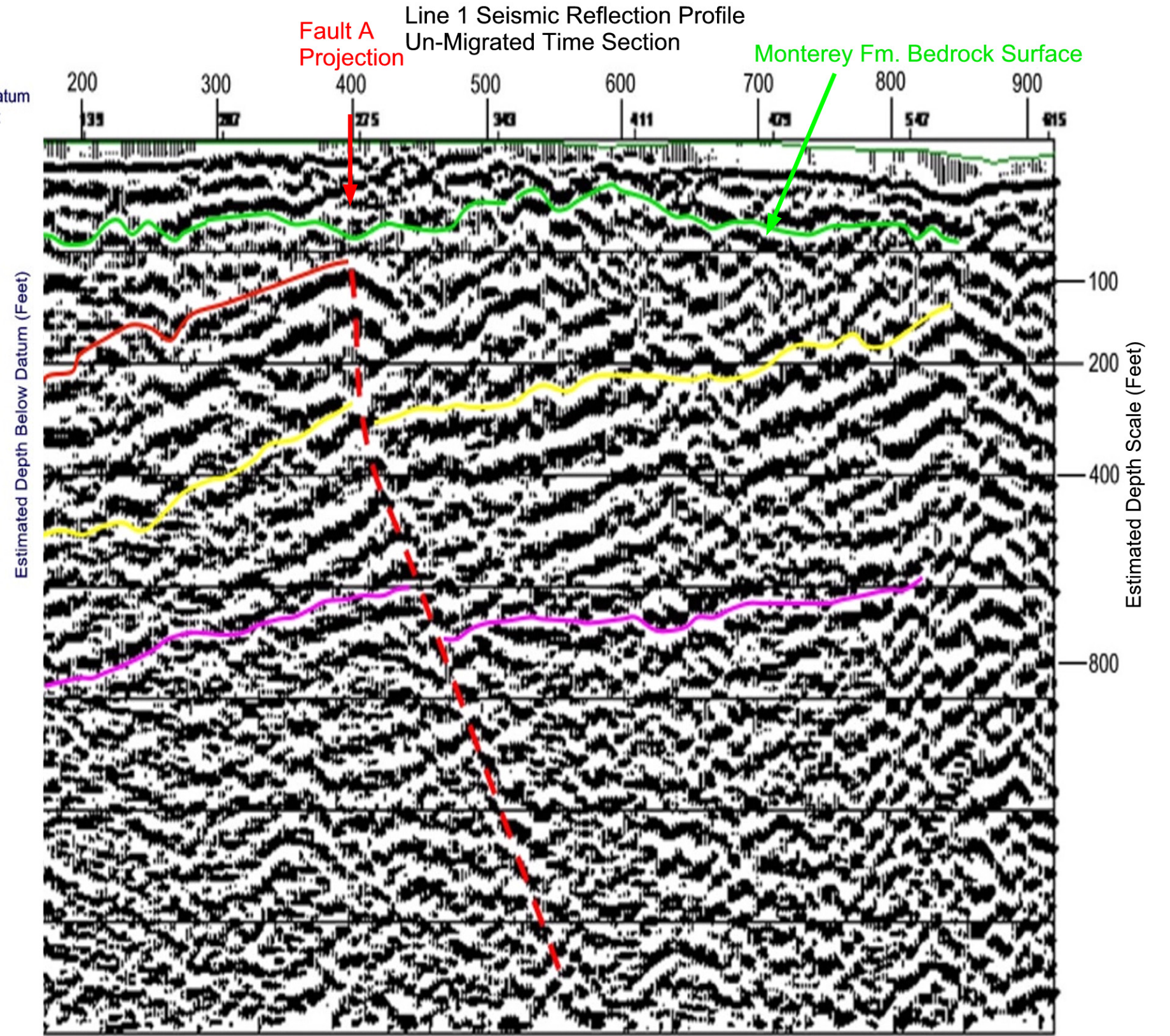
- Delineation of Fault Planes- Fault Plane Subsurface Orientation and Trend Across Site
- Evaluation of “Possible” Holocene Deformation-Project Fault Planes Upward Near Surface where Recency of Faulting can be Investigated by Direct Geologic Data
- Determine Best Locations for Trenching or Positioning Exploratory Borings and CPTs
- Finalize Fault Investigation with Reviewing Agency- Integrate Subsurface Geologic Data into Seismic Profile Interpretation for More Complete Evaluation of Subsurface Faulting

