



# IT4 – Part 3

## NZ 3D Processing

*10 March 2021*

[cgg.com](http://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.

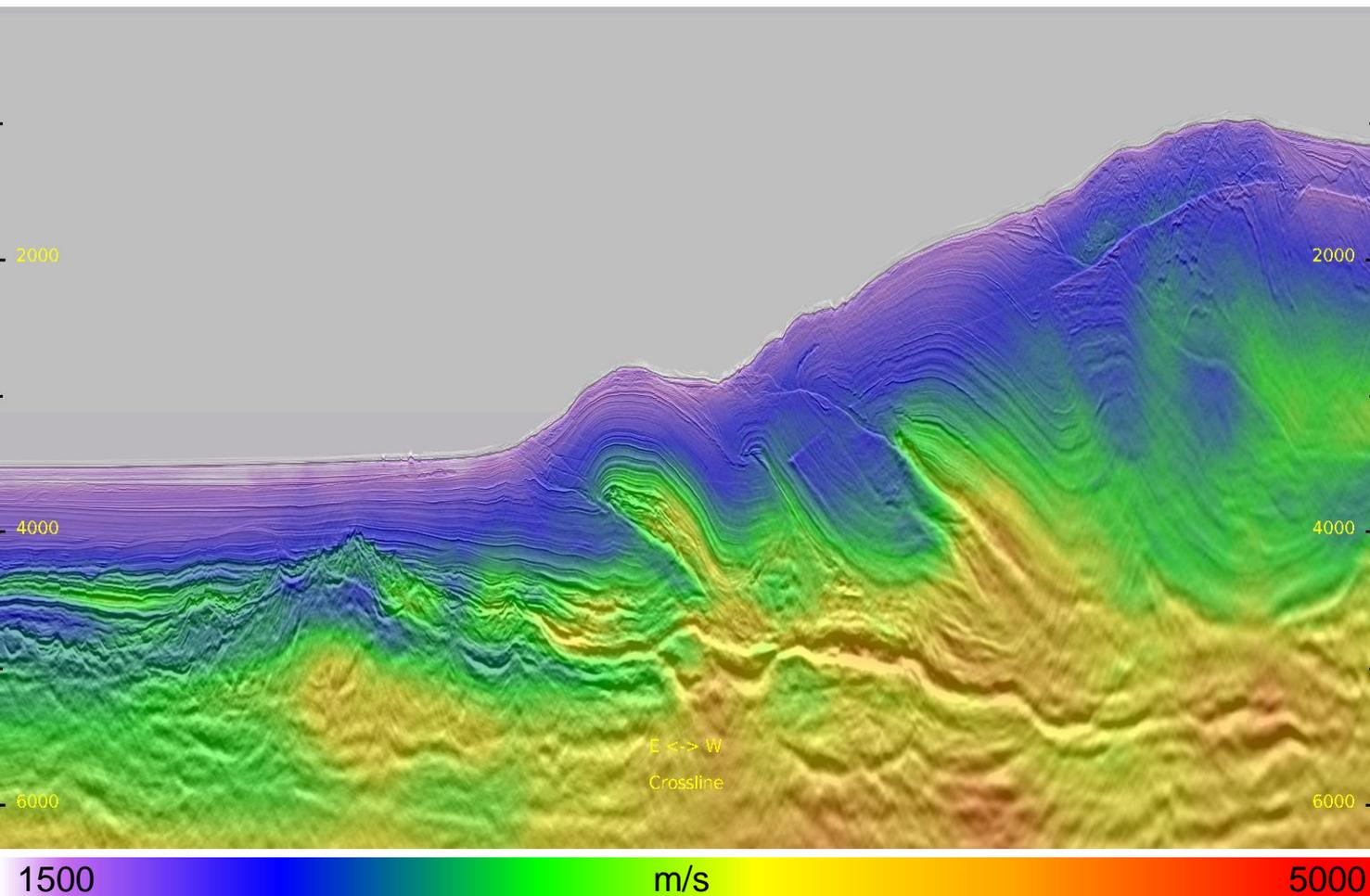
- **Observation and Recommendation:**

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

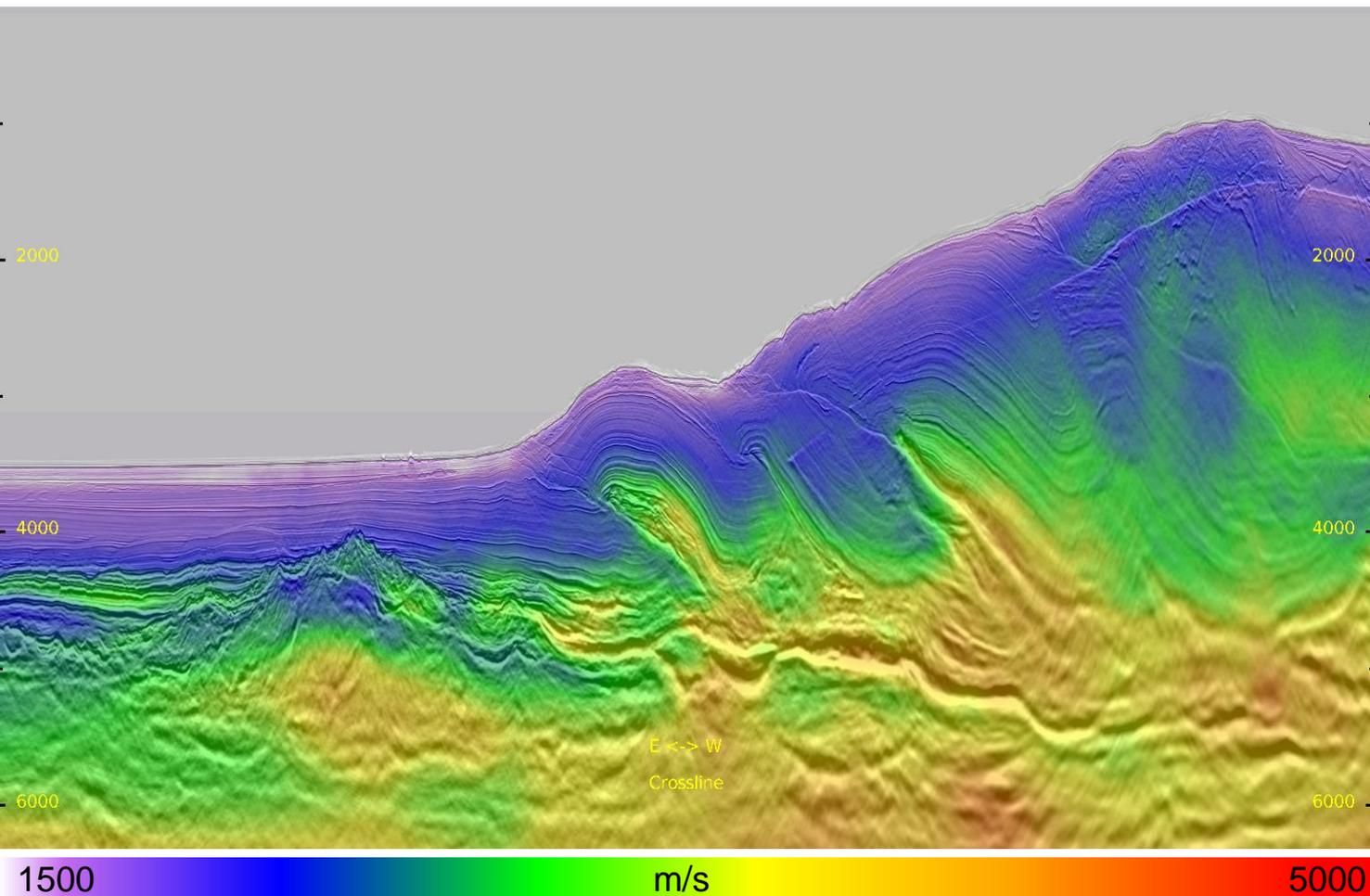


# Inline 436 East: Previous FWI Result



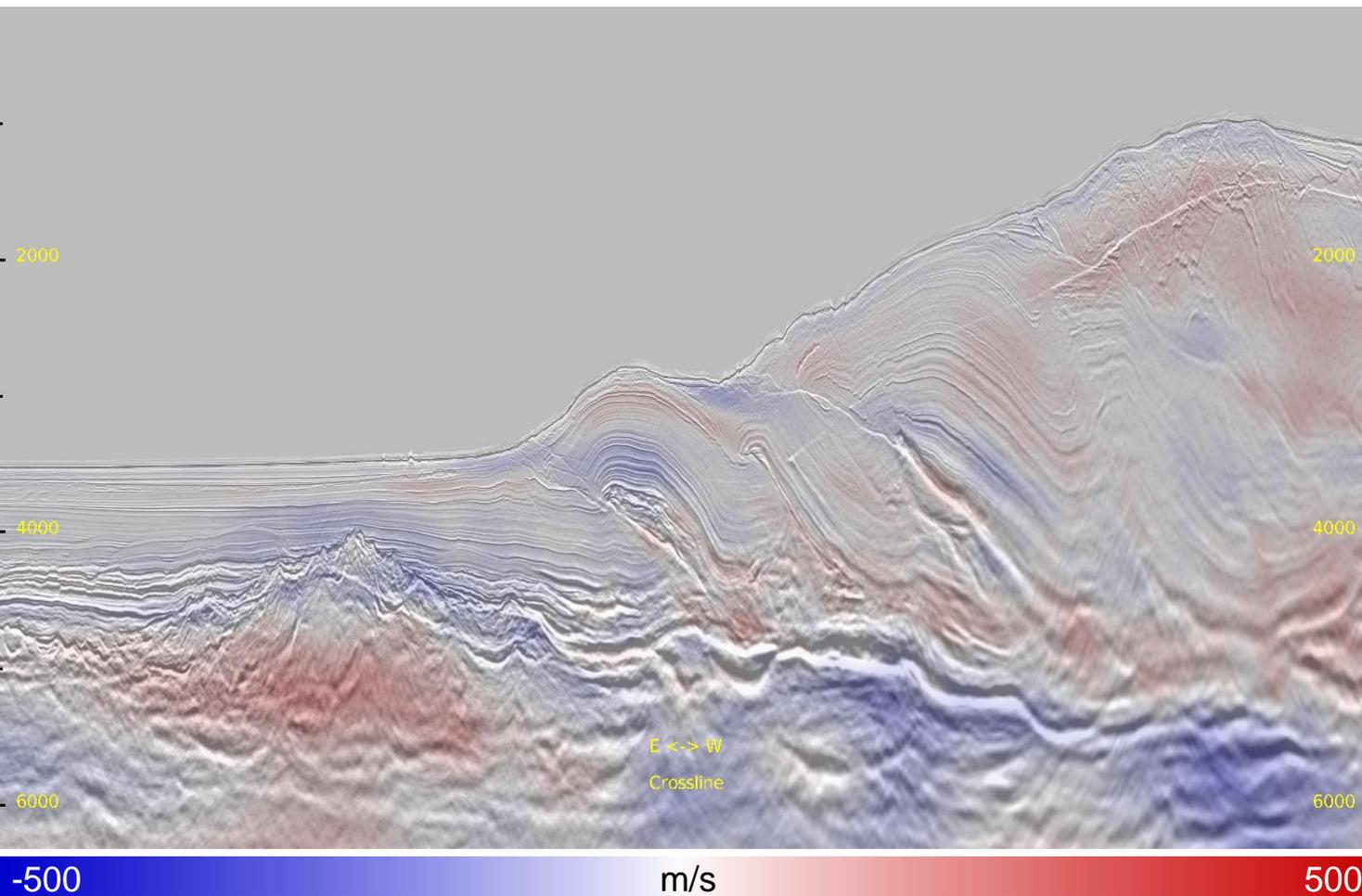
- Previous QTTI FWI velocity

# Inline 436 East: Current Tomography Result



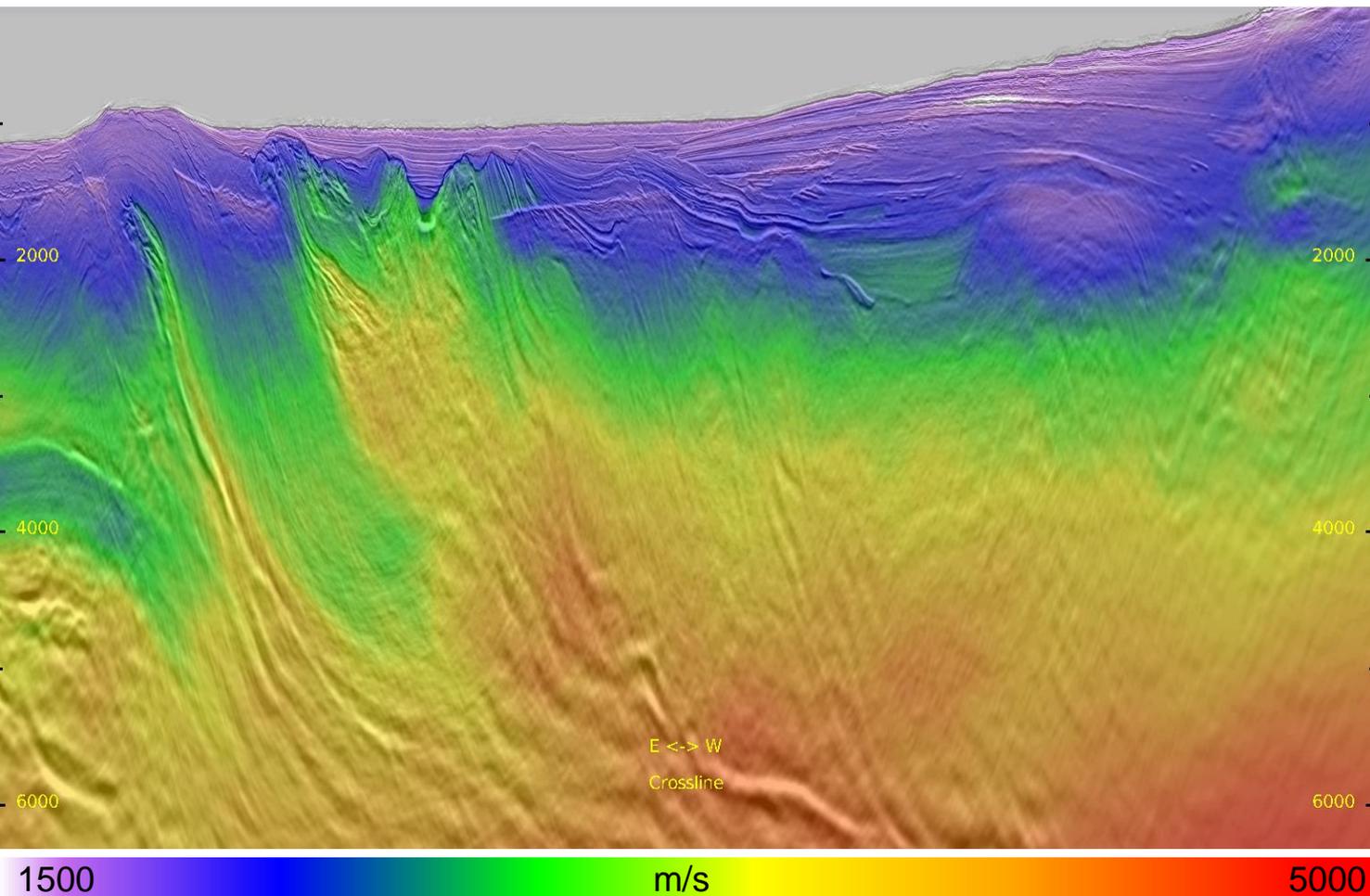
- Current tomography velocity.

