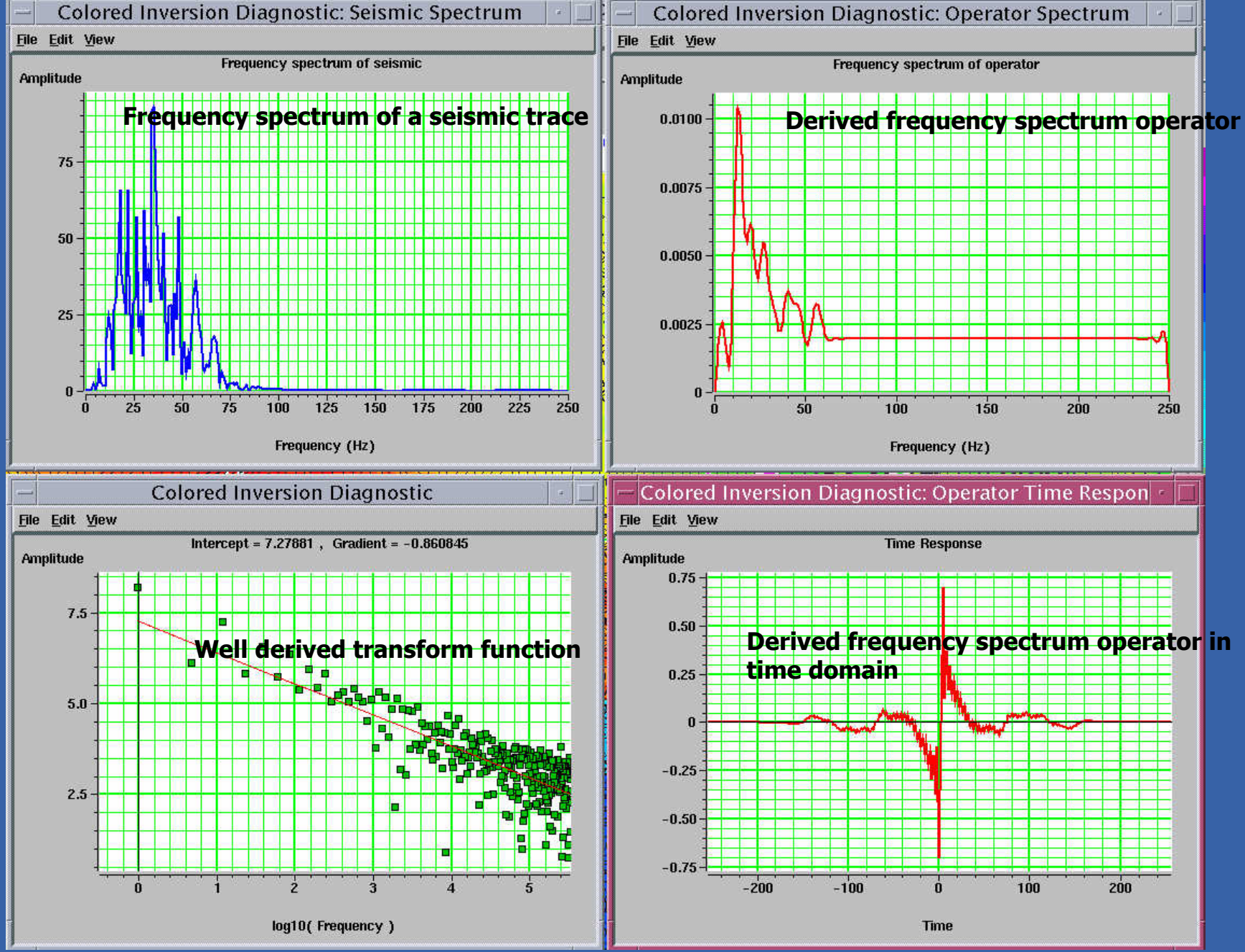


Figure 3.4.1-a Plots of the frequency spectrum of a seismic trace, the transform function and the derived band-limited coloured inversion impedance operator in frequency and time domains.

Santos

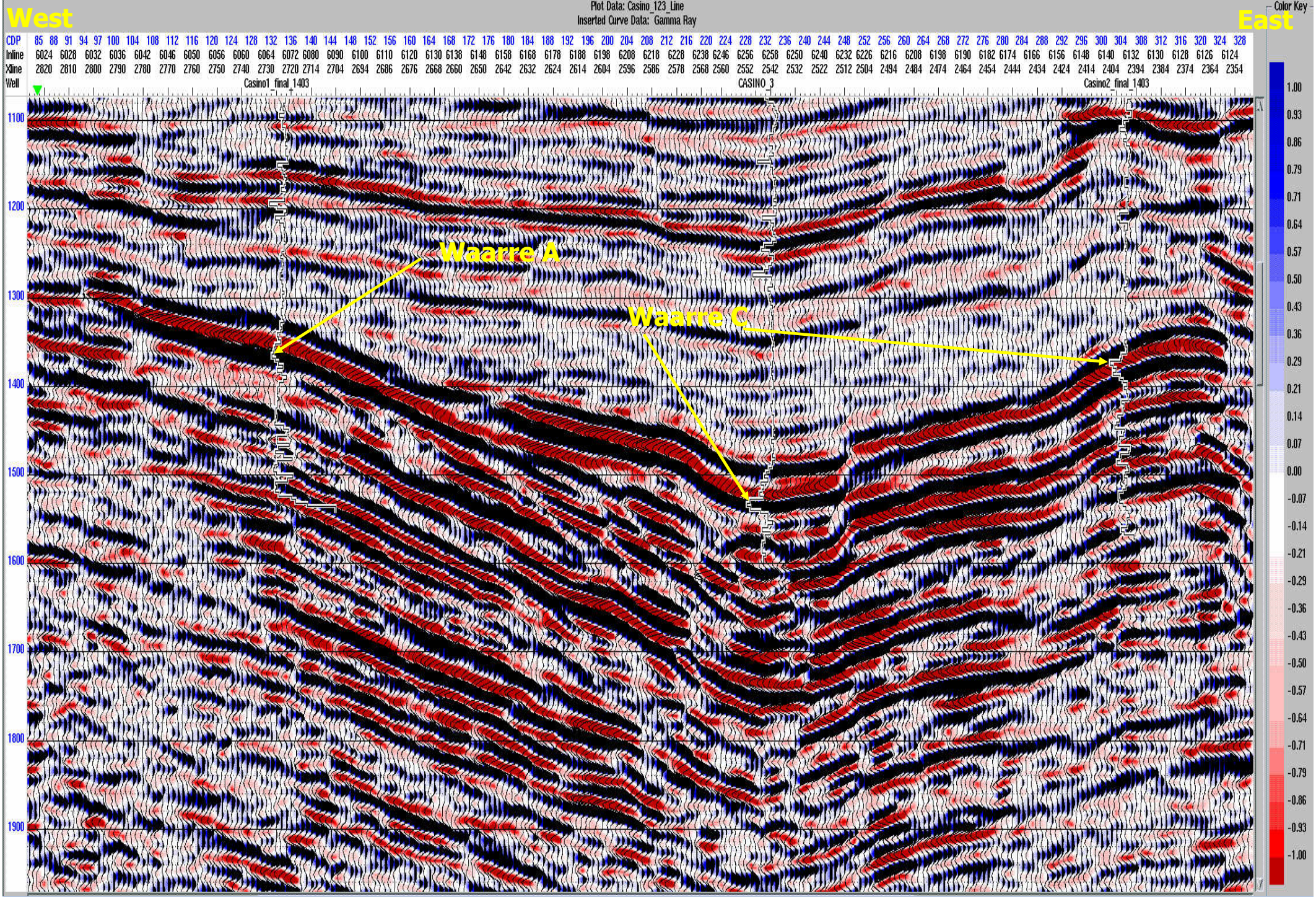


Figure 3.4.1-b Near stack PSTM seismic line through Casino-1, -3 and -2 wells. GR curves are inserted to show the Waarre A and Waarre C reservoir units.

Santos

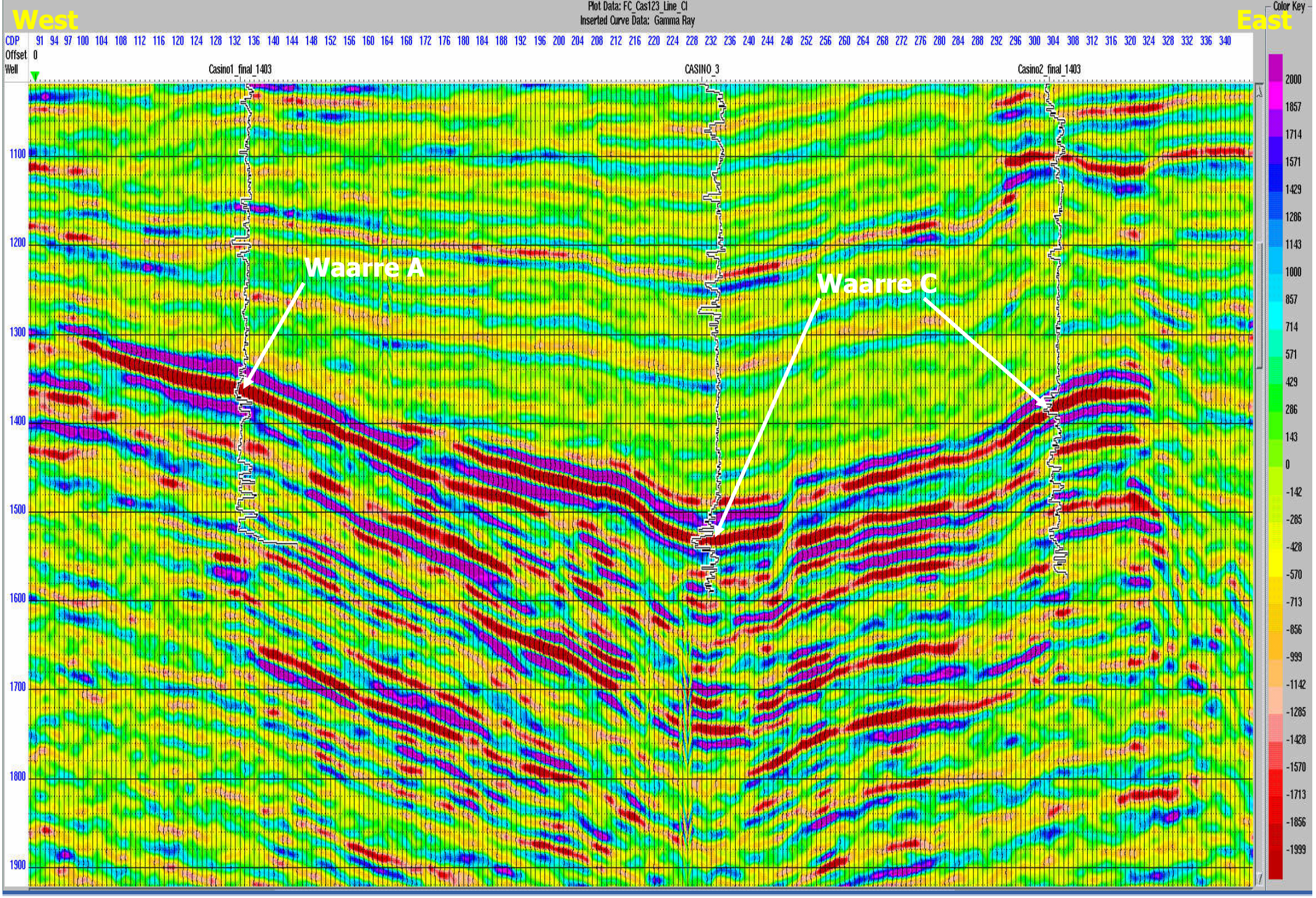


Figure 3.4.1-c: Coloured inversion impedance line through Casino-1, -3 and -2 wells. GR curves are inserted to show the Waarre A and Waarre C reservoir units. Note the good well tie of the main reservoir units.

Santos

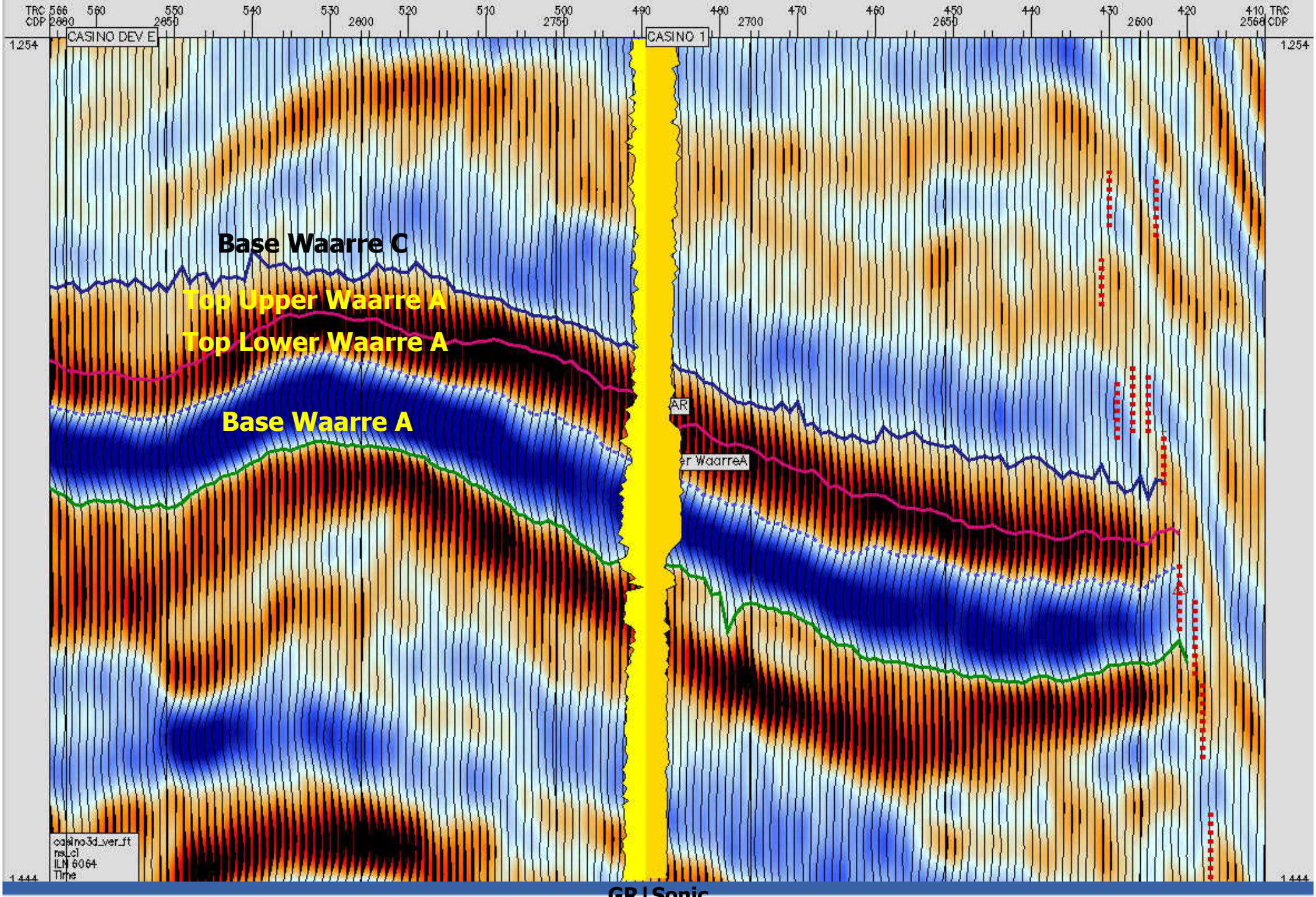


Fig. 3.4.1-d Casino-1 well to band limited impedance tie. Negative impedance is displayed in blue and positive impedance in red.

Santos

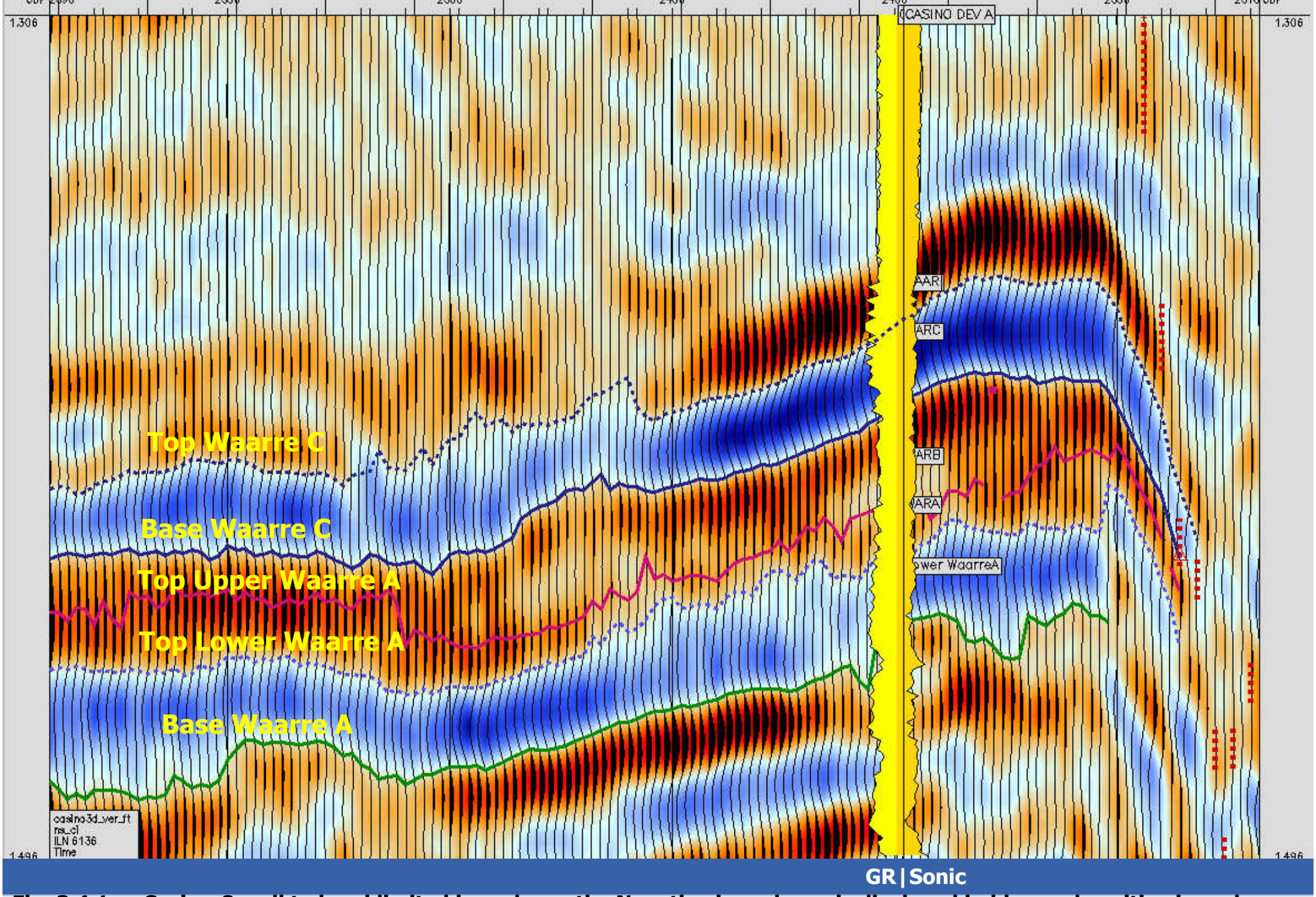


Fig. 3.4.1-e Casino-2 well to band limited impedance tie. Negative impedance is displayed in blue and positive impedance in red.

