SALINE AQUIFER CO$_2$ STORAGE PROJECT

Statoil
BP Amoco
ExxonMobil
Norsk Hydro
Vattenfall

BGS
BRGM
GEUS
IFP
NITG-TNO
SINTEF

IEA Greenhouse Gas R&D Programme
Geco-Prakla
Nansen Research Centre
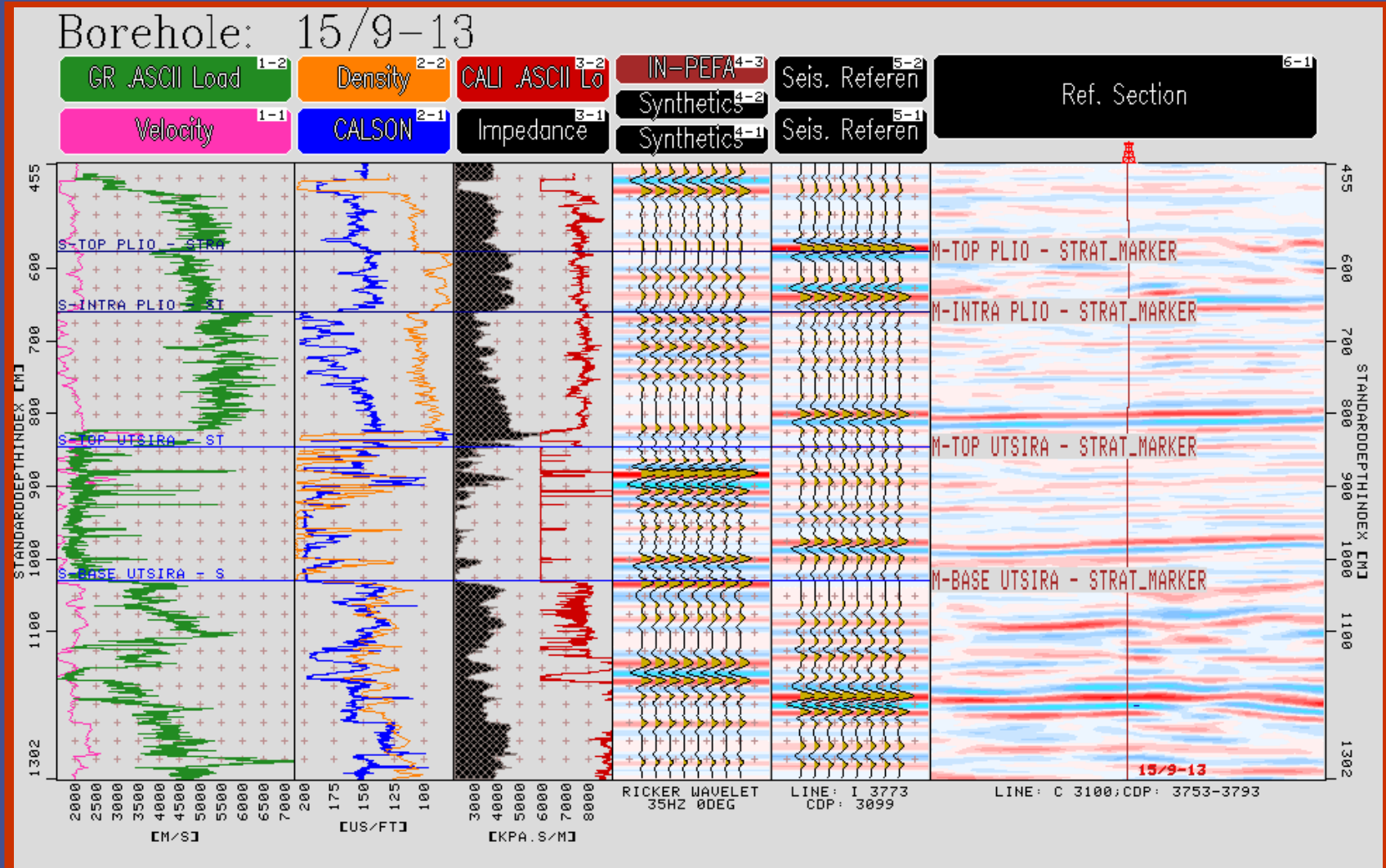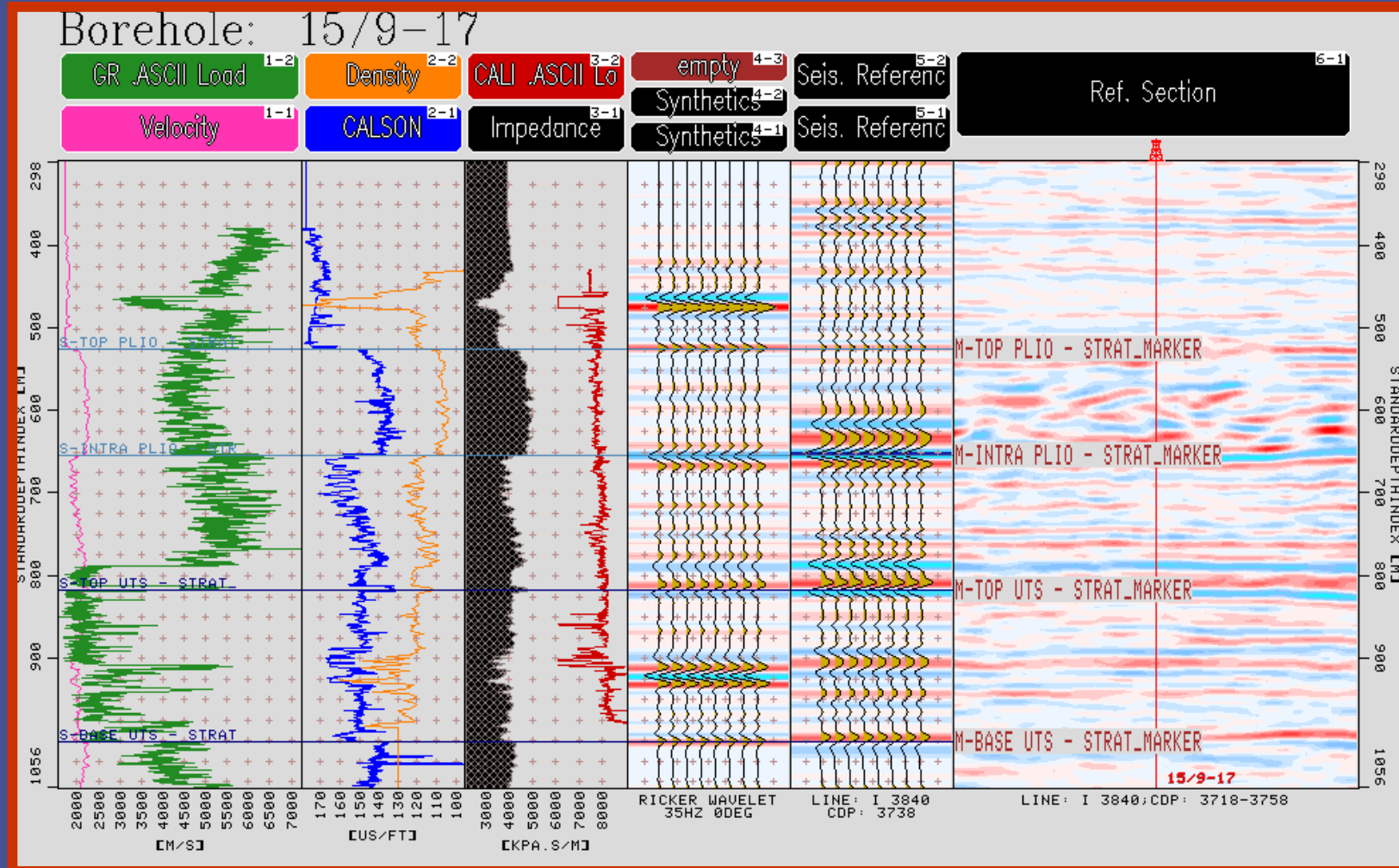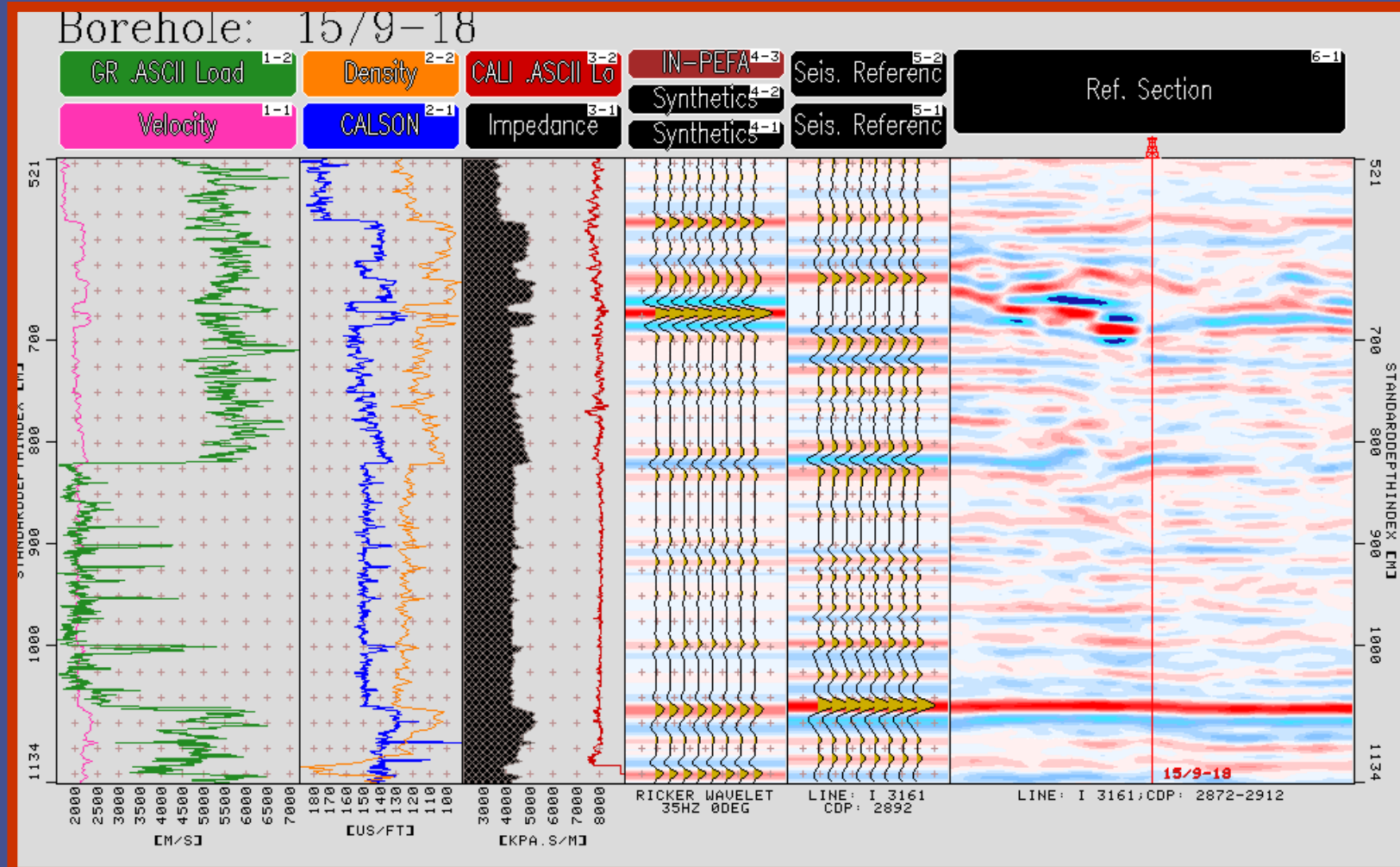
Synthetics of well 15/9-8

