

# Appendix 1

## Synthetic Seismograms for 20 Key Wells

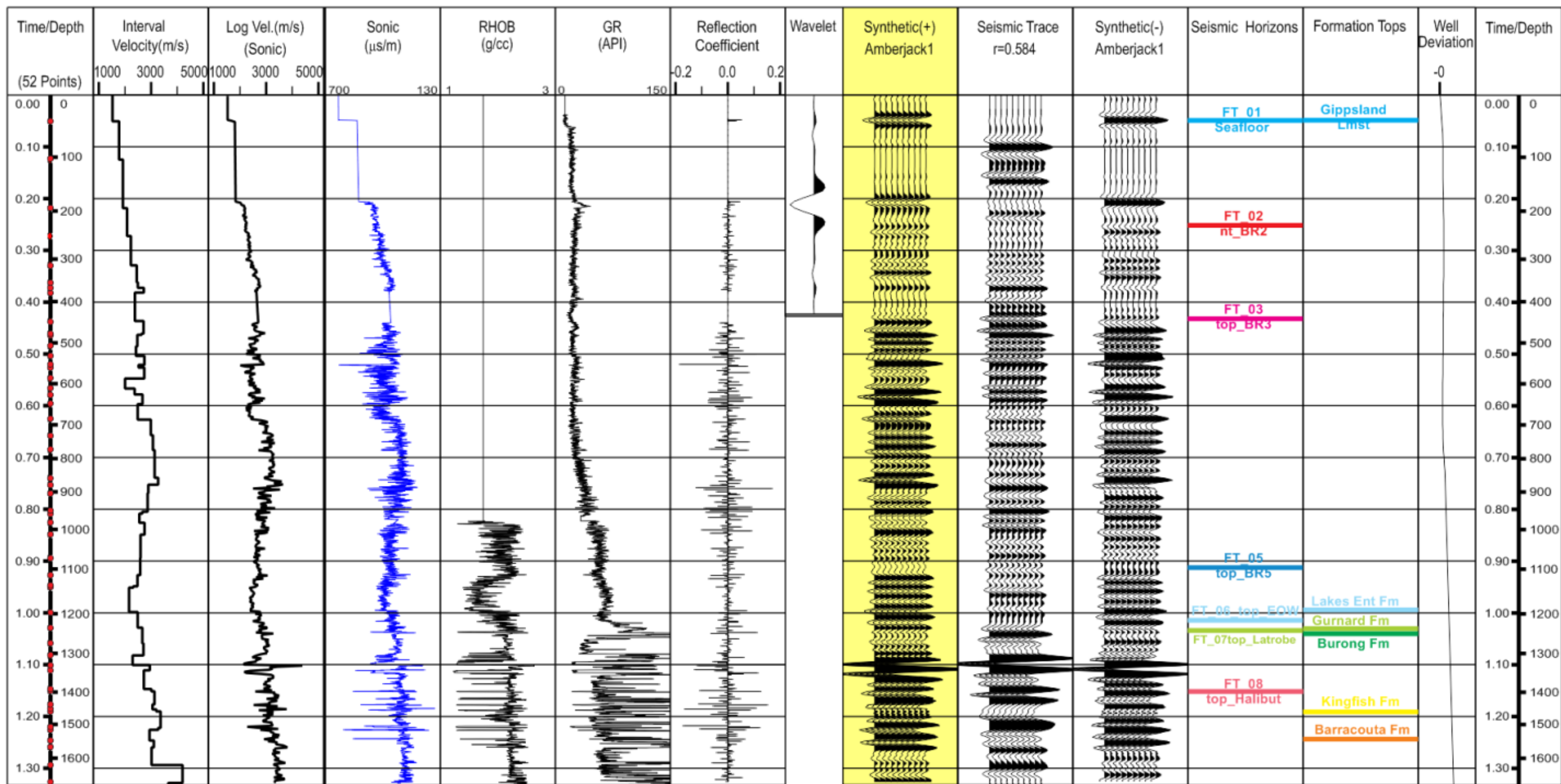


Figure A1.1. Amberjack-1 Synthetic Seismogram

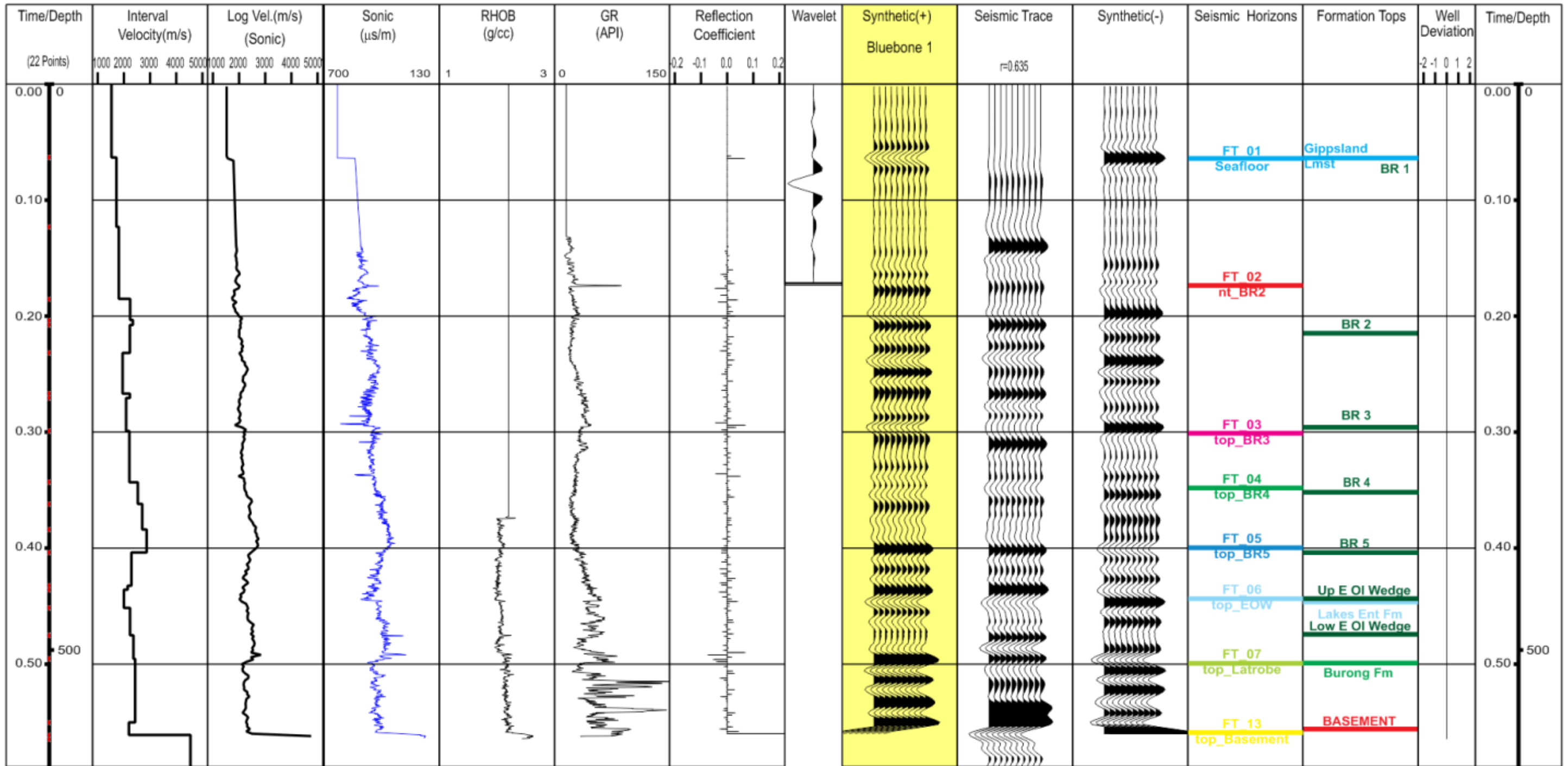


Figure A1.2. Bluebone-1 Synthetic Seismogram

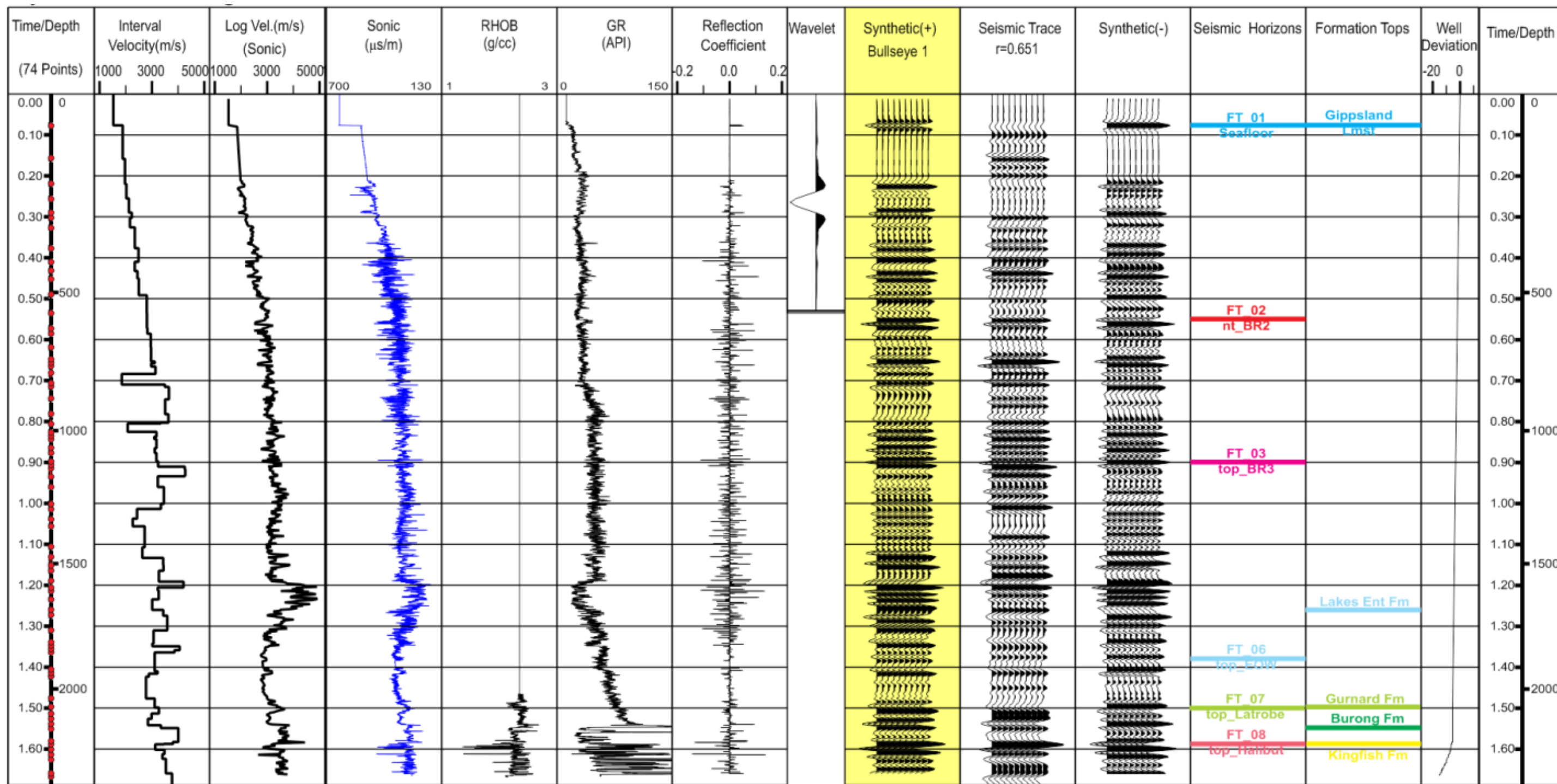


Figure A1.3. Bullseye-1 Synthetic Seismogram

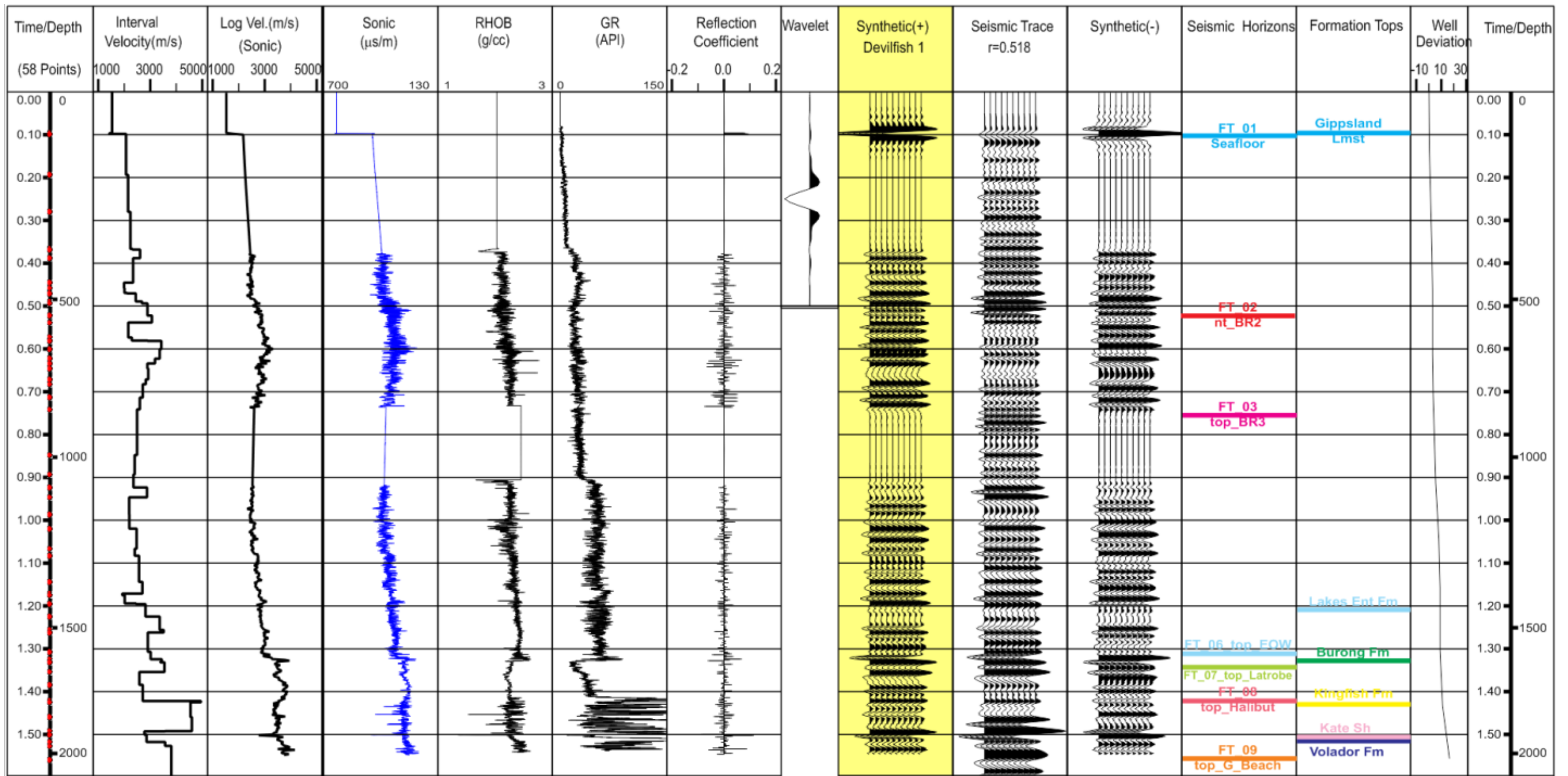


Figure A1.4. Devilfish-1 Synthetic Seismogram

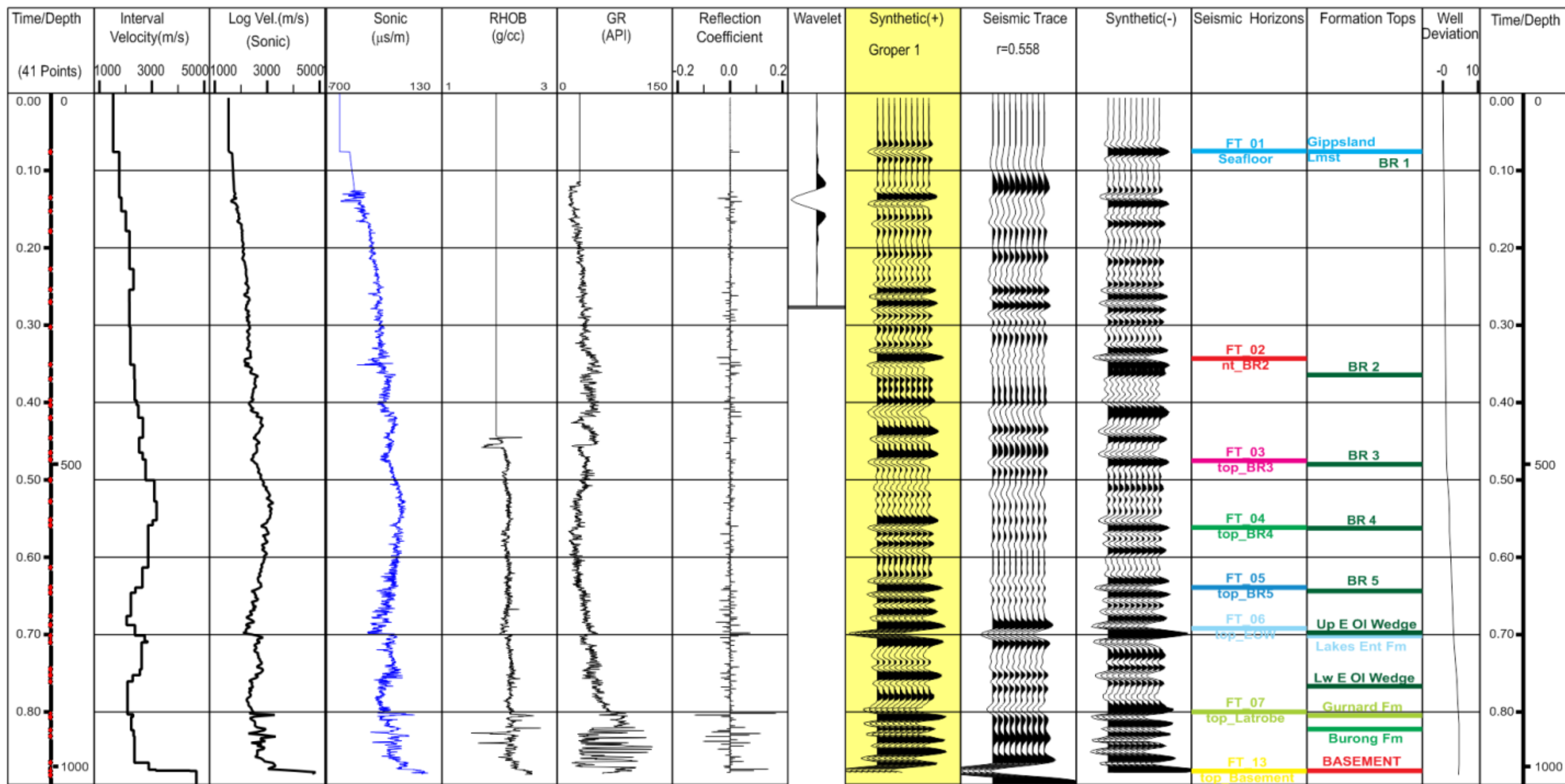


Figure A1.5. Groper-1 Synthetic Seismogram

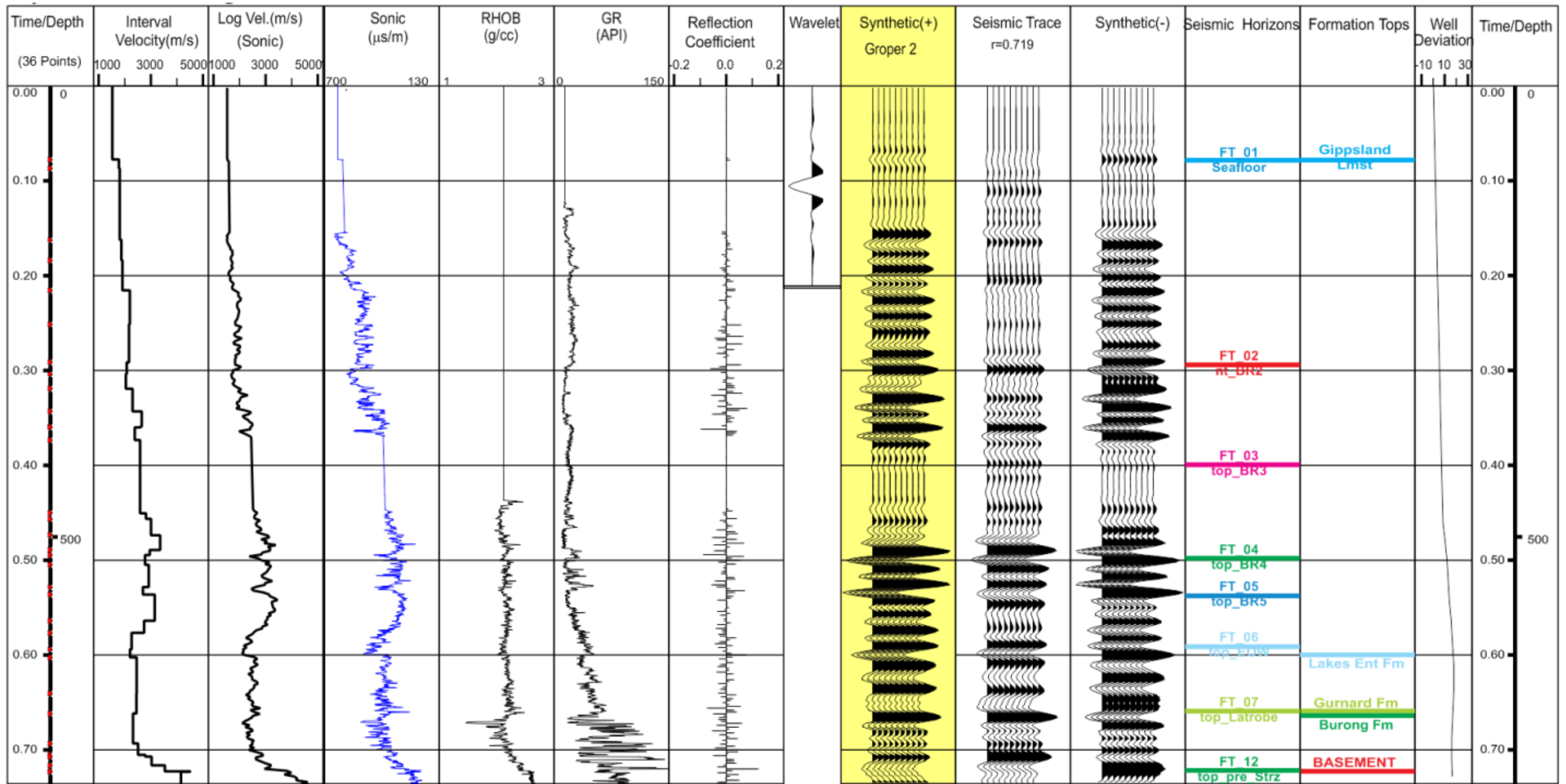


Figure A1.6. Groper-2 Synthetic Seismogram - note that the DPI10 seismic data show the presence of stratigraphy below the TD of this well and it is interpreted that the basement pick is in error