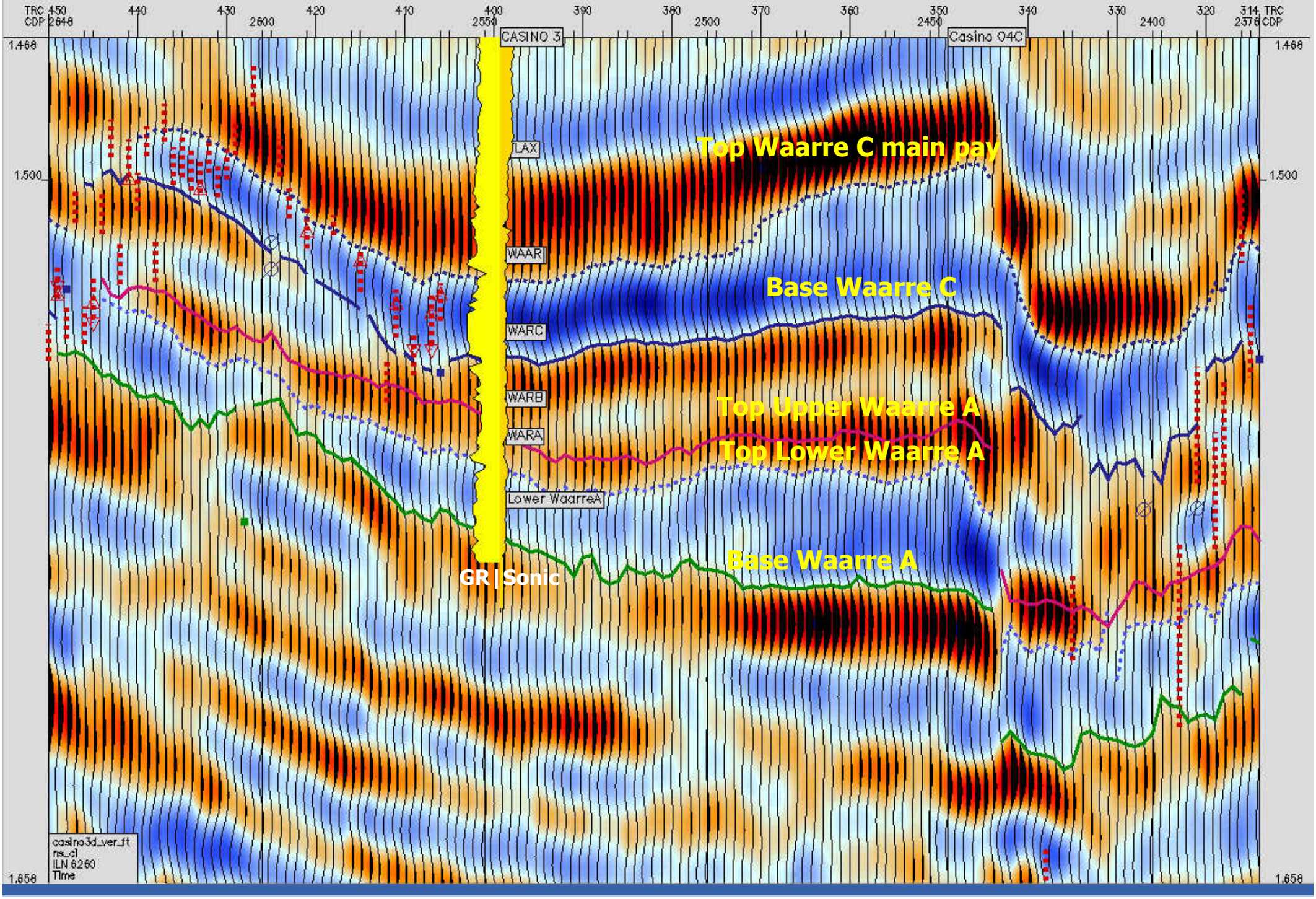


Fig. 3.4.1-f Casino-3 well to band limited impedance tie. Negative impedance is displayed in blue and positive impedance in red.

Santos

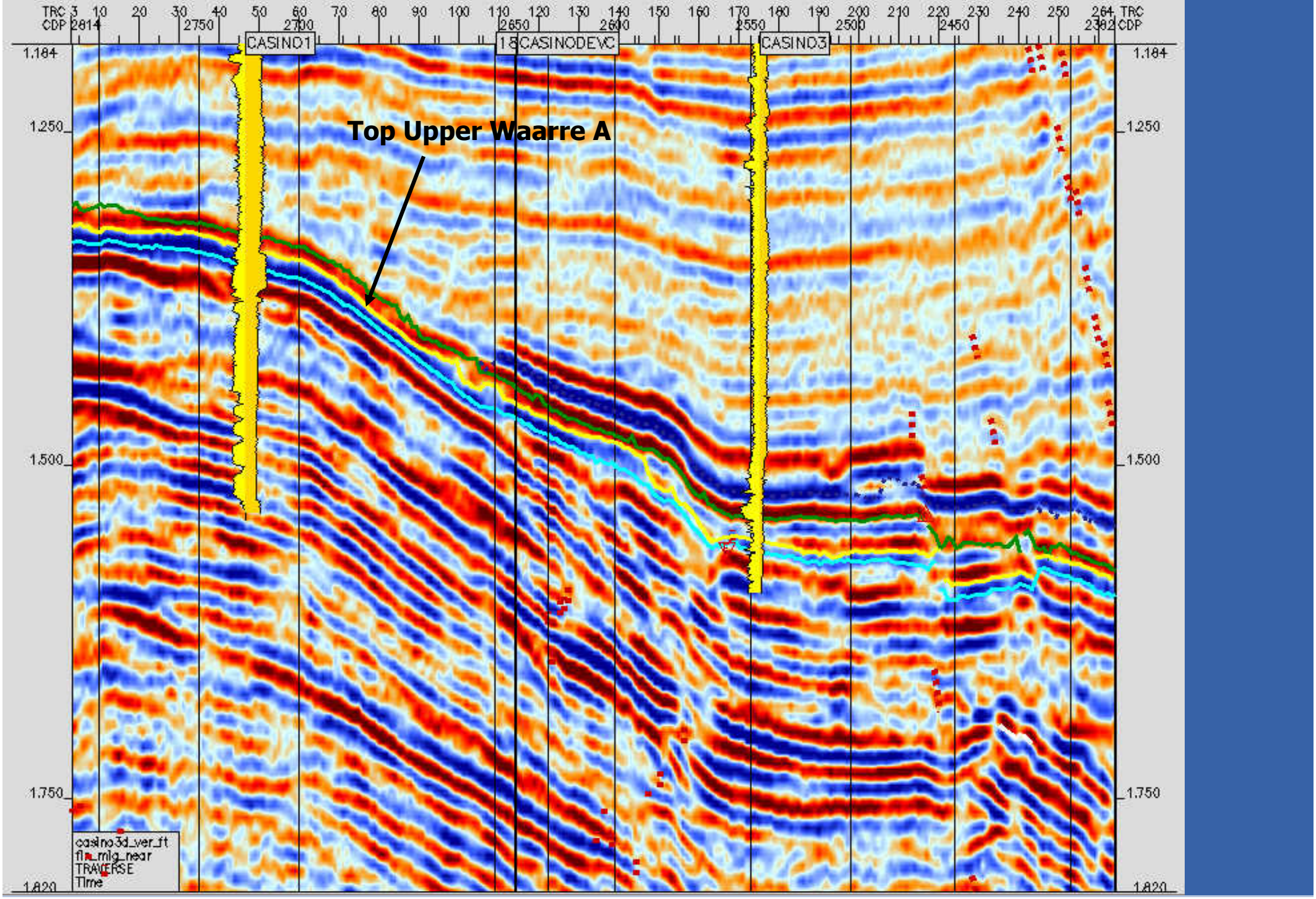


Fig. 3.4.1-g PSTM section through Casino-1 and -3 wells with GR and Sonic curves inserted. Top Upper Waare A is picked at +/- crossing (Yellow horizon). Negative reflectivity is displayed in blue and positive reflectivity in red.

Santos

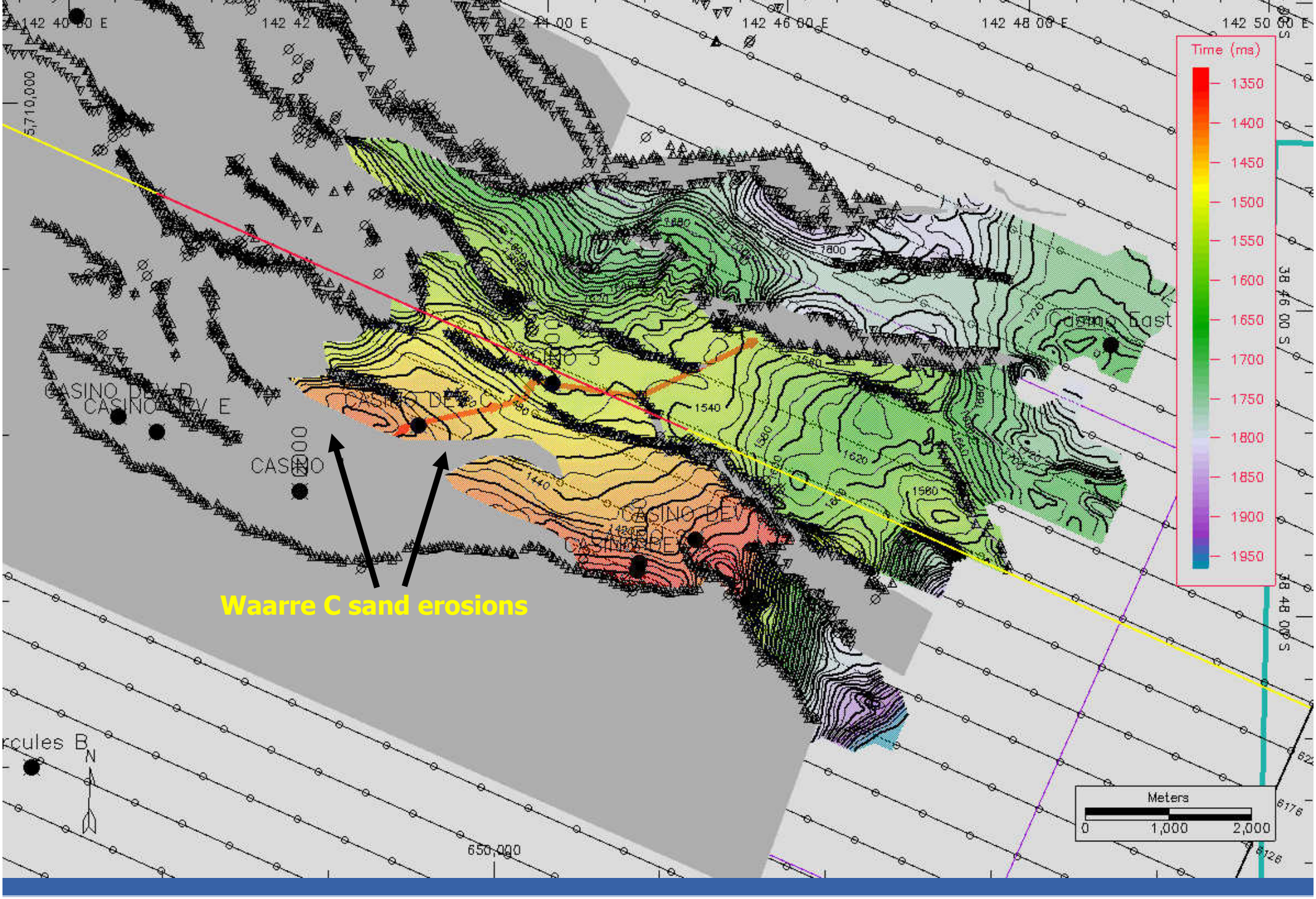


Fig. 3.4.1-h Top Waarre-C main pay TWT contour map (dotted dark blue horizon).

Santos

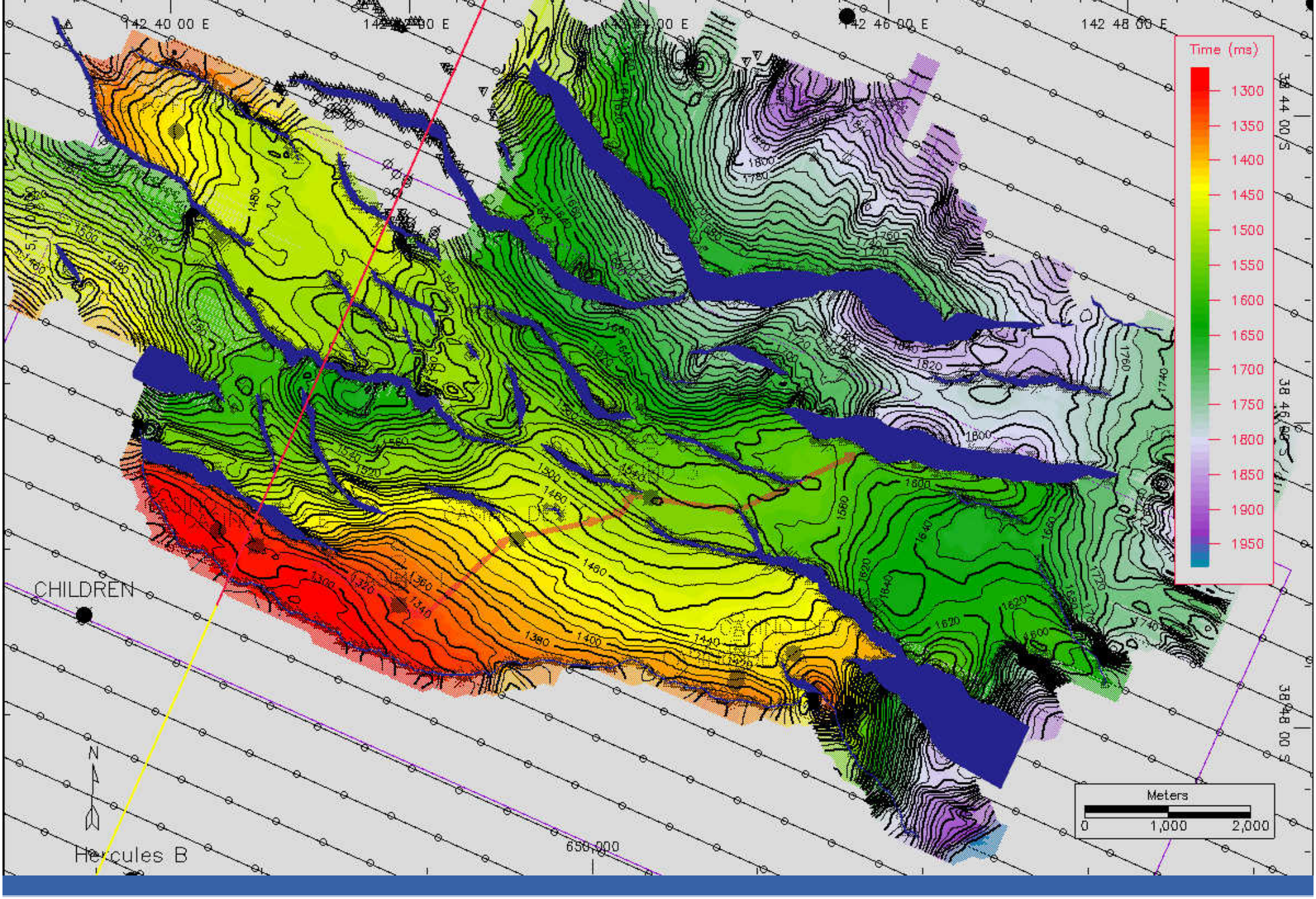


Fig. 3.4.1-i Base Waarre-C TWT contour map (black horizon).

Santos

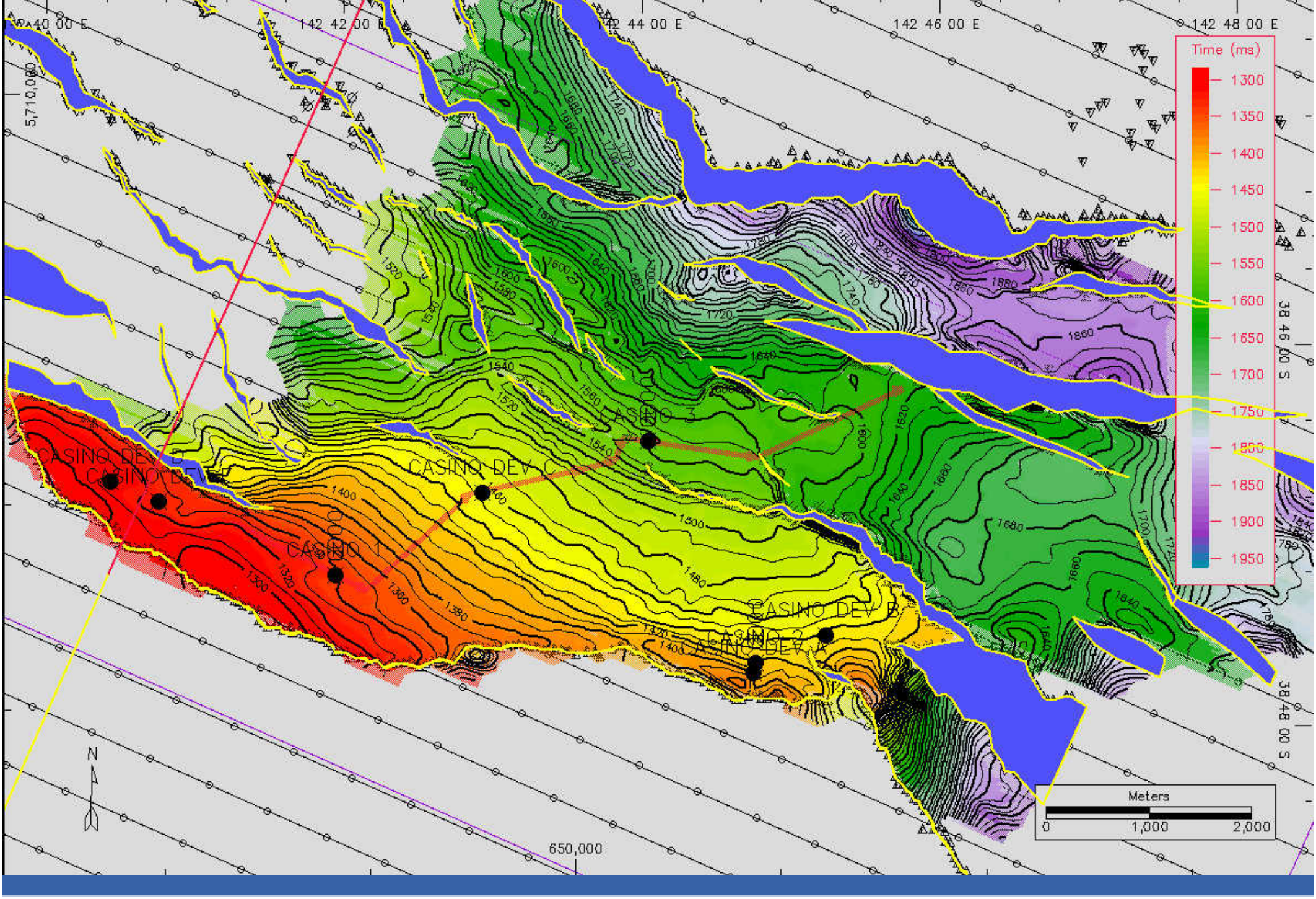


Fig. 3.4.1-j Top Upper Waarre A TWT contour map (purple horizon)

Santos

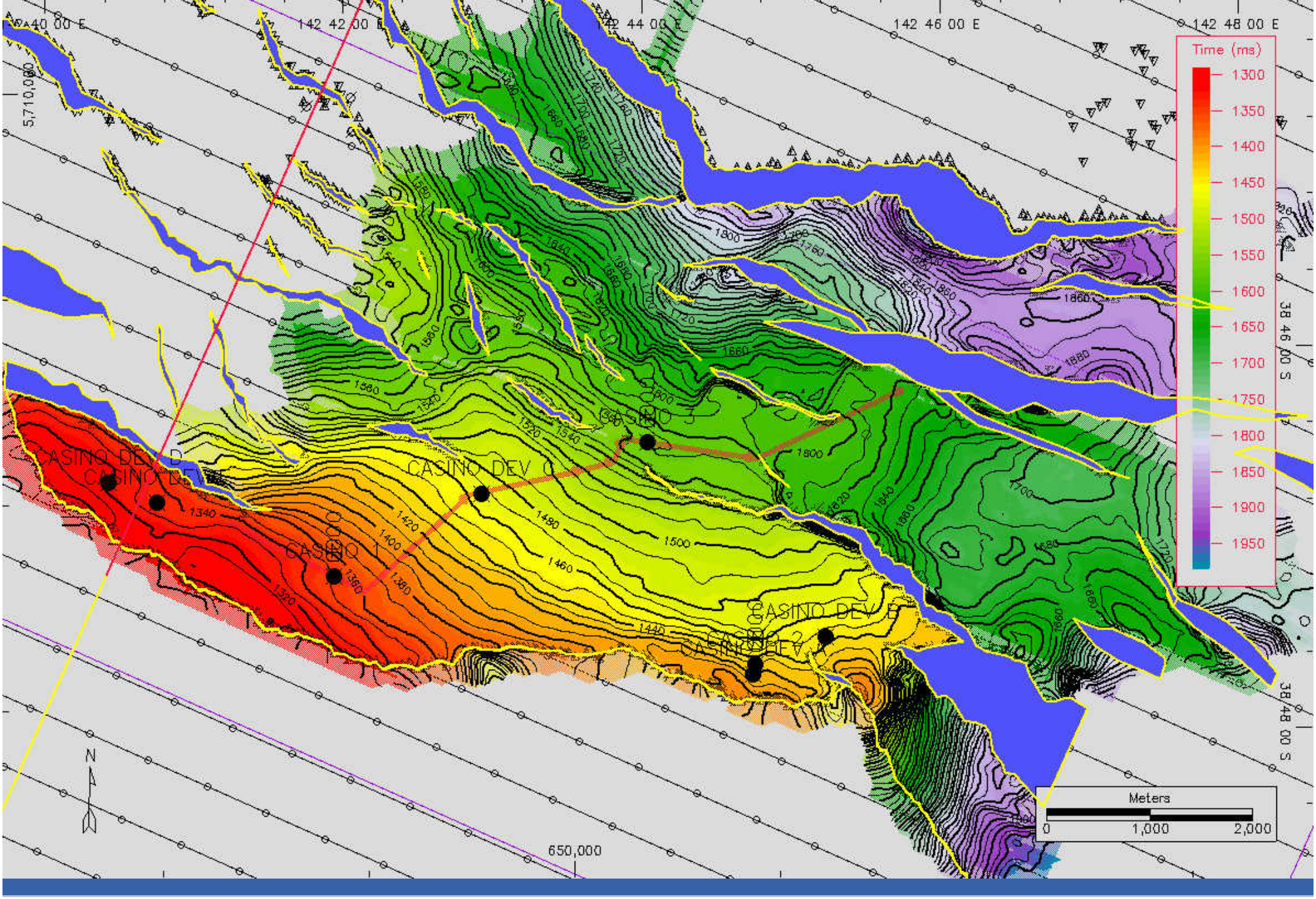


Fig. 3.4.1-k Top Lower Waarre A TWT contour map (dotted light blue horizon)

