



IT4 – Part 3

NZ 3D Processing

10 March 2021

cgg.com



INSTITUTE FOR GEOPHYSICS



Passion for Geoscience

- **Objective:**

To further improve deep velocity, especially in the middle and west part.

- **Procedure:**

Following the previous TTI FWI result, a global TTI tomography is applied to further flatten gathers, especially outside OBS data coverage.

- **Display:**

Velocity, migrated depth full stack & gathers.

- **Observation and Recommendation:**

The flatness of the gathers are improved. And events on stack have better focus and continuity. We recommend to proceed with this IT4 velocity.

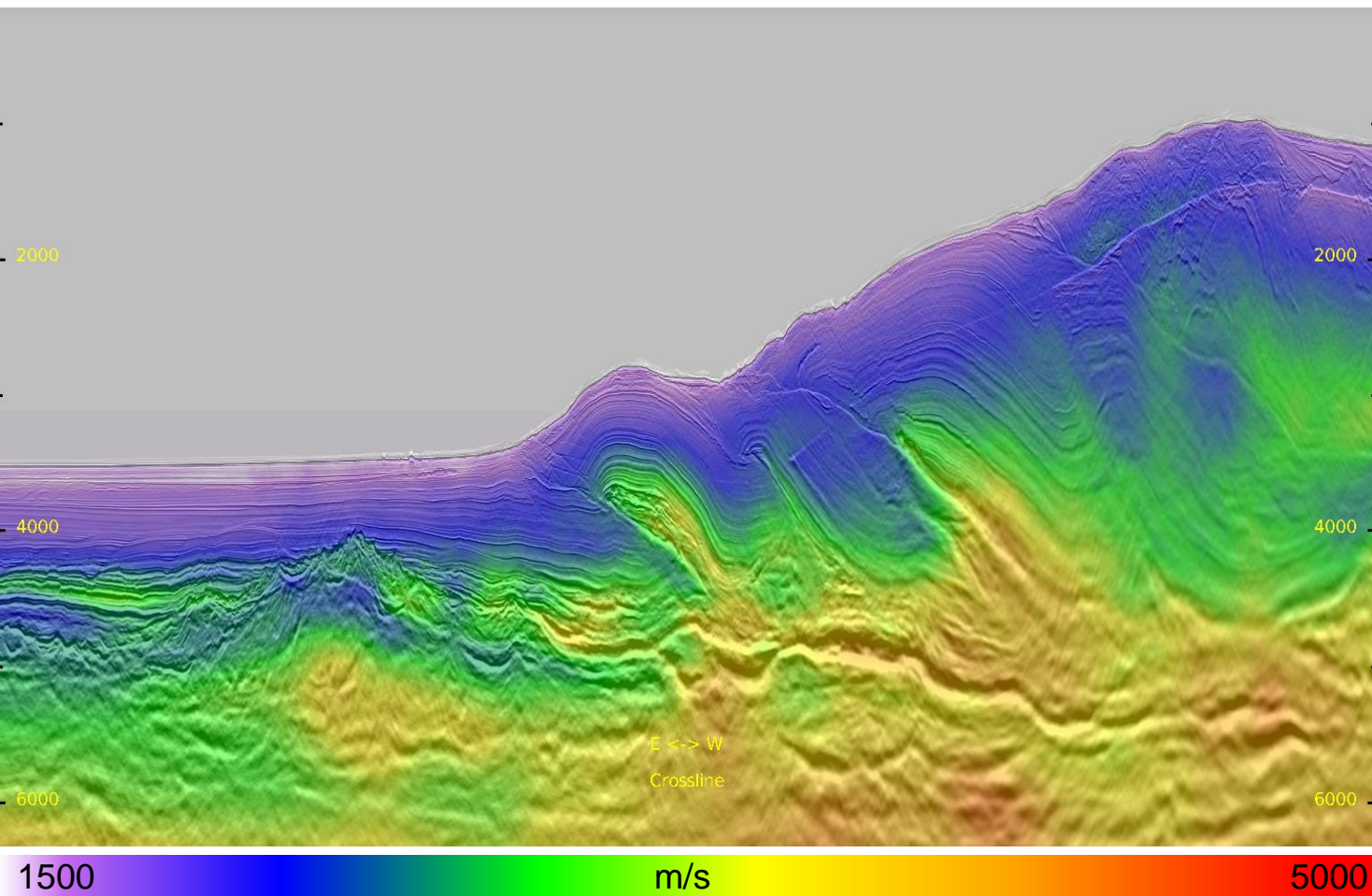
Velocity Model



Inline 436 East: Previous FWI Result

