



Bridging Gaps Adding Value

INTRO TO **W**ELLBORE **A**COUSTICS **V**ISUALIZATION AND
EEVALUATION **S**YSTEM

A software jointly developed by Saudi Aramco and Colchis



technology developed with





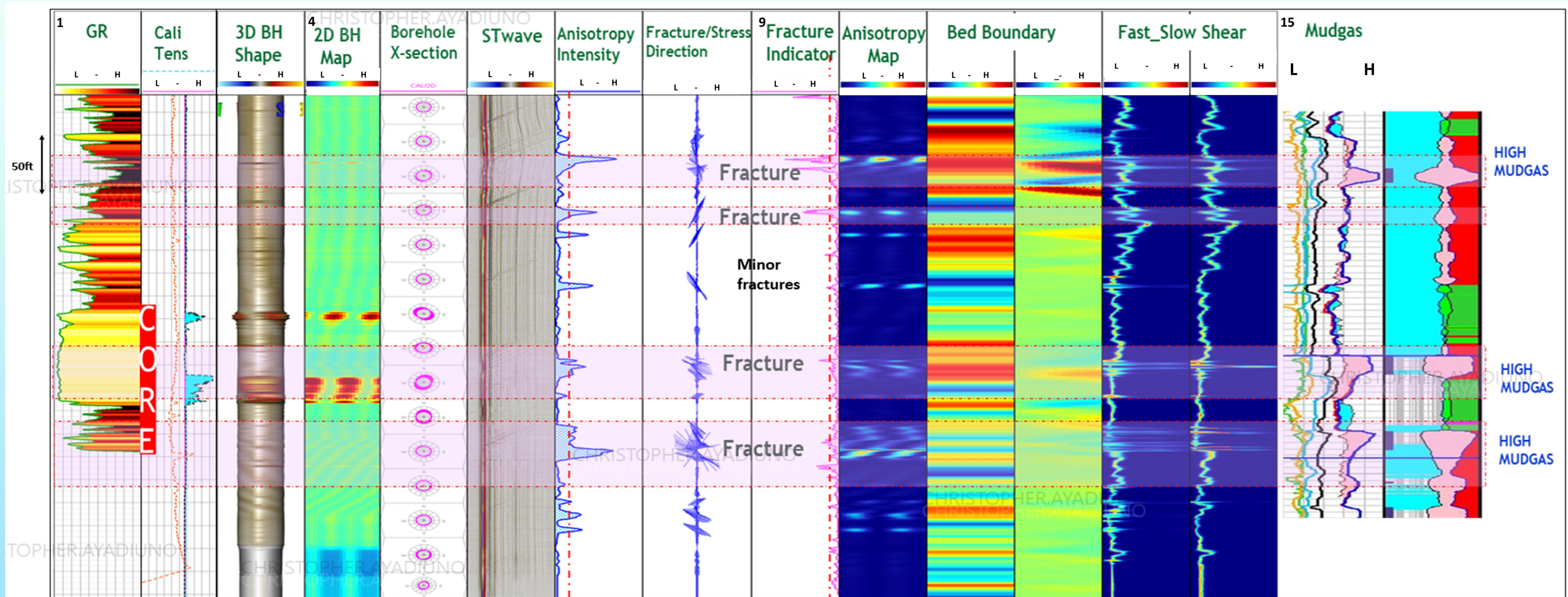
Fracture Characterization

Case History#1

Challenge: To characterize possible fractures using waveform data in zones with high gas readings from mudlog, especially in un-cored zones.

Result: WAVES identified several fractures associated with high mudgas reading in both cored and un-cored zones.