Santos

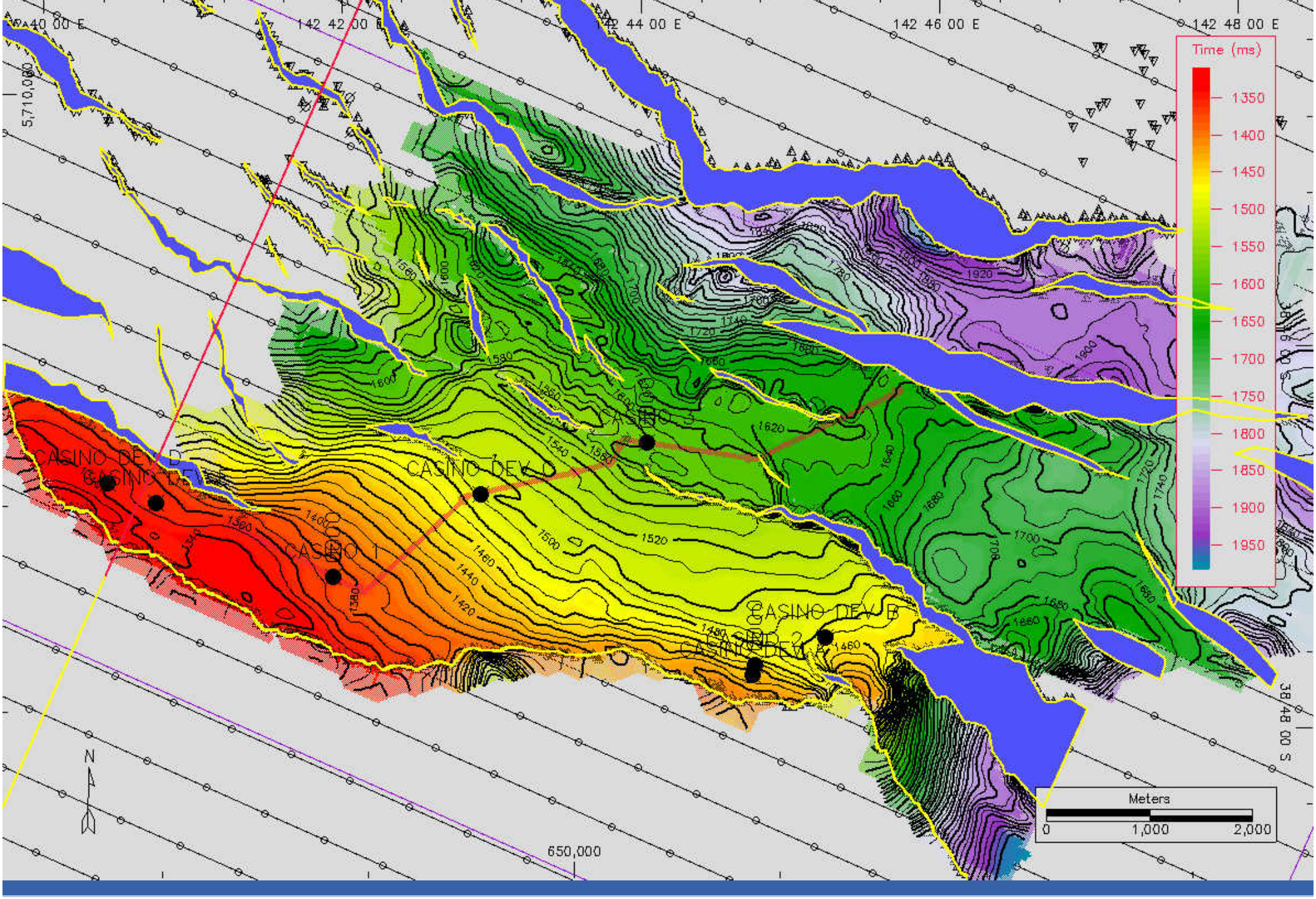


Fig. 3.4.1-l Base Waarre A TWT contour Map (dark green horizon)

Santos

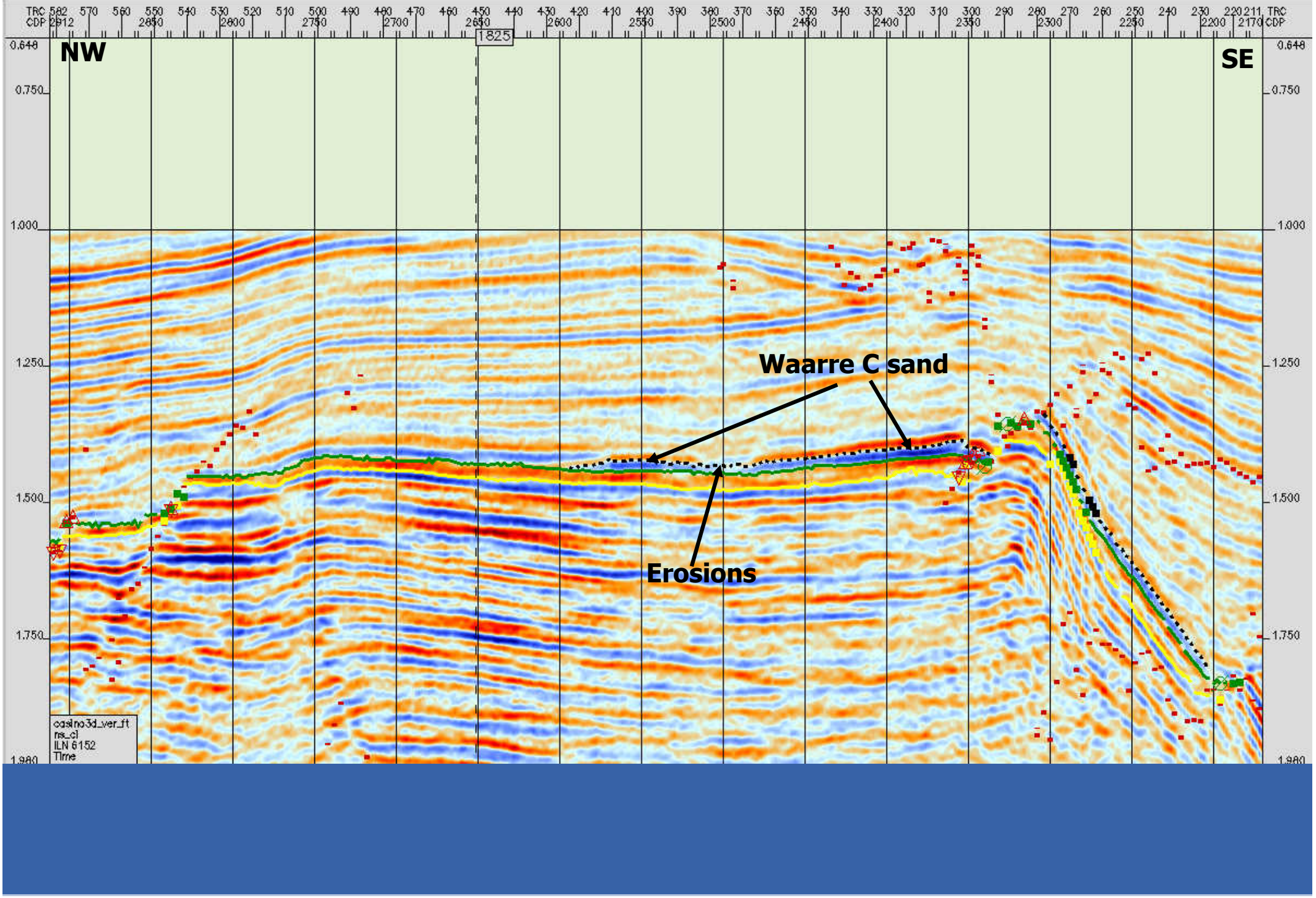


Fig. 3.4.1-m In-line 6152 showing extent of younger sand. Negative impedance is displayed in blue and positive impedance in red.

Santos

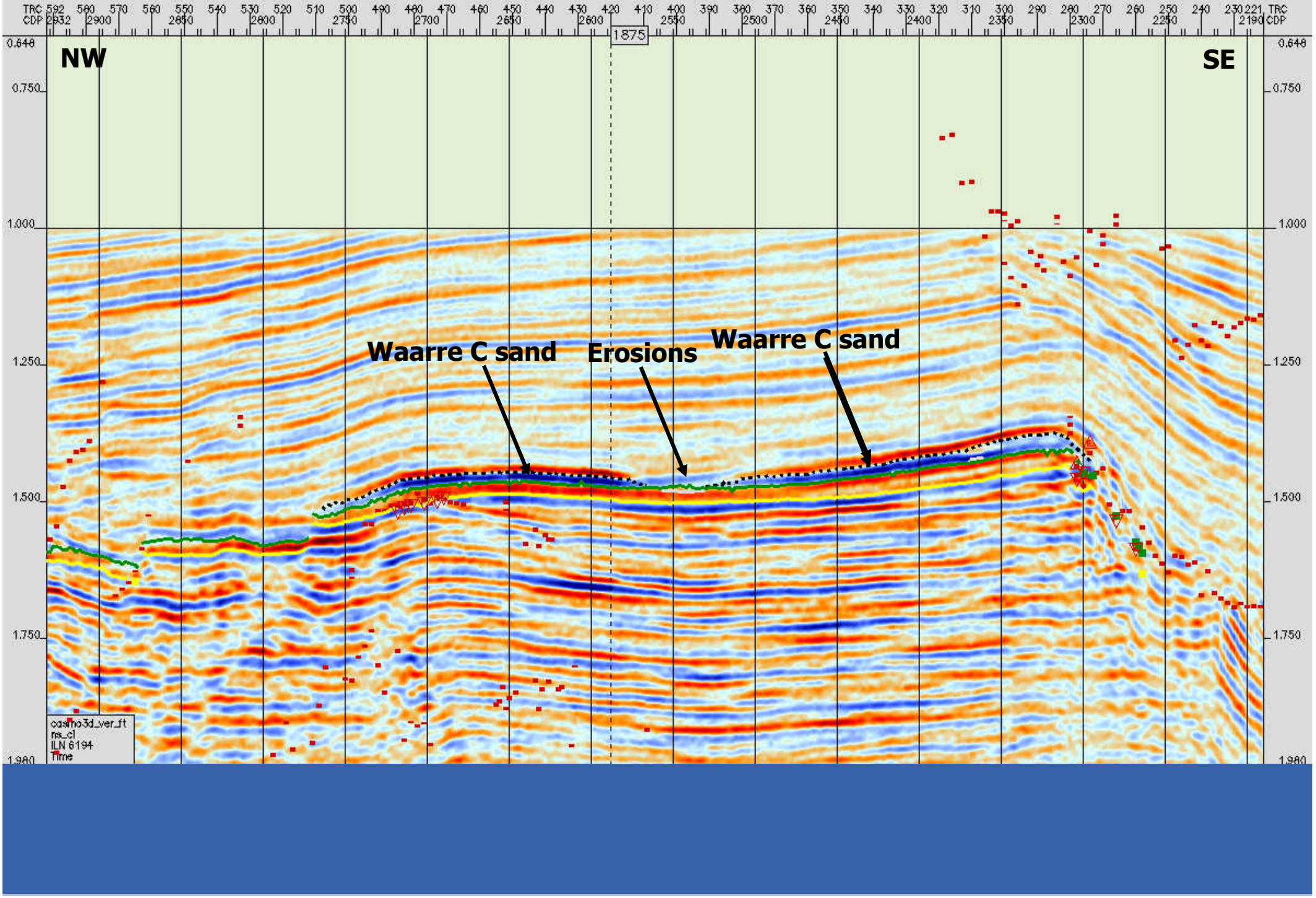


Fig. 3.4.1-n In-line 6194 showing extent of younger sand. Negative impedance is displayed in blue and positive impedance in red.

Santos

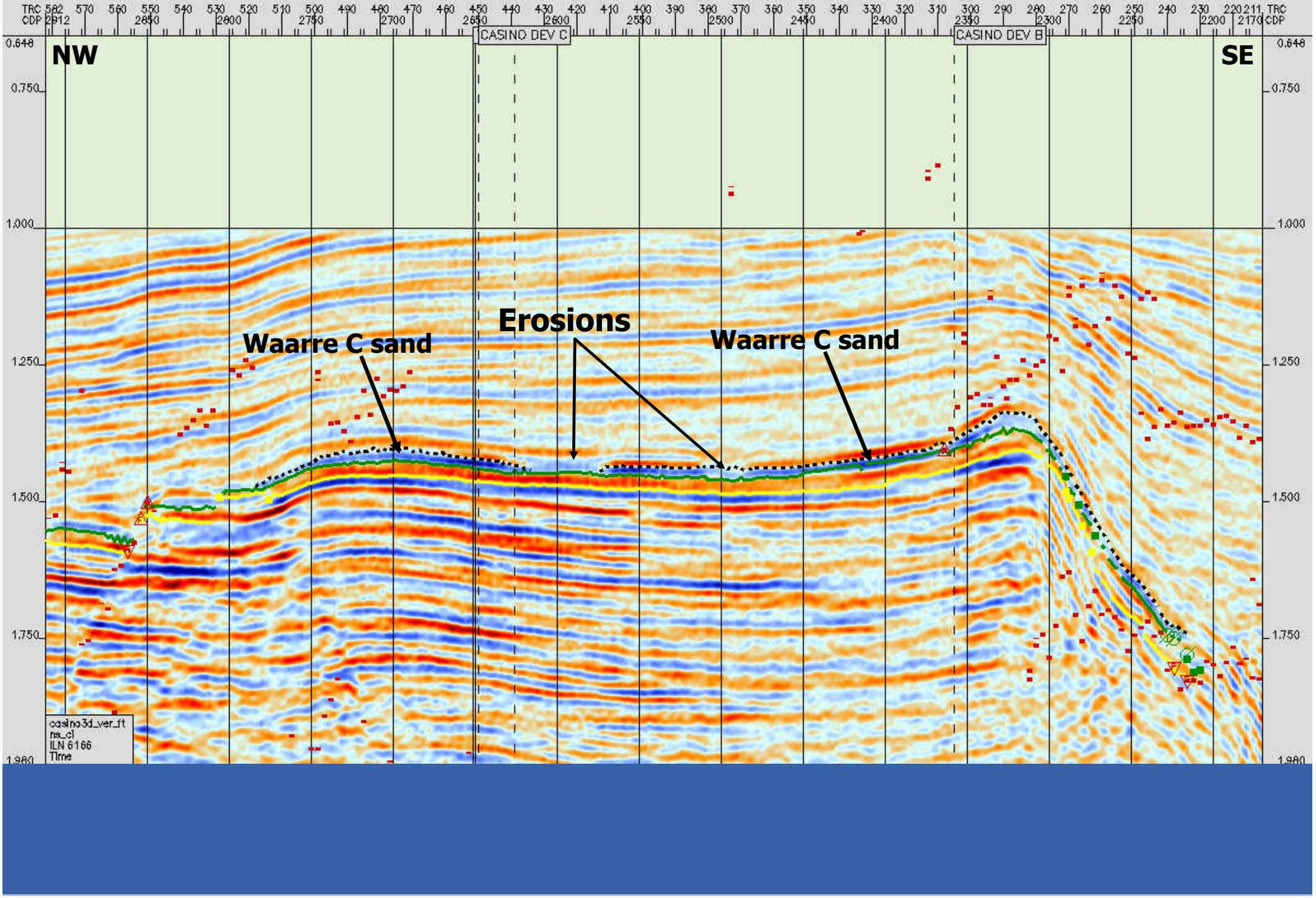


Fig 3.4.1-o In-line 6166 showing extent of younger sand. Negative impedance is displayed in blue and positive impedance in red.

Santos

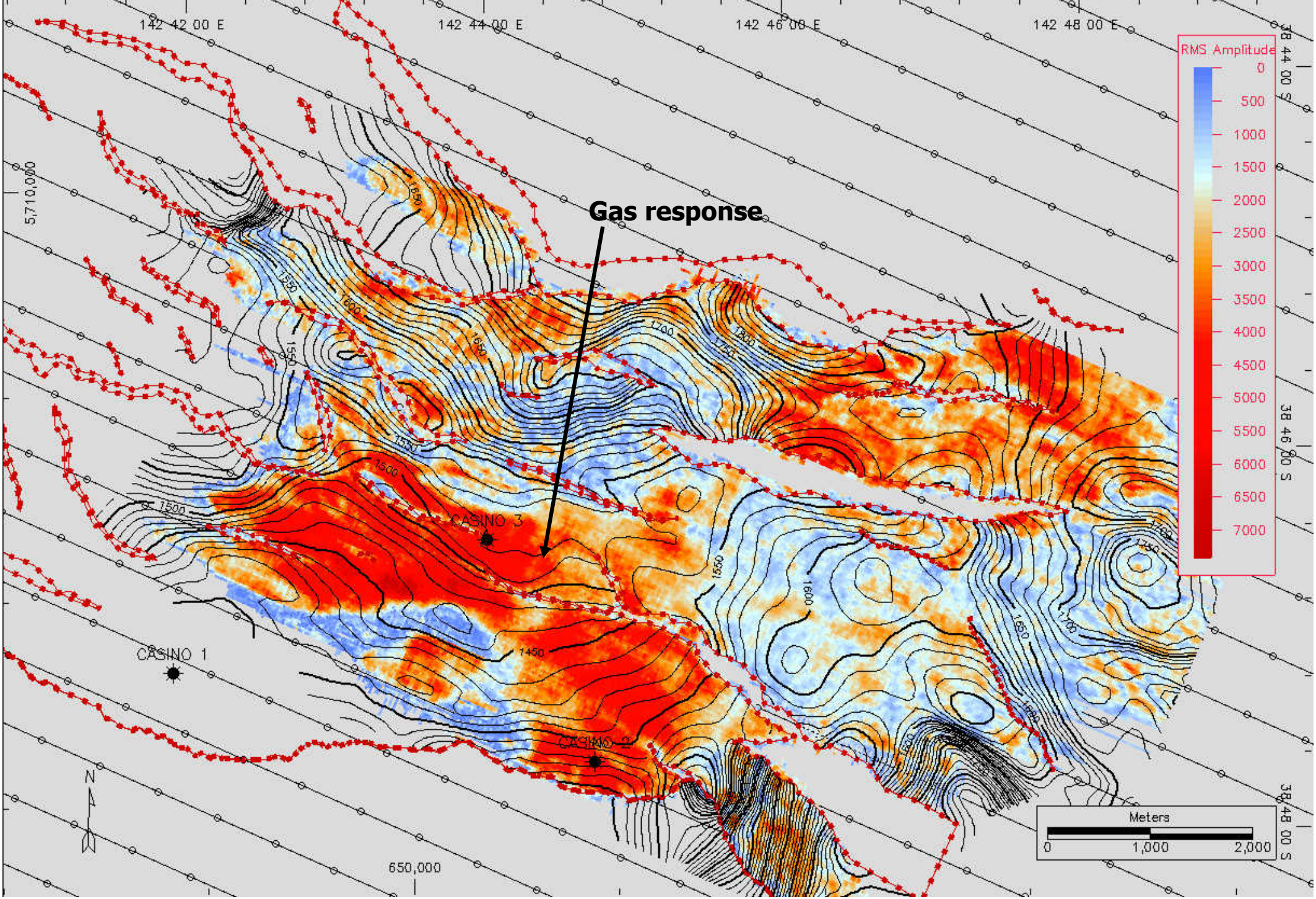


Fig. 3.4.1-p Average RMS CI impedance between Top Waarre C and Base Waarre C interval.