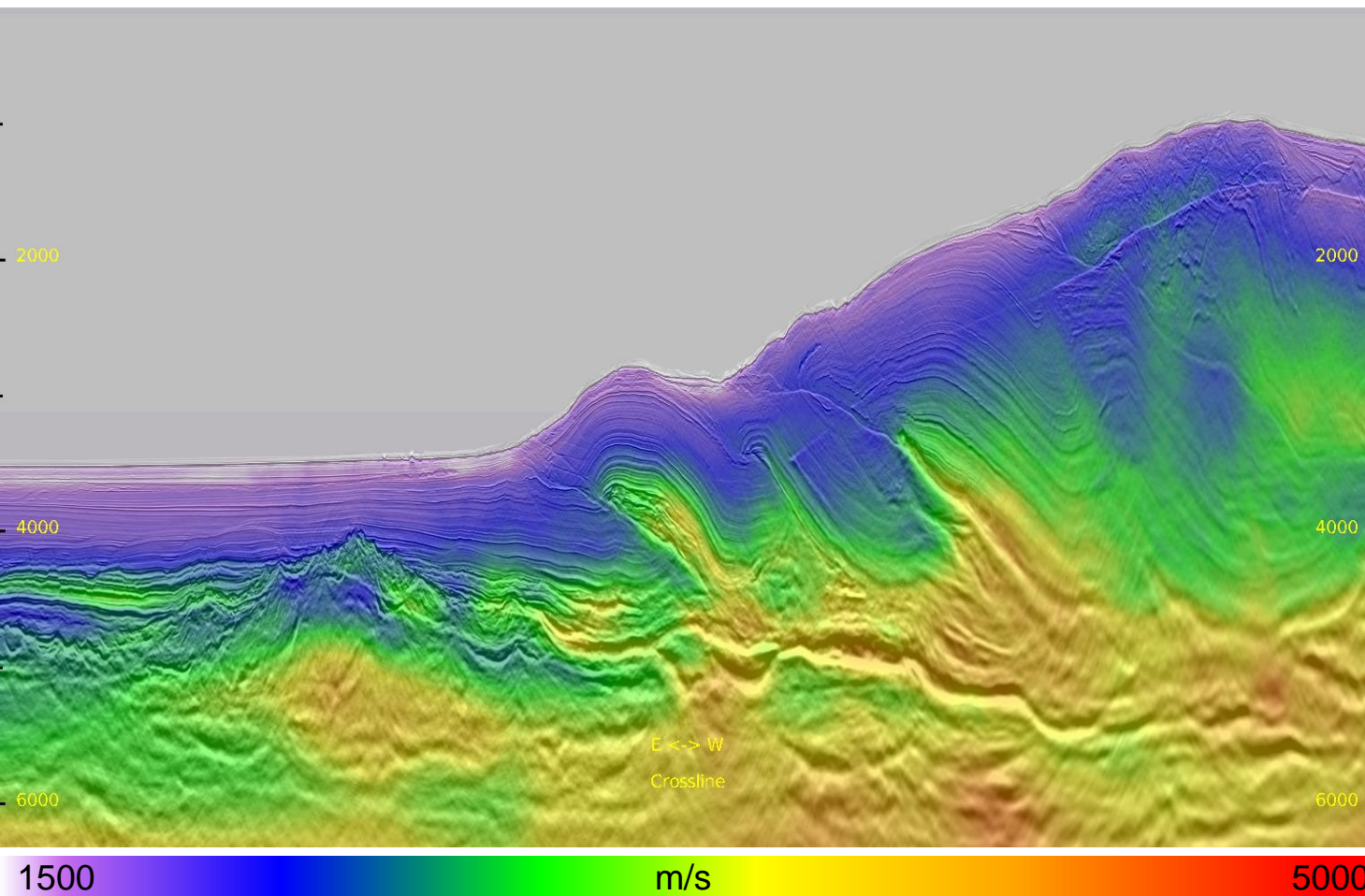
4

- Previous QTTI FWI velocity



Inline 436 East: Current Tomography Result

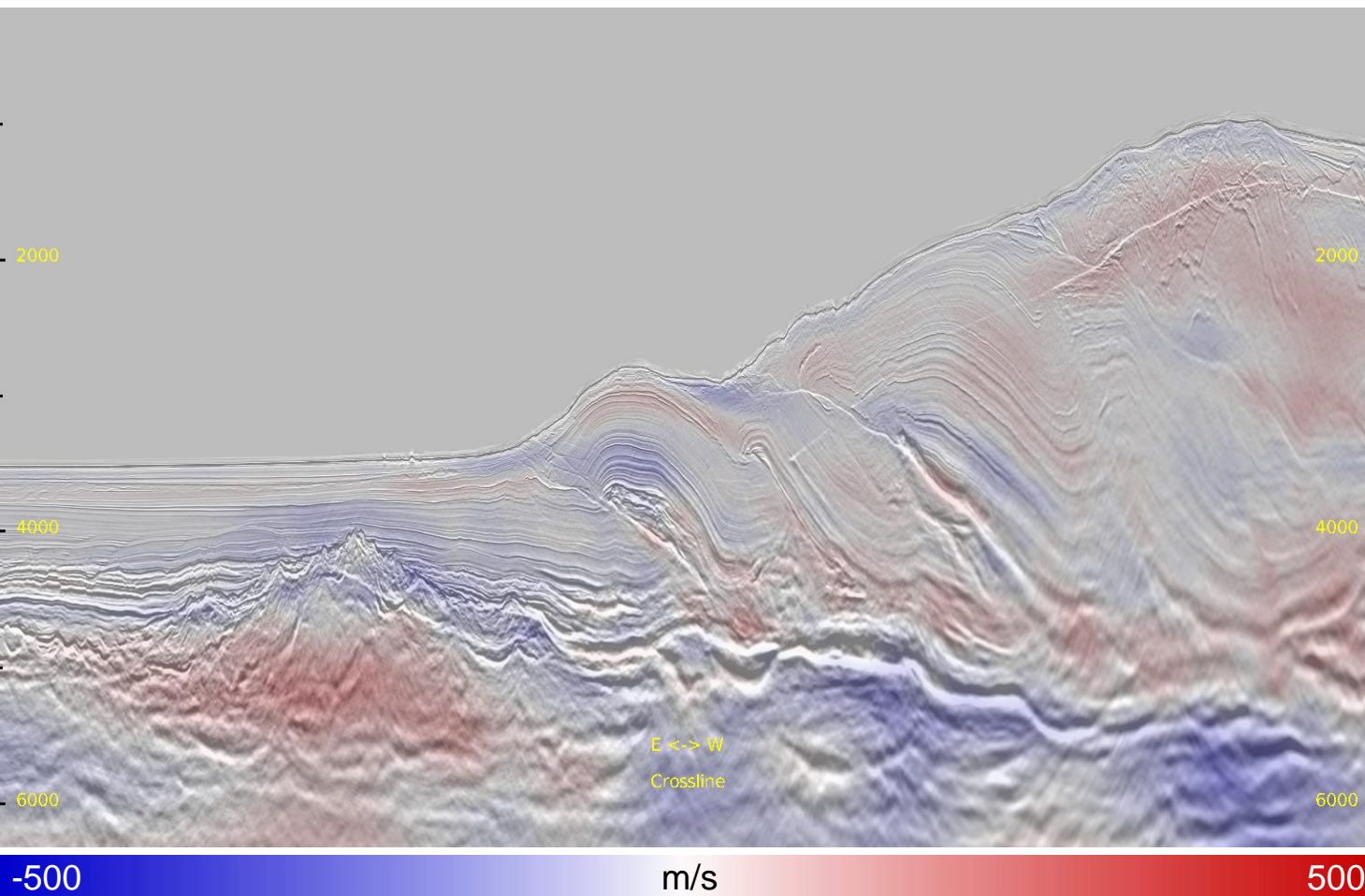
5



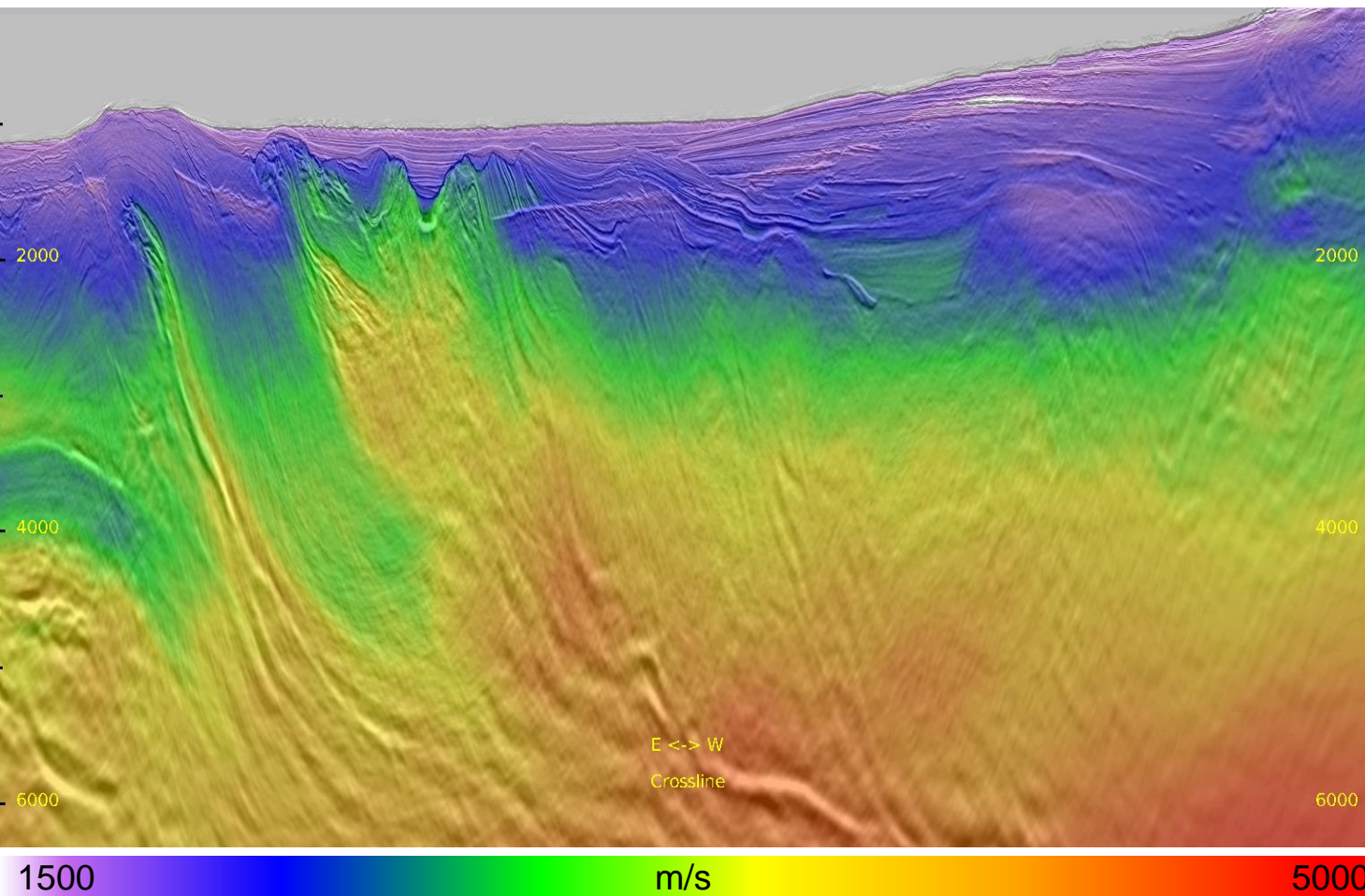
- Current tomography velocity.

Inline 436 East: Velocity Perturbation

6



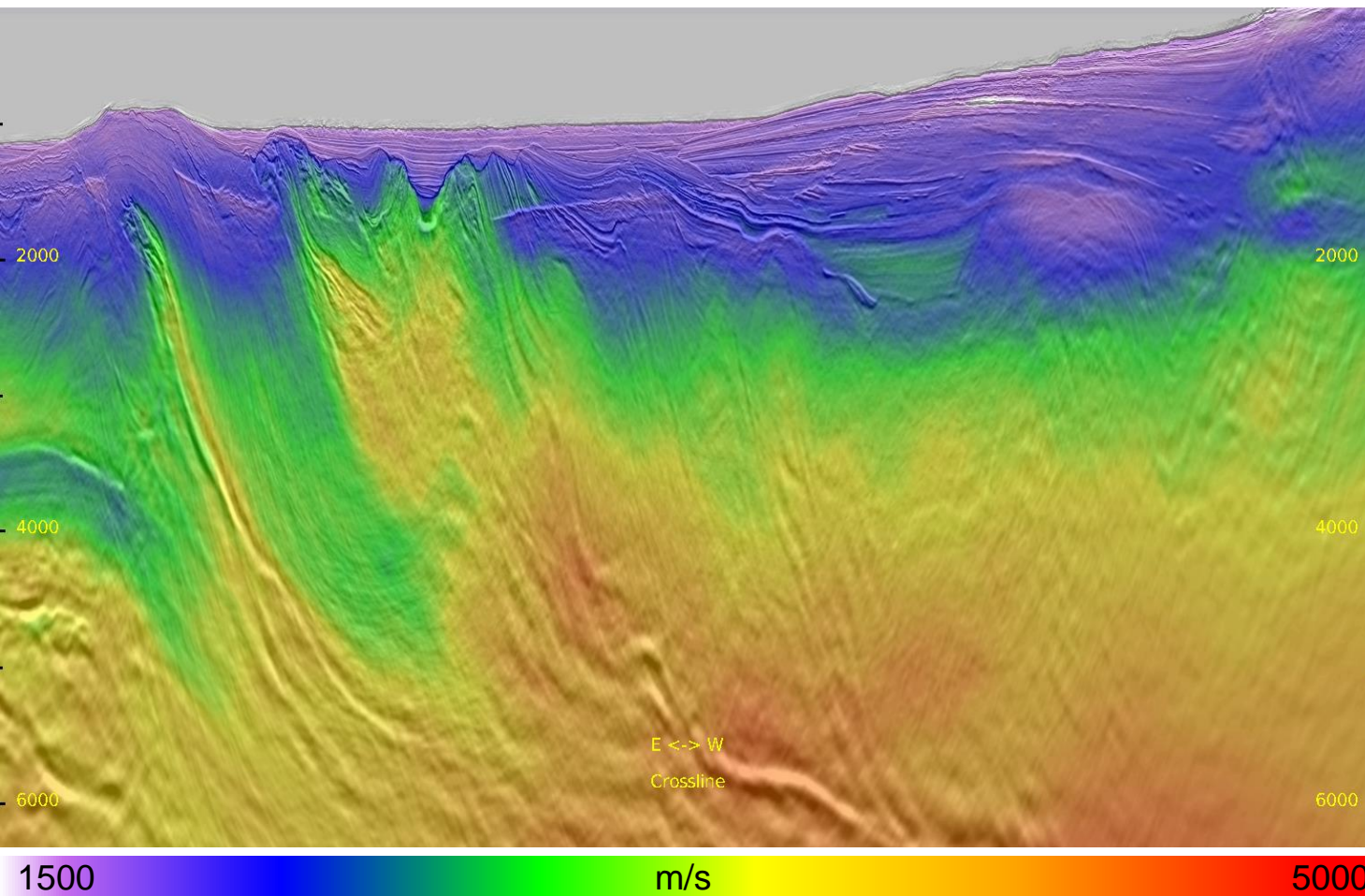
- Relative small velocity perturbation, due to better starting model.



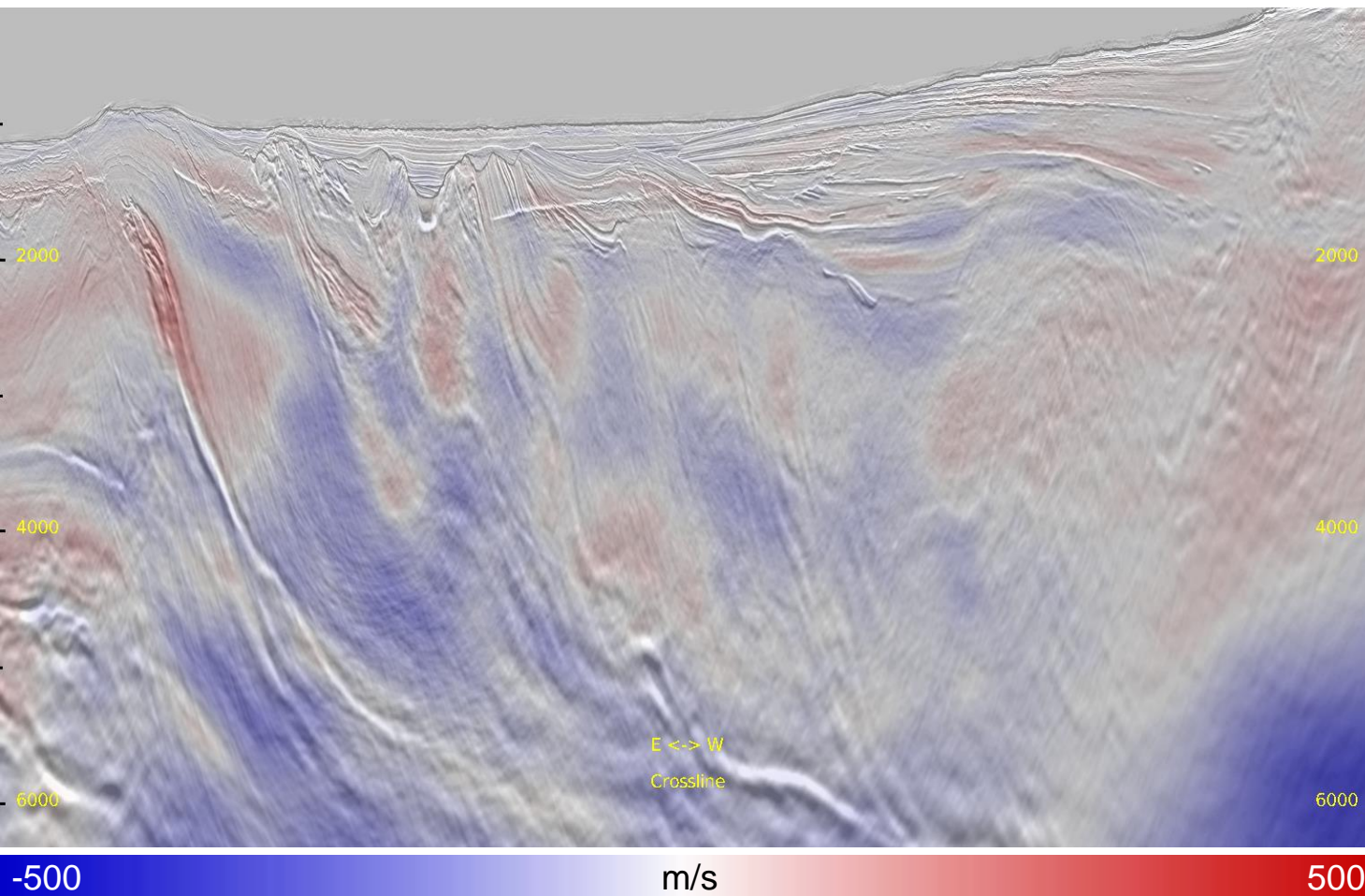
- Previous QTTI FWI velocity

Inline 436 West: Current Tomography Result

8



- Current tomography velocity.



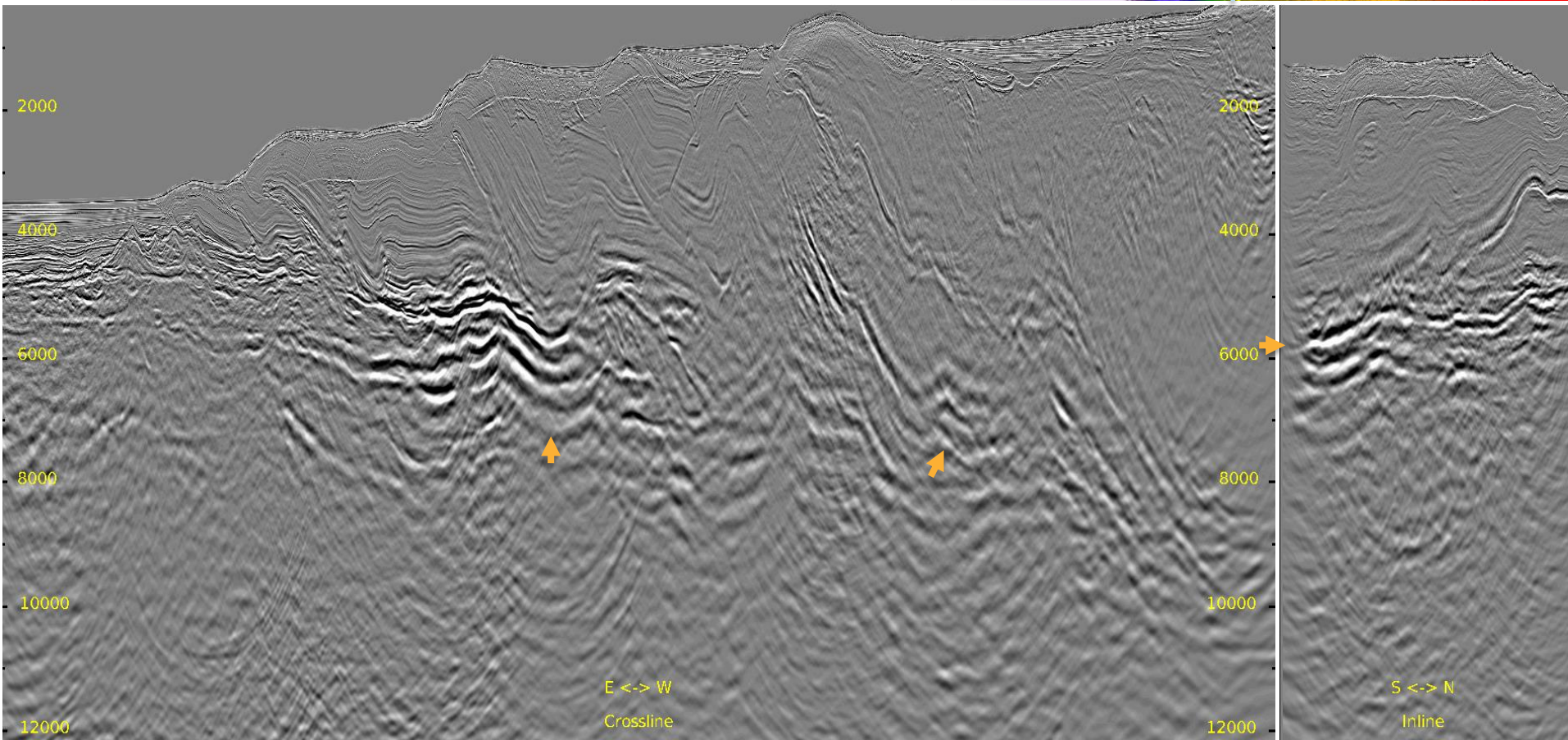
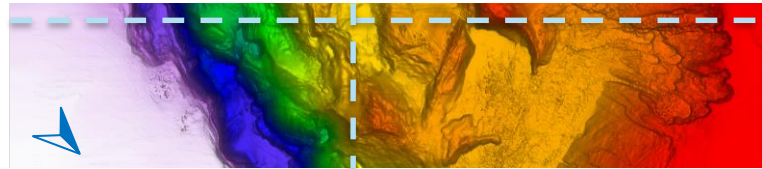
- Relative small velocity perturbation, due to better starting model.