Benefits: Cost-saving – (Estimated vendor charge)





Fracture Characterization

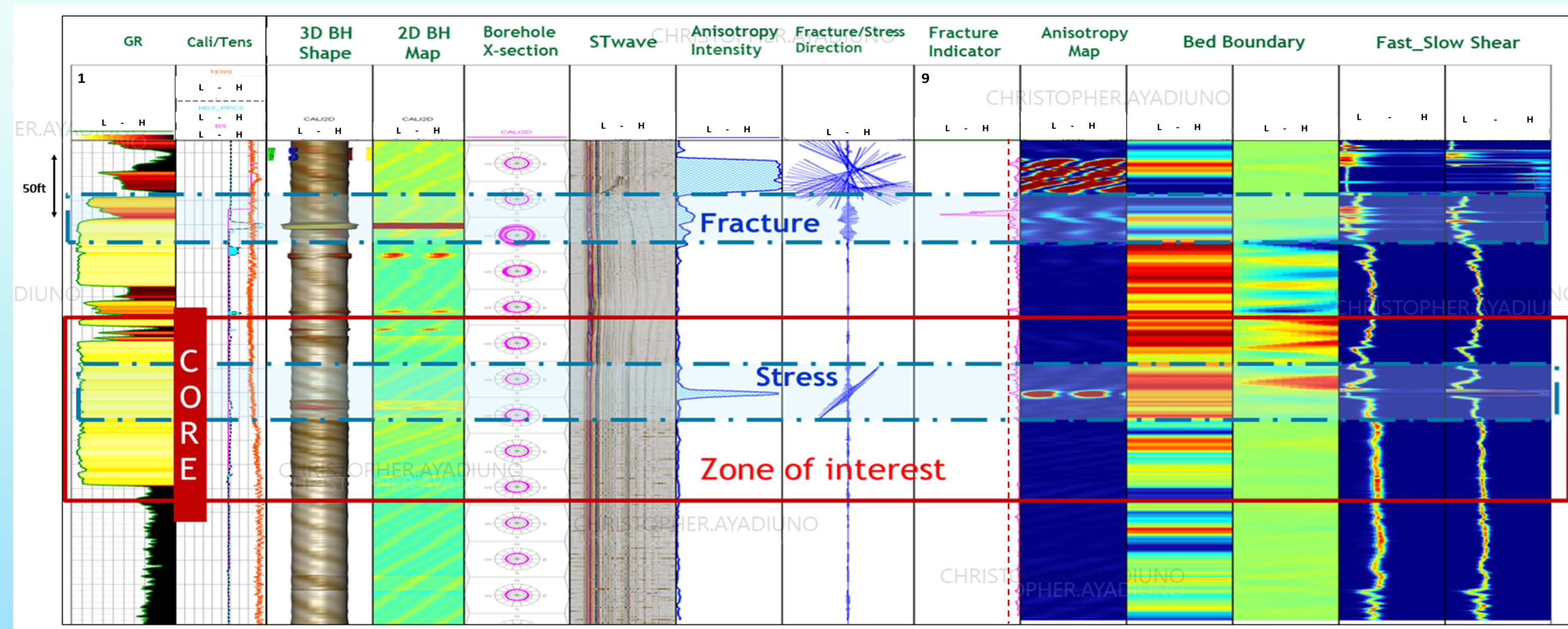
Case History#2

Challenge: To characterize anisotropy, stress, and fractures to aid the completion strategy within the operation timeline.

Result: WAVES analysis was completed prior to the completion decision and showed that there was no fracture in the target zone.

This was in agreement with both core and image logs. VSP acquisition was canceled as a result, resulting in huge cost-saving.