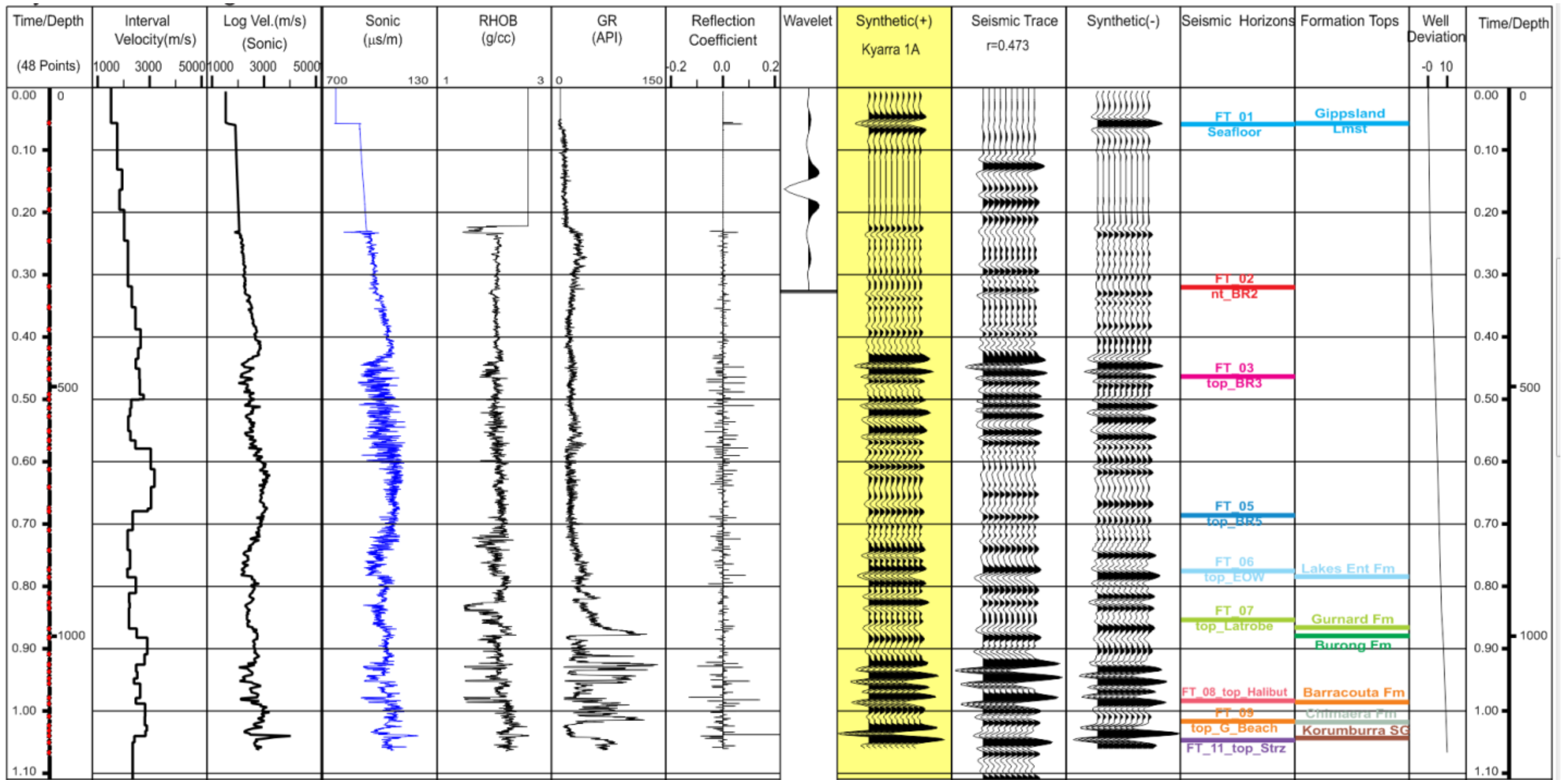


Figure A1.7. Kyarra-1A Synthetic Seismogram



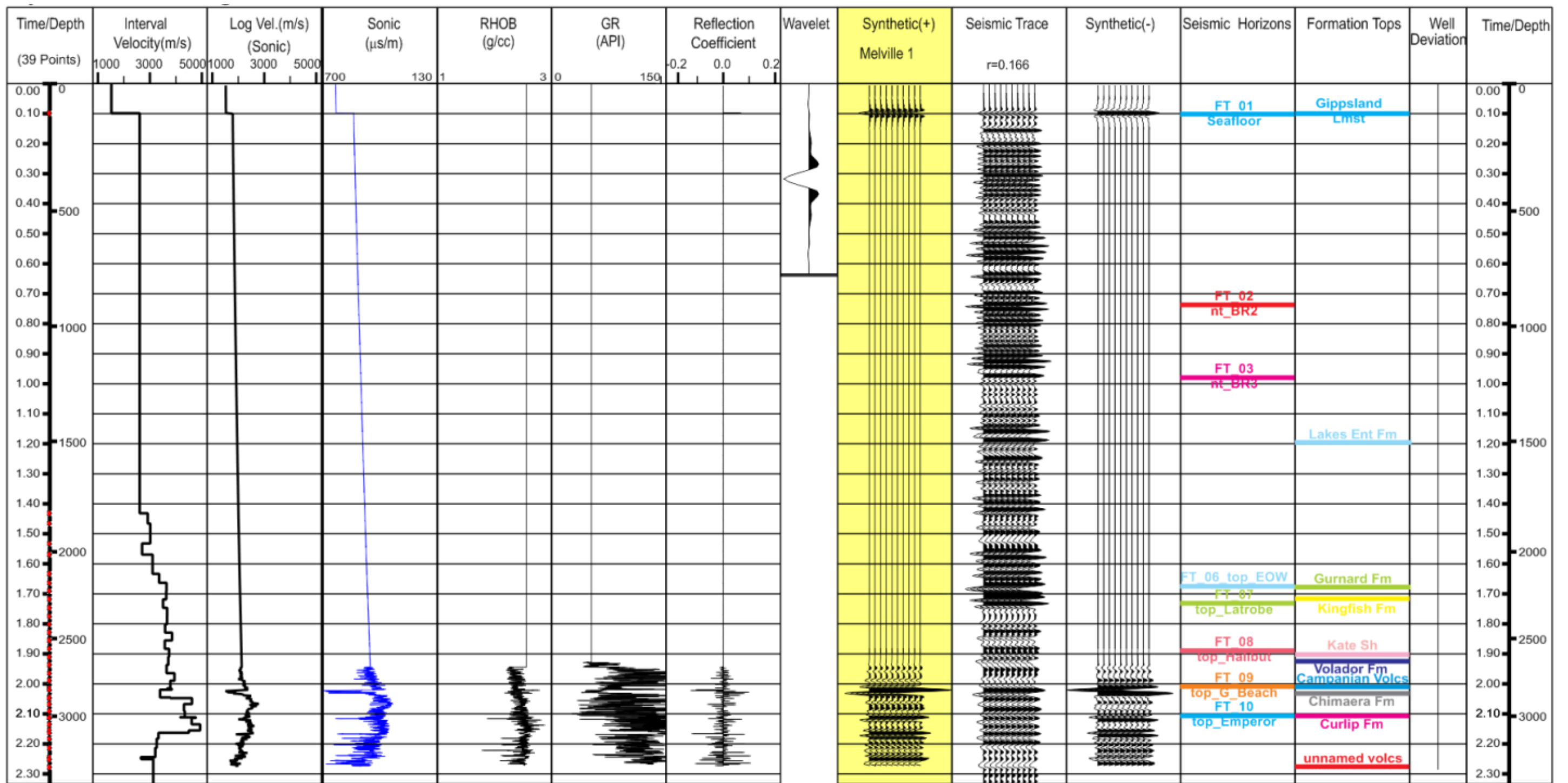


Figure A1.8. Melville-1 Synthetic Seismogram

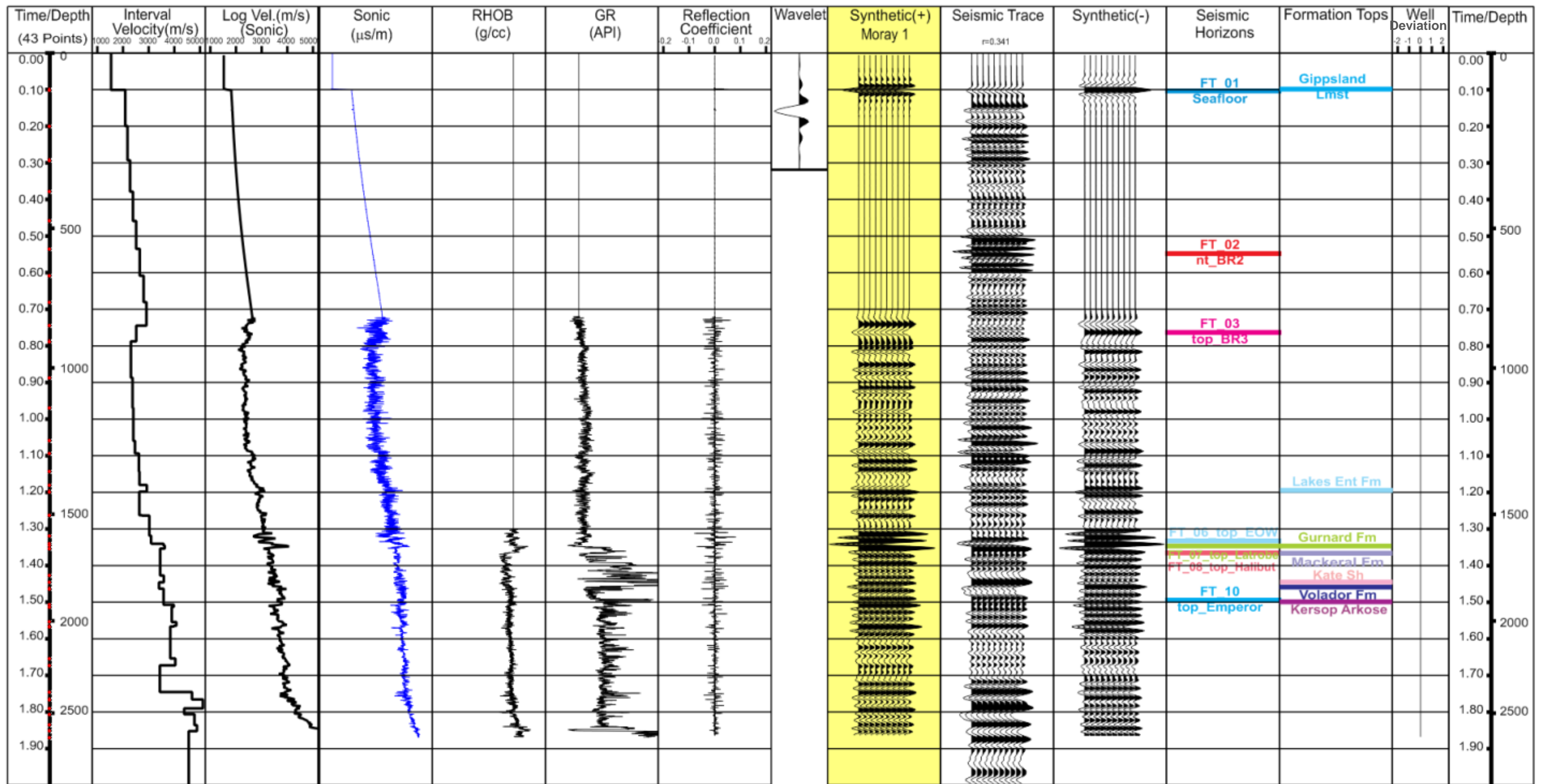


Figure A1.9. Moray-1 Synthetic Seismogram

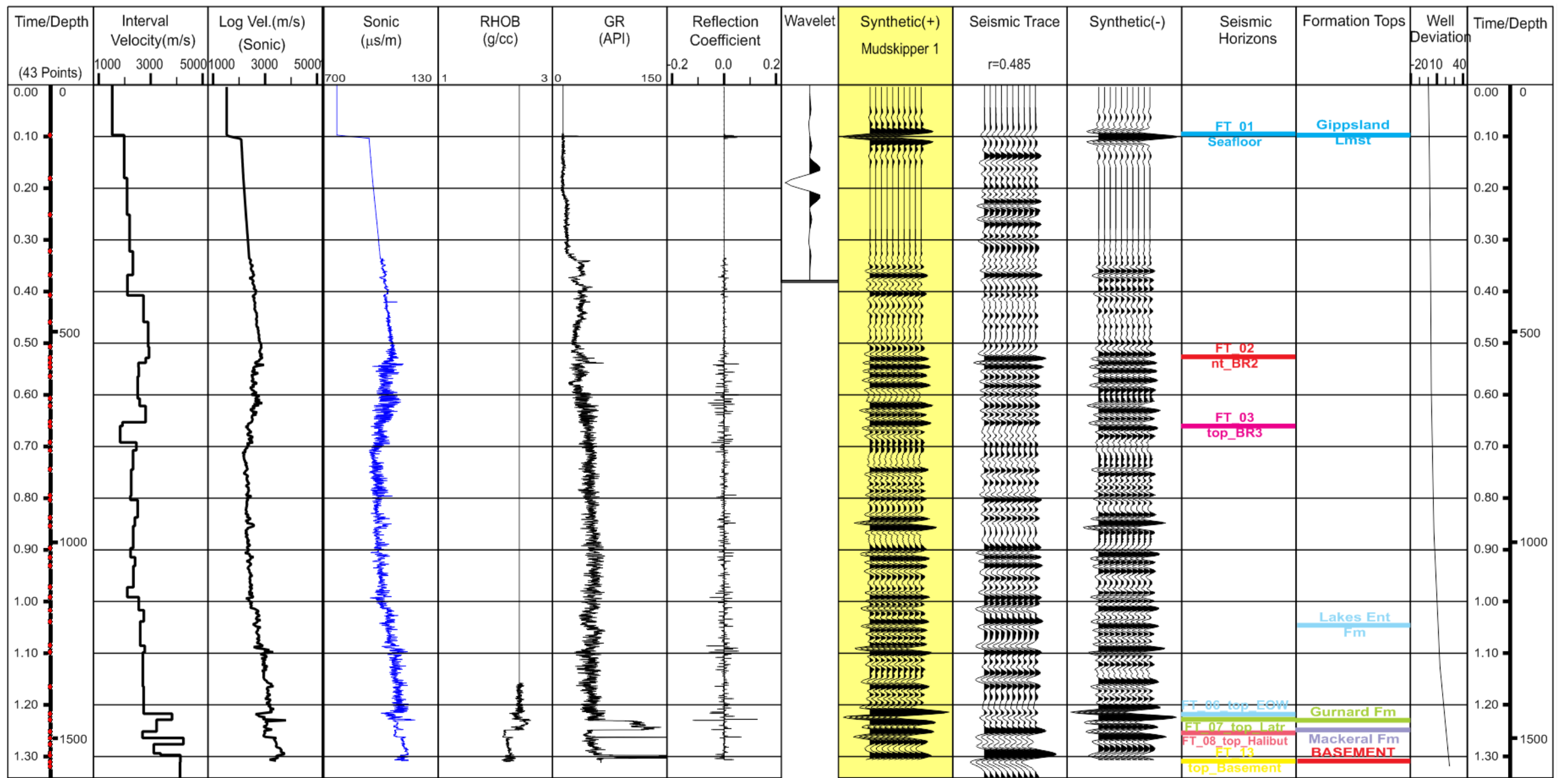


Figure A1.10. Mudskipper-1 Synthetic Seismogram

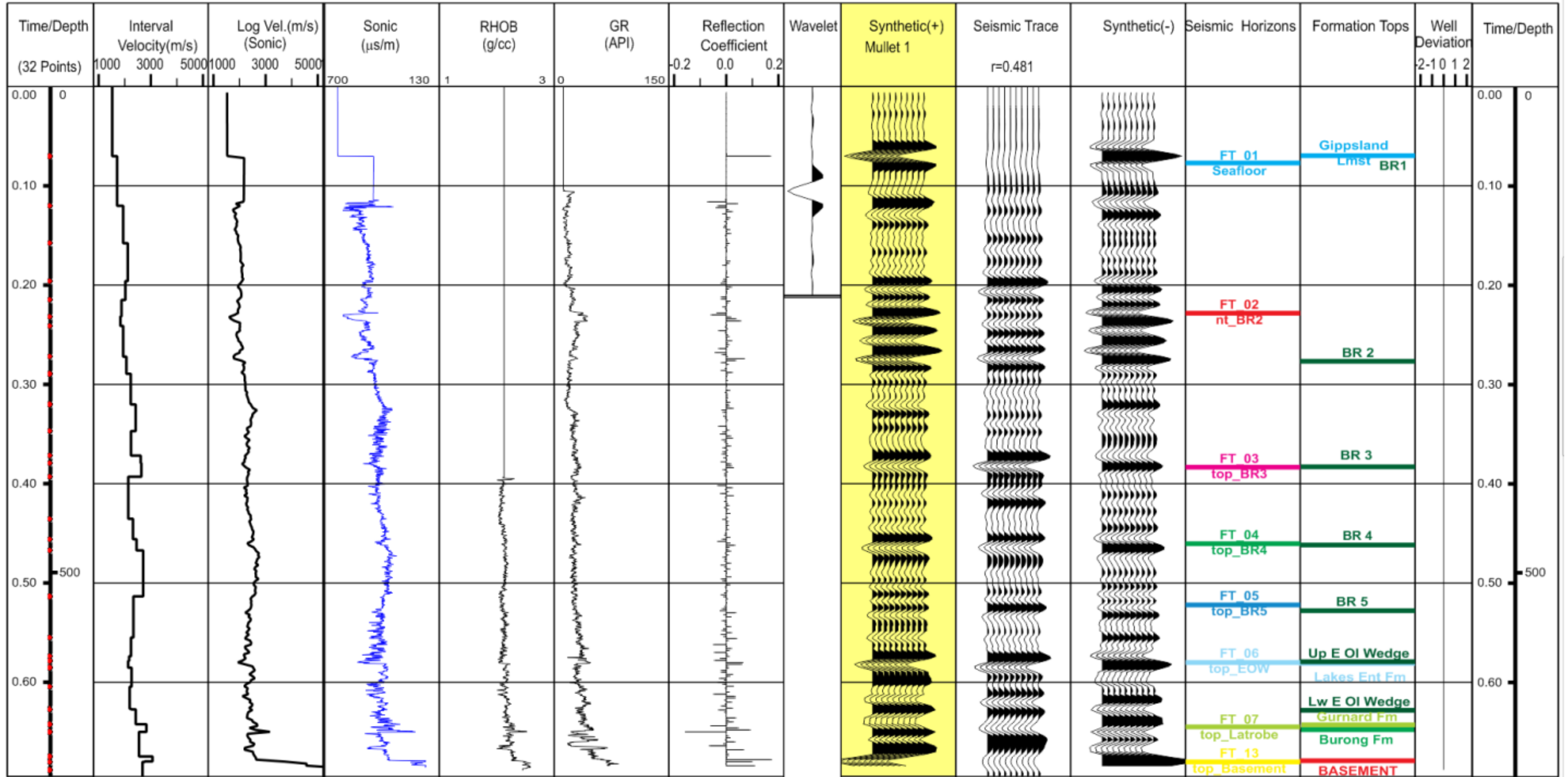


Figure A1.11. Mullet-1 Synthetic Seismogram

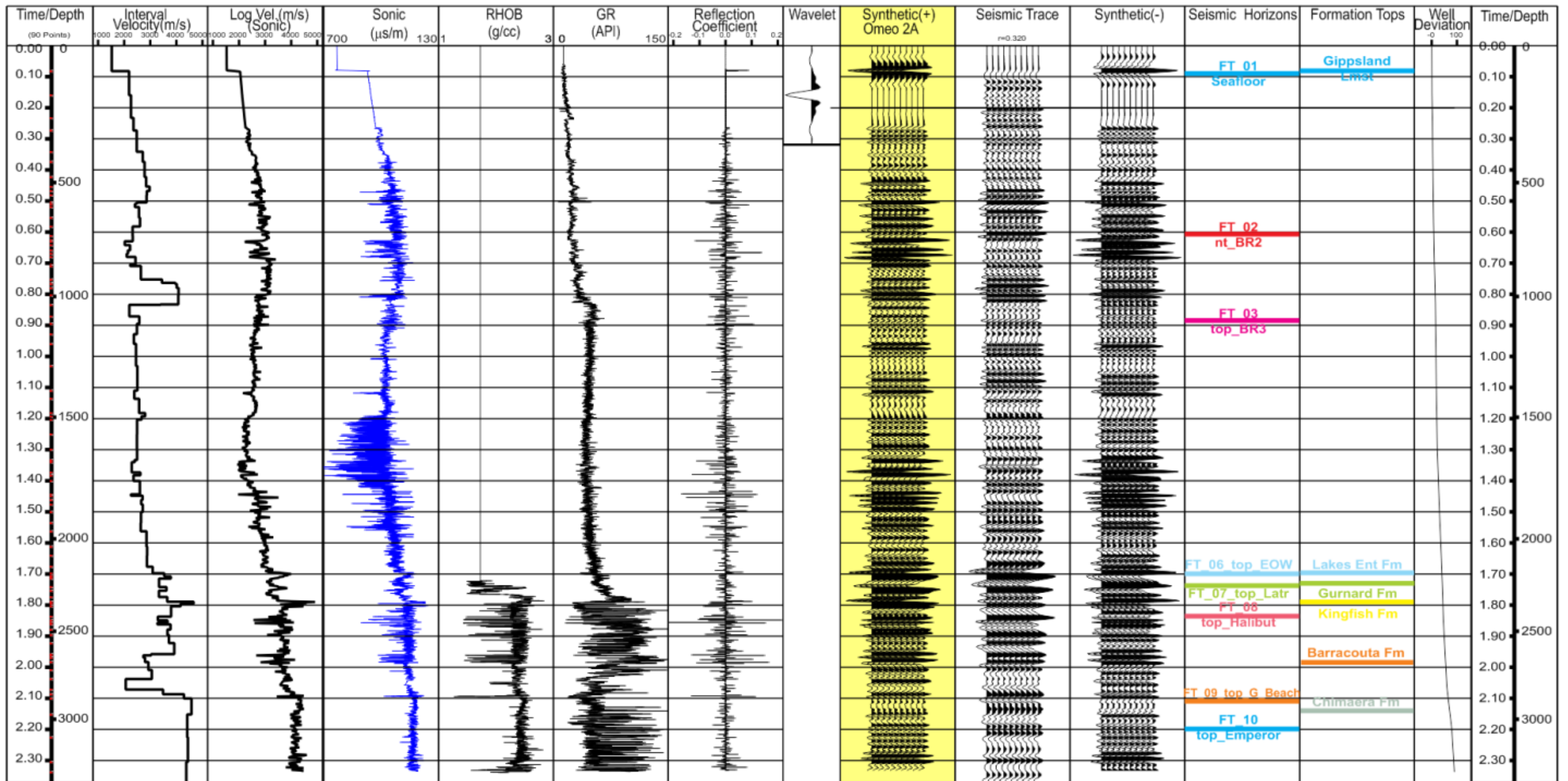


Figure A1.12. Omeo-2A Synthetic Seismogram

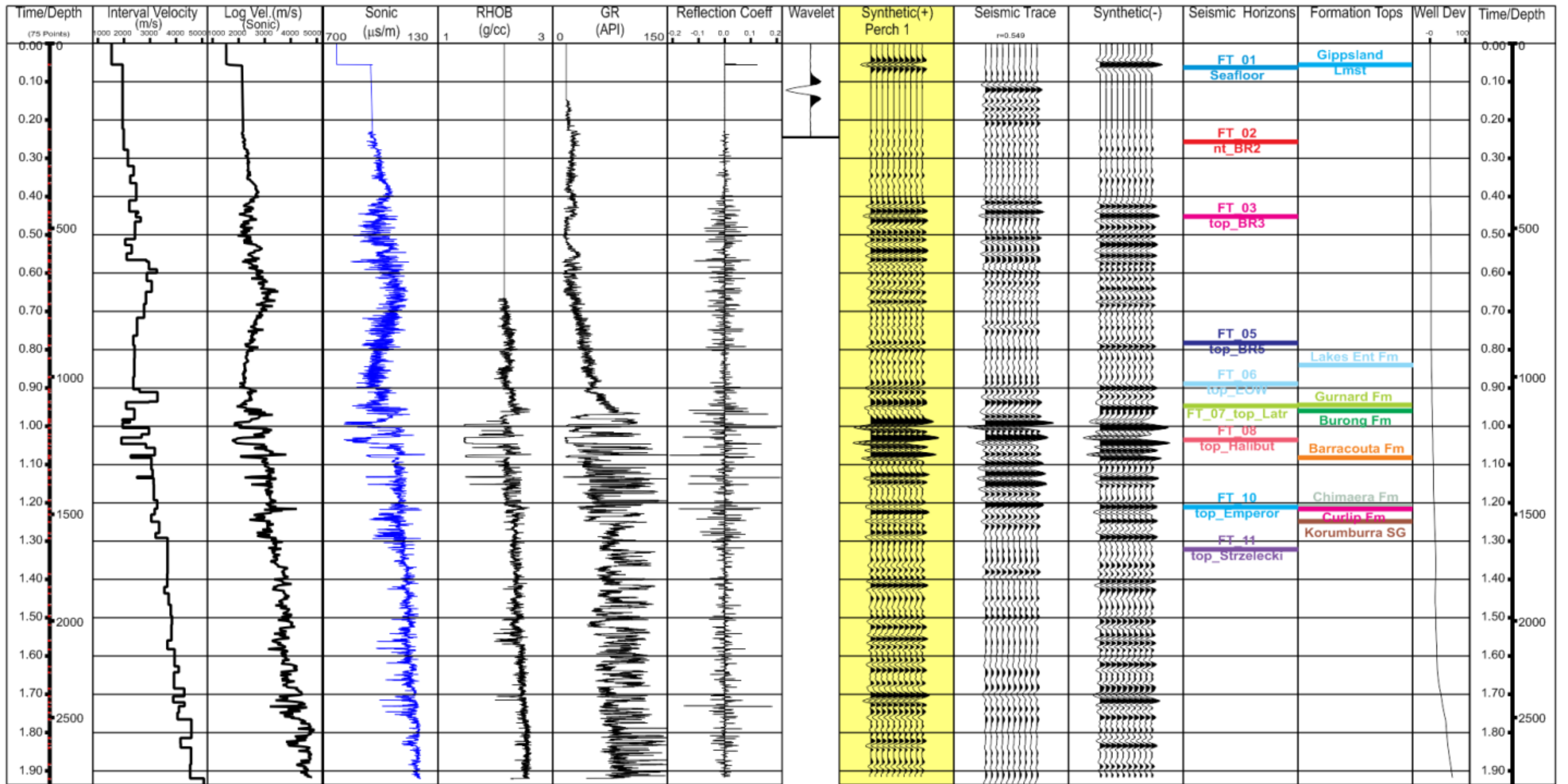


Figure A1.13. Perch-1 Synthetic Seismogram

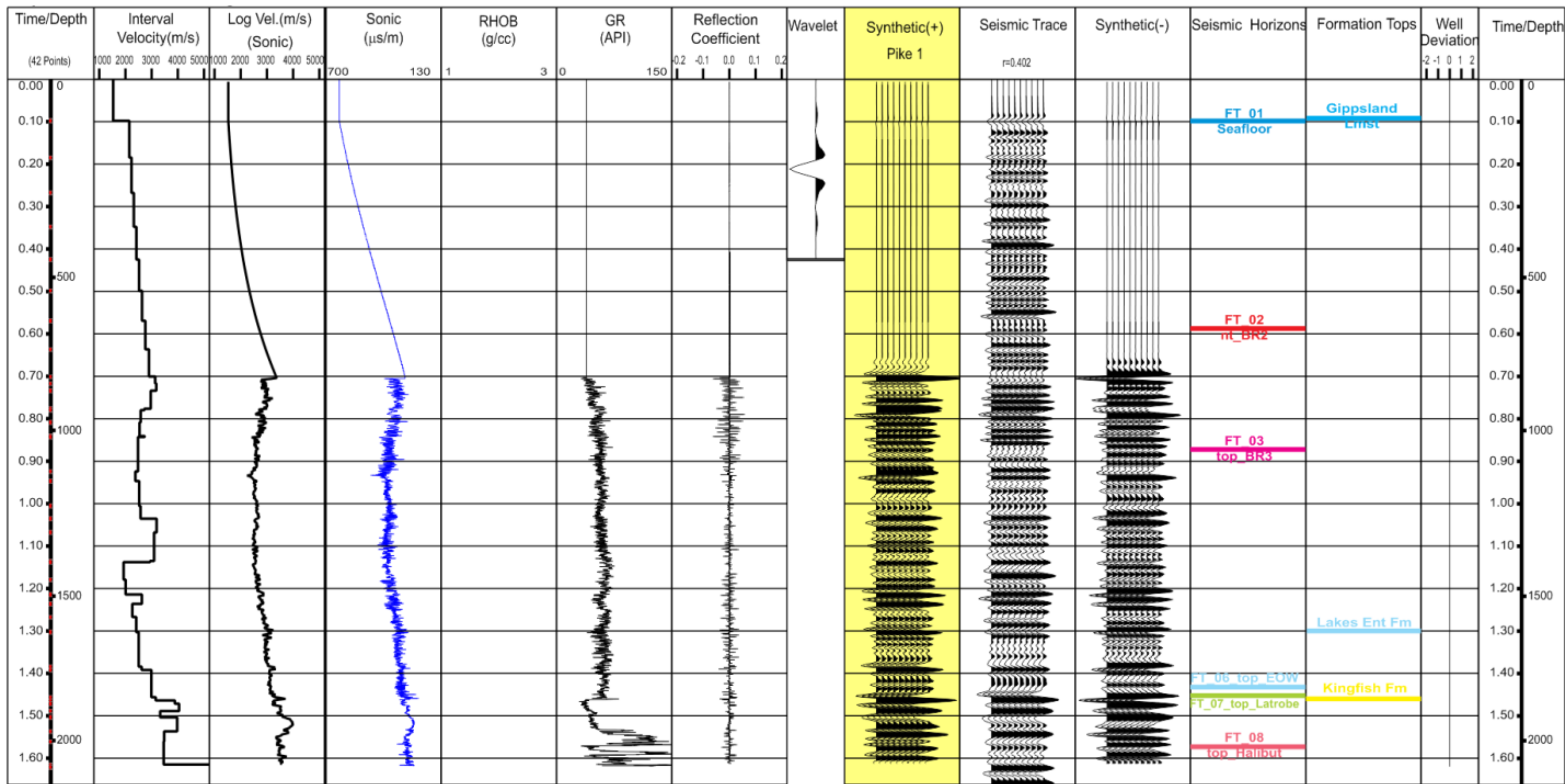


Figure A1.14. Pike-1 Synthetic Seismogram

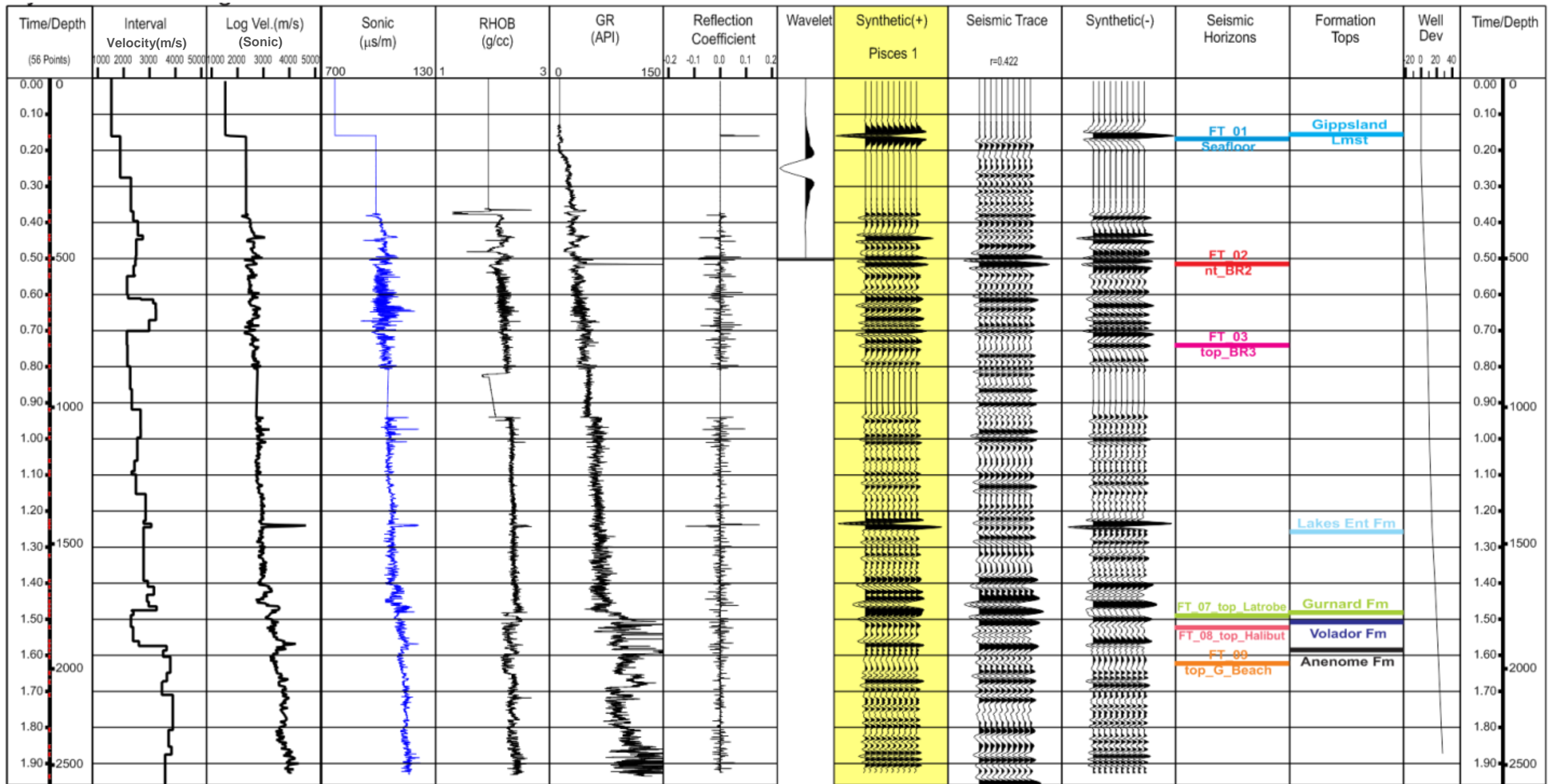


Figure A1.15. Pisces-1 Synthetic Seismogram



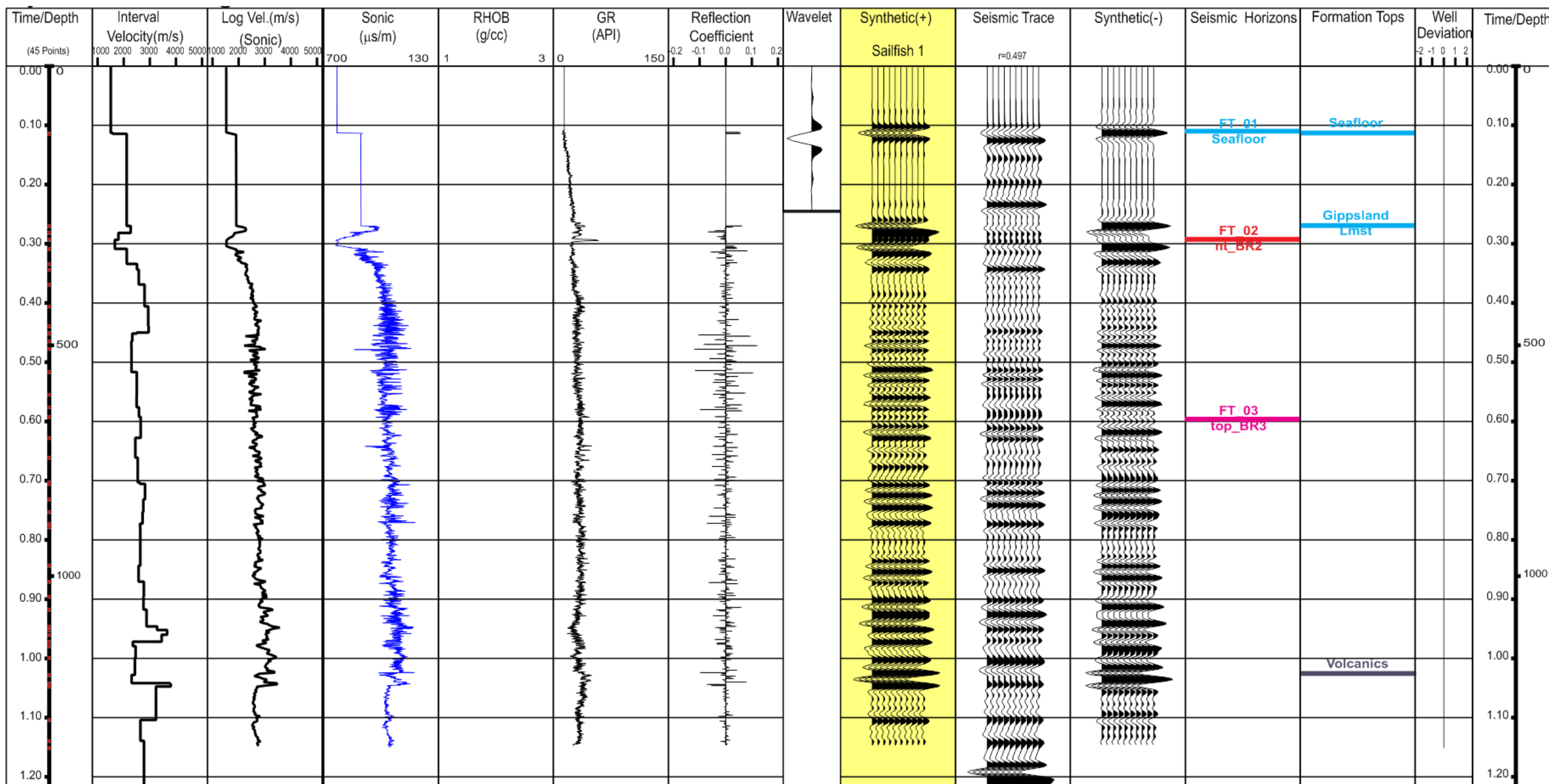


Figure A1.16. Sailfish-1 Synthetic Seismogram

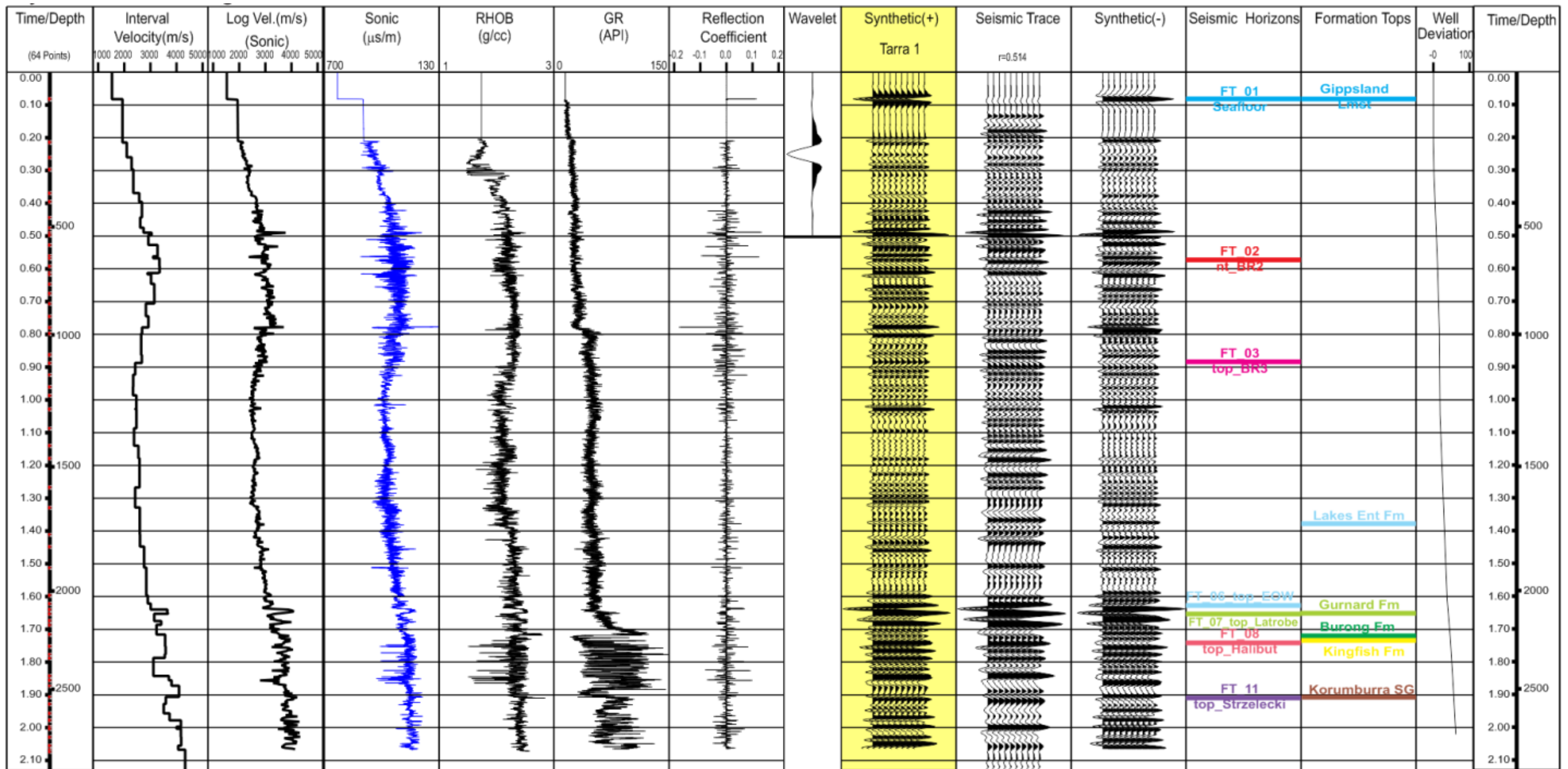


Figure A1.17. Tarra-1 Synthetic Seismogram

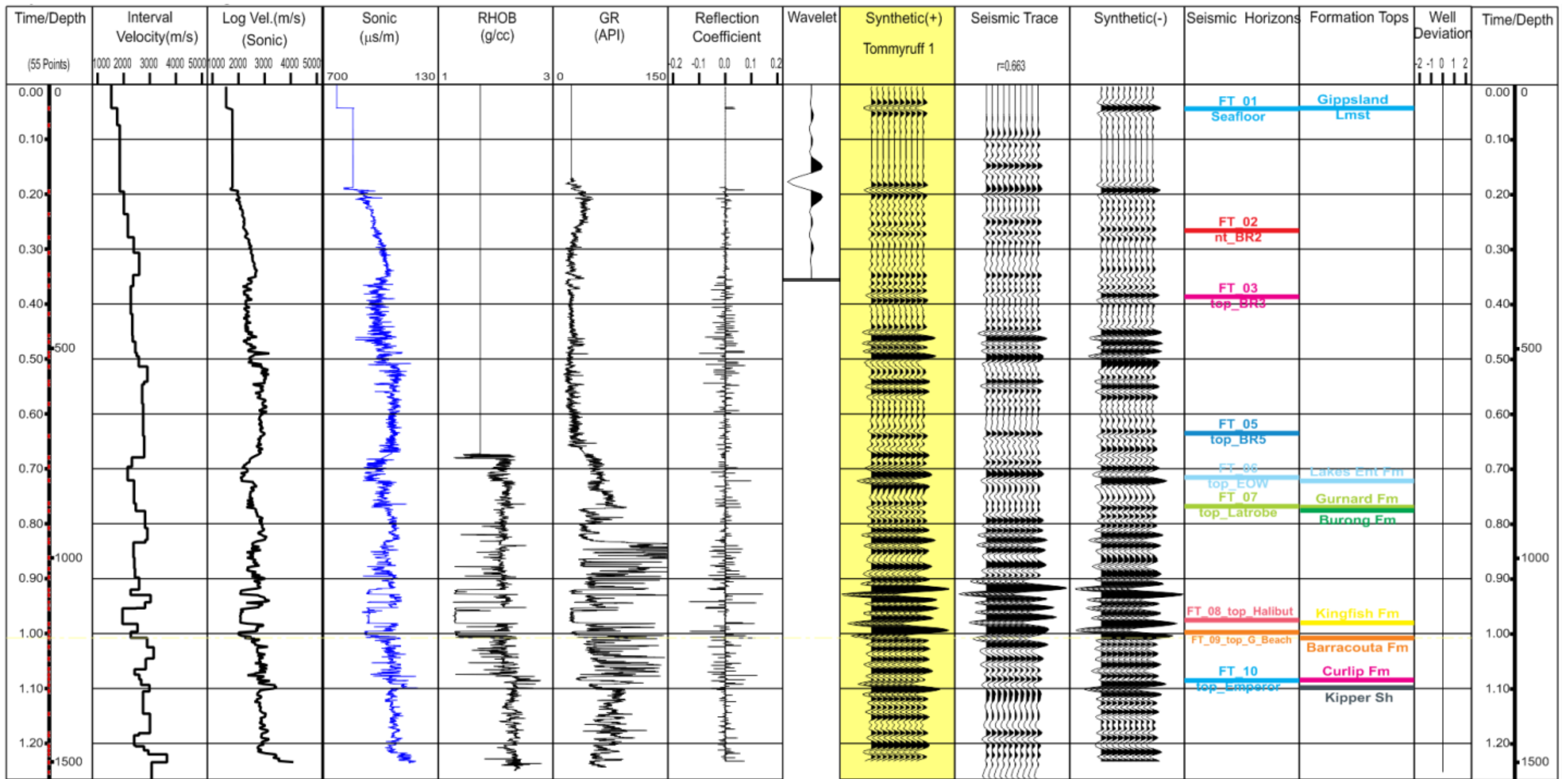


Figure A1.18. Tommyruff-1 Synthetic Seismogram

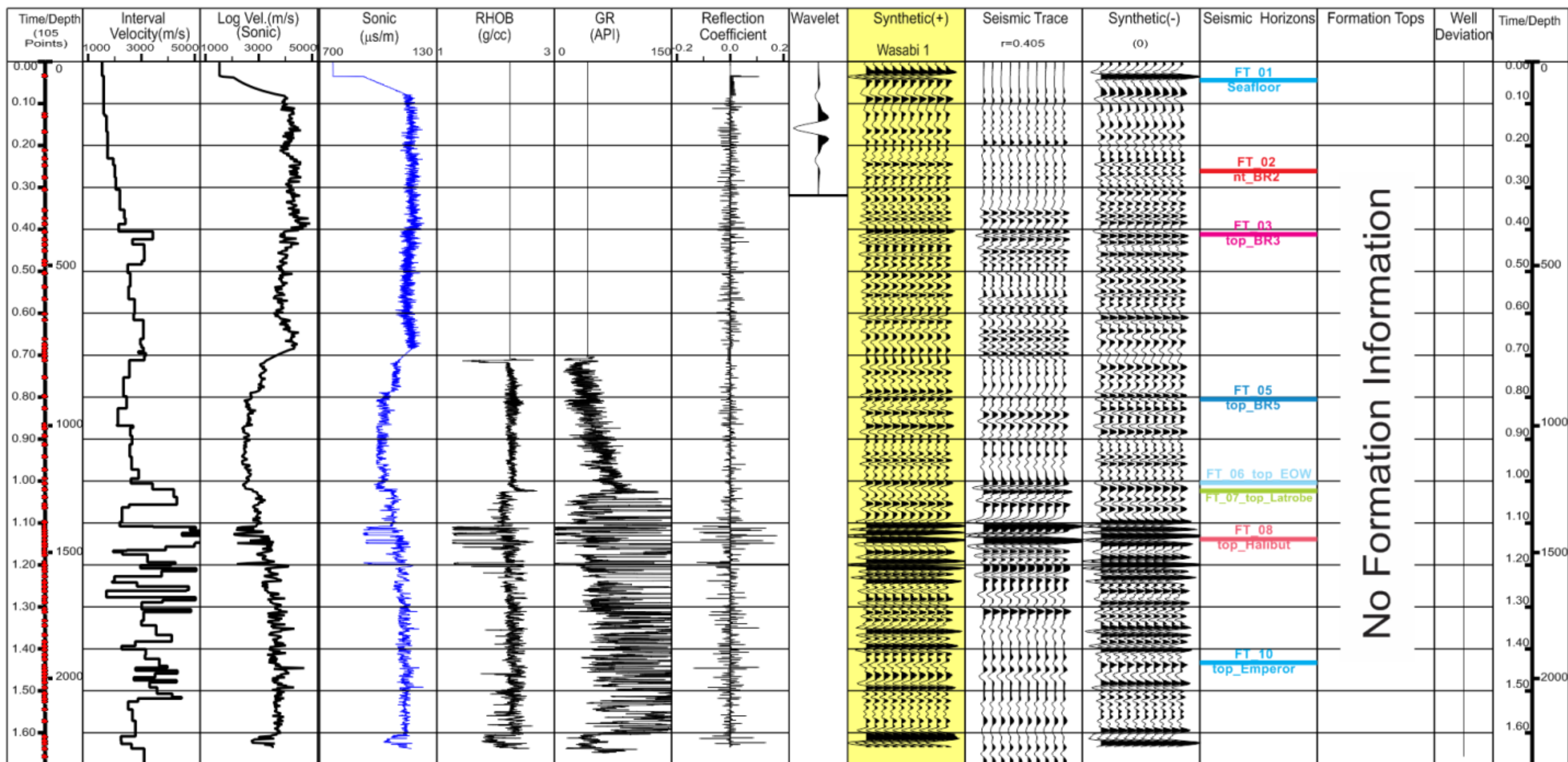


Figure A1.19. Wasabi-1 Synthetic Seismogram

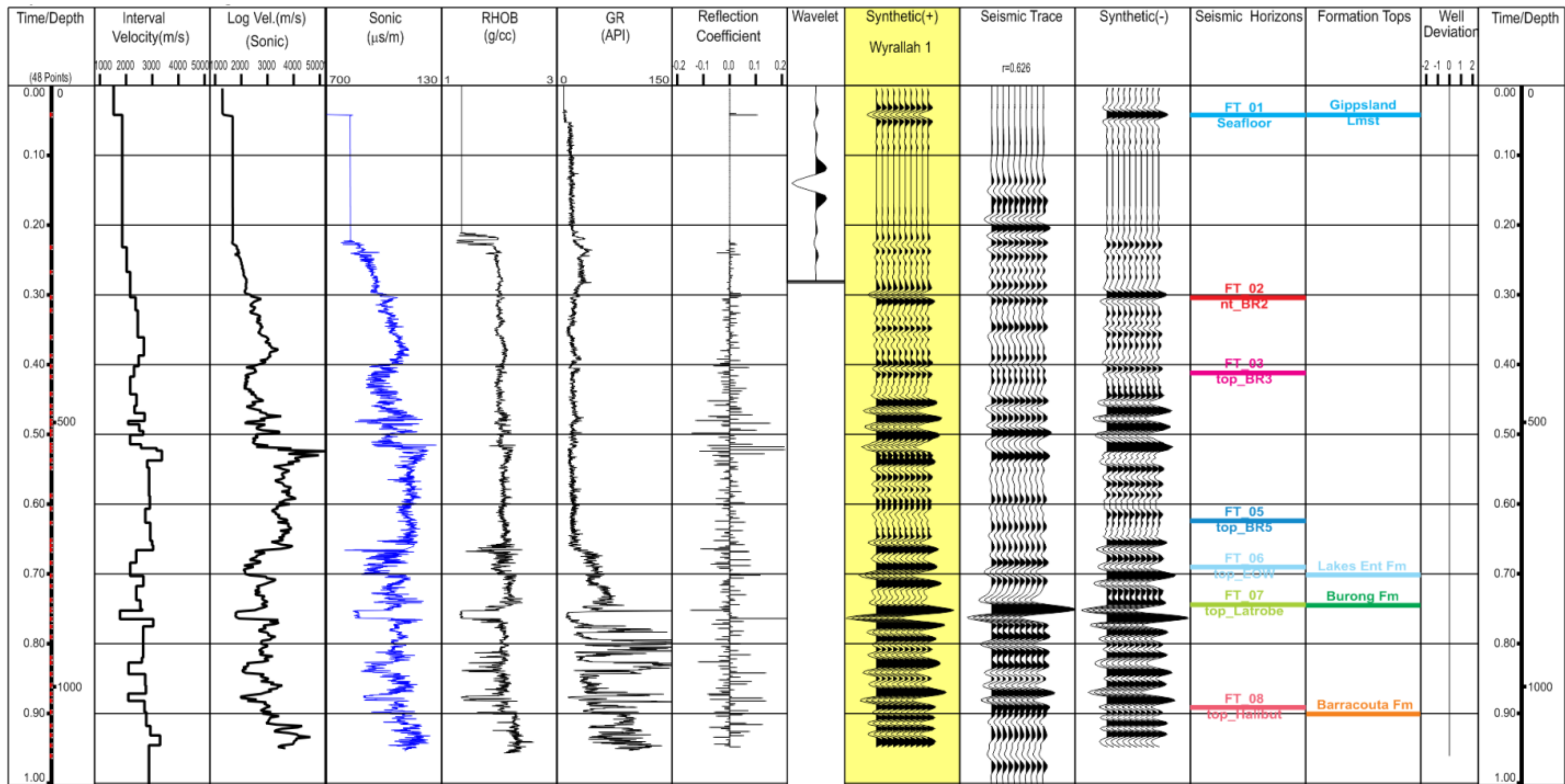


Figure A1.20. Wyrallah-1 Synthetic Seismogram

# **Appendix 2**

## **Well Composites and Porosity/Permeability Data for 20 Key Wells**

WELL	COMPOSITE	PORO-PERM
Amberjack-1		
Bluebone-1		1 value
Bullseye-1		No analyses
Devilfish-1		2 values
Groper-1		
Groper-2		
Kyarra-1A		
Melville-1		3 values
Moray-1		1 value
Mudskipper-1		3 values
Mullet-1		
Omeo-2A		No analyses
Perch-1		1 value
Pike-1		1 value
Pisces-1		No analyses
Sailfish-1		No analyses
Tarra-1		
Tommyruff-1		No analyses
Wasabi-1		No analyses
Wyrallah-1		No analyses

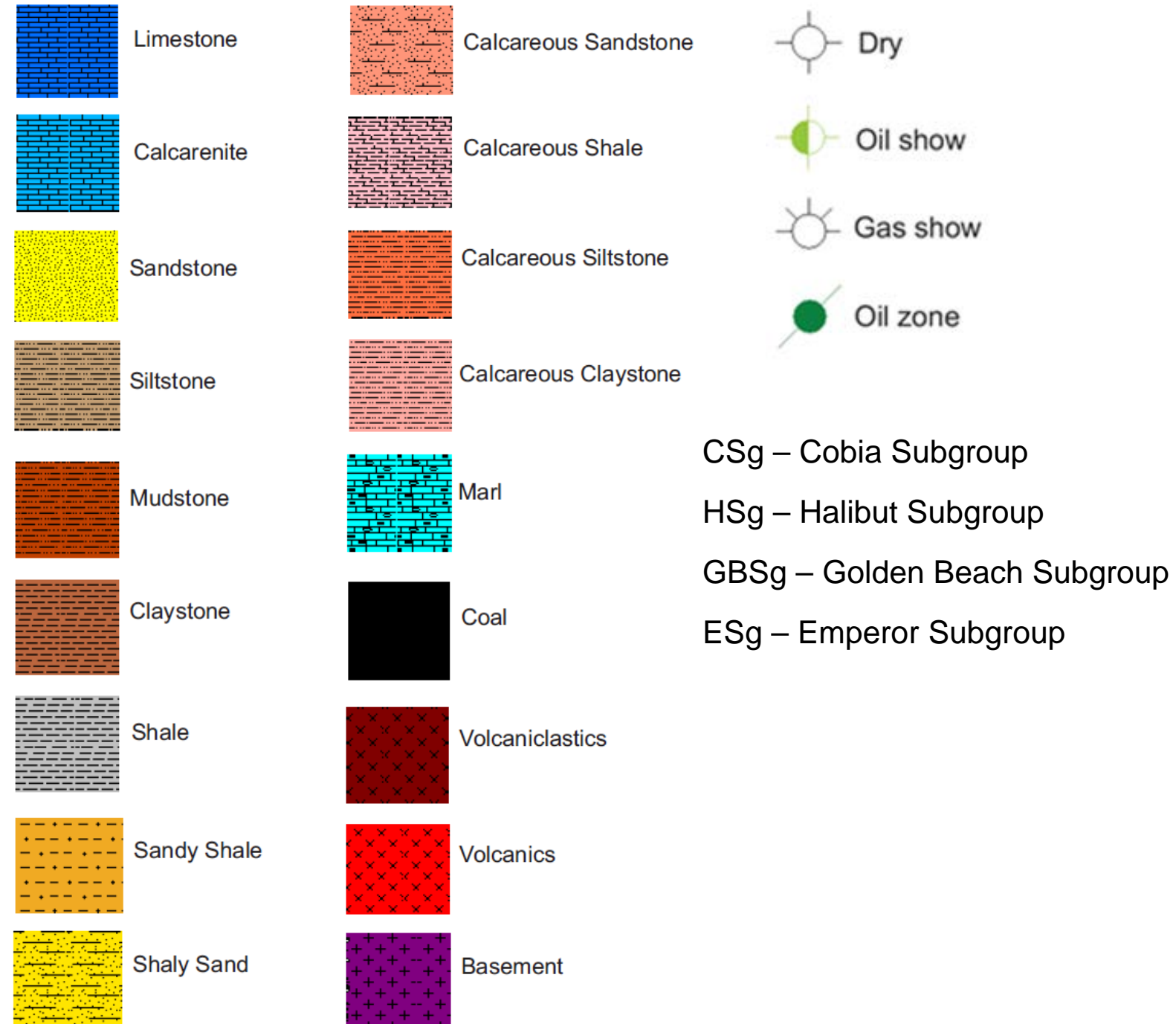
Listing of wells with composites (**green**) and porosity/permeability data sheets (**blue**). Limited porosity/permeability data are available in other wells as indicated by the number of values.

# KEY TO COMPOSITES

ASPZ – Australian Spore Pollen Zonation

GSDZ – Gippsland Standard Dinocyst Zonation

TGZ – Taylor Gippsland Zonules





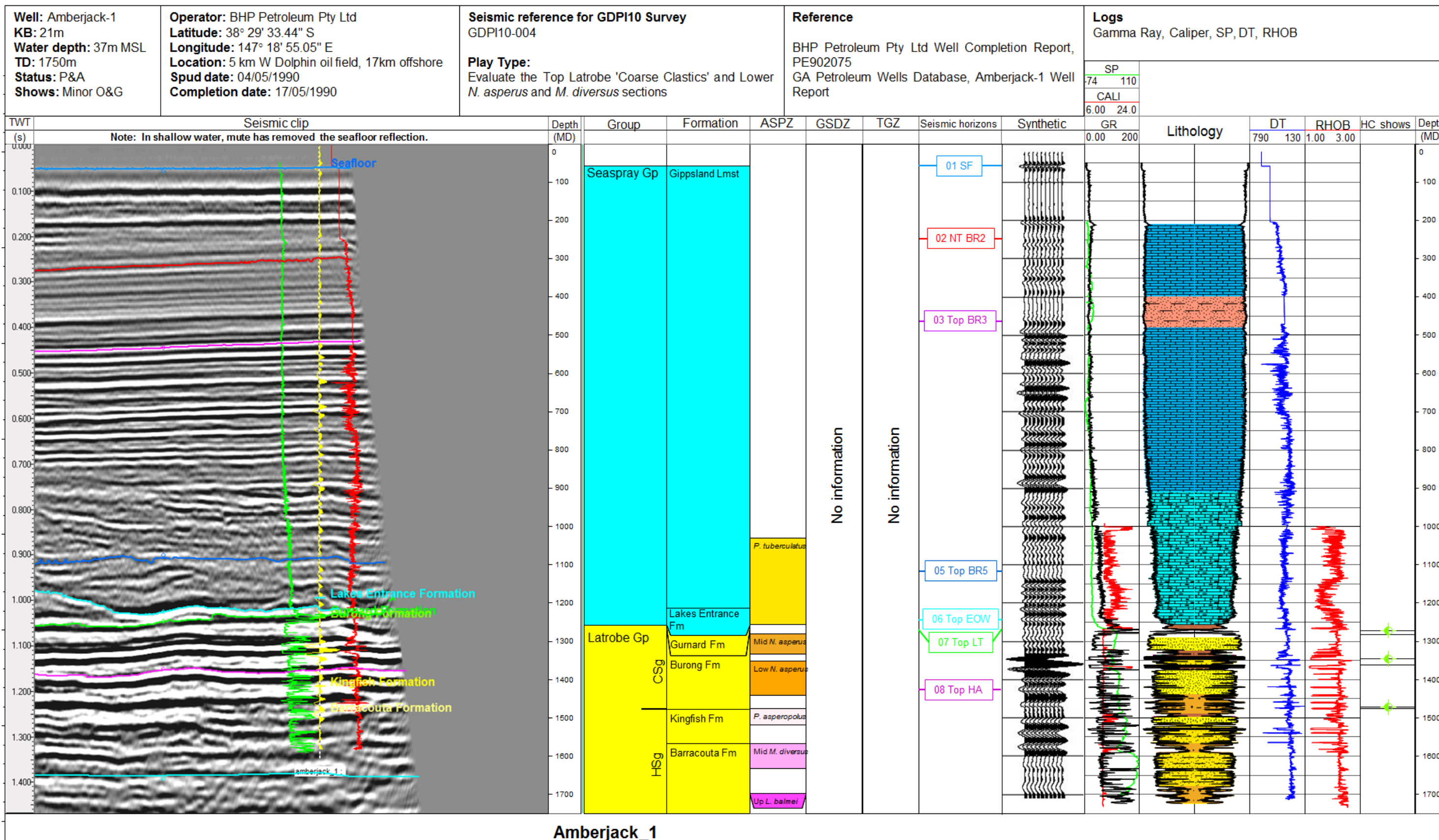


Figure A2.1. Amberjack-1 Well Composite. The TWT scale for the horizon panel is not equivalent to the depth scale in the remaining panels.

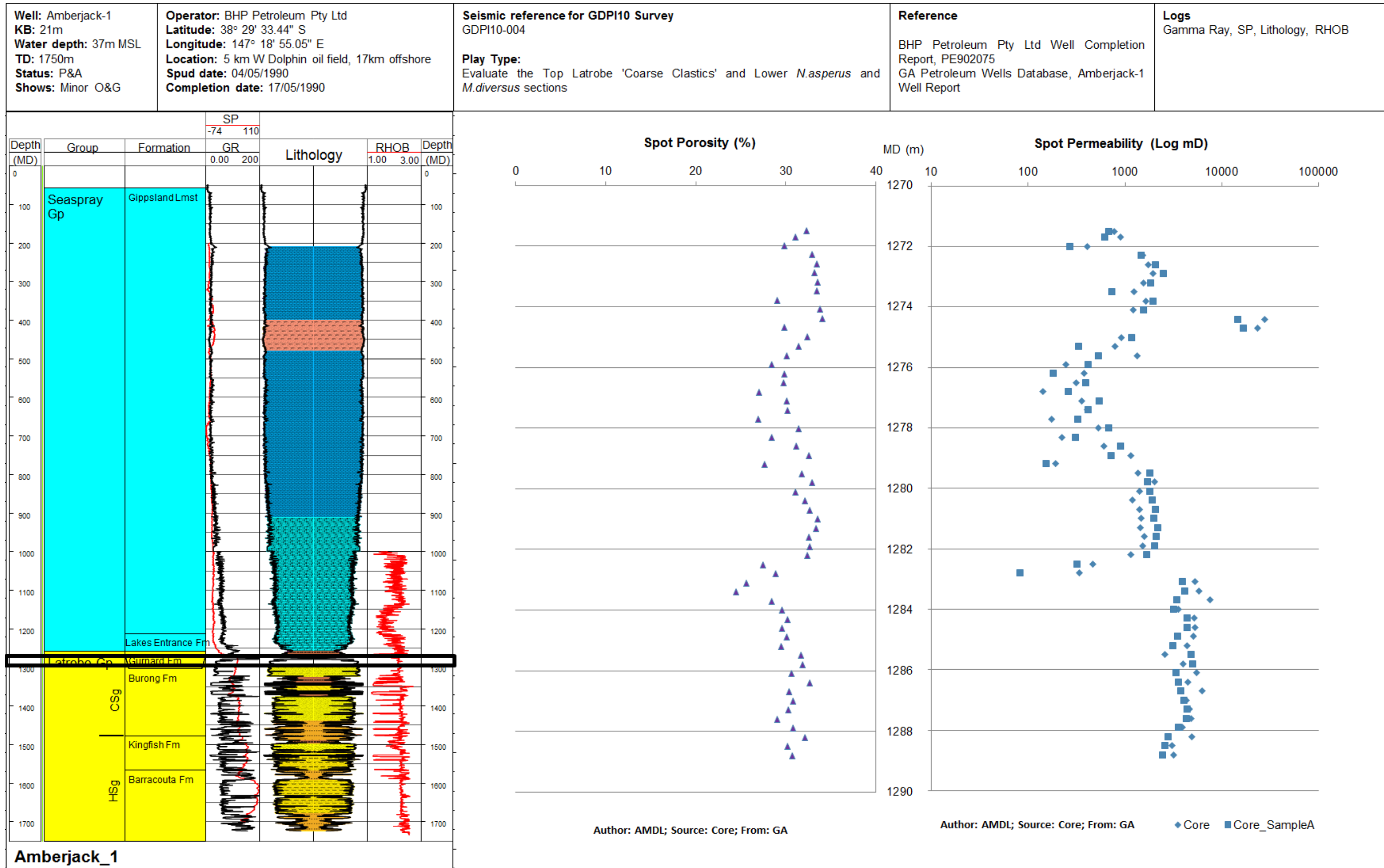


Figure A2.2. Amberjack-1 Porosity-Permeability Sheet. The black box overlaying the stratigraphic columns shows the interval where porosity/permeability measurements are available.

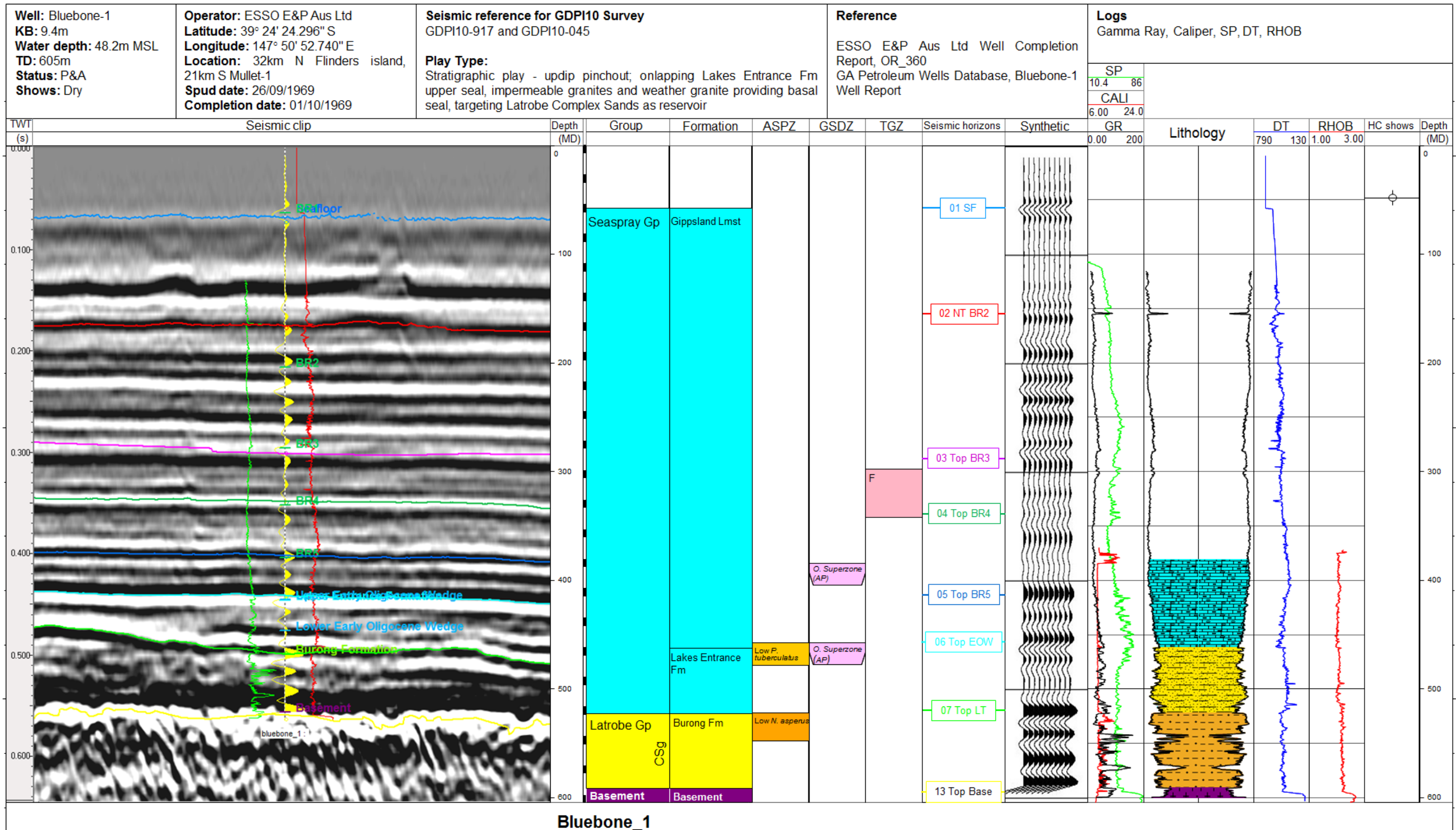


Figure A2.3. Bluebone-1 Well Composite. The TWT scale for the horizon panel is not equivalent to the depth scale in the remaining panels.

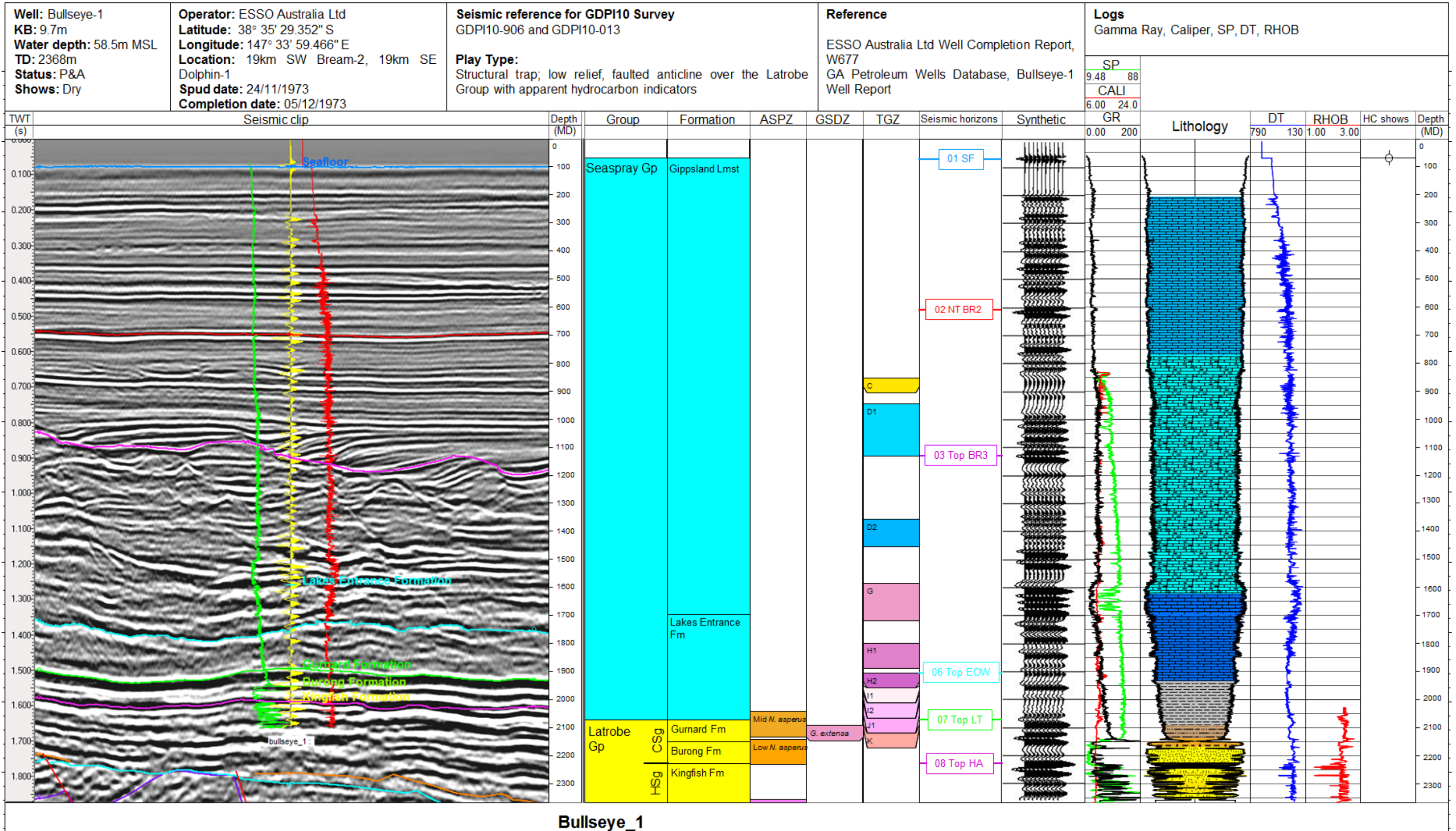


Figure A2.4. Bullseye-1 Well Composite. The TWT scale for the horizon panel is not equivalent to the depth scale in the remaining panels.