Kirchhoff Depth Migration



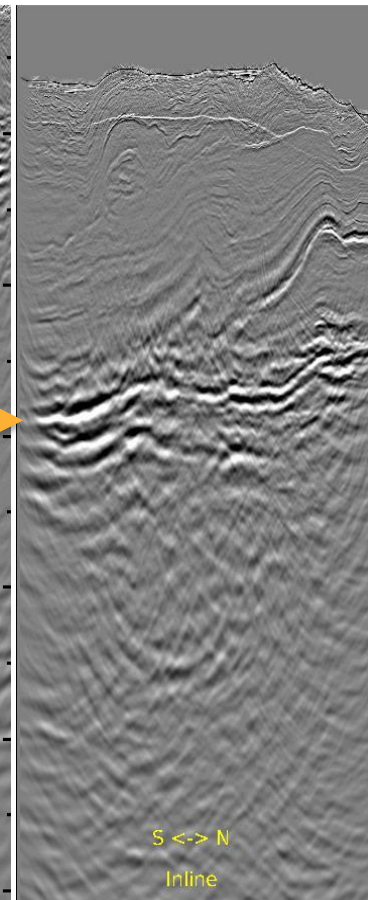
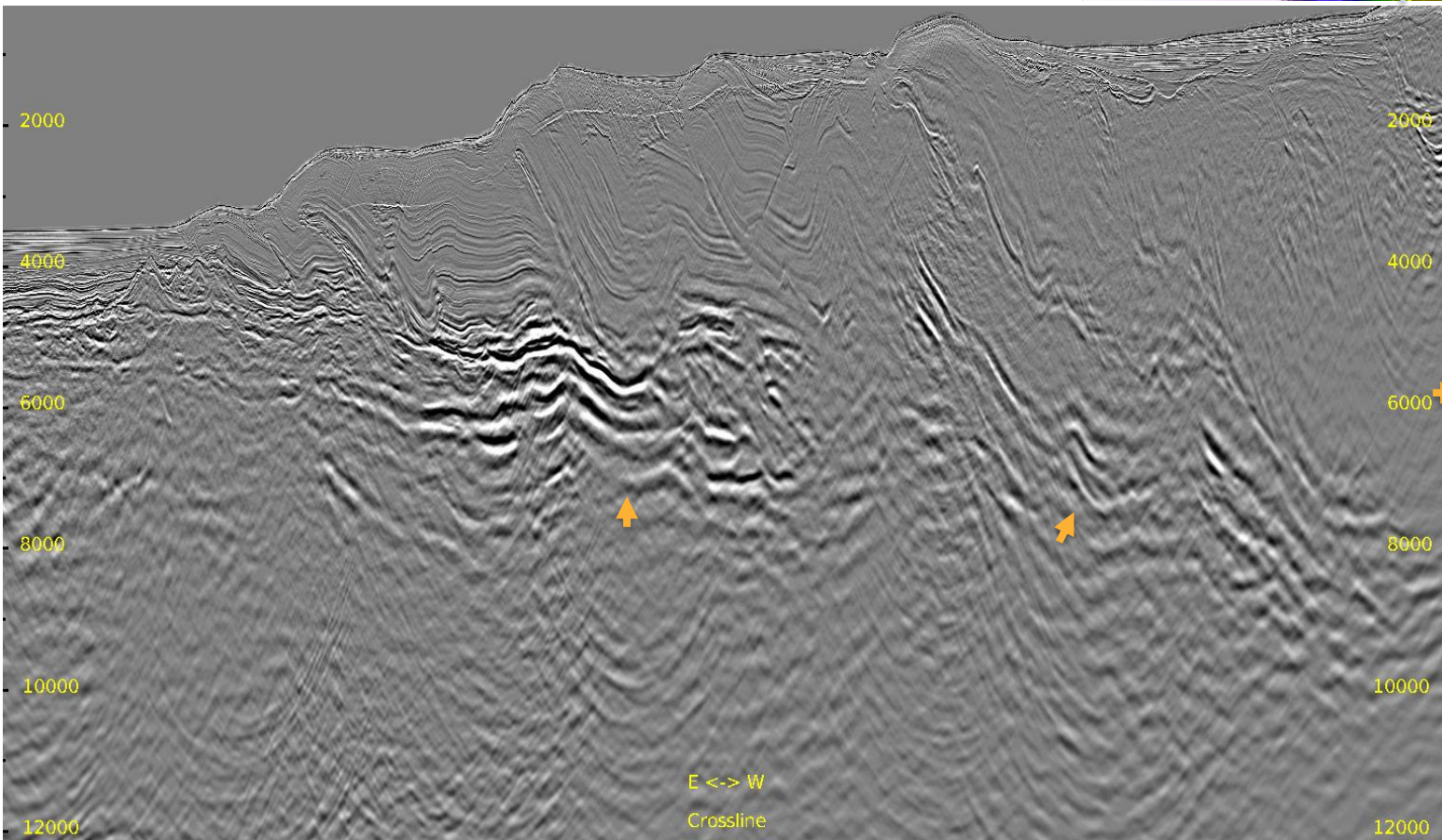
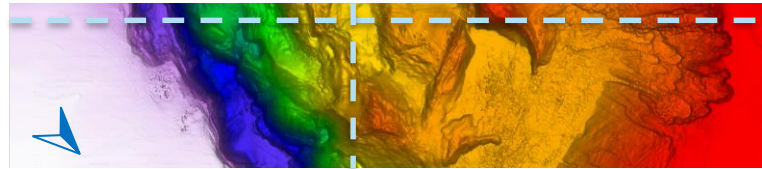
Full Stack: Previous Result

Inline 101 & Crossline 2547



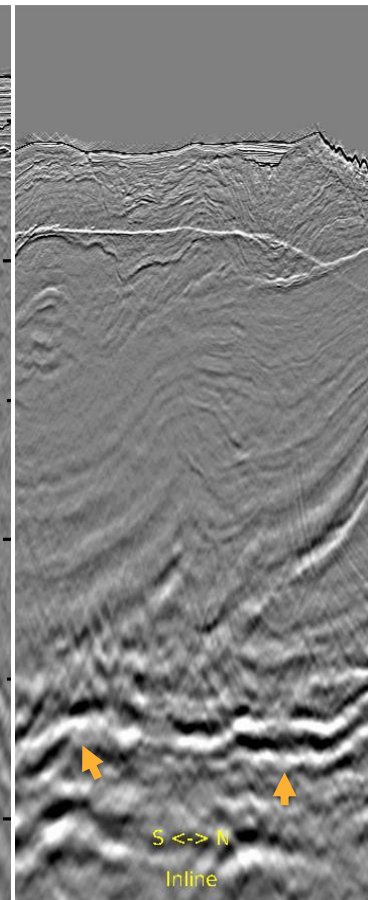
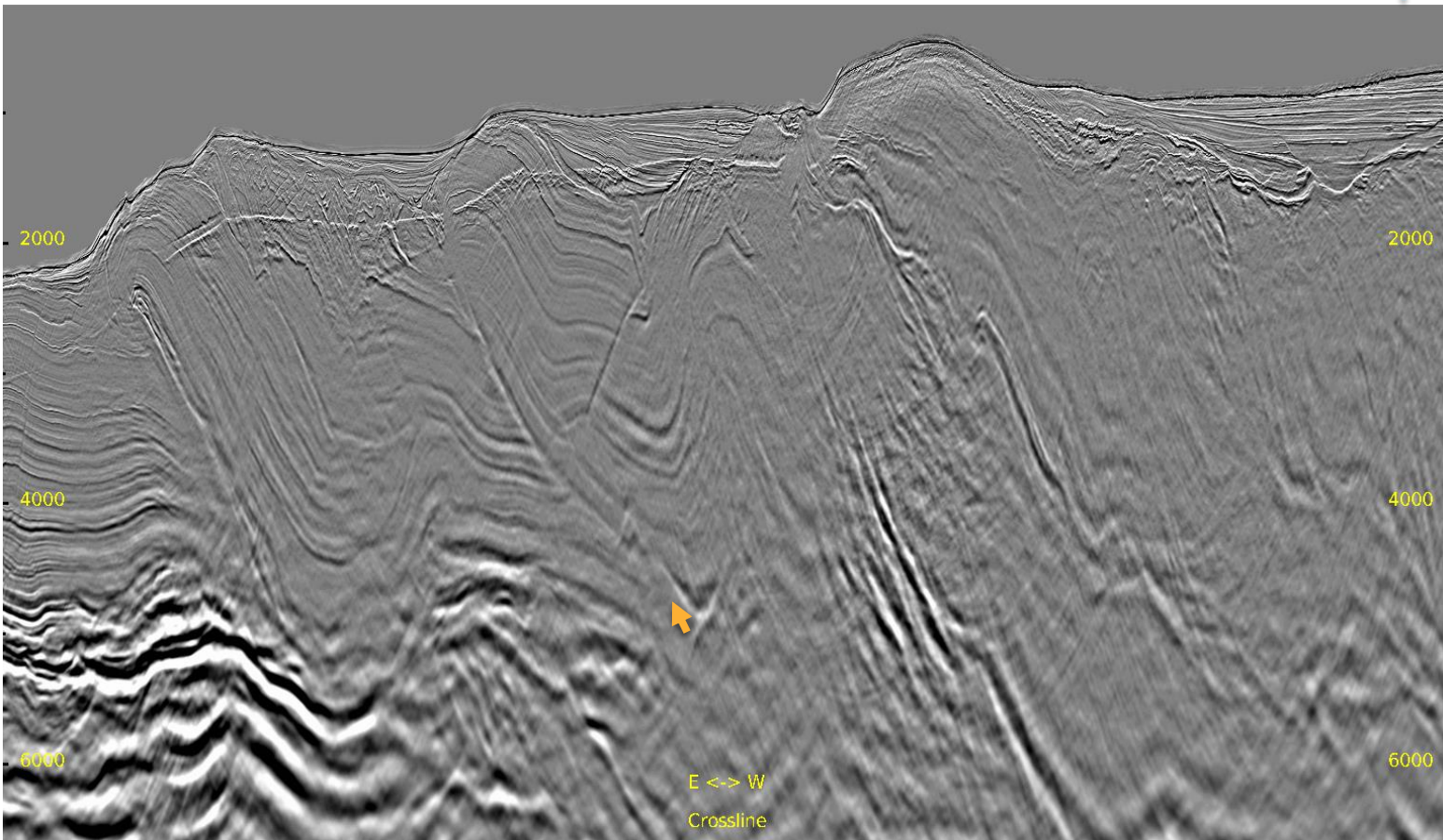
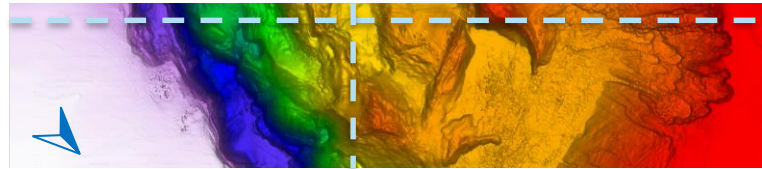
Full Stack: Current Result