Santos

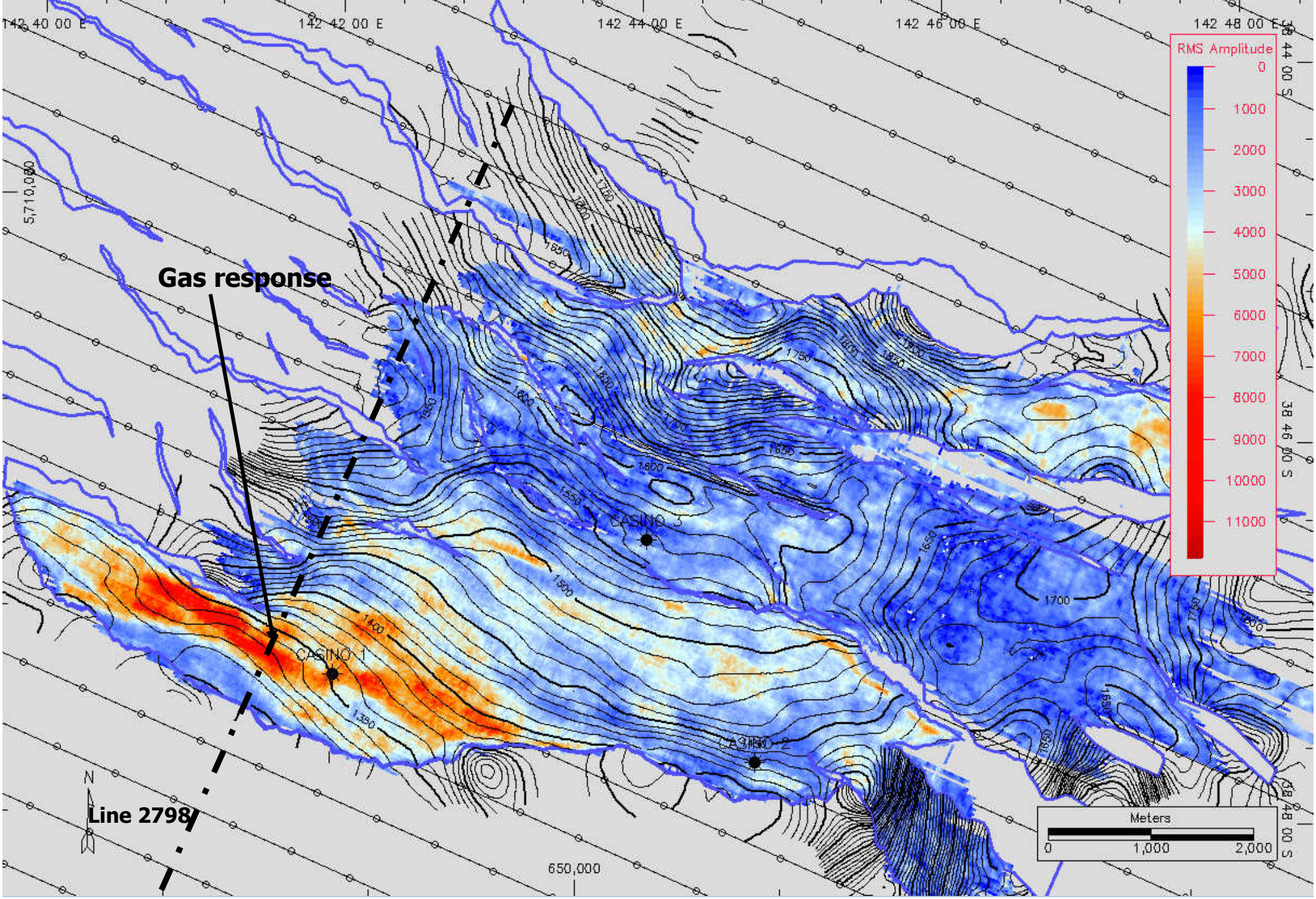


Fig. 3.4.1-q Average RMS CI impedance between Top Lower Waarre A and Base Waarre A interval.

Santos

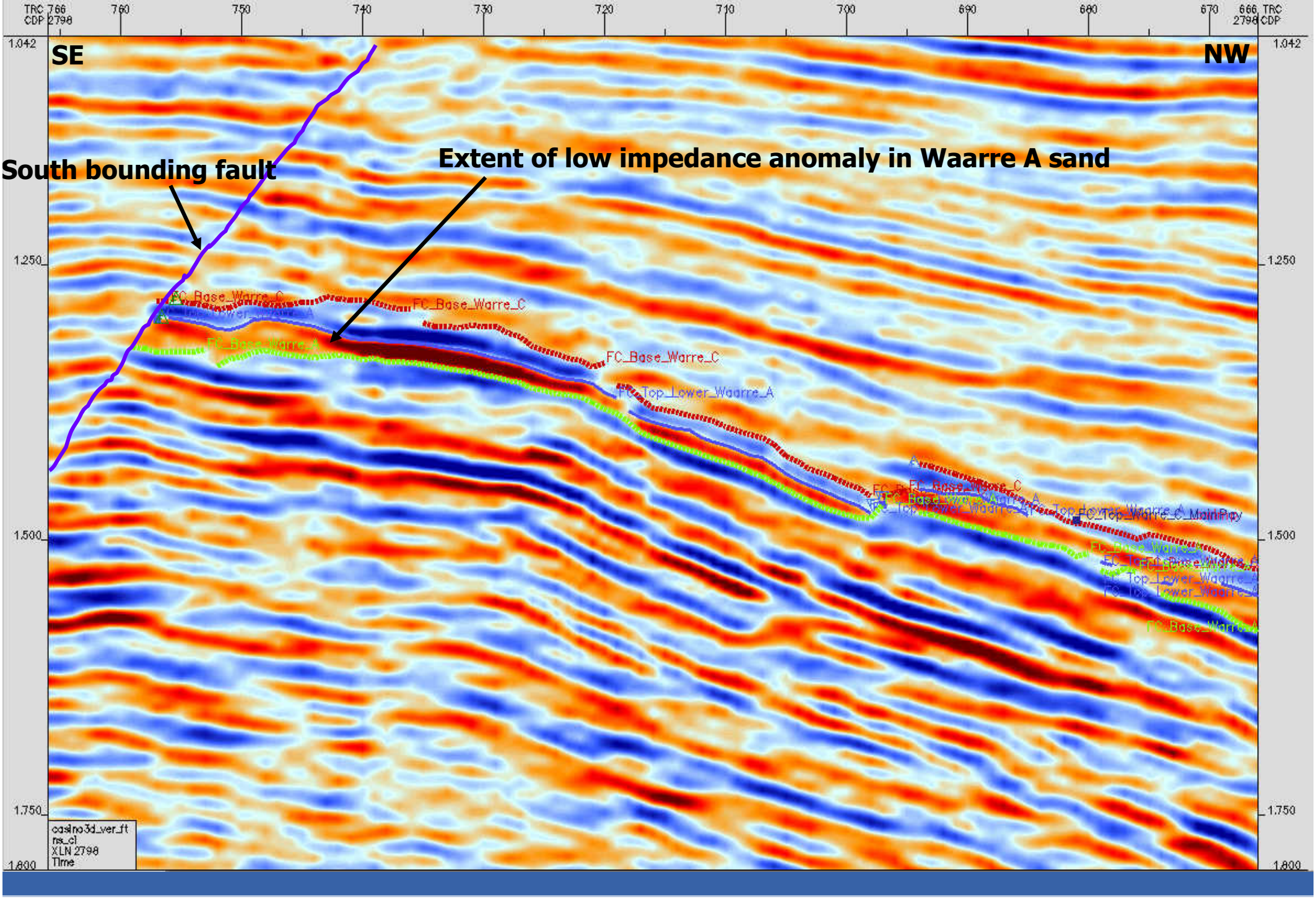


Fig. 3.4.1-r Cross-line 2798 showing extent of low impedance anomaly in Waarre A sand.

Santos

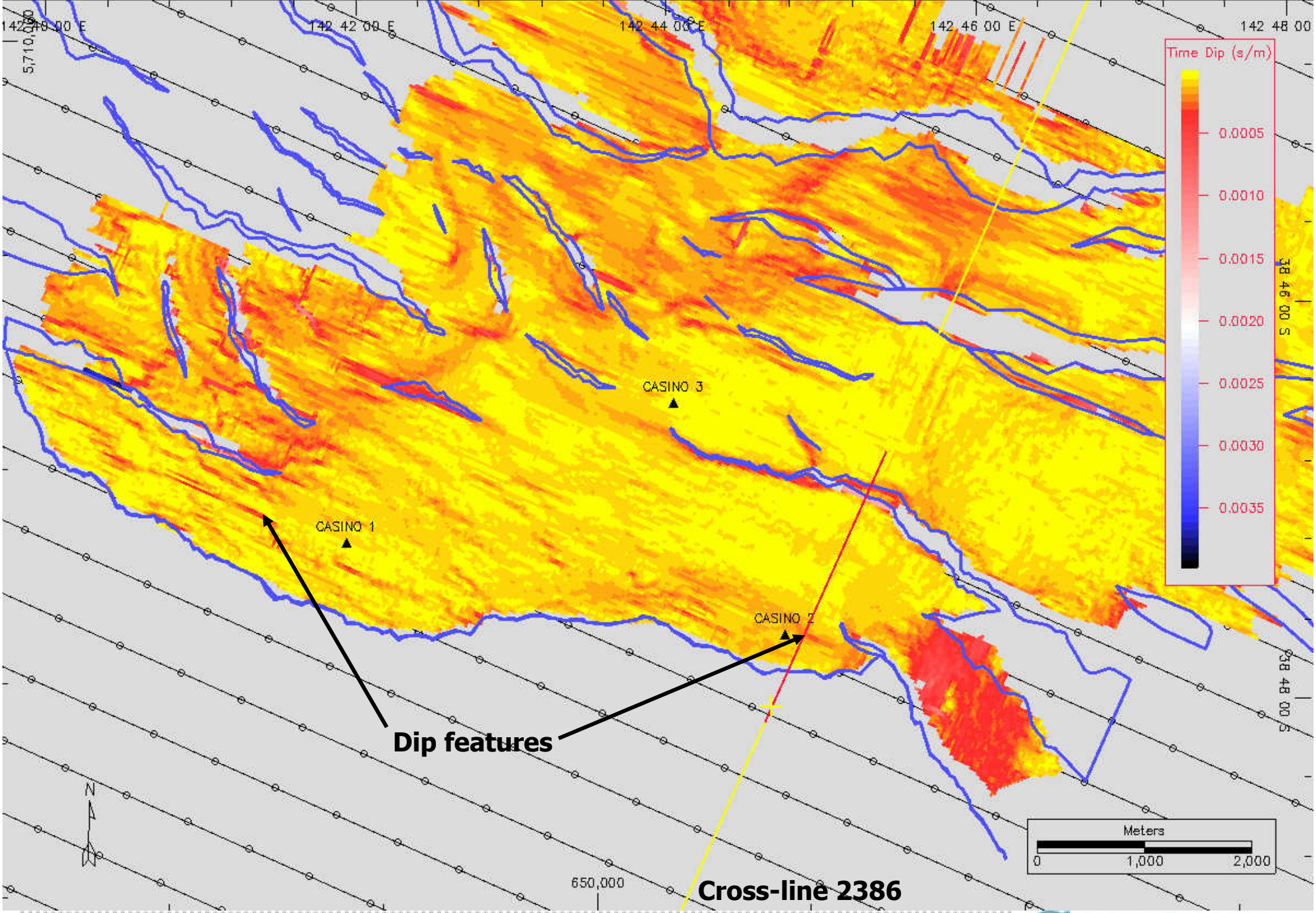


Fig. 3.4.2-a Base Waarre C Dip Map showing minor dip features.

Santos

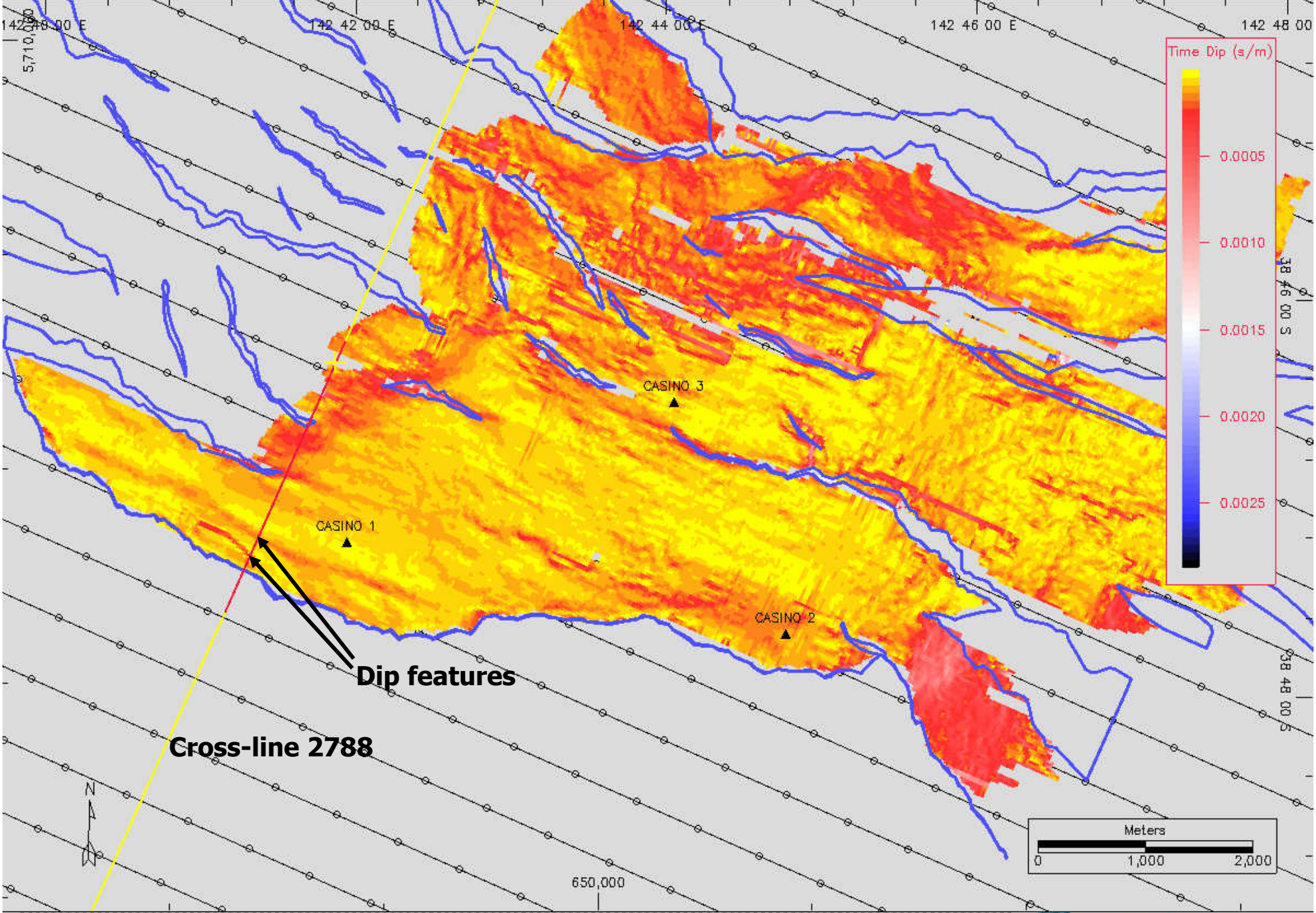


Fig. 3.4.2-b Top Lower Waarre A Dip Map showing minor dip features.

Santos

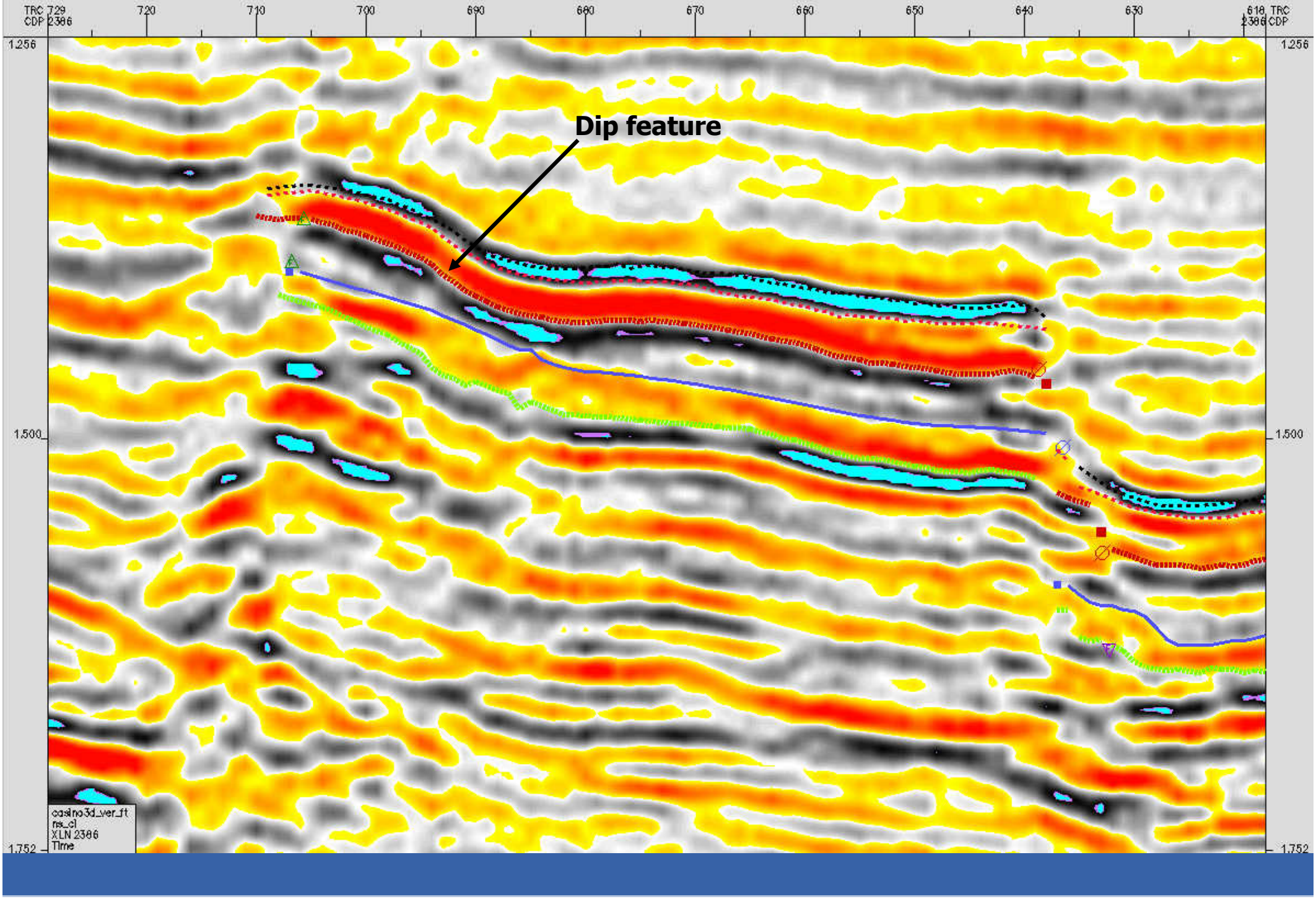


Fig. 3.4.2-c Cross line 2386 through dip feature at Base Waarre C northeast of Casino-2 well.

Santos

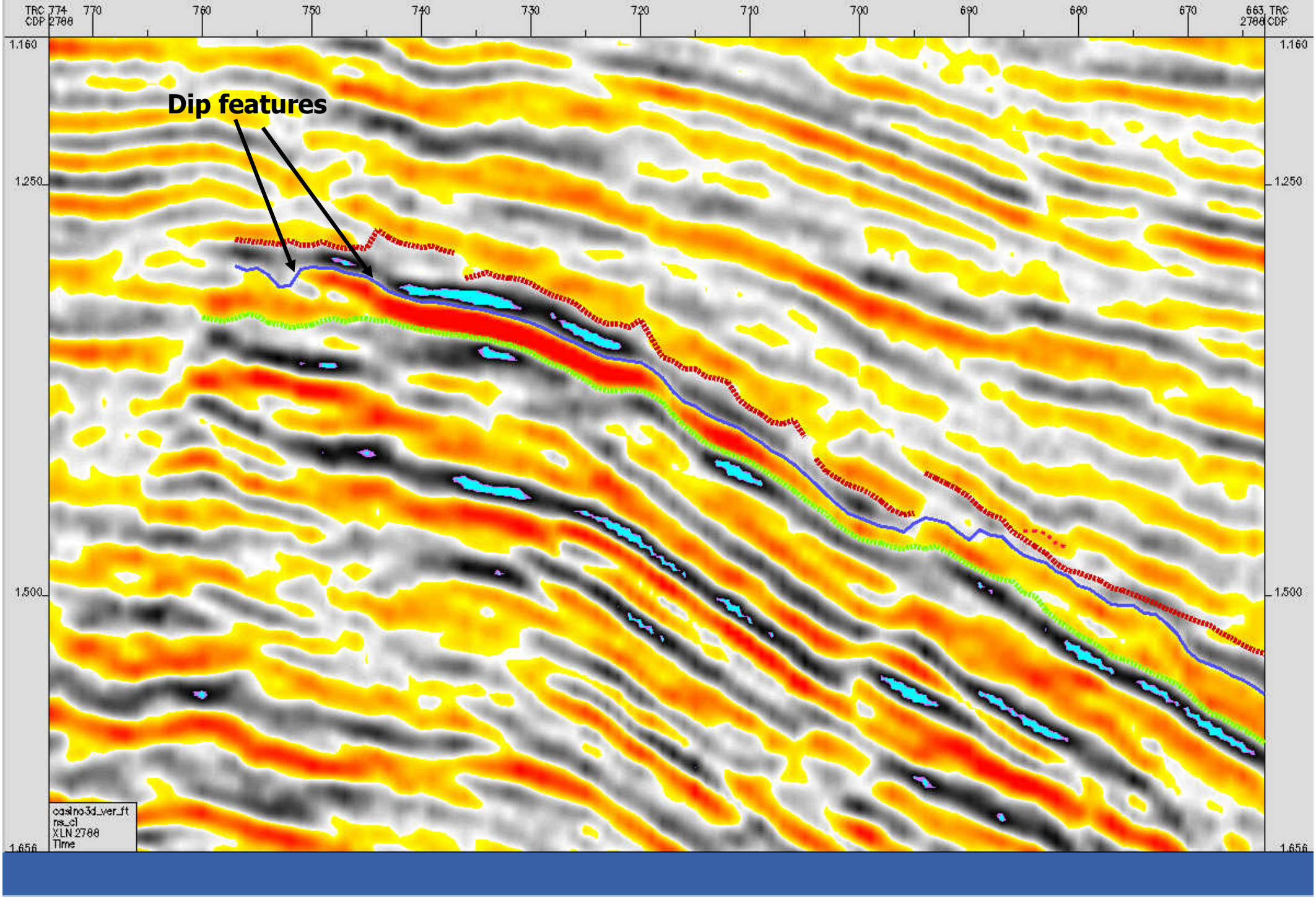


Fig. 3.4.2-d Cross line 2788 through dip features at Top Lower Waarre A west northeast of Casino-1 well.