Synthetics of well 15/9-13

Synthetics olf well 15/9-17
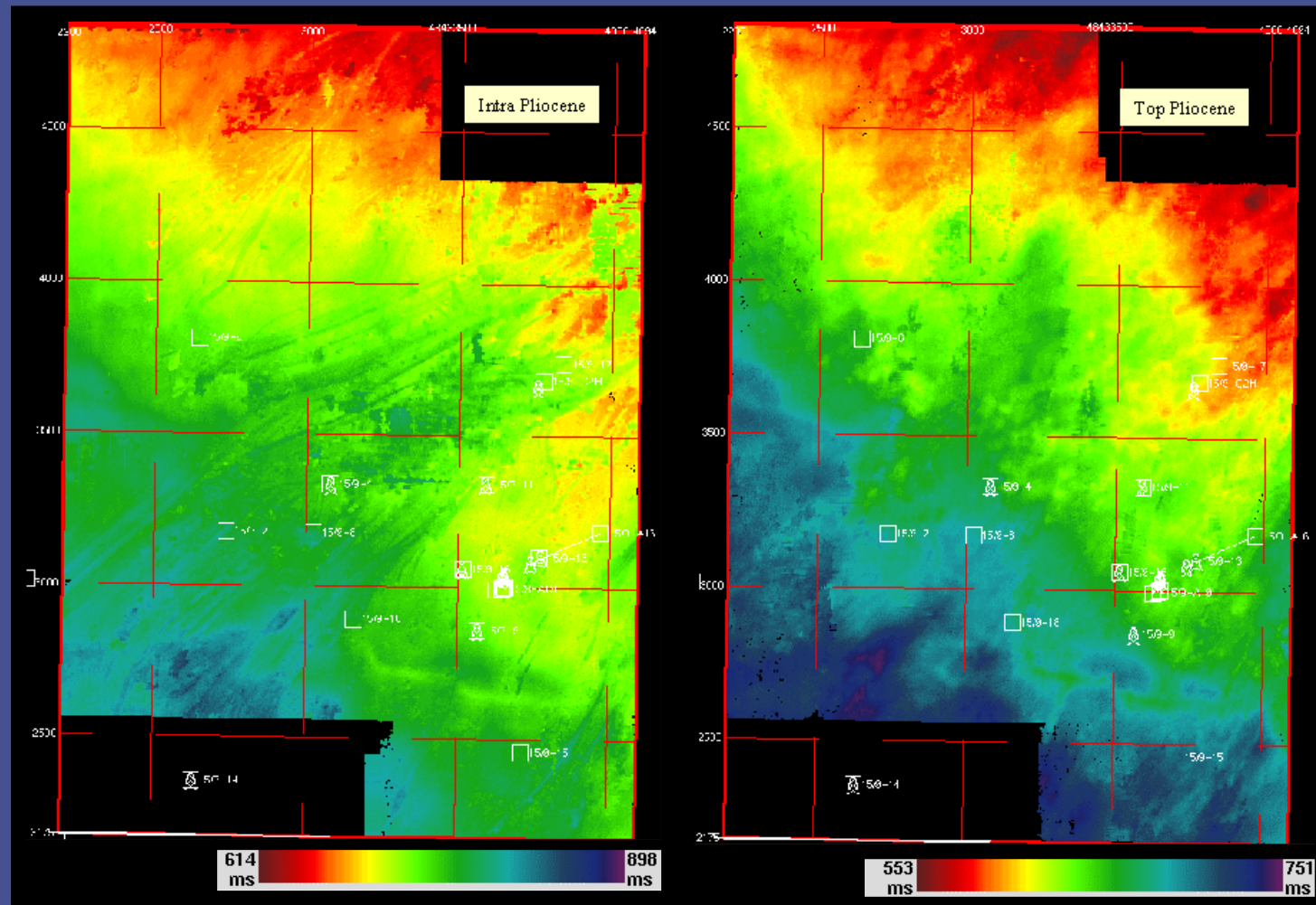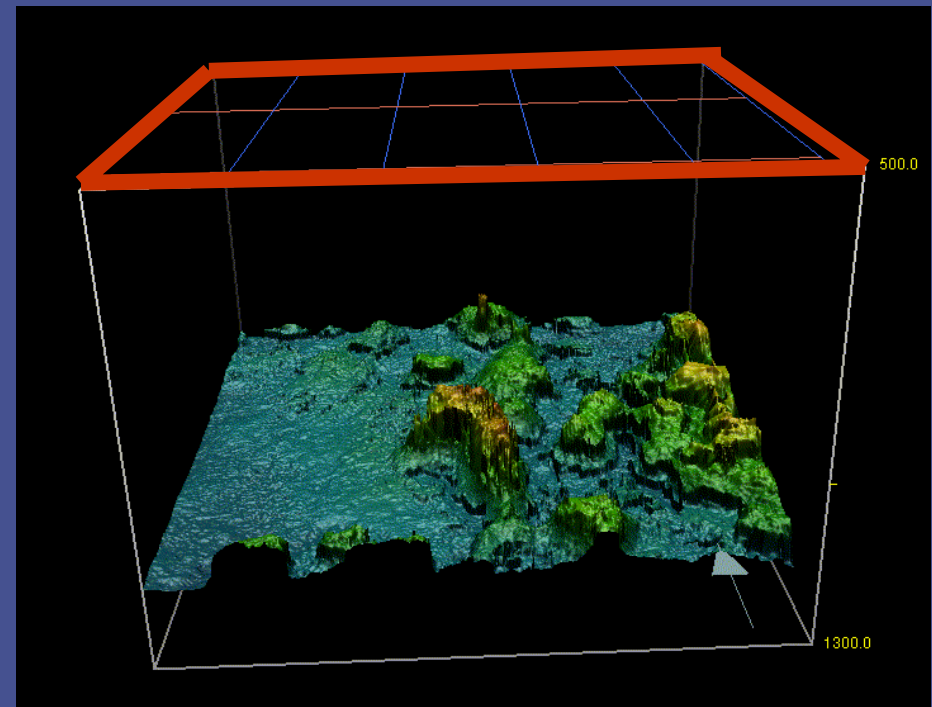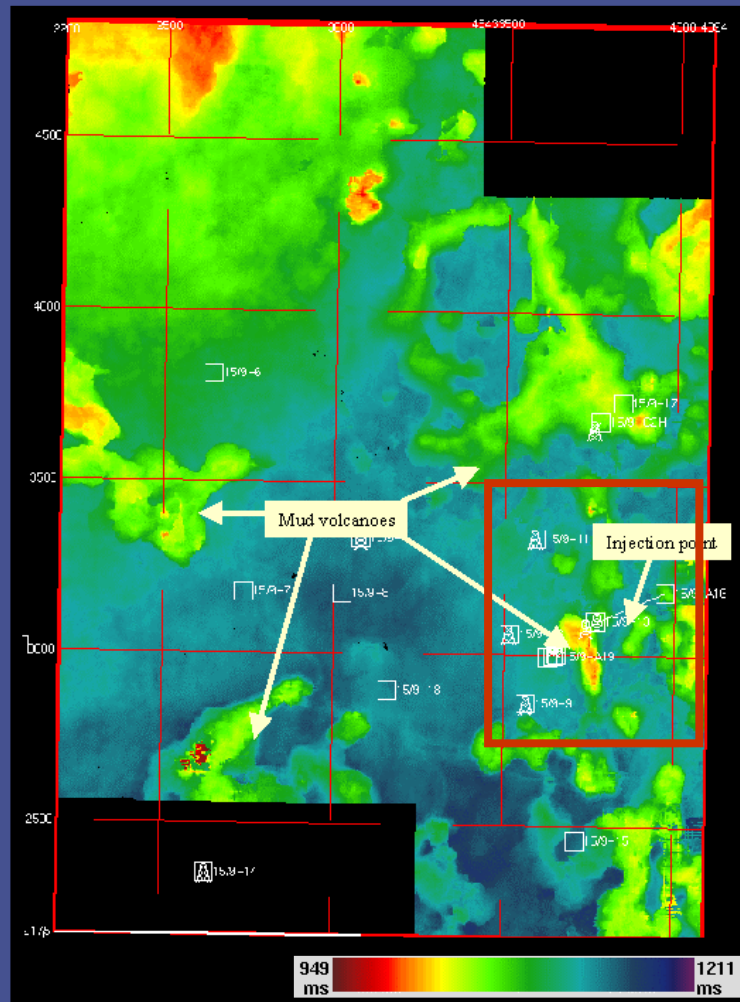
Synthetics of well 15/9-18
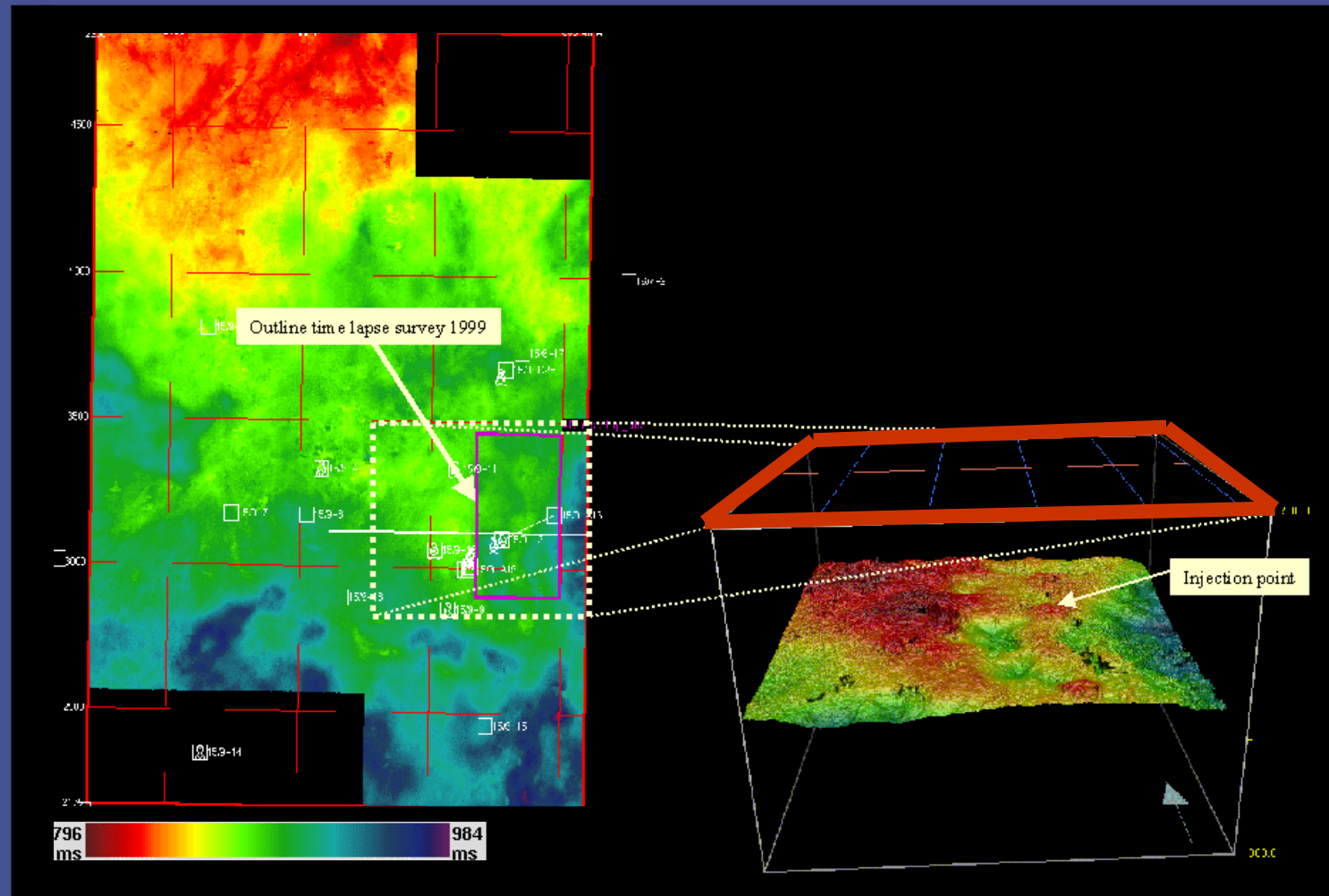
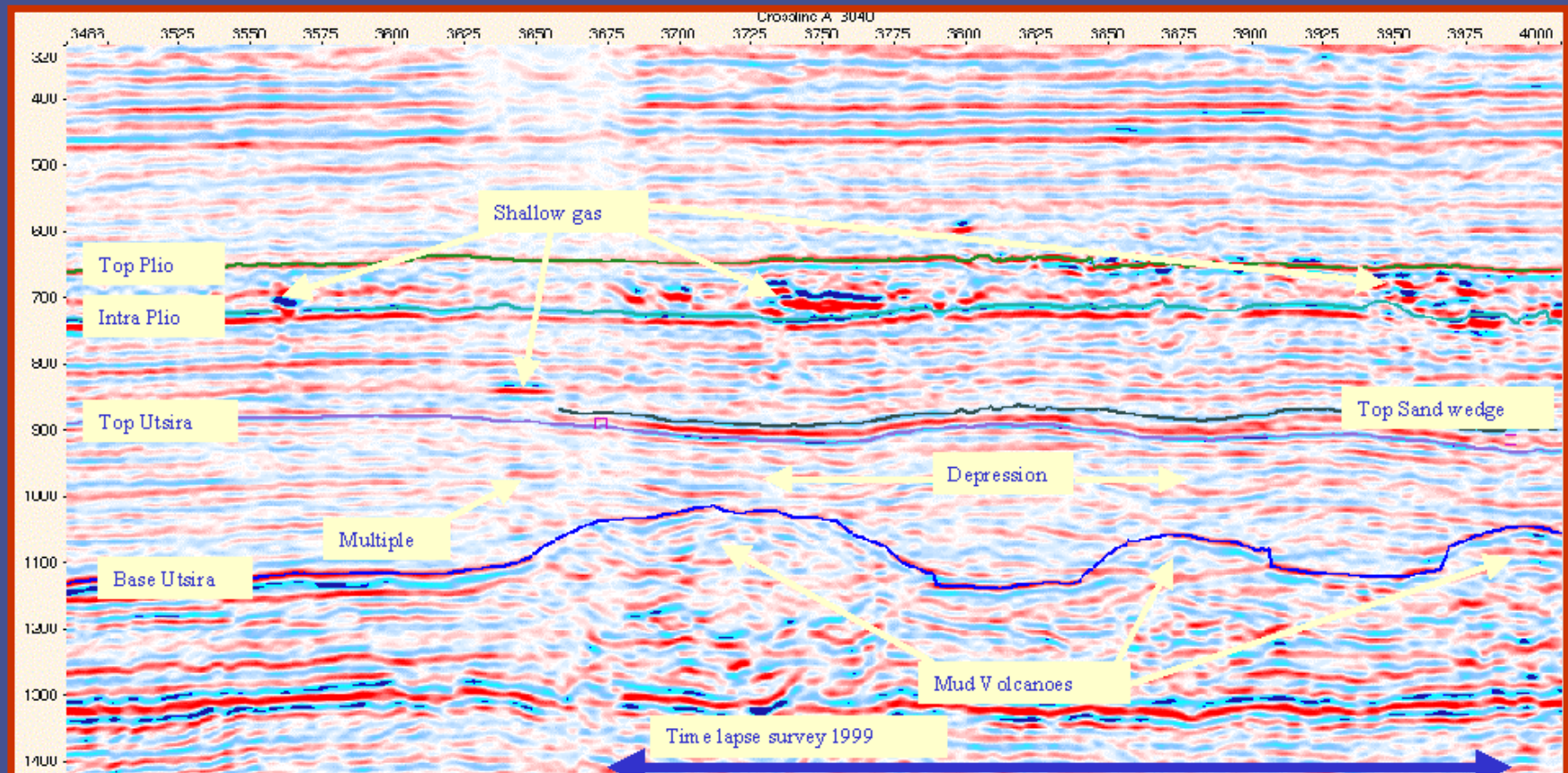# Intra and Top Plicocene horizons (TWT)
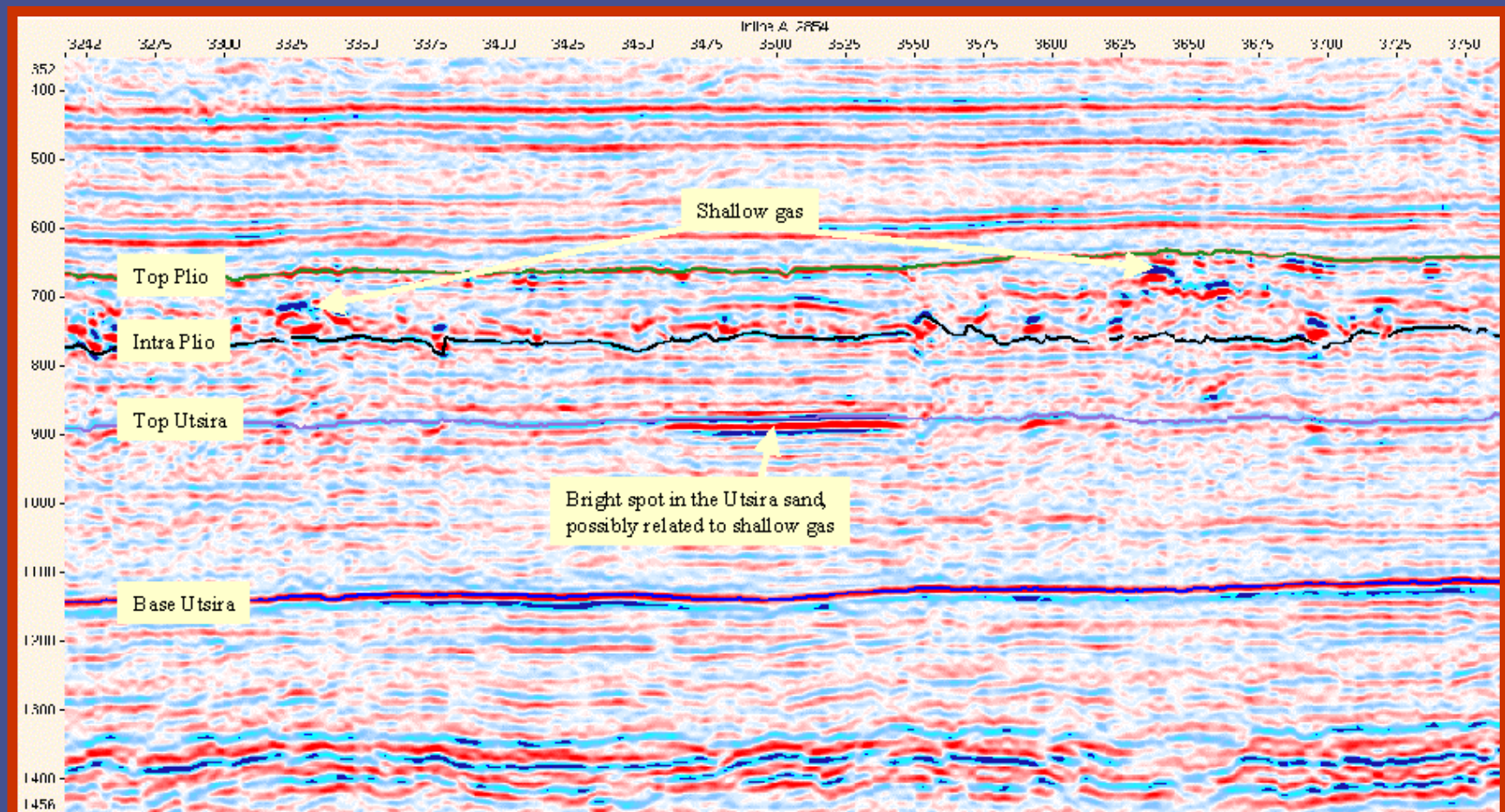
Mud volcanoes at the base Utsira