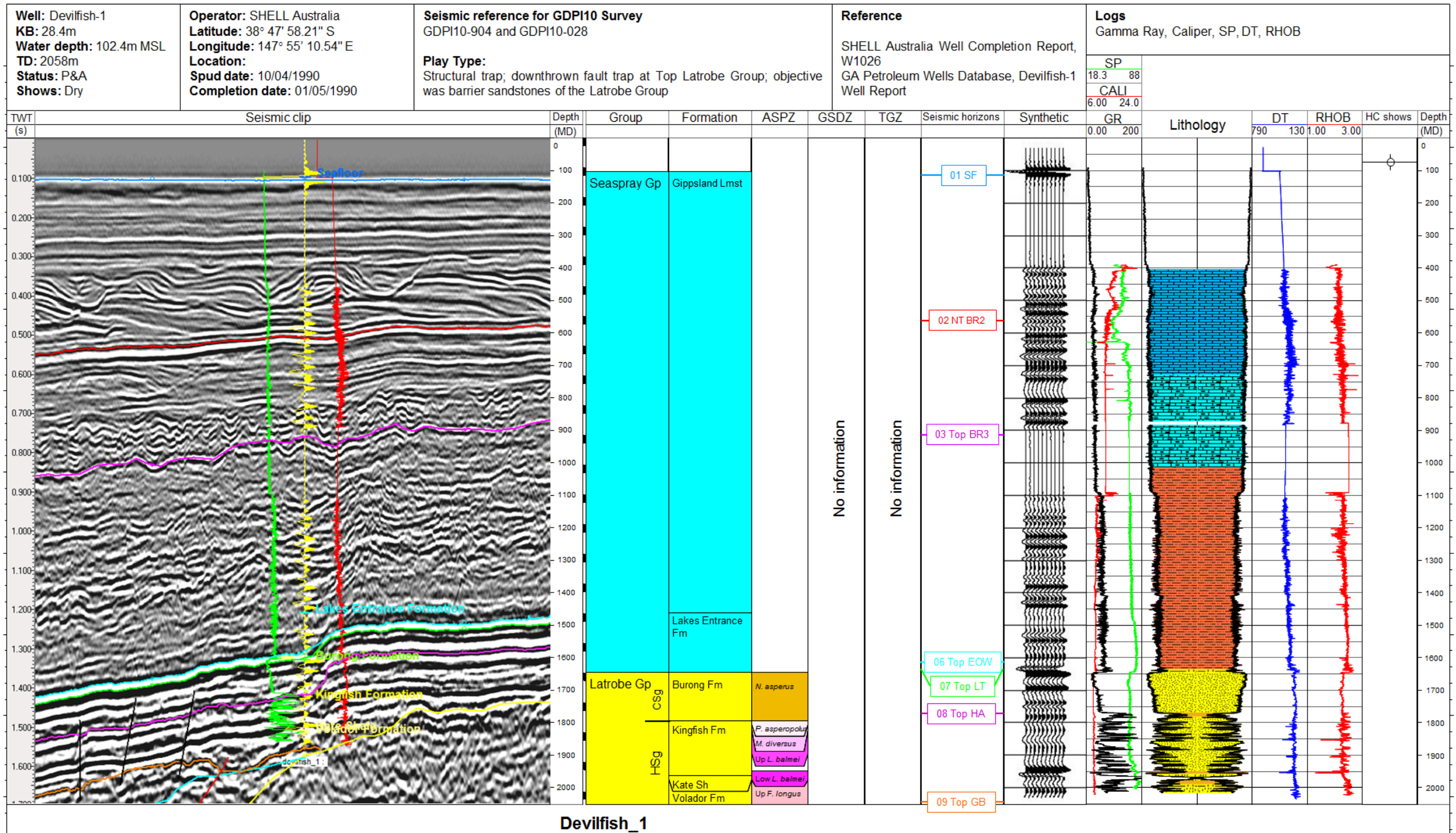


Figure A2.5. Devilfish-1 Well Composite. The TWT scale for the horizon panel is not equivalent to the depth scale in the remaining panels.

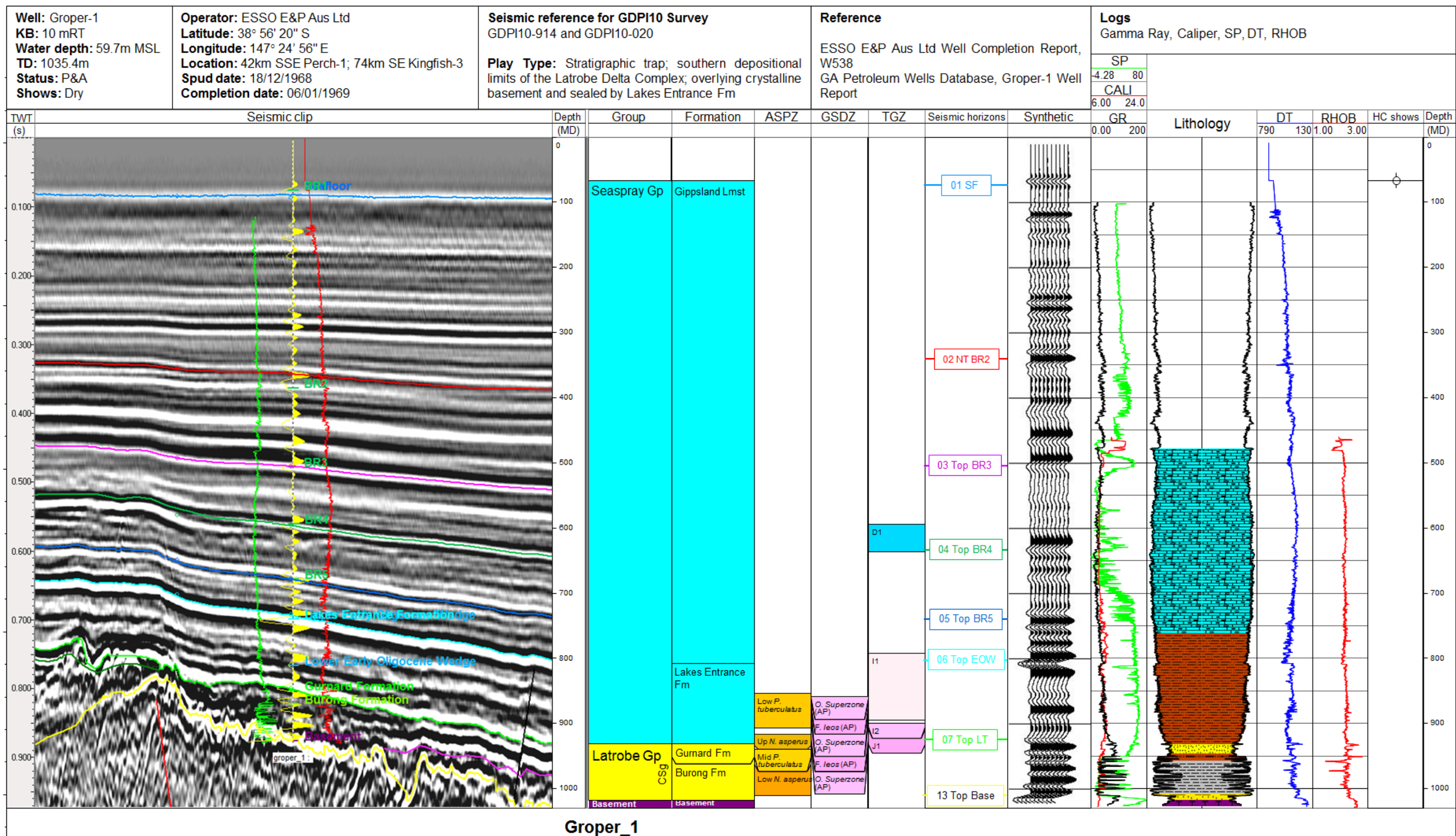


Figure A2.6. Groper-1 Well Composite. The TWT scale for the horizon panel is not equivalent to the depth scale in the remaining panels.

<b>Well:</b> Groper-1 <b>KB:</b> 10 mRT <b>Water depth:</b> 59.7m MSL <b>TD:</b> 1035.4m <b>Status:</b> P&A <b>Shows:</b> Dry	<b>Operator:</b> ESSO E&P Aus Ltd <b>Latitude:</b> 38° 56' 20" S <b>Longitude:</b> 147° 24' 56" E <b>Location:</b> 42km SSE Perch-1; 74km SE Kingfish-3 <b>Spud date:</b> 18/12/1968 <b>Completion date:</b> 06/01/1969	<b>Seismic reference for GDPI10 Survey</b> GDPI10-914 and GDPI10-020  <b>Play Type:</b> Stratigraphic trap; southern depositional limits of the Latrobe Delta Complex; overlying crystalline basement and sealed by Lakes Entrance Formation	<b>Reference</b> ESSO E&P Aus Ltd Well Completion Report, W538 GA Petroleum Wells Database, Groper-1 Well Report	<b>Logs</b> Gamma Ray, SP, Lithology, RHOB
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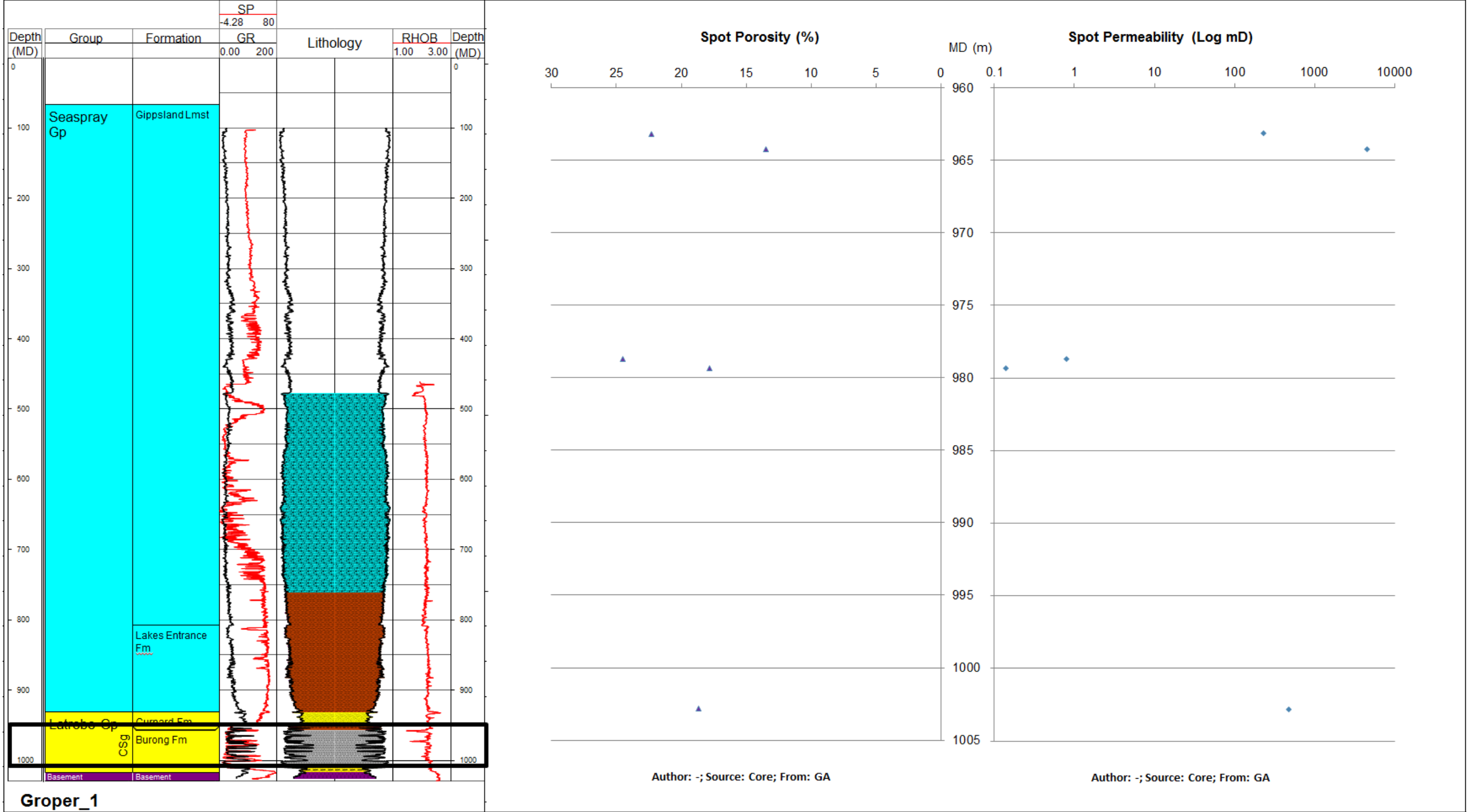


Figure A2.7. Groper-1 Porosity-Permeability Sheet. The black box overlaying the stratigraphic columns shows the interval where porosity/permeability measurements are available.

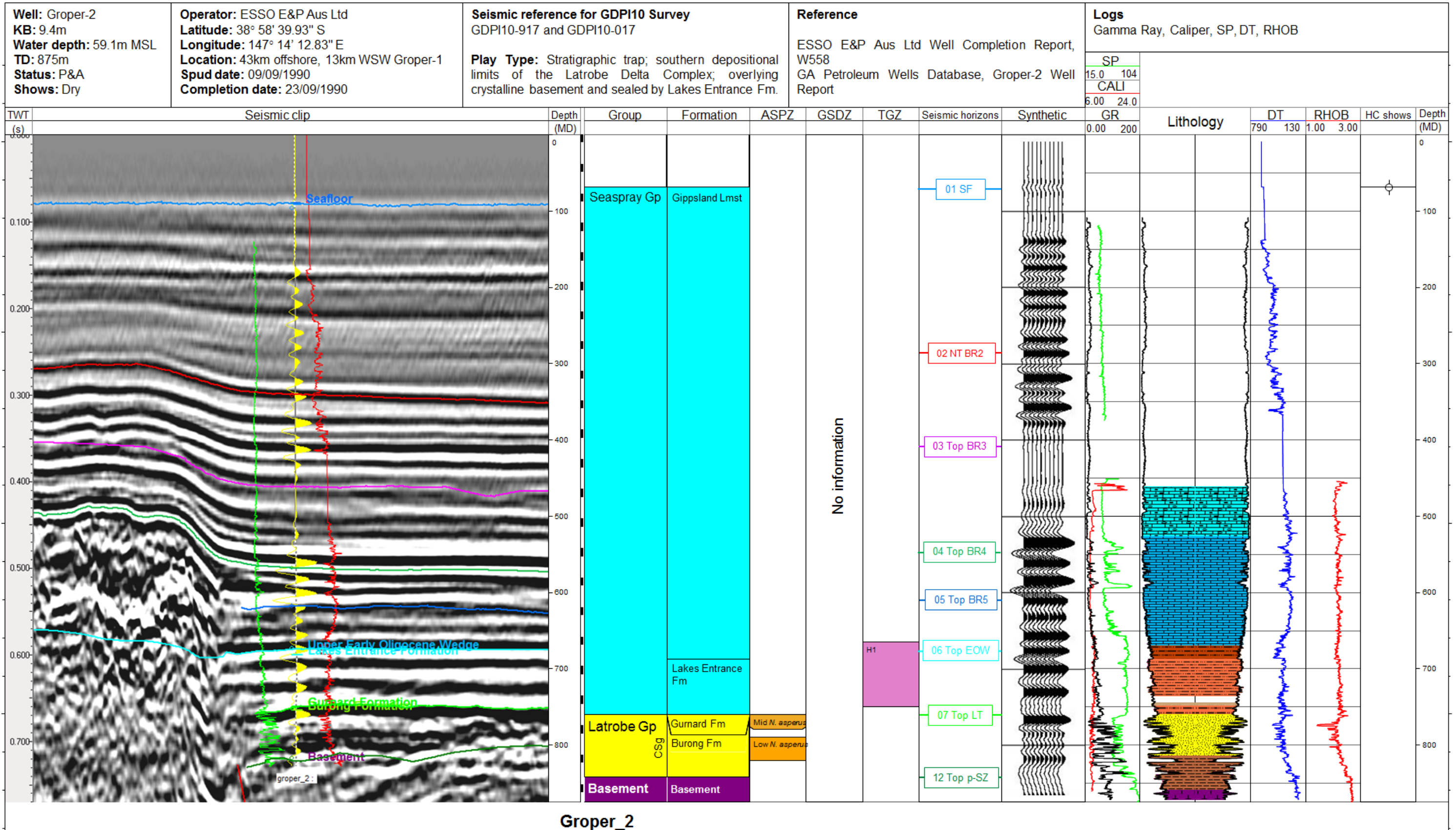


Figure A2.8. Groper-2 Well Composite. The TWT scale for the horizon panel is not equivalent to the depth scale in the remaining panels.



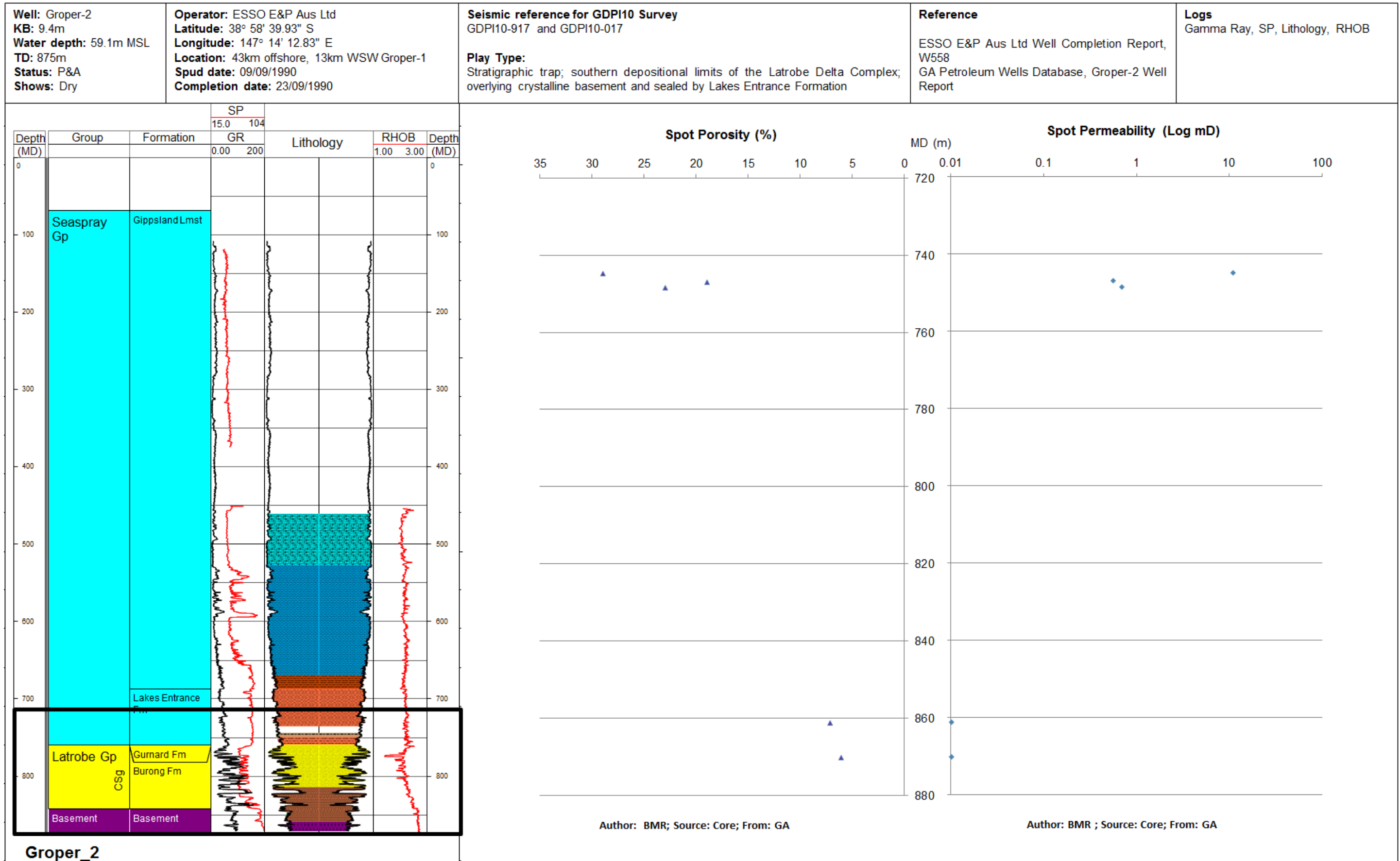


Figure A2.9. Groper-2 Porosity-Permeability Sheet. The black box overlaying the stratigraphic columns shows the interval where porosity/permeability measurements are available.

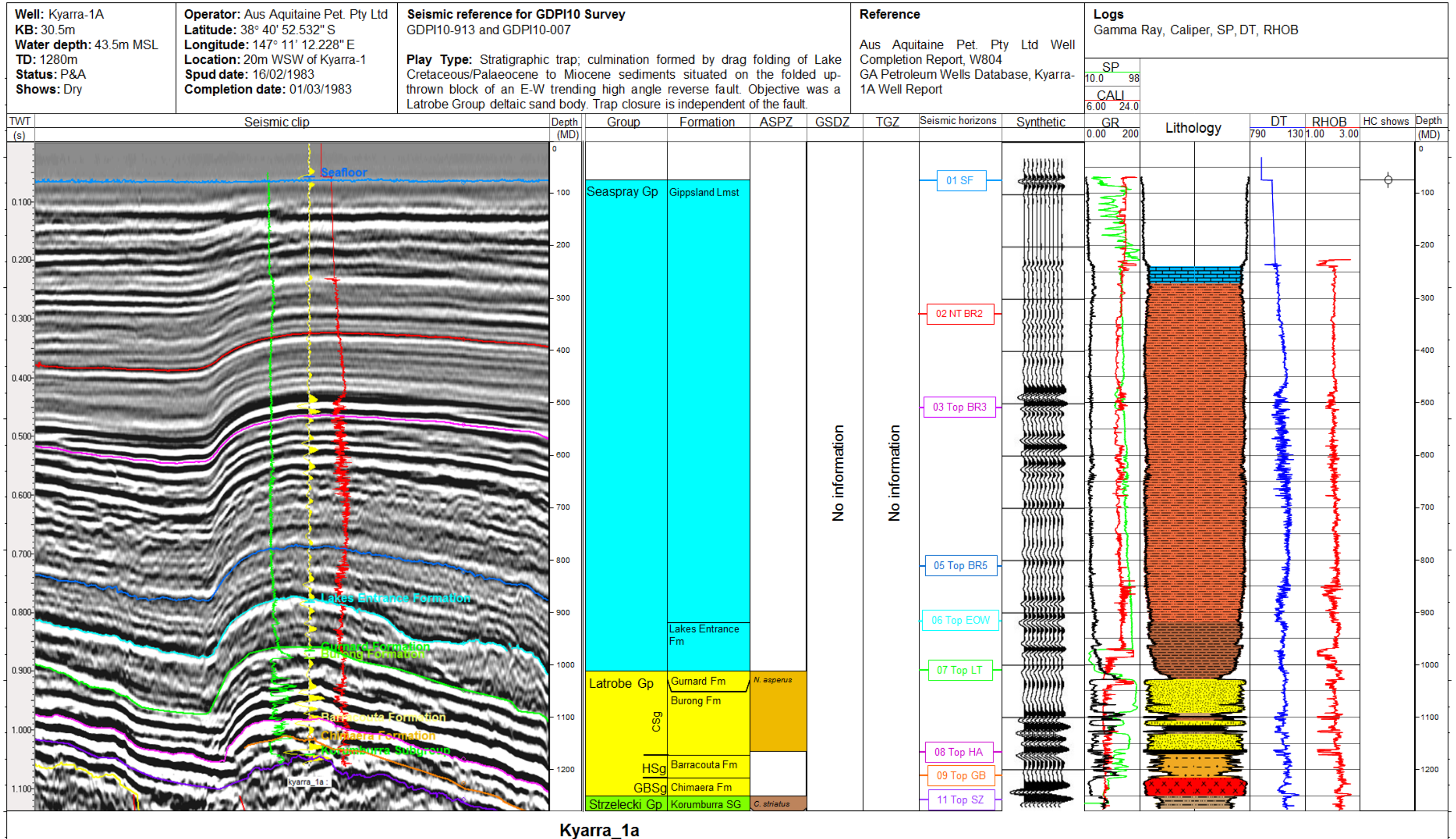


Figure A2.10. Kyarra-1A Well Composite. The TWT scale for the horizon panel is not equivalent to the depth scale in the remaining panels.

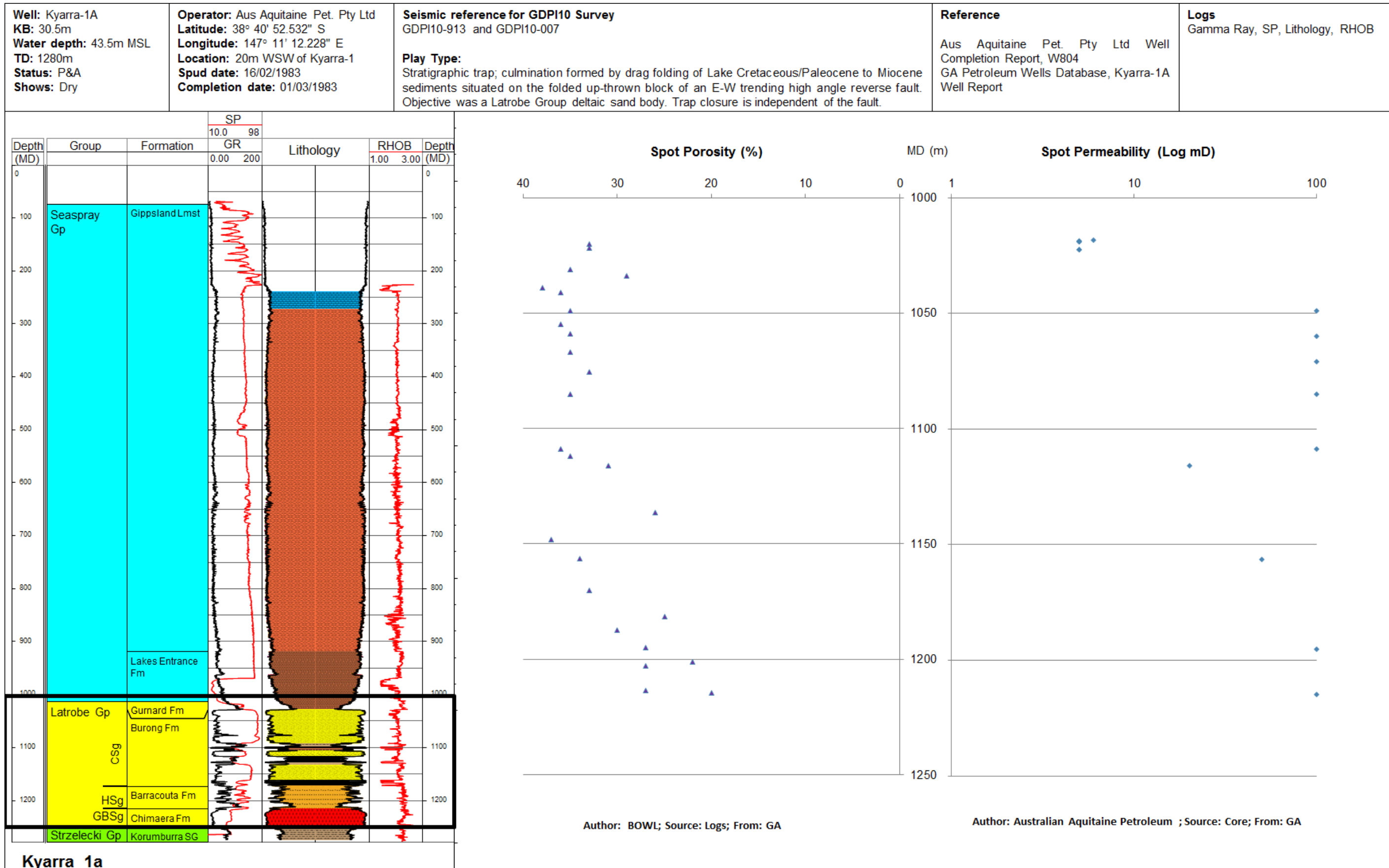


Figure A2.11. Kyarra-1A Porosity-Permeability Sheet. The black box overlaying the stratigraphic columns shows the interval where porosity/permeability measurements are available.

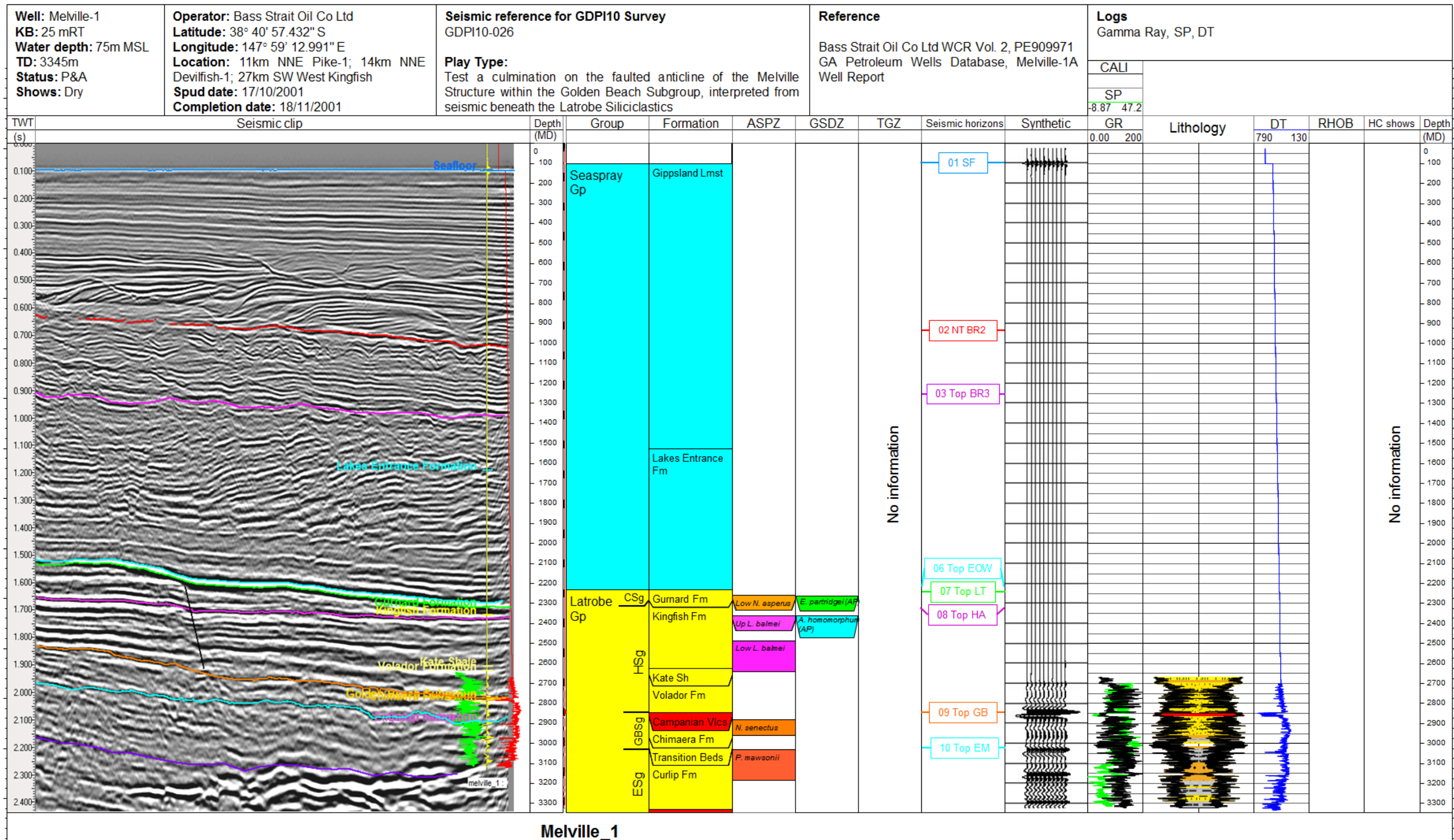


Figure A.2.12. Melville-1 Well Composite. The TWT scale for the horizon panel is not equivalent to the depth scale in the remaining panels.

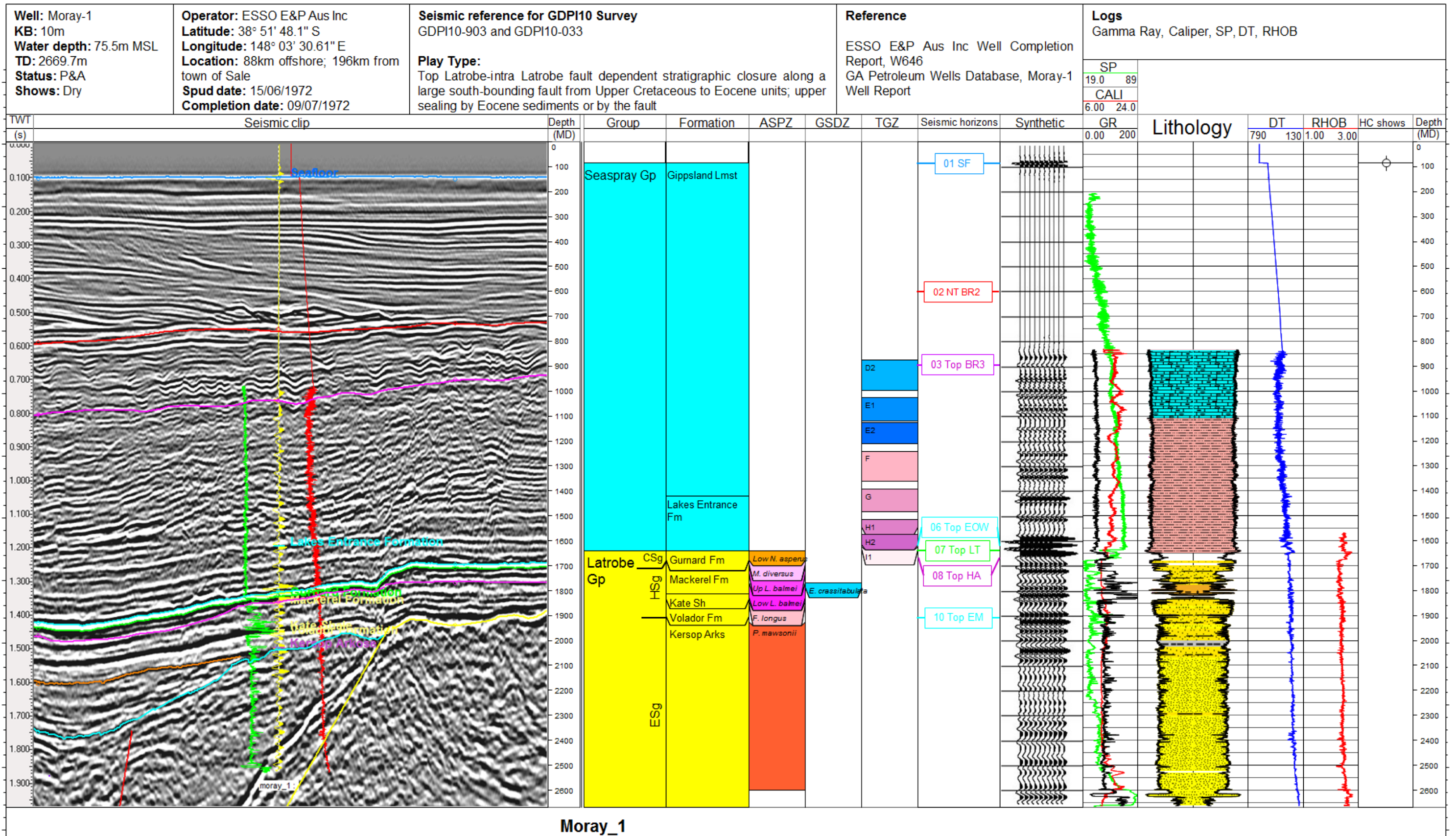


Figure A2.13. Moray-1 Well Composite. The TWT scale for the horizon panel is not equivalent to the depth scale in the remaining panels.

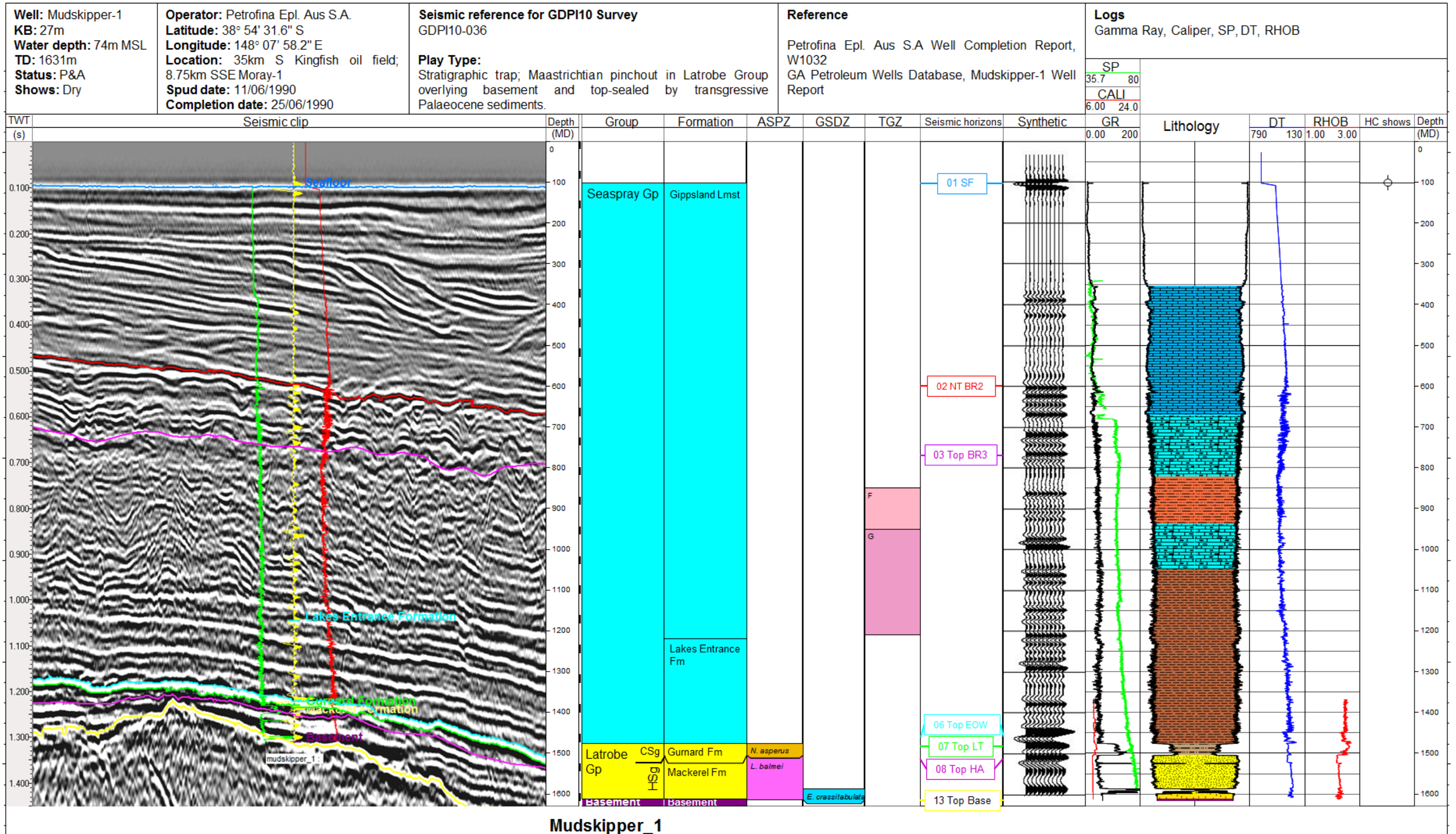


Figure A.2.14. Mudskipper-1 Well Composite. The TWT scale for the horizon panel is not equivalent to the depth scale in the remaining panels.

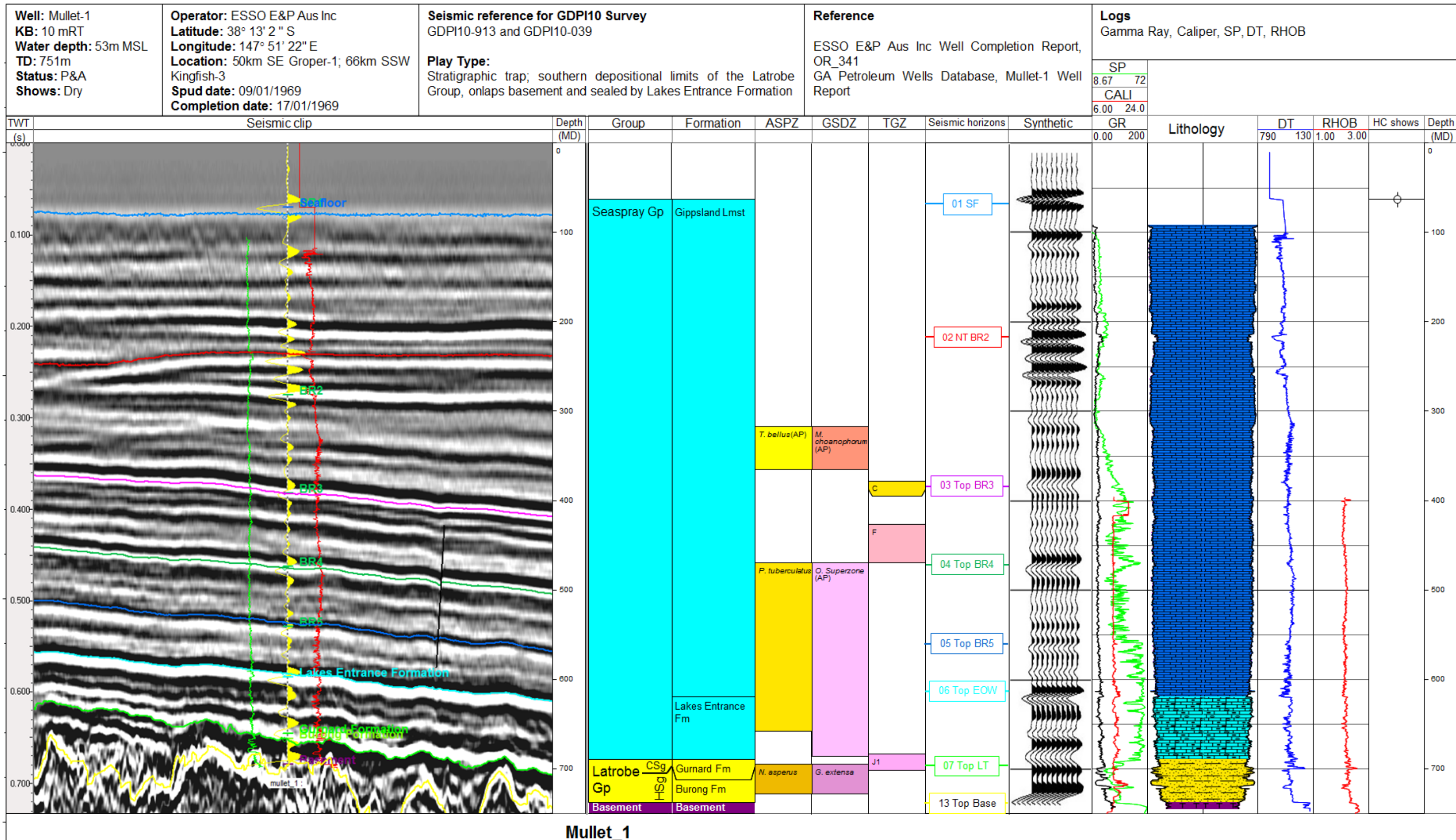


Figure A.2.15. Mullet-1 Well Composite. The TWT scale for the horizon panel is not equivalent to the depth scale in the remaining panels.

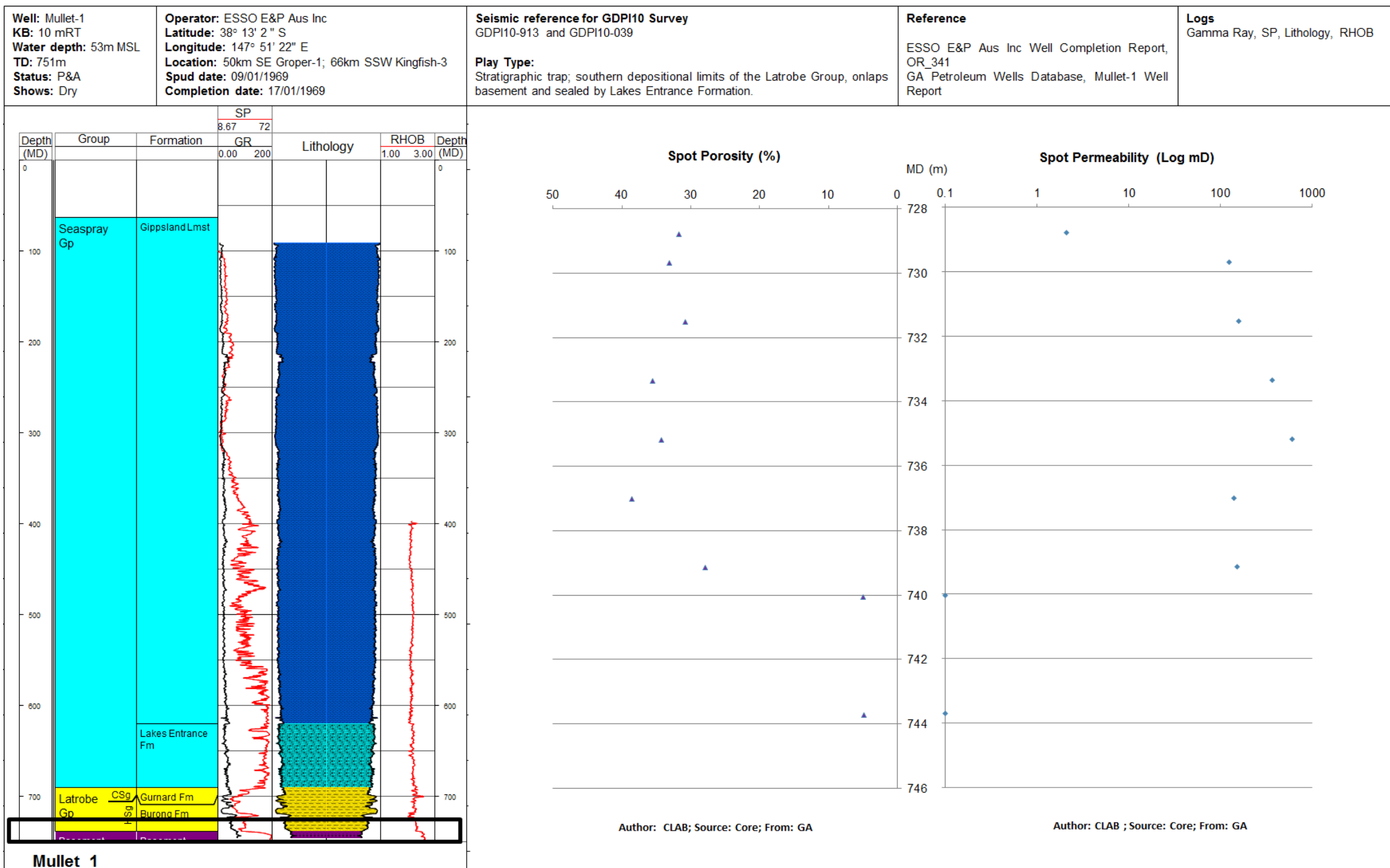


Figure A2.16. Mullet-1 Porosity-Permeability Sheet. The black box overlaying the stratigraphic columns shows the interval where porosity/permeability measurements are available.



