

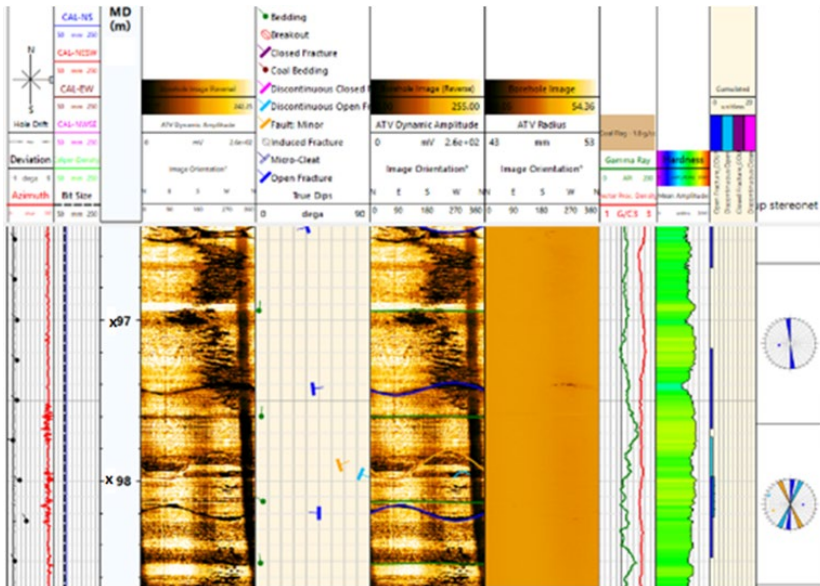
# Slimline Borehole Logging with Acoustic Image Aided Mine Development, Borehole Drilling Programs, Enabled Pro-Active Well Completion Decisions

LOCATION  
Australia

WELL TYPE  
Exploration

HOLE SIZE  
Open hole

PRODUCTS/SERVICES  
Slimline acoustic image tool



The high quality slim acoustic image log interpretation shows structural information of formation bedding and natural fractures (open fracture and fault minor). The minor fault shows displacement of the bedding at X98.2 m.

## Objectives

- Identify bedding in the coal seams and the clastic intervals to future coal mining production to determine the localization and orientation of all major structural features (faults and natural fractures).
- Distinguish borehole breakout and induced fractures to determine the principal horizontal stress directions and the natural fracture and coal fracture frequency for hole stability.

## Our Approach

- Weatherford field personnel deployed the slimline acoustic image tool to obtain the raw data.
- The high-quality raw data was processed and generated the image log. The interpretation was focused on identifying coal seams, structural analysis, fracture identification, and stress directions.
- The acoustic image log analysis obtained the structural information of the wellbore, defining two different behaviors in the sequence based on bedding dip and azimuth data. A fully calibrated and density-compensated process enabled Weatherford experts to confidently highlight the coal seams that were used for seams boundary identification management.



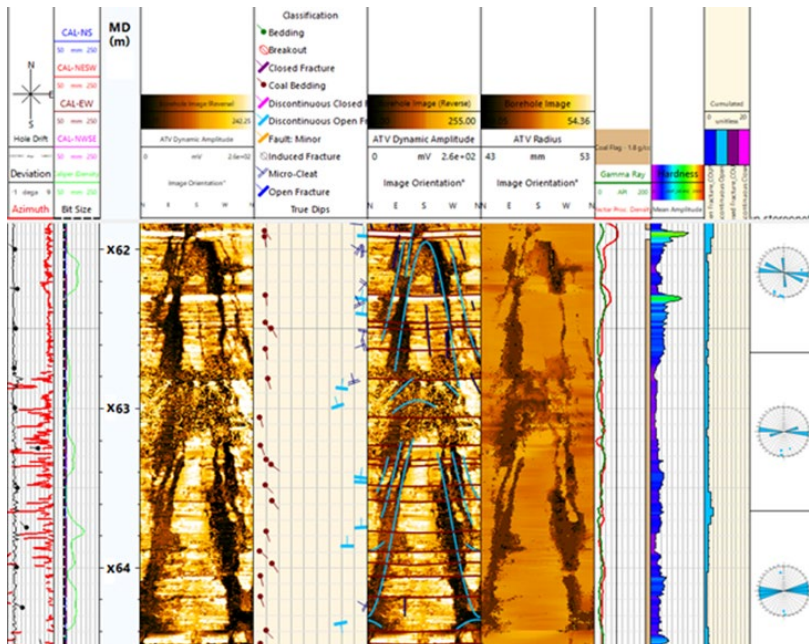
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## Our Approach (continued)

- The induced fractures and breakouts were interpreted to analyze the maximum/minimum stress direction of the well.
- Natural fracture types were defined as open or close based on the travel time image in the acoustic image log. The fractures were essential information for safe and successful mine evaluation and development planning.

## Value to Customer

- The geological features that were identified using Weatherford technology helped to adjust the accuracy of the well management and production planning.
- A final summary report provided a detailed structure and stress analysis that helped to ensure safe operations and enable detailed modeling in three dimensions.
- The flawless acquisition and high-end analysis of the data enabled the customer to have and rely on the critical information to make faster and more effective decisions in terms of production, stimulation, modelling, and fracturing.



The high-quality acoustic image log interpretation across the depth interval from X61.8 to X64.6 m shows the discontinuous open fractures in the coal seams and indicates a consistent orientation of natural fractures for a discontinuous open fracture, concentrated at 095° - 275° (east-west direction).