# Inline 436 East: Velocity Perturbation



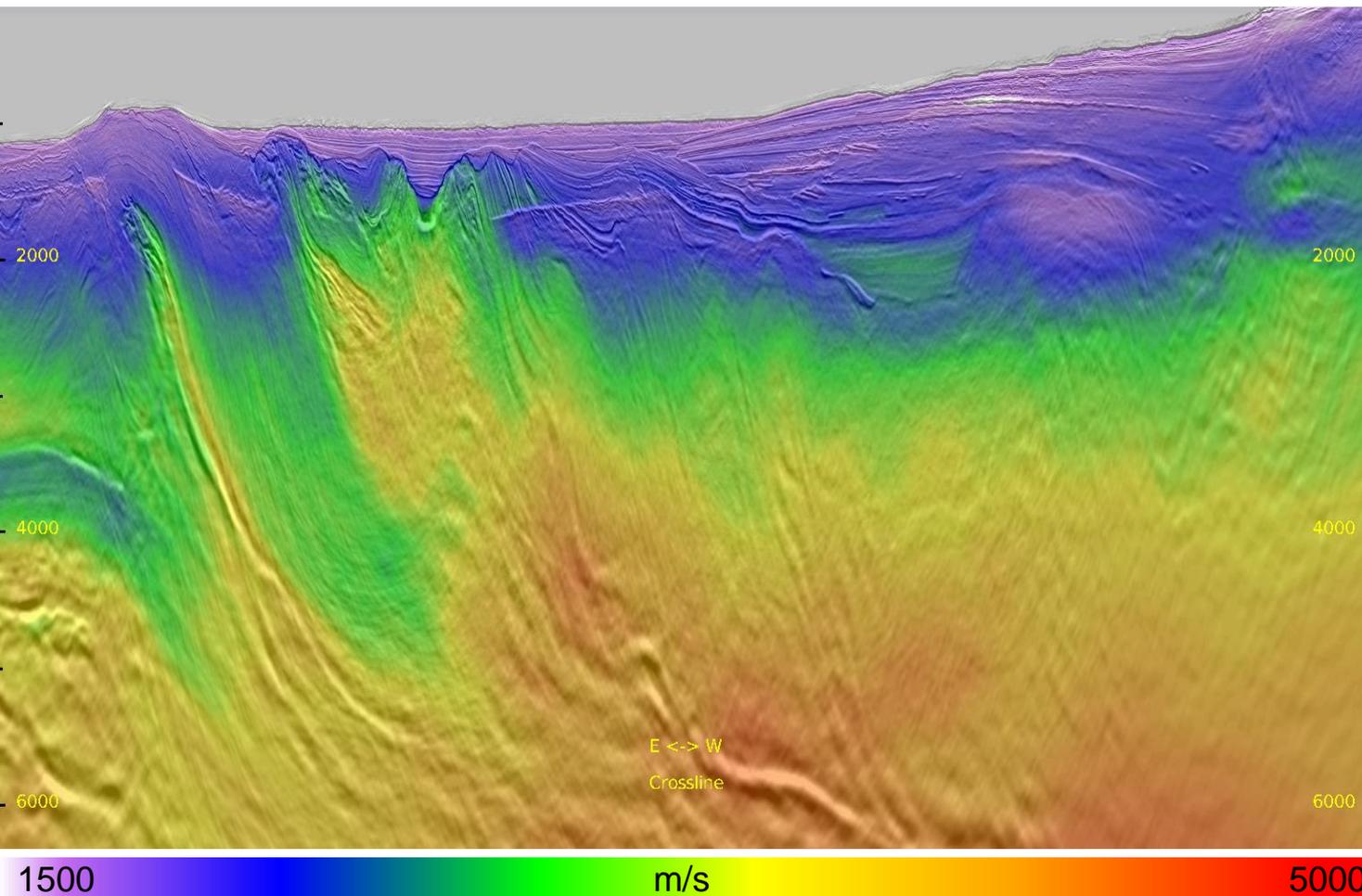
- Relative small velocity perturbation, due to better starting model.

# Inline 436 West: Previous FWI Result



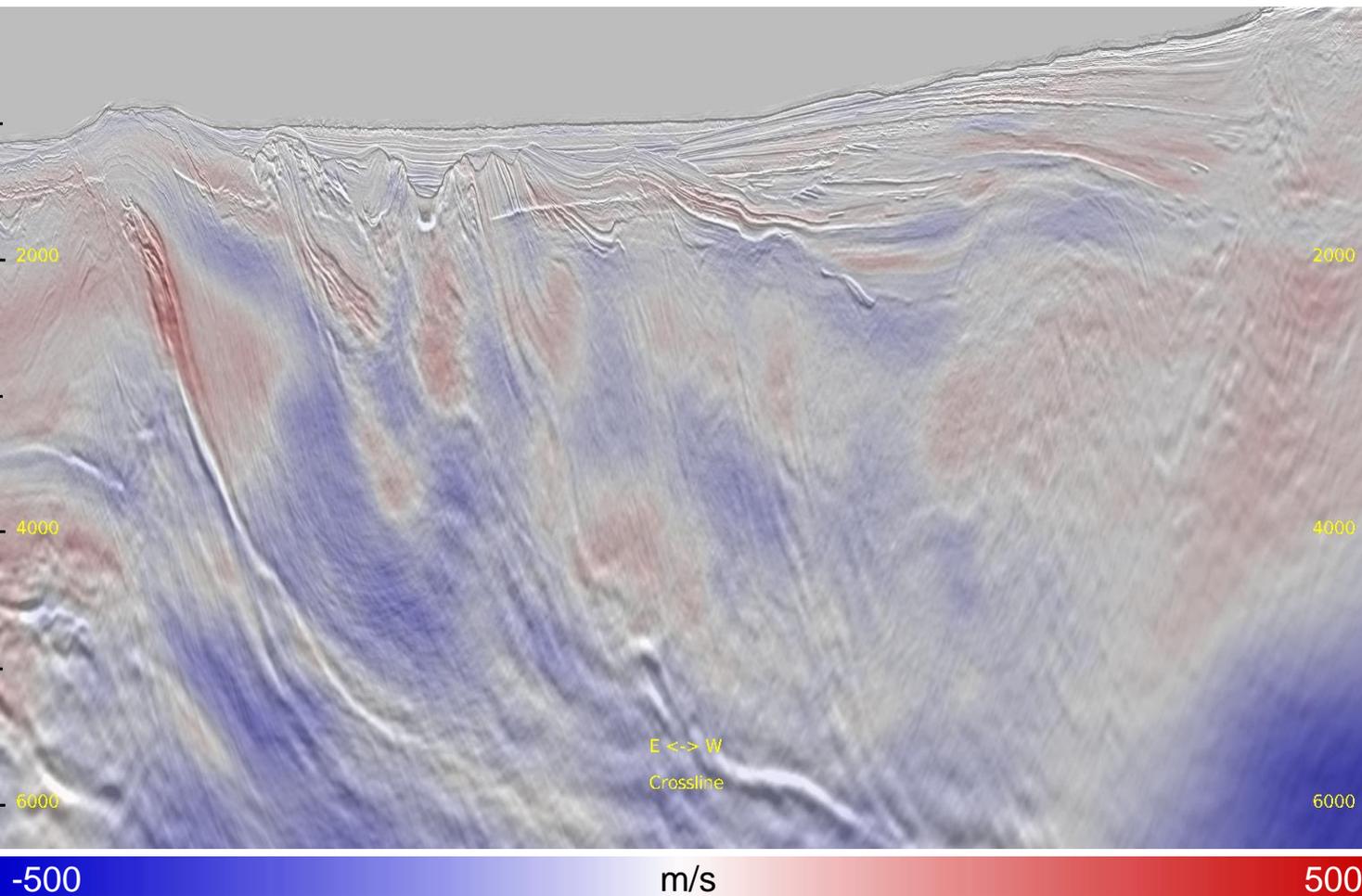
- Previous QTTI FWI velocity

# Inline 436 West: Current Tomography Result



- Current tomography velocity.

# Inline 436 West: Velocity Perturbation



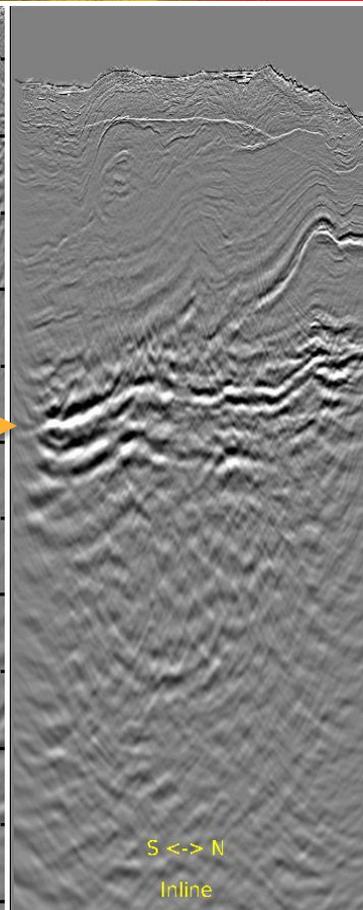
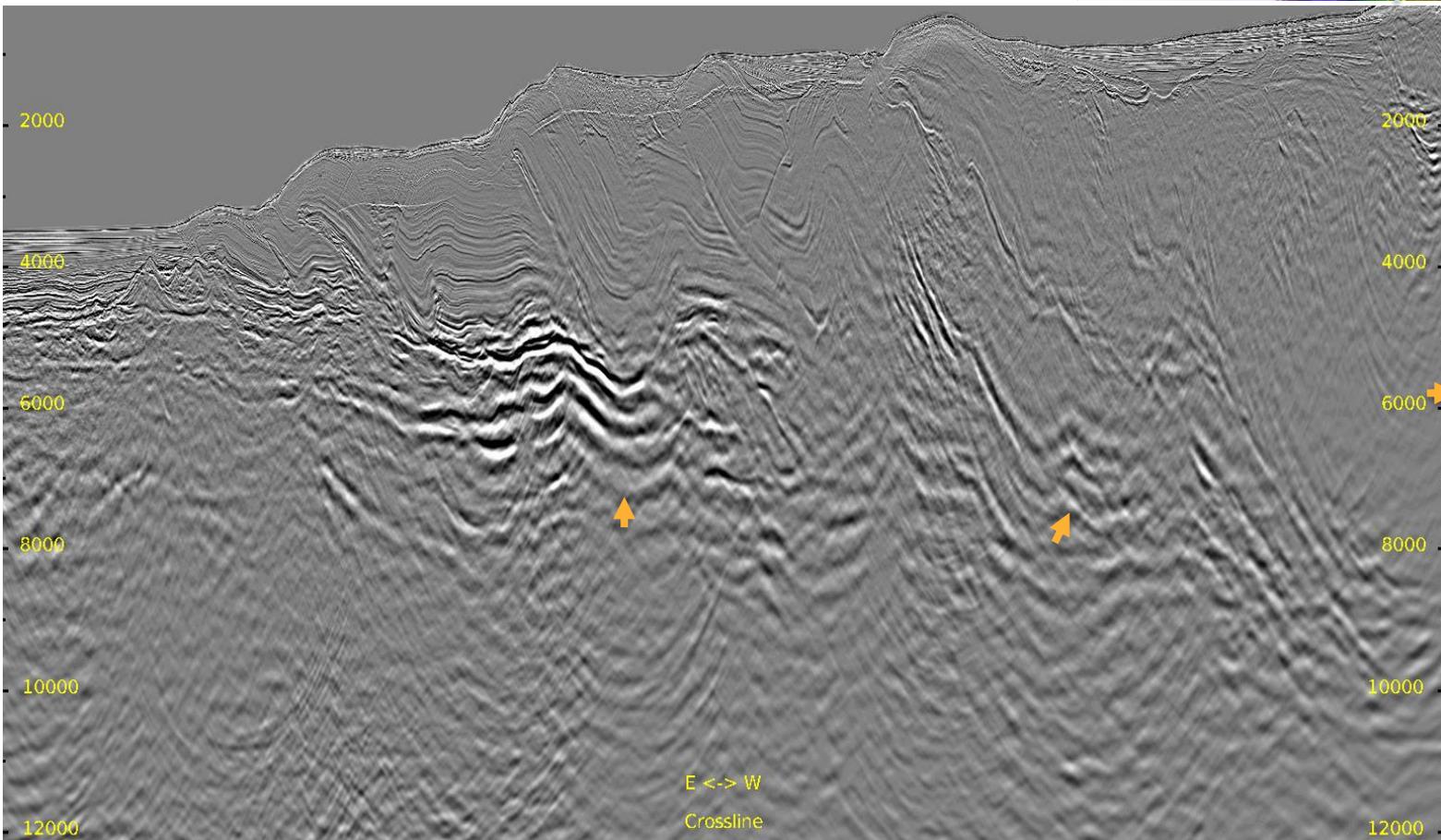
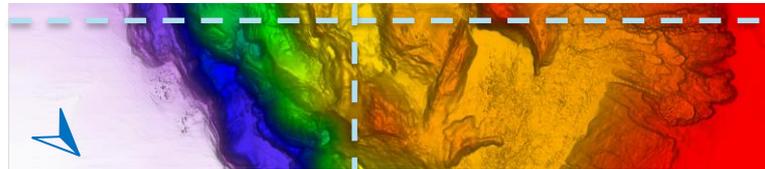
- Relative small velocity perturbation, due to better starting model.