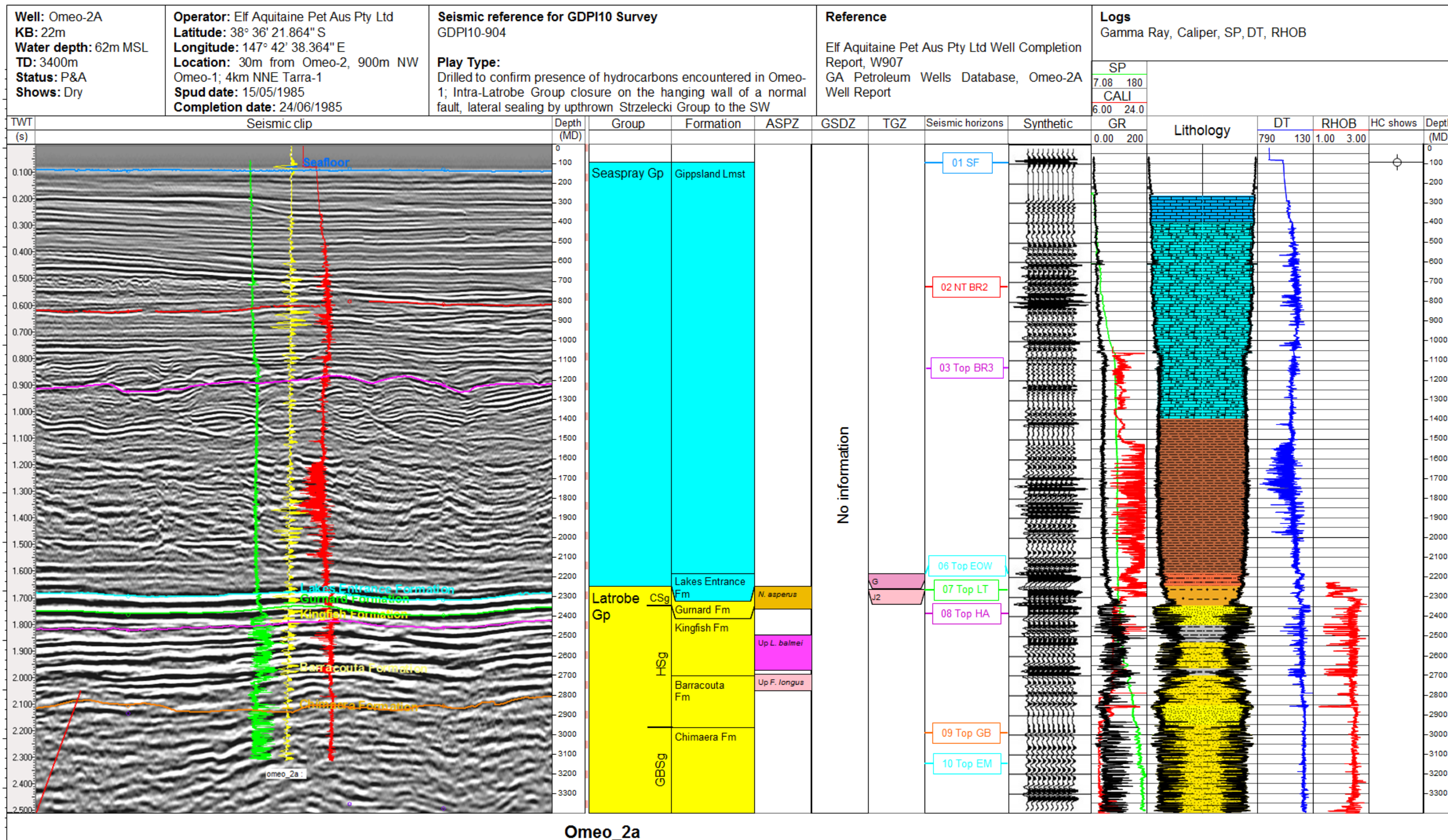


Figure A2.17. Omeo-2A Well Composite. The TWT scale for the horizon panel is not equivalent to the depth scale in the remaining panels.

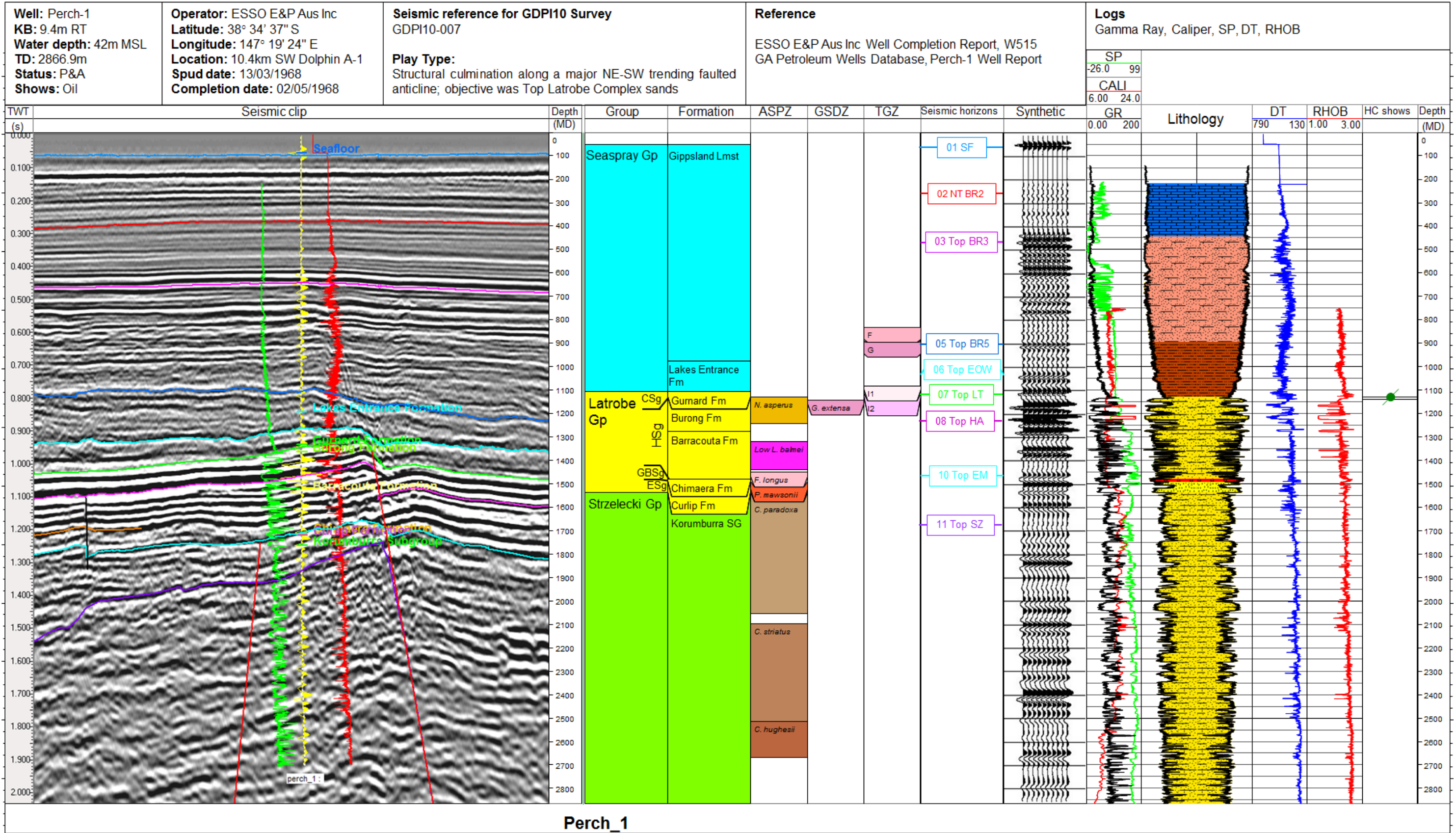


Figure A2.18. Perch-1 Well Composite. The TWT scale for the horizon panel is not equivalent to the depth scale in the remaining panels.

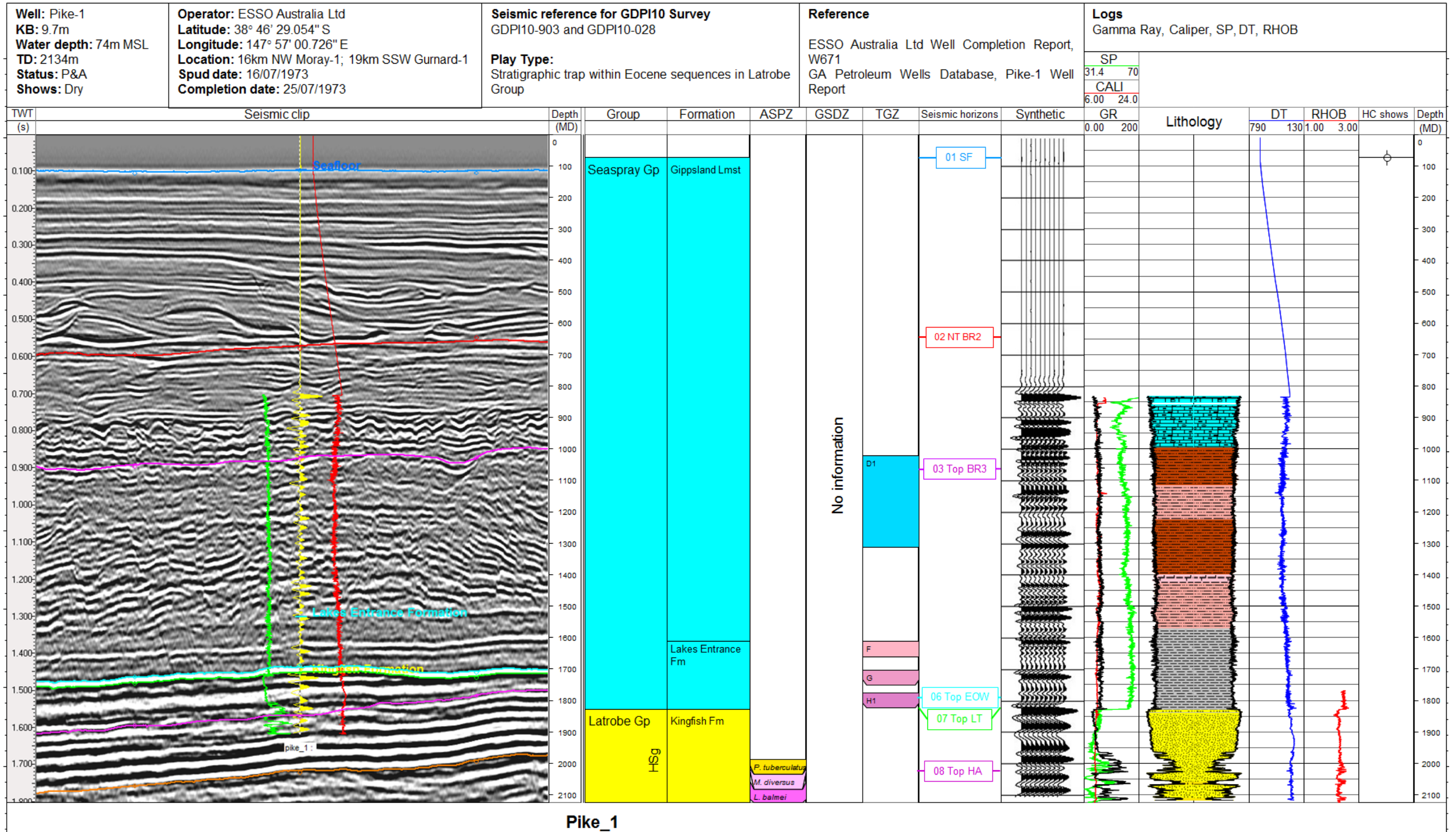


Figure A.2.19. Pike-1 Well Composite. The TWT scale for the horizon panel is not equivalent to the depth scale in the remaining panels.

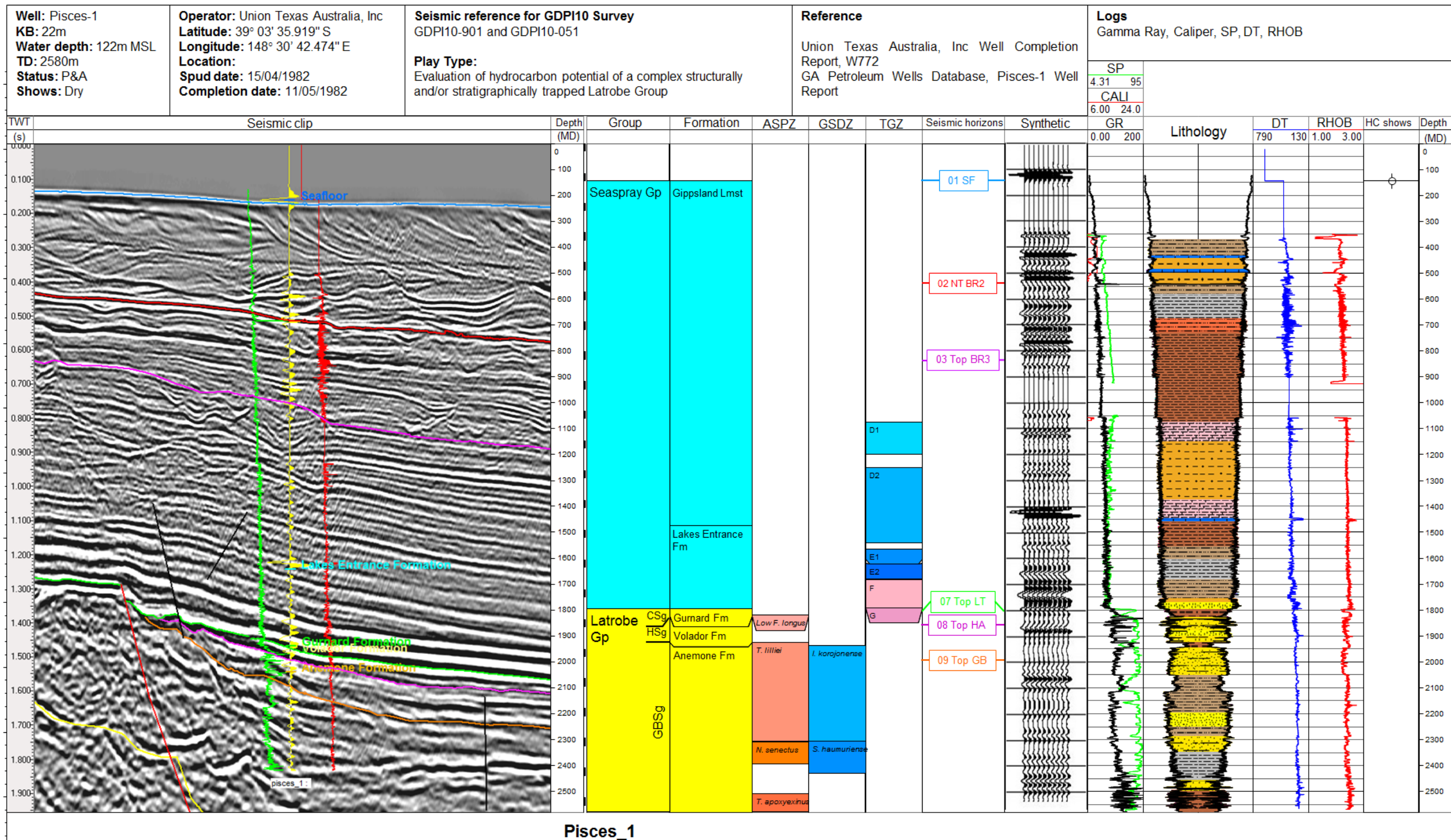


Figure A2.20. Pisces-1 Well Composite. The TWT scale for the horizon panel is not equivalent to the depth scale in the remaining panels.

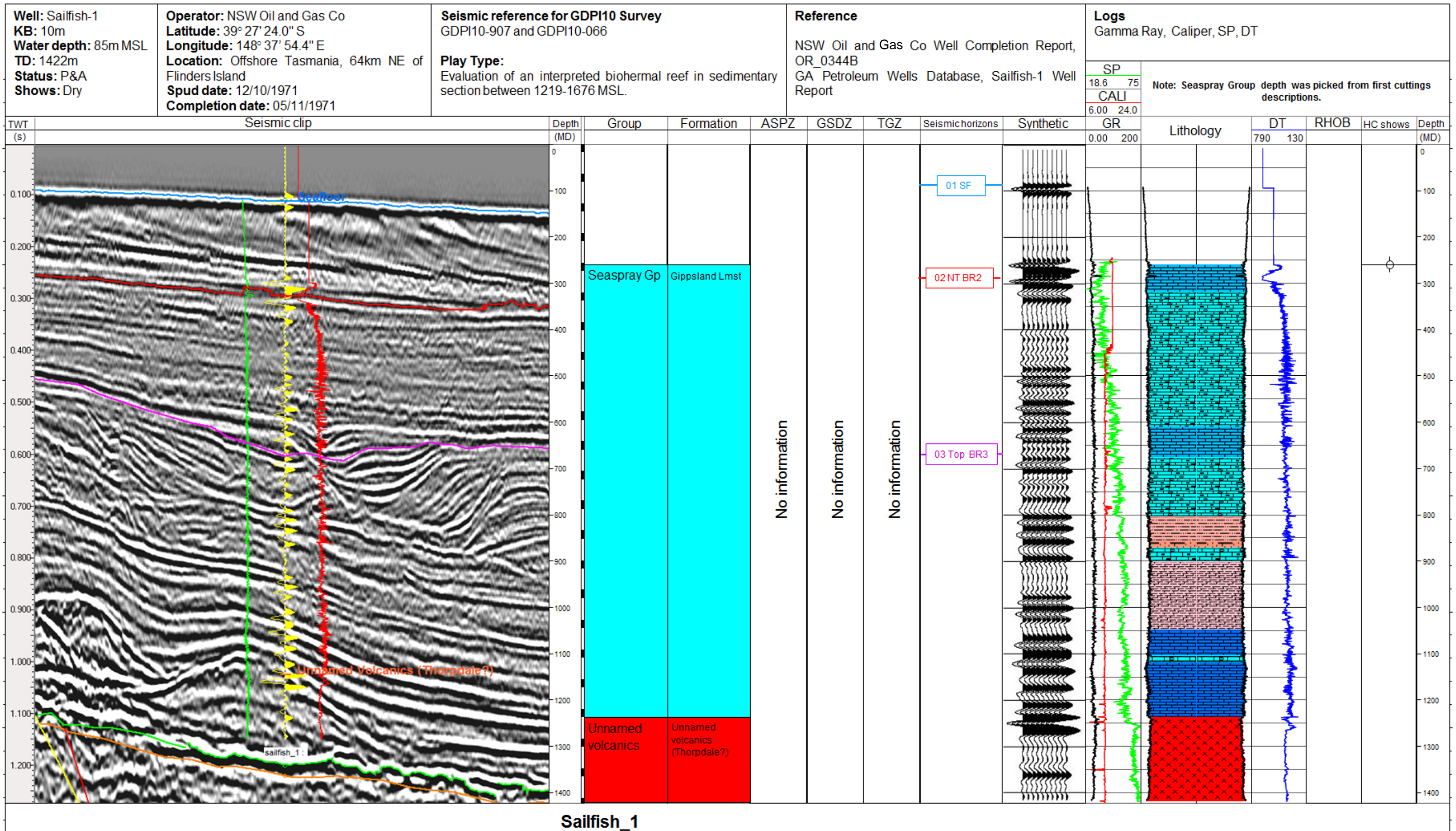


Figure A2.21. Sailfish-1 Well Composite. The TWT scale for the horizon panel is not equivalent to the depth scale in the remaining panels.

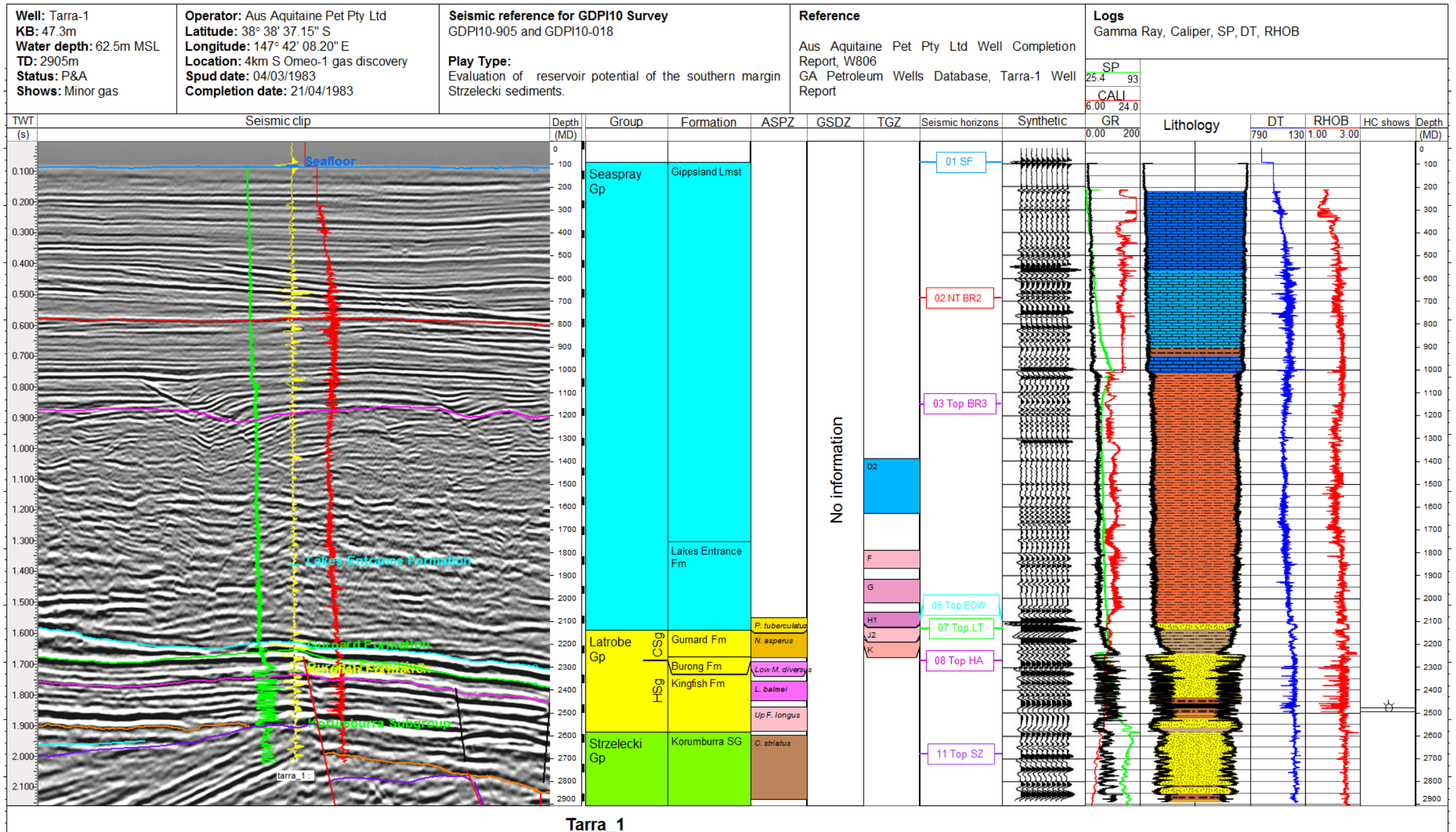


Figure A2.22. Tarra-1 Well Composite. The TWT scale for the horizon panel is not equivalent to the depth scale in the remaining panels.

<b>Well:</b> Tarra-1 <b>KB:</b> 47.3m <b>Water depth:</b> 62.5m MSL <b>TD:</b> 2905m <b>Status:</b> P&A <b>Shows:</b> Minor gas	<b>Operator:</b> Aus Aquitaine Pet Pty Ltd <b>Latitude:</b> 38° 38' 37.15" S <b>Longitude:</b> 147° 42' 08.20" E <b>Location:</b> 4km S Omeo-1 gas discovery <b>Spud date:</b> 04/03/1983 <b>Completion date:</b> 21/04/1983	<b>Seismic reference for GDPI10 Survey</b> GDPI10-905 and GDPI10-018  <b>Play Type:</b> Evaluation of reservoir potential of the southern margin Strzelecki sediments.	<b>Reference</b> Aus Aquitaine Pet Pty Ltd Well Completion Report, W806 GA Petroleum Wells Database, Tarra-1 Well Report	<b>Logs</b> Gamma Ray, SP, Lithology, RHOB
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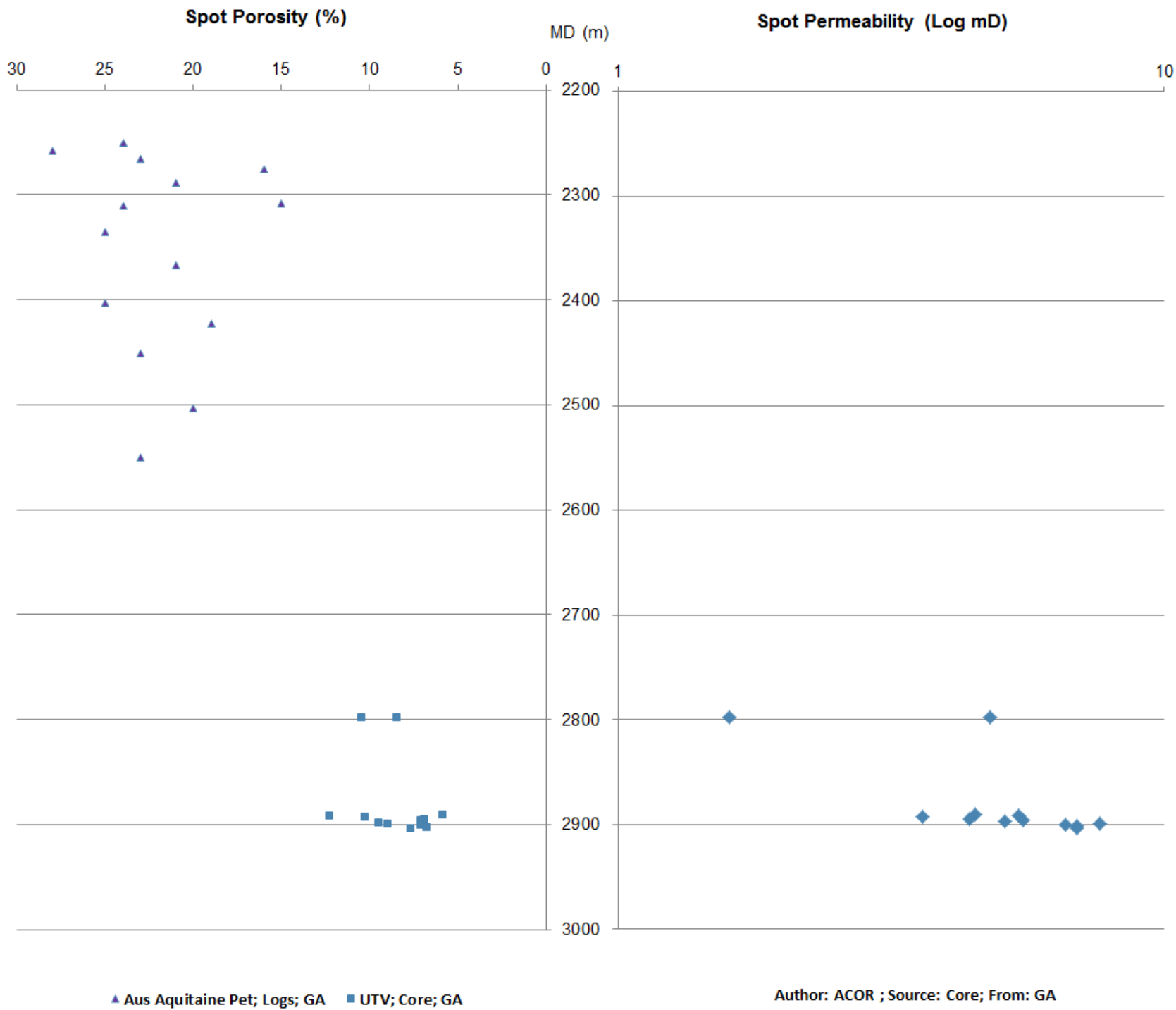
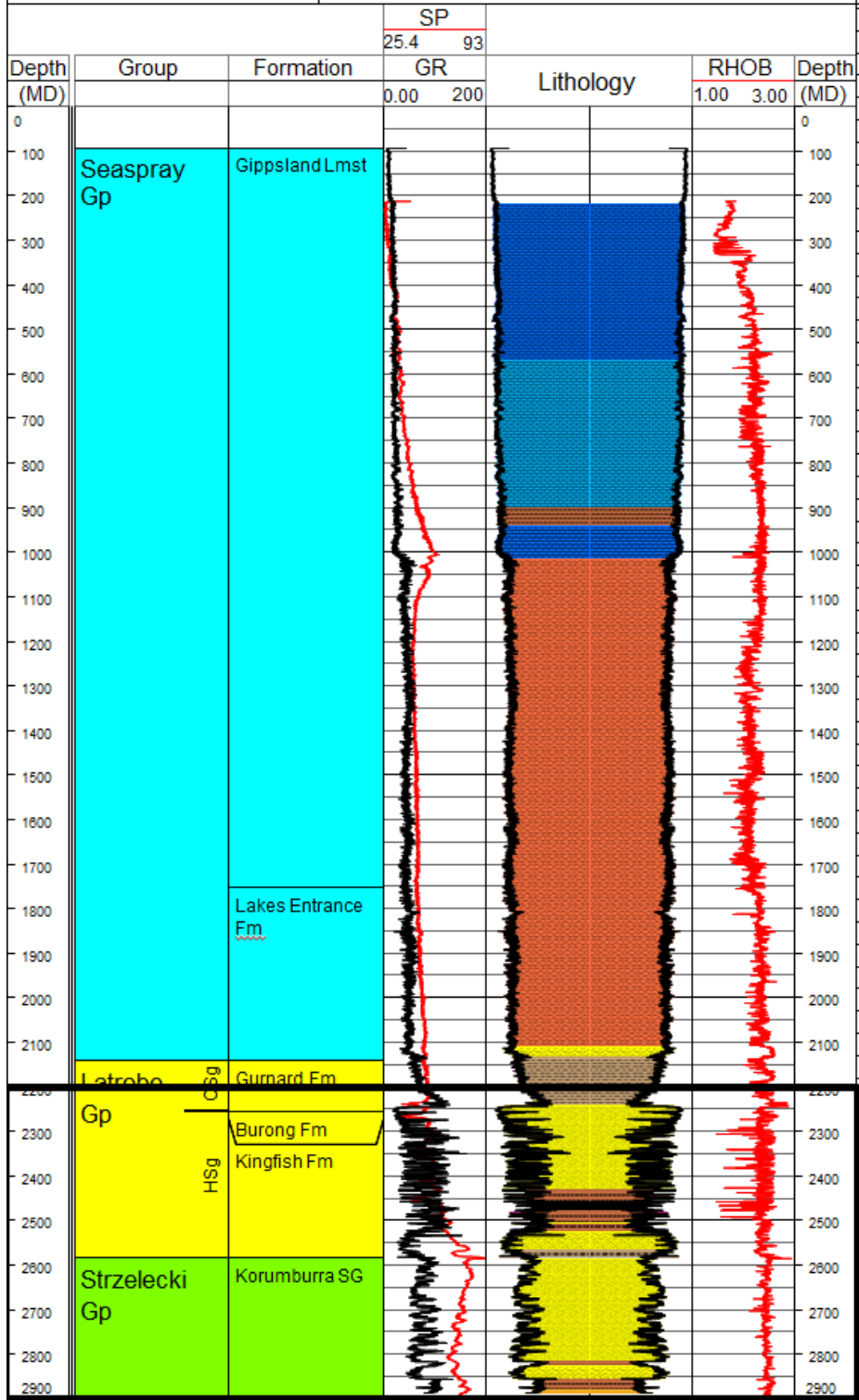


Figure A2.23. Tarra-1 Porosity-Permeability Sheet. The black box overlaying the stratigraphic columns shows the interval where porosity/permeability measurements are available.

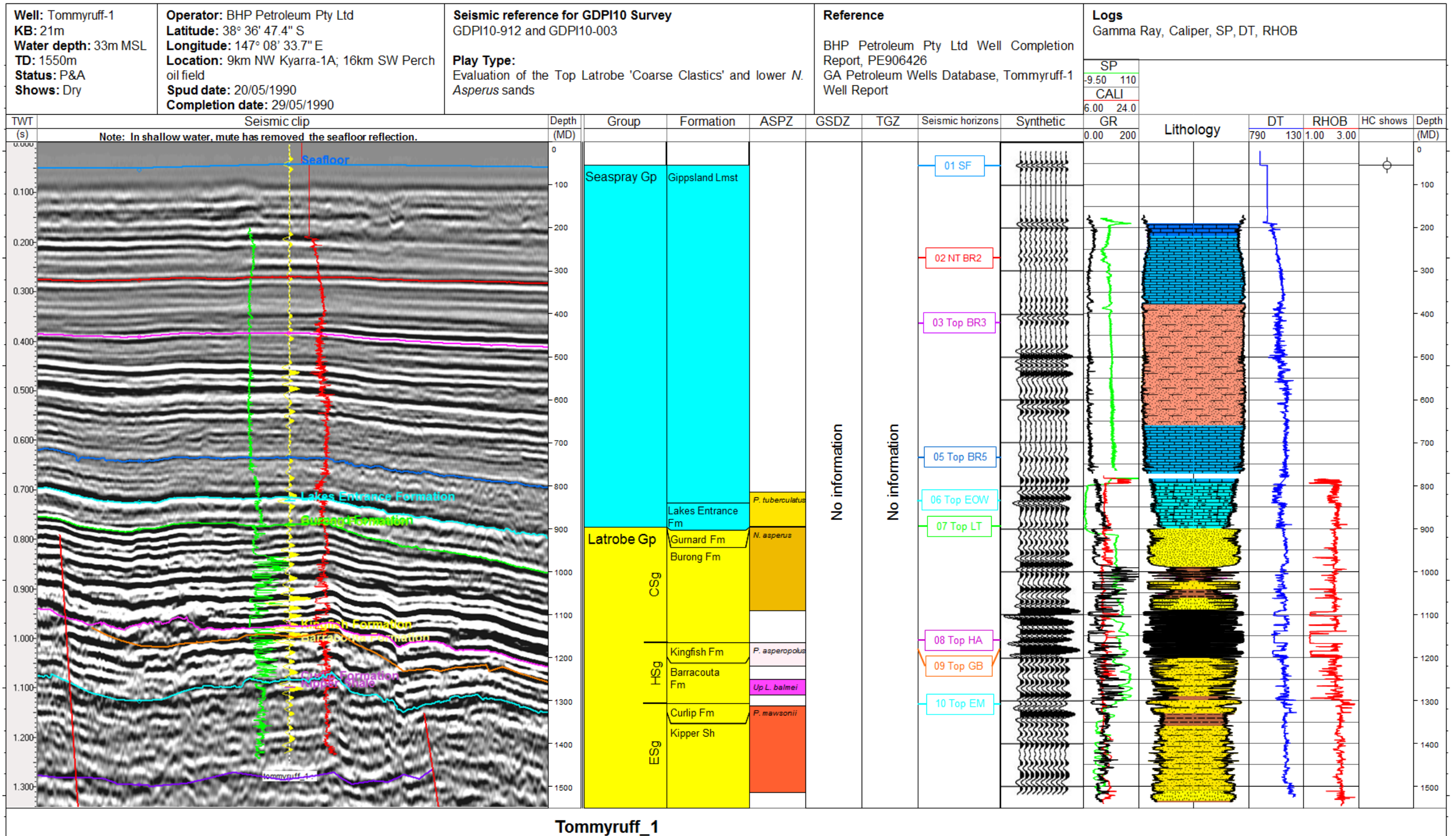


Figure A2.24. Tommyruff-1 Well Composite. The TWT scale for the horizon panel is not equivalent to the depth scale in the remaining panels.



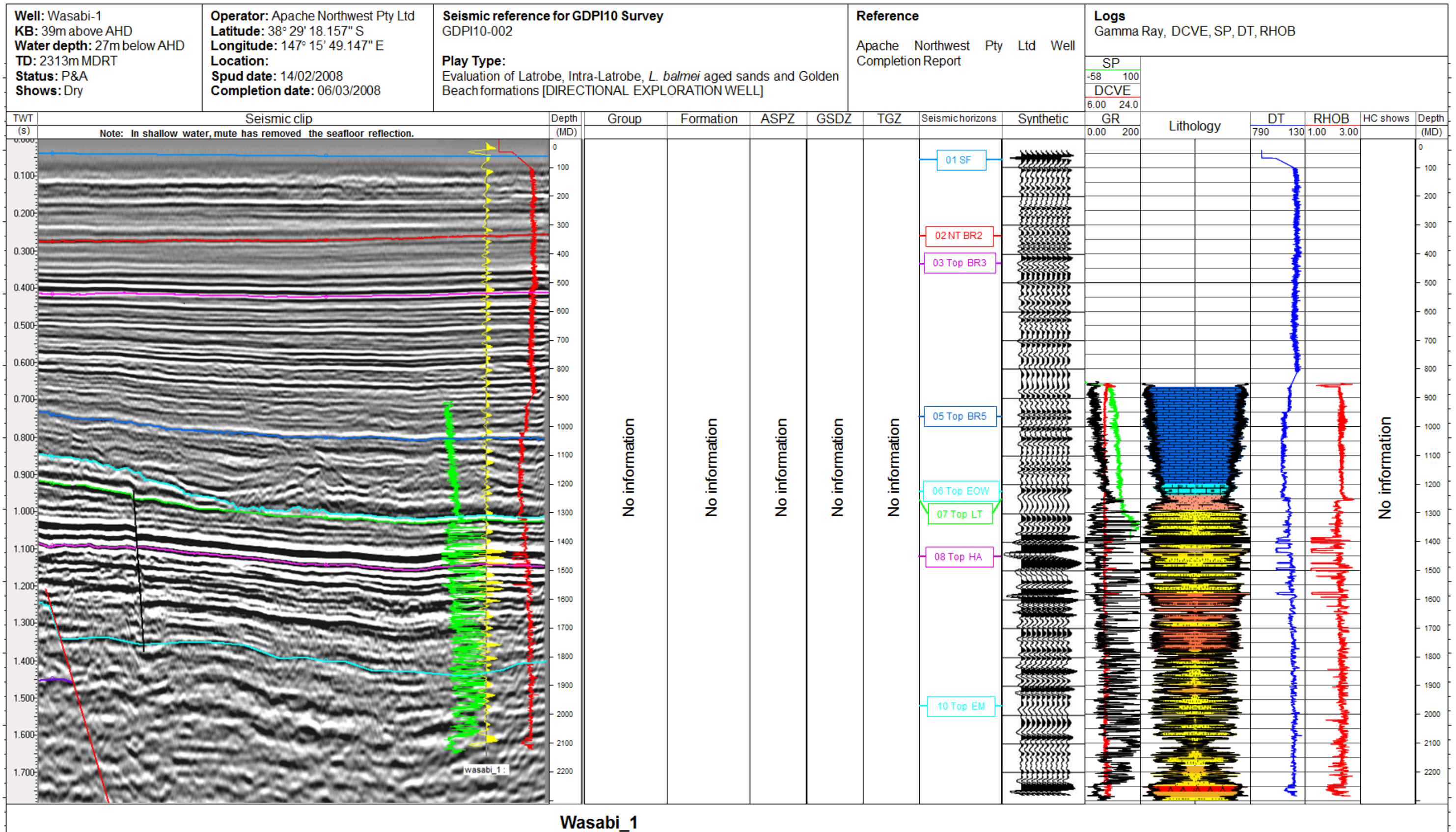


Figure A2.25. Wasabi-1 Well Composite. The TWT scale for the horizon panel is not equivalent to the depth scale in the remaining panels.

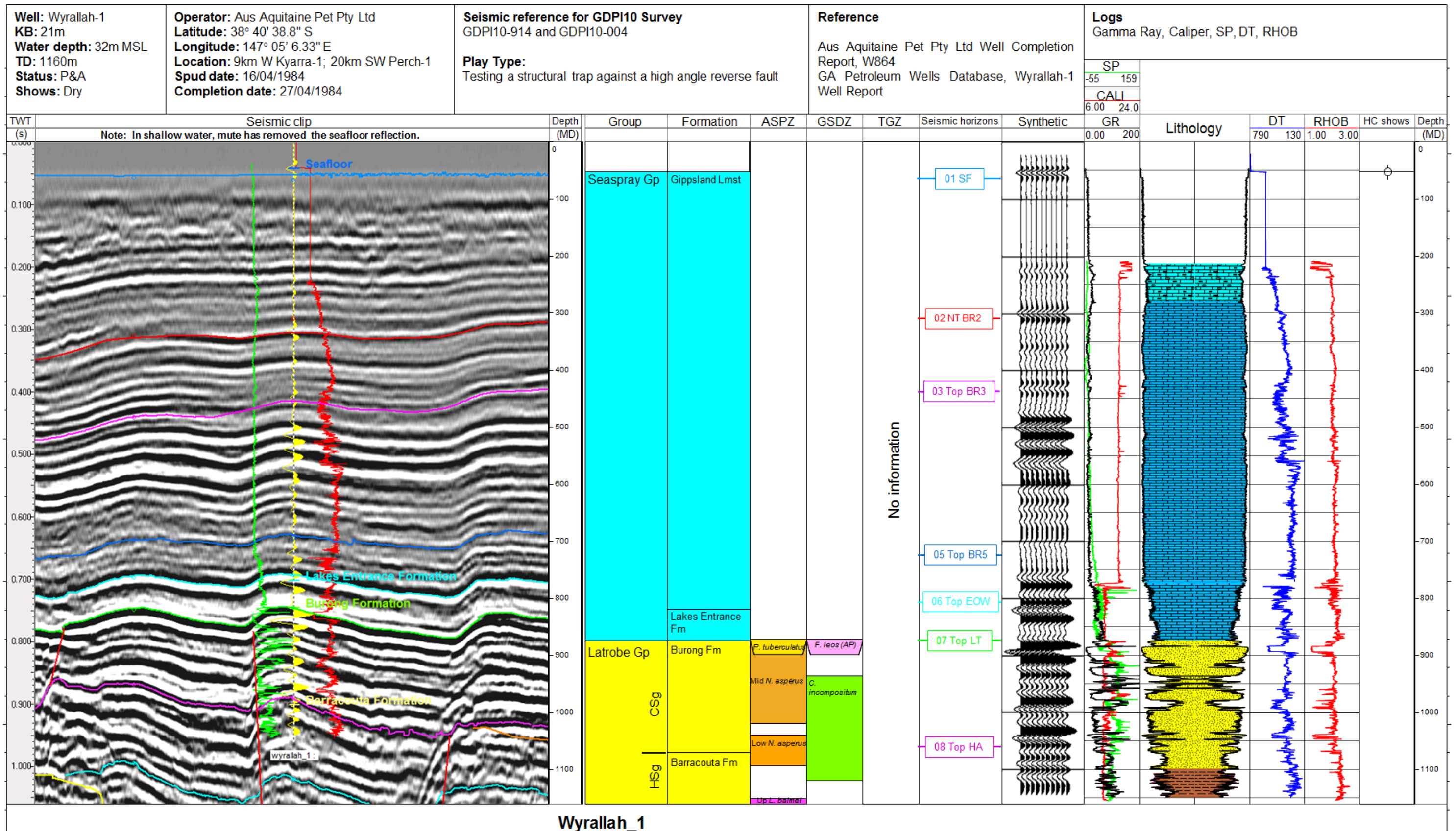


Figure A2.26. Wyrallah-1 Well Composite. The TWT scale for the horizon panel is not equivalent to the depth scale in the remaining panels.