Benefits: Cost-saving (approx. cost for walkaround VSP + estimated vendor charge)



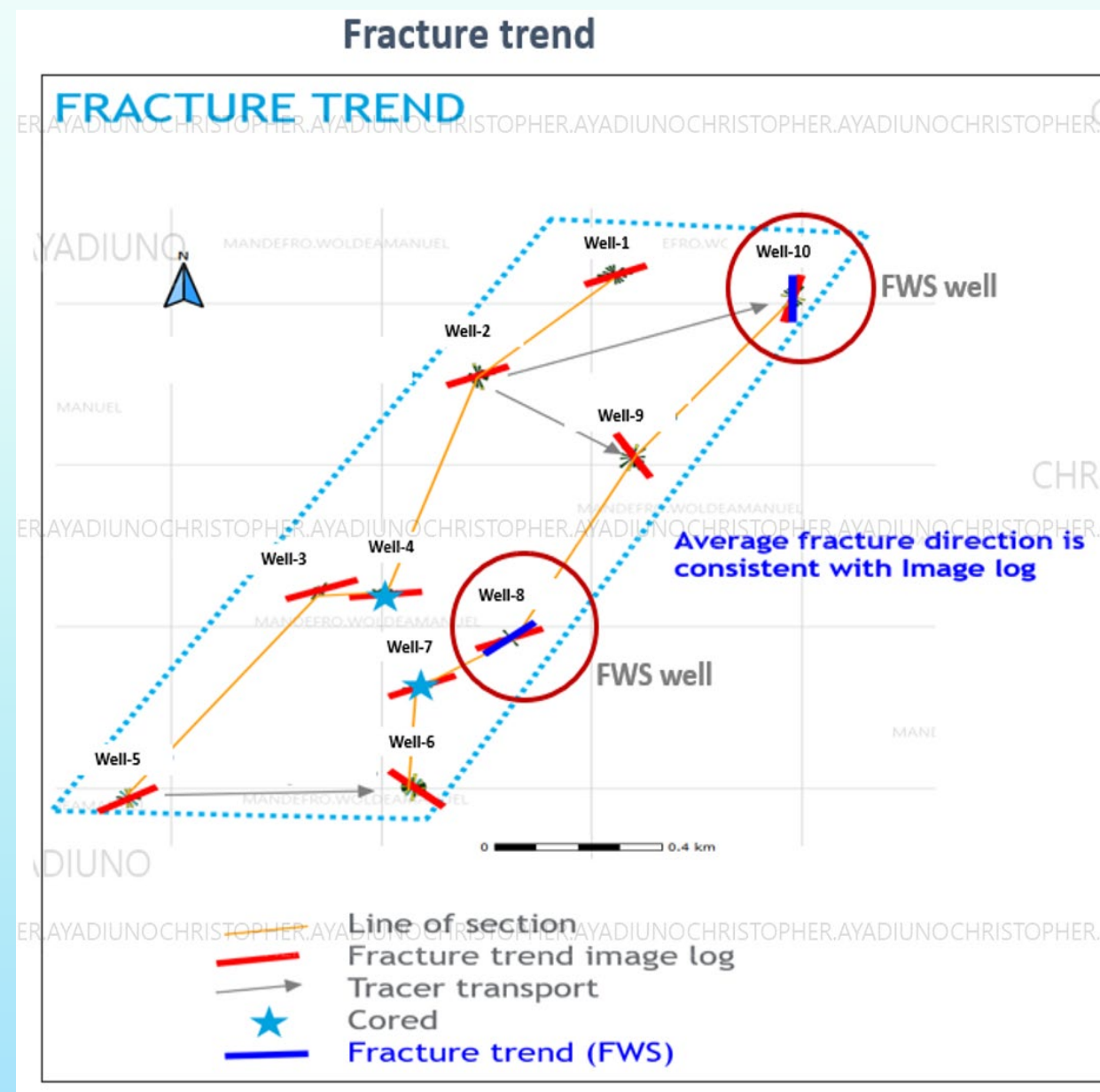
Fracture Characterization

Case History#3

Challenge: To characterize fractures and stress direction in two wells in support of a pilot study.

Result: WAVES identified fractures and its azimuth and estimated stress direction to be mostly East-West. Both fracture and stress results were in agreement with image log and VSP results.

Benefits: Cost-saving - (estimated vendor charge for 2 wells)



stress direction