## Requirements for Higher-Resolution Reflection Surveys:

- Use Survey Lines Set up with Single Geophones- 10 to 40-Hertz Cut-Off Frequency Phones Securely Mounted to the Ground Surface
- Use Multi-Channel 24+ db Seismic Acquisition System to Record 60+ Channel Field Records from Closely-Spaced Geophone Positions
- Use Higher-Frequency Seismic Energy Sources (such as Sledge Hammers, Seisgun, or Accelerated Weight Drops) with Triggering for Very Precise Positioning of Time=0 on Field Records
- Conduct Specialized “Near-Surface” Seismic Reflection Data Processing with Knowledge of Local Geologic Conditions- Don’t Send Data to Houston or Denver for Oil and Gas Exploration Scale Processing

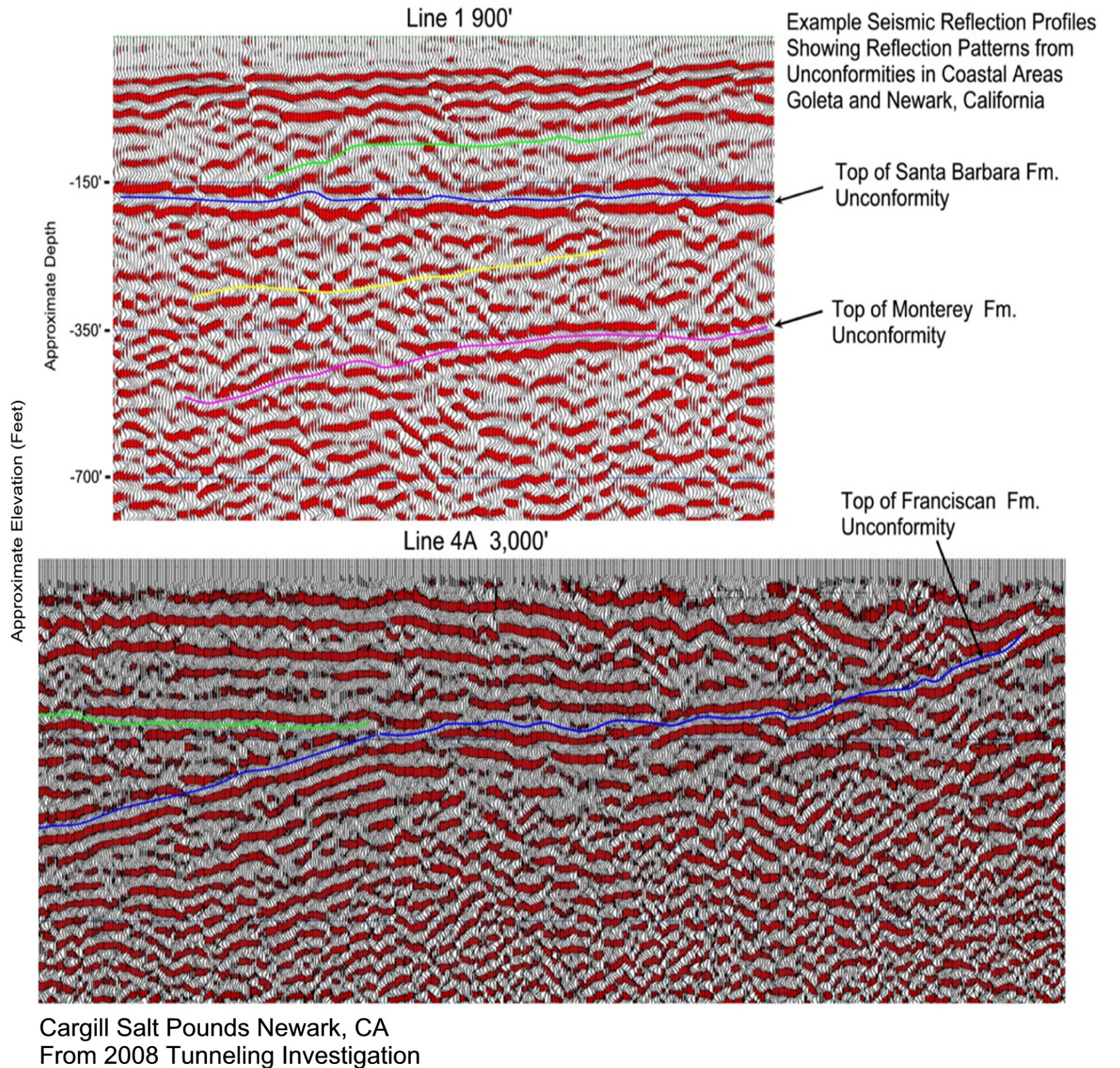
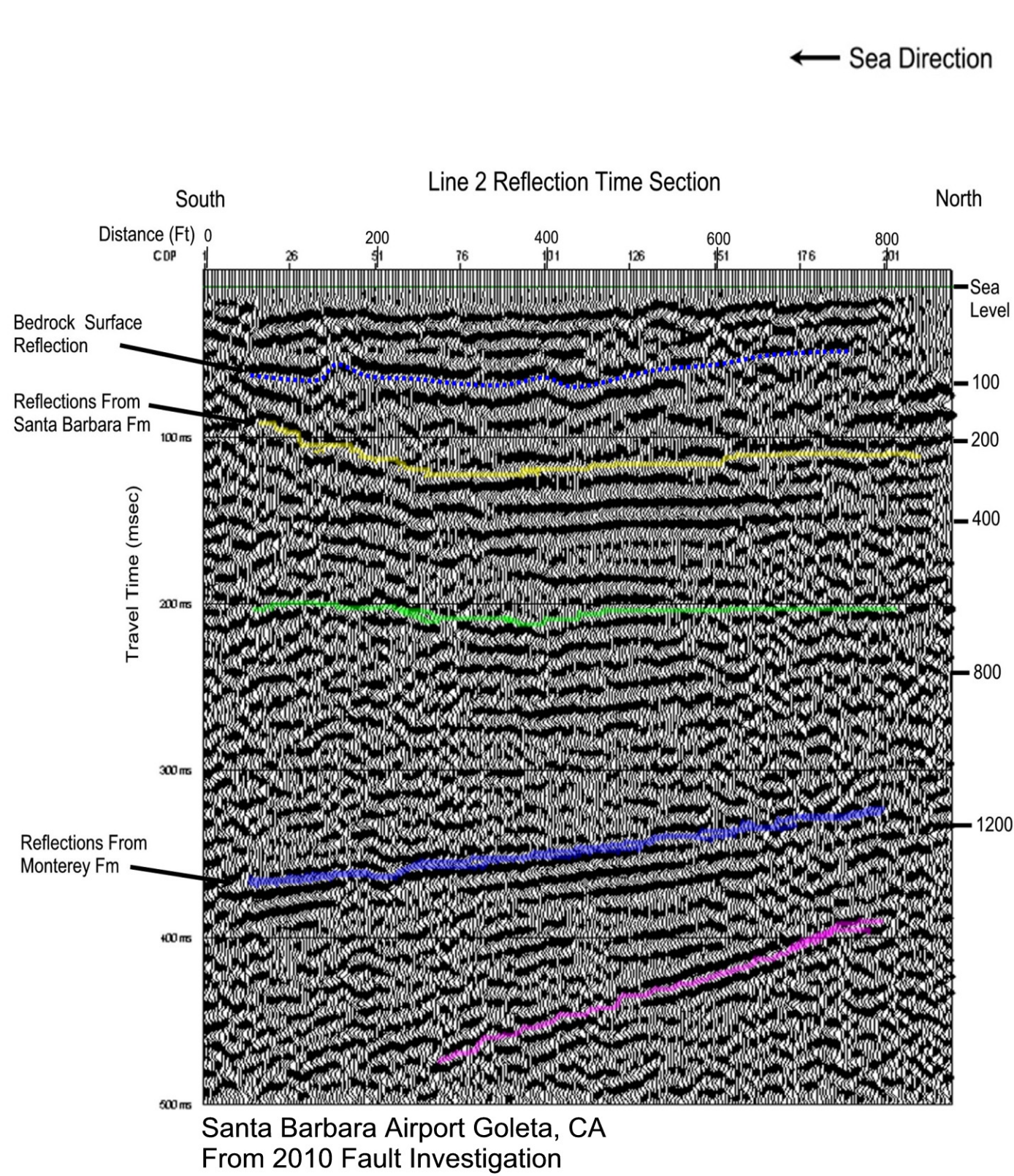


North Haiwee Dam Inyo County, CA  
From 2013 Fault Investigation



Brandon Elementary School Goleta, CA  
From 2006 Fault Investigation

Examples of Seismic Reflection Profiles  
Showing Bedrock Fault Faulting Projected Near Surface



Examples of Seismic Reflection Profiles Showing Sedimentary Structure and No Evidence of Faulting