# Kirchhoff Depth Migration



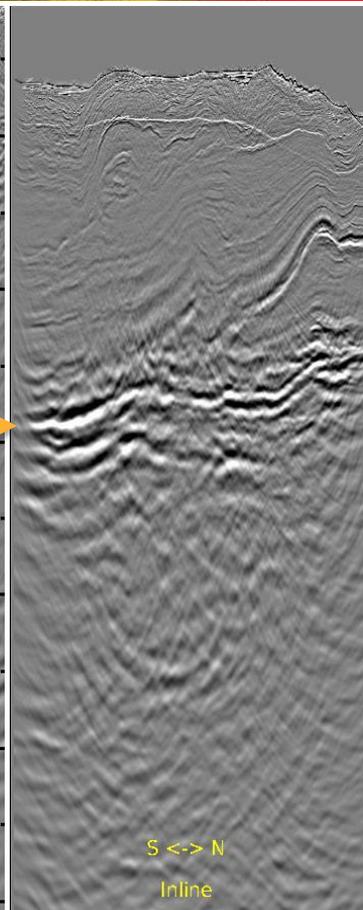
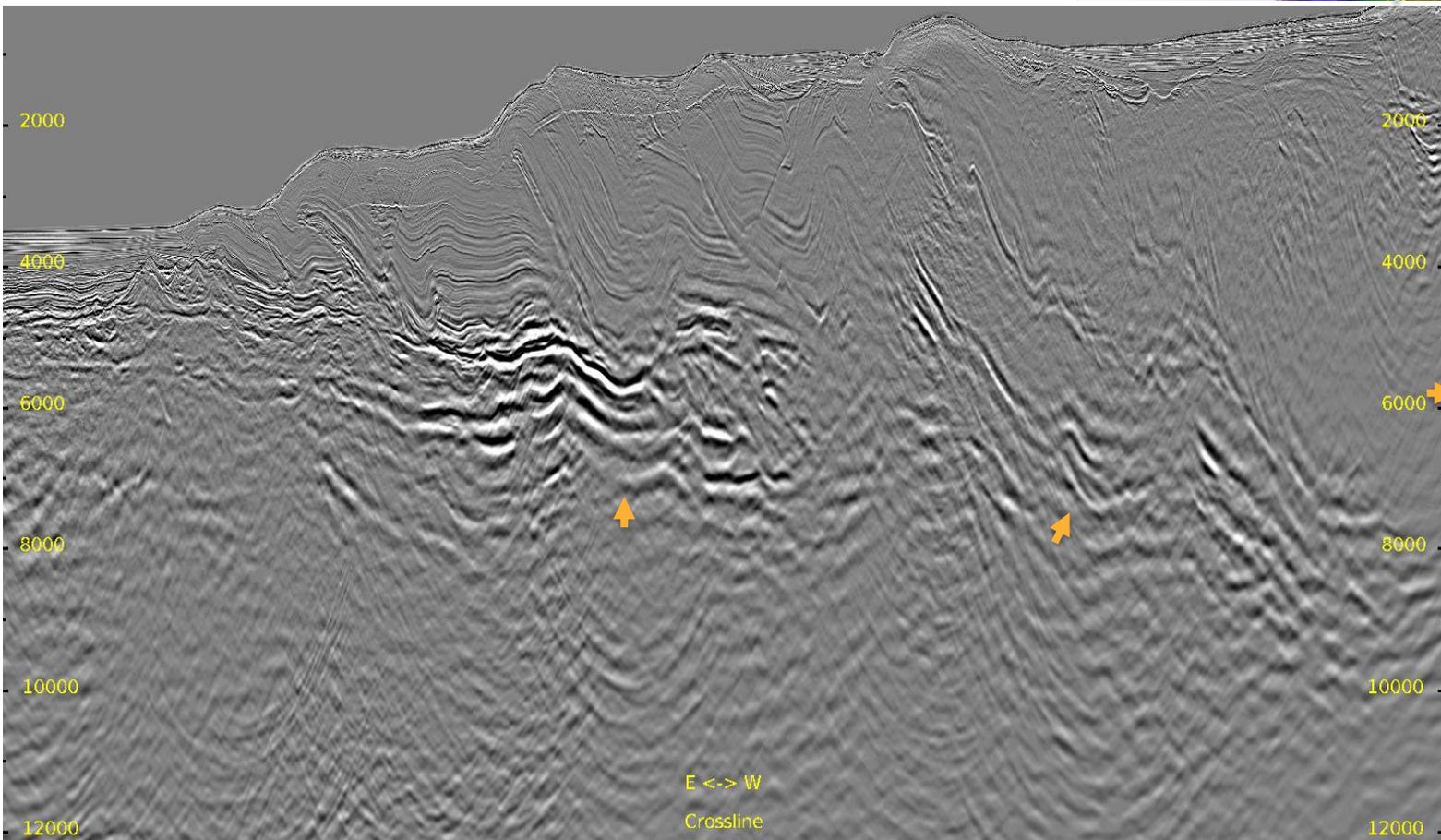
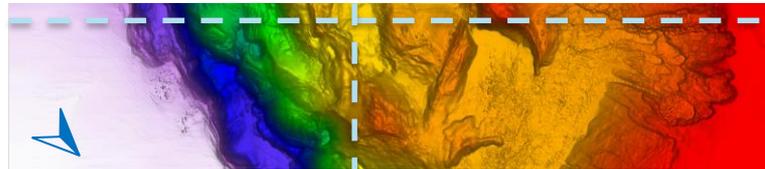
# Full Stack: Previous Result

Inline 101 & Crossline 2547



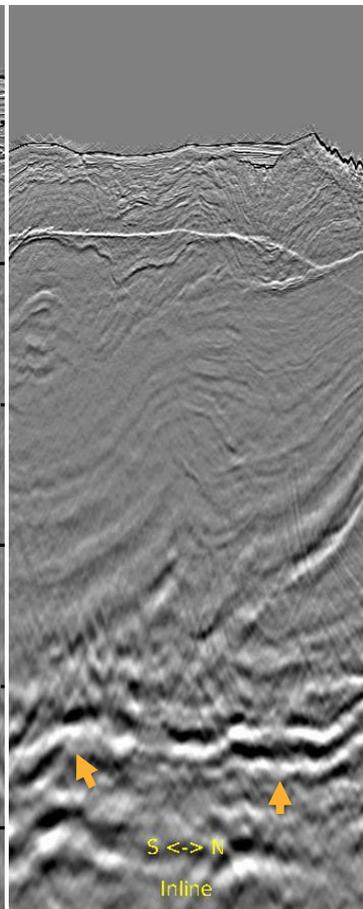
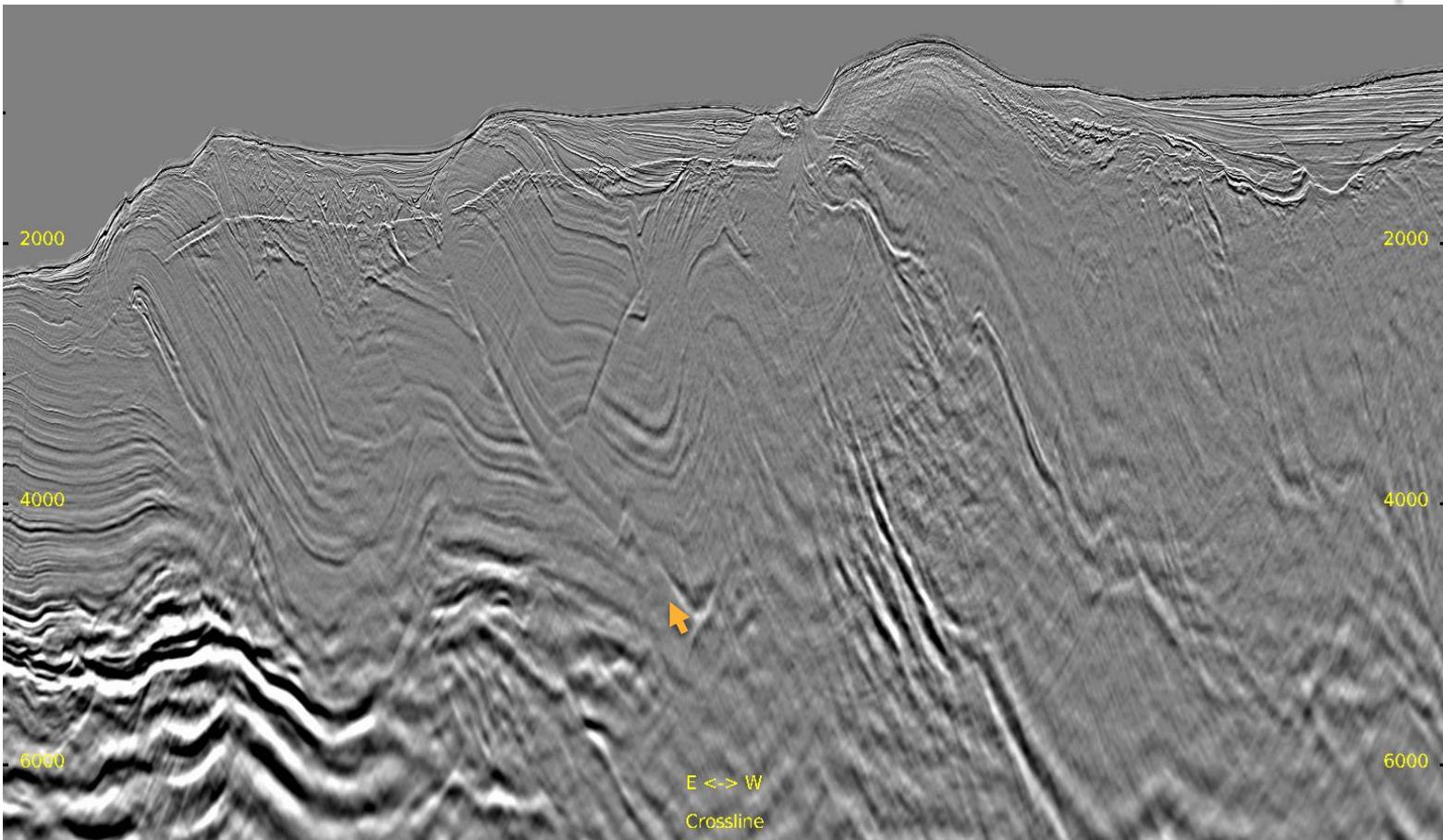
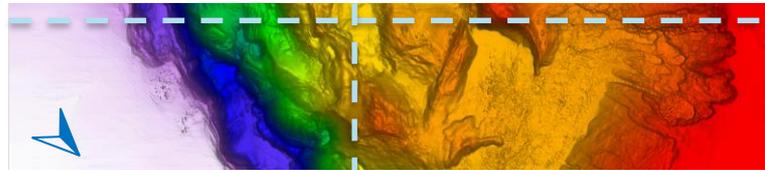
# Full Stack: Current Result