Santos

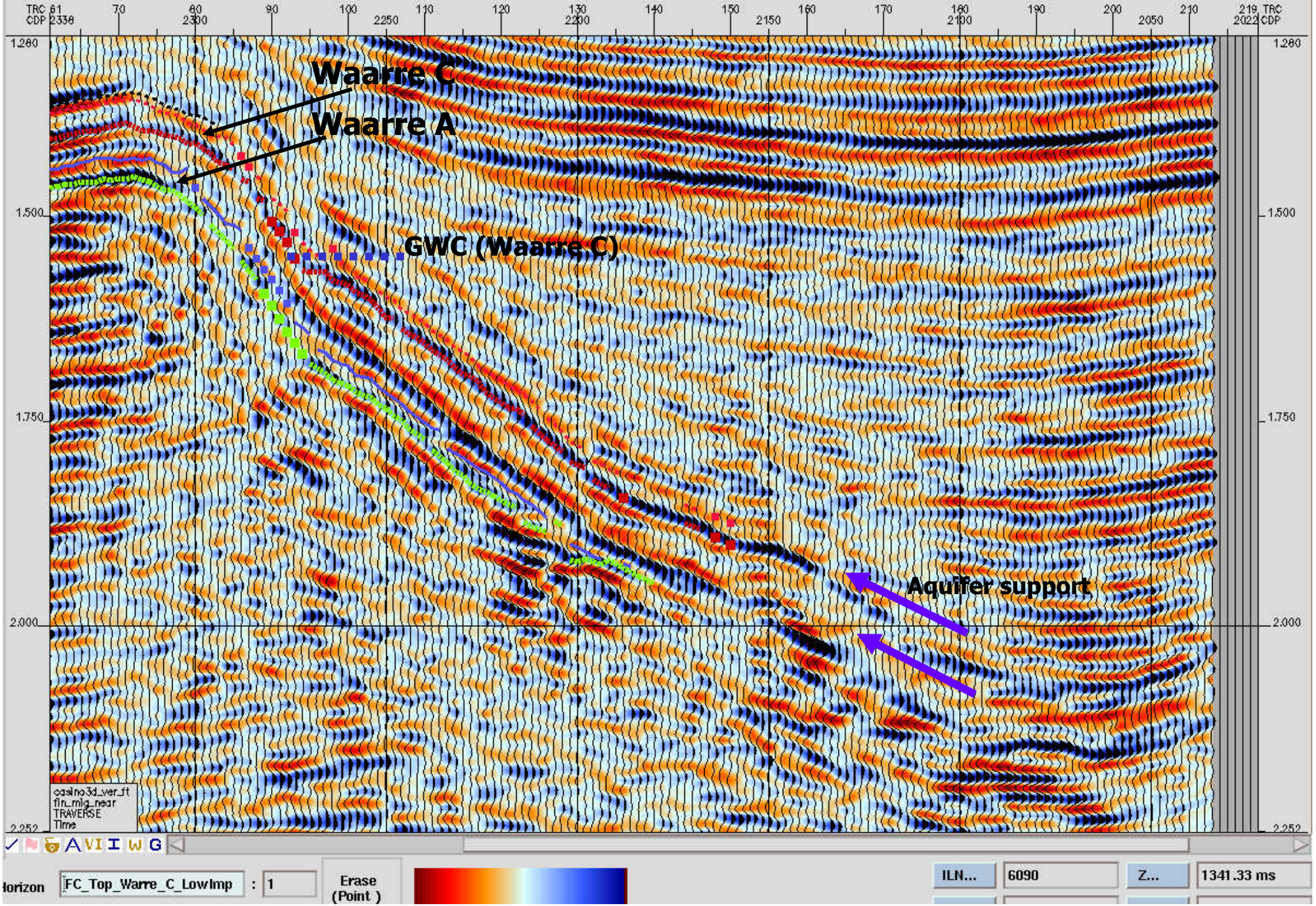
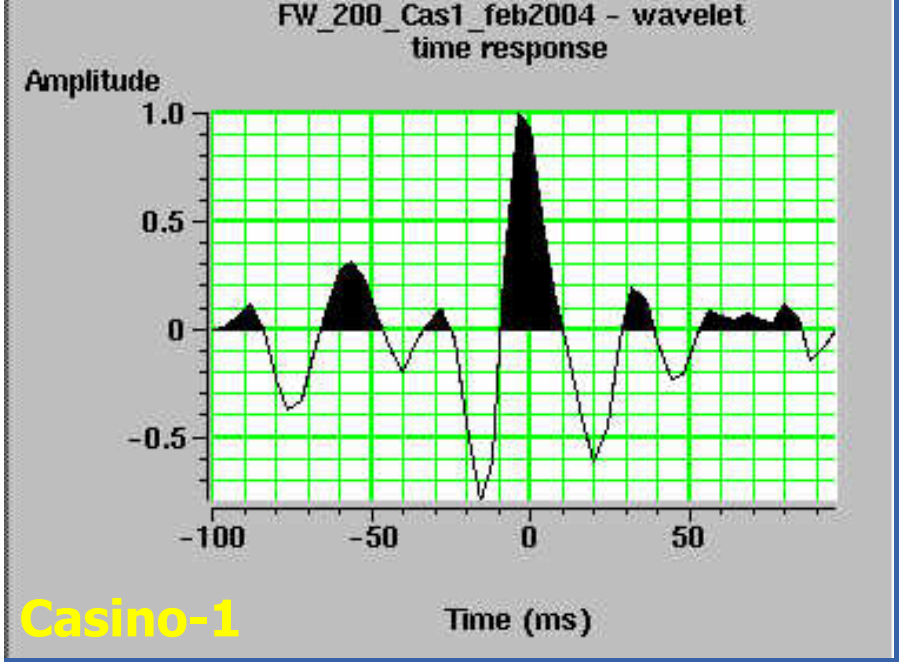
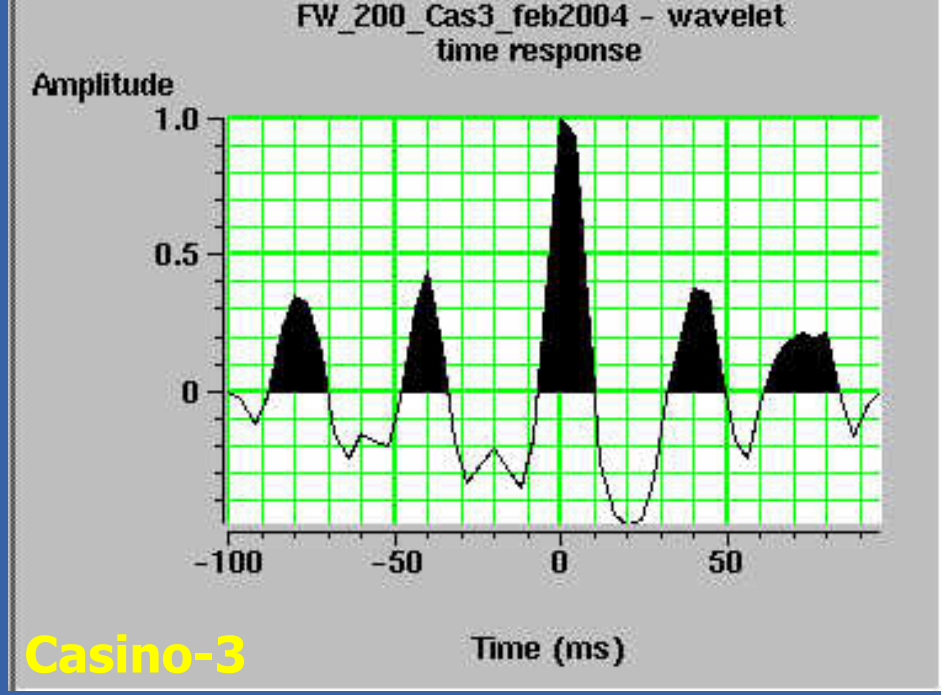
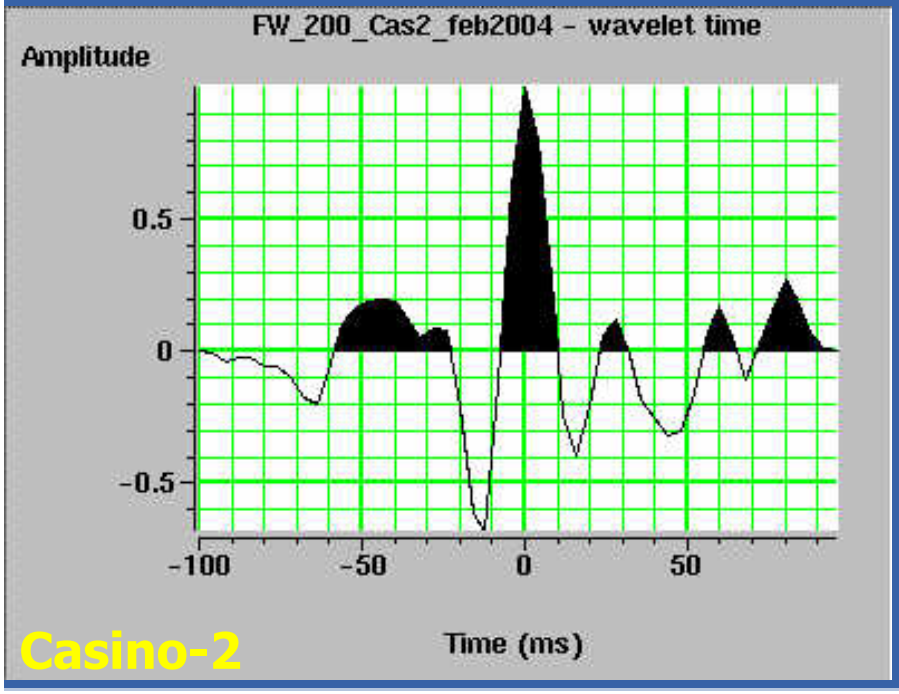


Fig. 3.4.2-e Traverse line of near stack PSTM seismic data through the SE ramp indicating possible aquifer support up the ramp for Waarre C and Waarre A Sands.

Santos







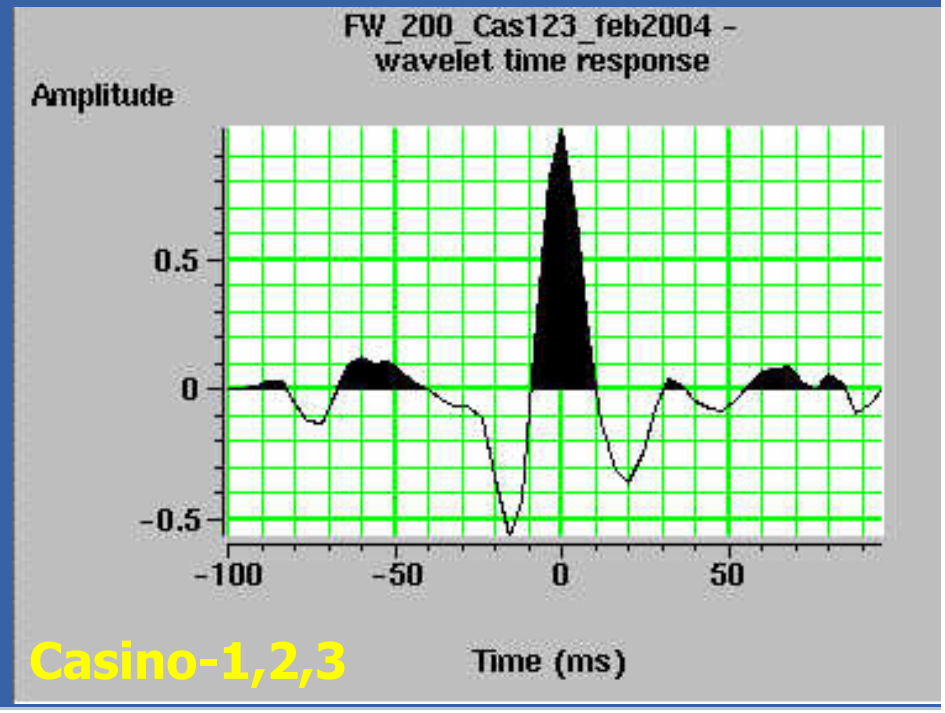
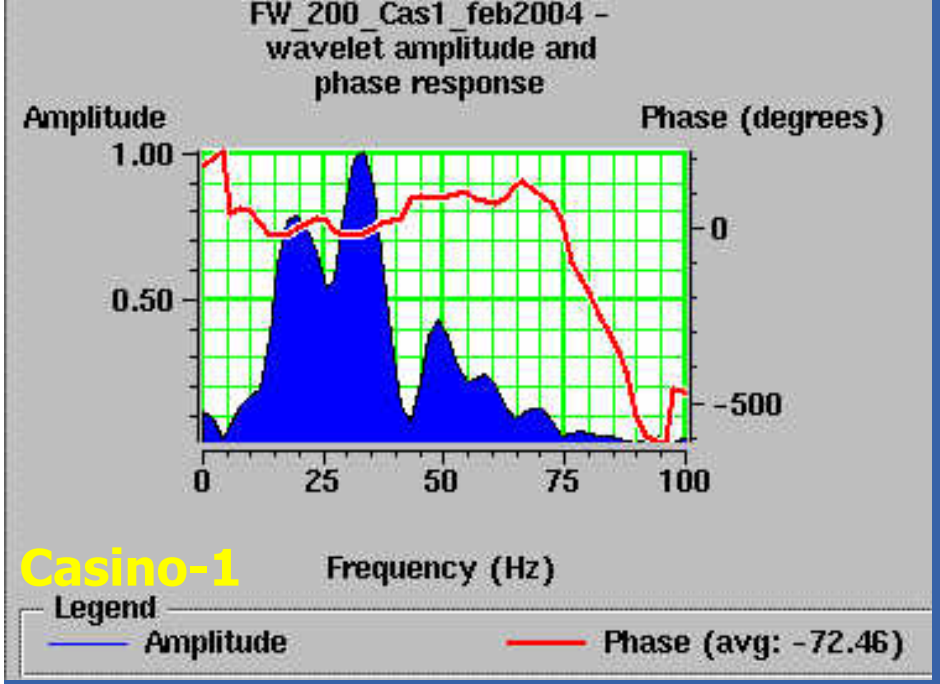
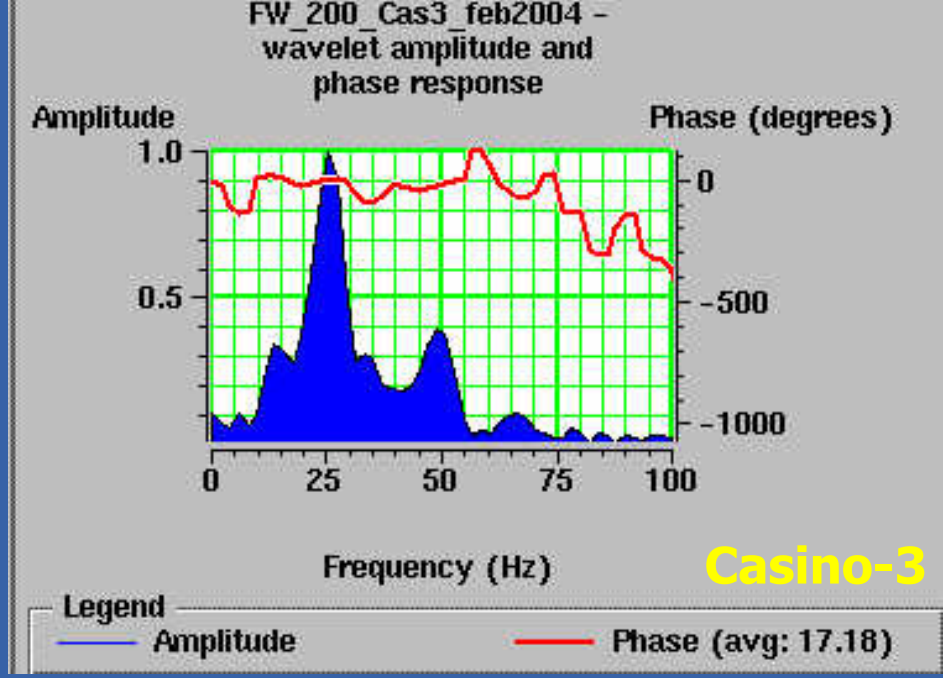
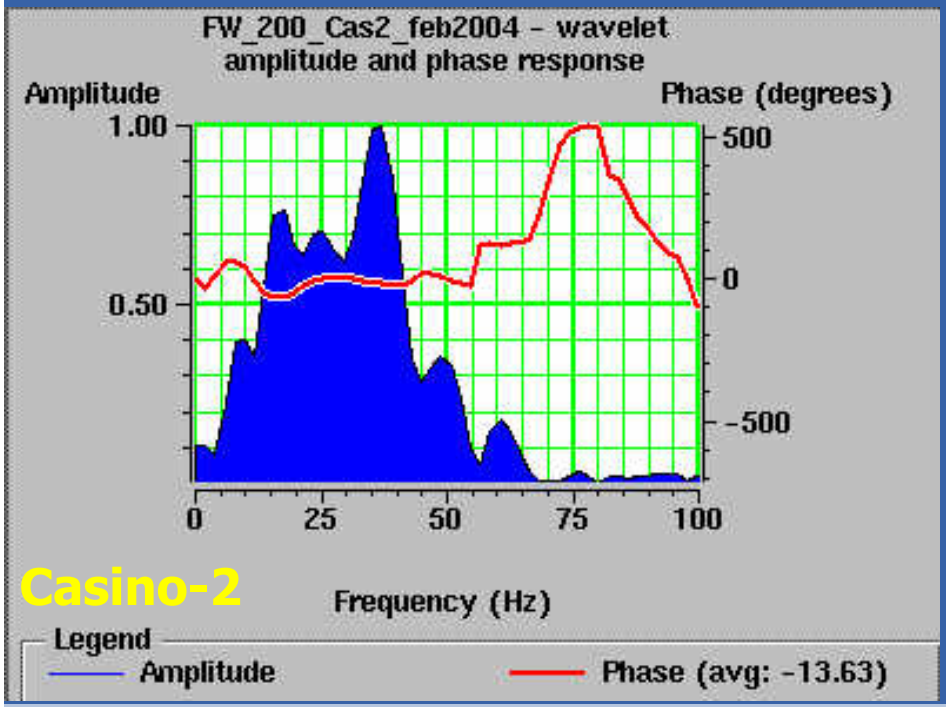


Fig. 3.4.3-a Extracted wavelets at Casino-1, Casino-2 and -3 wells (200 ms constant phase wavelet).







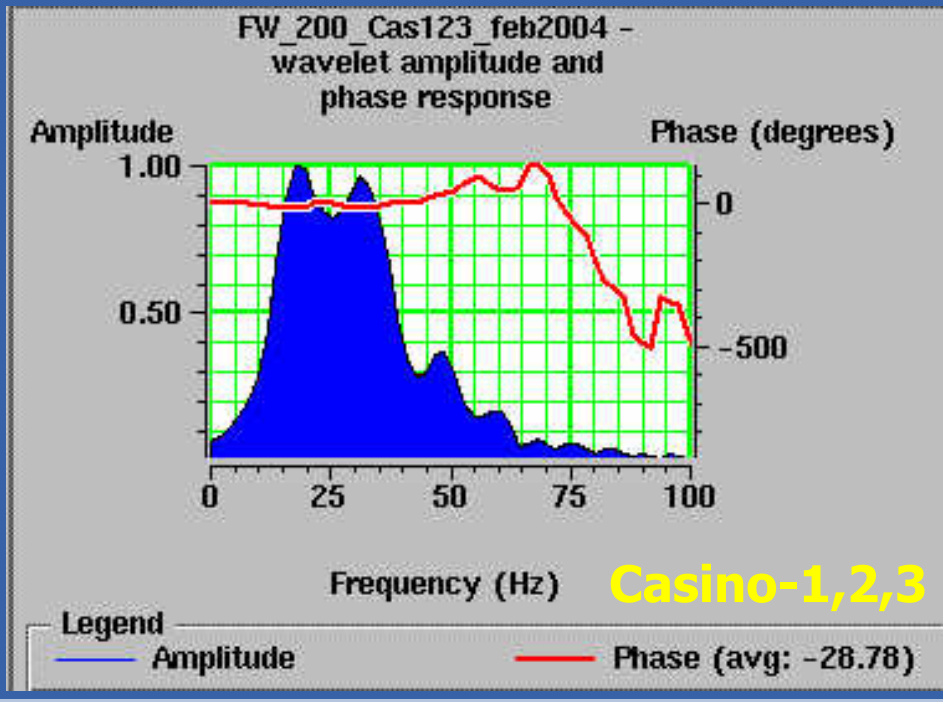


Fig. 3.4.3-b Frequency spectrum of wavelets at Casino-1, Casino-2 and -3 wells.