Top Utsira sand map (TWT)
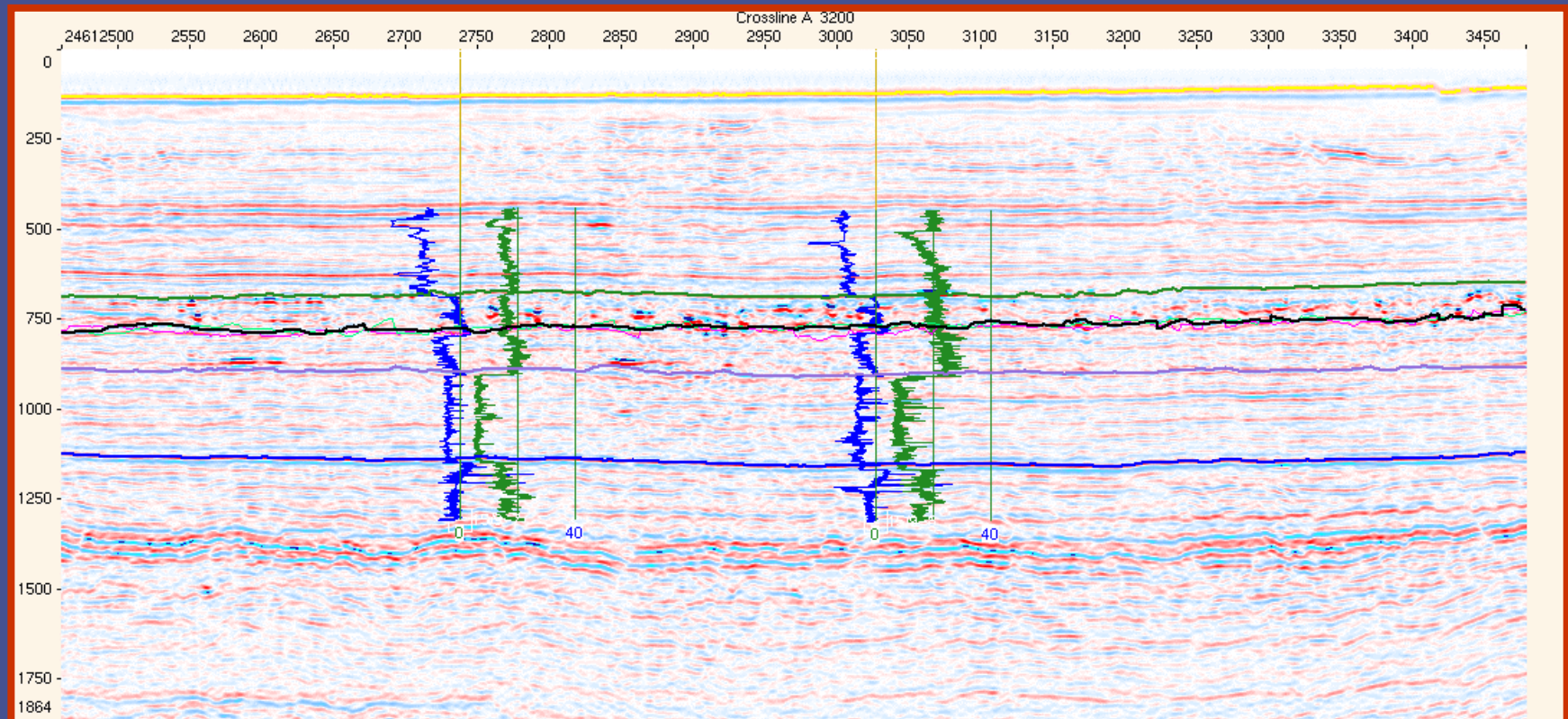
Crossline 3040