Inline 101 & Crossline 2547



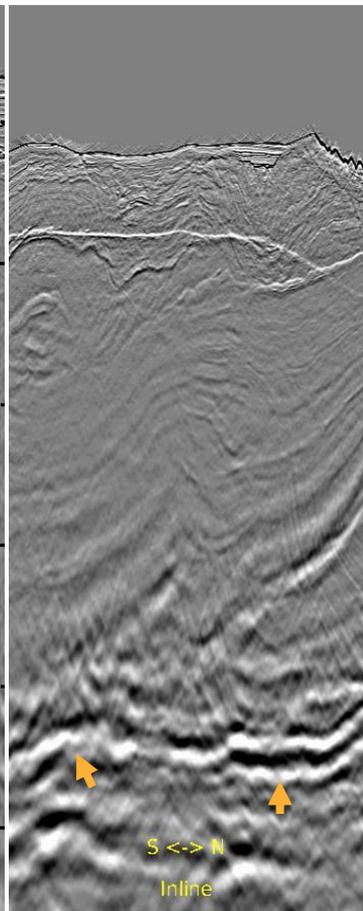
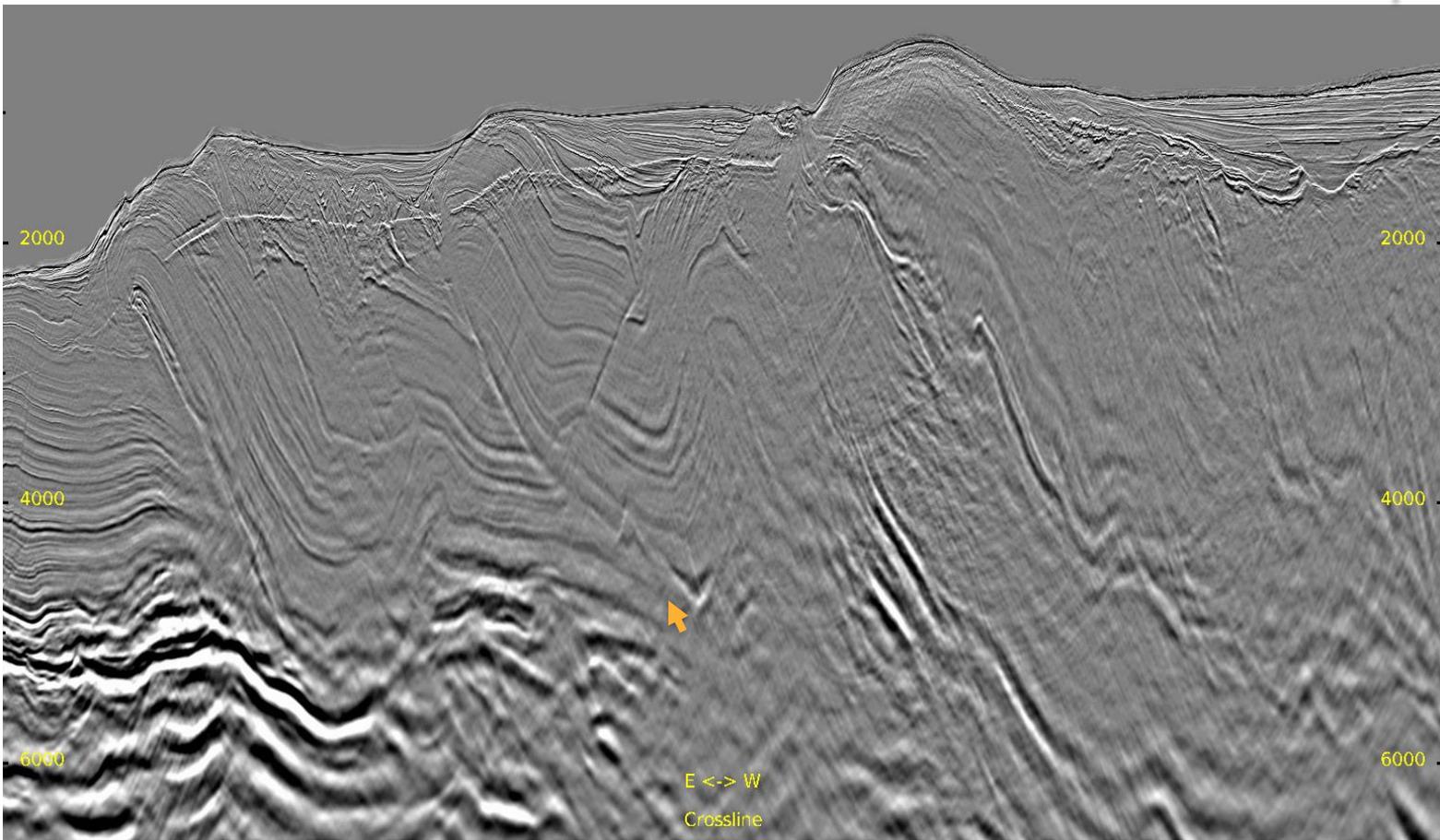
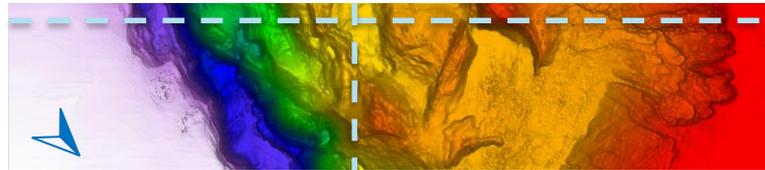
# Zoomed Full Stack: Previous Result

Inline 101 & Crossline 2547



# Zoomed Full Stack: Current Result

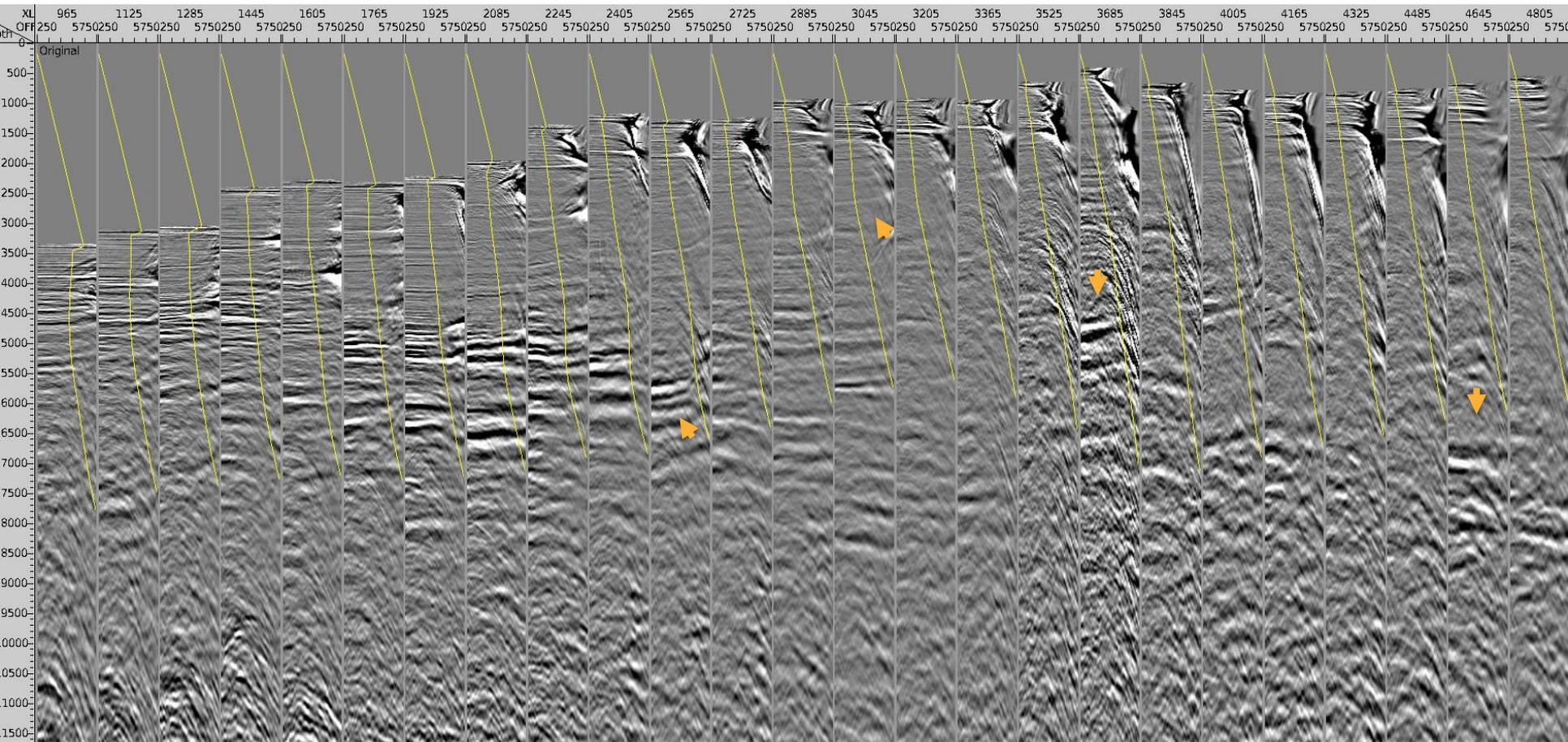
Inline 101 & Crossline 2547





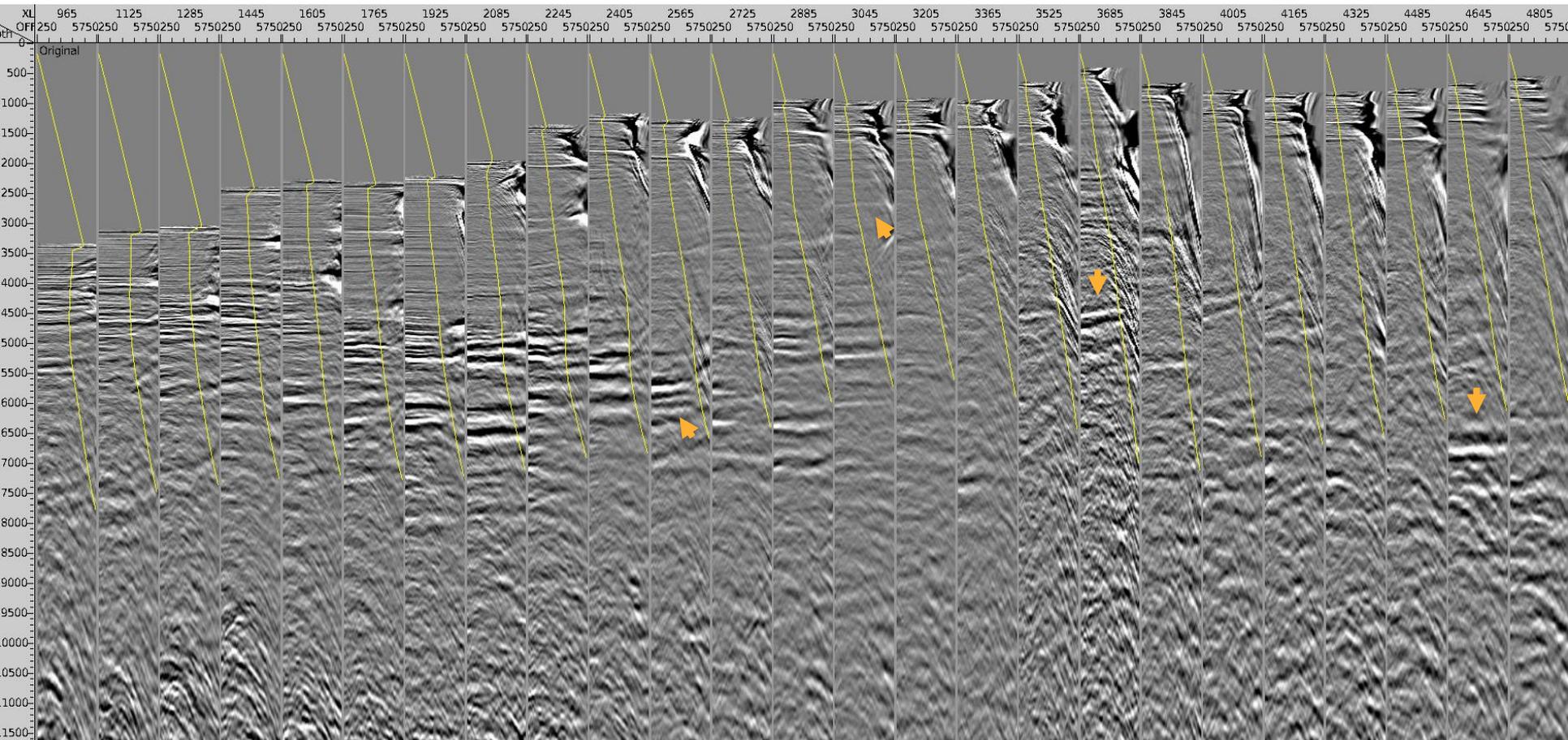
# Inline 101 CDP Gathers: Previous Result

