

APPENDIX A

Acquisition Parameters

The Tui 3D seismic survey was acquired with a line orientation of NEE-SWW (65-245 degrees) using a dual source / two streamer configuration. The cable and streamer separations were 150 and 75 m respectively, producing a subsurface CDP line spacing of 37.5 meters.

A group interval of 12.5 meters was used together with a shot point interval of 18.75 meters (flip/flop). The number of channels per streamer was 288 and this gave a nominal CDP bin fold coverage of 4800% for a bin size of 6.25 x 37.5 meters.

Acquisition	
Recorded by	Veritas DGC
Recording vessel	M/V Pacific Sword
Date recorded	25 March – 8 May 2003
Instrument Configuration	
Recording instrument	SYNTRAK 96-24 MSRS
Recording format	SEGD 8058, 4.0-byte, 32 bit, IFP
Tape type	IBM 3590
Record length	6.144 s
Sample rate	2 ms
Low cut filter/Slope	3 Hz / 62 dB/Oct
High cut filter/Slope	206 Hz / 276 dB/Oct
Filter delay	0 ms
Streamer configuration	
Streamer type	SYNTRAK 960-24LDA digital
Hydrophone per group	16 linierly spaced per group

Hydrophone type	Teledyne T-2 LDA
Number of groups	2 x 288
Group interval	12.5 m
Number of streamers	2 x 3600 m
Nominal streamer separation	150 m
Nominal streamer depth	7 m
Source	
Instrument	Single Tune Point source Airgun Array
Array type	Bolt 1500LL and 1900LL-XT Airguns
Total volume	2 x 3200 cu.ins.
Air pressure	1950 PSI +/- 10%
Gun type	Bolt LL
Gun depth	9 m
Inline offset	116 m nominal
Source separation	75 m
Shotpoint interval	18.75 m Flip-Flop
Firing sequence	STBD on ODD Shots (unless specified otherwise in Obs. Log)

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APPENDIX B

Processing Flow Summary

1. Reformat
2. Merge of seismic and navigation data (Bi-size 6.25 x 37.5 m)
3. Source designature to minimum phase
4. Resample to 4 ms sample rate
5. Shot and channel trace editing
6. Low-cut filter 3 Hz
7. Spherical divergence correction (V^2T correction)
8. Swell noise attenuation (FXEDIT)
9. Radon transform linier noise attenuation (xrlin)
10. Transform to Tau-p domain
11. Predictive deconvolution
12. Transform to x-t domain
13. Velocity analyses (at 1.0 x 1.0 km grid)
14. Spiking deconvolution
15. K-spatial anti-alias filter and drop alternate trace (bin-size 12.5 x 37.5 m)
16. Binning into common offset volumes
17. NMO correction using first pass velocity functions (from item 14)
18. Fold leveling Optimum Offset for Distribution (FLOOD)
19. Radon demultiple (xrmult)
20. Reverse NMO correction applied in process 16
21. Preliminary PreSTM on velocity lines at 1 km intervals
22. Velocity analyses (at 1.0 x 1.0 km grid)
23. Acquisition footprint removal
24. Full 3D Kirchoff pre-stack time migration (PreSTM) using full ray bending at 4 km aperture (UTMOST) and with revised velocities