Inline 2854

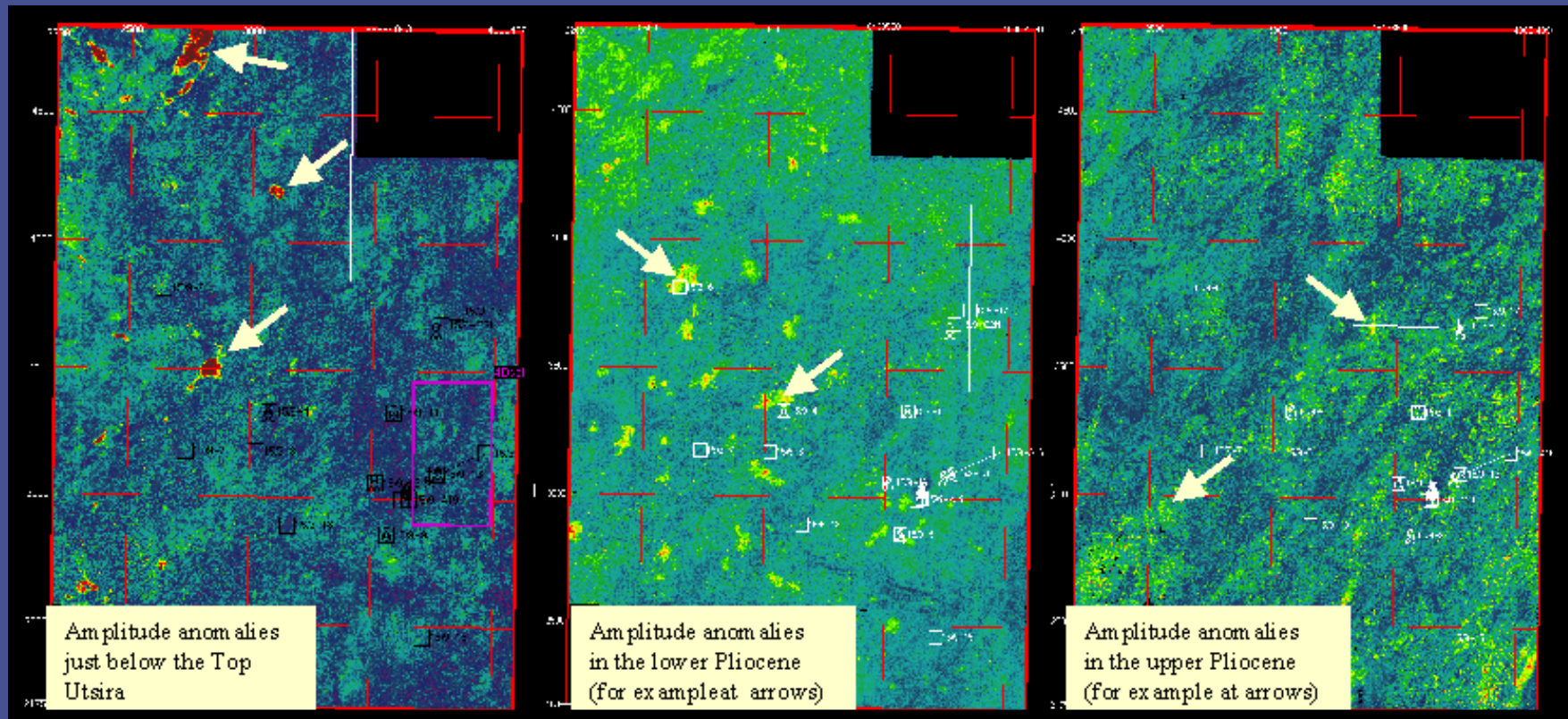# Crossline 3200

Amplitude anomalies in the Utsira sand, in the lower Pliocene and in the upper Pliocene

Amplitude anomalies just below the Top Utsira

Amplitude anomalies in the lower Pliocene (for example at arrows)

Amplitude anomalies in the upper Pliocene (for example at arrows)

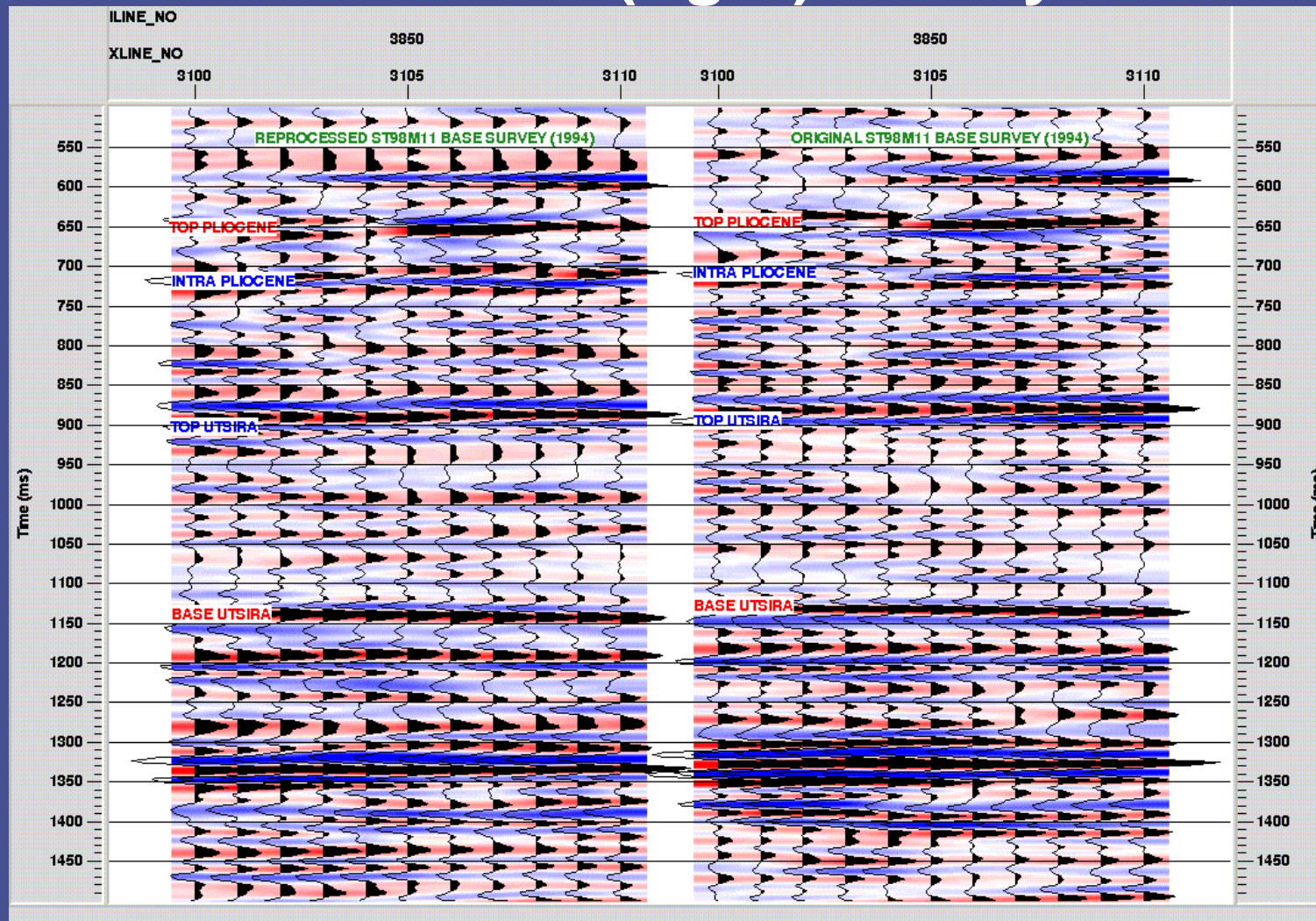# Top Utsira sand depth map
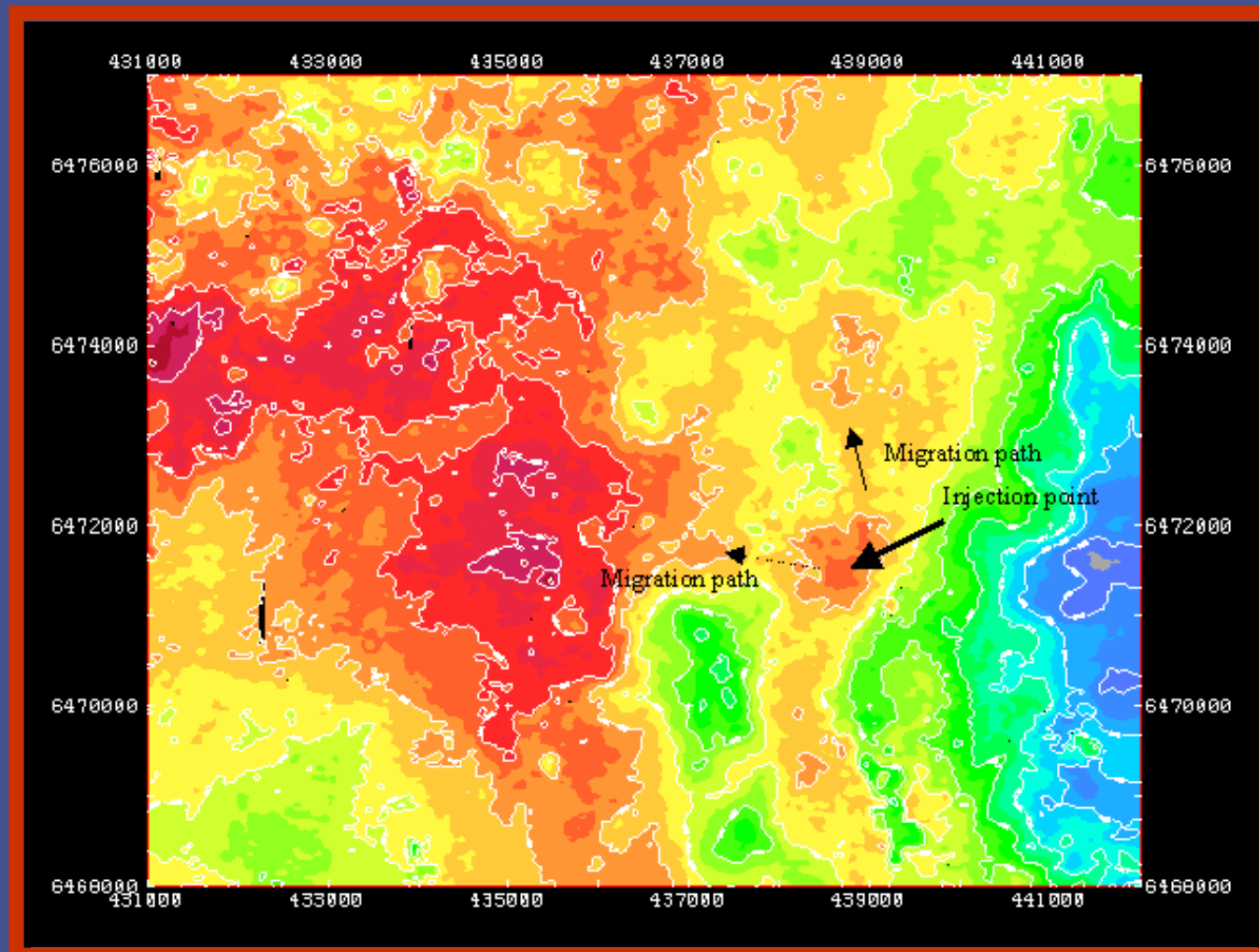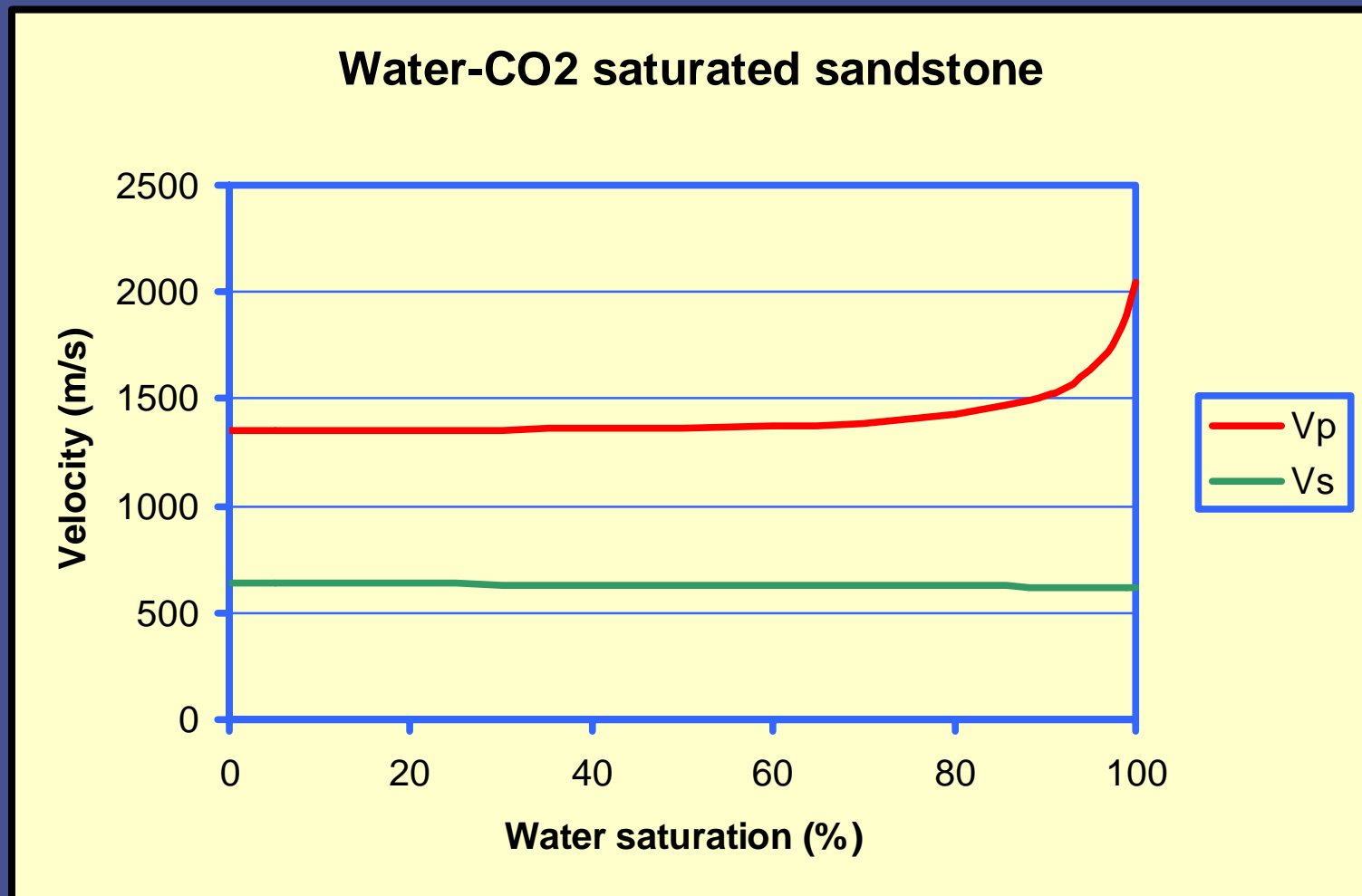
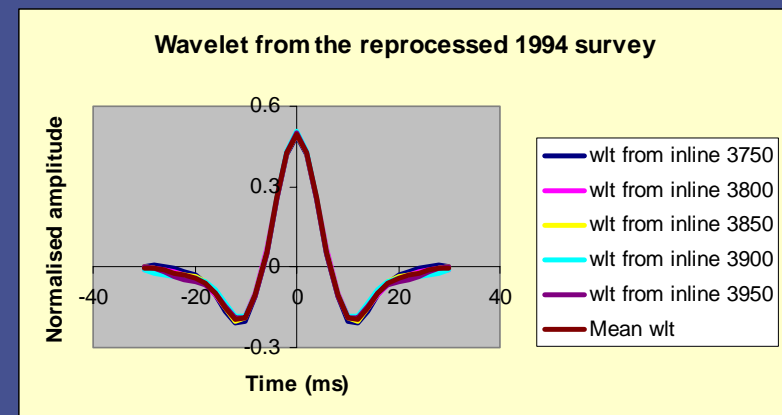# Time shift between ST9407 (left) and larger ST98M11 (right) survey