# **Appendix 3**

## **Formation Tops for 20 Key Wells**

Group	Subgroup	Formation	Partridge, 2006	Amberjack-1			Bluebone-1 (#)					Bullseye-1 (*)					Devilfish-1 (*)					Groper-1 (#)						
				TWT (s)	Depth (mKB)	Depth (mSS)	TWT (s)	TWT (s)	Depth (mKB)	Depth (mKB)	Depth (mSS)	Depth (mSS)	TWT (s)	TWT (s)	Depth (mKB)	Depth (mKB)	Depth (mSS)	Depth (mSS)	TWT (s)	TWT (s)	Depth (mKB)	Depth (mKB)	Depth (mSS)	Depth (mSS)				
Seaspray	Gippsland Formation	Bassian Rise 1				<b>0.064</b>	<b>58</b>		<b>48</b>														<b>0.076</b>	<b>67</b>		<b>57</b>		
		Bassian Rise 2				<b>0.216</b>	<b>200</b>		<b>190</b>														<b>0.364</b>	<b>364</b>		<b>354</b>		
		Bassian Rise 3	0.049	58	37	0.051	<b>0.296</b>	58.16	<b>282</b>	48.16	<b>272</b>	0.076		68		58		0.097		102.4		74.4		<b>0.479</b>	67	<b>508</b>	57	<b>498</b>
		Bassian Rise 4					<b>0.352</b>	<b>345</b>		<b>335</b>													<b>0.561</b>	<b>632</b>		<b>622</b>		
		Bassian Rise 5					<b>0.404</b>	<b>416</b>		<b>406</b>													<b>0.641</b>	<b>744</b>		<b>734</b>		
	Lakes Entrance Formation					<b>0.445</b>	<b>461.8</b>		<b>451.8</b>													<b>0.699</b>	<b>807.7</b>		<b>797.7</b>			
						<b>0.446</b>	<b>495.3</b>		<b>485.3</b>		1.259	<b>1.480</b>	1697	<b>2048</b>	1687	<b>2038</b>	1.208	<b>1.323</b>	1461	<b>1637</b>	1433	<b>1609</b>	0.699	<b>0.767</b>	808	<b>893</b>	798	<b>883</b>
Latrobe	Cobia	Gurnard Formation	1.032	1259	1238						1.496		2072		2062							0.803		931		921		
		Burong Formation	1.039	1268	1247	0.499		522.4		512.4		1.547		2150		2140		1.328		1645		1617	0.822		952		942	
		Turrum Formation																										
	Halibut	Currajong Volcanics																										
		Flounder Formation																										
		Mackerel Formation																										
		Kingfish Formation	1.189	1477	1456							1.587		2230		2220		1.428		1795		1767						
		Barracouta Formation	1.245	1567	1546																							
		Kate Shale																1.507		1964		1936						
	Golden Beach	Volador Formation															1.515		1975		1947							
		Chimaera Formation																										
		Anemone Formation																										
	Emperor	Currip Formation																										
		Kipper Shale																										
		Admiral Formation																										
Strzelecki	Korumburra	Kersop Arkose																										
		BASEMENT				0.556		591.3		581.3													0.876		1018		1008	
		Volcanics of Uncertain Stratigraphic Age																										

(#) Wells that have formally-defined formation picks for Bassian Rise (BR) 1-5 and the Early Oligocene Wedge (EOW) (Partridge 2006)

(\*) Wells that have only the EOW informally picked and interpreted via logs, and no information about BR 1-5 (Partridge 2006)

(\*\*) Melville-1 EOW informally picked and interpreted via logs in Partridge 2002, from Melville-1 WCR Vol. 2

Wells that show two (2) sets of TWT (s), Depth (mKB) and Depth (mSS) are those that have formally defined or interpreted the BR 1-5 and/or the EOW. All other wells showing only one set of TWT (s), Depth (mKB) and Depth (mSS) only intersected established formations in the Gippsland Basin

Bolded values correspond to BR 1-5 and EOW data of Partridge 2006. Unbolded values correspond to established formations of the Gippsland Basin

Grey cells denote formations not intersected along borehole

Table A3.1. Formation tops picks at key wells

Group	Subgroup	Formation	Partridge, 2006	Groper-2 (*)				Kyarra-1A (*)				Melville-1 (**)				Moray-1 (*)										
				TWT (s)	TWT (s)	Depth (mKB)	Depth (mKB)	Depth (mSS)	Depth (mSS)	TWT (s)	TWT (s)	Depth (mKB)	Depth (mKB)	Depth (mSS)	Depth (mSS)	TWT (s)	TWT (s)	Depth (mKB)	Depth (mKB)	Depth (mSS)	Depth (mSS)					
Seaspray		Gippsland Formation	Bassian Rise 1	0.078	69	59	59	0.057	74	43	43	0.099	100	75	75	0.099	85.5	75.5	75.5	75.5	75.5	75.5	75.5			
			Bassian Rise 2																							
			Bassian Rise 3																							
			Bassian Rise 4																							
			Bassian Rise 5																							
	Lakes Entrance Formation	Upper Early Oligocene Wedge	0.600	0.593	687	680	677	670	0.784	0.850	919	995.5	888	964.5	1.192	1.678	1525	2214	1500	2189	1.194	1.336	1422.5	1625	1412.5	1615
Latrobe	Cobia		Gurnard Formation	0.659	760	750	750	0.866	1013	982	982	1.688	2232	2207	2207	1.345	1640	1630	1630	1630	1630	1630	1630			
			Burong Formation	0.664	765	755	755	0.878	1028	997	997															
			Turrum Formation																							
	Halibut			Currajong Volcanics																						
				Flounder Formation																						
				Mackerel Formation														1.367	1678	1668	1668	1668	1668	1668	1668	
				Kingfish Formation													1.718	2286	2261	2261	2261	2261	2261	2261	2261	
				Barracouta Formation							0.987	1173	1142	1142	1142	1142										
				Kate Shale													1.904	2626	2601	2601	2601	2601	2601	2601	2601	2601
	Golden Beach			Volador Formation											1.921	2658	2633	2633	2633	2633	2633	2633	2633	2633		
				Chimaera Formation (includes "Campanian Volcanics" and "Transition Beds" in Melville-1)						1.017	1216	1185	1185	1185	1185	2.021	2847	2822	2822	2822	2822	2822	2822	2822		
	Emperor			Anemone Formation																						
				Curlip Formation												2.106	3022	2997	2997	2997	2997	2997	2997	2997		
				Kipper Shale																						
				Admiral Formation																						
Strzelecki	Korumburra		Kersop Arkose																		1.497	1905	1895	1895		
			BASEMENT	0.723	842	832	832																			
Melville-1 TD Volcanics of Uncertain Stratigraphic Age														2.273	3330	3305	3305	3305	3305	3305	3305	3305	3305			

Melville-1 TD Volcanics Campanian? Intrusives?  
(Partridge 2002, from Melville-1 WCR V2)

(#) Wells that have formally-defined formation picks for Bassian Rise (BR) 1-5 and the Early Oligocene Wedge (EOW) (Partridge 2006)

(\*) Wells that have only the EOW informally picked and interpreted via logs, and no information about BR 1-5 (Partridge 2006)

(\*\*) Melville-1 EOW informally picked and interpreted via logs in Partridge 2002, from Melville-1 WCR Vol. 2

Wells that show two (2) sets of TWT (s), Depth (mKB) and Depth (mSS) are those that have formally defined or interpreted the BR 1-5 and/or the EOW. All other wells showing only one set of TWT (s), Depth (mKB) and Depth (mSS) only intersected established formations in the Gippsland Basin

Bolded values correspond to BR 1-5 and EOW data of Partridge 2006. Unbolded values correspond to established formations of the Gippsland Basin

Grey cells denote formations not intersected along borehole

Table A3.2. Formation tops picks at key wells

Group	Subgroup	Formation	Partridge, 2006	Mudskipper-1 (*)				Mullet-1 (#)				Omeo-2A (*)				Perch-1			Pike-1 (*)										
				TWT (s)	TWT (s)	Depth (mKB)	Depth (mKB)	Depth (mSS)	Depth (mSS)	TWT (s)	TWT (s)	Depth (mKB)	Depth (mKB)	Depth (mSS)	Depth (mSS)	TWT (s)	TWT (s)	Depth (mKB)	Depth (mKB)	Depth (mSS)	Depth (mSS)	TWT (s)	TWT (s)	Depth (mKB)	Depth (mKB)	Depth (mSS)	Depth (mSS)		
Seaspray	Gippsland Formation	Bassian Rise 1																											
		Bassian Rise 2																											
		Bassian Rise 3	0.097		101		74		0.070		63		53		0.081		84		61		0.056		52	42	0.097		84		74
		Bassian Rise 4																											
		Bassian Rise 5																											
	Lakes Entrance Formation	Upper Early Oligocene Wedge	1.046	<b>1.215</b>	1220	<b>1448</b>	1193	<b>1421</b>	0.583	<b>0.583</b>	620	<b>619.3</b>	610	<b>609.3</b>	1.696	<b>1.680</b>	2182	<b>2181</b>	2159	<b>2158</b>	0.842		975	965	1.302	<b>1.450</b>	1611	<b>1810</b>	1601
		Lower Early Oligocene Wedge							<b>0.631</b>		<b>672</b>		<b>662</b>																
Latrobe	Cobia	Gurnard Formation			1.230		1475		1448		0.646		690		680		1.733		2246		2223		0.942		1106	1096			
		Burong Formation									0.651		698		688								0.963		1129	1119			
		Turrum Formation																											
	Halibut	Currajong Volcanics																											
		Flounder Formation																											
		Mackerel Formation			1.249		1504.5		1477.5																				
		Kingfish Formation																1.791		2347		2324				1.455		1818	1808
		Barracouta Formation																1.984		2701		2678		1.081		1277	1267		
		Kate Shale																											
	Golden Beach	Volador Formation																											
		Chimaera Formation																2.141		2964		2941		1.211		1480	1470		
		Anemone Formation																											
	Emperor	Curlip Formation																						1.216		1490	1480		
		Kipper Shale																											
Admiral Formation																													
Strzelecki	Korumburra	Kersop Arkose																											
		BASEMENT			1.310		1612		1585		0.679		738		728								1.248		1538	1528			
		Volcanics of Uncertain Stratigraphic Age																											

(#) Wells that have formally-defined formation picks for Bassian Rise (BR) 1-5 and the Early Oligocene Wedge (EOW) (Partridge 2006)

(\*) Wells that have only the EOW informally picked and interpreted via logs, and no information about BR 1-5 (Partridge 2006)

(\*\*) Melville-1 EOW informally picked and interpreted via logs in Partridge 2002, from Melville-1 WCR Vol. 2

Wells that show two (2) sets of TWT (s), Depth (mKB) and Depth (mSS) are those that have formally defined or interpreted the BR 1-5 and/or the EOW. All other wells showing only one set of TWT (s), Depth (mKB) and Depth (mSS) only intersected established formations in the Gippsland Basin

Bolded values correspond to BR 1-5 and EOW data of Partridge 2006. Unbolded values correspond to established formations of the Gippsland Basin

Grey cells denote formations not intersected along borehole

Table A3.3. Formation tops picks at key wells

Group	Subgroup	Formation	Partridge, 2006	Pisces-1			Sailfish-1			Tarra-1 (*)				Tommyruff-1			Wasabi-1			Wyrallah-1 (*)						
				TWT (s)	Depth (mKB)	Depth (mSS)	TWT (s)	Depth (mKB)	Depth (mSS)	TWT (s)	TWT (s)	Depth (mKB)	Depth (mKB)	Depth (mSS)	Depth (mSS)	TWT (s)	Depth (mKB)	Depth (mSS)	TWT (s)	TWT (s)	Depth (mKB)	Depth (mKB)	Depth (mSS)	Depth (mSS)		
Seaspray		Gippsland Formation	Bassian Rise 1																							
			Bassian Rise 2																							
			Bassian Rise 3	0.160	144	122	0.269	260	250	0.082		93		63		0.043	54	33								
			Bassian Rise 4																							
			Bassian Rise 5																							
		Lakes Entrance Formation	Upper Early Oligocene Wedge	1.257	1475	1453				1.379	<b>1.637</b>	1752	<b>2110</b>	1722	<b>2080</b>	0.722	840	819								
			Lower Early Oligocene Wedge																							
Latrobe	Cobia		Gurnard Formation	1.482	1796	1774				1.654		2140		2110	0.769	897	876									
			Burong Formation							1.725		2256		2226	0.773	901	880									
			Turrum Formation																							
	Halibut		Currajong Volcanics																							
			Flounder Formation																							
			Mackerel Formation																							
			Kingfish Formation							1.734		2272		2242	0.981	1166	1145									
			Barracouta Formation												1.008	1198	1177									
			Kate Shale																							
	Golden Beach		Volador Formation	1.508	1826	1804																				
			Chimaera Formation																							
			Anemone Formation	1.585	1925	1903																				
	Emperor		Curlip Formation												1.084	1307	1286									
			Kipper Shale												1.099	1328	1307									
			Admiral Formation																							
		Kersop Arkose																								
Strzelecki	Korumburra								1.908		2583		2553													
BASEMENT																										
Volcanics of Uncertain Stratigraphic Age							1.025	1238	1228																	

Sailfish-1 TD Volcanics of unknown age; Gipps Fm picked from first seafloor returns (Sailfish-1 WCR)

(#) Wells that have formally-defined formation picks for Bassian Rise (BR) 1-5 and the Early Oligocene Wedge (EOW) (Partridge 2006)

(\*) Wells that have only the EOW informally picked and interpreted via logs, and no information about BR 1-5 (Partridge 2006)

(\*\*) Melville-1 EOW informally picked and interpreted via logs in Partridge 2002, from Melville-1 WCR Vol. 2

Wells that show two (2) sets of TWT (s), Depth (mKB) and Depth (mSS) are those that have formally defined or interpreted the BR 1-5 and/or the EOW. All other wells showing only one set of TWT (s), Depth (mKB) and Depth (mSS) only intersected established formations in the Gippsland Basin

Bolded values correspond to BR 1-5 and EOW data of Partridge 2006. Unbolded values correspond to established formations of the Gippsland Basin

Grey cells denote formations not intersected along borehole

Table A3.4. Formation tops picks at key wells

# Appendix 4

## Data Spreadsheets



HORIZON	Amberjack-1				Bluebone-1				Bullseye-1				Devilfish-1				Groper-1				Groper-2				Kyarra-1A				Melville-1				Moray-1				Mudskipper-1						
	TWT	Depth	Depth	Phase	TWT	Depth	Depth	Phase	TWT	Depth	Depth	Phase	TWT	Depth	Depth	Phase	TWT	Depth	Depth	Phase	TWT	Depth	Depth	Phase	TWT	Depth	Depth	Phase	TWT	Depth	Depth	Phase	TWT	Depth	Depth	Phase	TWT	Depth	Depth	Phase			
	(s)	(mKB)	(mSS)		(s)	(mKB)	(mSS)		(s)	(mKB)	(mSS)		(s)	(mKB)	(mSS)		(s)	(mKB)	(mSS)		(s)	(mKB)	(mSS)		(s)	(mKB)	(mSS)		(s)	(mKB)	(mSS)		(s)	(mKB)	(mSS)		(s)	(mKB)	(mSS)				
FT_01_Seafloor	0.049	58	-37	trough	0.068	62	-52	trough	0.08	71	-61	trough	0.105	11	-83	trough	0.082	73	-63	trough	0.08	71	-62	trough	0.063	79	-48	trough	0.099	100	-75	trough	0.102	89	-79	trough	0.098	102	-75	trough			
FT_02_NT_BR2	0.248	246	-225	peak	0.175	156	-146	peak	0.553	604	-594	peak	0.506	559	-530	peak	0.343	340	-331	peak	0.299	286	-276	peak	0.324	335	-304	peak	0.736	931	-906	peak	0.551	602	-592		0.528	600	-573	peak			
FT_03_Top_BR3	0.432	460	-439	trough	0.301	287	-278	trough	0.899	1130	-1120	trough	0.759	91	-883	trough	0.477	505	-495	trough	0.405	413	-404	trough	0.466	512	-481	trough	0.991	1264	-1239	trough	0.763	895	-885	trough	0.665	775	-748	trough			
FT_04_Top_BR4					0.348	340	-330	trough								0.564	636	-627	trough	0.5	548	-538	trough																				
FT_05_Top_BR5	0.908	1111	-1090	peak	0.402	413	-403	peak								0.642	744	-735	peak	0.543	61	-602	peak	0.689	813	-783	peak																
FT_06_Top_EOW	1.016	1239	-1218	zero	0.441	458	-449	zero	1.383	1906	-1896	zero	1.305	1610	-1582	zero	0.694	802	-793	zero	0.593	679	-669	zero	0.779	914	-883	zero	1.675	2209	-2184	zero	1.33	1618	-1608	zero	1.22	1458	-143	zero			
FT_07_Top_Latrobe_Gr	1.036	1264	-1243	zero	0.499	522	-512	peak	1.495	2071	-2061	trough	1.324	1639	-161	trough	0.802	929	-919	zero	0.66	761	-751	zero	0.86	1006	-975	zero	1.689	2235	-2210	zero	1.342	1635	-1625	zero	1.236	1485	-1458	zero			
FT_08_Top_Halibut_SG	1.153	1421	-1400	zero					1.589	2234	-2224	peak	1.419	1778	-1748	peak								0.984	1169	-1139	zero	1.733	2313	-2288	peak	1.362	1671	-1661	zero	1.25	1509	-1482	peak				
FT_09_Top_Golden_Beach_SG													1.553	2044	-2015	peak							1.017	1216	-1185	peak	2.022	2848	-2823	peak													
FT_10_Top_Emperor_SG																											2.107	3023	-2998	peak	1.50	1912	-1902	peak									
FT_11_Top_Strzelecki_Gr																								1.05	1261	-1231	peak																
FT_12_Top_Pre-Strzelecki_Gr																							0.722	842	-832	trough																	
FT_13_Top_Basement					0.559	595	-585	trough								0.873	1013	-1003	trough																					1.316	1623	-1596	trough

HORIZON	Mullet-1				Omeo-2A				Perch-1				Pike-1				Pisces-1				Sailfish-1				Tarra-1				Tommyruff-1				Wasabi-1				Wyrallah-1						
	TWT	Depth	Depth	Phase	TWT	Depth	Depth	Phase	TWT	Depth	Depth	Phase	TWT	Depth	Depth	Phase	TWT	Depth	Depth	Phase	TWT	Depth	Depth	Phase	TWT	Depth	Depth	Phase	TWT	Depth	Depth	Phase	TWT	Depth	Depth	Phase	TWT	Depth	Depth	Phase			
	(s)	(mKB)	(mSS)		(s)	(mKB)	(mSS)		(s)	(mKB)	(mSS)		(s)	(mKB)	(mSS)		(s)	(mKB)	(mSS)		(s)	(mKB)	(mSS)		(s)	(mKB)	(mSS)		(s)	(mKB)	(mSS)		(s)	(mKB)	(mSS)		(s)	(mKB)	(mSS)				
FT_01_Seafloor	0.077	69	-59	trough	0.093	99	-76	trough	0.062	58	-49	trough	0.1	87	-77	trough	0.172	155	-133	trough	0.113	95	-85	trough	0.087	98	-68	trough	0.042	53	-32	trough	0.048	76	-37	peak	0.052	63	-42	peak			
FT_02_NT_BR2	0.231	217	-207	peak	0.605	725	-703	peak	0.262	254	-244	peak	0.571	645	-636	peak	0.514	541	-519	peak	0.295	286	-276	peak	0.579	695	-685	peak	0.271	271	-250	peak	0.261	258	-219	peak	0.305	305	-284	peak			
FT_03_Top_BR3	0.383	383	-373	trough	0.885	1146	-1124	trough	0.449	467	-458	trough	0.873	1067	-1057	peak	0.756	833	-811	trough	0.604	673	-663	trough	0.888	1145	-1111	trough	0.384	409	-388	trough	0.415	431	-392	trough	0.416	442	-421	trough			
FT_04_Top_BR4	0.464	476	-466	trough																																							
FT_05_Top_BR5	0.524	556	-546	peak					0.78	901	-892	peak														0.635	731	-710	peak	0.803	967	-928	peak	0.629	725	-704	peak						
FT_06_Top_EOW	0.58	616	-606	zero	1.68	2184	-216	zero	0.891	1033	-1024	zero	1.438	1793	-1783	zero								1.629	2098	-2068	zero	0.716	833	-812	zero	1.0	1229	-1190	zero	0.694	811	-790	zero				
FT_07_Top_Latrobe_Gr	0.651	698	-688	zero	1.734	2268	-2245	zero	0.948	1112	-1103	zero	1.452	1814	-1804	zero	1.475	1806	-1784	zero				1.654	2140	-2108	peak	0.739	896	-876	peak	1.02	1249	-1210	zero	0.747	876	-855	zero				
FT_08_Top_Halibut_SG					1.8	2385	-2362	peak	1.037	1217	-1208	zero	1.567	2025	-2016	peak	1.519	1860	-1838	zero				1.736	2276	-2245	peak	0.975	1160	-1139	zero	1.14	1477	-1438	peak	0.892	1059	-1038	peak				
FT_09_Top_Golden_Beach_SG					2.13	2995	-2971	peak								1.586	1999	-1977	peak							0.997	1185	-1164	peak														
FT_10_Top_Emperor_SG					2.2	3150	-3125	peak	1.2	1478	-1469	peak														1.083	1305	-1284	peak	1.433	1972	-1933	peak										
FT_11_Top_Strzelecki_Gr									1.325	1672	-1662	peak												1.907	2581	-2580	trough																
FT_12_Top_Pre-Strzelecki_Gr																																											
FT_13_Top_Basement	0.679	739	-729	trough																																							

Figure A4.1. Horizons

REQUESTED HORIZONS	INTERPRETED HORIZONS
Seafloor	FrOG Tech 01 Seafloor
Mid-Miocene Marker	FrOG Tech 02 Near Top Bassian Rise Unit 2
	FrOG Tech 03 Top Bassian Rise Unit 3
Top Lakes Entrance Formation	FrOG Tech 04 Top Bassian Rise Unit 4
	FrOG Tech 05 Top Bassian Rise Unit 5
Top of the Latrobe Group	FrOG Tech 06 Top Early Oligocene Wedge
	FrOG Tech 07 Top Latrobe Group
<i>Top Cretaceous (near K-T boundary)</i>	FrOG Tech 08 Top Halibut Subgroup
	FrOG Tech 09 Top Golden Beach Subgroup
Top of Golden Beach Sub-group	FrOG Tech 10 Top Emperor Subgroup
Top of the Strzelecki Group	FrOG Tech 11 Top Strzelecki Group
	FrOG Tech 12 Top Pre-Strzelecki Group
Basement	FrOG Tech 13 Top Basement

Figure A4.2. Requested horizons vs interpreted horizons (Table 1.1)

(#) Wells that have formally defined formation picks for Bassian Rise (BR) 1-5 and the Early Oligocene Wedge (EOW) (Partridge 2006)  
 (\*) Wells that have only the EOW informally picked and interpreted via logs, and no information about BR 1-5 (Partridge 2006)  
 (\*\*) Melville-1 EOW informally picked and interpreted via logs in Partridge 2002, from Melville-1 WCR Vol. 2  
 Wells that show two (2) sets of TWT (s), Depth (mKB) and Depth (mSS) have formally defined or interpreted the BR 1-5 and/or the EOW. All other wells showing only one set of TWT (s), Depth (mKB) and Depth (mSS) only intersect established formations in the Gippsland Basin  
 Bolded values correspond to BR 1-5 and EOW data of Partridge 2002, 2006. Unbolded values correspond to established formations of the Gippsland Basin  
 Grey cells denote formations not intersected along borehole

Group	Subgroup	Formation	Partridge, 2006	Amberjack-1			Bluebone-1 (#)					Bullseye-1 (*)					Devilfish-1 (*)					Groper-1 (#)								
				TWT (s)	Depth (mKB)	Depth (mSS)	TWT (s)	<b>TWT (s)</b>	Depth (mKB)	<b>Depth (mKB)</b>	Depth (mSS)	<b>Depth (mSS)</b>	TWT (s)	<b>TWT (s)</b>	Depth (mKB)	<b>Depth (mKB)</b>	Depth (mSS)	<b>Depth (mSS)</b>	TWT (s)	<b>TWT (s)</b>	Depth (mKB)	<b>Depth (mKB)</b>	Depth (mSS)	<b>Depth (mSS)</b>	TWT (s)	<b>TWT (s)</b>	Depth (mKB)	<b>Depth (mKB)</b>	Depth (mSS)	<b>Depth (mSS)</b>
Seaspray	Gippsland Formation	Bassian Rise 1					<b>0.064</b>		<b>58</b>		<b>48</b>														<b>0.076</b>			<b>67</b>		<b>57</b>
		Bassian Rise 2				<b>0.216</b>		<b>200</b>		<b>190</b>															<b>0.364</b>			<b>364</b>		<b>354</b>
		Bassian Rise 3	0.049	58	37	0.051	<b>0.296</b>	58.16	<b>282</b>	48.16	<b>272</b>	0.076		68		58		0.097		102.4		74.4			0.076	<b>0.479</b>	67	<b>508</b>	57	<b>498</b>
		Bassian Rise 4				<b>0.352</b>		<b>345</b>		<b>335</b>															<b>0.561</b>			<b>632</b>		<b>622</b>
		Bassian Rise 5				<b>0.404</b>		<b>416</b>		<b>406</b>															<b>0.641</b>			<b>744</b>		<b>734</b>
	Lakes Entrance Formation	Upper Early Oligocene Wedge	0.995	1213	1192	0.446	<b>0.445</b>	462.4	<b>462</b>	452.4	<b>452</b>	1.259	<b>1.480</b>	1697	<b>2048</b>	1687	<b>2038</b>	1.208	<b>1.323</b>	1461	<b>1637</b>	1433	<b>1609</b>	0.699	<b>0.699</b>	808	<b>808</b>	798	<b>798</b>	
		Lower Early Oligocene Wedge				<b>0.446</b>		<b>495</b>		<b>485</b>															<b>0.767</b>		<b>893</b>		<b>883</b>	
Latrobe	Cobia	Gurnard Formation	1.032	1259	1238							1.496		2072		2062									0.803		931		921	
		Burong Formation	1.039	1268	1247	0.499		522.4		512.4		1.547		2150		2140		1.328		1645		1617			0.822		952		942	
		Turrum Formation																												
	Halibut	Currajong Volcanics																												
		Flounder Formation																												
		Mackerel Formation																												
		Kingfish Formation	1.189	1477	1456							1.587		2230		2220		1.428		1795		1767								
		Barracouta Formation	1.245	1567	1546																									
		Kate Shale																1.507		1964		1936								
		Volador Formation																1.515		1975		1947								
	Golden Beach	Chimaera Formation																												
		Anemone Formation																												
	Emperor	Curlip Formation																												
		Kipper Shale																												
Admiral Formation																														
		Kersop Arkose																												
Strzelecki	Korumburra																													
BASEMENT							0.556		591.3		581.3													0.876		1018		1008		
Volcanics of Uncertain Stratigraphic Age																														

Figure A4.3. Formations

Group	Subgroup	Formation	Partridge, 2006	Groper-2 (*)				Kyarra-1A (*)				Melville-1 (**)				Moray-1 (*)										
				TWT	TWT	Depth	Depth	Depth	Depth	TWT	TWT	Depth	Depth	Depth	Depth	TWT	TWT	Depth	Depth	Depth	Depth					
				(s)	(s)	(mKB)	(mKB)	(mSS)	(mSS)	(s)	(s)	(mKB)	(mKB)	(mSS)	(mSS)	(s)	(s)	(mKB)	(mKB)	(mSS)	(mSS)					
Seaspray	Gippsland Formation	Bassian Rise 1																								
		Bassian Rise 2																								
		Bassian Rise 3	0.078		69		59		0.057		74		43		0.099		100		75		0.099		85.5		75.5	
		Bassian Rise 4																								
		Bassian Rise 5																								
	Lakes Entrance Formation	Upper Early Oligocene Wedge	0.600	0.593	687	680	677	670	0.784	0.850	919	996	888	965	1.192	1.678	1525	2214	1500	2189	1.194	1.336	1423	1625	1413	1615
Latrobe	Cobia	Gurnard Formation	0.659		760		750		0.866		1013		982		1.688		2232		2207		1.345		1640		1630	
		Burong Formation	0.664		765		755		0.878		1028		997													
		Turrum Formation																								
	Halibut	Currajong Volcanics																								
		Flounder Formation																								
		Mackerel Formation																				1.367		1678		1668
		Kingfish Formation														1.718		2286		2261						
		Barracouta Formation									0.987		1173		1142											
		Kate Shale														1.904		2626		2601		1.444		1813		1803
		Volador Formation														1.921		2658		2633		1.458		1837		1827
	Golden Beach	Chimaera Formation (includes "Campanian Volcanics" and "Transition Beds" in Melville-1)									1.017		1216		1185		2.021		2847		2822					
		Anemone Formation																								
	Emperor	Curlip Formation														2.106		3022		2997						
		Kipper Shale																								
		Admiral Formation																								
Kersop Arkose																					1.497		1905		1895	
Strzelecki	Korumburra								1.042		1251		1220													
BASEMENT				0.723		842		832																		
Melville-1 TD Volcanics of Uncertain Stratigraphic Age															2.273		3330		3305							
															Melville-1 TD Volcanics Campanian? Intrusives? (Partridge 2002, from Melville-1 WCR V2)											

Figure A4.3. Formations *continued*

Group	Subgroup	Formation	Partridge, 2006	Mudskipper-1 (*)				Mullet-1 (#)				Omeo-2A (*)				Perch-1			Pike-1 (*)										
				TWT	TWT	Depth	Depth	Depth	Depth	TWT	TWT	Depth	Depth	Depth	Depth	TWT	TWT	Depth	Depth	Depth	TWT	TWT	Depth	Depth	Depth	Depth			
				(s)	(s)	(mKB)	(mKB)	(mSS)	(mSS)	(s)	(s)	(mKB)	(mKB)	(mSS)	(mSS)	(s)	(s)	(mKB)	(mKB)	(mSS)	(mSS)	(s)	(mKB)	(mSS)	(s)	(s)	(mKB)	(mKB)	(mSS)
Seaspray	Gippsland Formation	Bassian Rise 1						0.070		63		53																	
		Bassian Rise 2						0.275		260		250																	
		Bassian Rise 3	0.097		101		74		0.070	63	383	53	373	0.081		84		61		0.056	52	42	0.097		84		74		
		Bassian Rise 4							0.462		474		464																
		Bassian Rise 5							0.528		560		550																
	Lakes Entrance Formation	Upper Early Oligocene Wedge	1.046	1.215	1220	1448	1193	1421	0.583		619	610	609	1.696	1.680	2182	2181	2159	2158	0.842	975	965	1.302	1.450	1611	1810	1601	1601	
		Lower Early Oligocene Wedge							0.631	620	672	610	662																
Latrobe	Cobia	Gurnard Formation	1.230		1475		1448		0.646	690		680	1.733		2246		2223		0.942	1106	1096								
		Burong Formation							0.651	698		688							0.963	1129	1119								
		Turrum Formation																											
	Halibut	Currajong Volcanics																											
		Flounder Formation																											
		Mackerel Formation	1.249		1504.5		1477.5																						
		Kingfish Formation												1.791		2347		2324					1.455		1818		1808		
		Barracouta Formation												1.984		2701		2678	1.081	1277	1267								
		Kate Shale																											
	Golden Beach	Volador Formation																											
		Chimaera Formation												2.141		2964		2941	1.211	1480	1470								
	Emperor	Anemone Formation																											
		Curlip Formation																		1.216	1490	1480							
		Kipper Shale																											
Admiral Formation																													
Strzelecki	Korumburra	Kersop Arkose																											
		BASEMENT	1.310		1612		1585		0.679	738		728																	
		Volcanics of Uncertain Stratigraphic Age																											

Figure A4.3. Formations *continued*

Group	Subgroup	Formation	Partridge, 2006	Pisces-1			Sailfish-1			Tarra-1 (*)					Tommyruff-1			Wasabi-1			Wyrallah-1 (*)						
				TWT	Depth	Depth	TWT	Depth	Depth	TWT	TWT	Depth	Depth	Depth	Depth	TWT	Depth	Depth	TWT	Depth	Depth	TWT	TWT	Depth	Depth	Depth	Depth
				(s)	(mKB)	(mSS)	(s)	(mKB)	(mSS)	(s)	(s)	(mKB)	(mKB)	(mSS)	(mSS)	(s)	(mKB)	(mSS)	(s)	(mKB)	(mSS)	(s)	(s)	(mKB)	(mKB)	(mSS)	(mSS)
Seaspray	Gippsland Formation	Bassian Rise 1																									
		Bassian Rise 2																									
		Bassian Rise 3	0.160	144	122	0.269	260	250	0.082		93		63		0.043	54	33				0.042		53		32		
		Bassian Rise 4																									
		Bassian Rise 5																									
	Lakes Entrance Formation	Upper Early Oligocene Wedge	1.257	1475	1453				1.379	1.637	1752	2110	1722	2080	0.722	840	819				0.702	0.717	820	840	799	819	
		Lower Early Oligocene Wedge																			0.746		875		854		
Latrobe	Cobia	Gurnard Formation	1.482	1796	1774				1.654		2140		2110	0.769	897	876											
		Burong Formation							1.725		2256		2226	0.773	901	880						0.745		874		853	
		Turrum Formation																									
	Halibut	Currajong Volcanics																									
		Flounder Formation																									
		Mackerel Formation																									
		Kingfish Formation							1.734		2272		2242	0.981	1166	1145											
		Barracouta Formation													1.008	1198	1177					0.901		1071		1050	
		Kate Shale																									
		Volador Formation	1.508	1826	1804																						
	Golden Beach	Chimaera Formation																									
		Anemone Formation	1.585	1925	1903																						
	Emperor	Curlip Formation													1.084	1307	1286										
		Kipper Shale													1.099	1328	1307										
		Admiral Formation																									
Kersop Arkose																											
Strzelecki	Korumburra							1.908		2583		2553															
BASEMENT																											
Volcanics of Uncertain Stratigraphic Age							1.025	1238	1228																		
				Sailfish-1 TD Volcanics of unknown age; Gipps Fm picked from first seafloor returns (Sailfish-1 WCR)																							

Figure A4.3. Formations *continued*

WELL	SPUD	GDPI10 TIE	DISTANCE FROM NEAREST GDPI10 LINE		TD	MAX AGE	TD FORMATION	KEY WELL	RATIONALE
amberjack -1	1990	NO	190 m NW	GDPI10-04	1750	Paleocene (Up. L. Balmei)	Barracouta	Yes	Location
bluebone-1	1969	YES		GDPI10-917	605	Eocene (Low N. asperus) above Basement	BASEMENT	Yes	BASEMENT Well
bullseye-1	1973	YES	<10 m away	GDPI10-906 and GDPI10-013	2386	Paleocene (A. hypercanthum)	Kingfish	Yes	Location
devilfish-1	1990	YES	<10 m away	GDPI10-028	2058	Maastrichtian (Up F. longus)	Volador	Yes	Location/stratigraphy
dolphin-1	1967	NO	610 m NE	GDPI10-907	2883.7	Campanian (N. senectus)	Chimaera	No	No checkshots
dolphin-2	1989	NO	720 m NE	GDPI10-907	1322	Unknown		No	Insufficient information and no seismic tie
dolphin-a3	1997	NO	720 m NE	GDPI10-907	1373	Unknown		No	Insufficient information and no seismic tie
groper-1	1969	YES		GDPI10-914 and GDPI10-020	1035.4	Eocene (Low N. asperus) above Basement	BASEMENT	Yes	BASEMENT Well
groper-2	1969	YES		GDPI10-917 and GDPI10-017	875	Eocene (Low N. asperus) above Basement	BASEMENT	Yes	BASEMENT Well
kyarra-1	1983	YES	<10 m away	GDPI10-913	210	see Kyarra-1a		No	see Kyarra 1A
kyarra-1a	1983	YES	<10 m away	GDPI10-913 and GDPI10-007	1280	Aptian/Albian (C. striatus)	Korumburra	Yes	Location/stratigraphy
melville-1	2001	NO	210 m NW	GDPI10-026	3345	Turonian (P. mawsonii)	Emperor SG	Yes	Location/stratigraphy
moray-1	1972	YES	<10 m away	GDPI10-033	2669.7	Turonian (P. mawsonii)	Kersop Arkose	Yes	Line tie/Stratigraphy
mudskipper-1	1990	YES		GDPI10-036	1631	Paleocene (E. crassitabulata) above Basement	BASEMENT	Yes	BASEMENT Well
mullet-1	1969	NO	25 m NW	GDPI10-039	751	Eocene (N. asperus) above Basement	BASEMENT	Yes	BASEMENT Well
omeo-1/ST1	1983	YES	<10 m away	GDPI10-904 and GDPI10-017	3379	Turonian (P. mawsonii)	Emperor SG	No	close to Omeo_2A
omeo-2	1985	YES	<10 m away	GDPI10-904	293	see Omeo-2a		No	see Omeo 2A
omeo-2a	1985	YES	<10 m away	GDPI10-904	3400	Maastrichtian (Up F. longus)	Chimaera	Yes	Line tie/Stratigraphy
palmer-1	1981	NO	270 m NE	GDPI10-909	1723	Turonian (P. mawsonii)		No	close to Perch 1/no tie
perch-1	1968	NO	16 m NW	GDPI10-007	2866.9	Aptian (C. hughesii)	Korumburra	Yes	near Line tie/Stratigraphy
perch-2	1985	NO	250 m SE	GDPI10-007	1321	Barremian (F. wonthaggiensis)		No	close to Perch 1/no tie
perch-3	1989	NO	615 m NW	GDPI10-007	1332	Eocene (Low N. asperus)		No	close to Perch 1/no tie
perch-4	1995	NO	650 m NW	GDPI10-007	2052	Unknown		No	close to Perch 1/no tie
pike-1	1973	YES	<10 m away	GDPI10-028	2134	Paleocene (L. Balmei)	Kingfish	Yes	Line tie
pisces-1	1982	NO	50 mNE	GDPI10-901	2580	Santonian (T.apoxyexinus)	Anenome	Yes	Location/stratigraphy
sailfish-1	1971	YES	<10 m away	GDPI10-907 and GDPI10-066	1422	Miocene	Unnamed volcanics	Yes	Location
tarra-1	1983	NO	35 m NE	GDPI10-905 and GDPI10-018	2905	Alb/Apt (C. striatus)	Korumburra	Yes	Stratigraphy
tommyruff-1	1990	NO	170 m SW	GDPI10-912	1550	Turonian (P. mawsonii)	Kipper Sh	Yes	Location/stratigraphy
wasabi-1	2008	NO	345 m SE	GDPI10-002	2125	NO INFORMATION		Yes	New well
wyrallah-1	1984	YES	<10 m away	GDPI10-914 and GDPI10-004	1160	Paleocene (Up L. Balmei)	Barracouta	Yes	Location

Figure A4.4. Key wells - basic data (Table 2.4)

WELL	KEY WELL	T/D-relationship	Synthetic	Formation tops 3D-GEO (Kingdom)	Formation tops DPI-WCR	Deviation Survey	Biostrat GA_Bug	Cali	DT	GR	RHOB	DRHO	SP	NPHI	ILD	MSFL	SFL	LLD	LLS	others
amberjack -1	Yes	GA	NO	Yes	Yes (1 only)	Yes	NO													
bluebone-1	Yes	unknown	NO	Yes	NO	Yes-vert	Yes	las												
bullseye-1	Yes	GA	NO	Yes	Yes	Yes	Yes													
devilfish-1	Yes	DPI_qc	NO	Yes	Yes	Yes	Yes													
dolphin-1	No	NO	NO	Yes	Yes	Yes	Yes													
dolphin-2	No	NO	NO	Yes	Yes	Yes-vert	NO													
dolphin-a3	No	NO	NO	Yes	Yes	Yes	NO													
groper-1	Yes	GA	NO	Yes	Yes	Yes	Yes													
groper-2	Yes	DPI_qc	NO	Yes	Yes	Yes	Yes													
kyarra-1	No	DPI_qc	NO	NO	NO	Yes	NO													
kyarra-1a	Yes	GA	NO	Yes	Yes	Yes	Yes													
melville-1	Yes	unknown	NO	Yes	Yes	Yes	NO	N/A	las	las	N/A									
moray-1	Yes	DPI_qc	NO	Yes	Yes	Yes	Yes													
mudskipper-1	Yes	GA	NO	Yes	Yes	Yes	Yes													
mullet-1	Yes	unknown	NO	Yes	Yes	Yes-vert	NO													
omeo-1/ST1	No	Yes	GA	Yes	Yes	Yes	Yes													
omeo-2	No	NO	NO	Yes	NO	NO	NO													
omeo-2a	Yes	GA	NO	Yes	Yes	Yes	Yes													
palmer-1	No	GA	NO	Yes	Yes	Yes	Yes													
perch-1	Yes	DPI_qc	NO	Yes	Yes	Yes	Yes													
perch-2	No	GA	NO	Yes	Yes	Yes	Yes													
perch-3	No	NO	NO	Yes	Yes	Yes	NO													
perch-4	No	NO	NO	NO	Yes	NO	NO													
pike-1	Yes	GA	NO	Yes	Yes	Yes	Yes	las			las									
pisces-1	Yes	GA	NO	Yes	Yes	Yes	Yes													
sailfish-1	Yes	NO	NO	Yes	NO	Yes	NO				N/A									
tarra-1	Yes	DPI_qc	NO	Yes	Yes	Yes	Yes													
tommyruff-1	Yes	GA	NO	Yes	Yes	Yes	Yes													
wasabi-1	Yes	NO	NO	NO	NO	NO	NO	las	las	las	las									
wyrallah-1	Yes	GA	NO	Yes	Yes	Yes	Yes													

Figure A4.5. Key wells - Kingdom (Table 2.5)



WELL	KEY WELL	VIMP Reports	Checkshots spreadsheet	WCR
amberjack - 1	Yes	VIMP79 (2003)	Yes	Yes
bluebone-1	Yes		supplied separately	Yes
bullseye-1	Yes	VIMP88 (2006)	Yes	Yes
devilfish-1	Yes	VIMP88 (2006)	Yes	Yes
dolphin-1	No	VIMP79 (2003)	No - none acquired	
dolphin-2	No	VIMP79 (2003)	No - none acquired	
dolphin-a3	No		No - none acquired	
groper-1	Yes	VIMP88 (2006)	Yes	summary
groper-2	Yes	VIMP88 (2006)	Yes	Yes
kyarra-1	No		Yes	
kyarra-1a	Yes	VIMP79 (2003), VIMP88 (2006)	Yes	Yes
melville-1	Yes		supplied separately	Yes
moray-1	Yes	VIMP79 (2003), VIMP88 (2006)	Yes	Yes
mudskipper-1	Yes	VIMP79 (2003), VIMP88 (2006)	Yes	Yes
mullet-1	Yes	VIMP88 (2006)	supplied separately	Yes
omeo-1/ST1	No	VIMP88 (2006)	No	Yes
omeo-2	No		No	
omeo-2a	Yes	VIMP88 (2006)	Yes	Yes
palmer-1	No	VIMP79 (2003)	Yes	Yes
perch-1	Yes	VIMP79 (2003)	Yes	summary
perch-2	No	VIMP79 (2003)	Yes	Yes
perch-3	No	VIMP79 (2003)	No	Yes
perch-4	No		No	Yes
pike-1	Yes	VIMP88 (2006)	Yes	Yes
pisces-1	Yes	VIMP79 (2003), VIMP88 (2006)	Yes	Yes
sailfish-1	Yes	VIMP88 (2006)	No - none acquired	Yes
tarra-1	Yes	VIMP88 (2006)	Yes	Yes
tommyruff-1	Yes	VIMP79 (2003)	Yes	Yes
wasabi-1	Yes		Supplied separately	Basic
wyrallah-1	Yes	VIMP88 (2006)	Yes	Yes

Figure A4.6. Key wells - extra data (Table 2.6)

CONSTRUCTION SURFACE	STRATIGRAPHIC SURFACE
FrOG Tech C01 Seafloor	FrOG Tech 01 Seafloor
FrOG Tech C02 Toplap	construction surface only
FrOG Tech C03 Downlap	FrOG Tech 02 Near Top Bassian Rise Unit 2
FrOG Tech C04 Mid Miocene	FrOG Tech 03 Top Bassian Rise Unit 3
FrOG Tech C05 Slump top	construction surface only
FrOG Tech C06 Slump Container	construction surface supplied supplied in Kingdom project
FrOG Tech C07 Near top Latrobe	FrOG Tech 07 Top Latrobe Group
FrOG Tech C08 Near Base Latrobe	FrOG Tech 11 Top Strzelecki Group
FrOG Tech C09 Basement	FrOG Tech 13 Top Basement

Figure A4.7. Surfaces (Table 7.1)