— 35° Mute



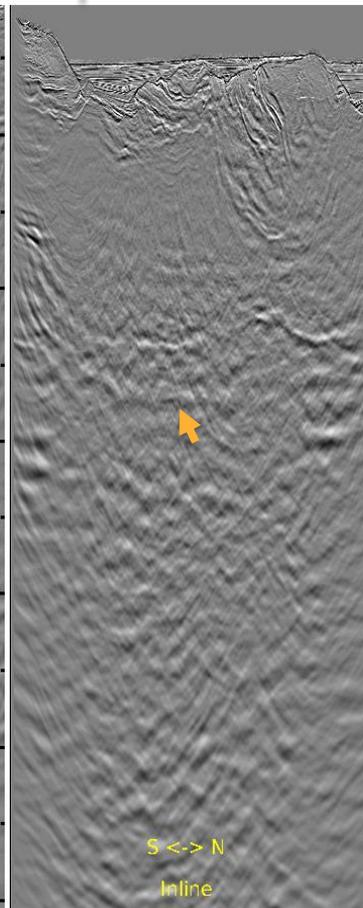
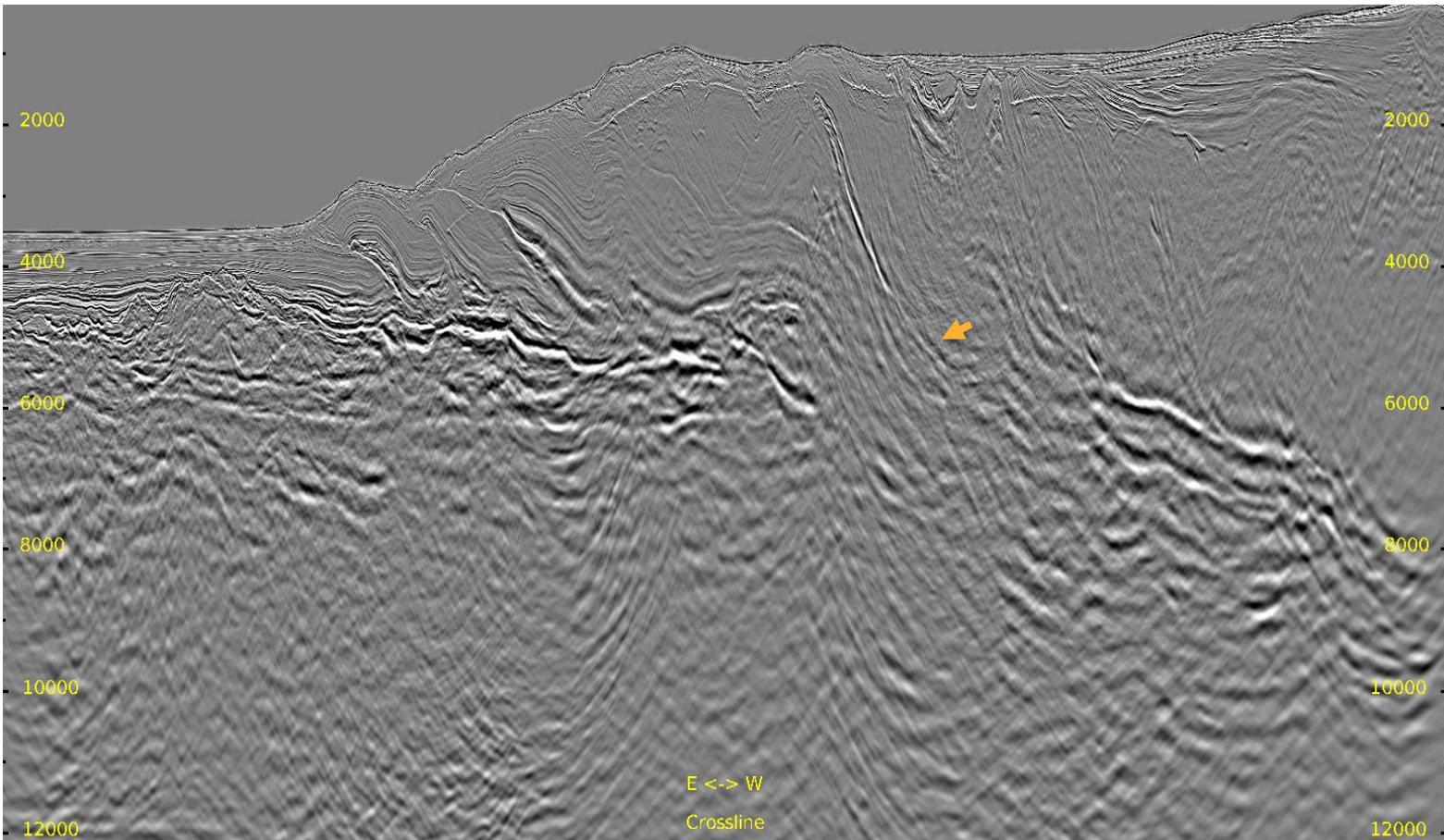
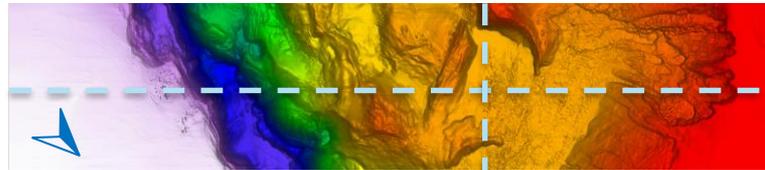
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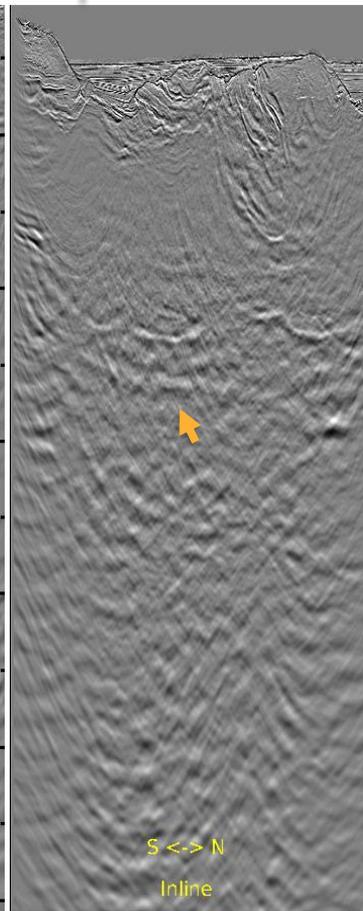
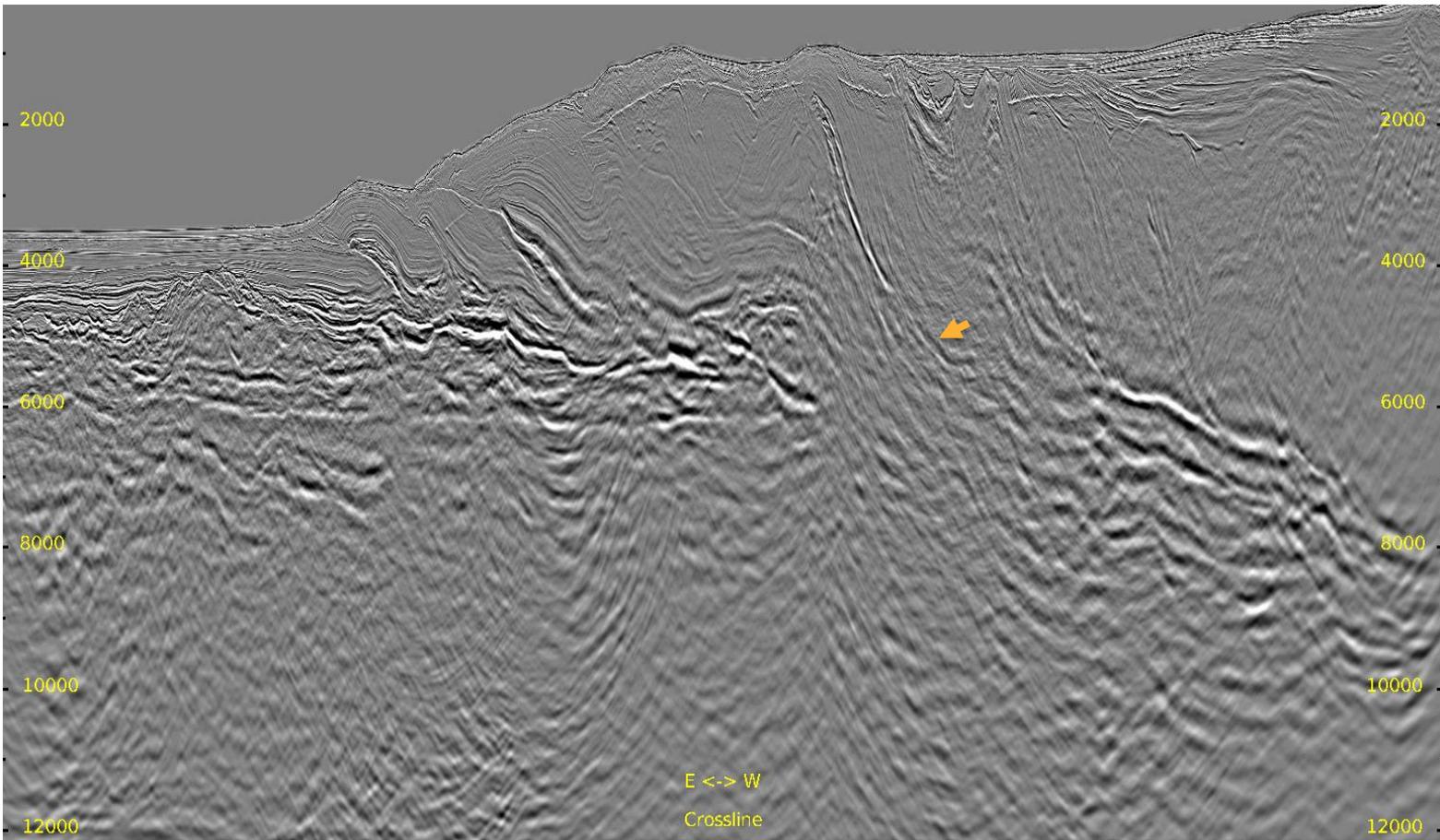
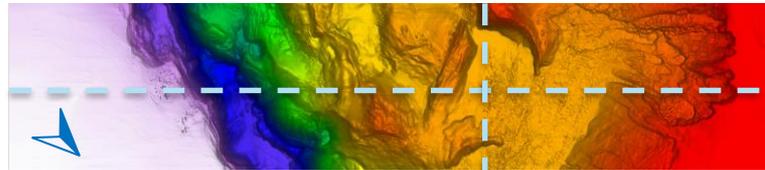
# Full Stack: Previous Result

Inline 451 & Crossline 3539



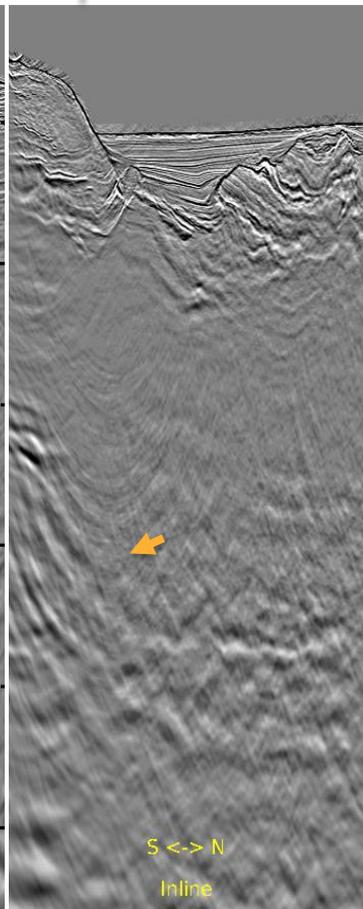
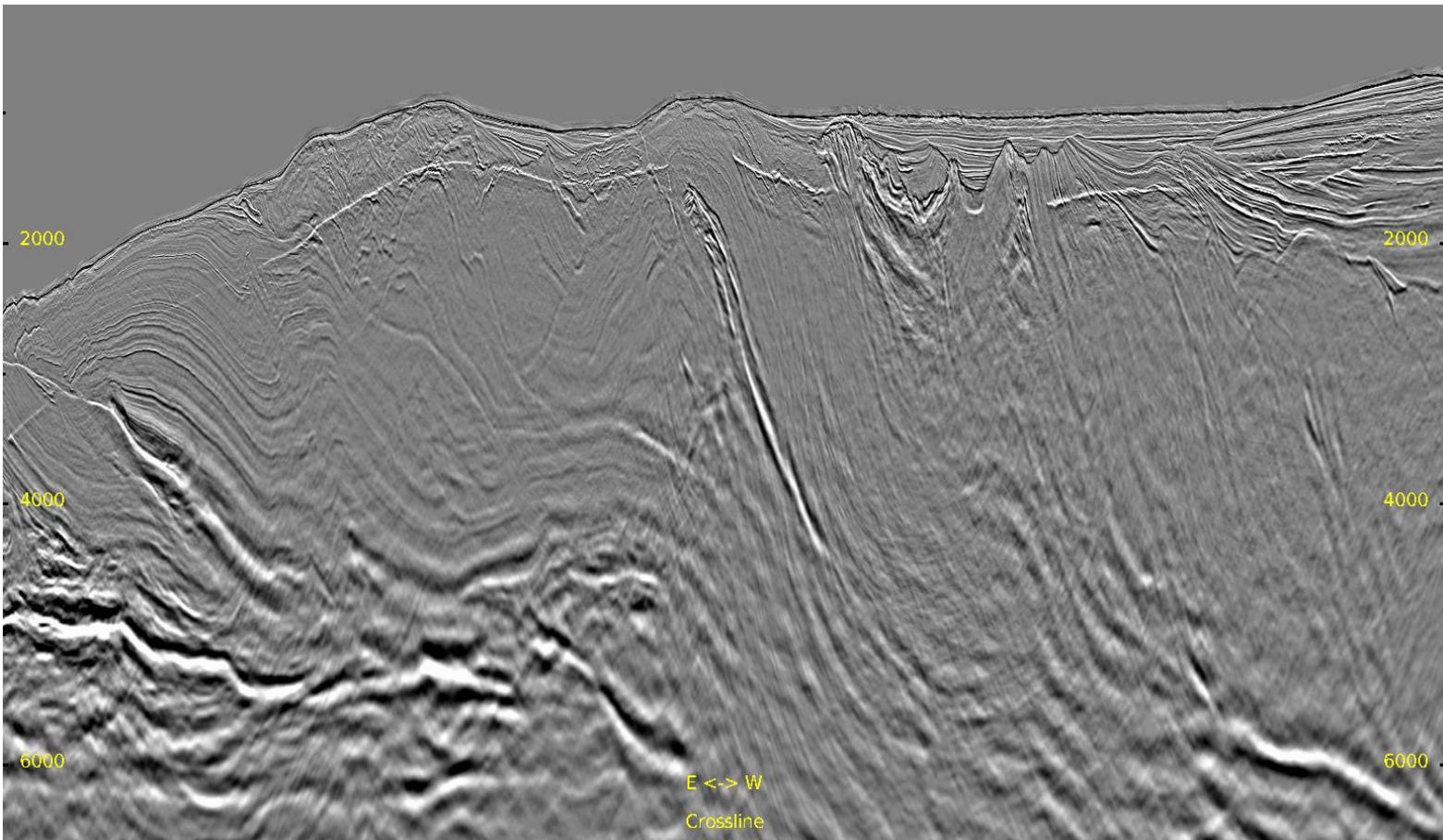
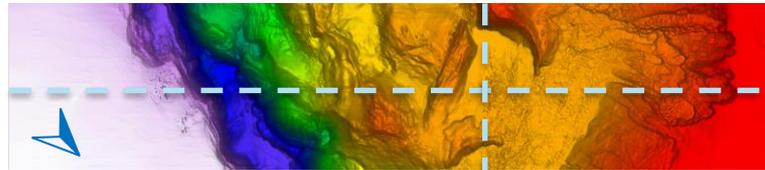
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Inline 451 & Crossline 3539