Inline 101 & Crossline 2547



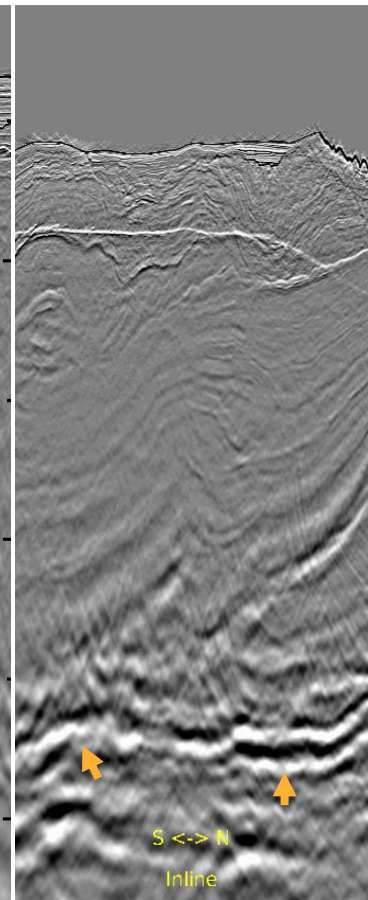
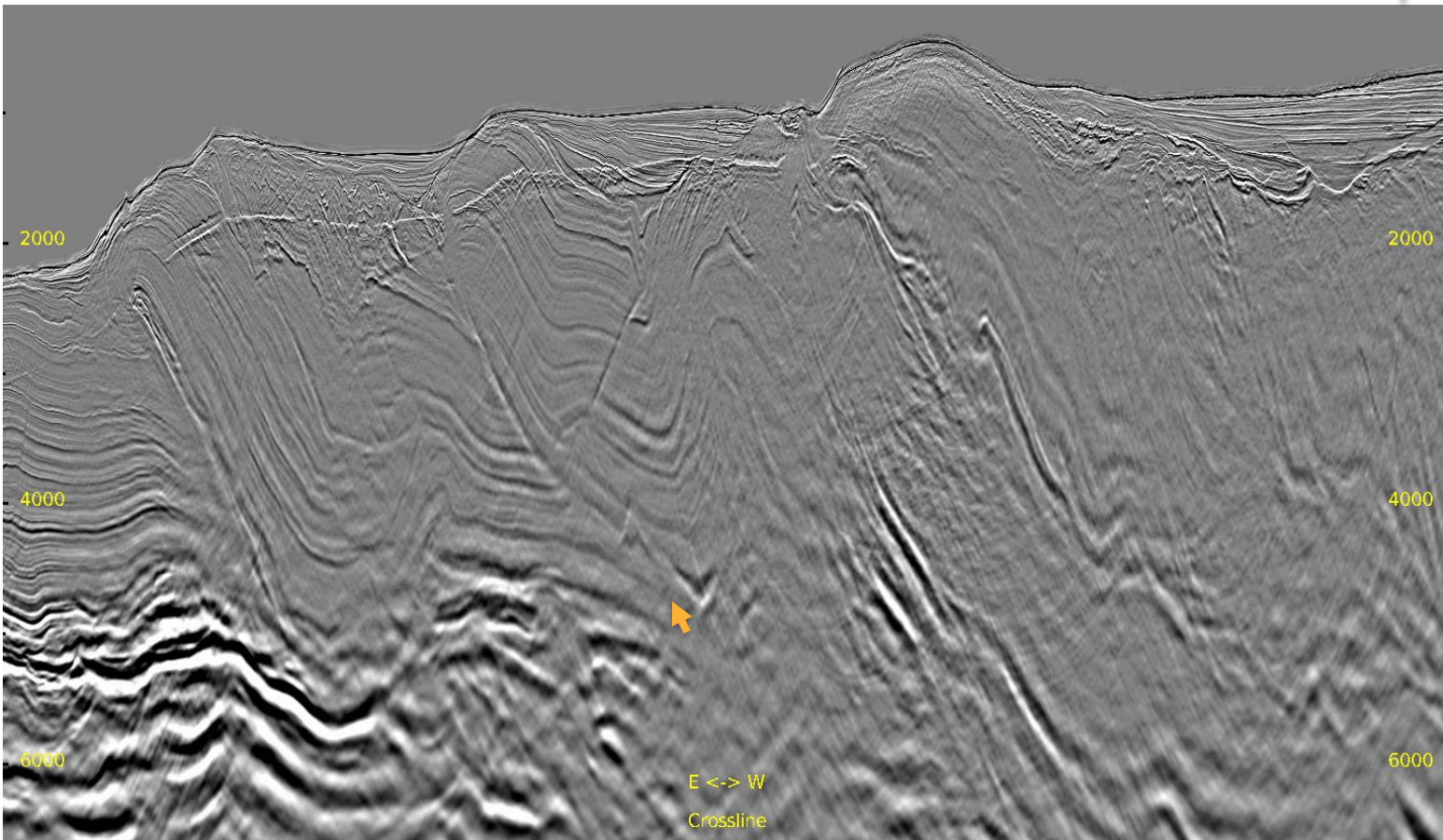
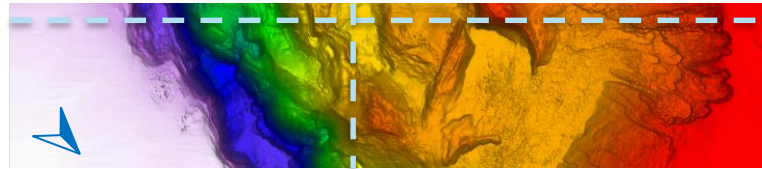
Zoomed Full Stack: Previous Result