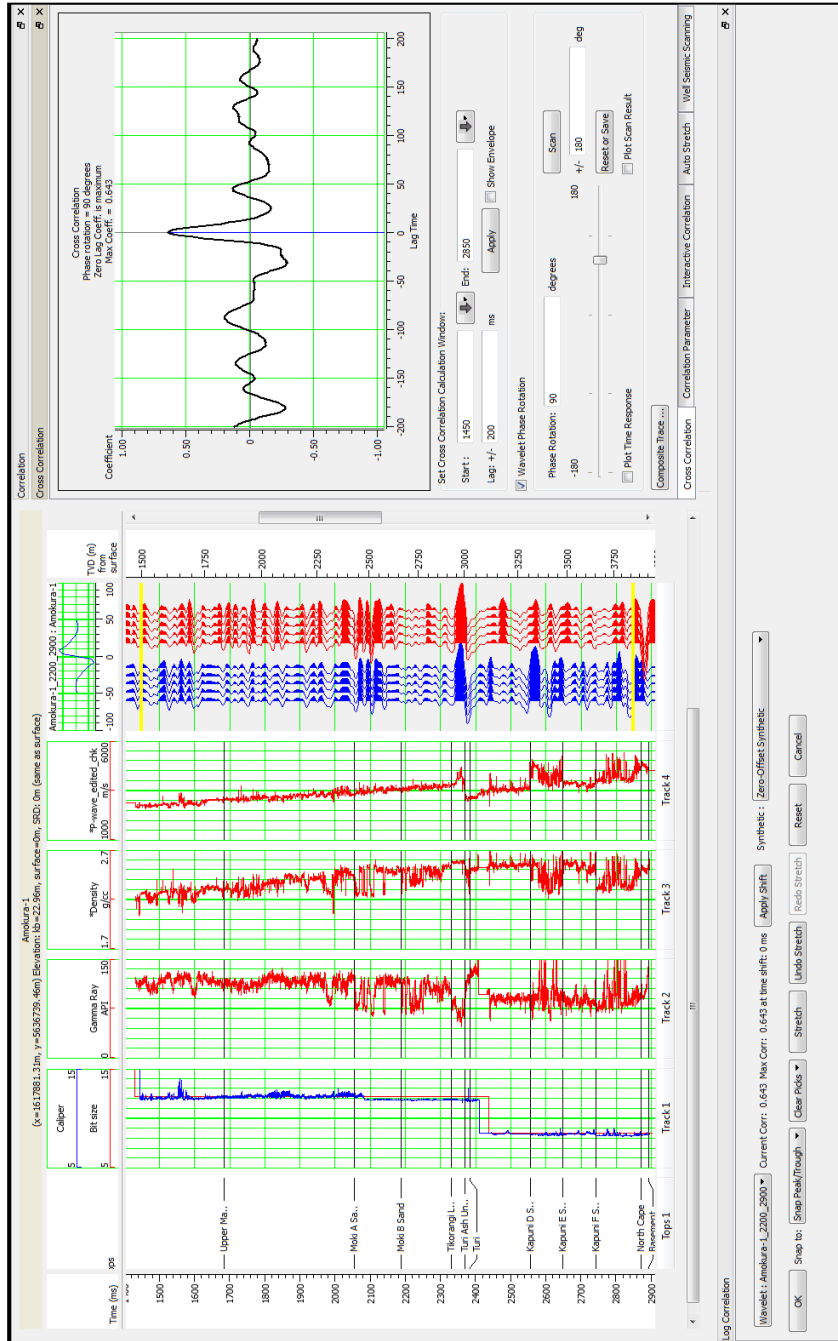
25. SEG-Y output of PreSTM cdp gathers
26. Third-Pass Final velocity analysis at 500 x 500 m grid
27. NMO and Mute
28. Stack: full fold and near/mid/far angle stacks
29. Acquisition footprint removal (post-stack)
30. FXY deconvolution on all stacks
31. Trace interpolation from 12.5 m x 37.5 to 12.5 m bins
32. Inverse Q filter
33. SEG-Y output
34. Time-variant filter
35. Exponential gain
36. Phase rotation +120 degrees
37. Source/Cable static correction
38. SEG-Y output (full/near/mid/far stacks in SEG-Y format)