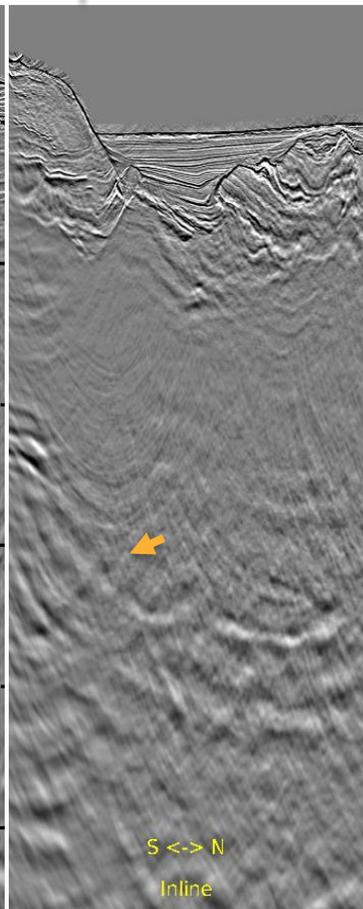
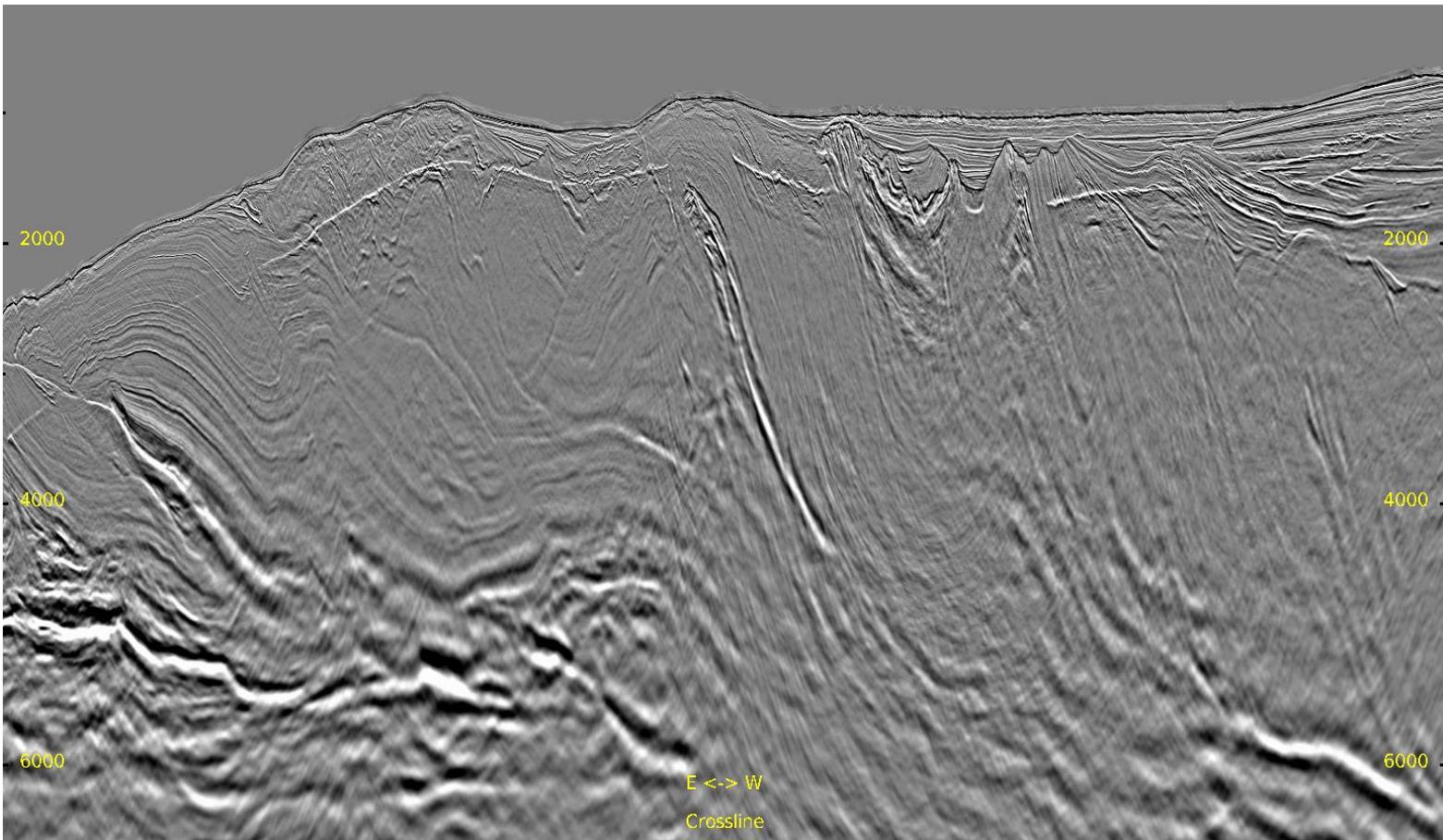
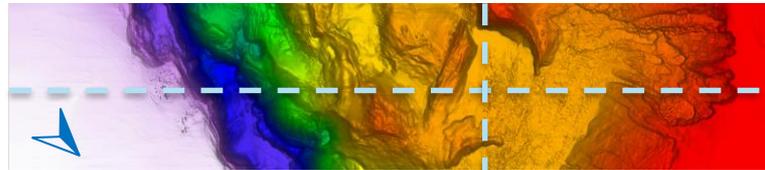
# Zoomed Full Stack: Previous Result