Velocity effect of super-critical CO_2 in water-saturated sandstone at 800 m depth

Water-CO2 saturated sandstone

Synthetics of well 15/9-13 after blocking

Nederlands Instituut voor Toegepaste Geowetenschappen TNO
Netherlands Institute of Applied Geoscience TNO
- National Geological Survey
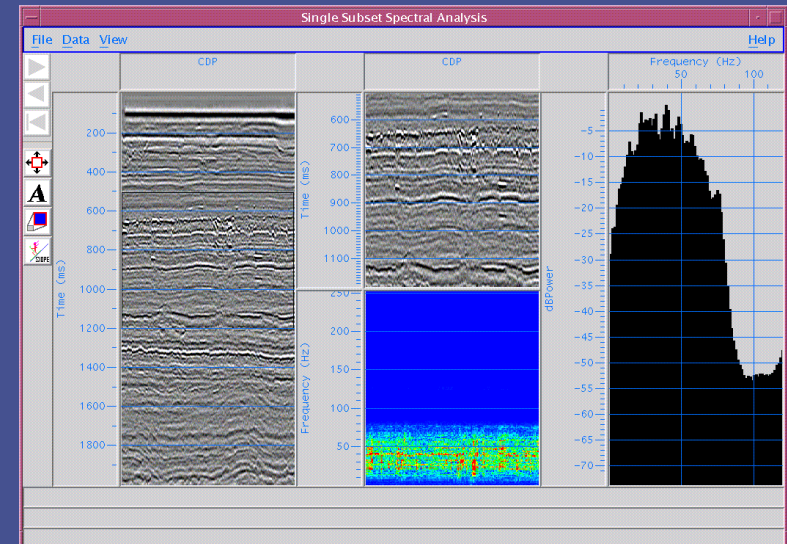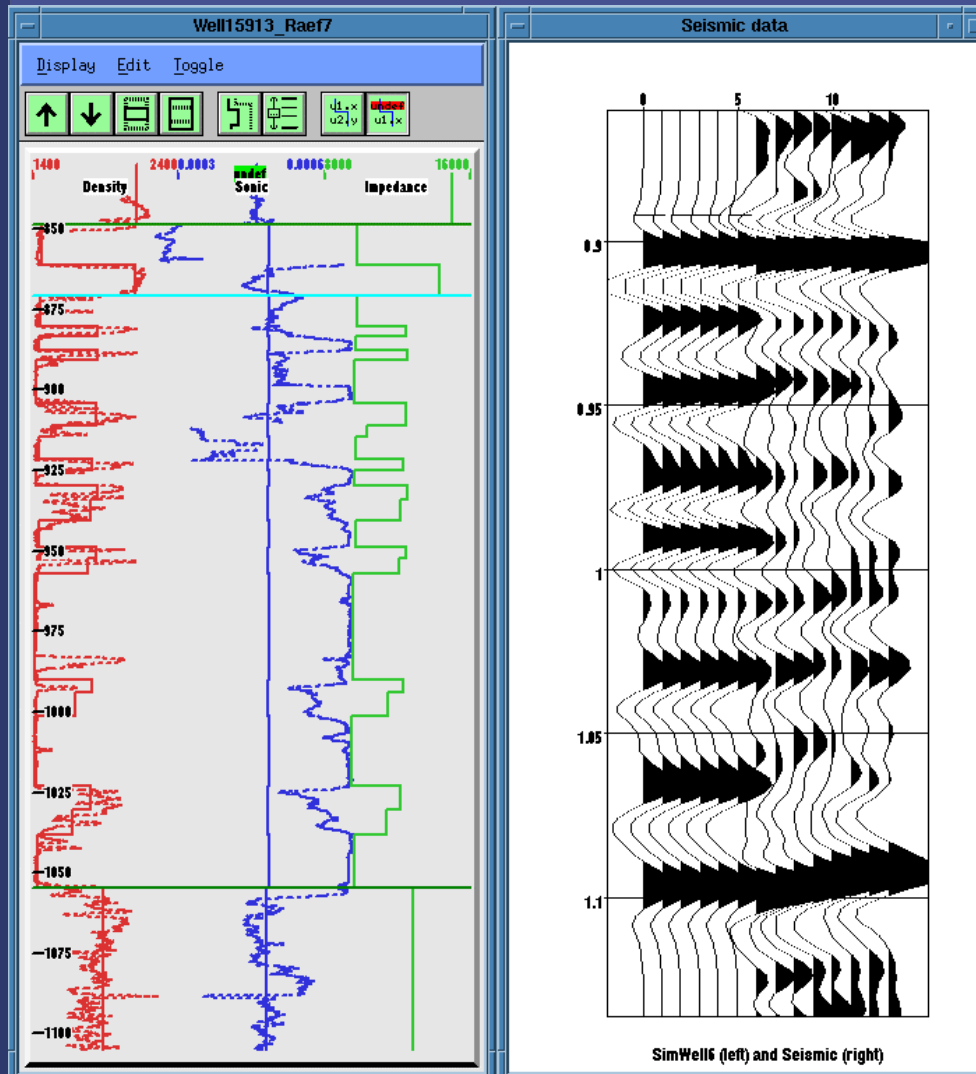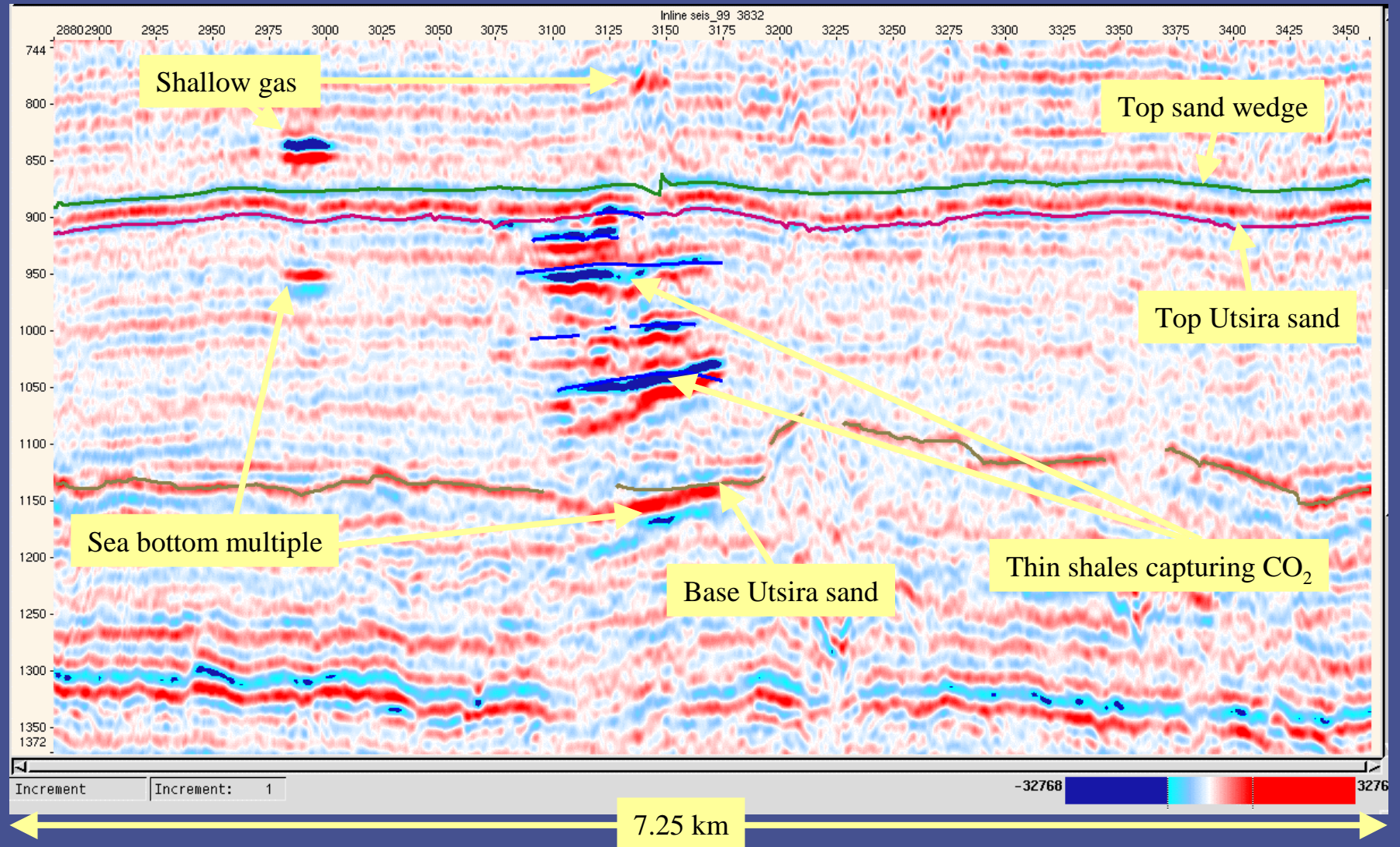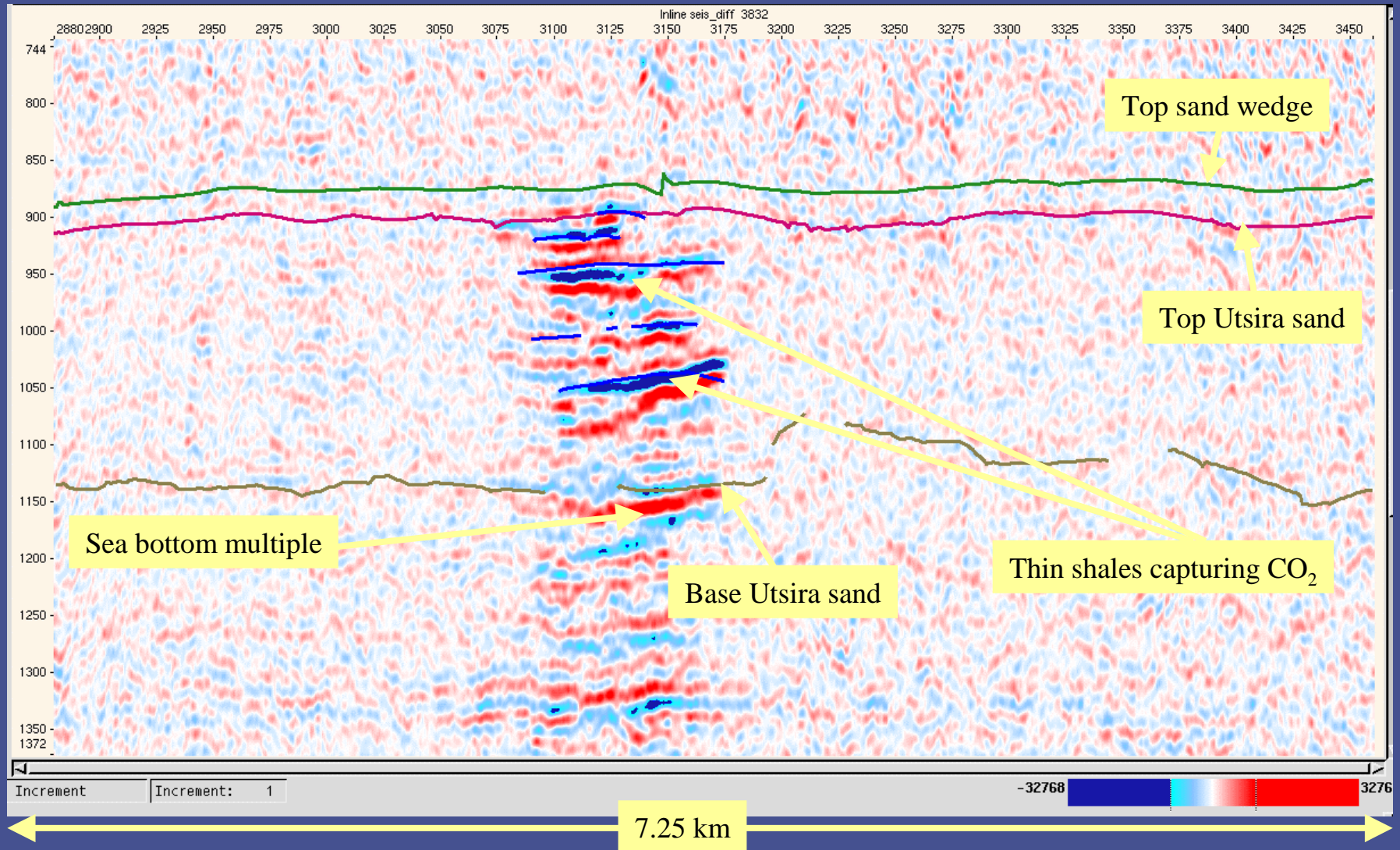
Inline 3832 of the 1994 survey
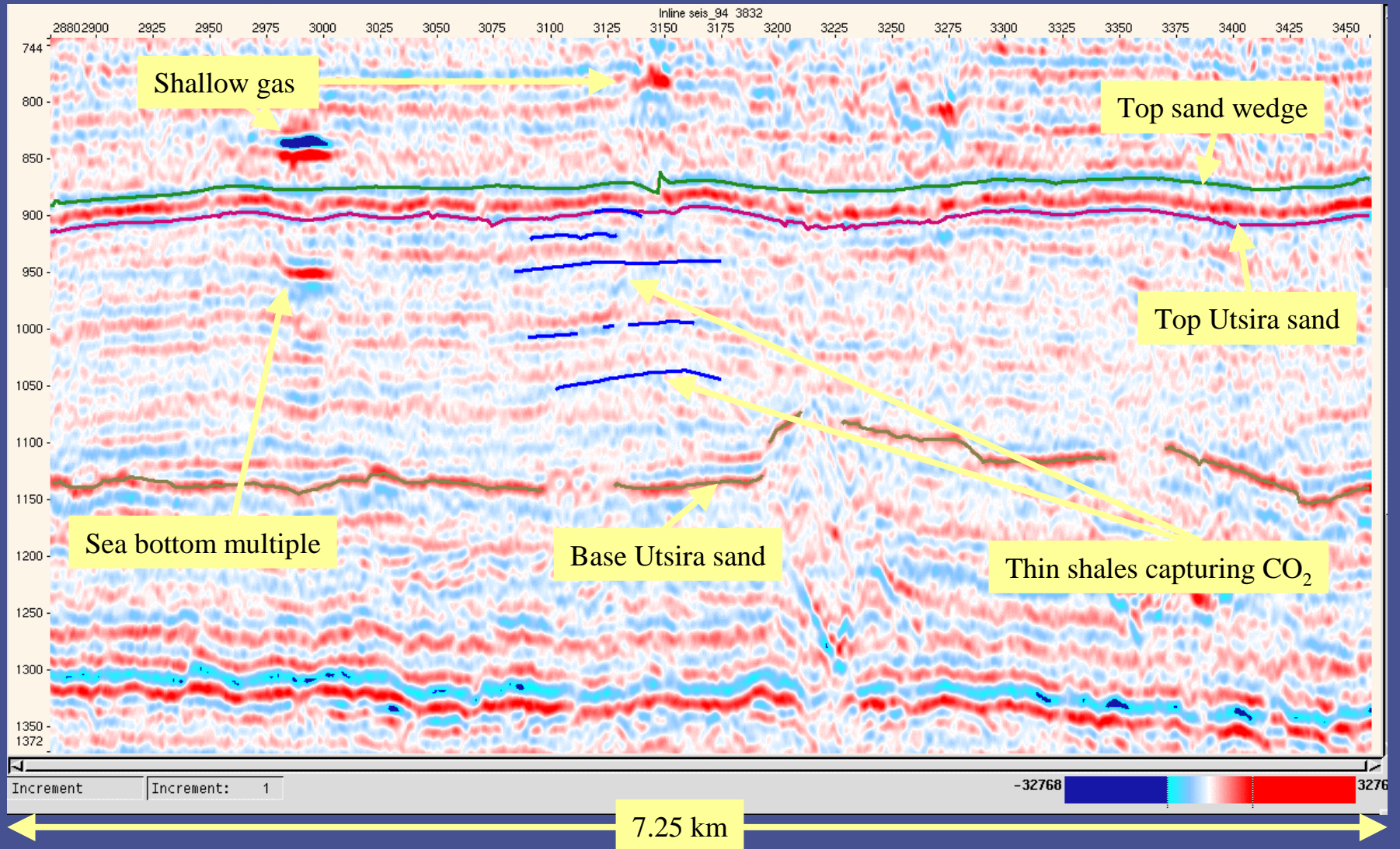
Inline 3832 of the 1999 survey
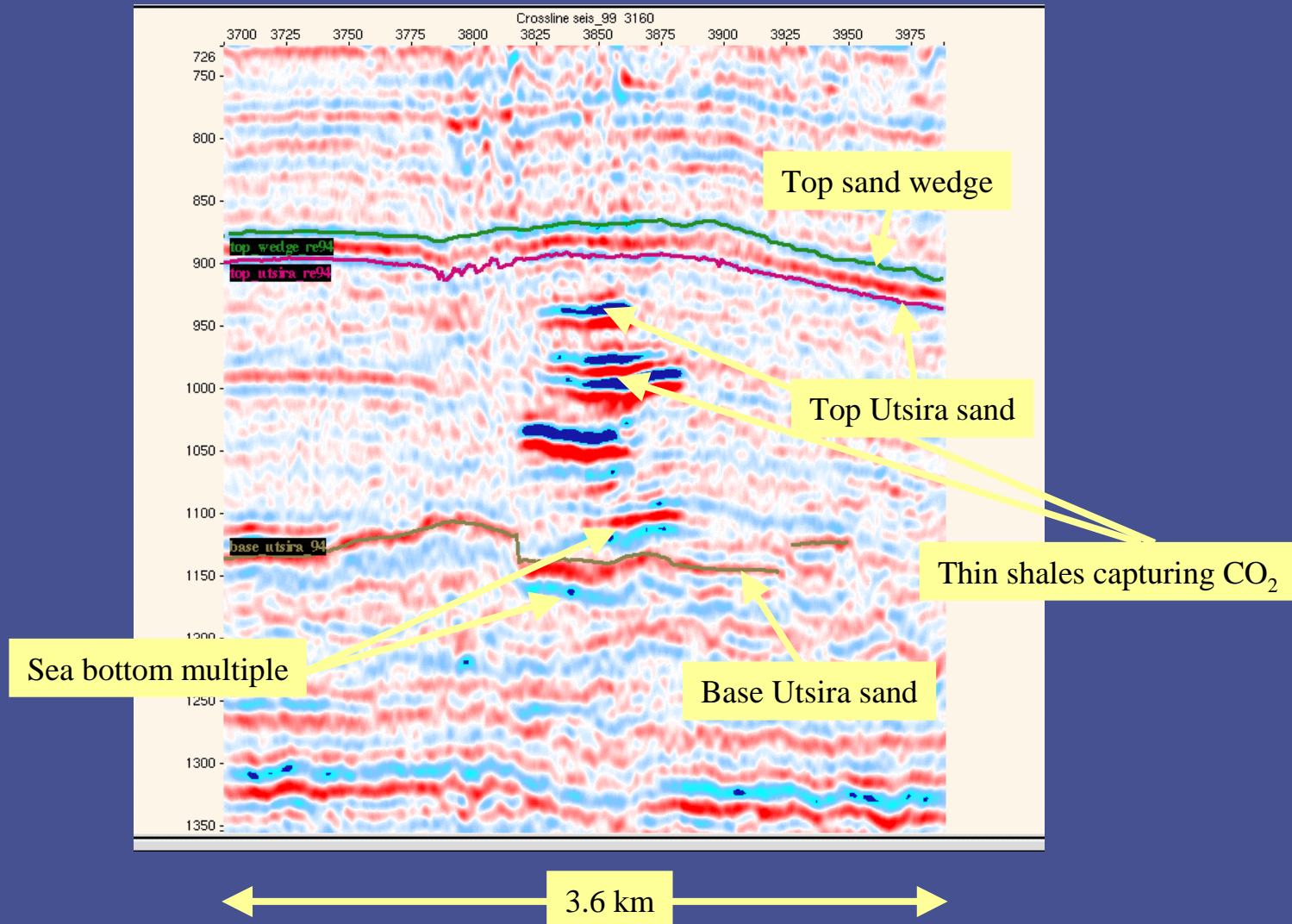
Inline 3832 of the difference (99-94) survey