Inline 101 & Crossline 2547



Zoomed Full Stack: Current Result

Inline 101 & Crossline 2547

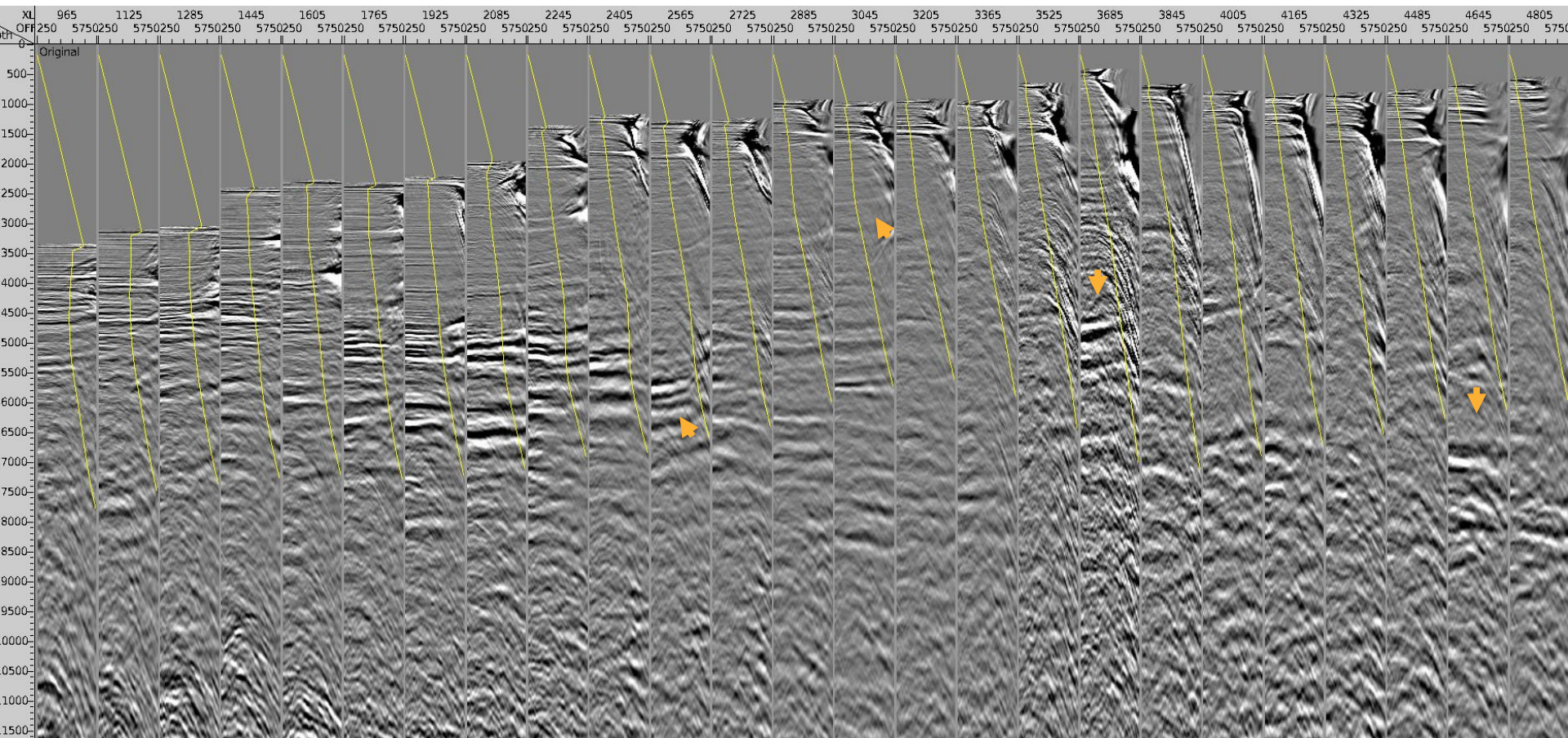




Inline 101 CDP Gathers: Previous Result

— 35° Mute

15

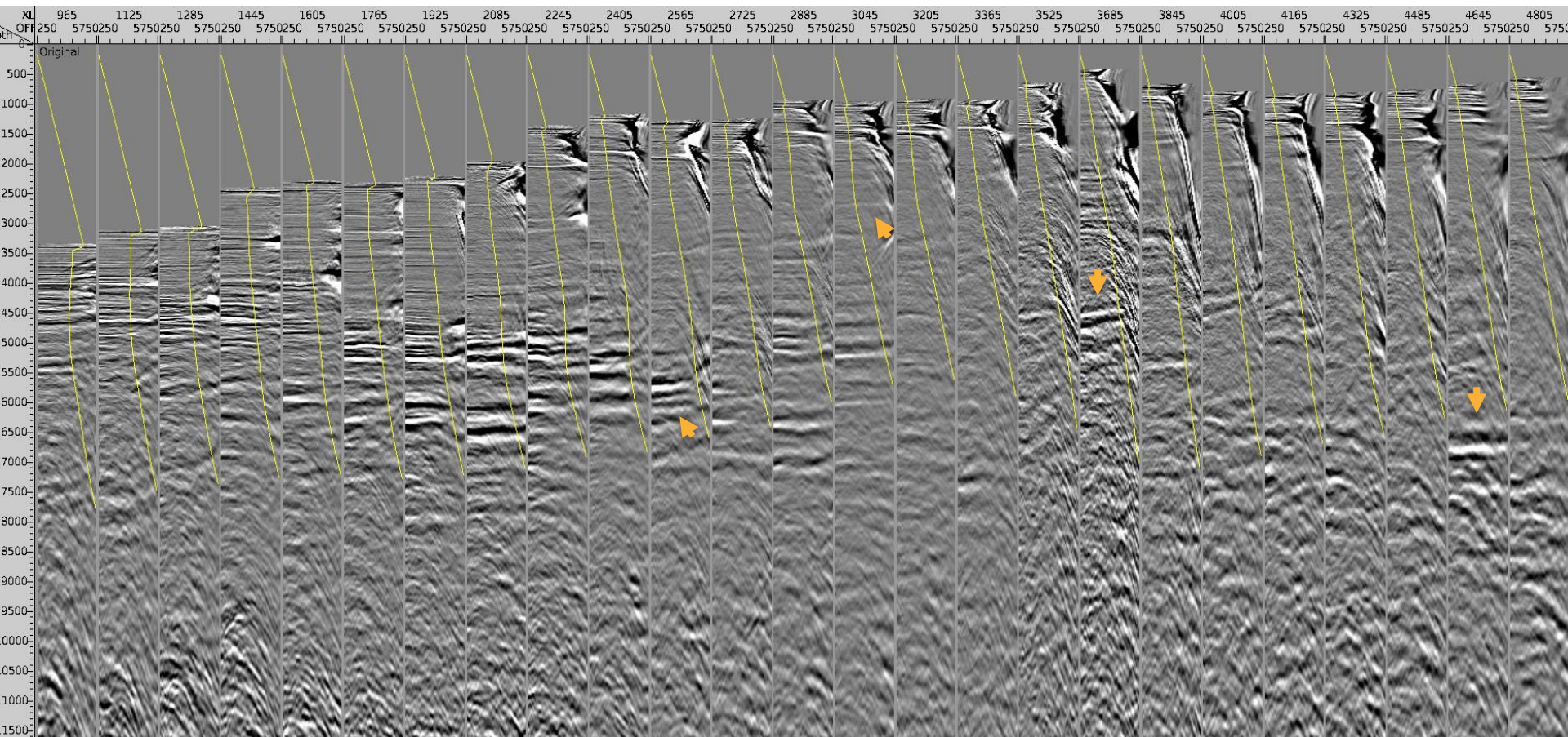




Inline 101 CDP Gathers: Current Result

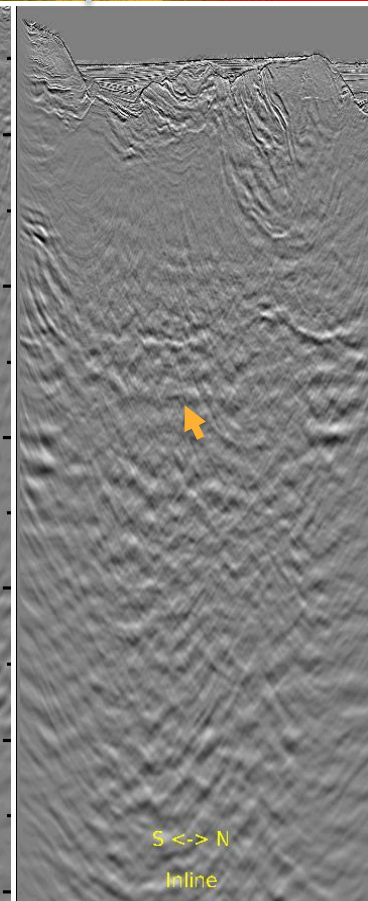
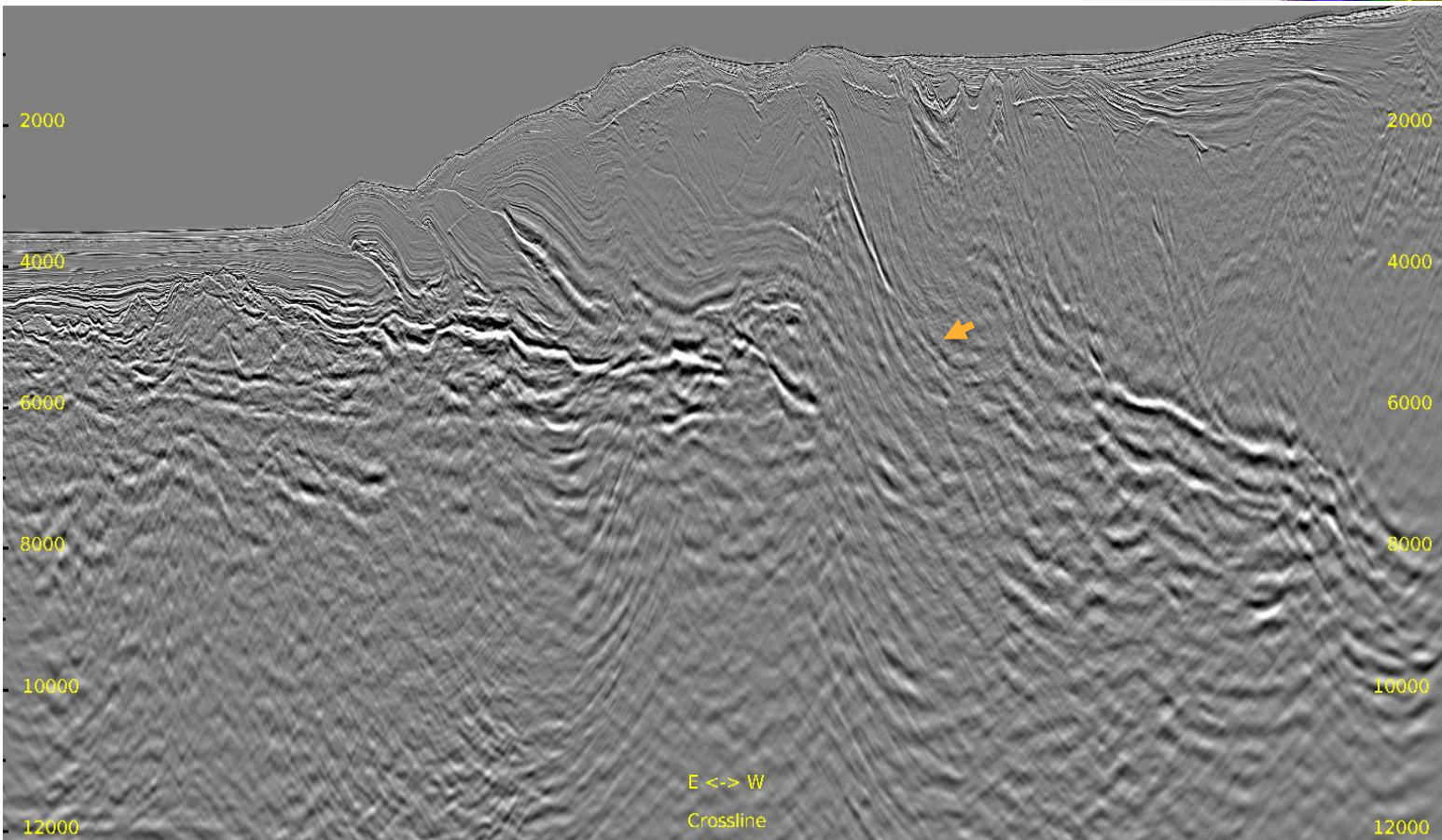
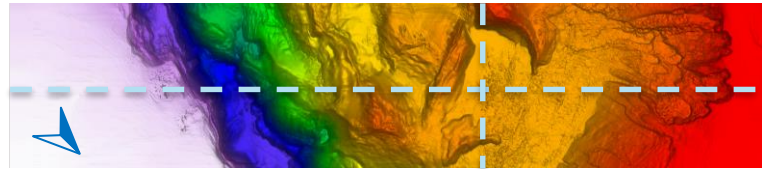
— 35° Mute

16



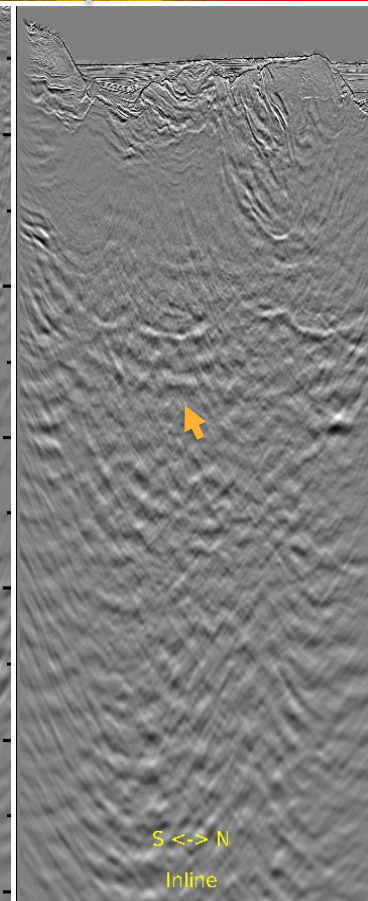
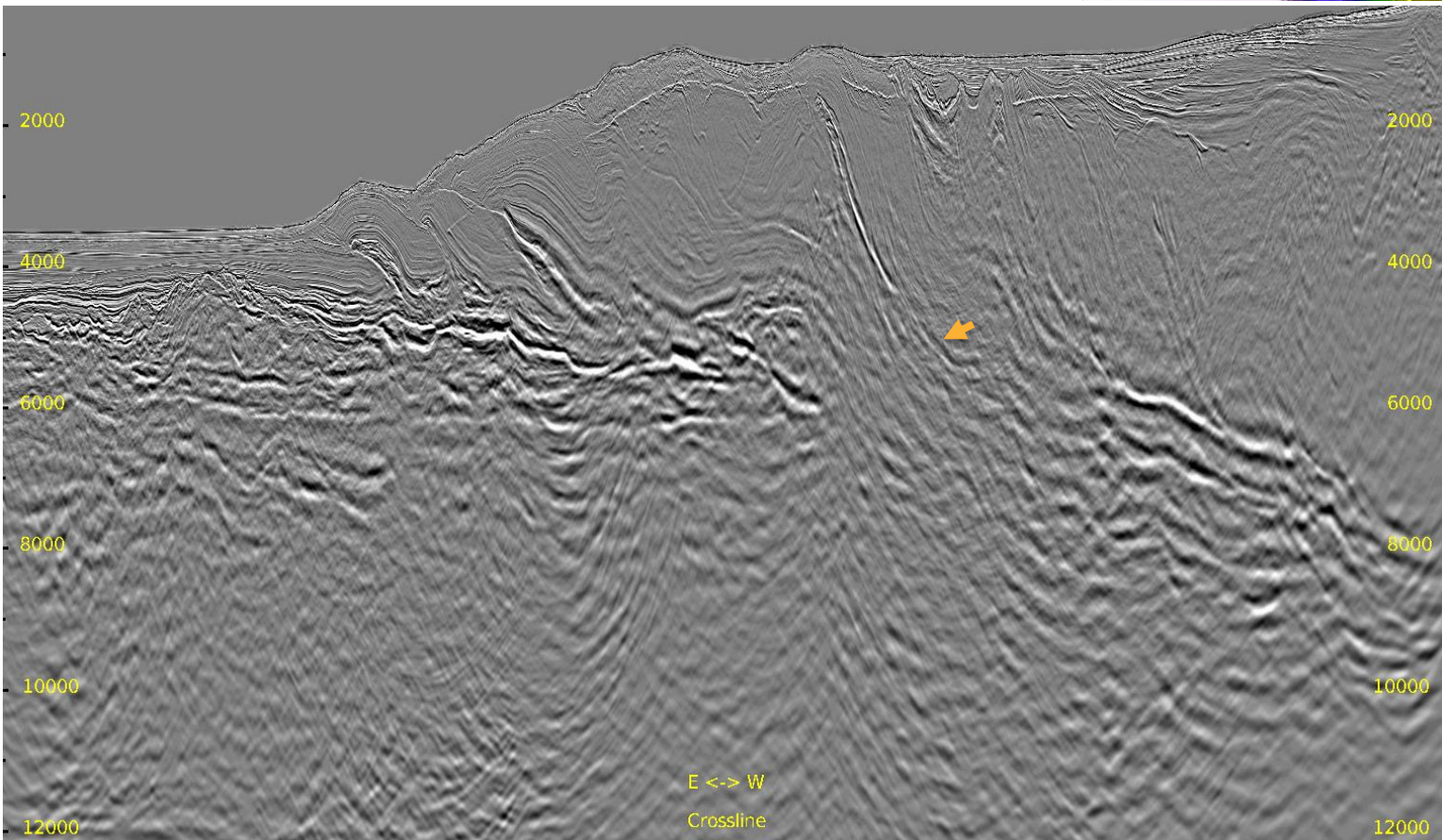
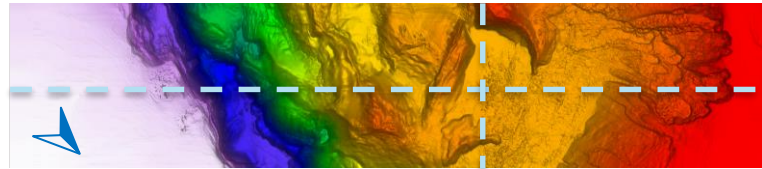
Full Stack: Previous Result

Inline 451 & Crossline 3539



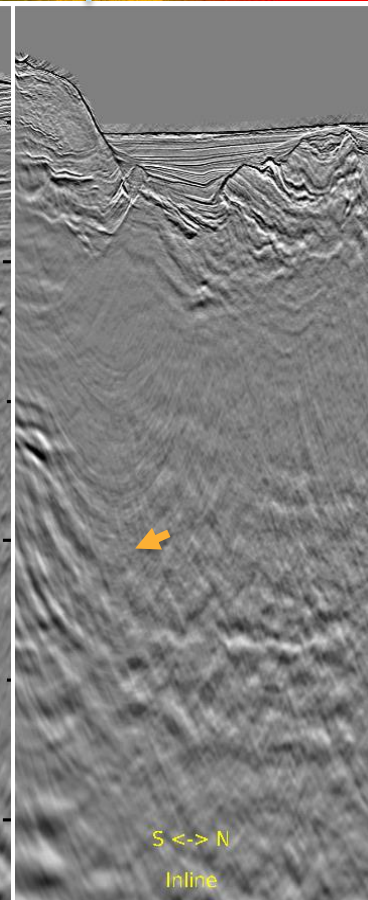
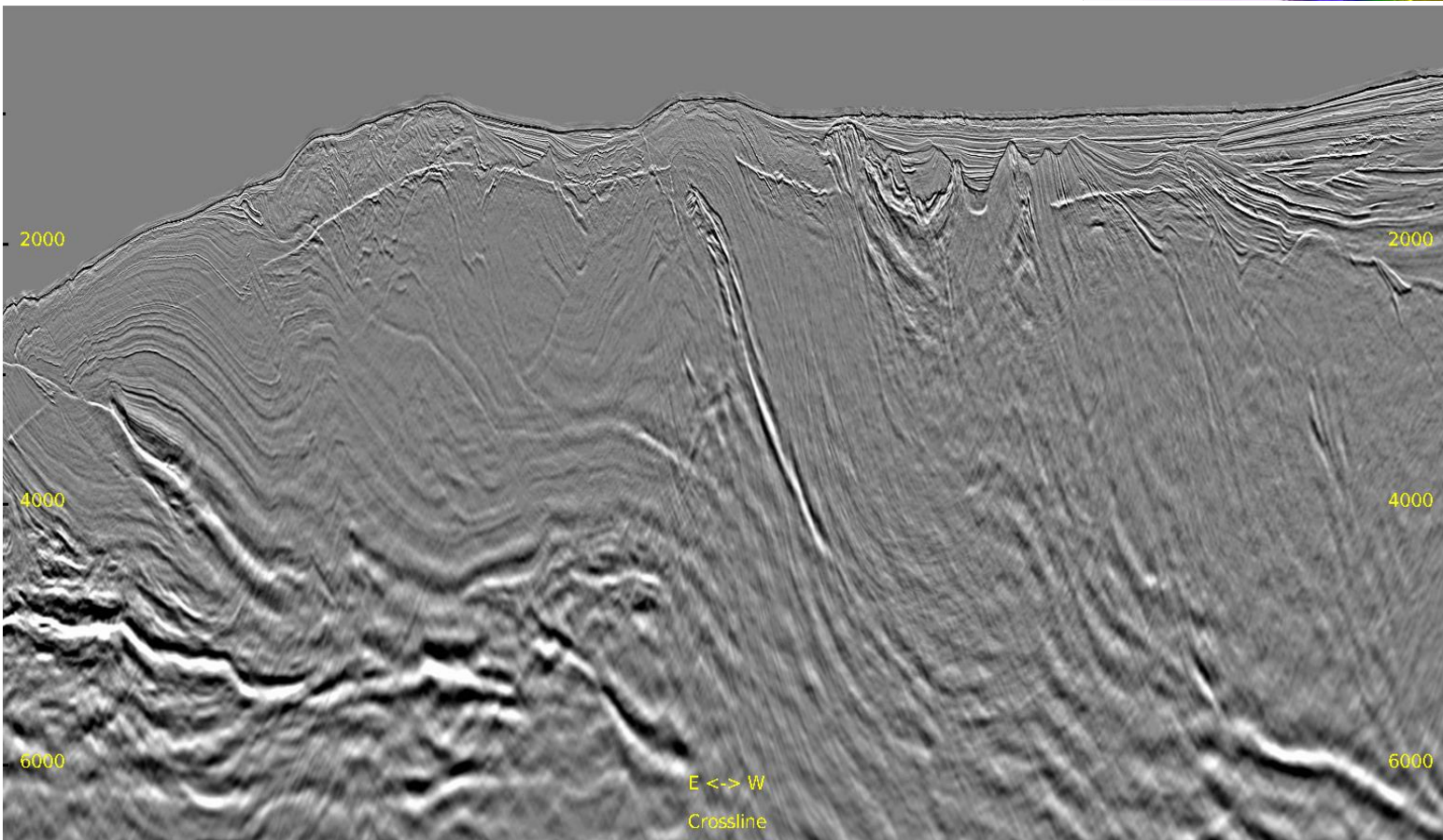
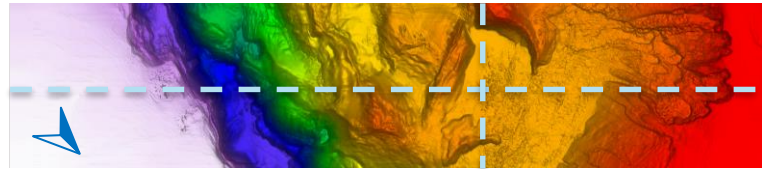
Full Stack: Current Result