Inline 451 & Crossline 3539



# Zoomed Full Stack: Current Result

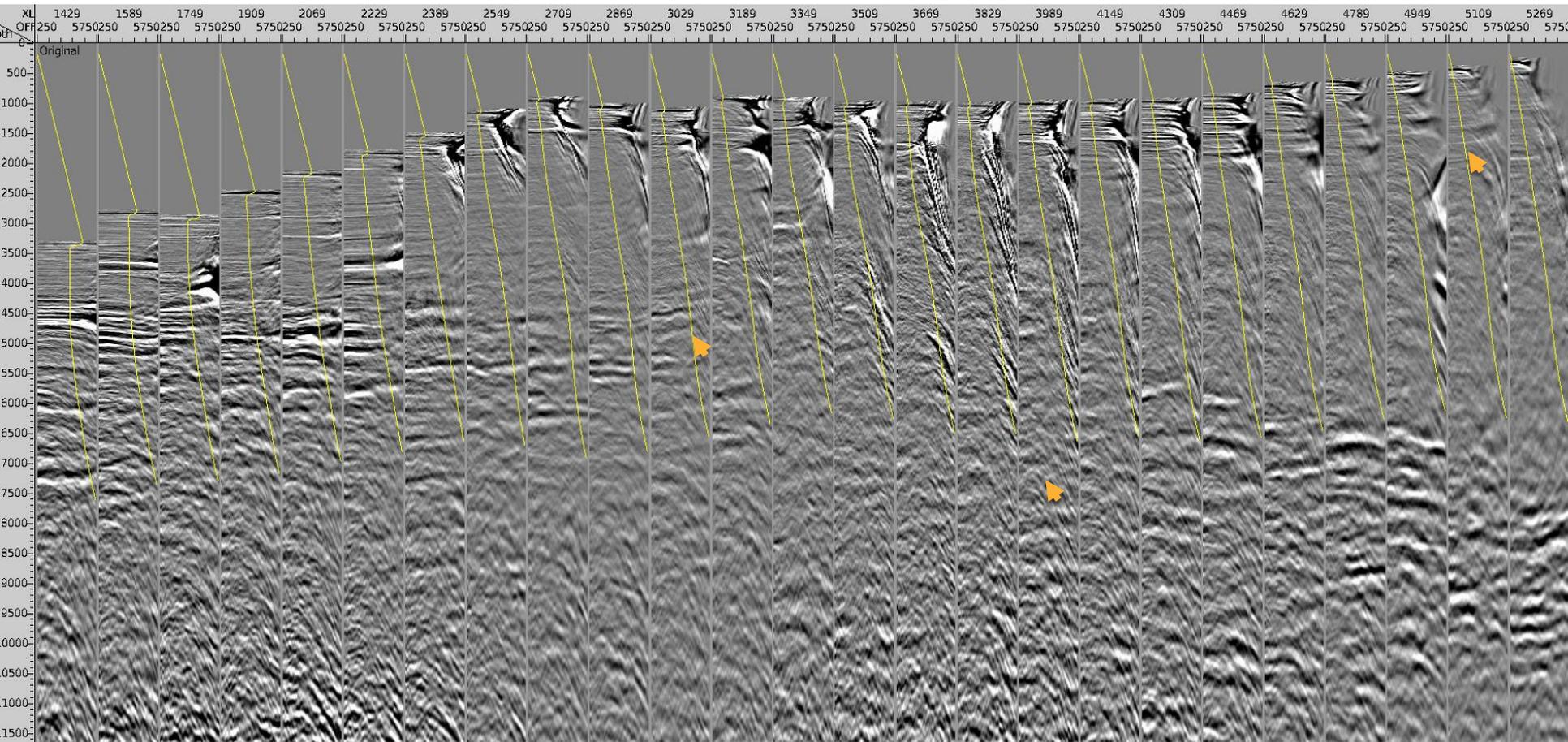
Inline 451 & Crossline 3539





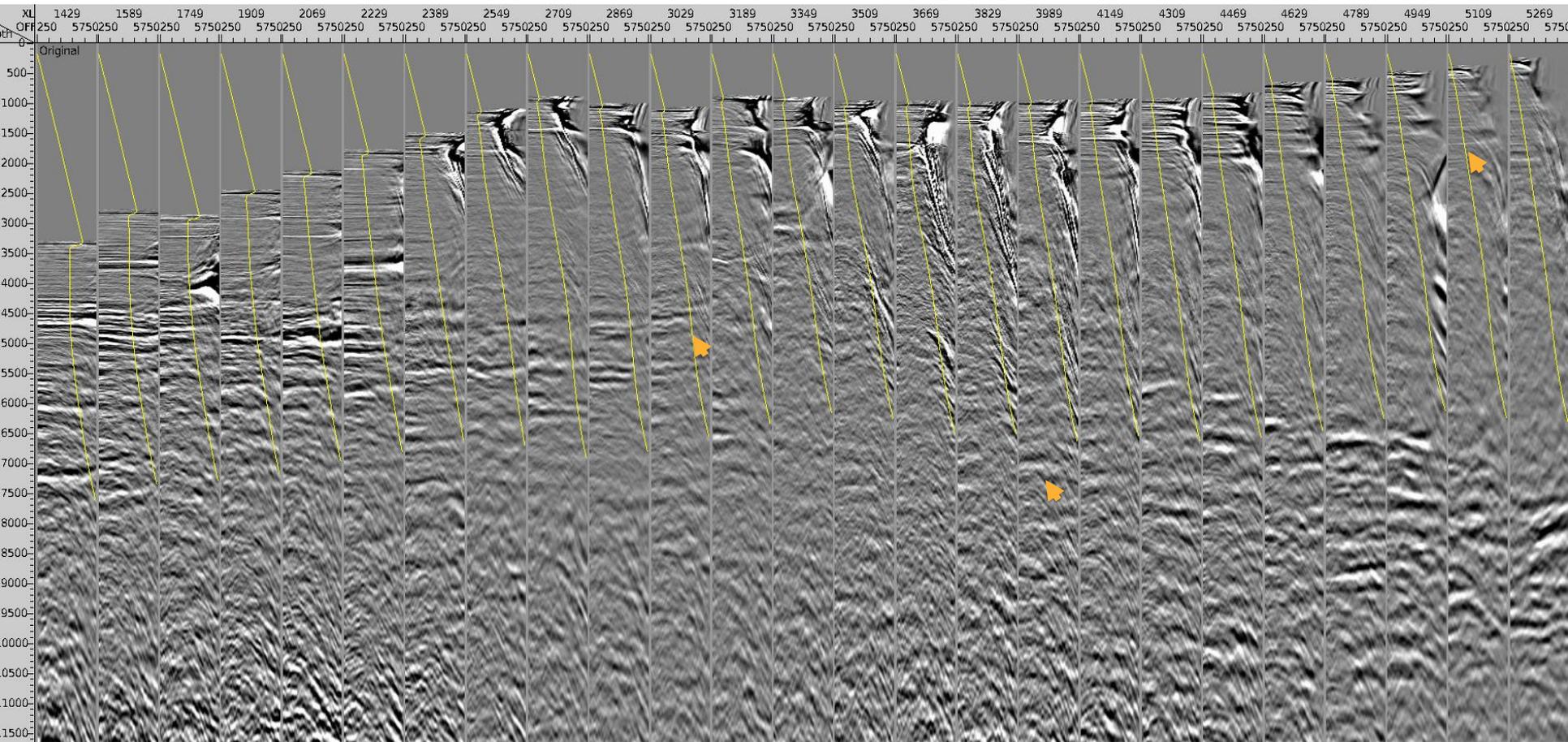
# Inline 451 CDP Gathers: Previous Result

— 35° Mute



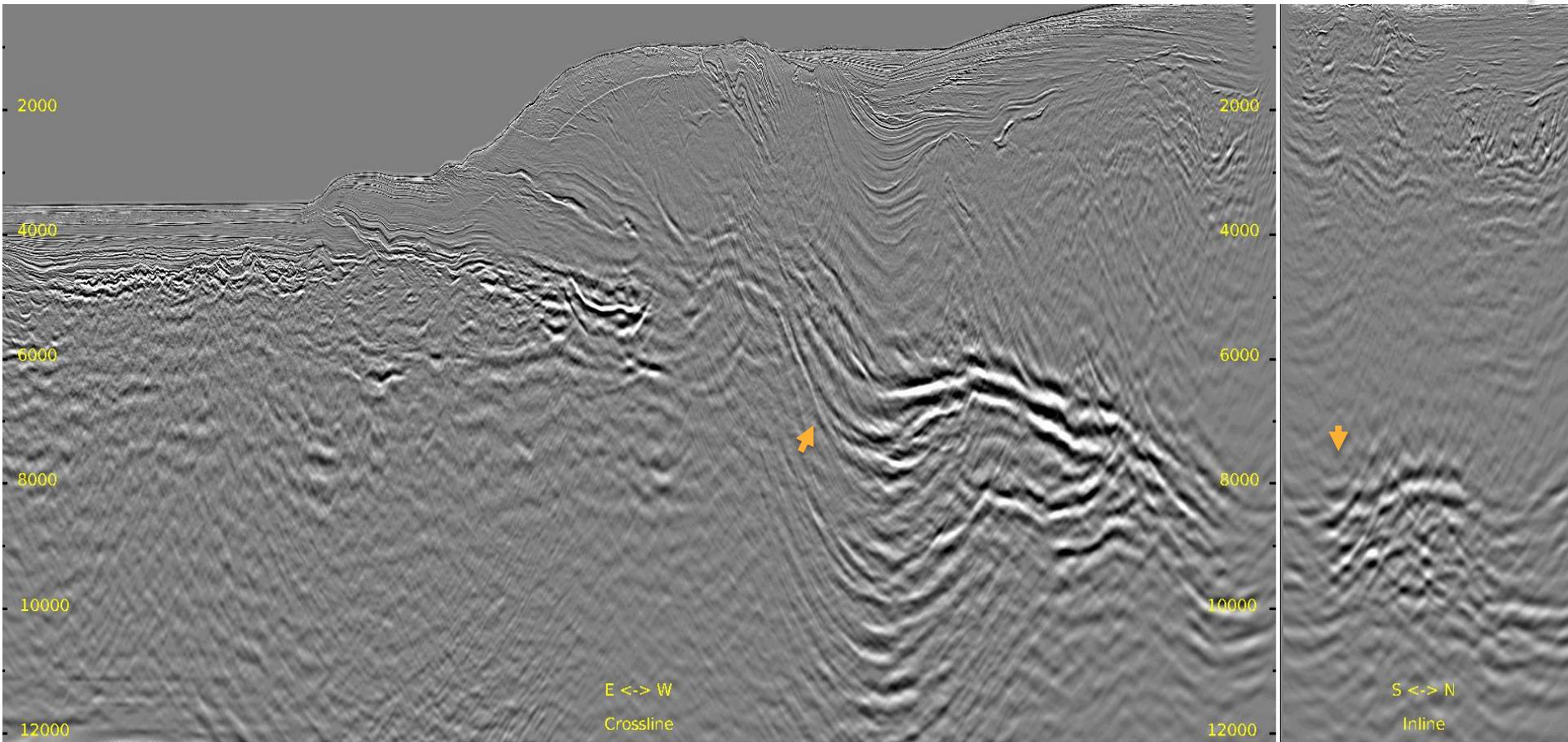
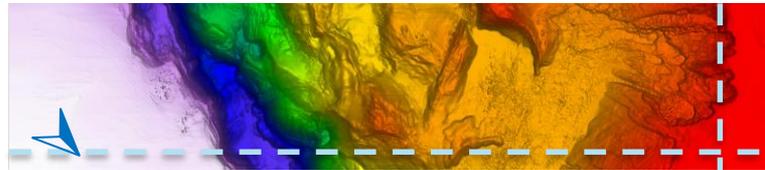
# Inline 451 CDP Gathers: Current Result

— 35° Mute



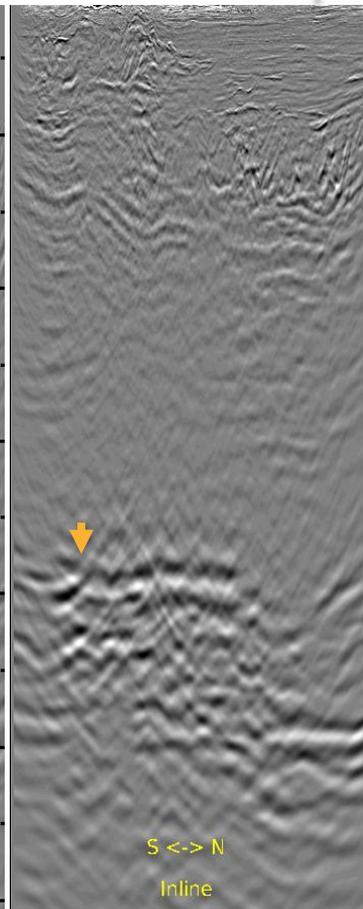
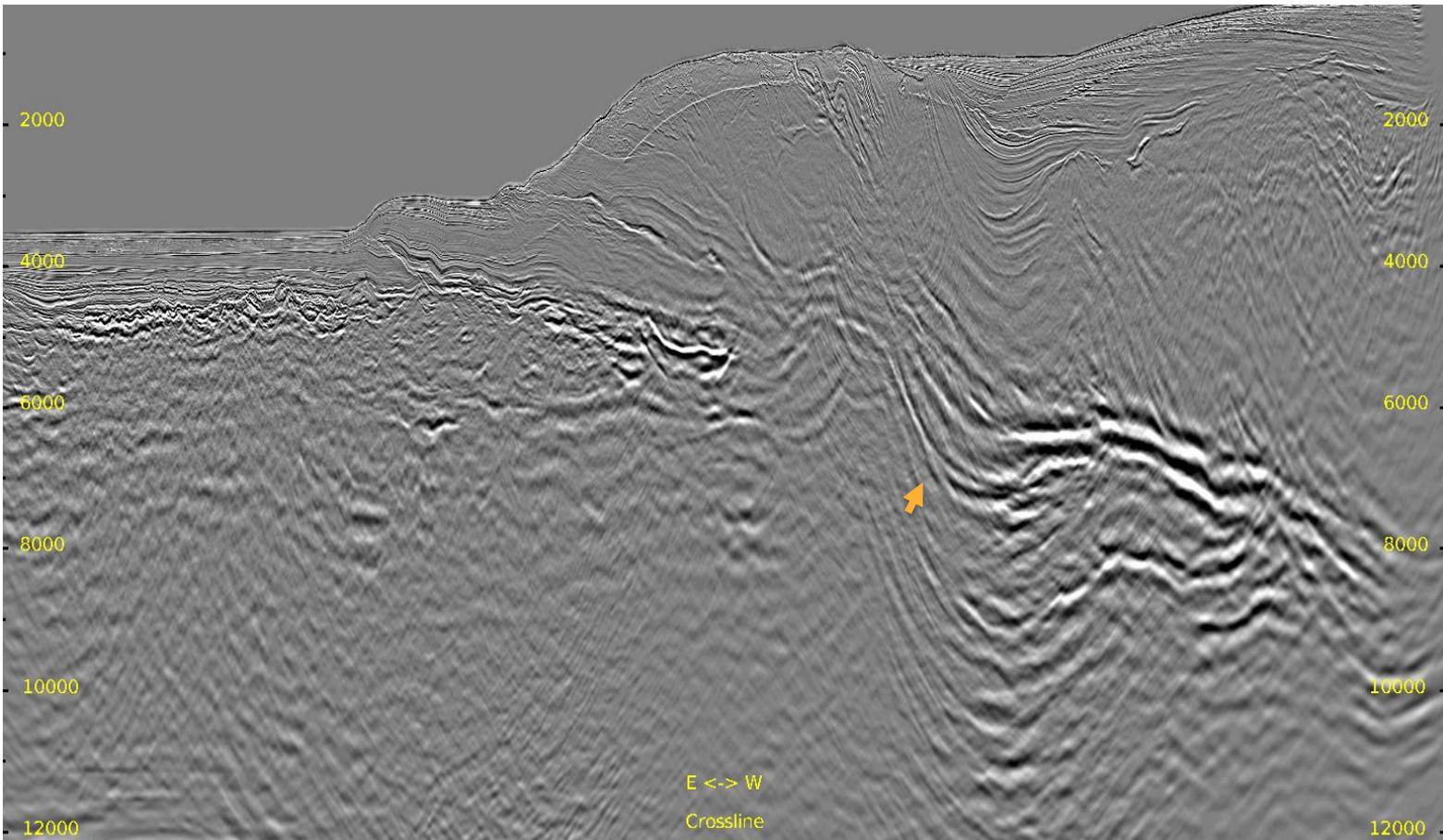
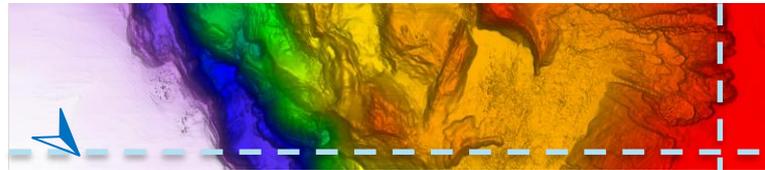
# Full Stack: Previous Result