Crossline 3160 of the 1999 survey

CO$_2$ captured under the thin intra-Utsira shales
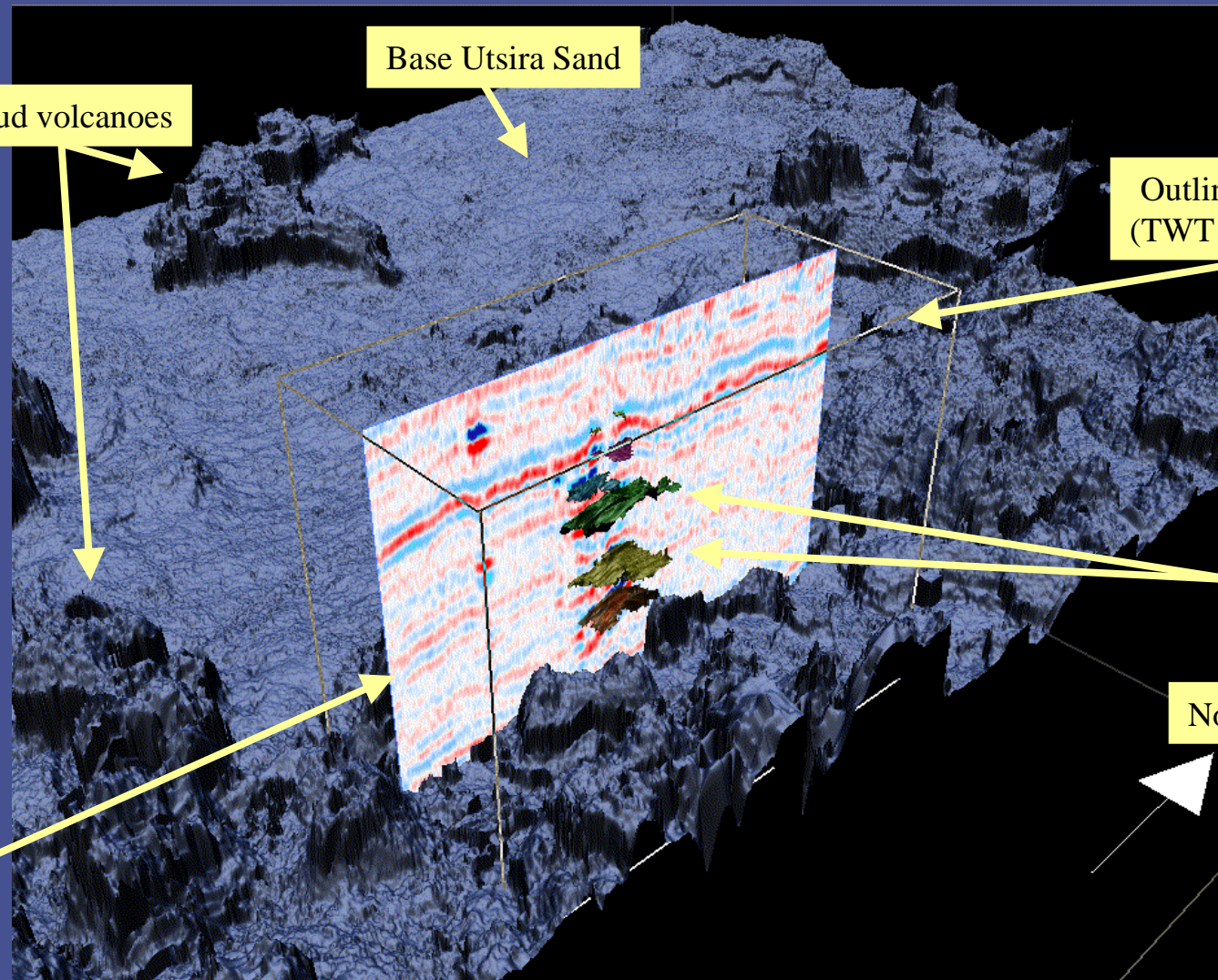
CO$_2$ captured under the thin intra-Utsira shales