Inline 451 & Crossline 3539



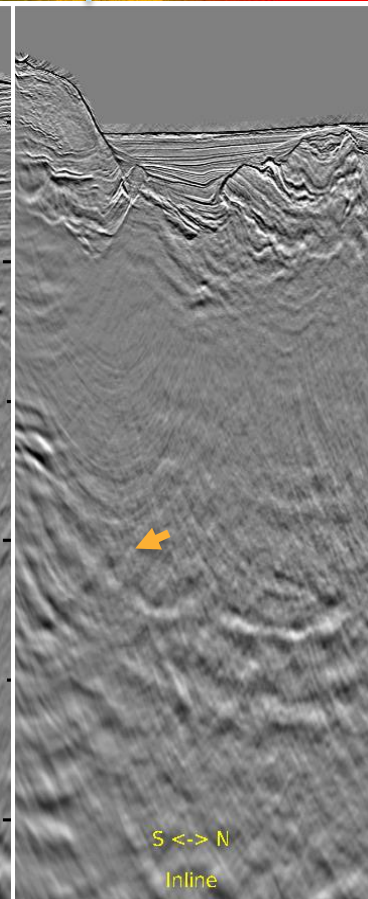
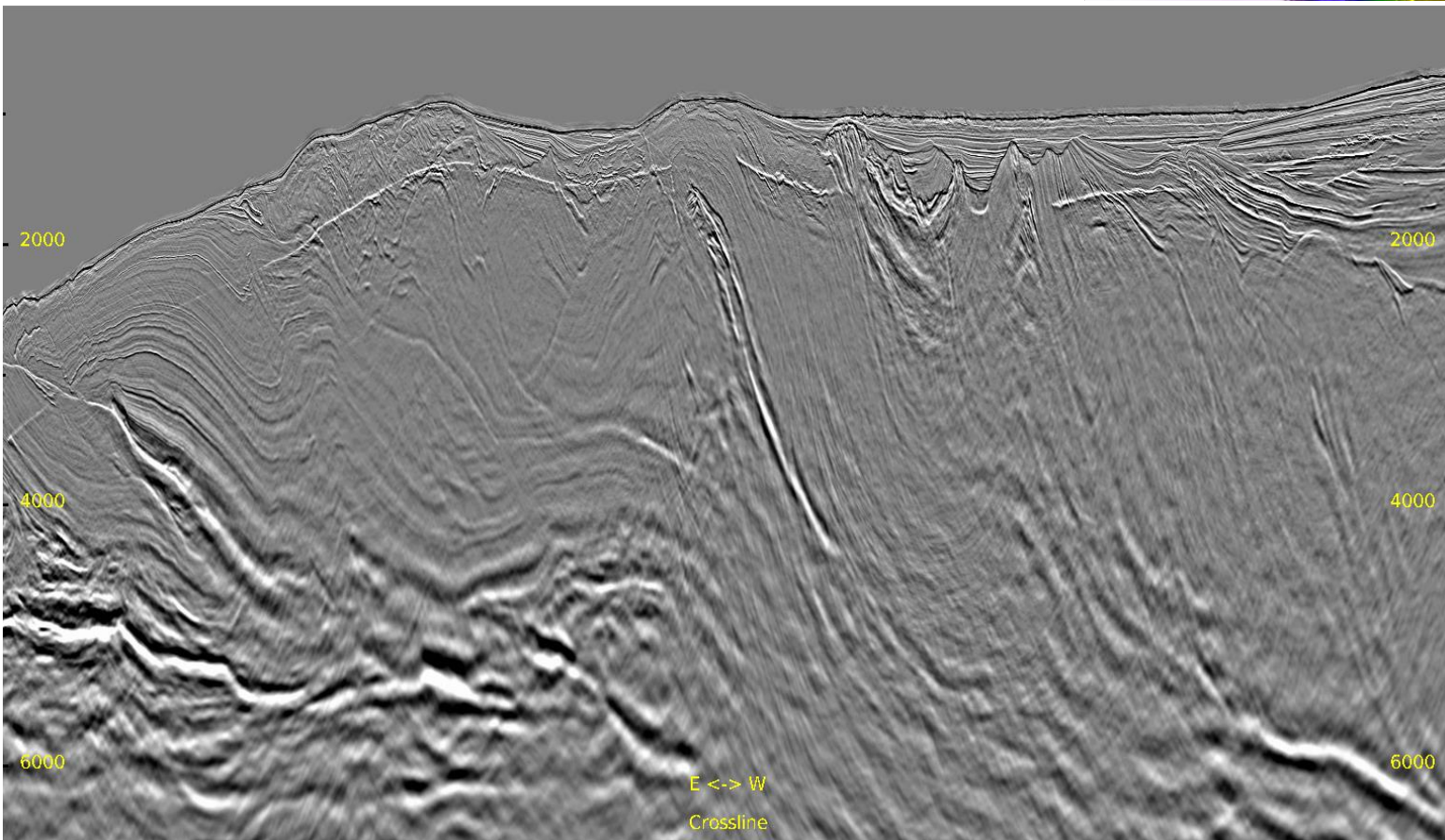
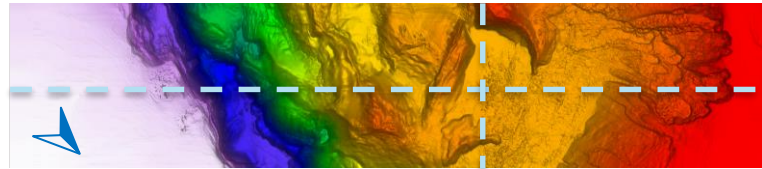
Zoomed Full Stack: Previous Result