Santos

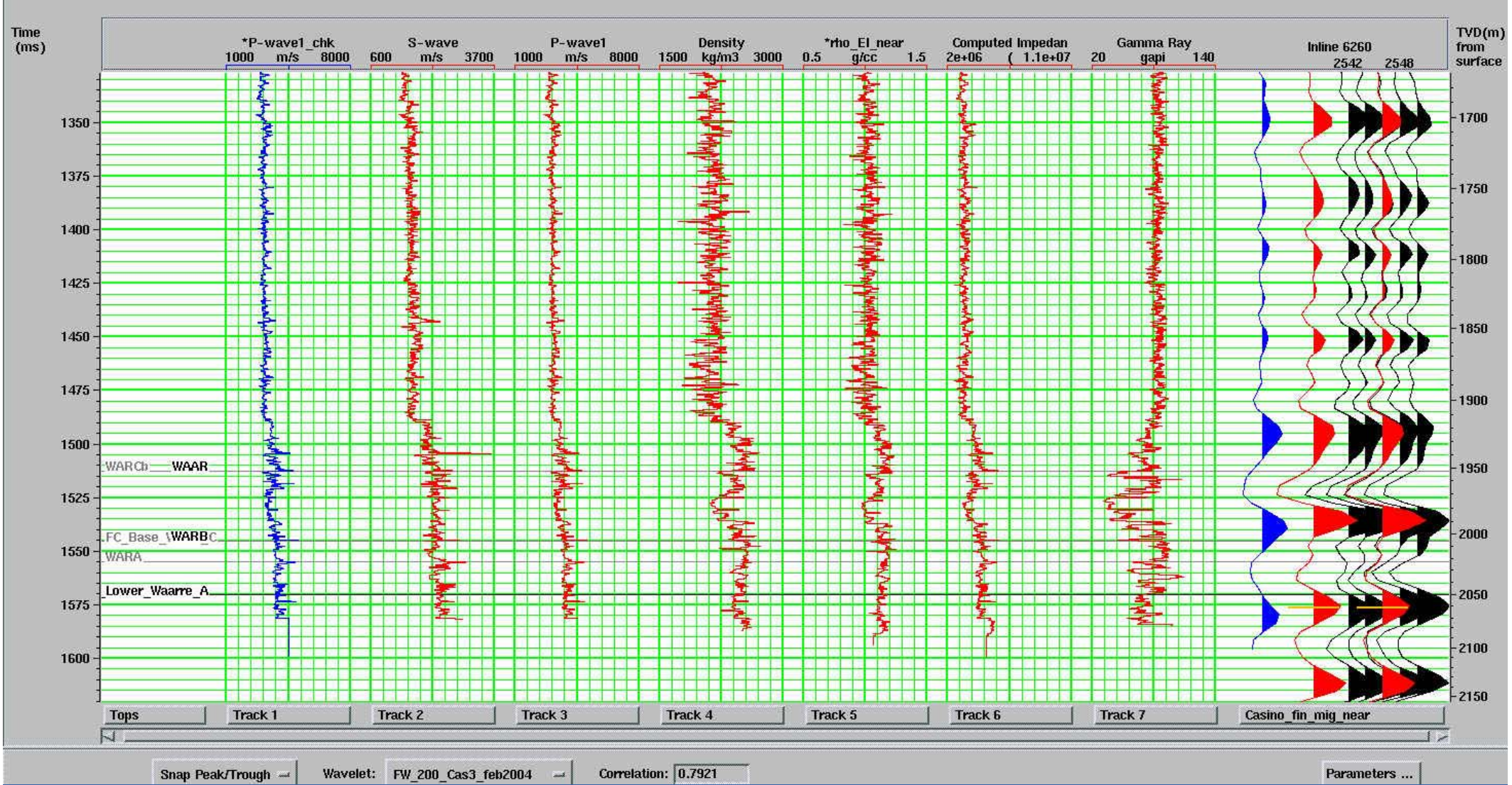


Fig. 3.4.3-c Casino-3 Seismic to synthetic match.

Santos

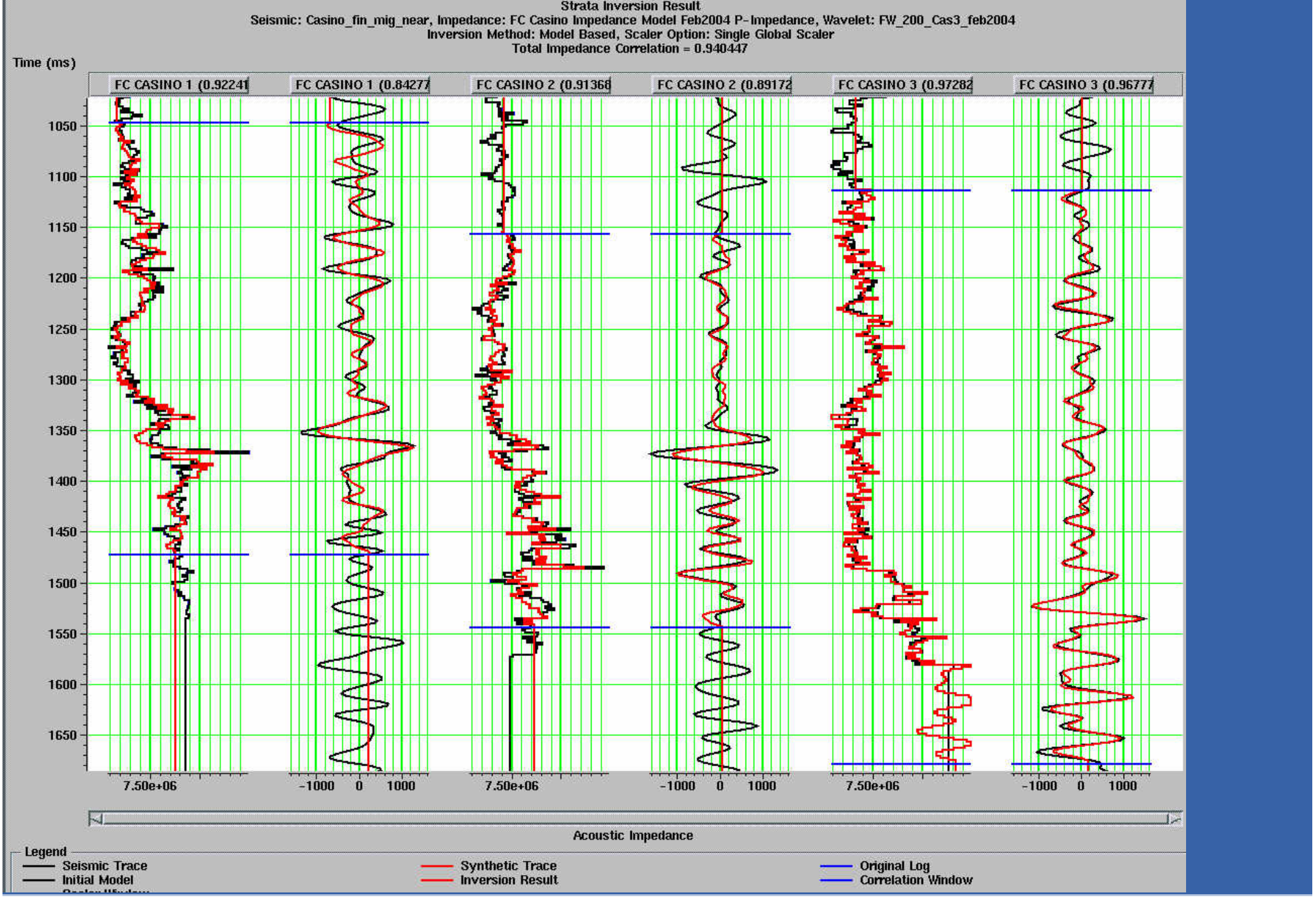


Fig. 3.4.3-d: Inversion using Casino -3 wavelet (MB Stochastic 40% model 60% seismic)

Santos

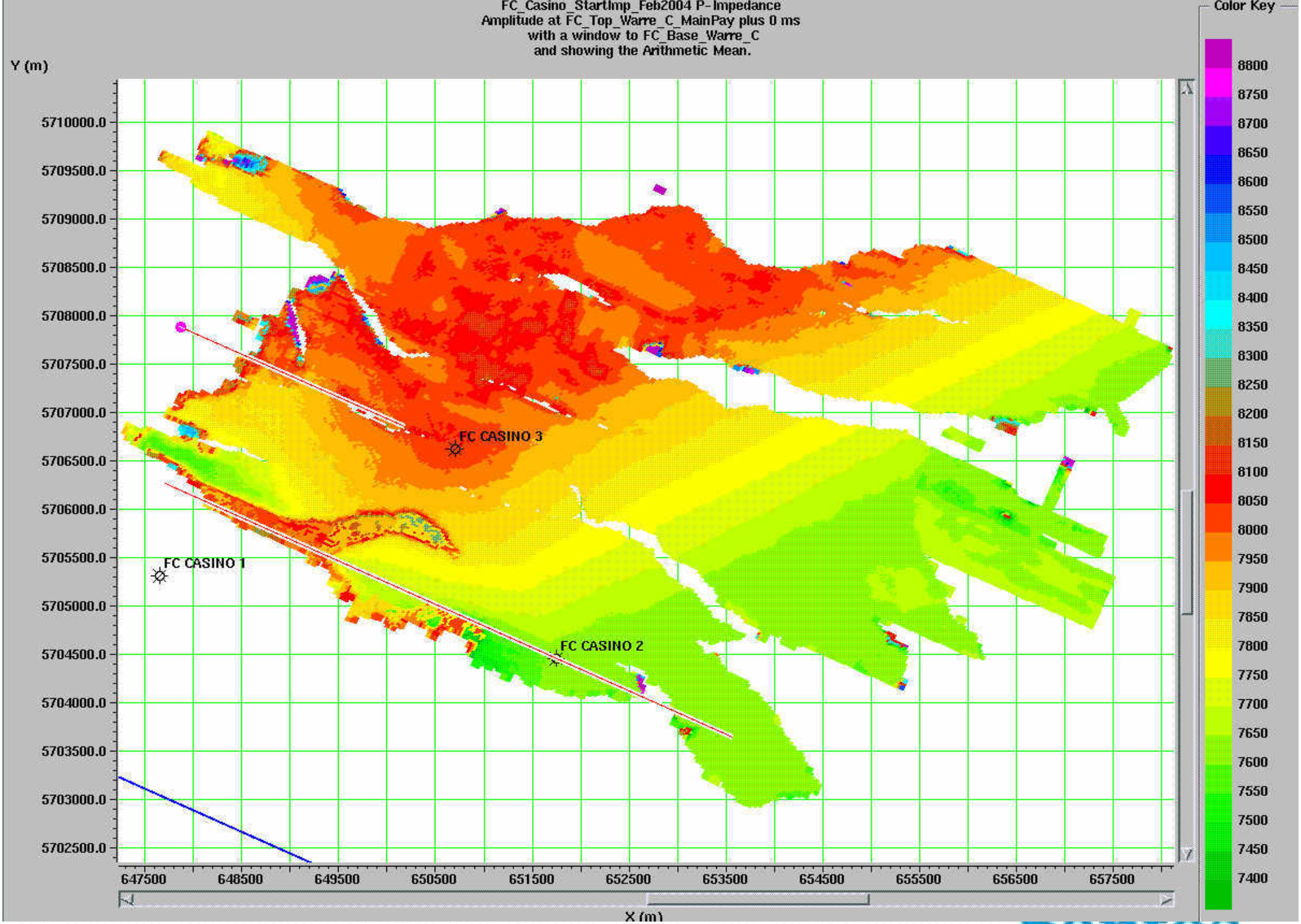


Fig. 3.4.3-e Average initial starting model impedance between Top Waarre C and Base Waarre C.

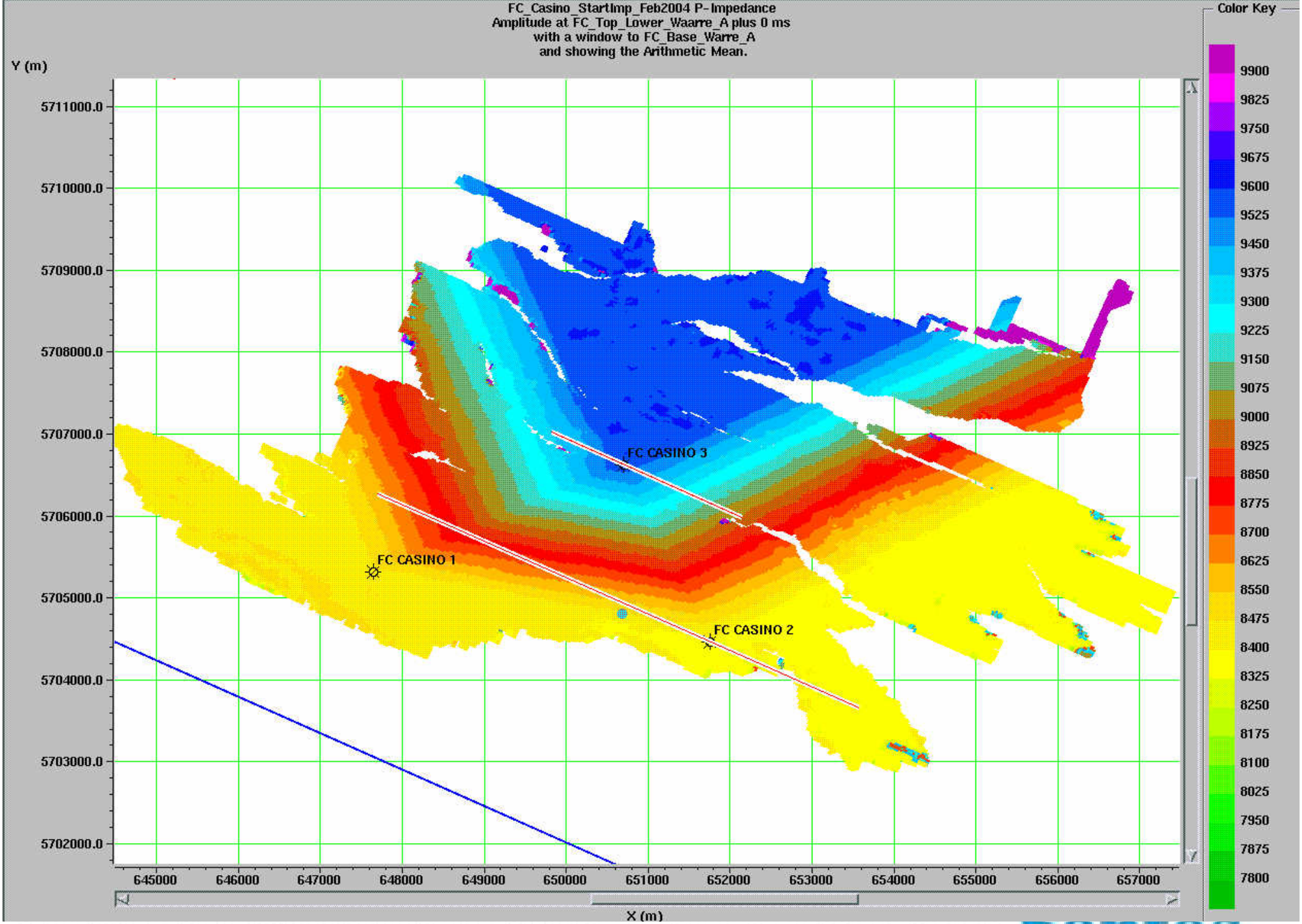


Fig. 3.4.3-f Average initial starting model impedance between Top Lower Waarre A and Base Waarre A.

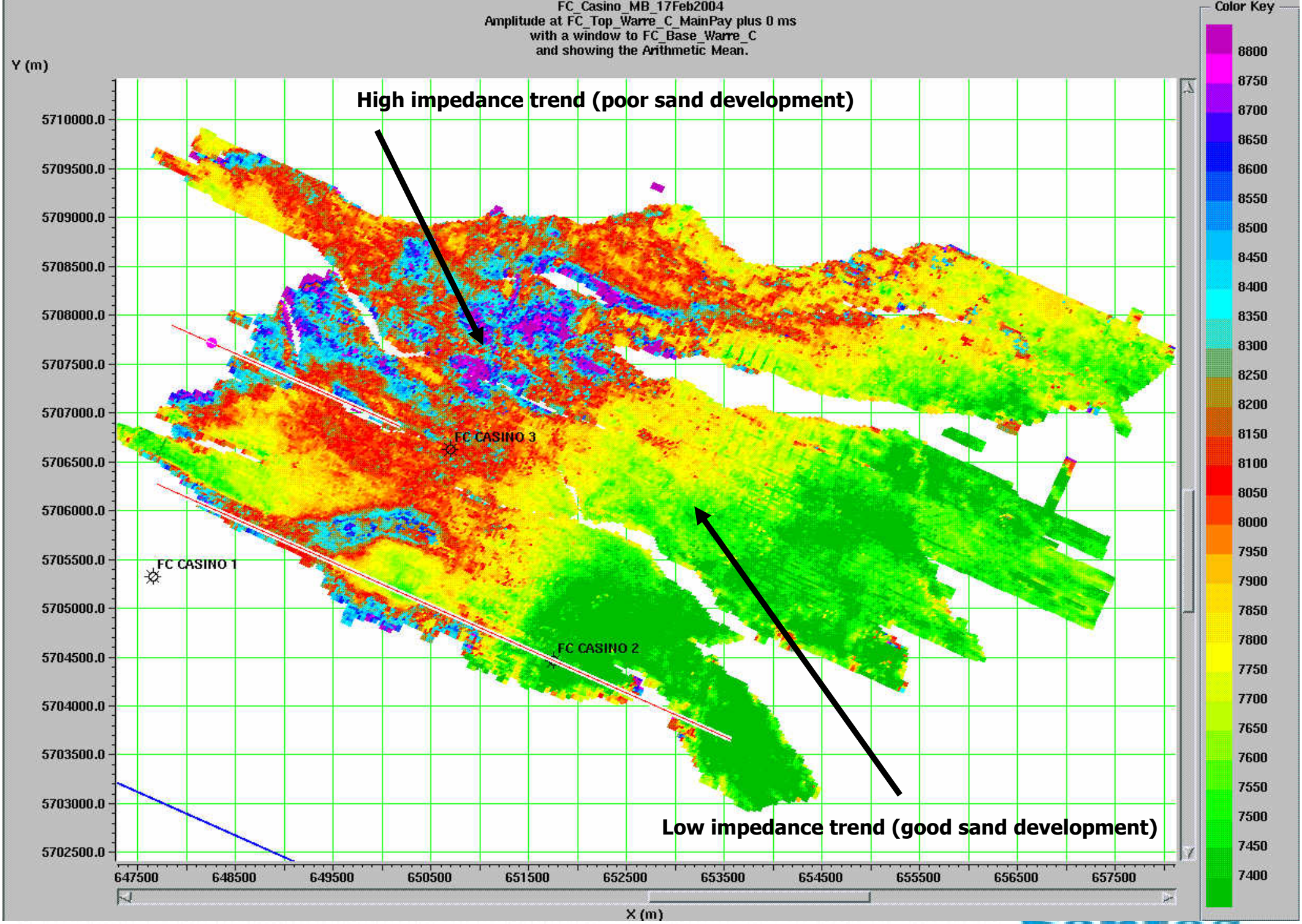


Fig. 3.4.3-g Average MB inversion derived impedance between Top Waarre C and Base Waarre C.