Outline 1999 survey
(TWT 800 - 1200 ms)
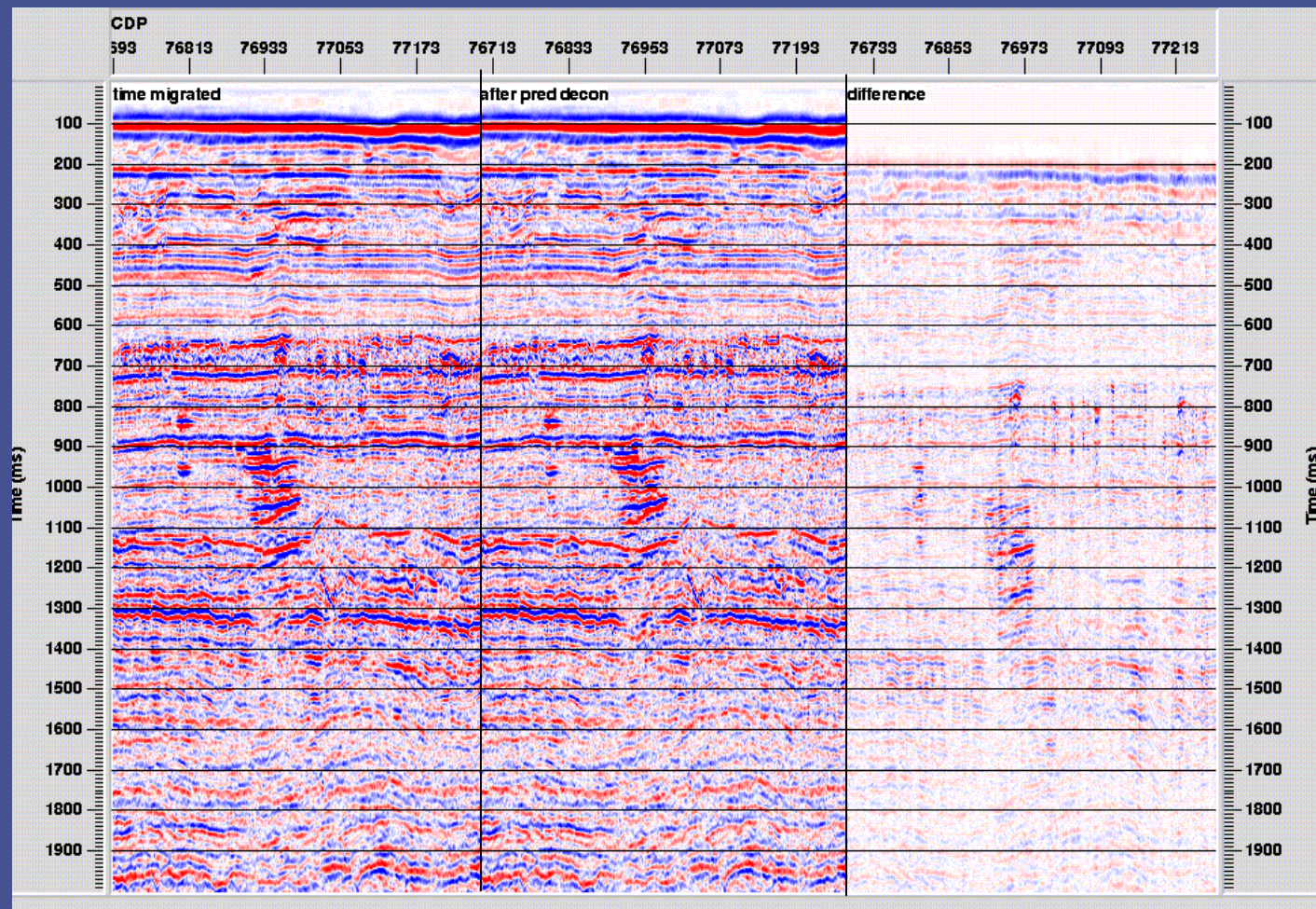
CO$_2$ levels
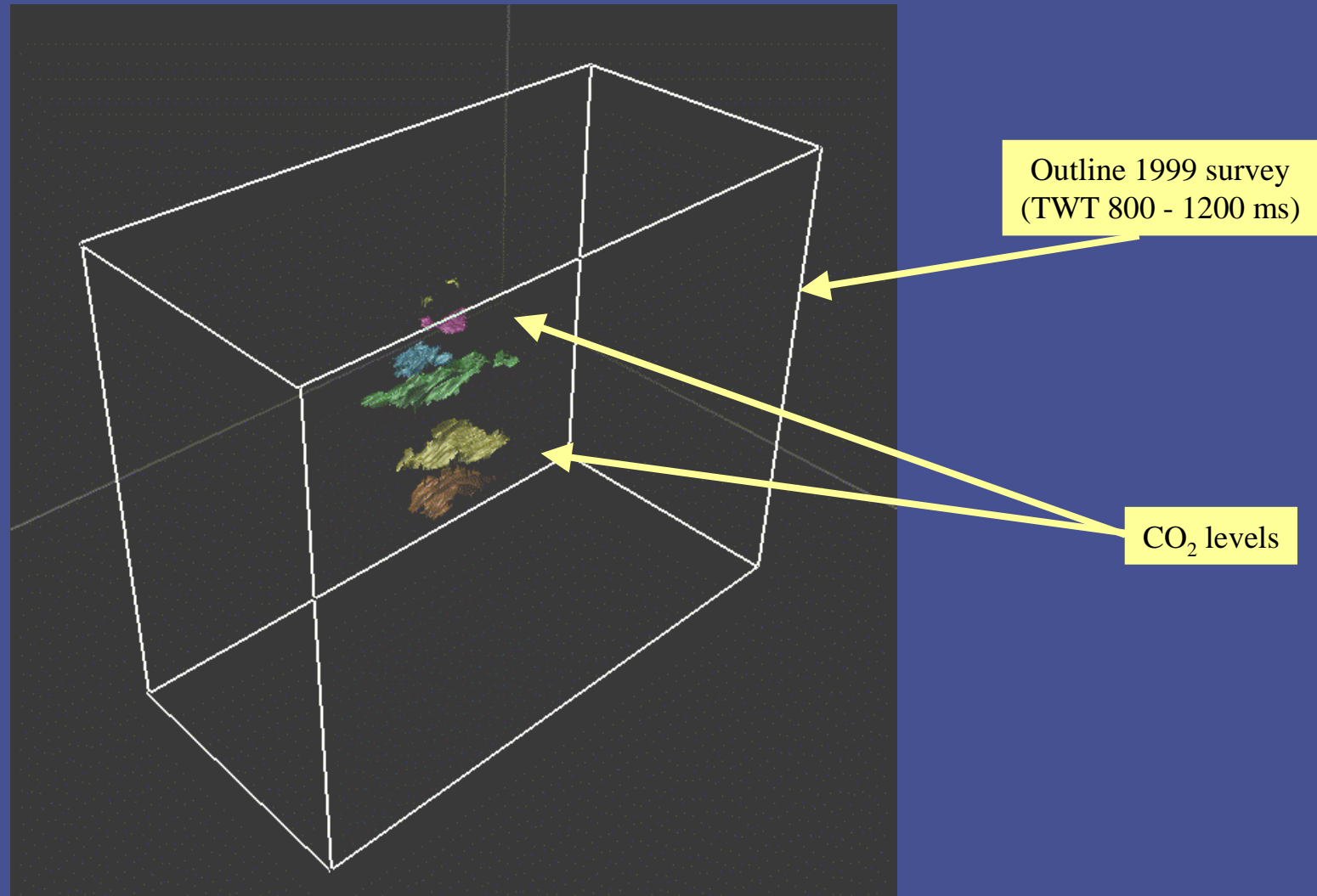
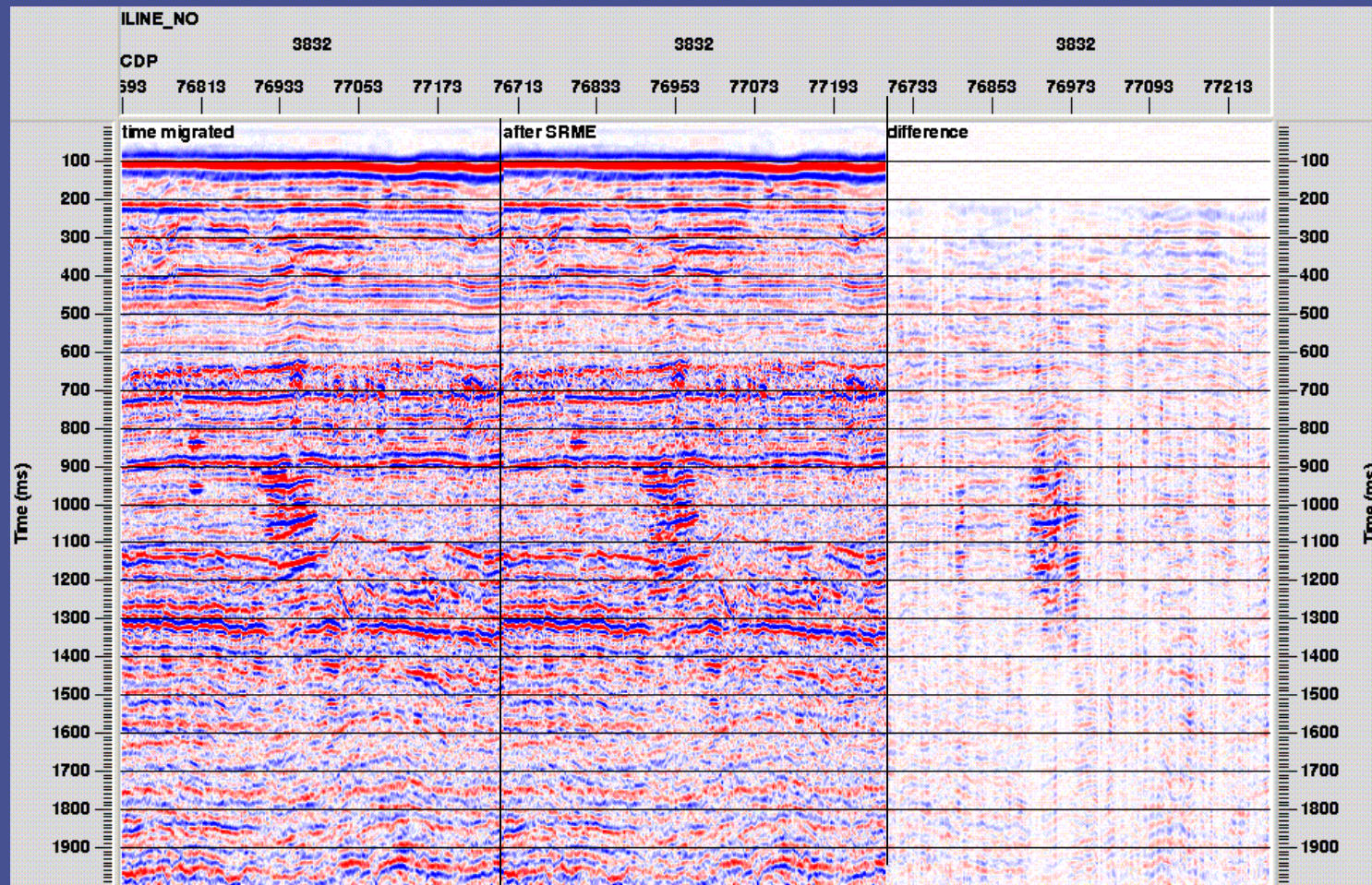# Time lag (left), amplitude anomaly (middle) and top structure (right) with shale projections
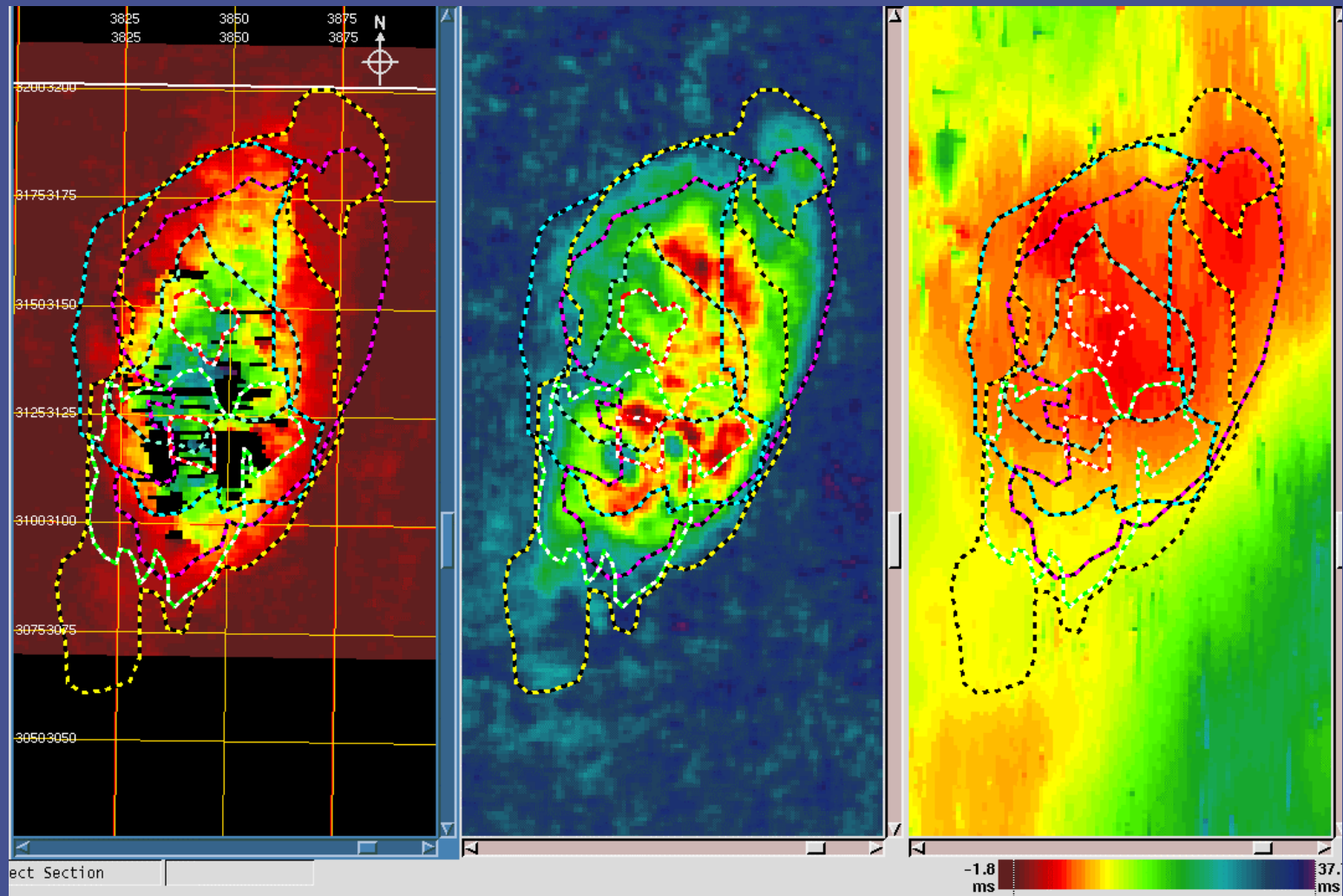
Inline 3832 after multiple elimination with predictive deconvolution

Inline 3832 after multiple elimination with surface related ME (DELPHI)

multiple elimination

- **Predictive deconvolution and surface related multiple elimination have been applied on Inline 3832 (both predictive methods)**

- **Both methods are more suitable for application on near-offset or stacked data**

- **Alternative filter methods based on velocity move-out are for example FK or Radon based methods**

- **Pre-stack methods probably give better results, but are more expensive**

- **Proposal: test different methods on one Inline**