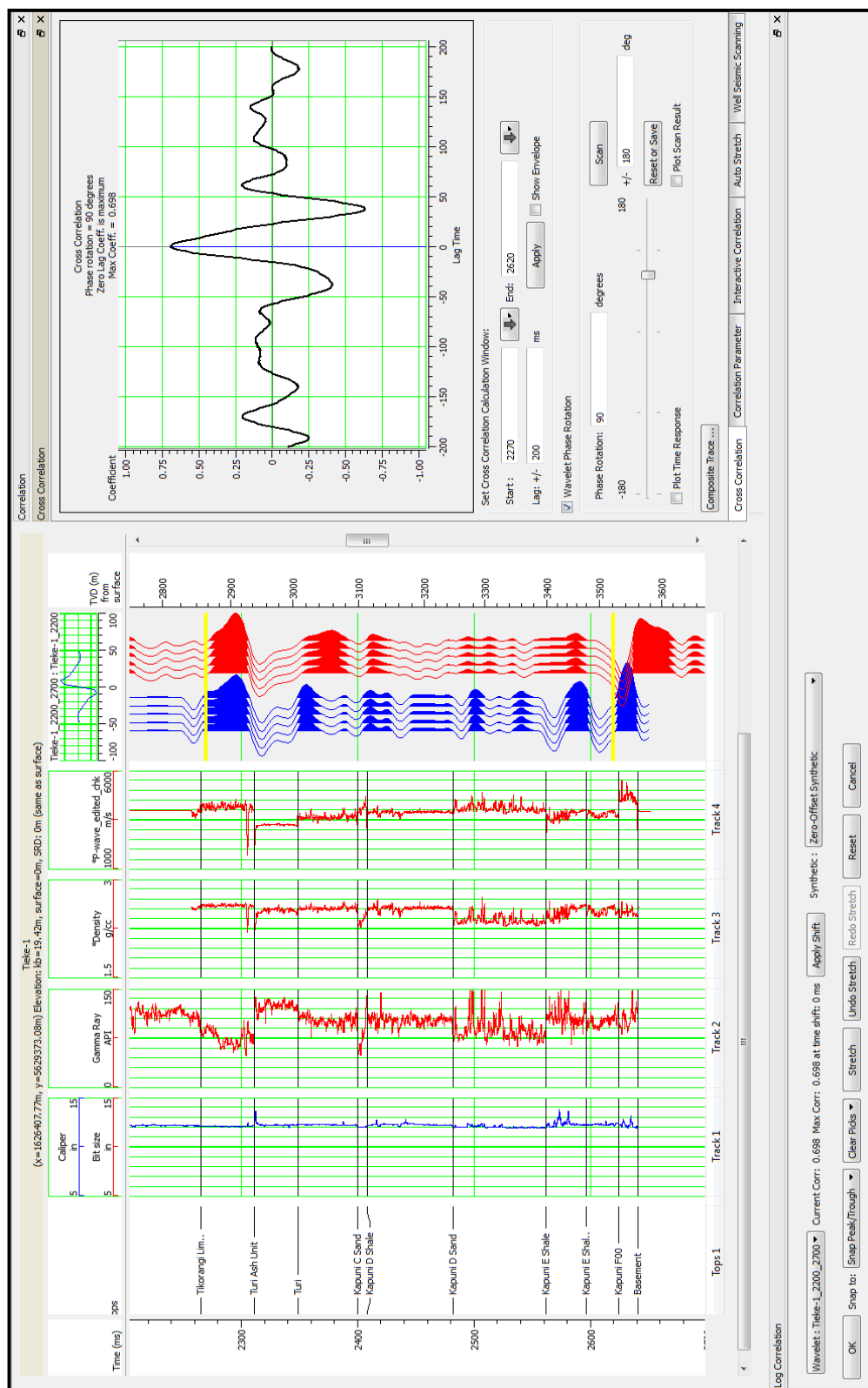
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APPENDIX C