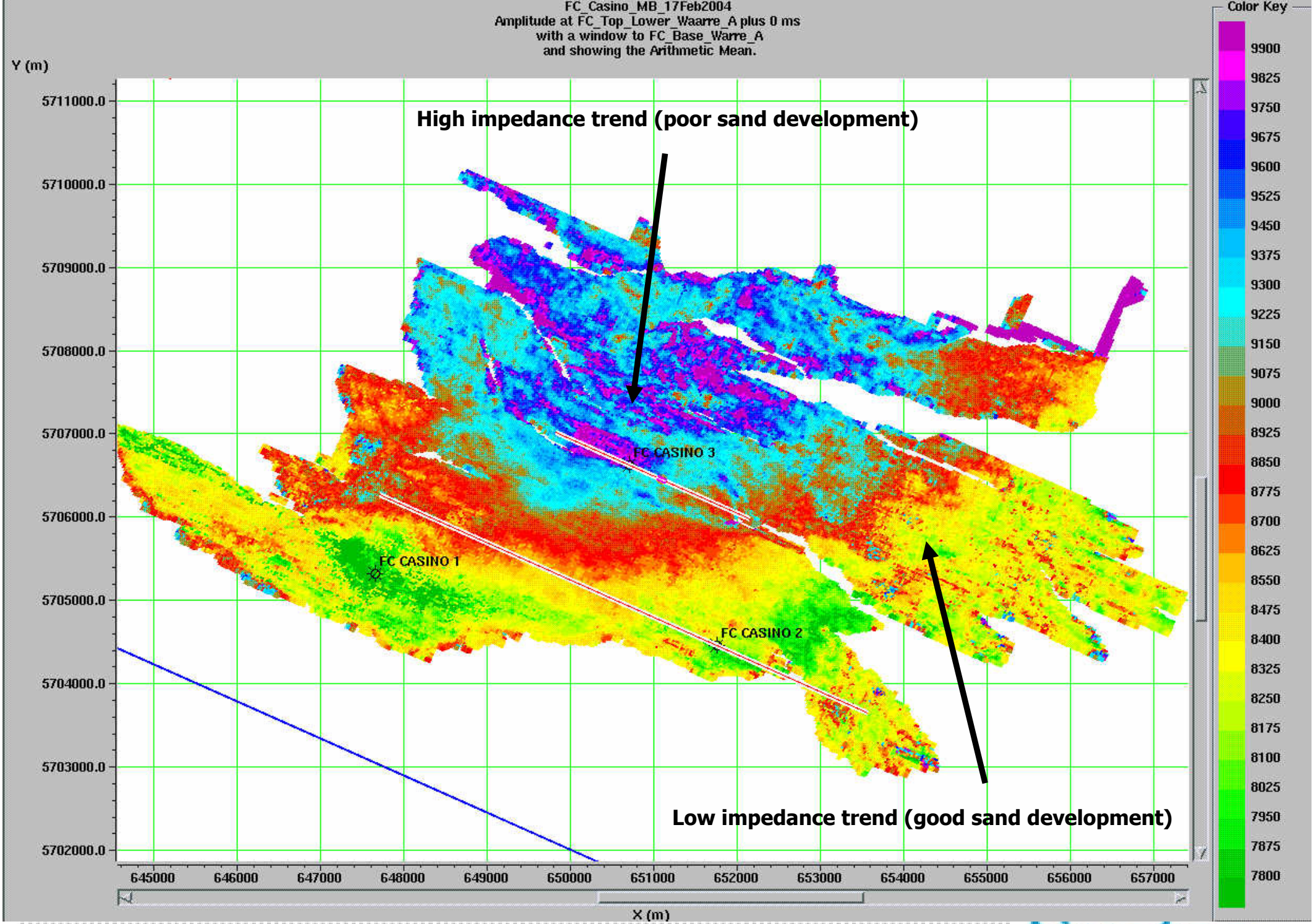


Fig. 3.4.3-h Average MB inversion derived impedance between Top Lower Waarre A and Base Waarre A.

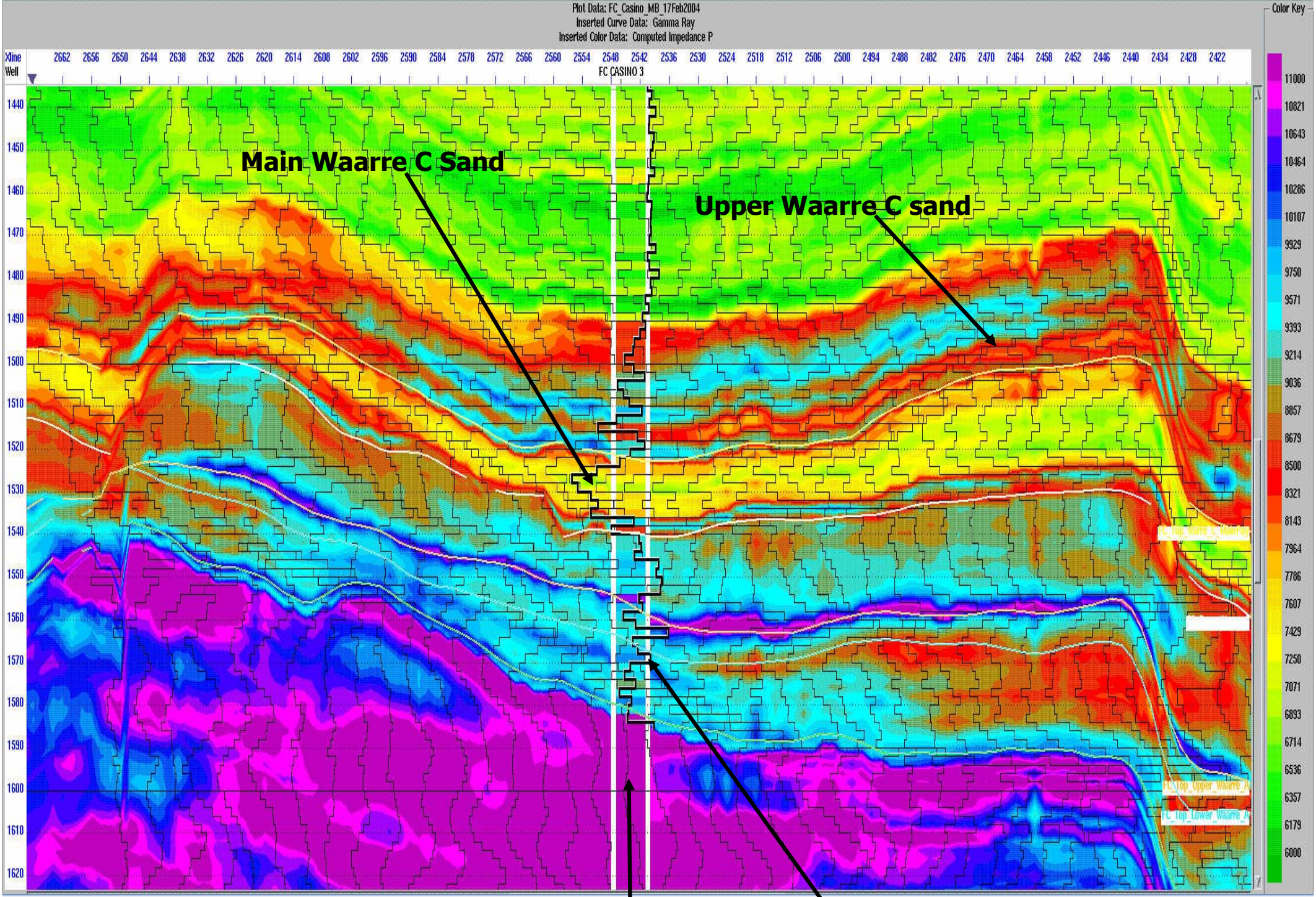


Fig. 3.4.3-i Matching MB impedance to well at Casino 3.

Santos

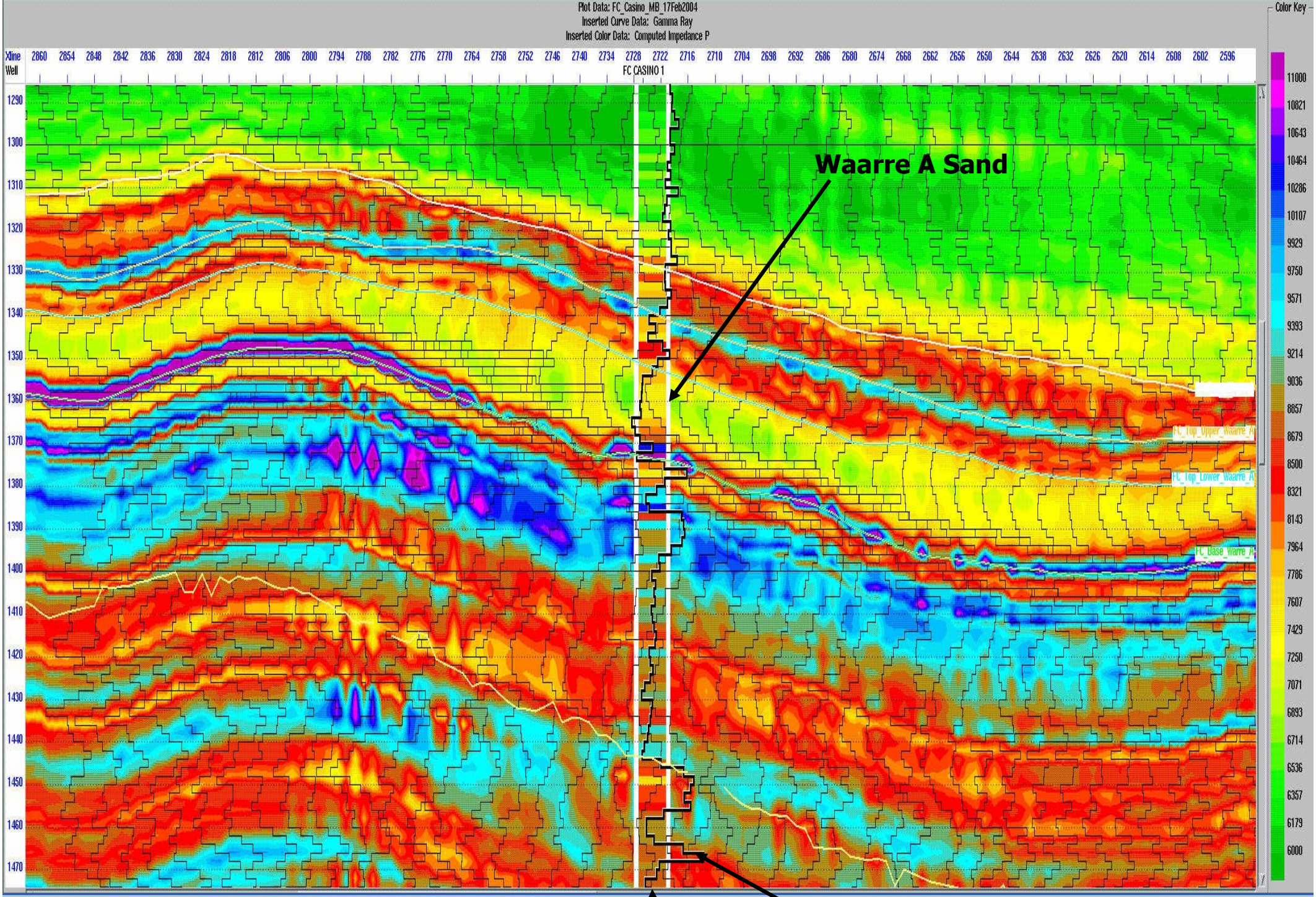


Fig. 3.4.3-j Matching MB impedance to well at Casino 1.

Santos

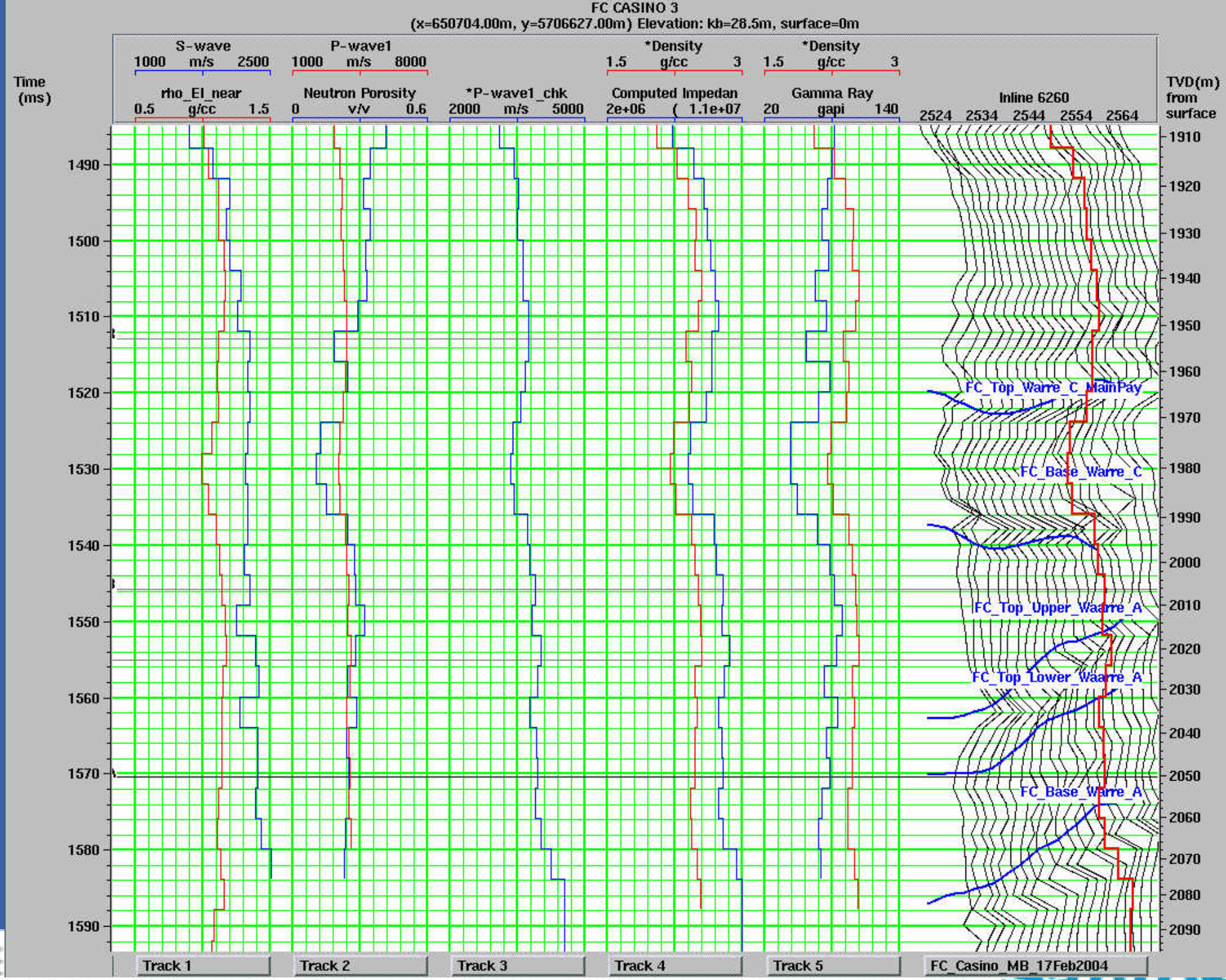


Fig. 3.4.3-k Reservoir picks on MB impedance at Casino 3 well.

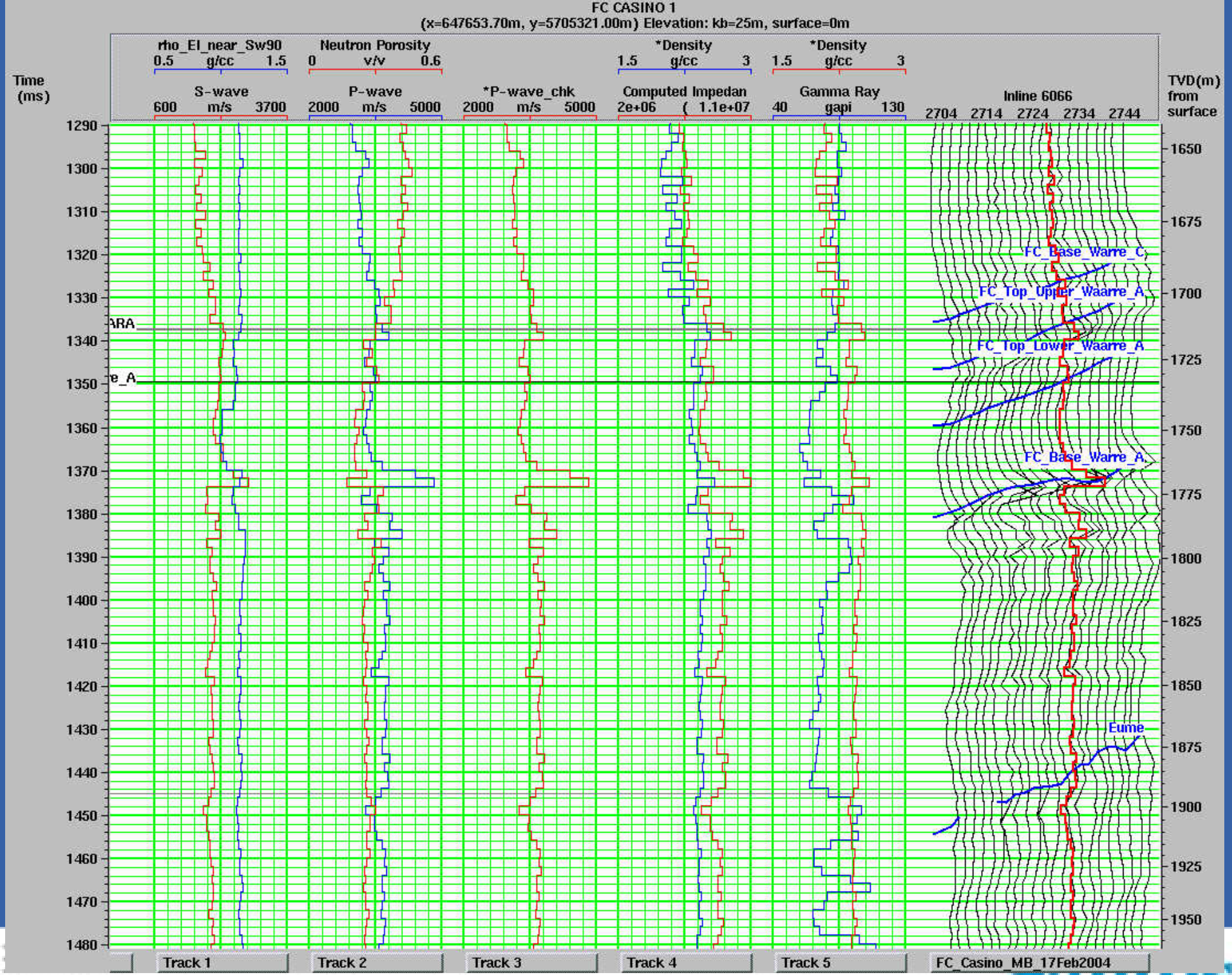


Fig. 3.4.3-l Reservoir picks on MB impedance at Casino 1 well.

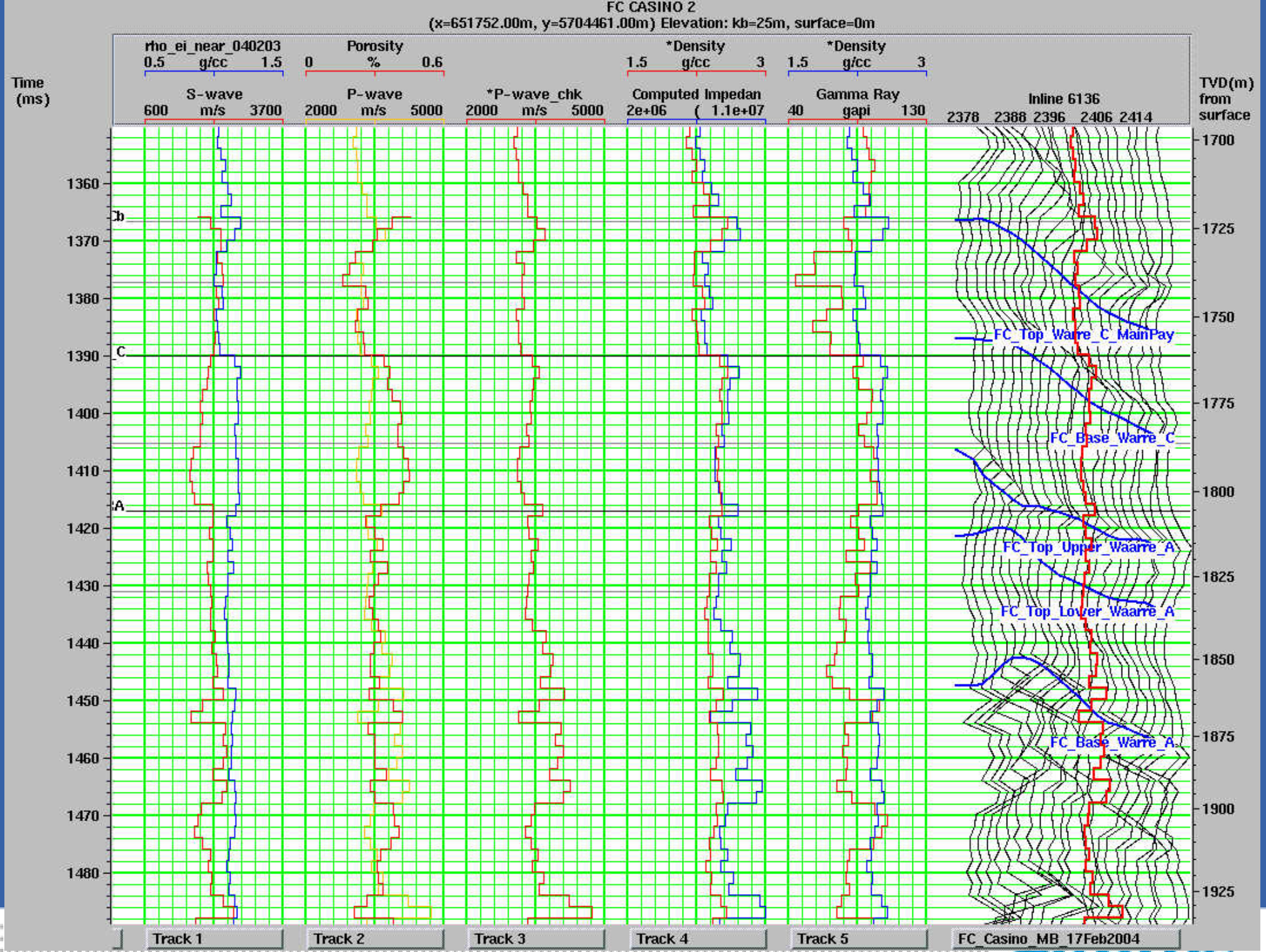


Fig. 3.4.3-m Reservoir picks on MB inversion impedance at Casino 2 well.