Inline 451 & Crossline 3539



Zoomed Full Stack: Current Result

Inline 451 & Crossline 3539

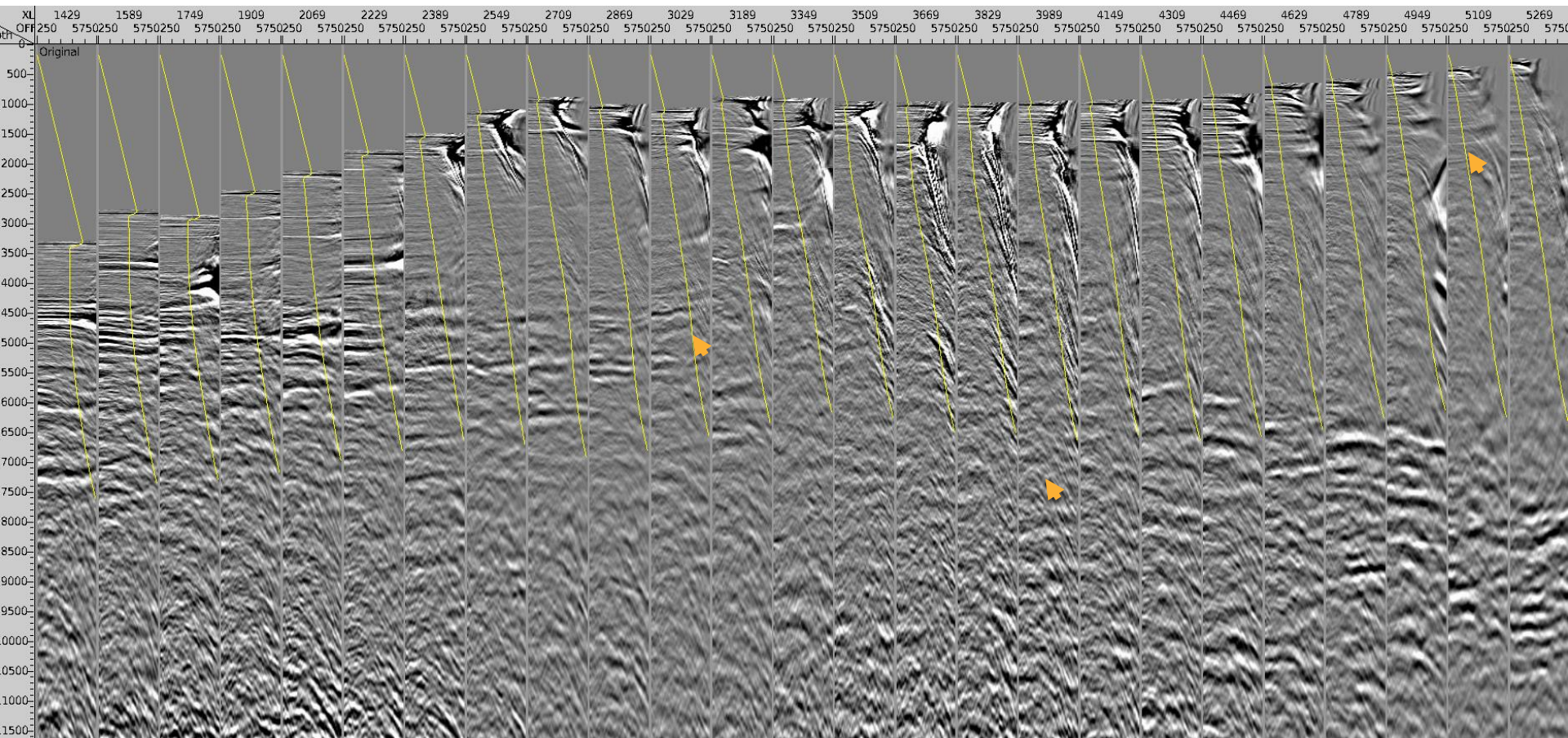




Inline 451 CDP Gathers: Previous Result

— 35° Mute

21

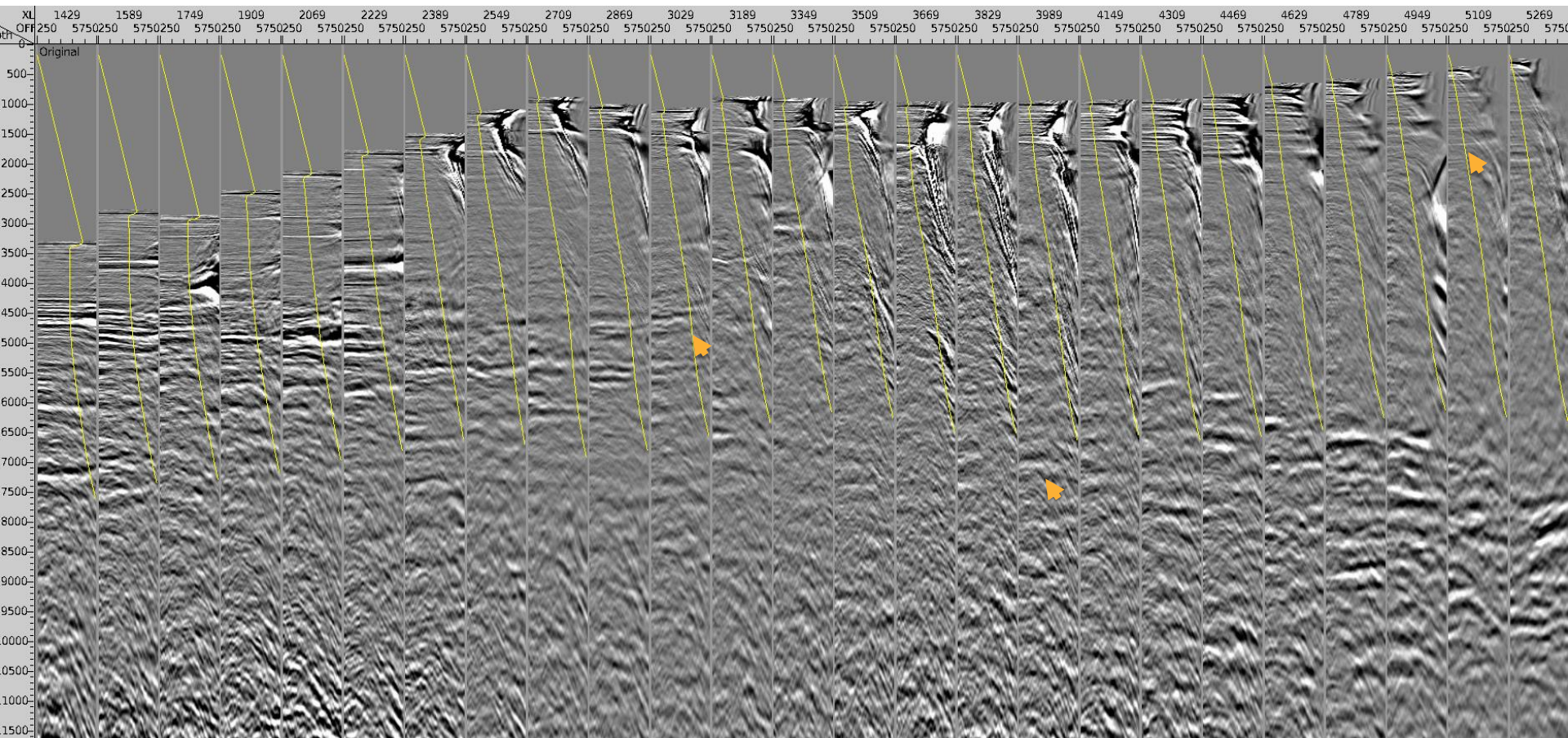




Inline 451 CDP Gathers: Current Result

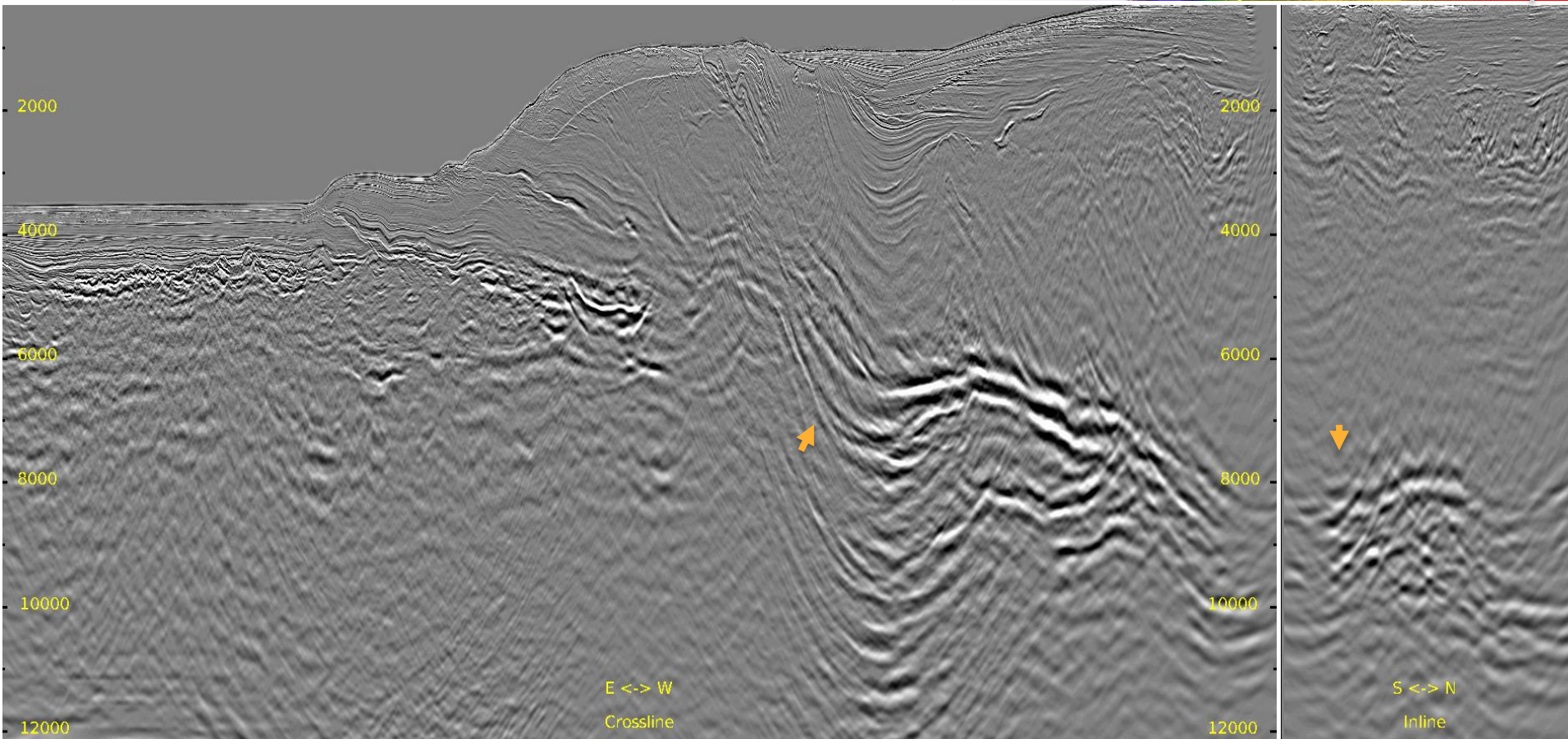
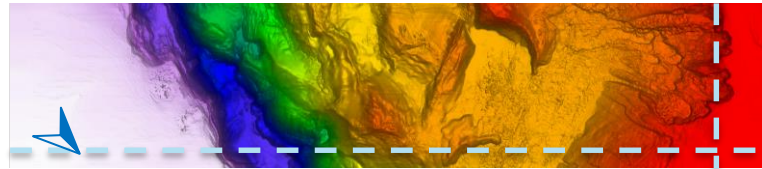
— 35° Mute

22



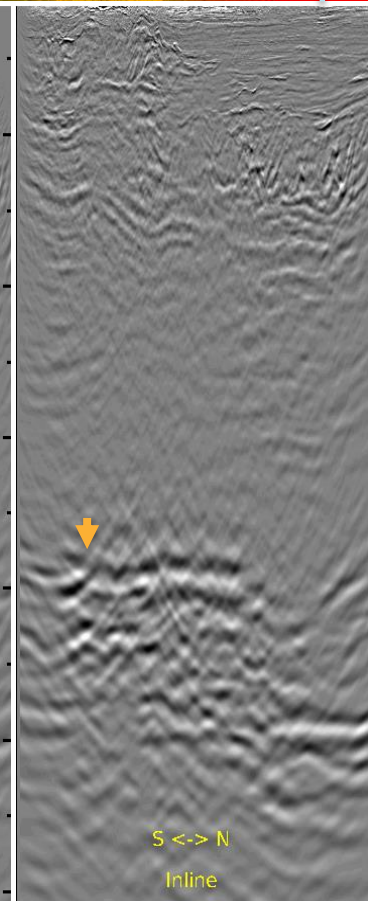
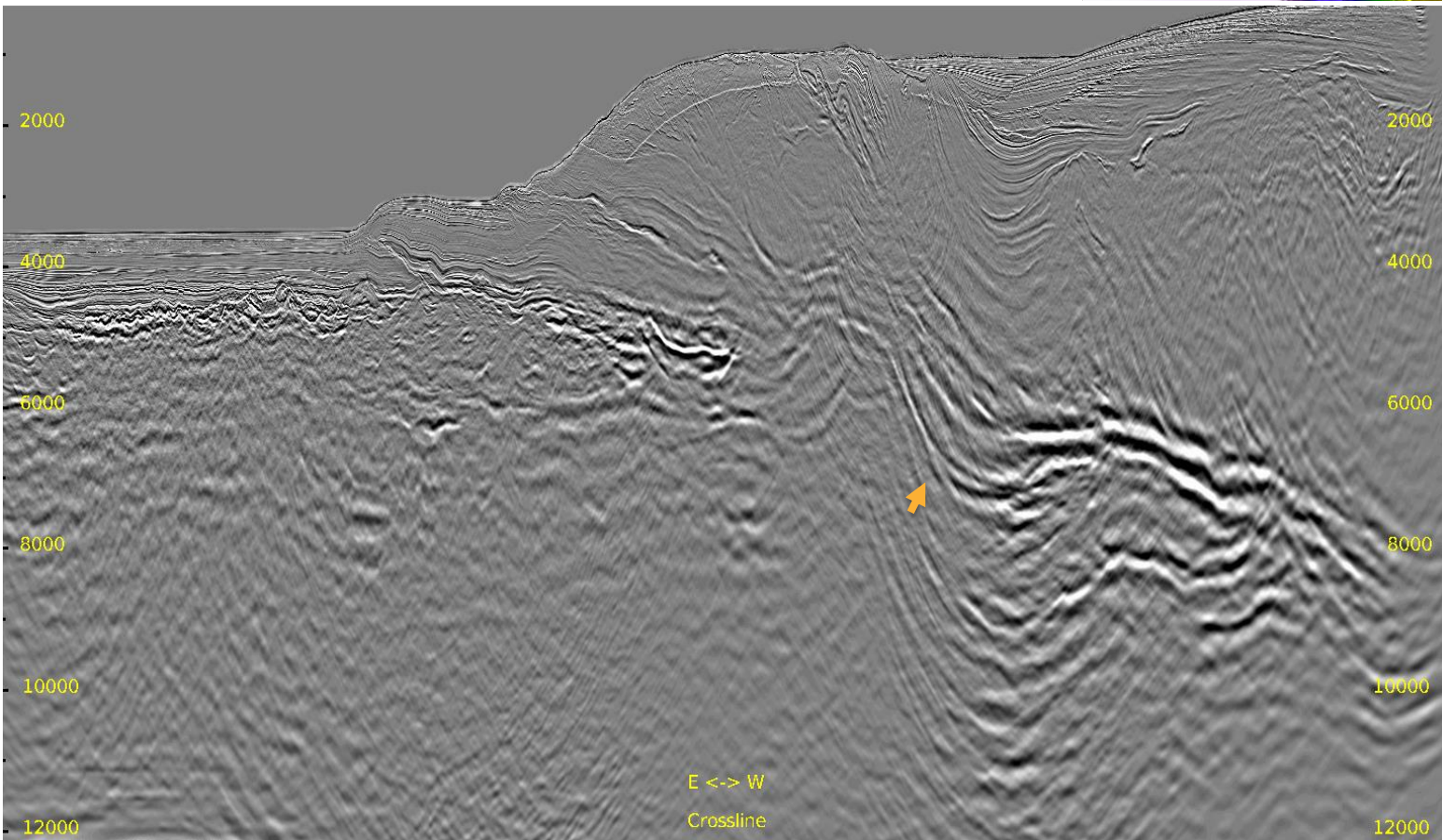
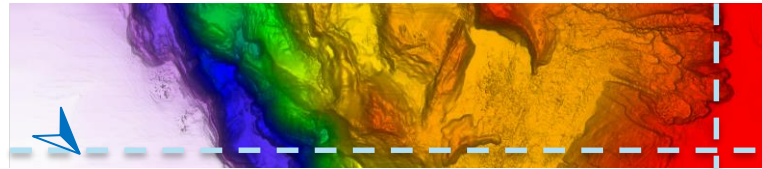
Full Stack: Previous Result

