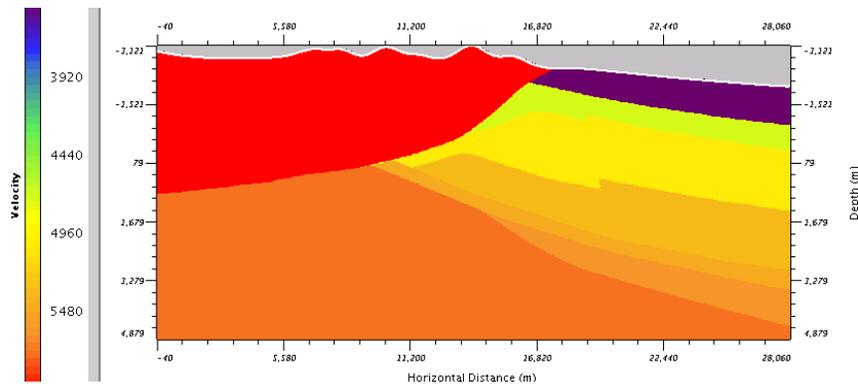


## Project 2

### Early-Arrival Waveform Tomography for Near-Surface Imaging in Yumen

Yumen is the very first oil production field in China (even earlier than Daqing). The area is covered by mountains with large topography variations and complex near-surface structures. During this project, we shall first design a numerical model simulating the velocity structures under Yumen, and then apply 2D waveform tomography to test imaging capabilities for the model. If that is successful, we will continue to work on a real dataset collected from Yumen.

**Objective:** this project includes performing forward finite-difference simulation, and early-arrival waveform tomography. Understand the forward modeling, and understand how waveform tomography works and its limitation.



#### Data and Materials Offered:

yuman\_modeling\_imaging.ppt  
ymjz151\_dats.sgy  
ymjz\_01.tt  
ymjz\_11.mdl

#### Software:

TomoPlus  
Training manual  
User's manual

MIT OpenCourseWare  
<http://ocw.mit.edu>

12.571 Near-Surface Geophysical Imaging  
Fall 2009

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