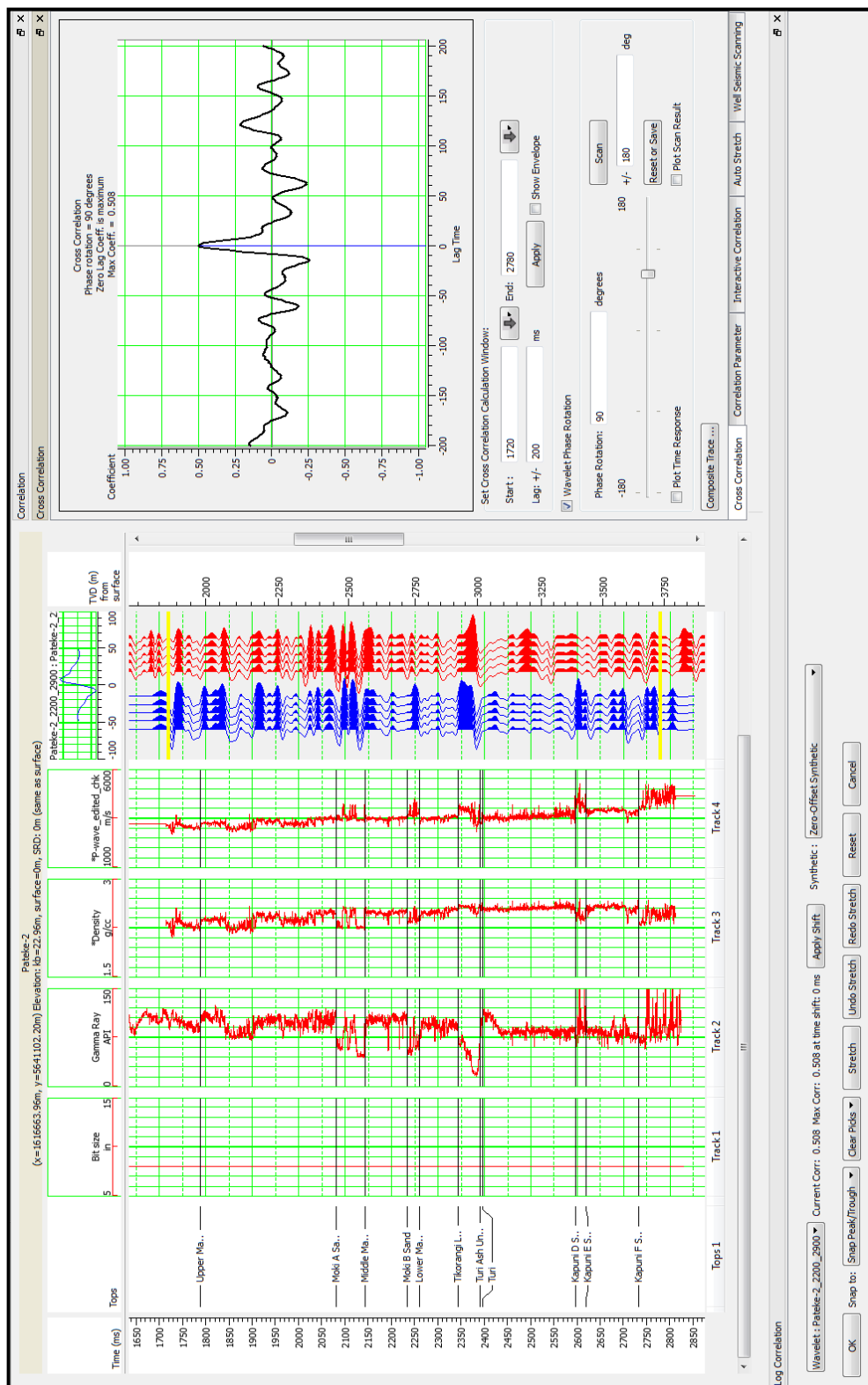
Well Seismic Tie



Well seismic tie process in Amokura-1 showing the cross-correlation of 0.643