Inline 745 & Crossline 5299



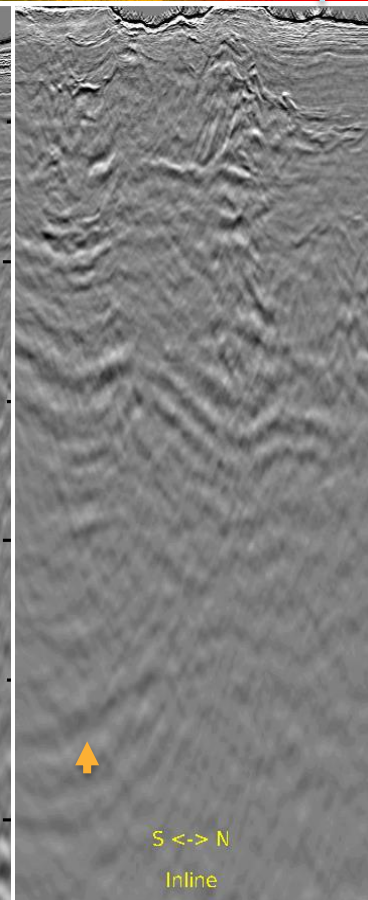
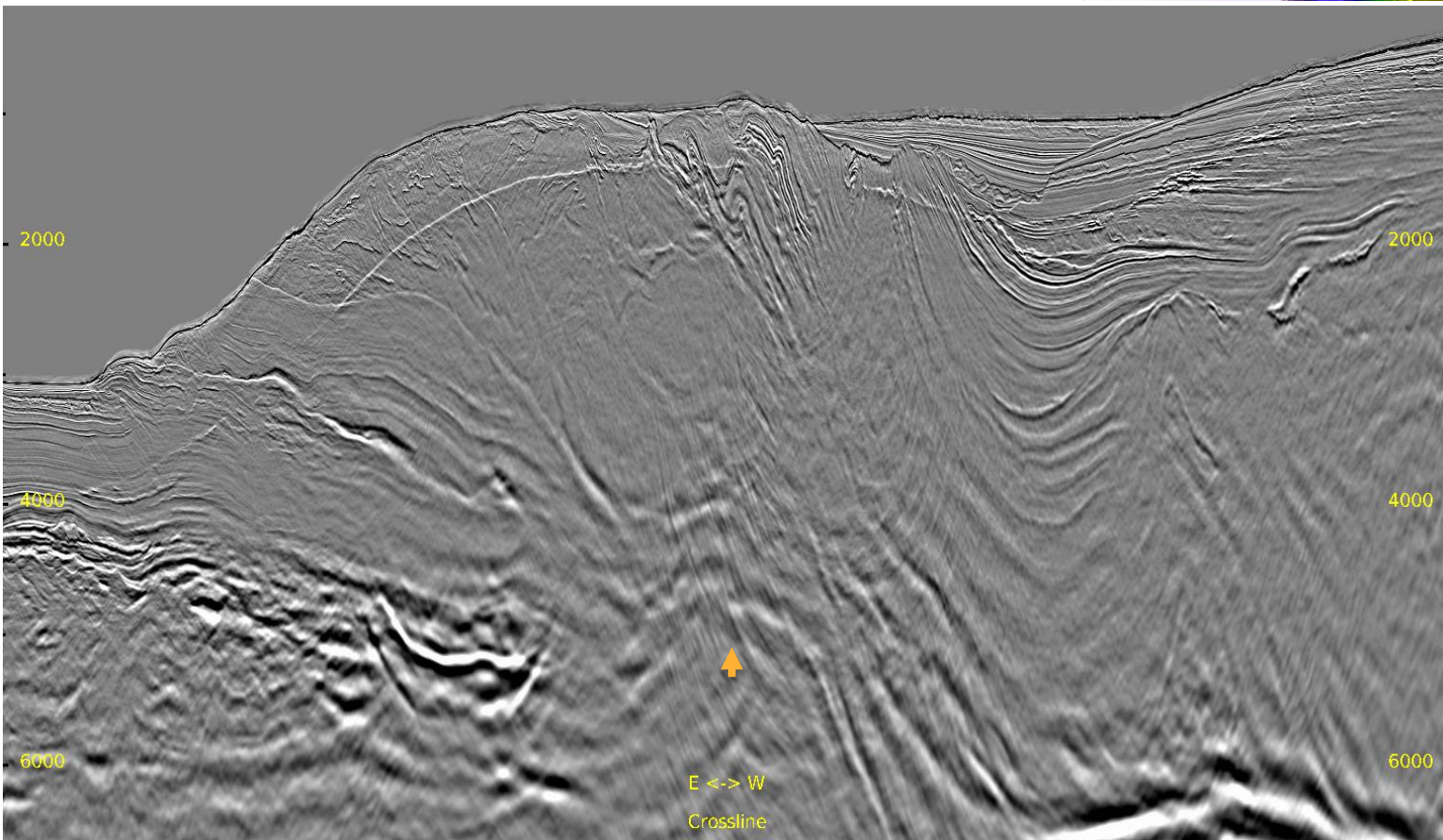
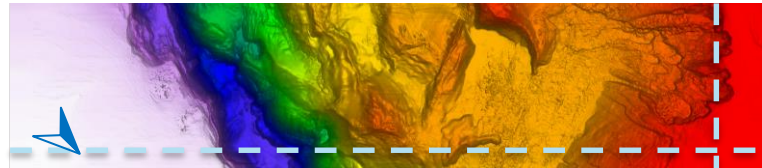
Full Stack: Current Result

Inline 745 & Crossline 5299



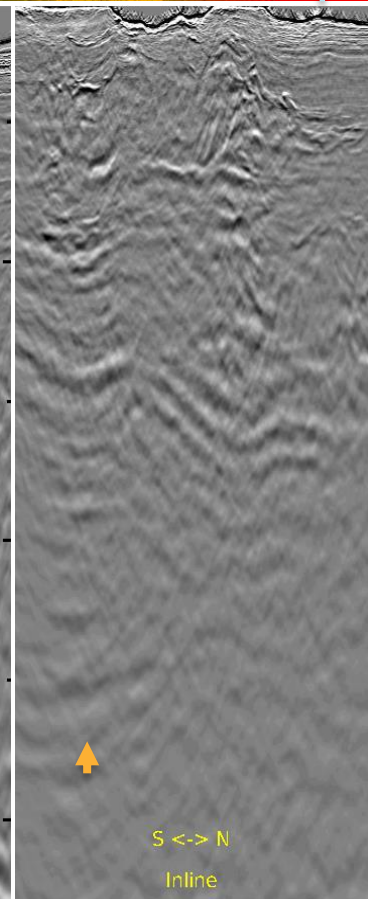
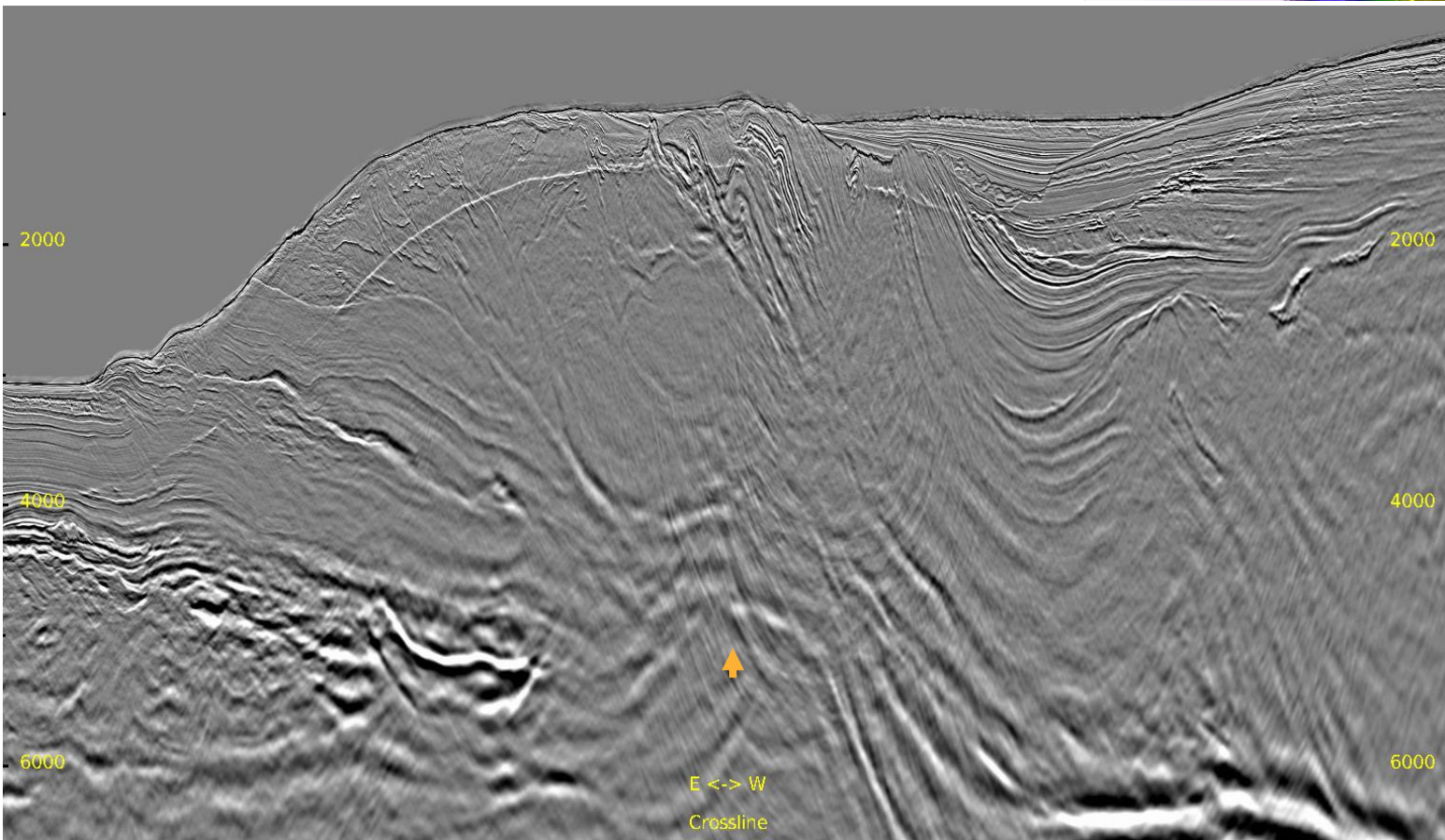
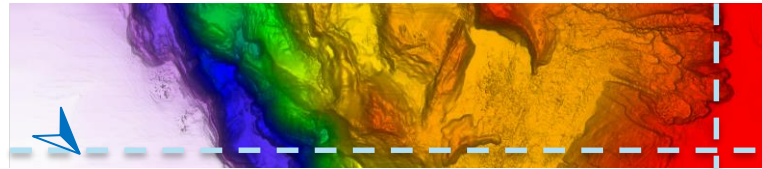
Zoomed Full Stack: Previous Result

Inline 745 & Crossline 5299



Zoomed Full Stack: Current Result

Inline 745 & Crossline 5299

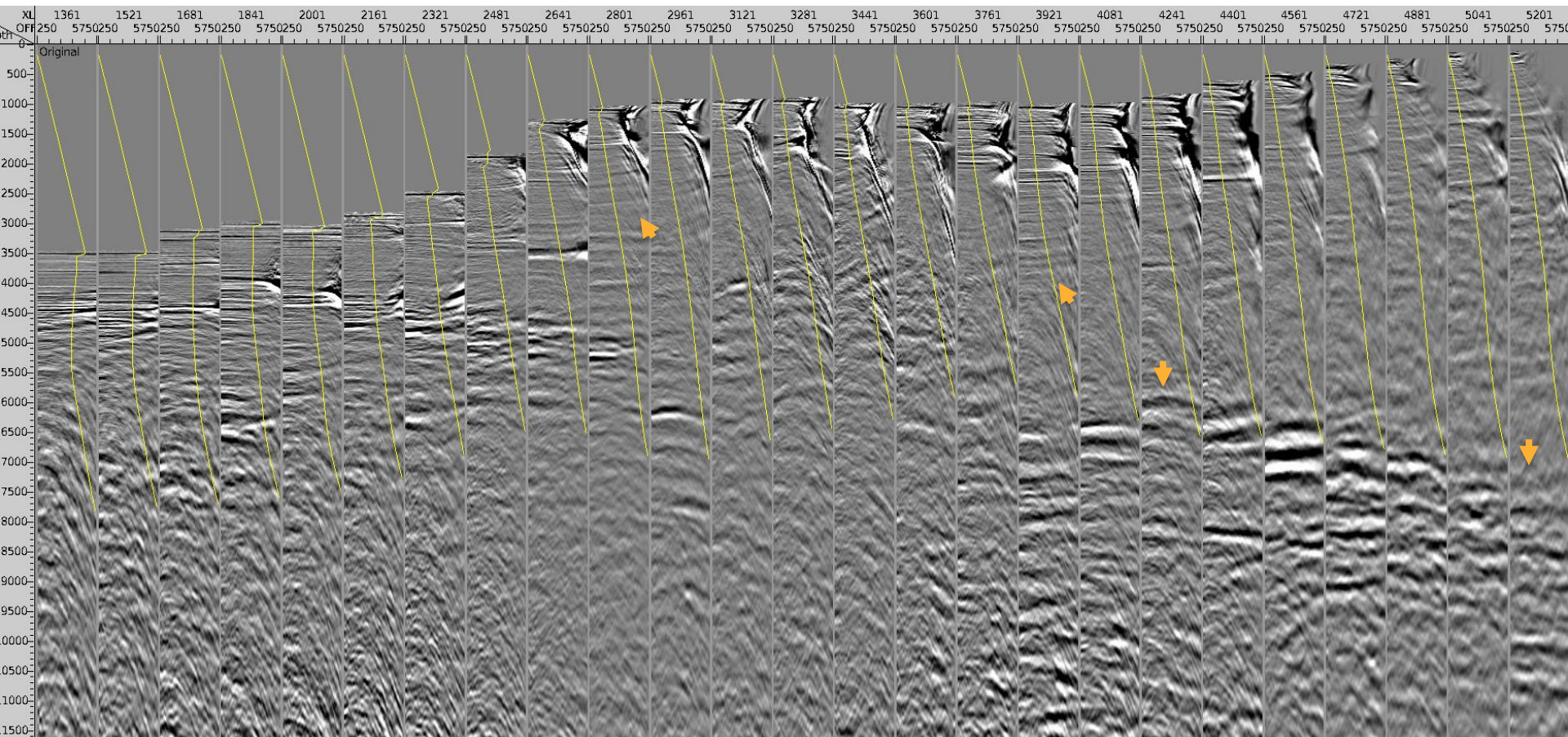




Inline 745 CDP Gathers: Previous Result

— 35° Mute

27





Inline 745 CDP Gathers: Current Result

— 35° Mute

28