# **Appendix 5**

## **Interpretation Extent of the 13 Seismic Horizons**

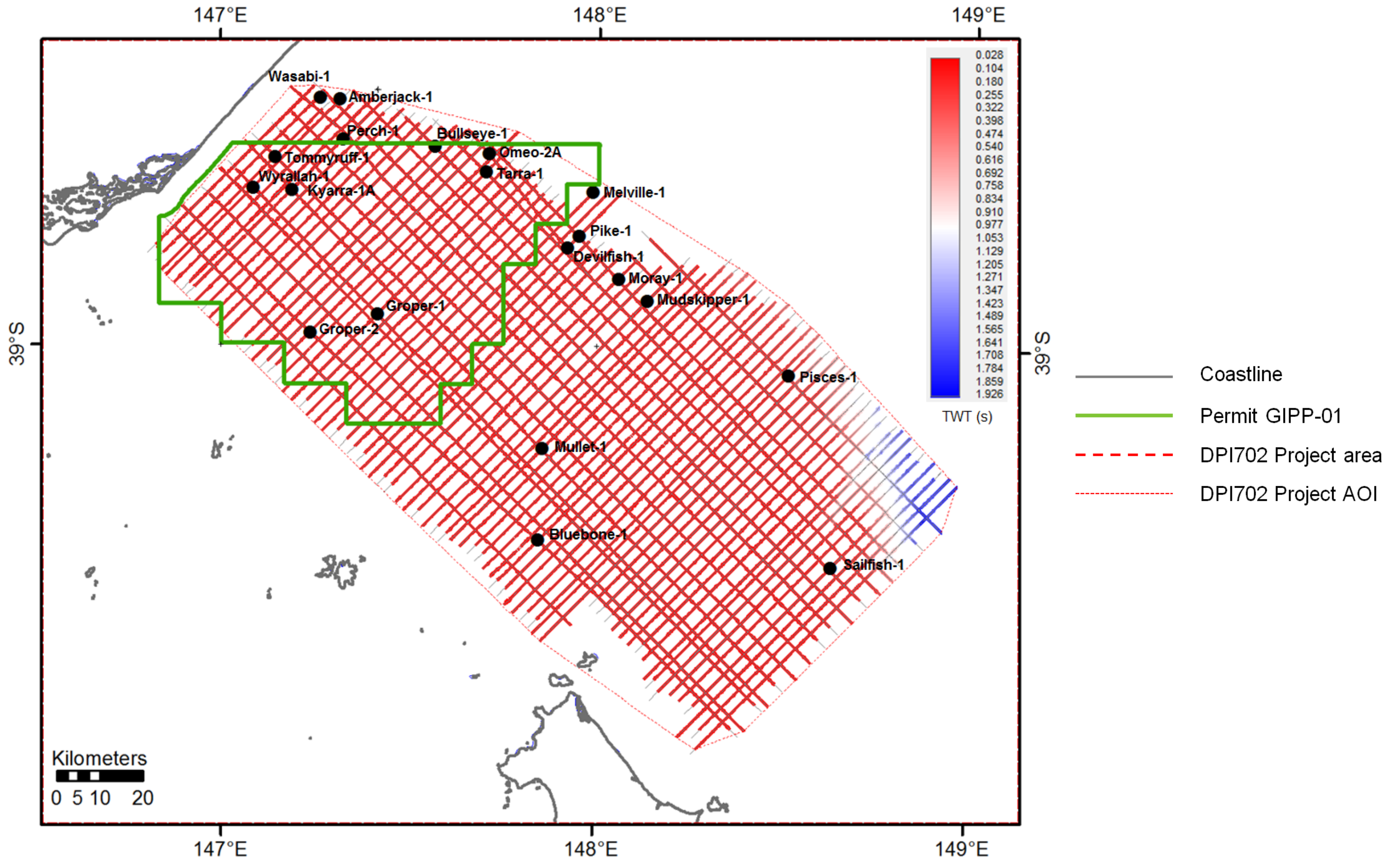


Figure A5.1. FT\_01\_Seaflor horizon extent

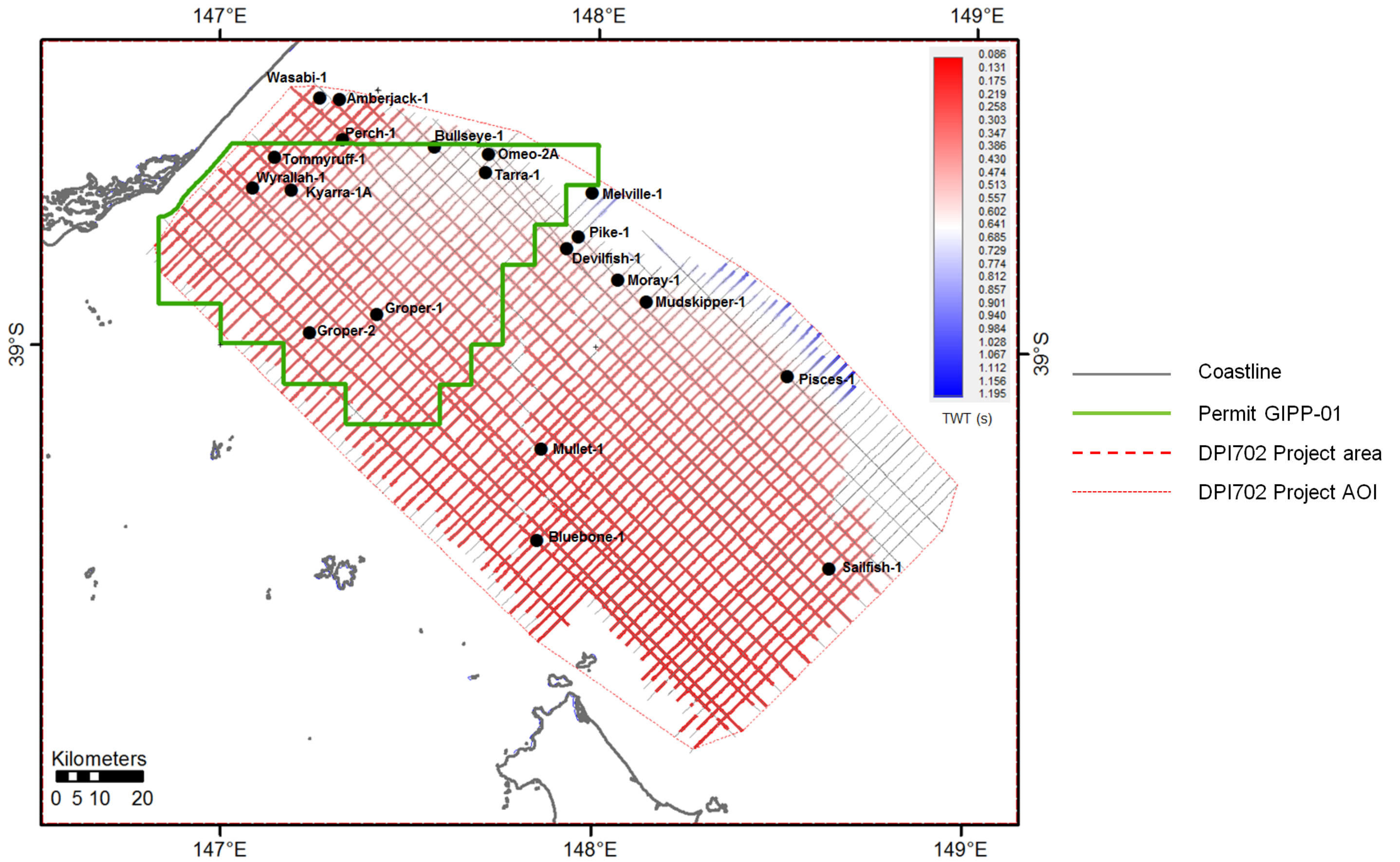


Figure A5.2. FT\_02\_NT\_BR2 horizon extent

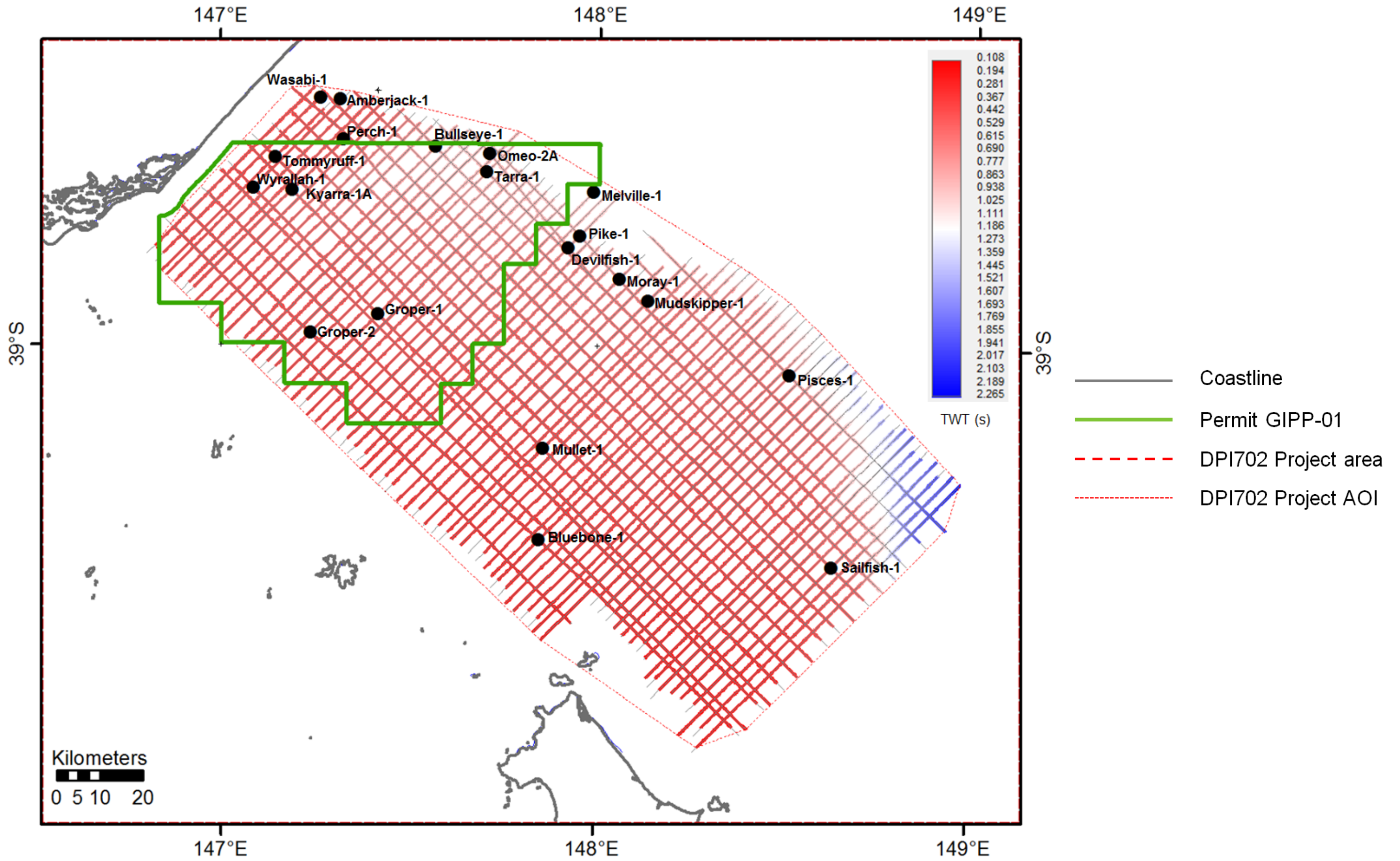


Figure A5.3. FT\_03\_Top\_BR3 horizon extent

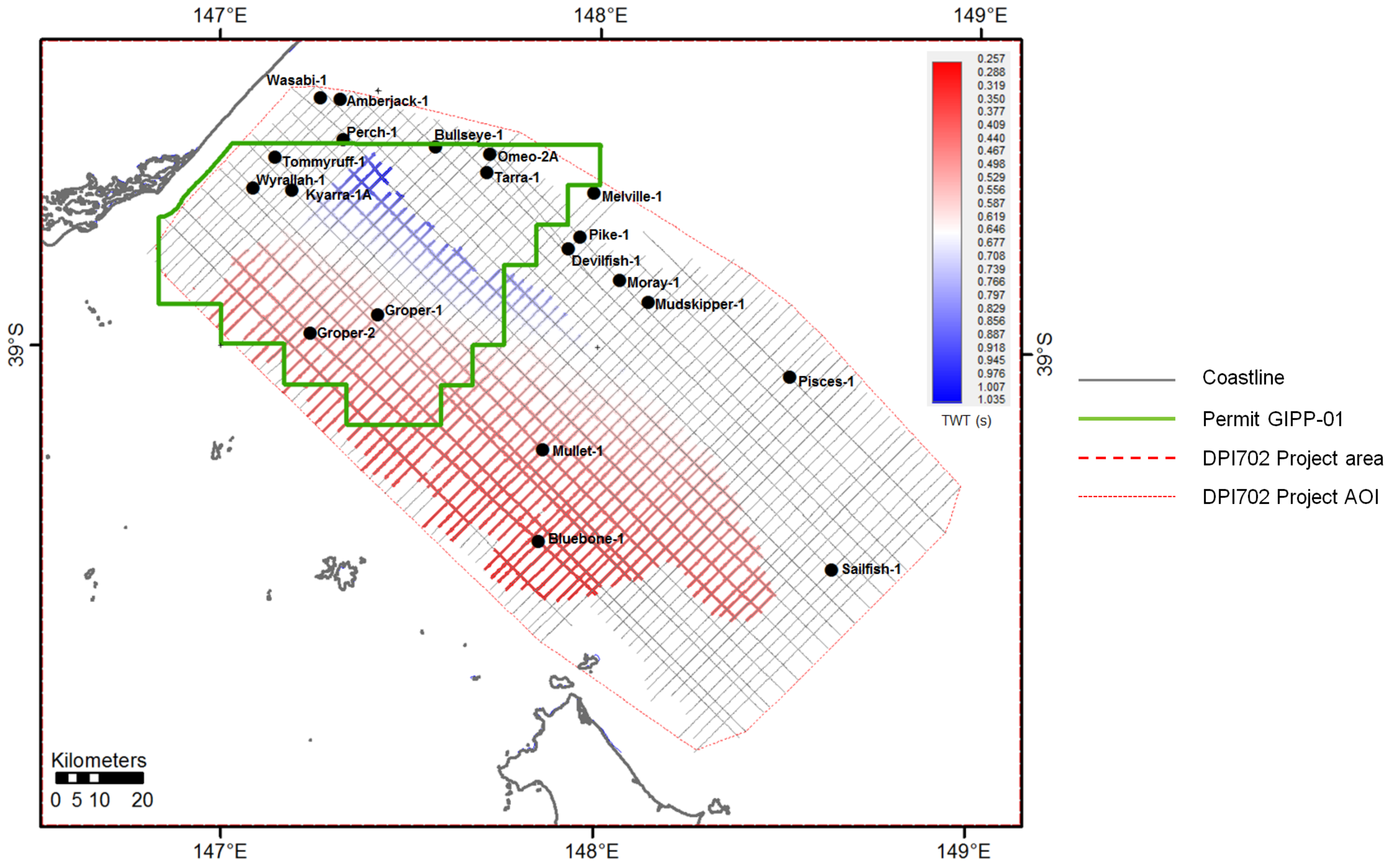


Figure A5.4. FT\_04\_Top\_BR4 horizon extent

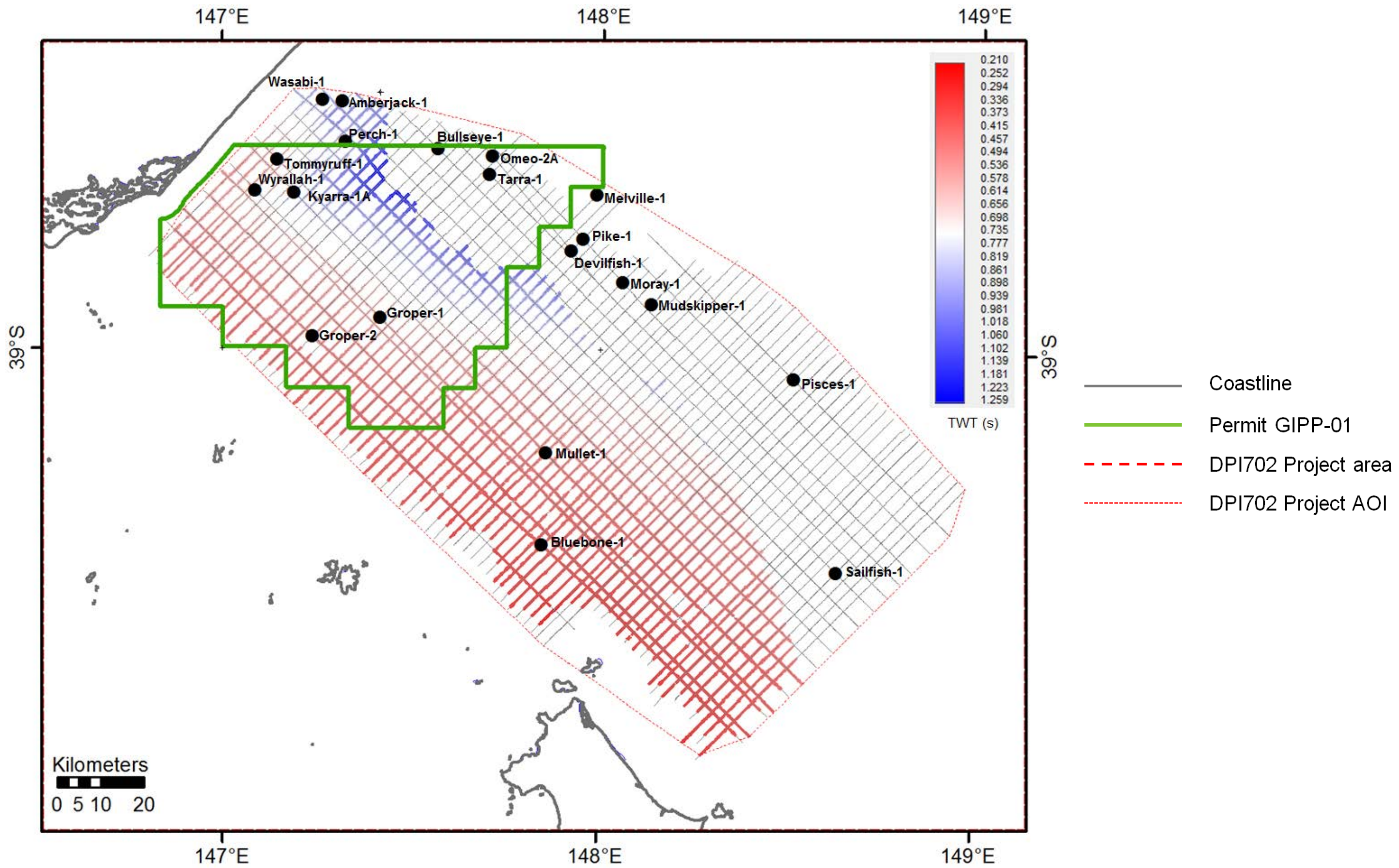


Figure A5.5. FT\_05\_Top\_BR5 horizon extent



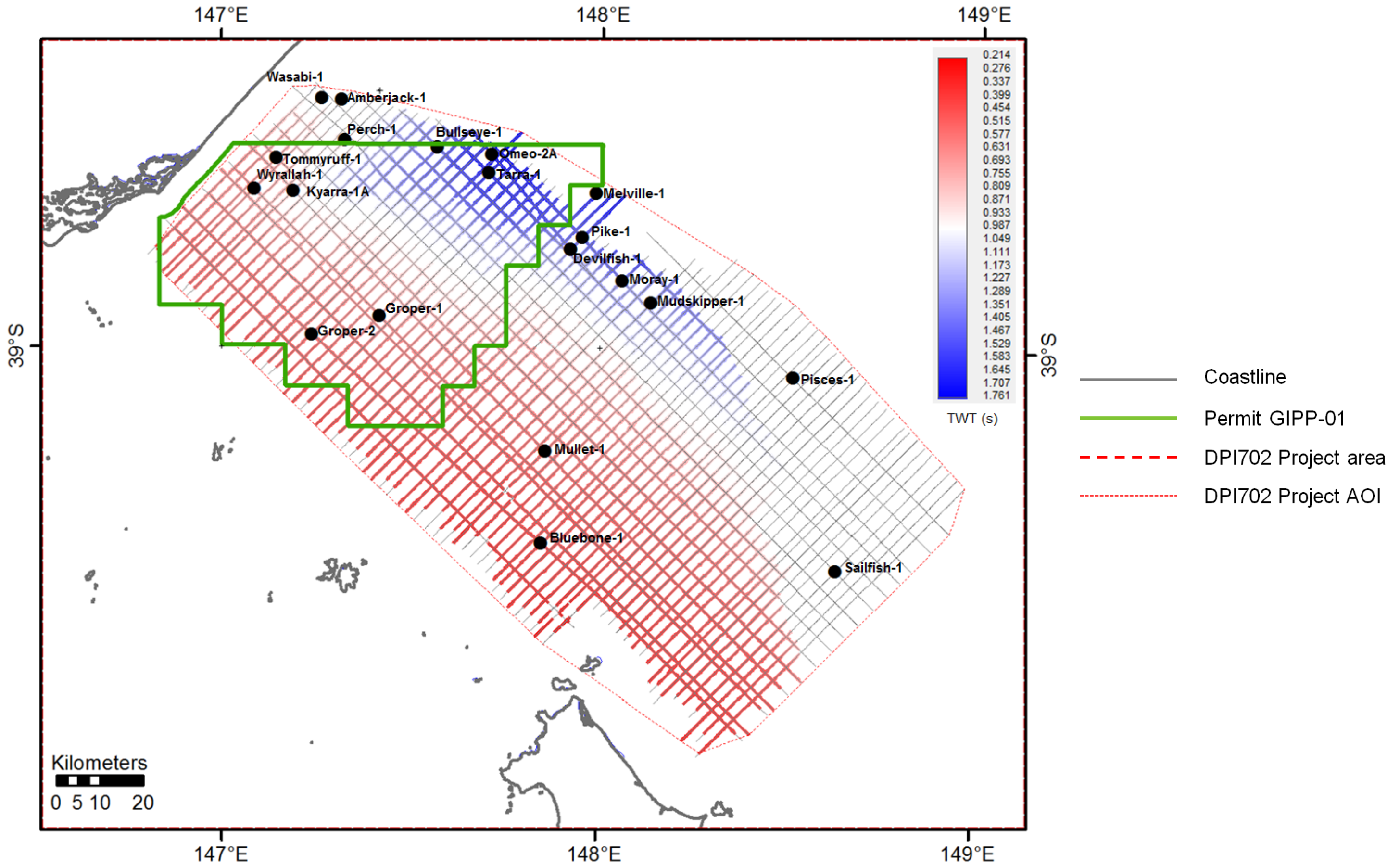


Figure A5.6. FT\_06\_Top\_EOW horizon extent

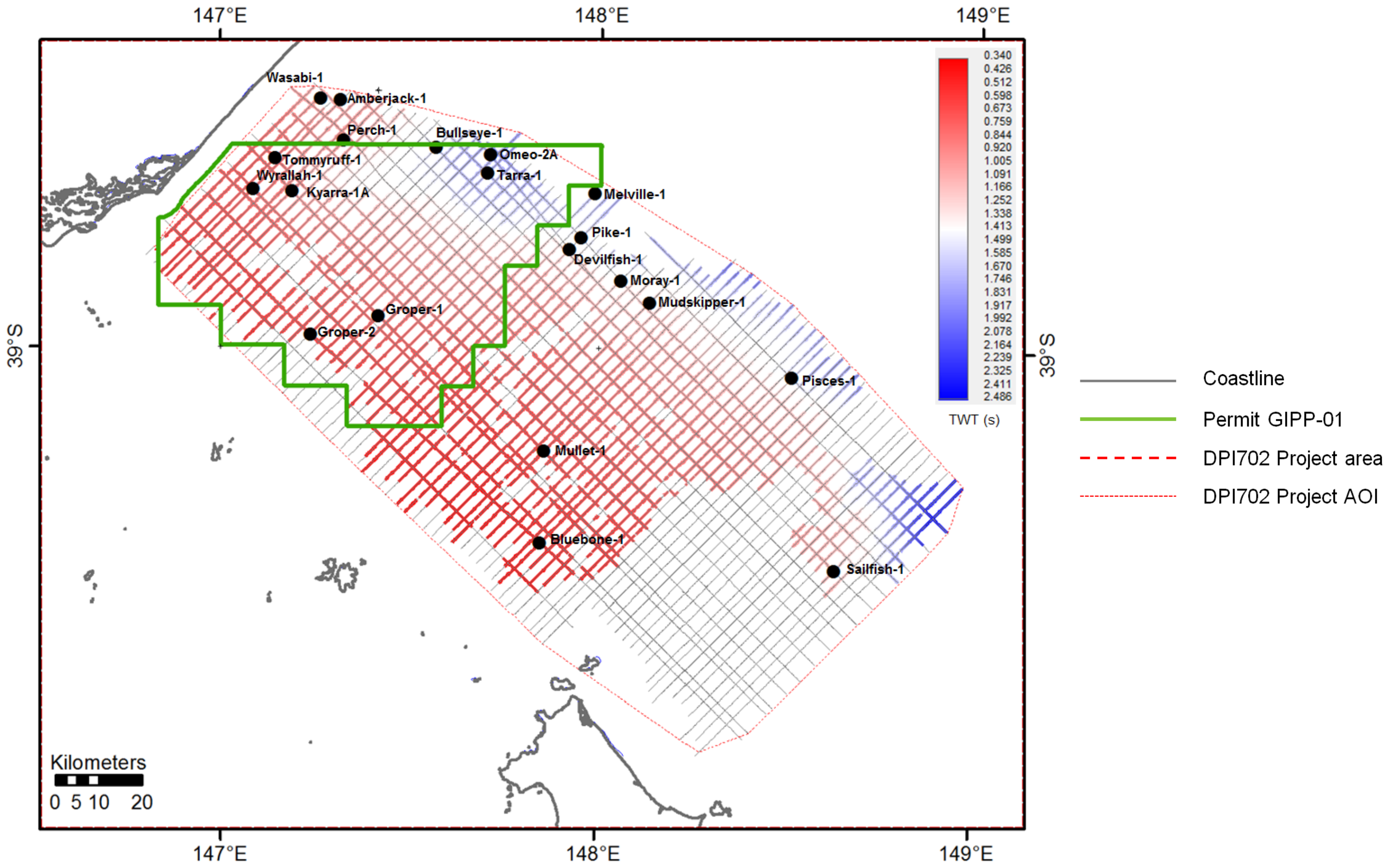


Figure A5.7. FT\_07\_Top\_Latrobe\_Gr horizon extent

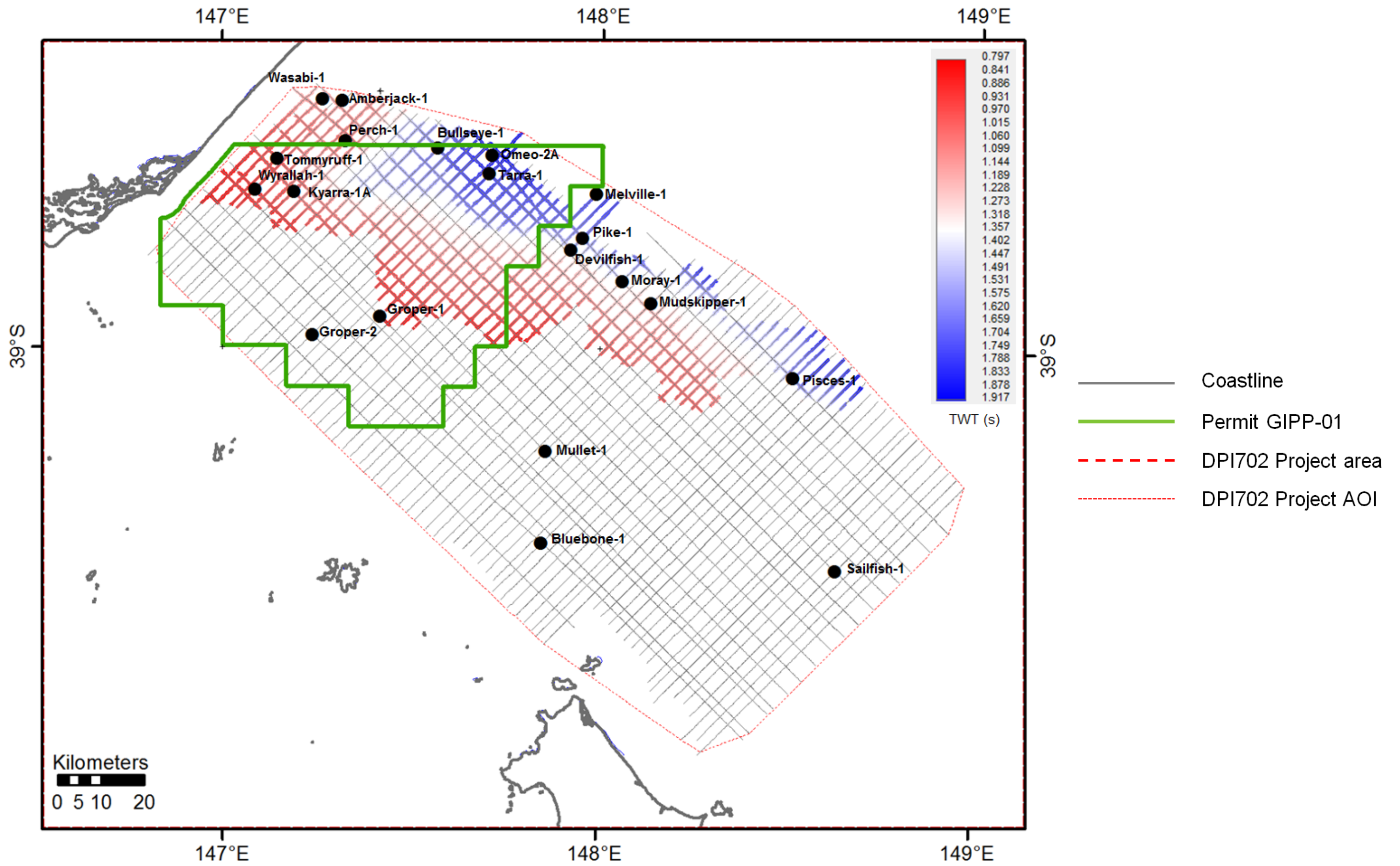


Figure A5.8. FT\_08\_Top\_Halibut\_SG horizon extent

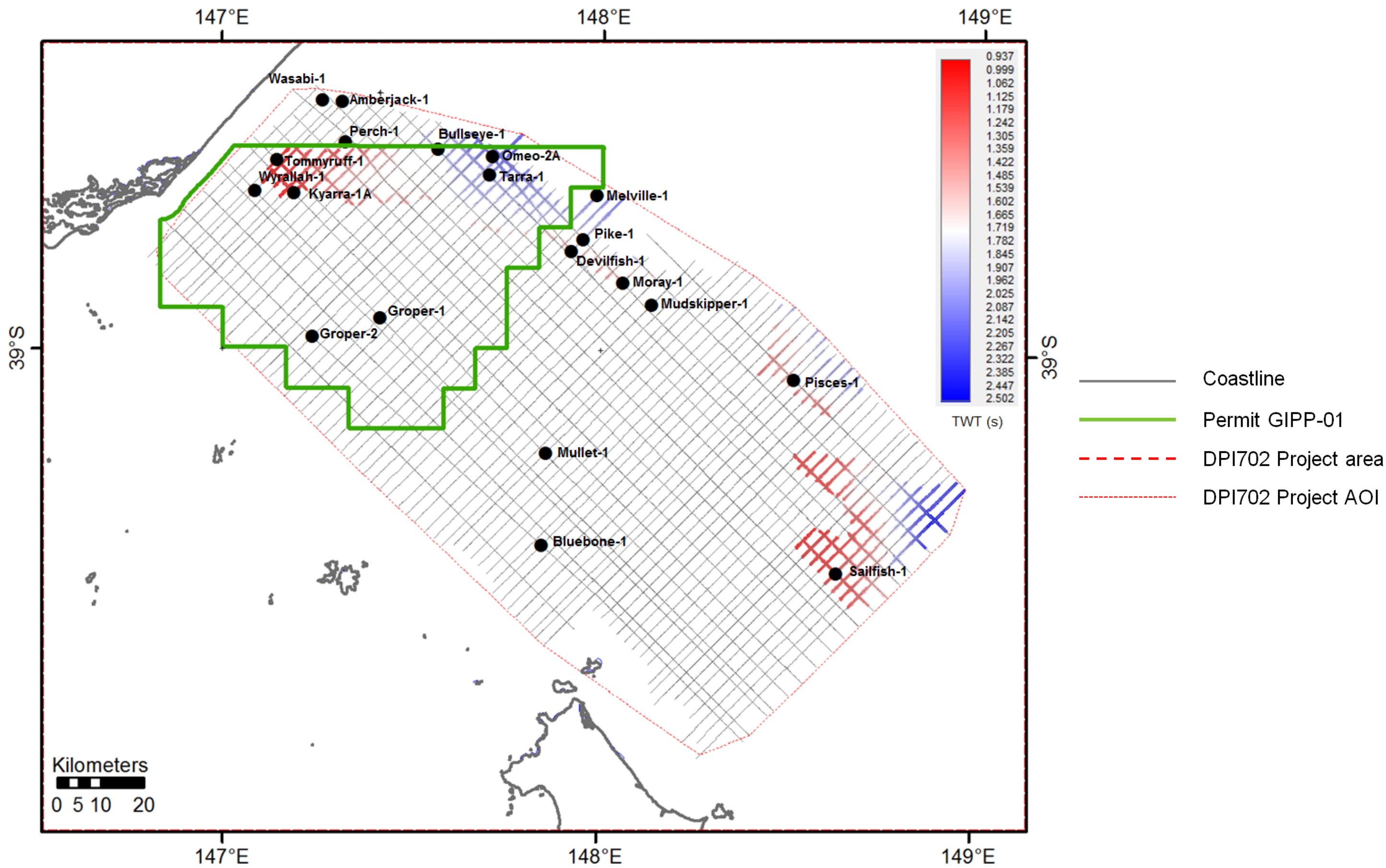


Figure A5.9. FT\_09\_Top\_Golden\_Beach\_SG horizon extent

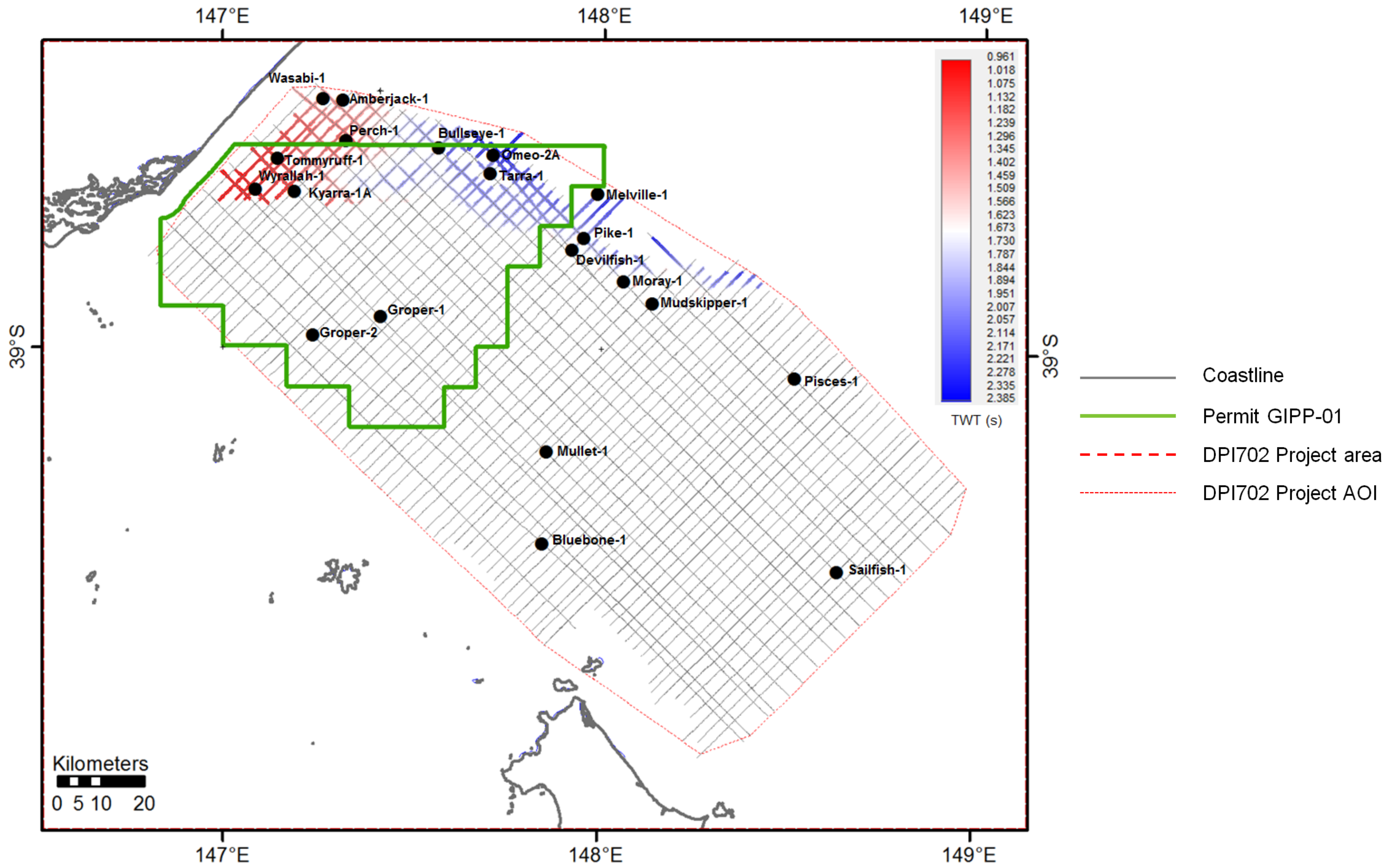


Figure A5.10. FT\_10\_Top\_Emperor\_SG horizon extent

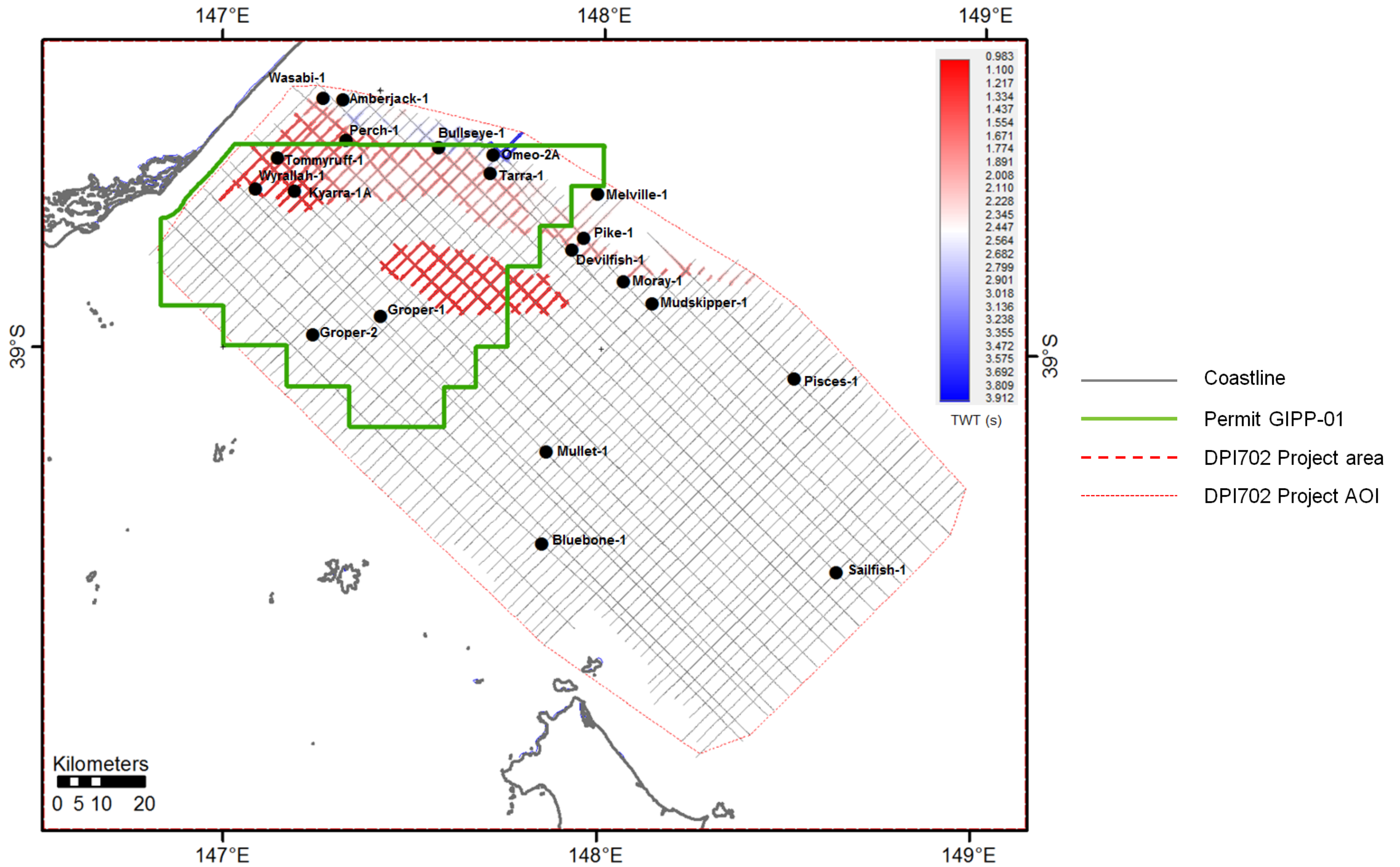


Figure A5.11. FT\_11\_Top\_Strzelecki\_Gp horizon extent

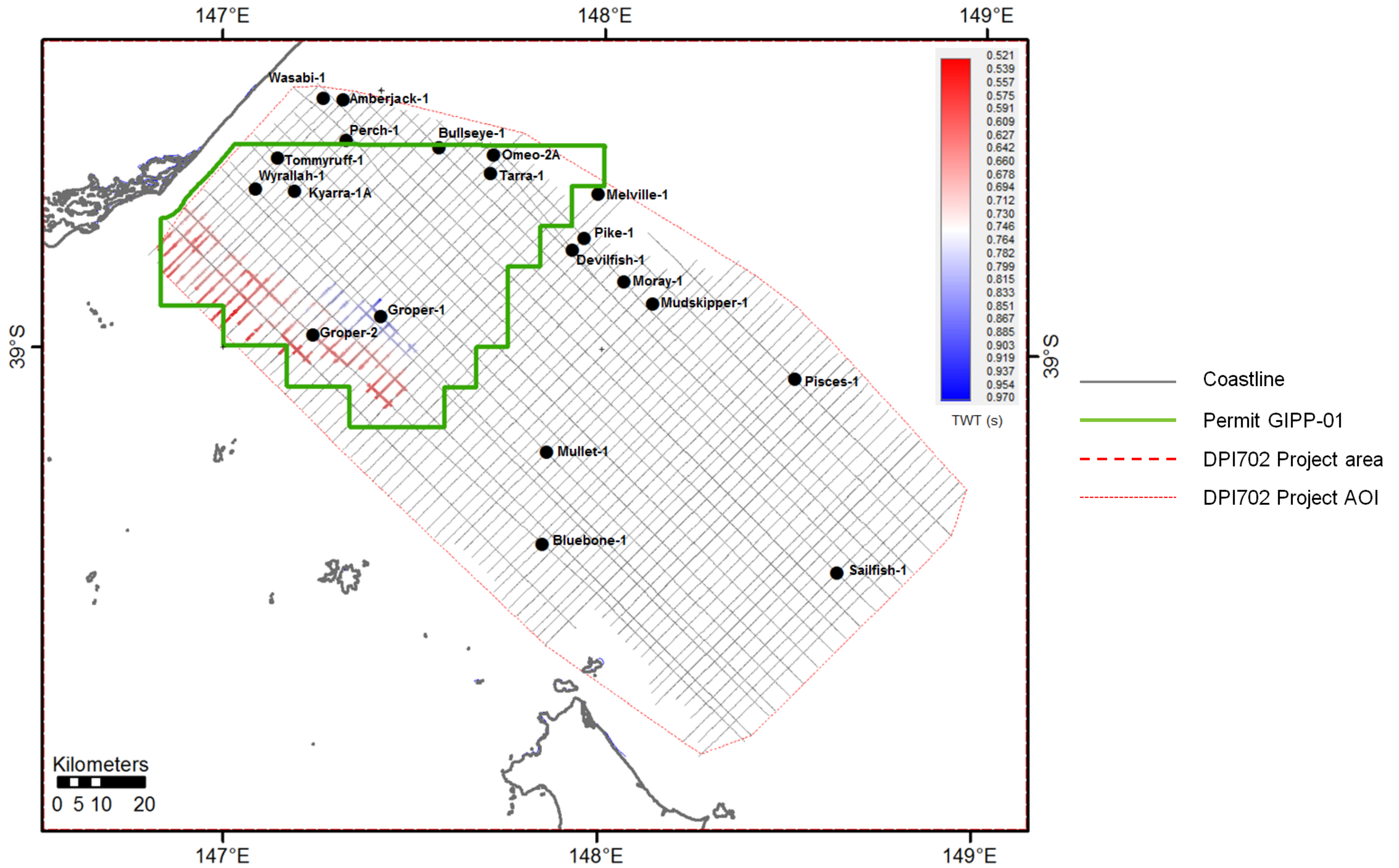


Figure A5.12. FT\_12\_Top\_Pre-Strzelecki\_Gp horizon extent

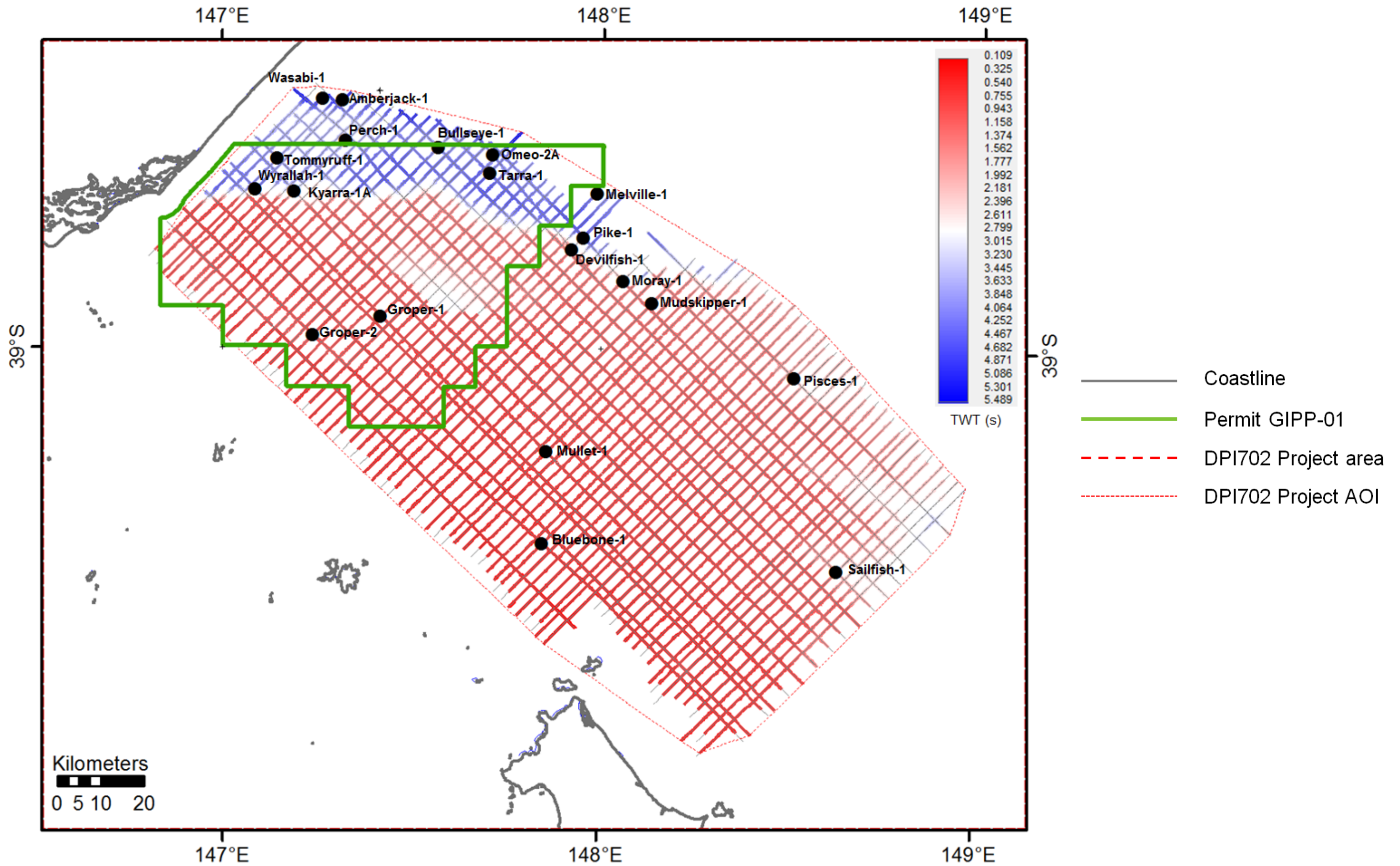


Figure A5.13. FT\_13\_Top\_Basement horizon extent



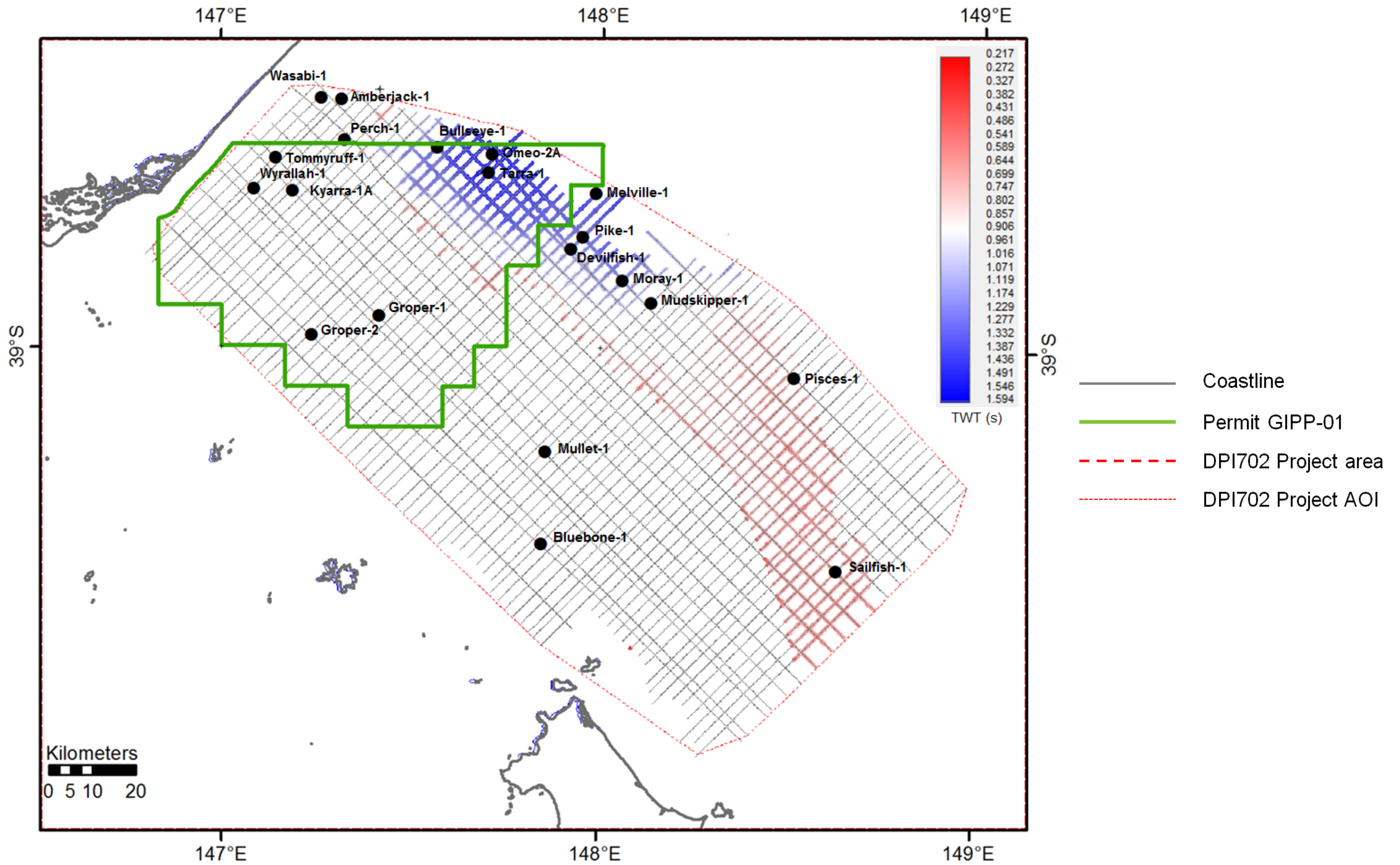


Figure A5.14. FT\_C06\_Slump\_Container horizon extent - NOTE: This is a construction surface only but is included in the Kingdom project to show where slumping has occurred.

# Appendix 6

## Isochron/Isopach Input Grids

Isochron	Gridded Time Horizons Used (top <b>T</b> , bottom <b>B</b> )												
	FT_01	FT_02	FT_03	FT_04	FT_05	FT_06	FT_07	FT_08	FT_09	FT_10	FT_11	FT_12	FT_13
ft_iso_01_to_13_time_grid	<b>T</b>												<b>B</b>
ft_iso_01_to_top_br3_or_underlying_time_grid*	<b>T</b>		<b>B</b>	<b>B</b>	<b>B</b>								<b>B</b>
ft_iso_03_to_top_eow_or_underlying_time_grid*			<b>T</b>			<b>B</b>	<b>B</b>	<b>B</b>	<b>B</b>				<b>B</b>
ft_iso_06_to_base_eow_time_grid*						<b>T</b>	<b>B</b>					<b>B</b>	<b>B</b>
ft_iso_07_to_base_cobia_sg_time_grid*							<b>T</b>	<b>B</b>	<b>B</b>	<b>B</b>		<b>B</b>	<b>B</b>
ft_iso_07_to_base_latrobe_gr_time_grid*							<b>T</b>				<b>B</b>	<b>B</b>	<b>B</b>
ft_iso_08_to_base_golden_beach_sg_time_grid*								<b>T</b>		<b>B</b>	<b>B</b>		<b>B</b>
ft_iso_10_to_base_latrobe_gr_time_grid*										<b>T</b>	<b>B</b>		<b>B</b>
ft_iso_11_to_13_time_grid											<b>T</b>		<b>B</b>
ft_iso_12_to_13_time_grid												<b>T</b>	<b>B</b>

Isopach**	Gridded Depth Horizons Used (top <b>T</b> , bottom <b>B</b> )												
	FT_01	FT_02	FT_03	FT_04	FT_05	FT_06	FT_07	FT_08	FT_09	FT_10	FT_11	FT_12	FT_13
ft_iso_01_to_03_depth_grid_tied	<b>T</b>		<b>B</b>										
ft_iso_01_to_top_br3_or_underlying_depth_grid_tied*	<b>T</b>		<b>B</b>	<b>B</b>	<b>B</b>								<b>B</b>
ft_iso_03_to_top_eow_or_underlying_depth_grid_tied*			<b>T</b>			<b>B</b>	<b>B</b>	<b>B</b>	<b>B</b>				<b>B</b>
ft_iso_06_to_base_eow_depth_grid_tied*						<b>T</b>	<b>B</b>					<b>B</b>	<b>B</b>
ft_iso_07_to_base_cobia_sg_depth_grid_tied*							<b>T</b>	<b>B</b>	<b>B</b>	<b>B</b>		<b>B</b>	<b>B</b>
ft_iso_07_to_base_latrobe_gr_depth_grid_tied*							<b>T</b>				<b>B</b>	<b>B</b>	<b>B</b>
ft_iso_08_to_base_golden_beach_sg_depth_grid_tied*								<b>T</b>		<b>B</b>	<b>B</b>		<b>B</b>
ft_iso_10_to_base_latrobe_gr_depth_grid_tied*										<b>T</b>	<b>B</b>		<b>B</b>
ft_iso_11_to_13_depth_grid_tied											<b>T</b>		<b>B</b>
ft_iso_12_to_13_depth_grid_tied												<b>T</b>	<b>B</b>

(\*) These isopachs/isochrons were calculated with a bottom surface that is a merged minimum depth surface of the noted (**B**) horizons.

(\*\*) All isopachs are calculated from top and bottom horizons that have been corrected (tied) to fit horizon picks in wells.