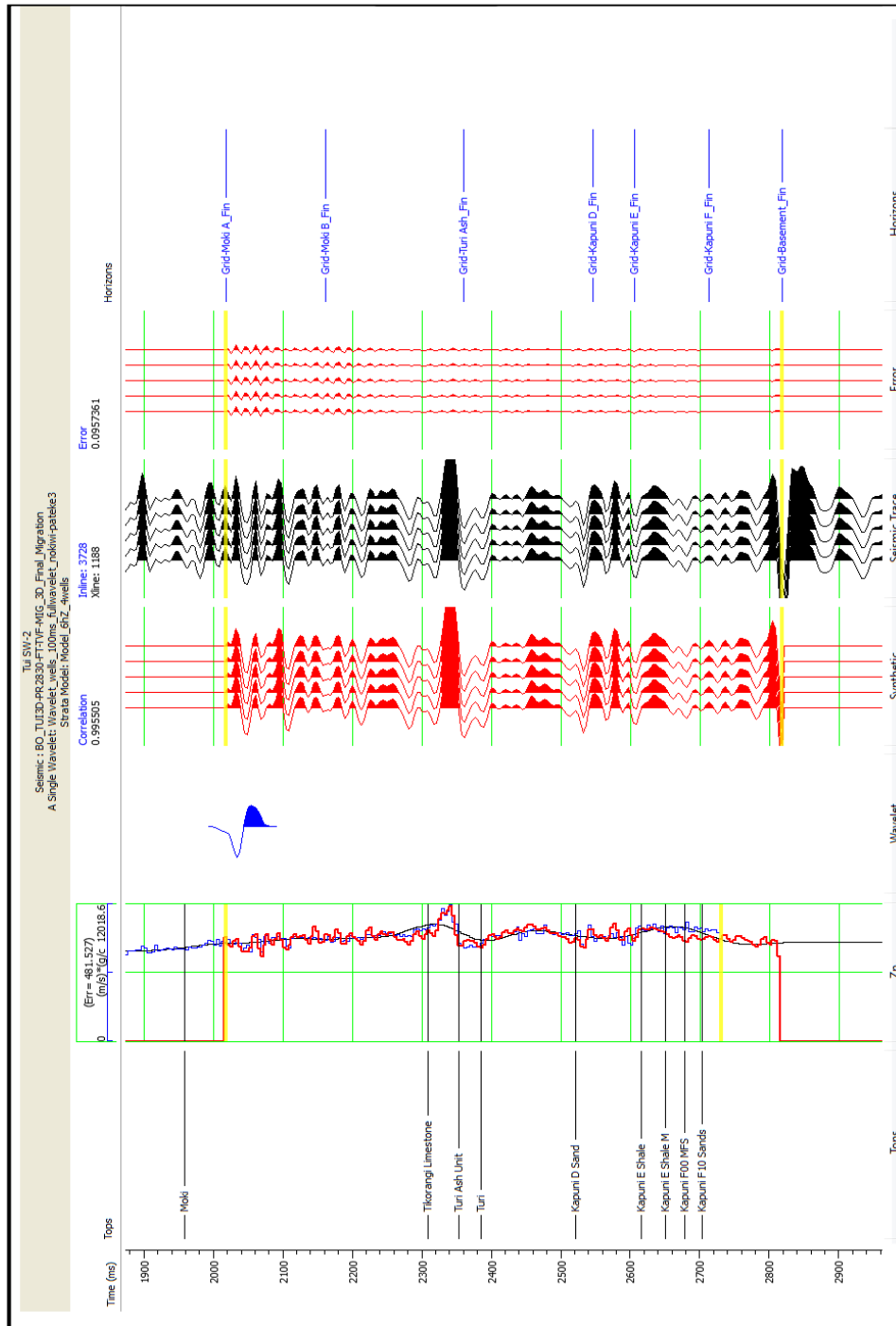
Well seismic tie process in Tieke-1 showing the cross-correlation of 0.698