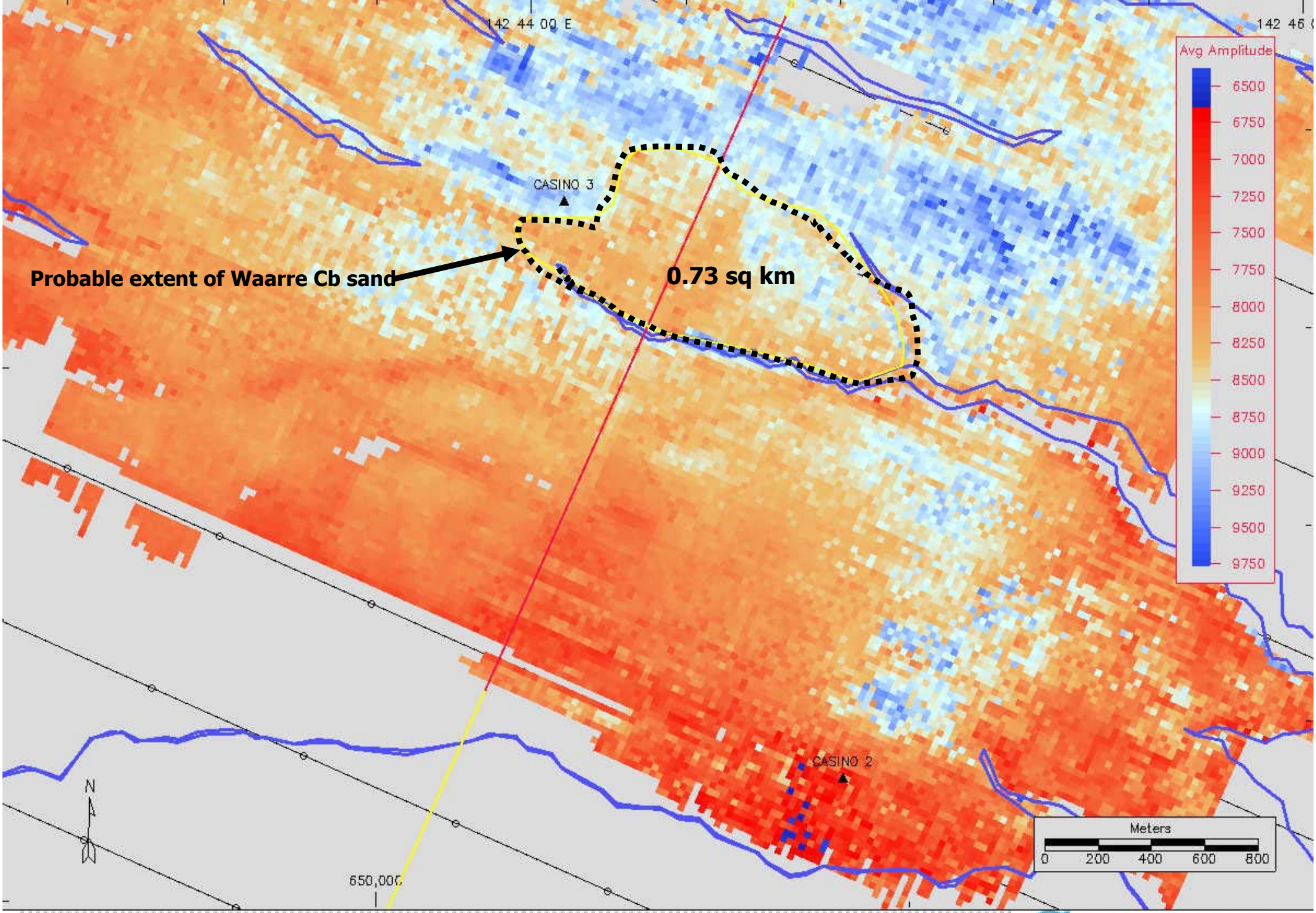


Fig. 3.4.3-n Map of average impedance extraction in Top Waarre Cb plus 4ms interval showing probable extent of Waarre Cb sand.

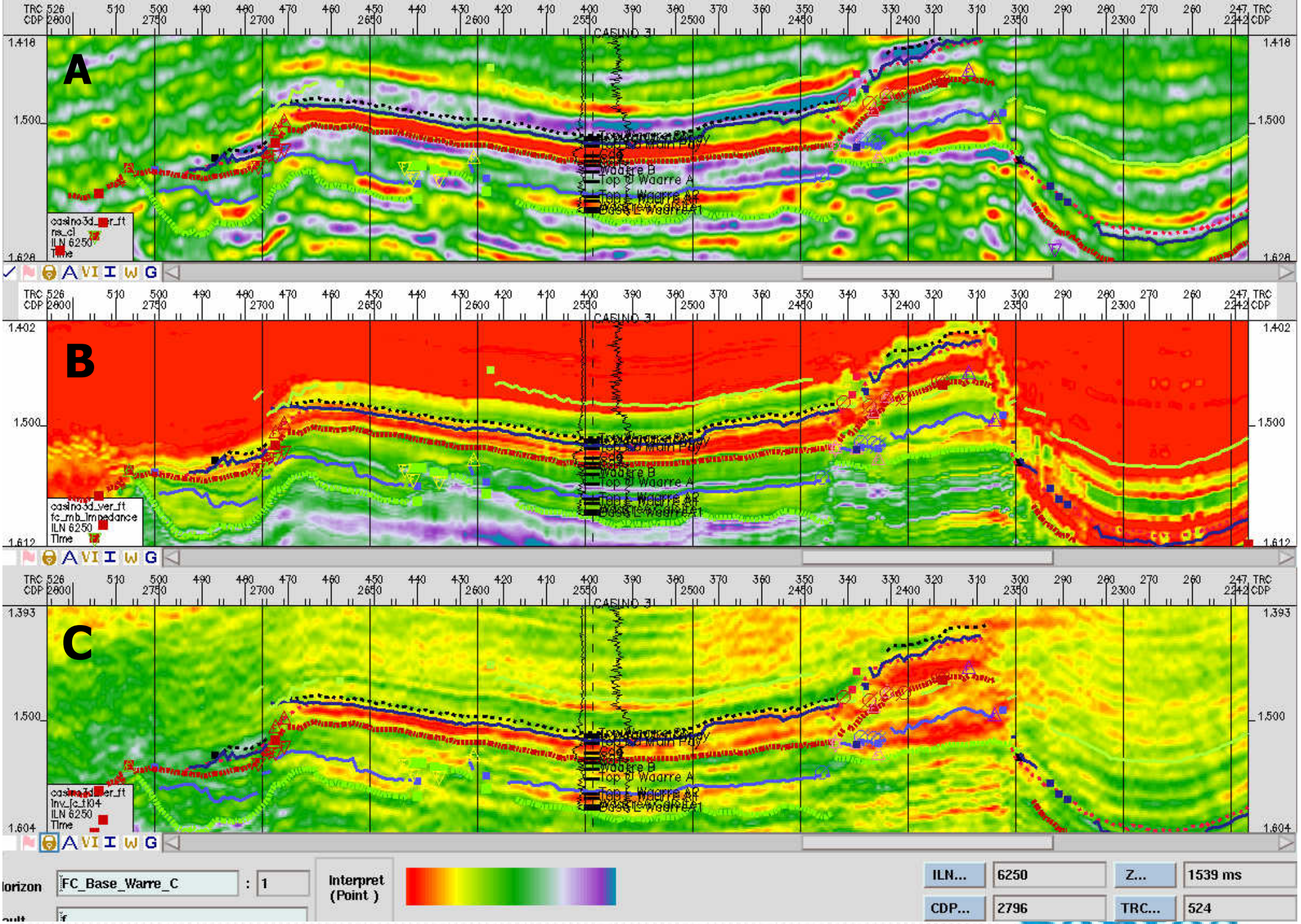


Fig. 3.4.3-o Sections through Casino-3 comparing (A) coloured impedance (B) 3-well MB impedance and (C) AOK velocity derived MB impedance.

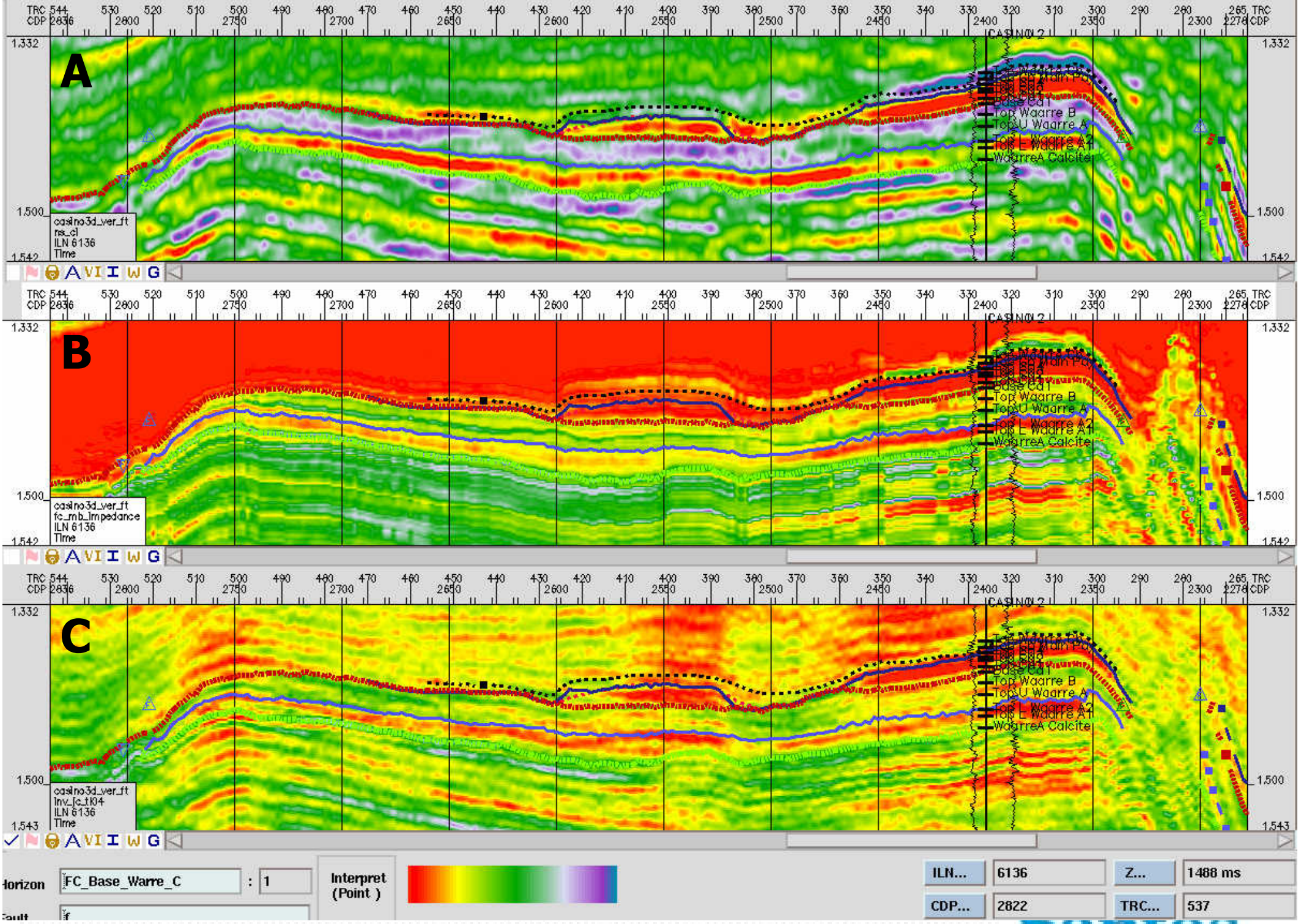


Fig. 3.4.3-p Sections through Casino-2 comparing (A) coloured impedance (B) 3-well MB impedance and (C) AOK velocity derived MB impedance.

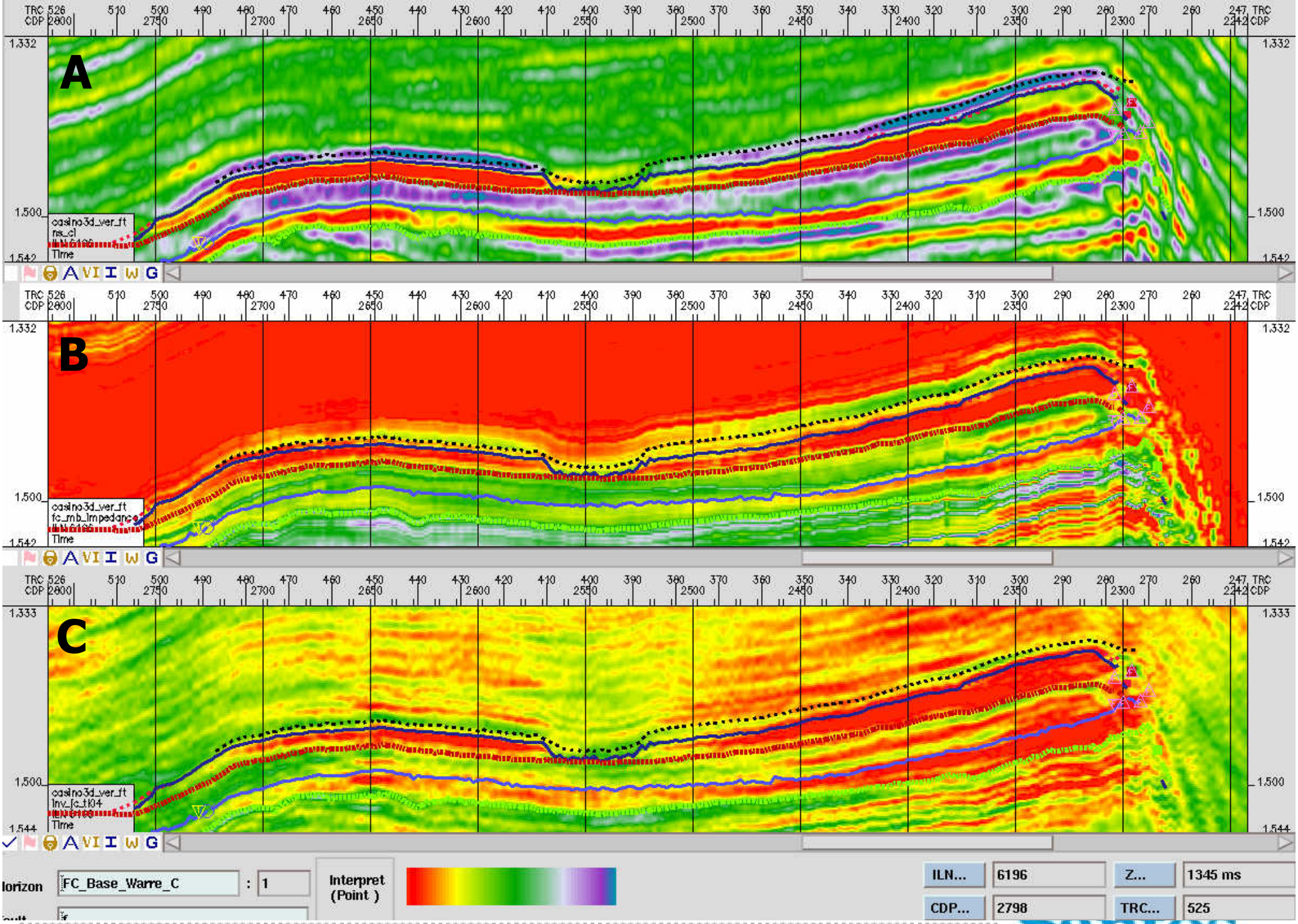


Fig. 3.4.3-q Sections along IL6196 comparing (A) coloured impedance (B) 3-well MB impedance and (C) AOK velocity derived MB impedance.

Santos

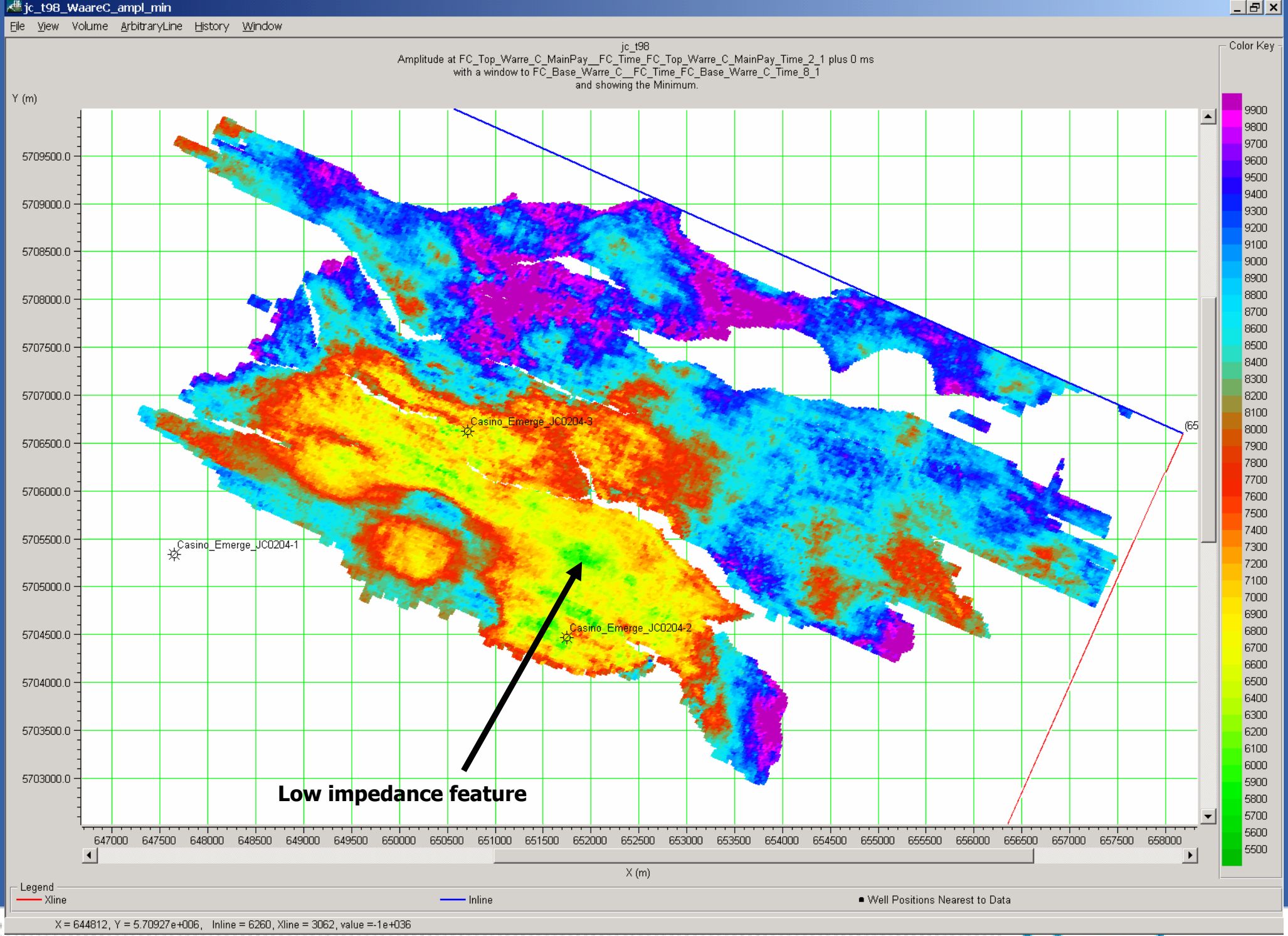


Fig. 3.4.3-r Average AOK velocity derived impedance between Top Lower Waarre C and Base Waarre C showing low impedance feature similar to that seen in the coloured impedance volume.