Table A6 Isochron/Isopach input grids

# **Appendix 7**

## **Maps of Interval Velocity for Isopachs and Average Velocity for Interpreted Surfaces.**

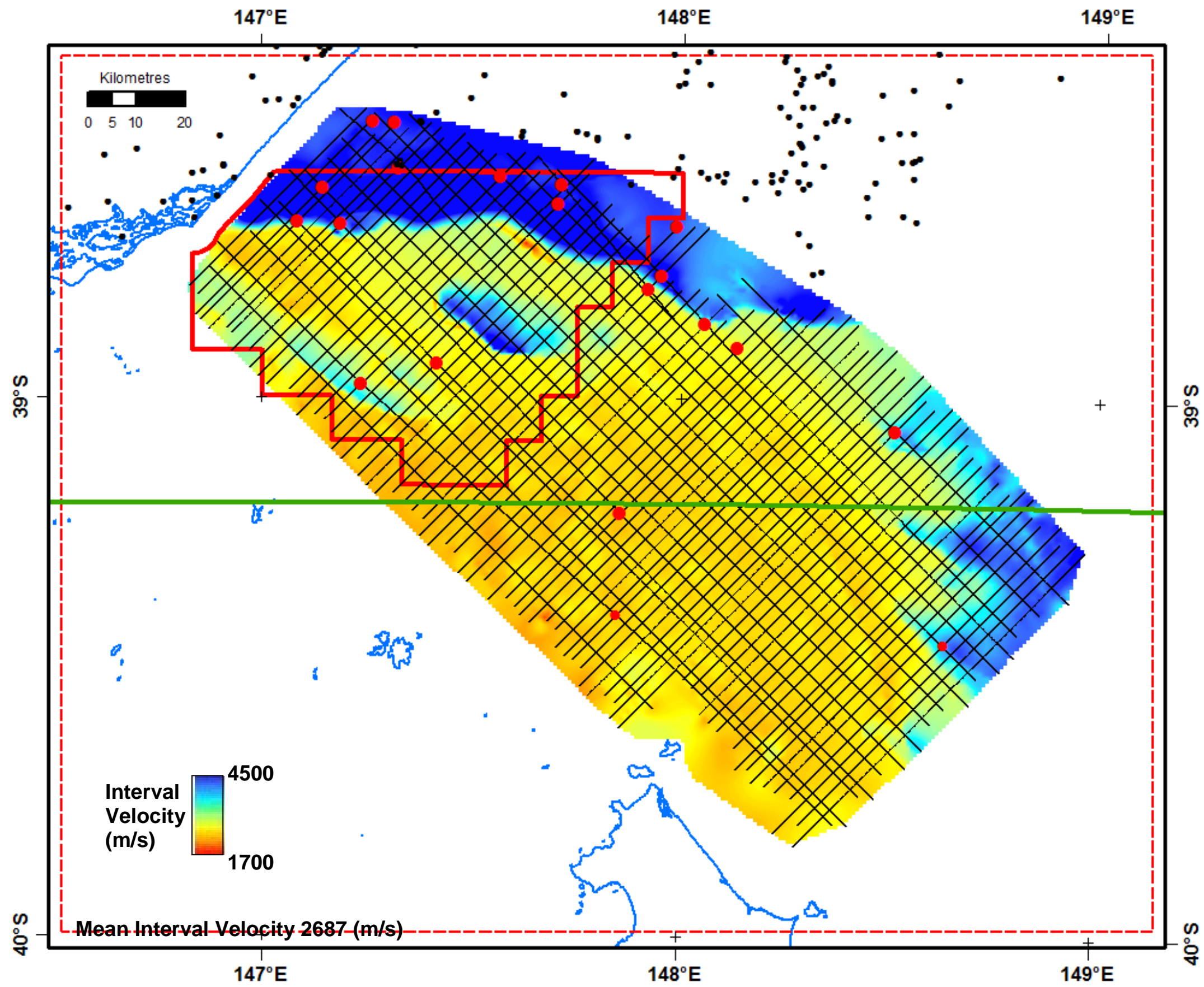


Figure A7.1. Variation of interval velocity for FrOG Tech 01 Seafloor to FrOG Tech 13 Top Basement (total sediment thickness).

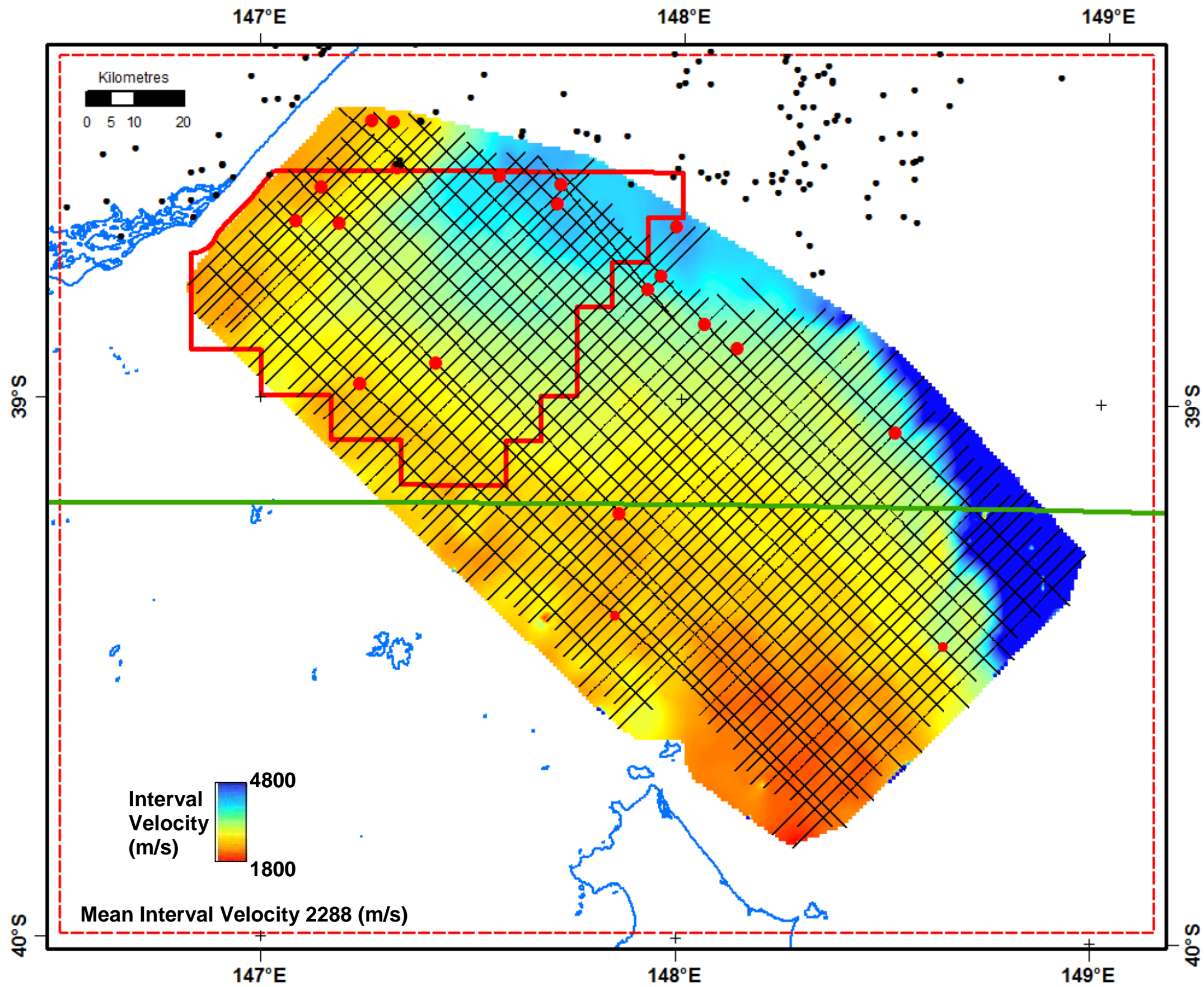


Figure A7.2. Variation of interval velocity for FrOG Tech 01 Seafloor to FrOG Tech 03 Top Bassian Rise Unit 3.

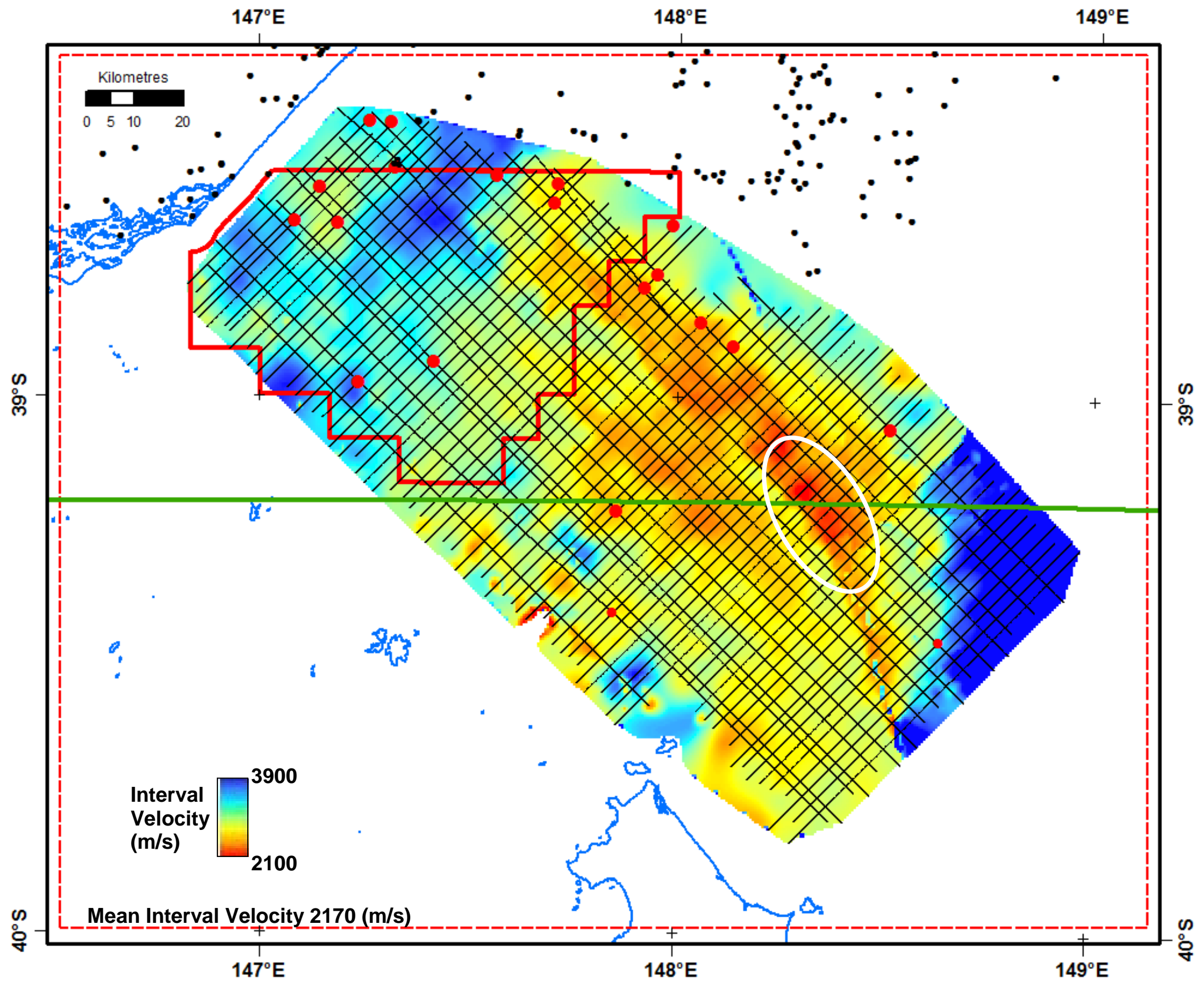


Figure A7.3. Variation of interval velocity for FrOG Tech 03 Top Bassian Rise Unit 3 to FrOG Tech 06 Top Early Oligocene Wedge. The low velocity areas (circled) are where the 06 horizon does not exist, so the isopach is artificially thick. These areas were clipped from the final grid.

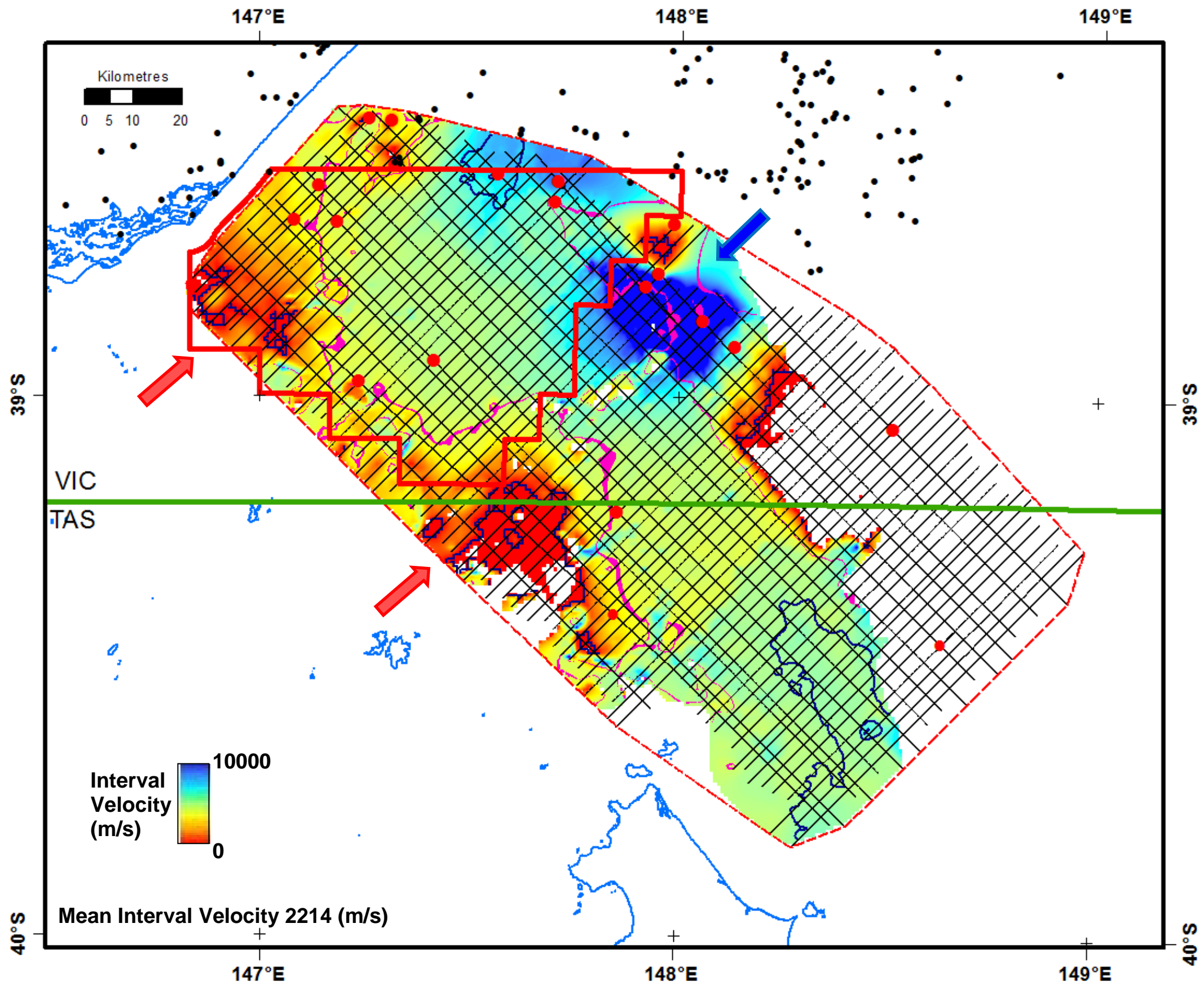


Figure A7.4. Variation of interval velocity for FrOG Tech 06 Top Early Oligocene Wedge to base EOW (composite horizon). Note that the anomalously low (<1750 m/s; red arrows) and high (>6500 m/s; blue arrow) interval velocity values generally occur where the interval thickness is less than 60 m (pink line). The interval reaches up to 80 m thick in the anomalously high (>6500 m/s) region.



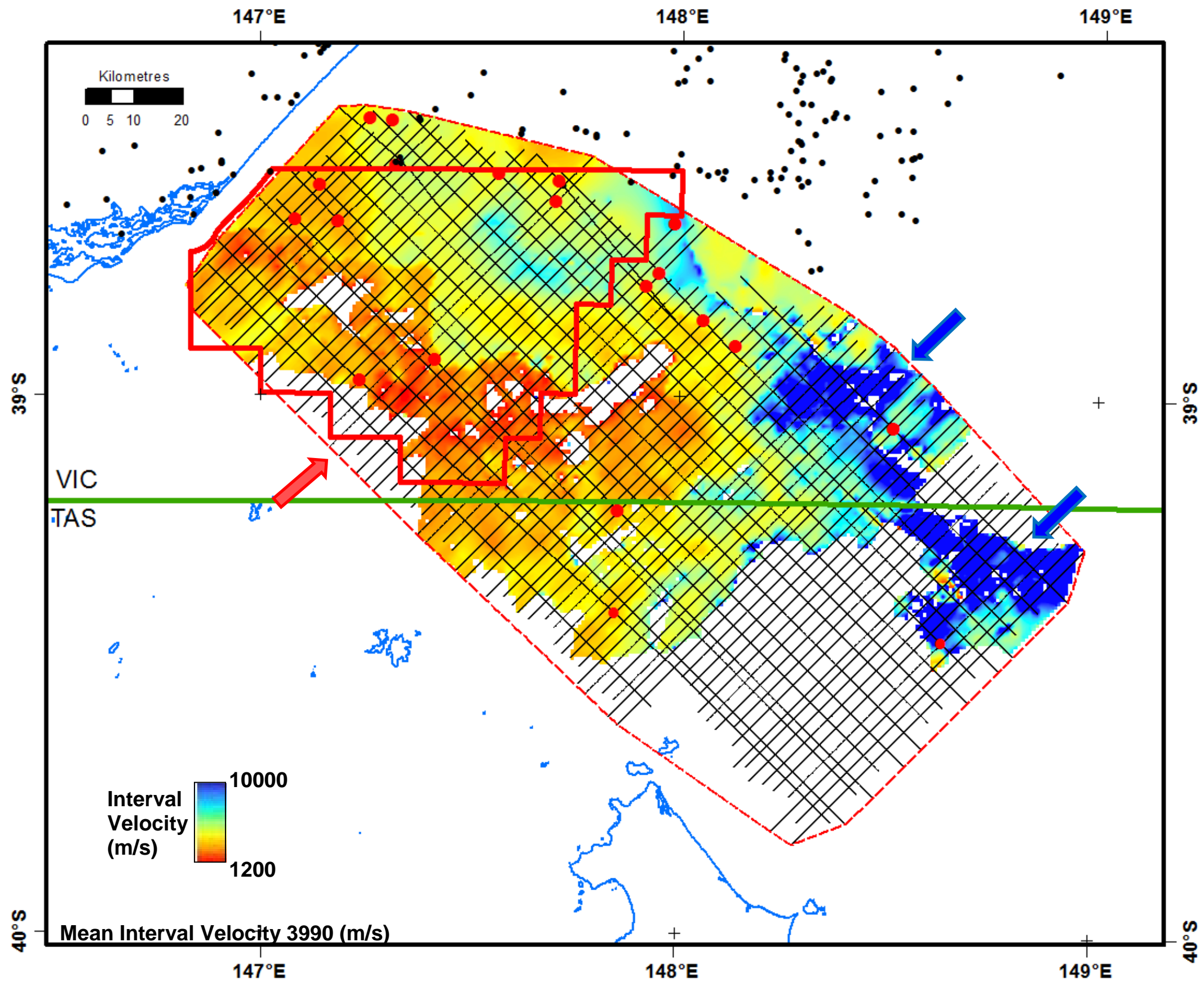


Figure A7.5. Variation of interval velocity for FrOG Tech 07 Top Latrobe Group to base Cobia (composite horizon). Note that the anomalously low (<1750 m/s; red arrow) interval velocity values generally occur where the interval thickness is less than 25 m. The interval reaches up to 120 m thick in the anomalously high (>6500 m/s; blue arrows) region.

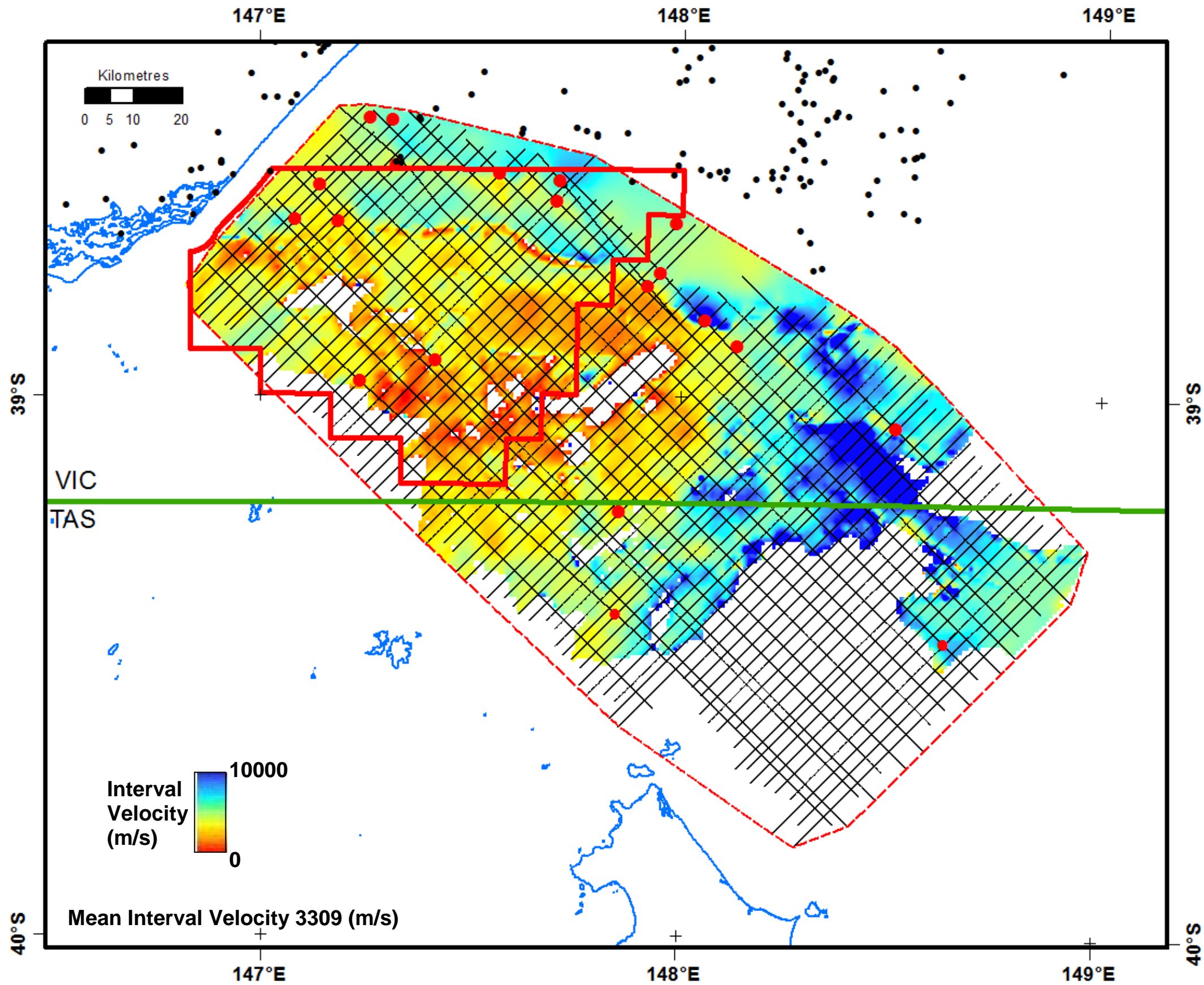


Figure A7.6. Variation of interval velocity for FrOG Tech 07 Top Latrobe Group to base Latrobe (composite horizon). Compared with the Cobia Formation only interval velocity map in Figure A7.5 note that the areas of anomalously low (<1750 m/s; red arrow, previous page) and anomalously high (>6500 m/s; blue arrows, previous page) interval velocity values are reduced in size.

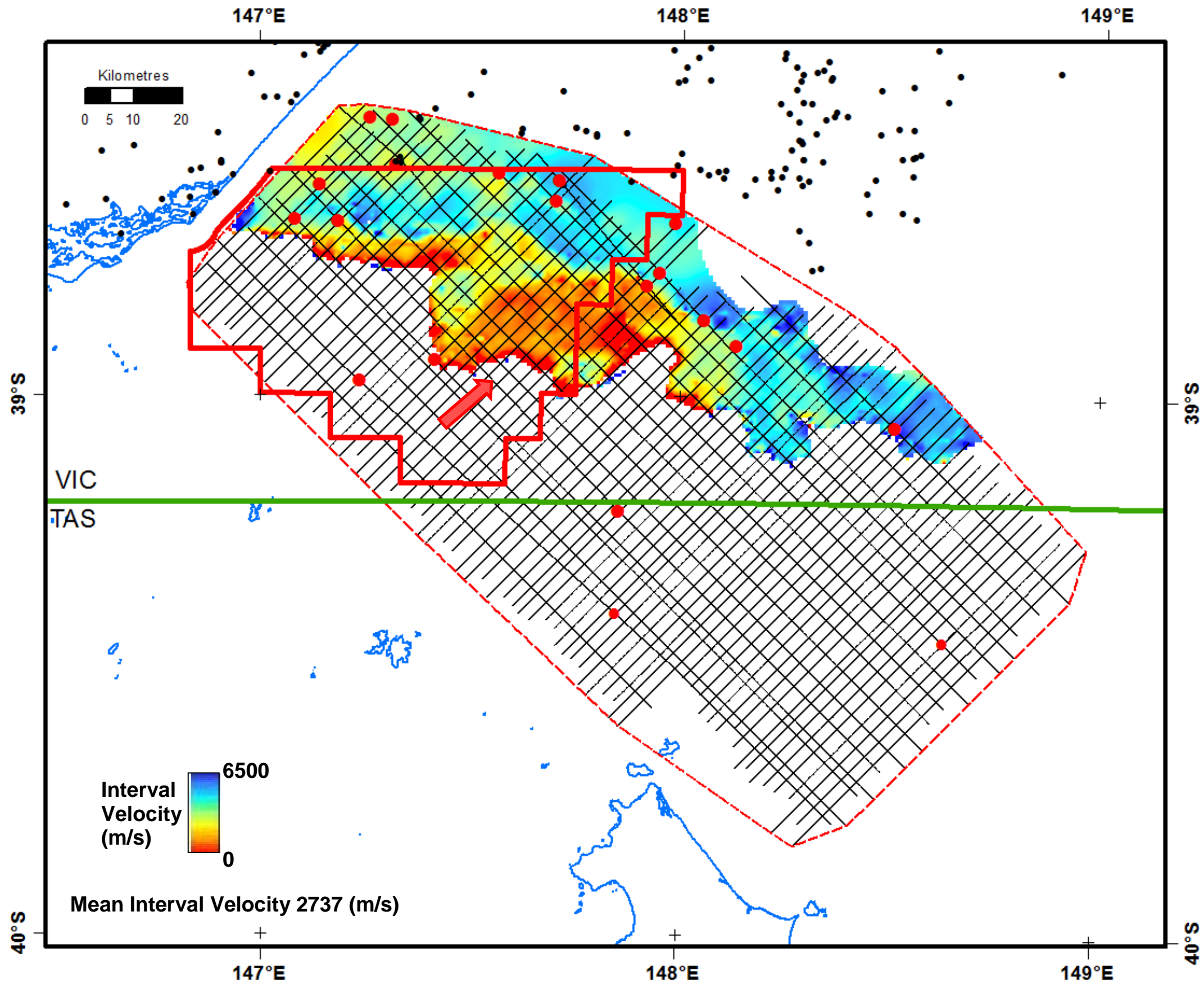


Figure A7.7. Variation of interval velocity for FrOG Tech 08 Top Halibut Subgroup to base Golden Beach (composite horizon). Note that the anomalously low (<1750 m/s; red arrow) interval velocity values generally occur where the interval thickness is less than 75 m, and/or around the edges of the grid.

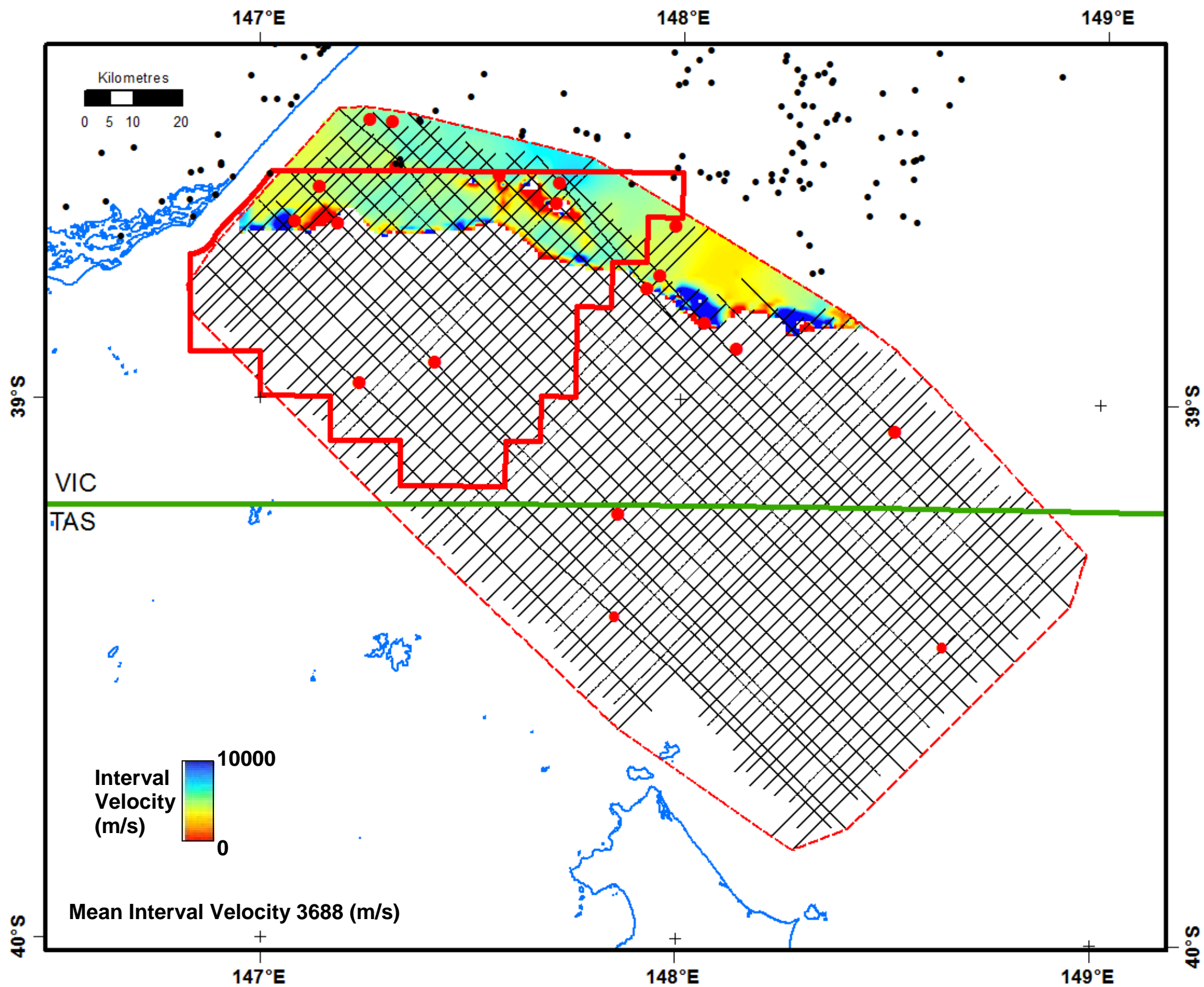


Figure A7.8. Variation of interval velocity for FrOG Tech 10 Top Emperor Subgroup to base Latrobe (composite horizon). Note that the anomalously low (<1750 m/s) and high (>6500 m/s) interval velocity values occur where the Emperor Subgroup is not interpreted confidently (or at all) within fault slivers north of the Foster Fault System (see Figure 6.8).

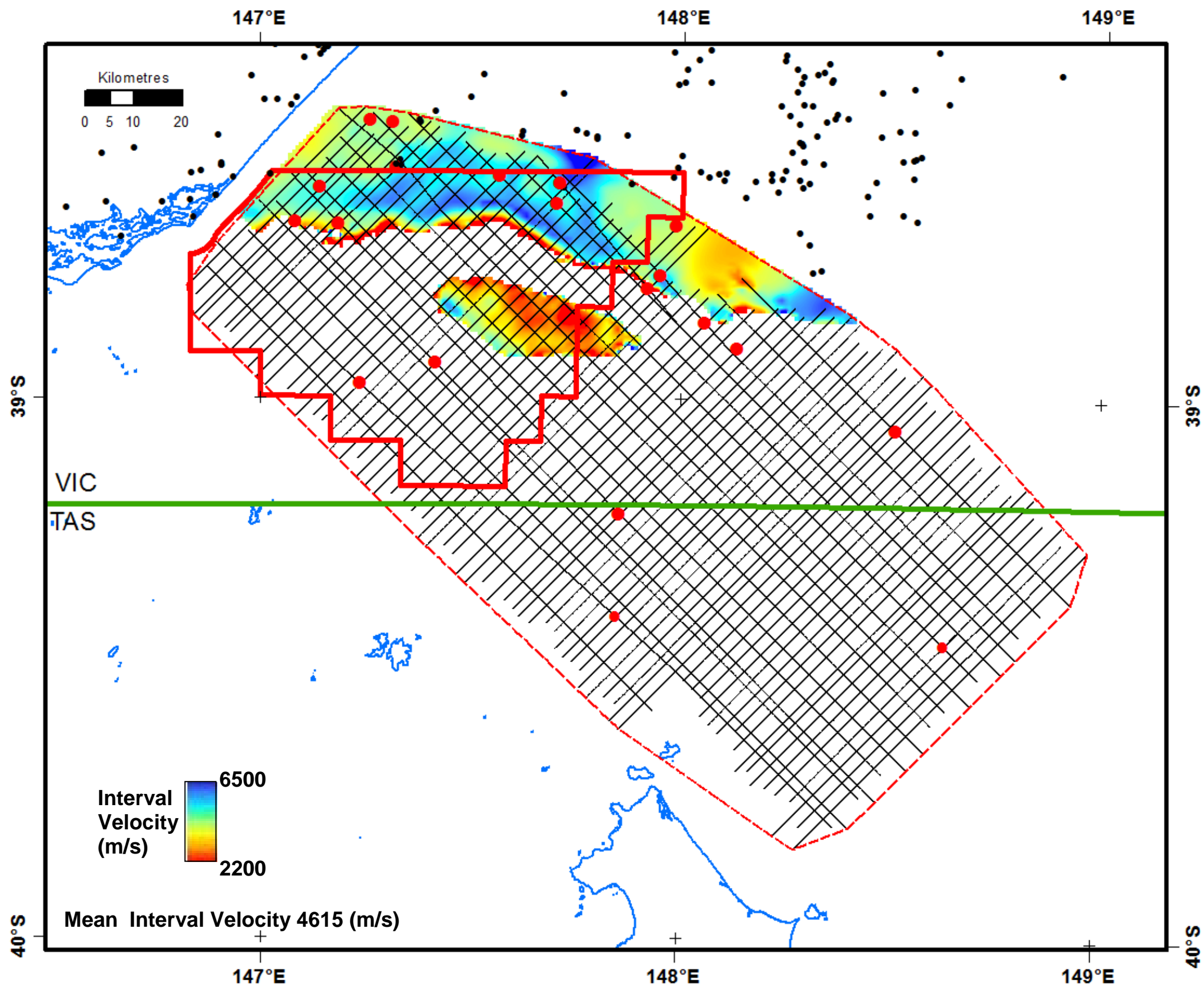


Figure A7.9. Variation of interval velocity for FrOG Tech 11 Top Strzelecki Group to FrOG Tech 13 Top Basement.

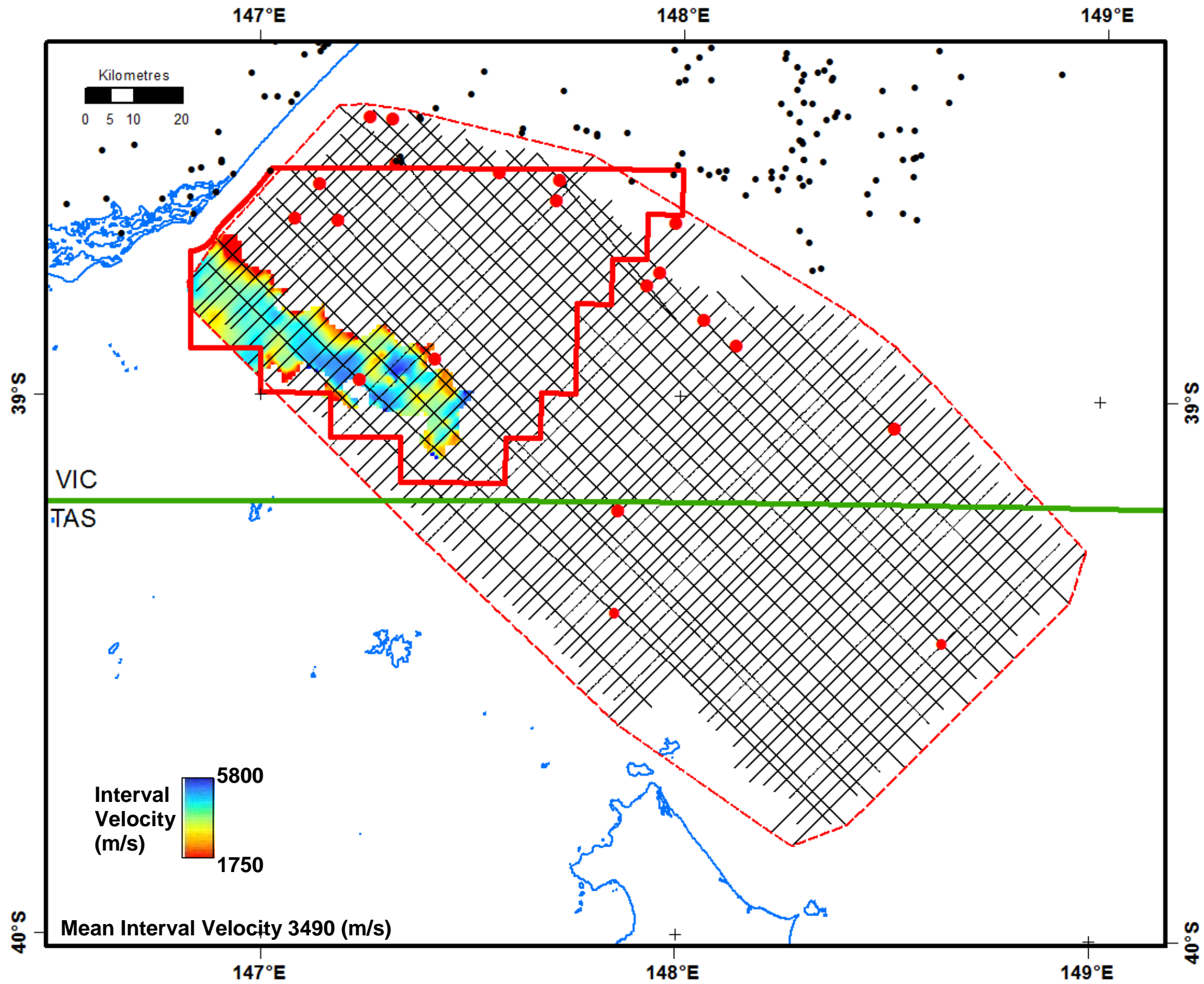


Figure A7.10. Variation of interval velocity for FrOG Tech 12 Top Pre-Strzelecki Group to FrOG Tech 13 Top Basement.

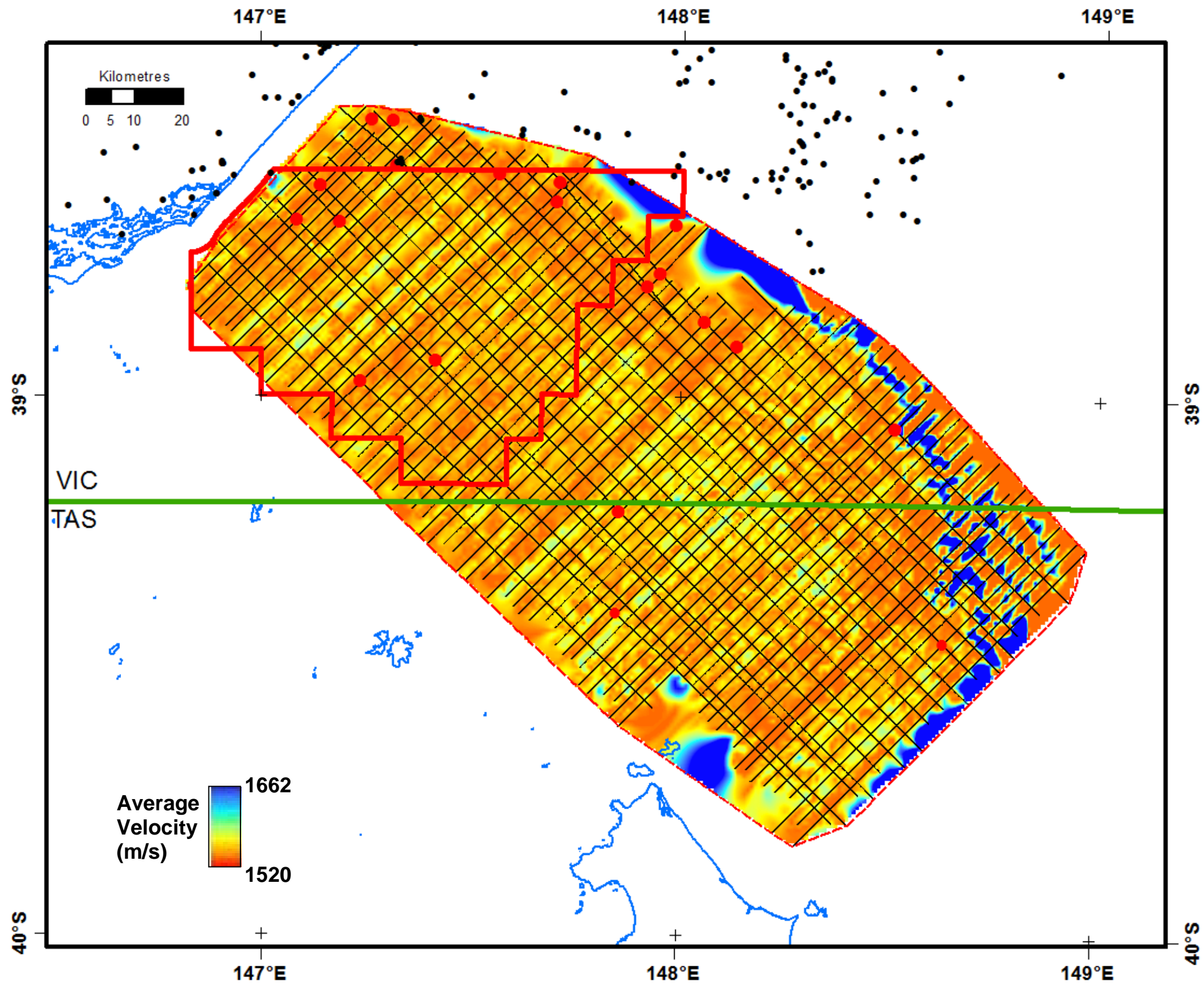


Figure A7.11. Variation of average velocity for FrOG Tech 01 Seafloor.

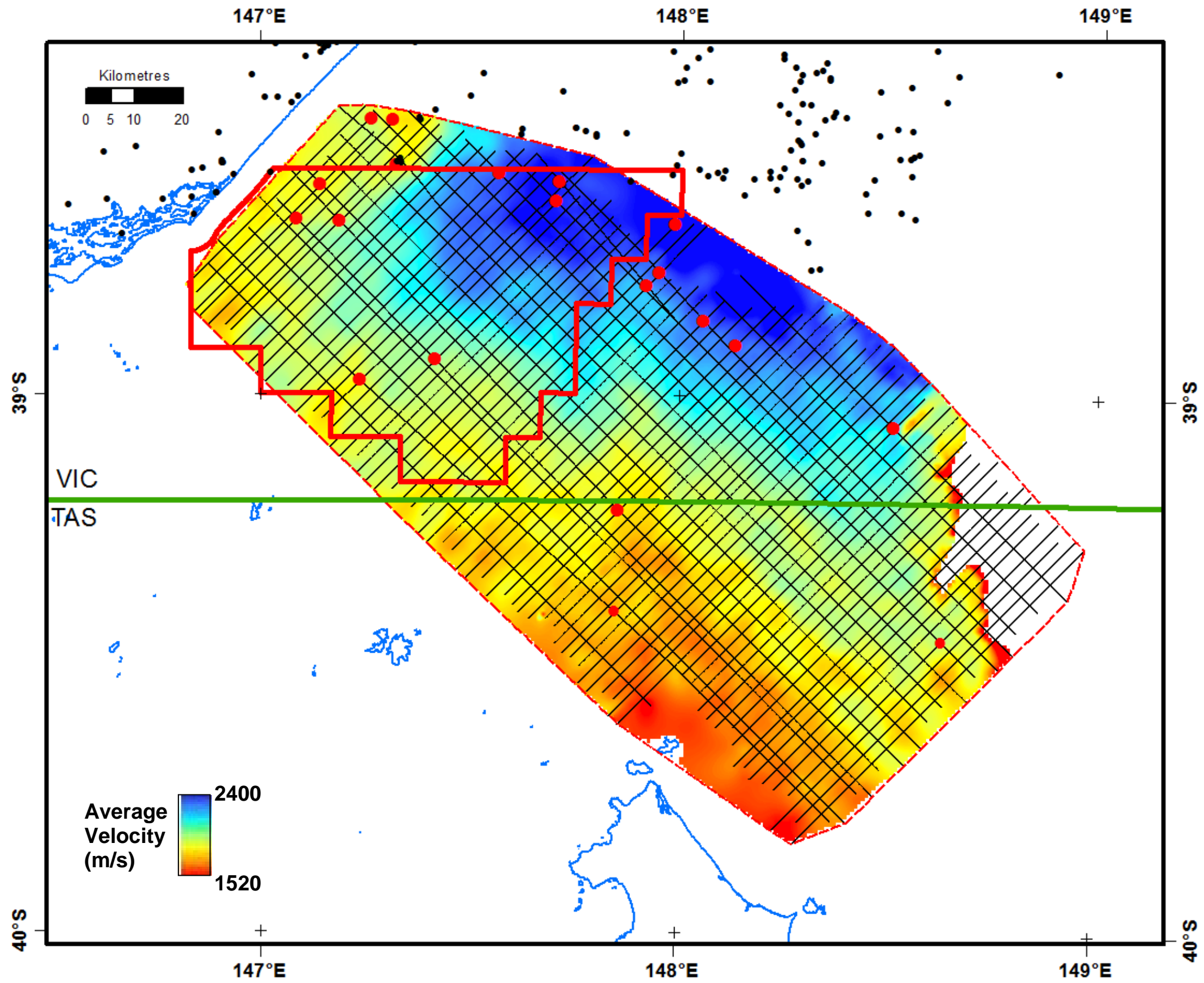


Figure A7.12. Variation of average velocity for FrOG Tech 02 Near Top Bassian Rise Unit 2.



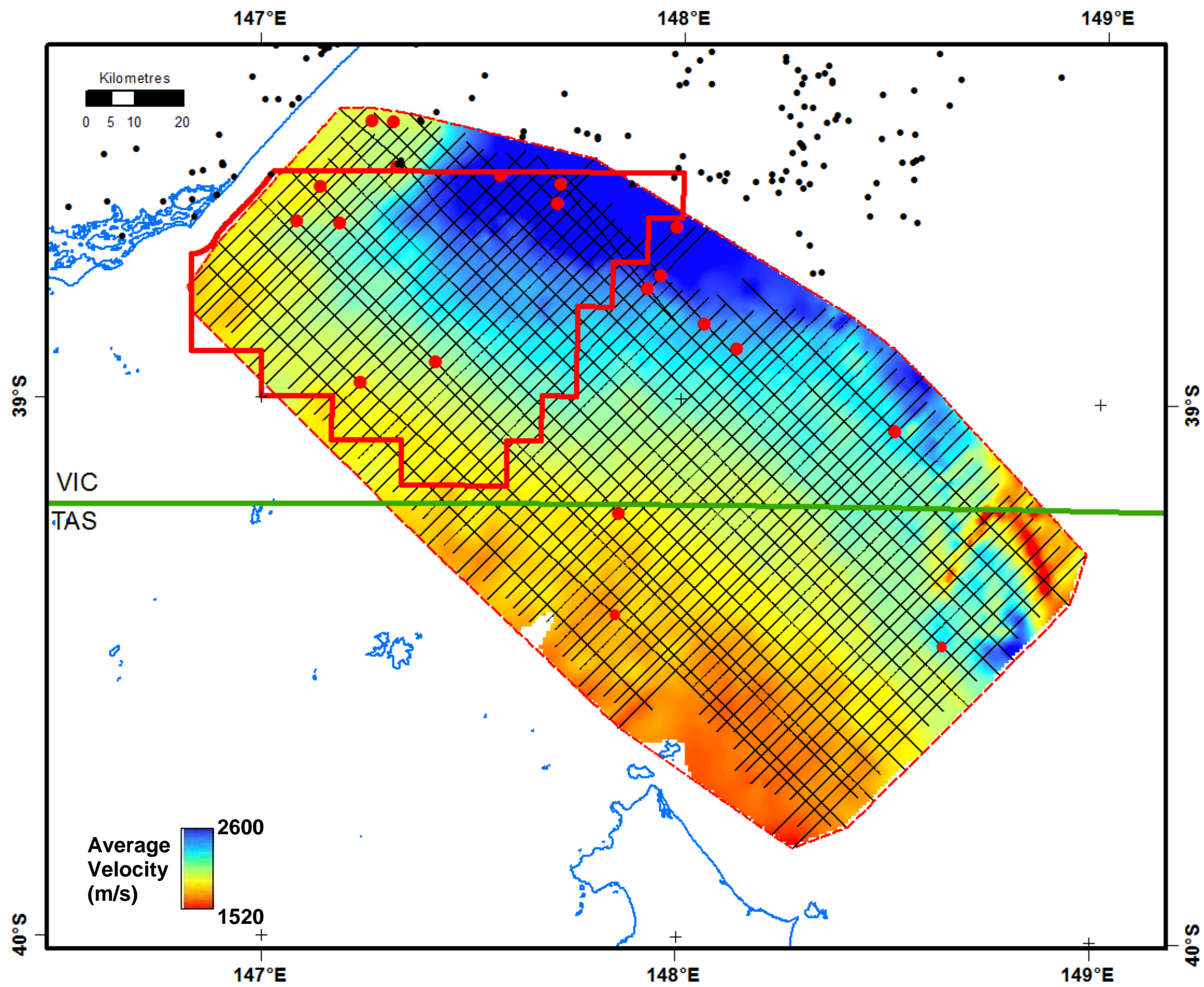


Figure A7.13. Variation of average velocity for FrOG Tech 03 Top Bassian Rise Unit 3.