Inline 745 & Crossline 5299



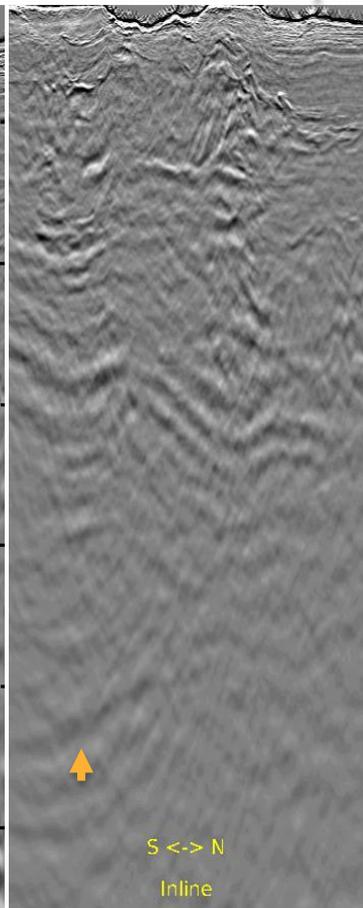
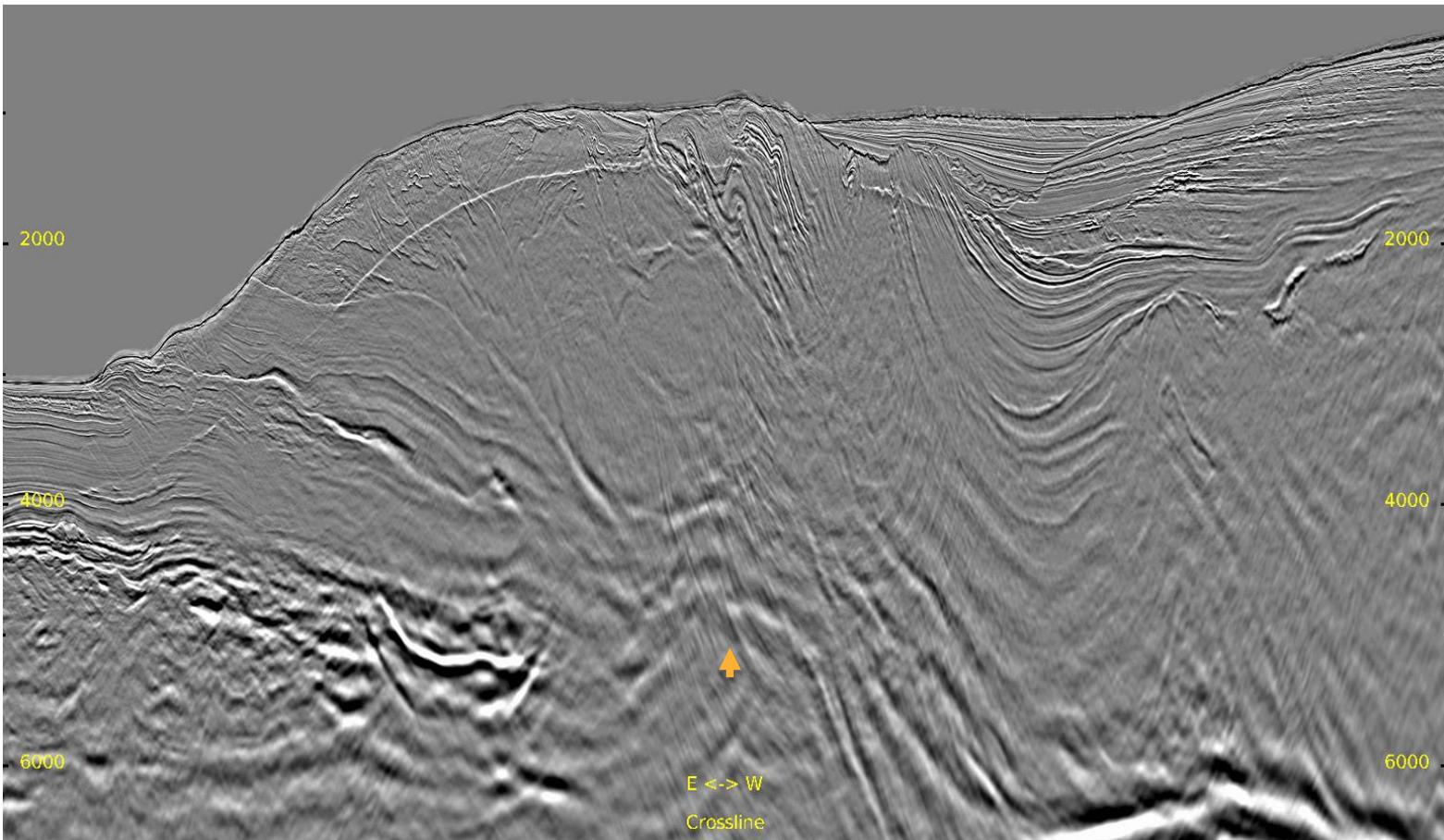
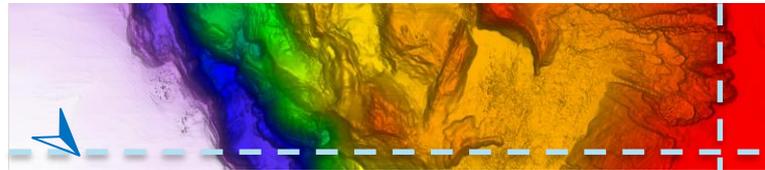
# Full Stack: Current Result

Inline 745 & Crossline 5299



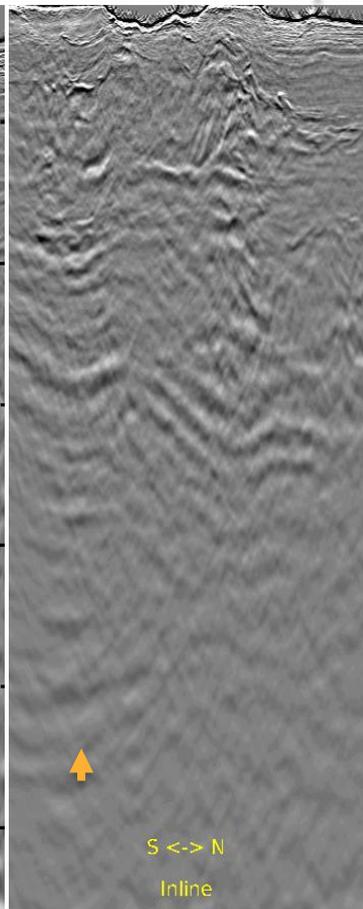
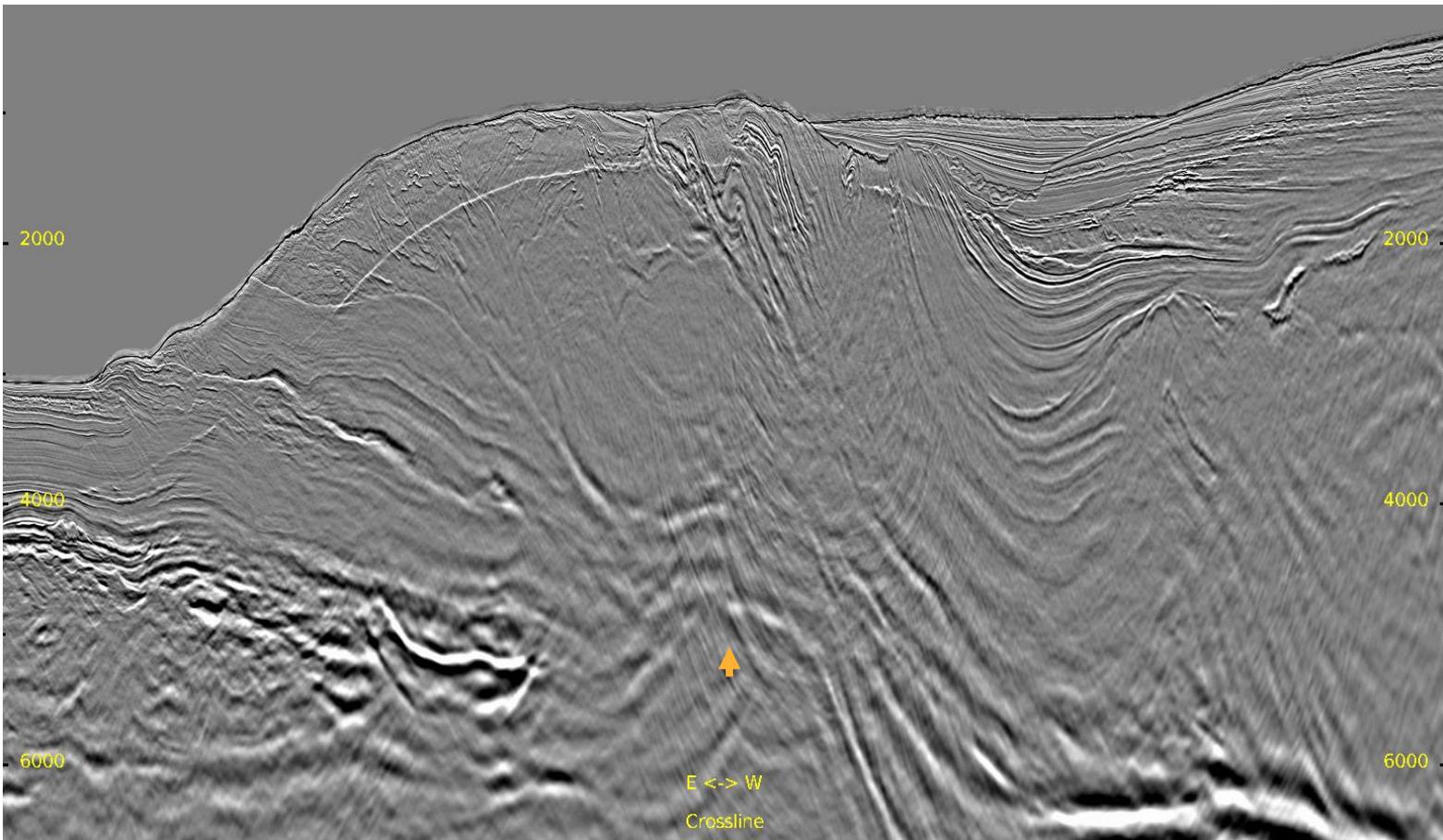
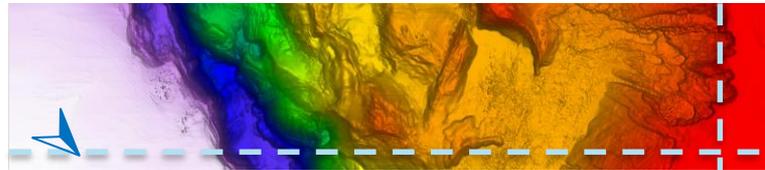
# Zoomed Full Stack: Previous Result

Inline 745 & Crossline 5299



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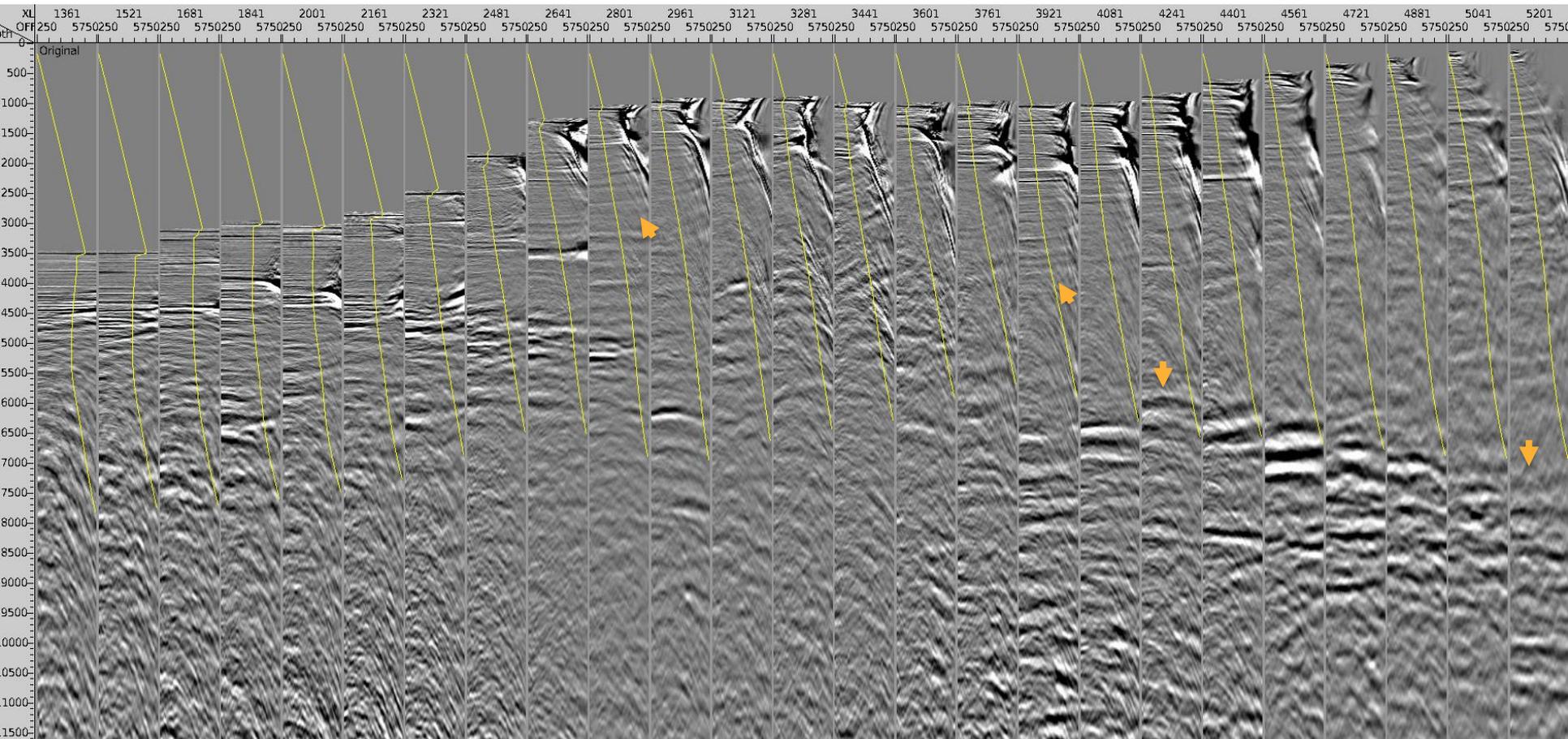
Inline 745 & Crossline 5299





# Inline 745 CDP Gathers: Previous Result

— 35° Mute



# Inline 745 CDP Gathers: Current Result

— 35° Mute