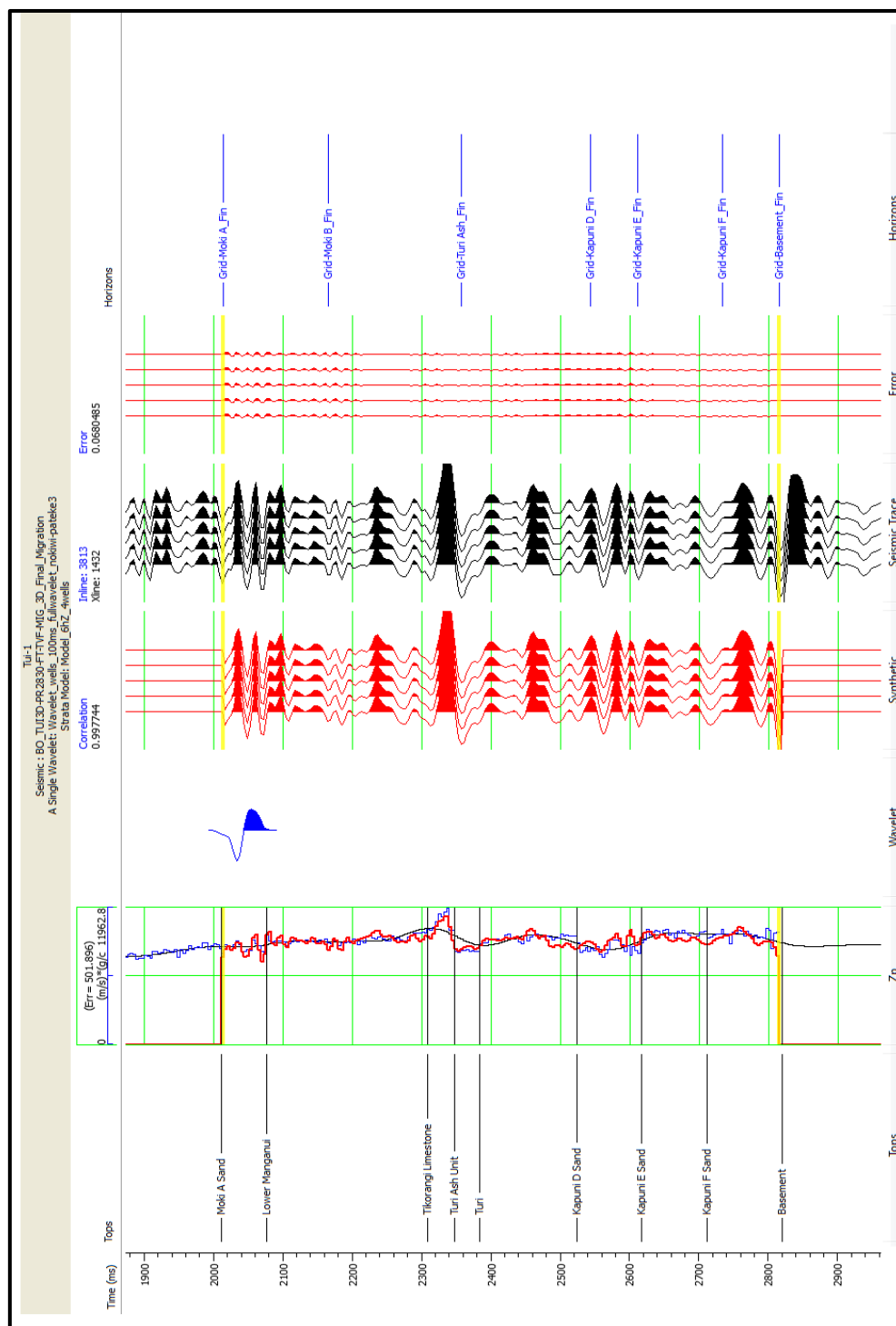
Well seismic tie process in Pateke-2 showing the cross-correlation of 0.508

APPENDIX D

Inversion Analysis



Inversion Analysis of well Tui-SW2



Inversion Analysis of well Tui-1

CURRICULUM VITAE

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