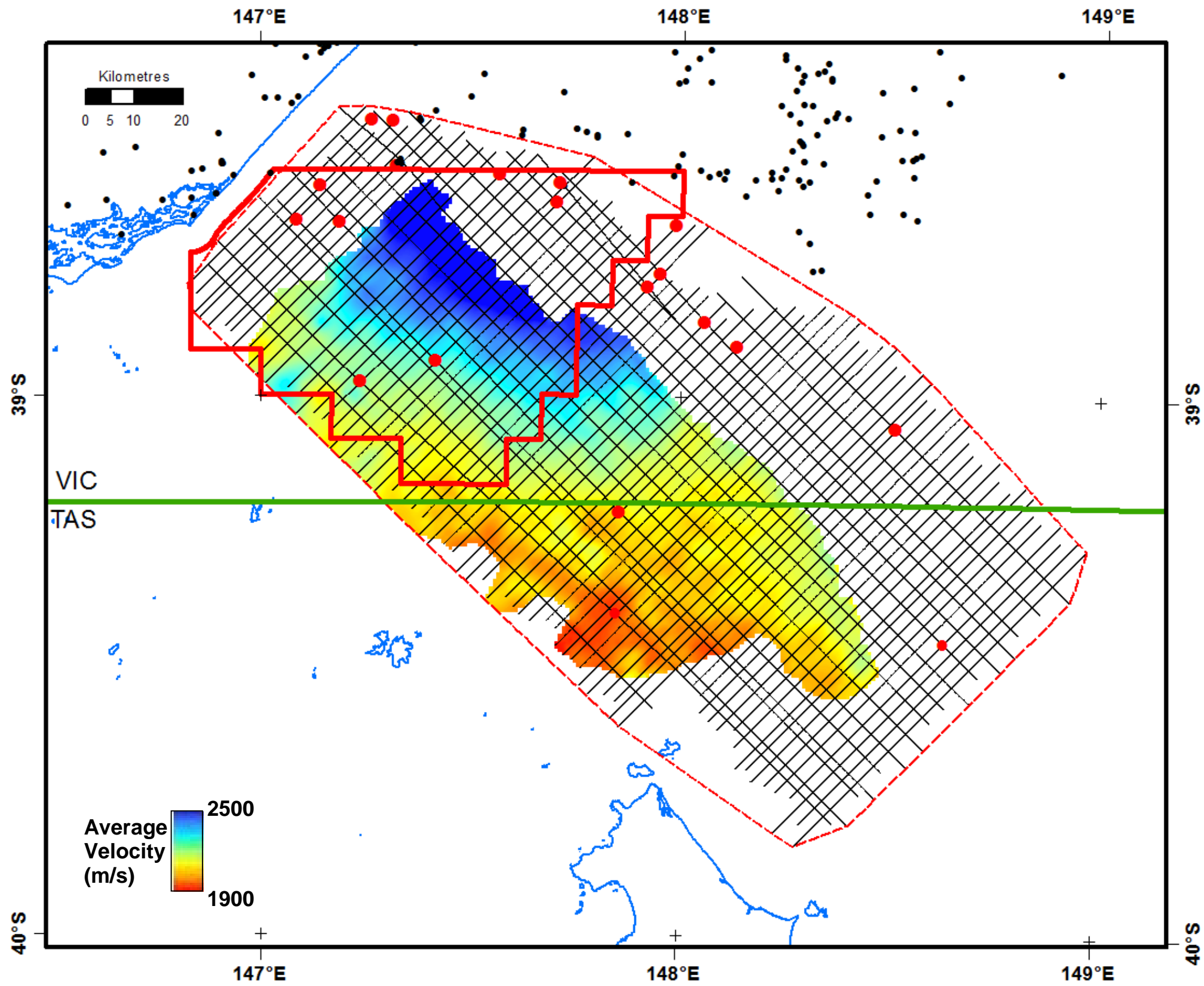


Figure A7.14. Variation of average velocity for FrOG Tech 04 Top Bassian Rise Unit 4.

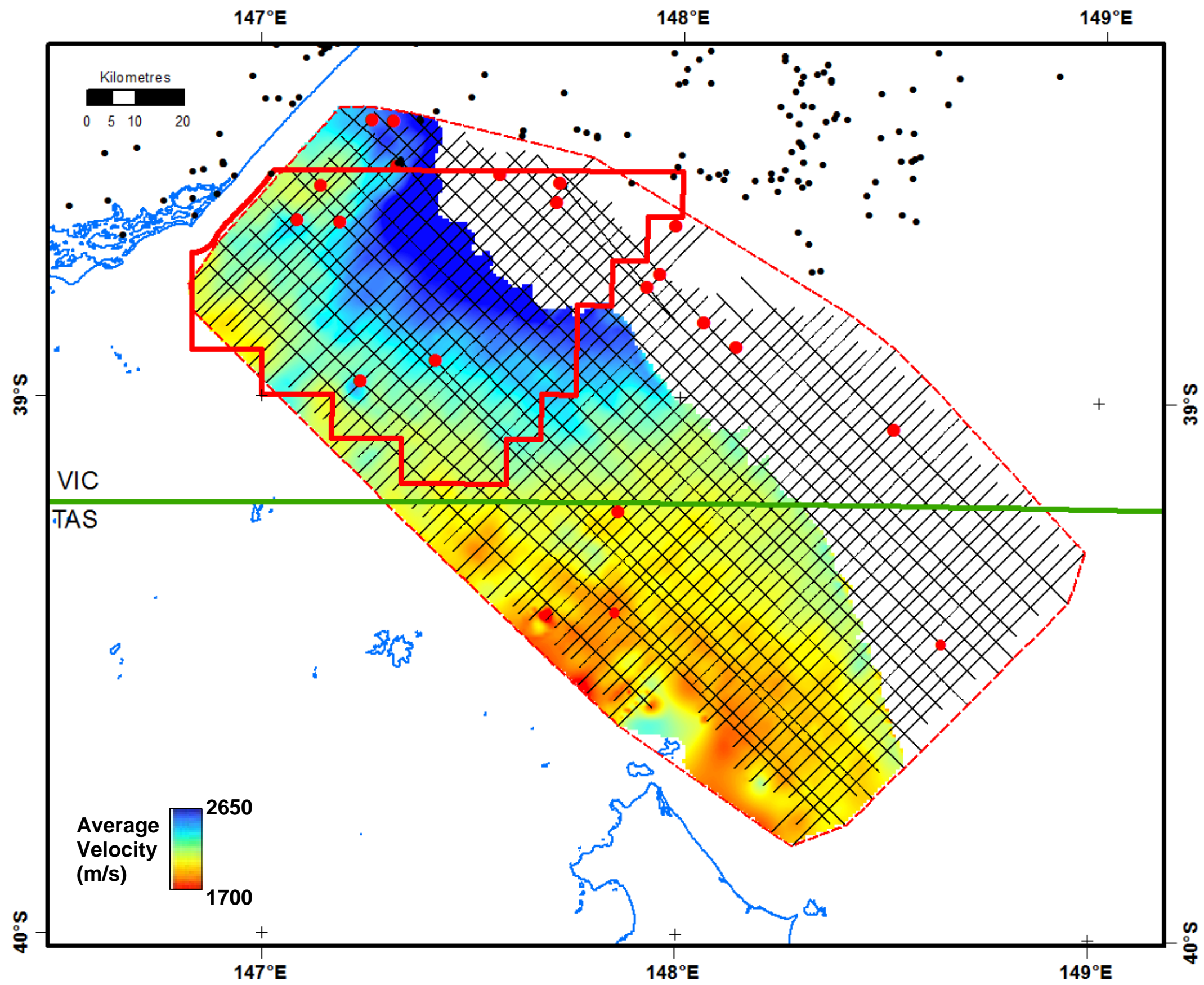


Figure A7.15. Variation of average velocity for FrOG Tech 05 Top Bassian Rise Unit 5.

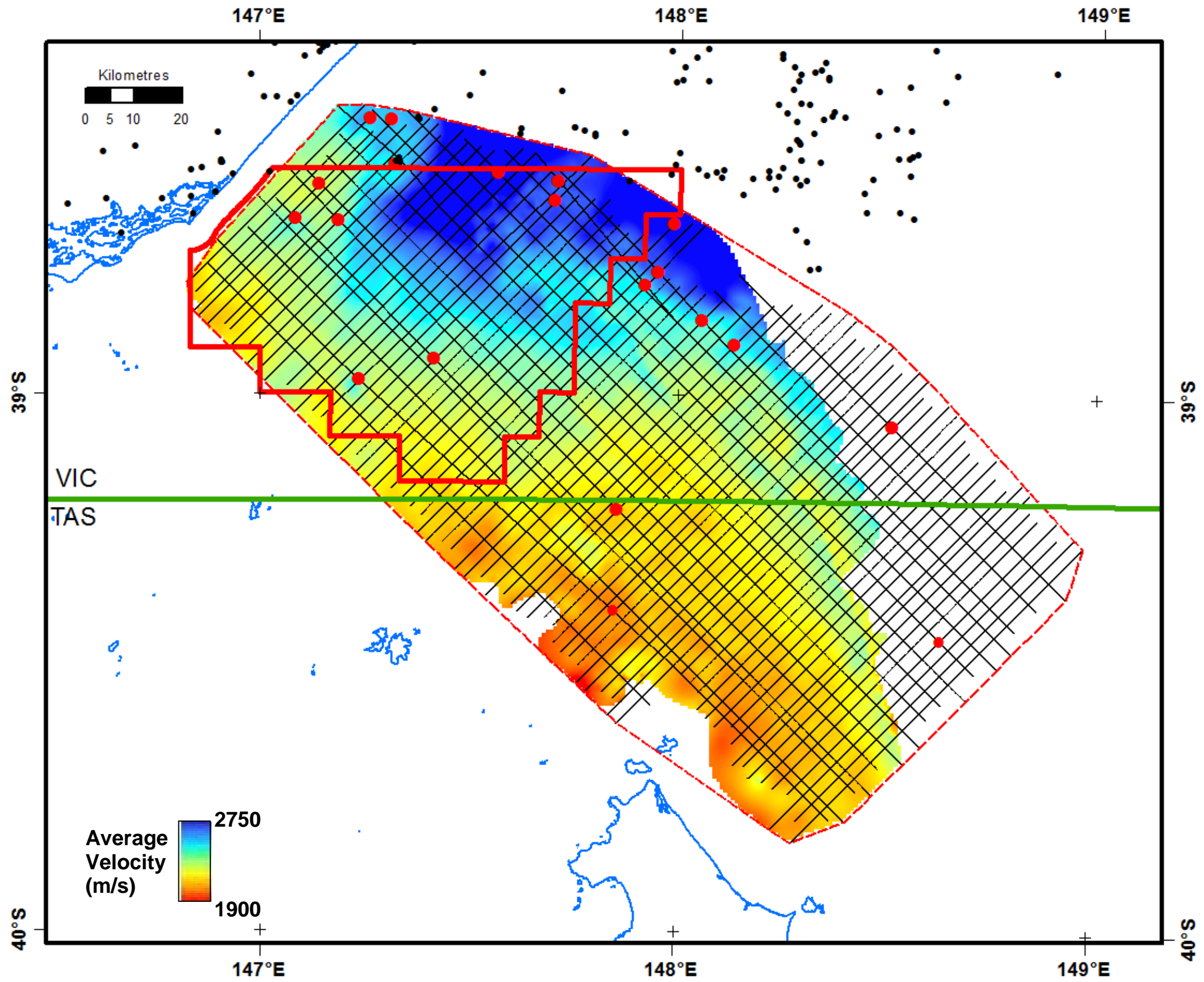


Figure A7.16. Variation of average velocity for FrOG Tech 06 Top Early Oligocene Wedge.

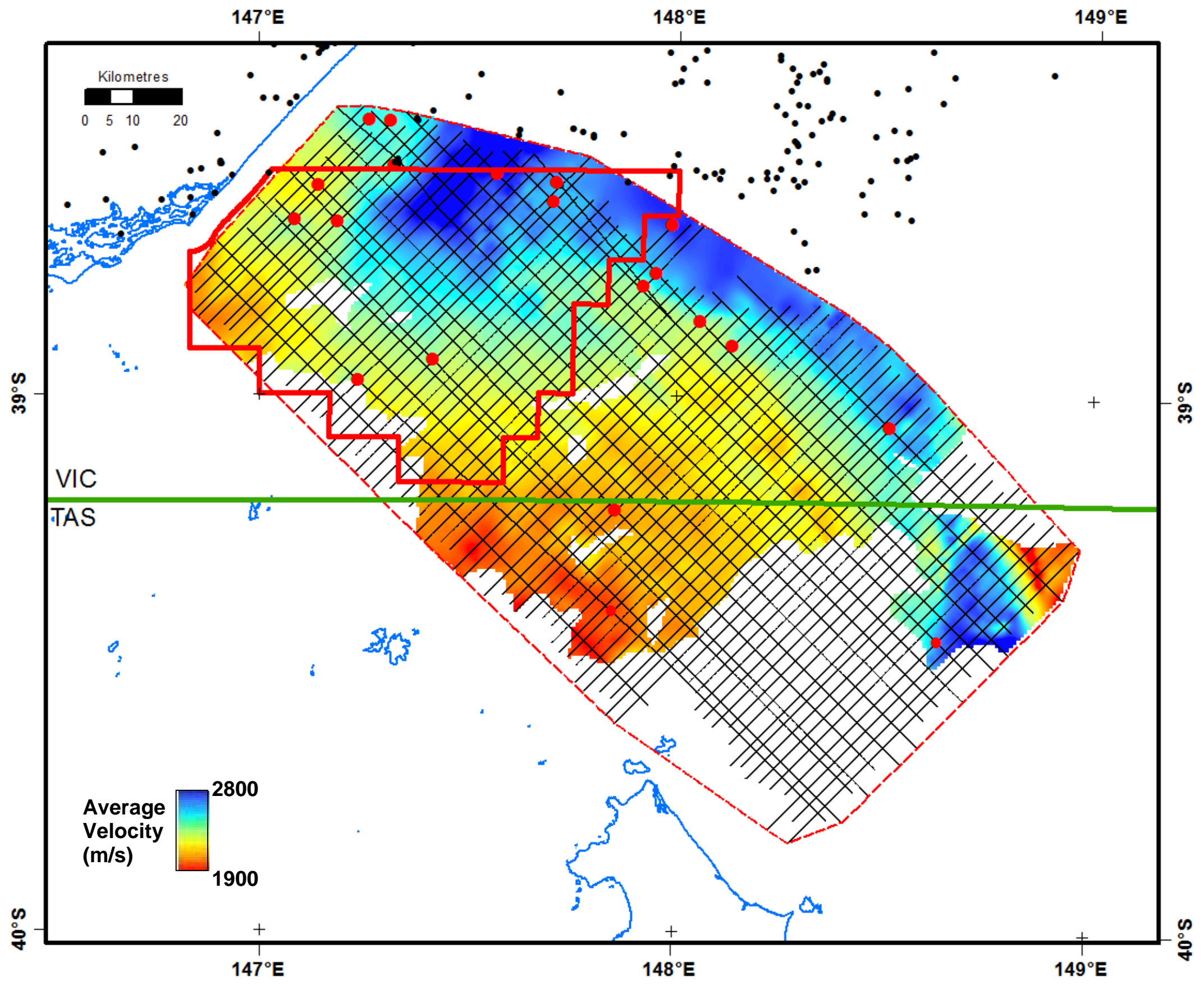


Figure A7.17. Variation of average velocity for FrOG Tech 07 Top Latrobe Group.

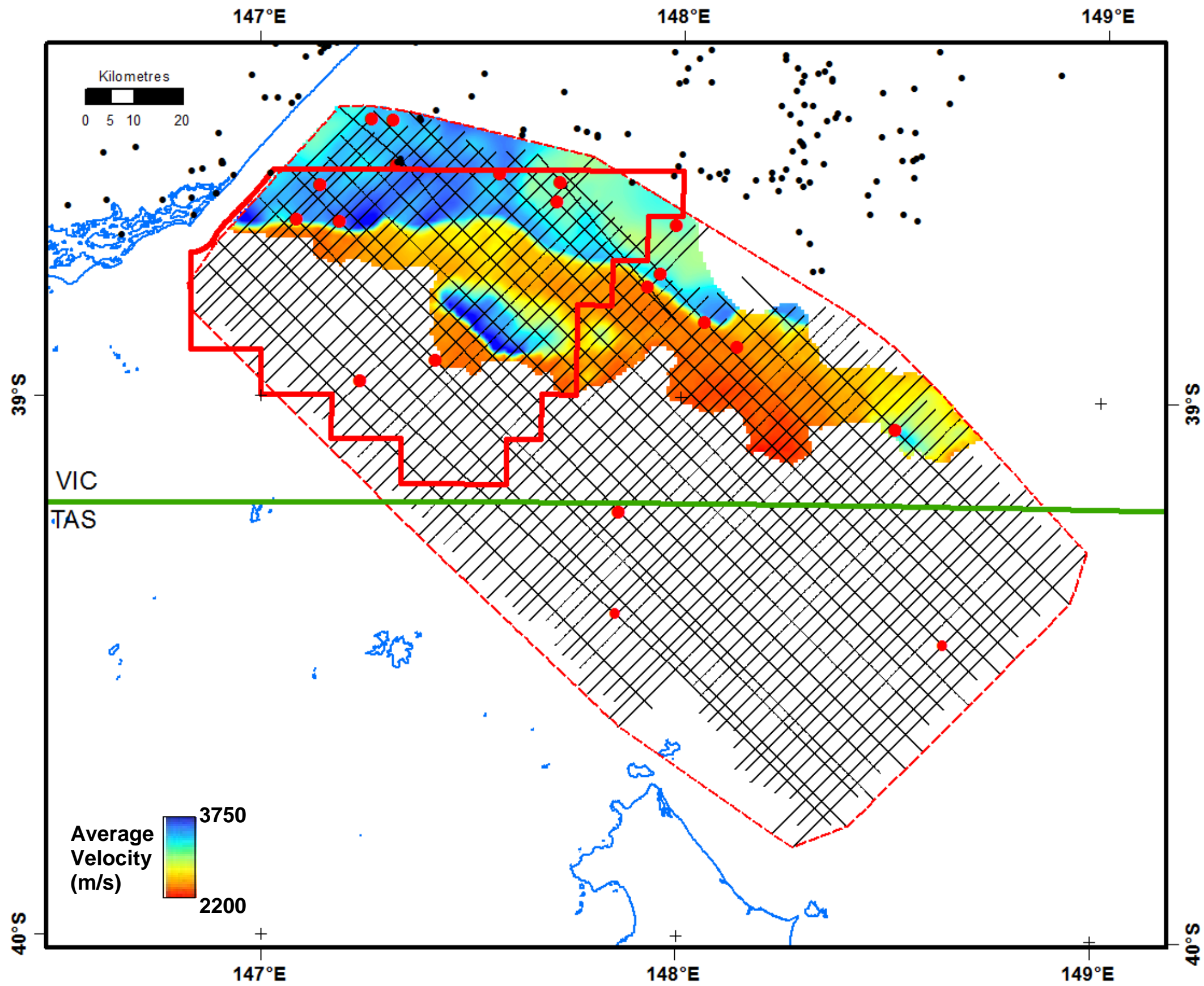


Figure A7.18. Variation of average velocity for FrOG Tech 08 Top Halibut Subgroup.

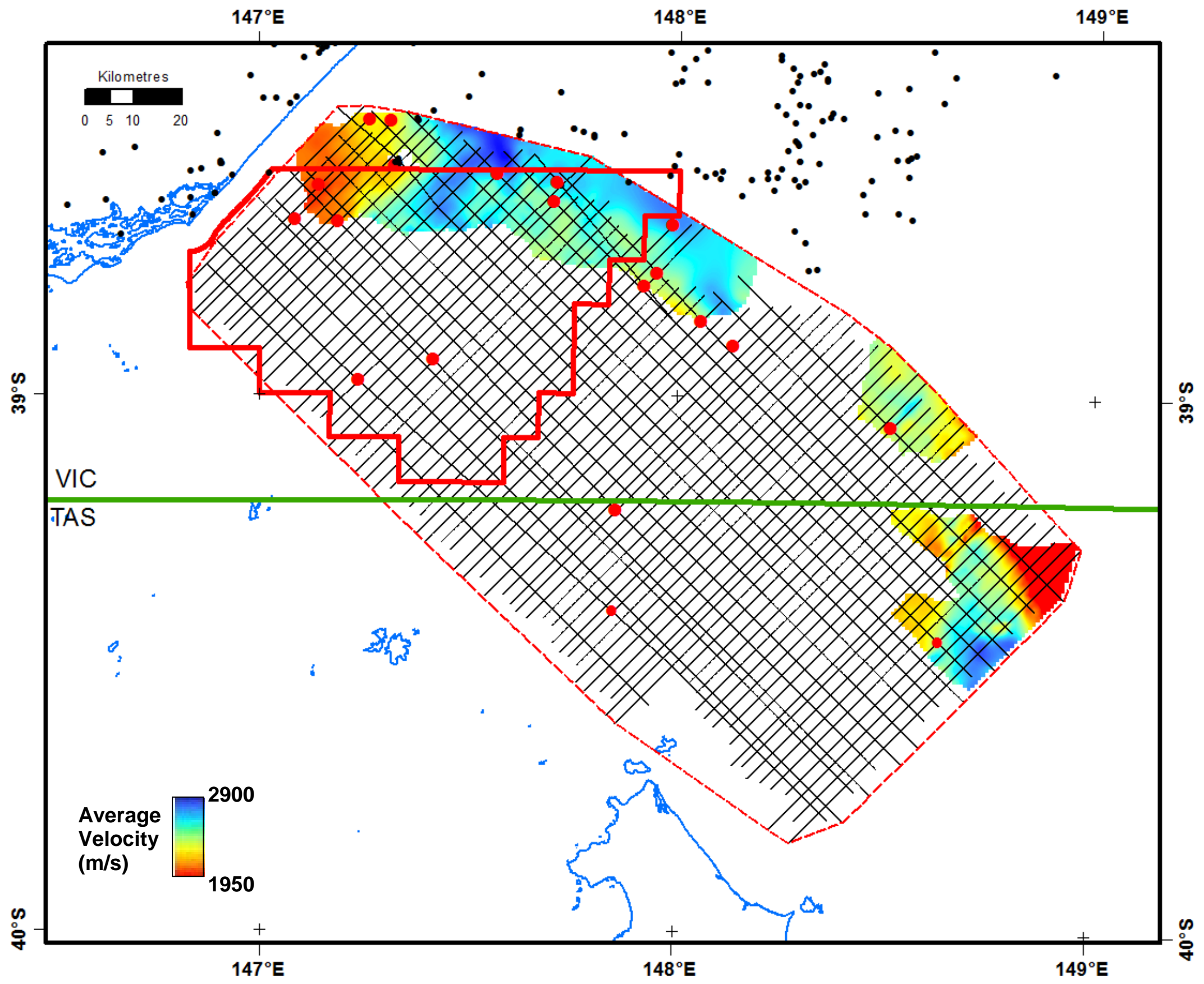


Figure A7.19. Variation of average velocity for FrOG Tech 09 Top Golden Beach Subgroup.

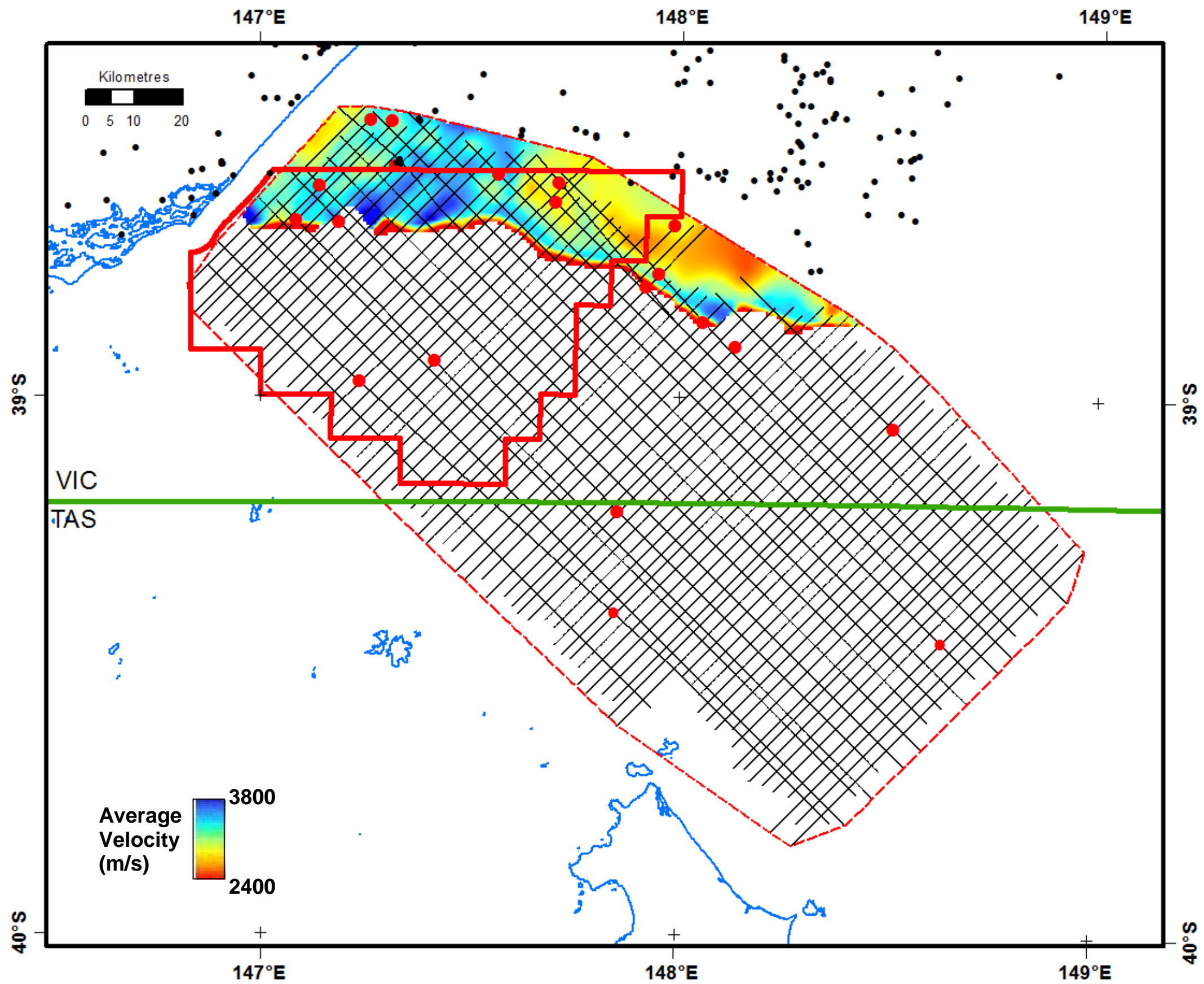


Figure A7.20. Variation of average velocity for FrOG Tech 10 Top Emperor Subgroup.



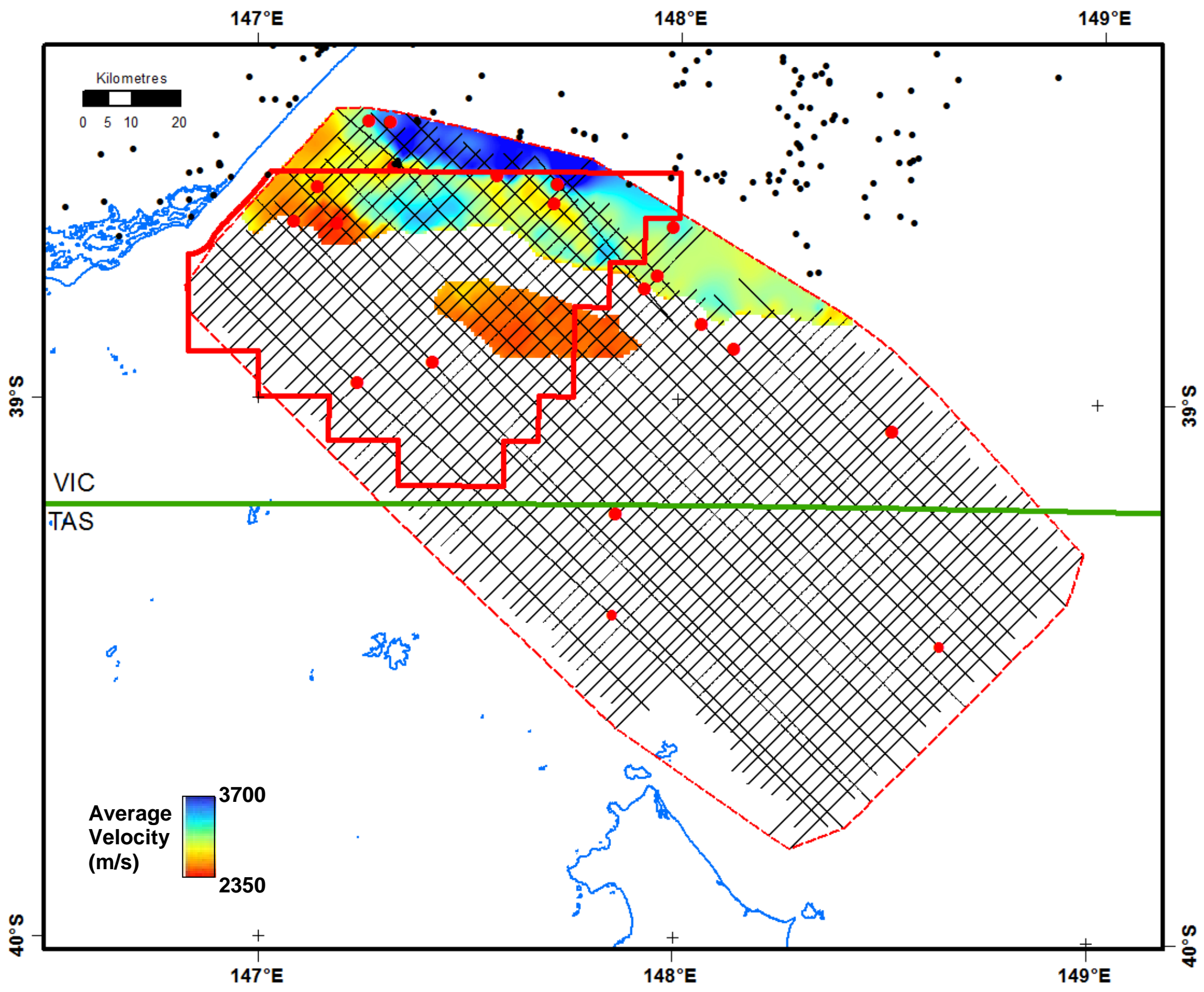


Figure A7.21. Variation of average velocity for FrOG Tech 11 Top Strzelecki Group.

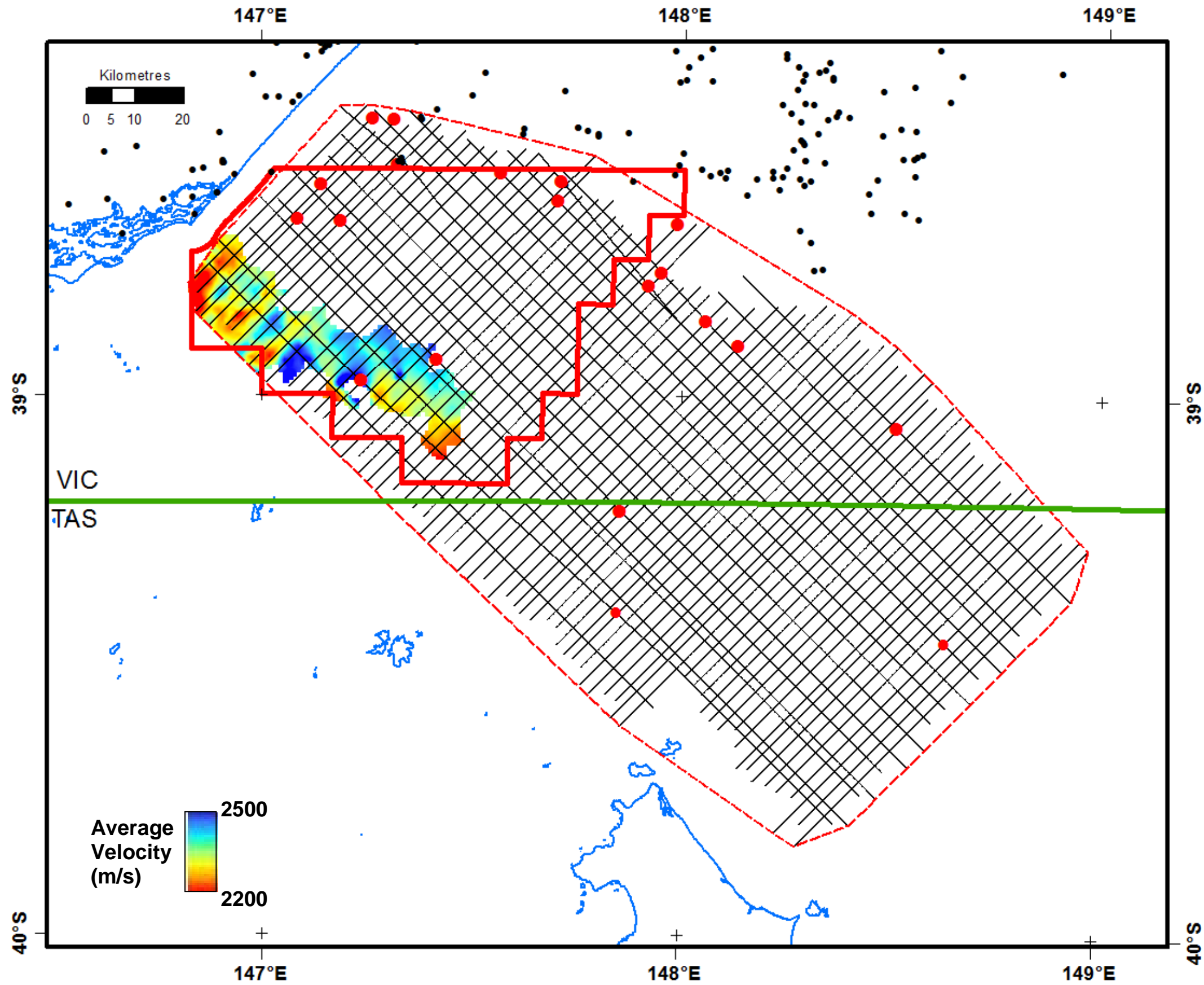


Figure A7.22. Variation of average velocity for FrOG Tech 12 Top Pre-Strzelecki Group.

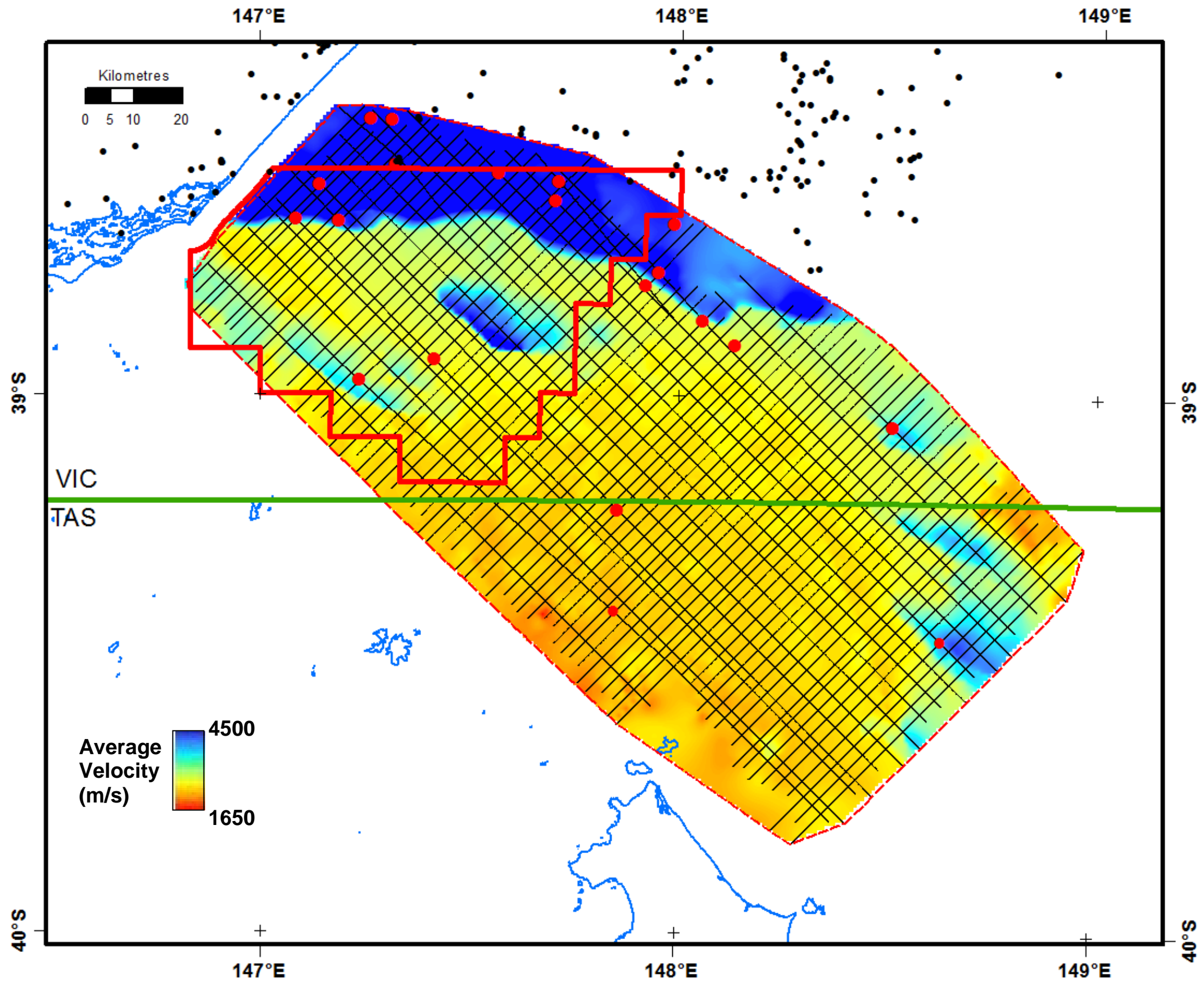


Figure A7.23. Variation of average velocity for FrOG Tech 13 Top Basement.

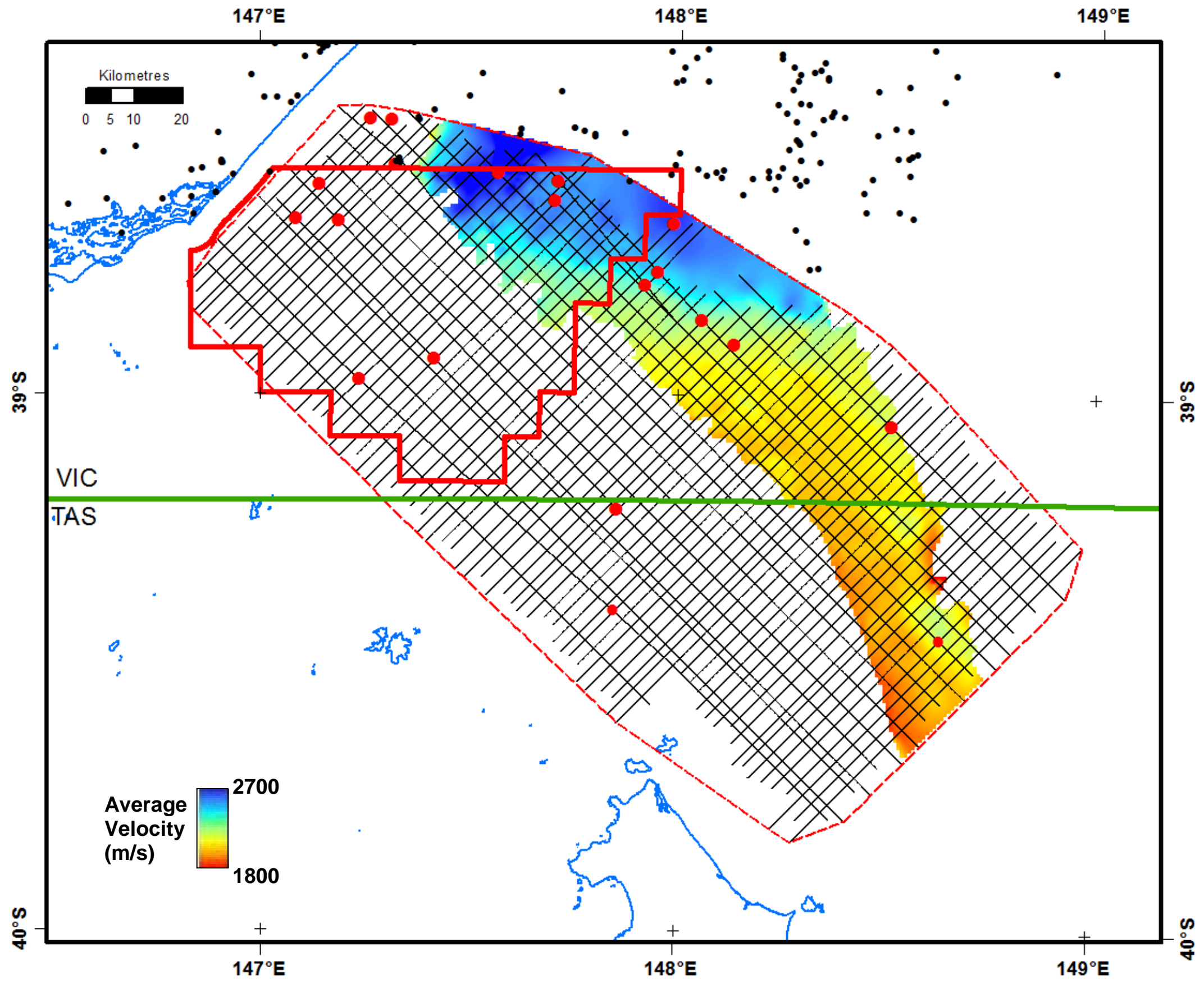


Figure A7.24. Variation of average velocity for FrOG Tech C06 Slump Container.

# **Appendix 8**

## **Interpreted and Uninterpreted Seismic Sections**

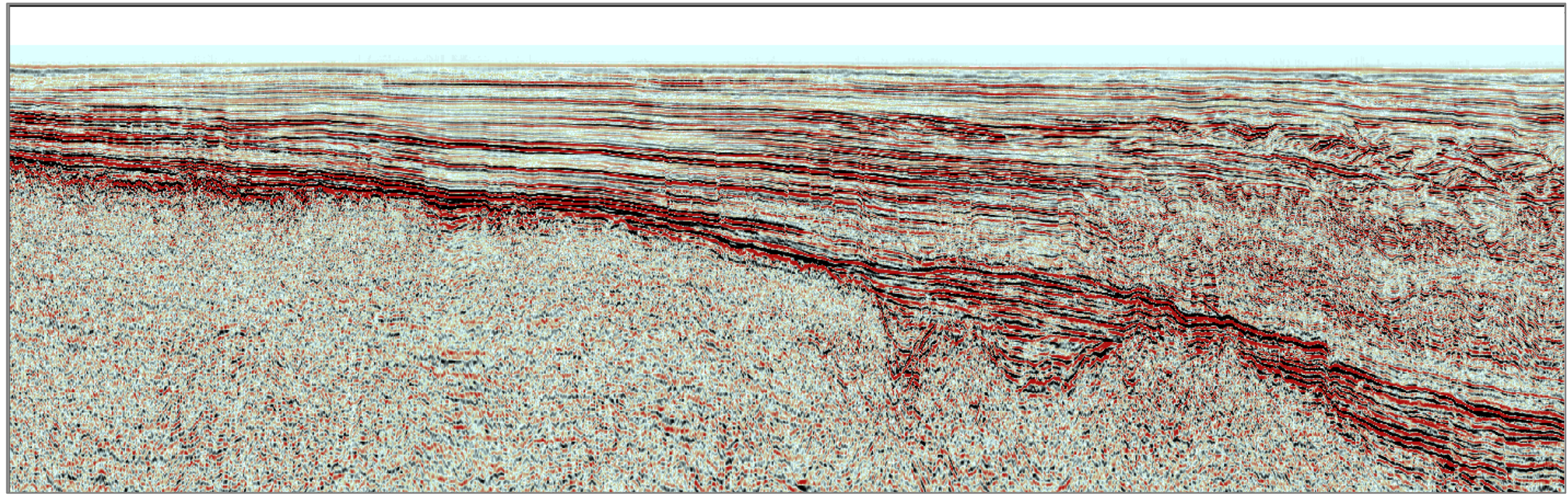
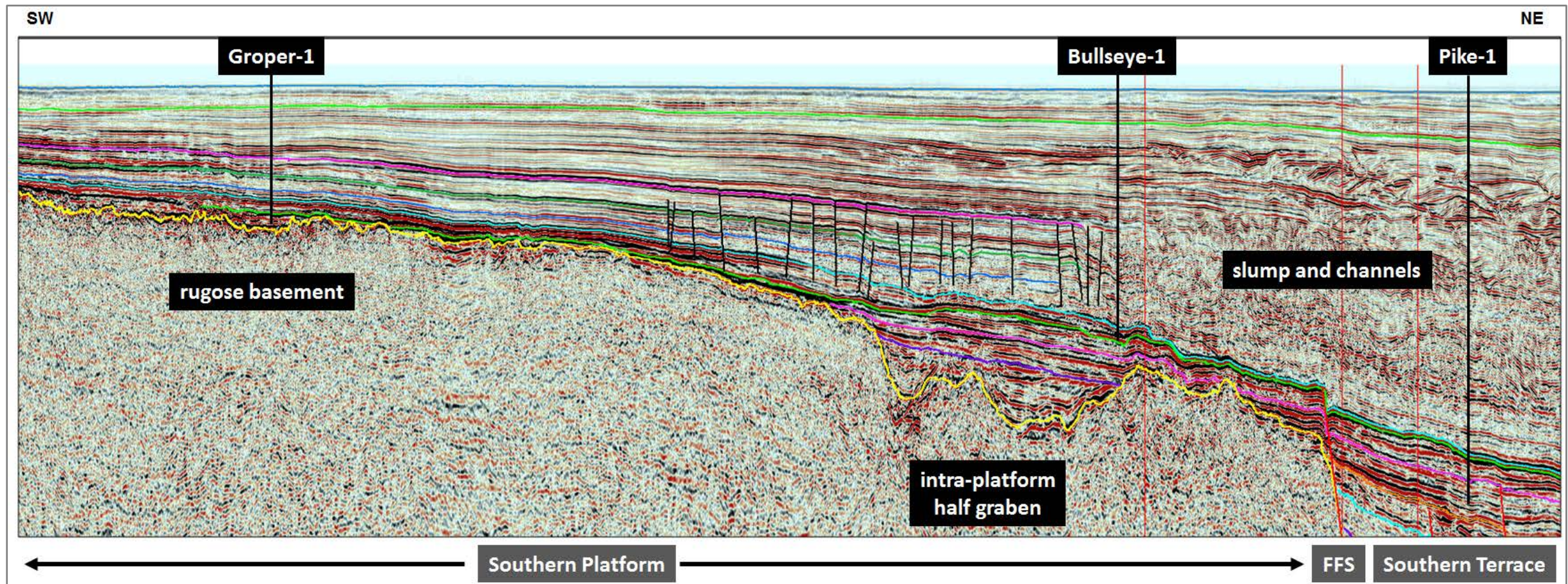


Figure 5.2

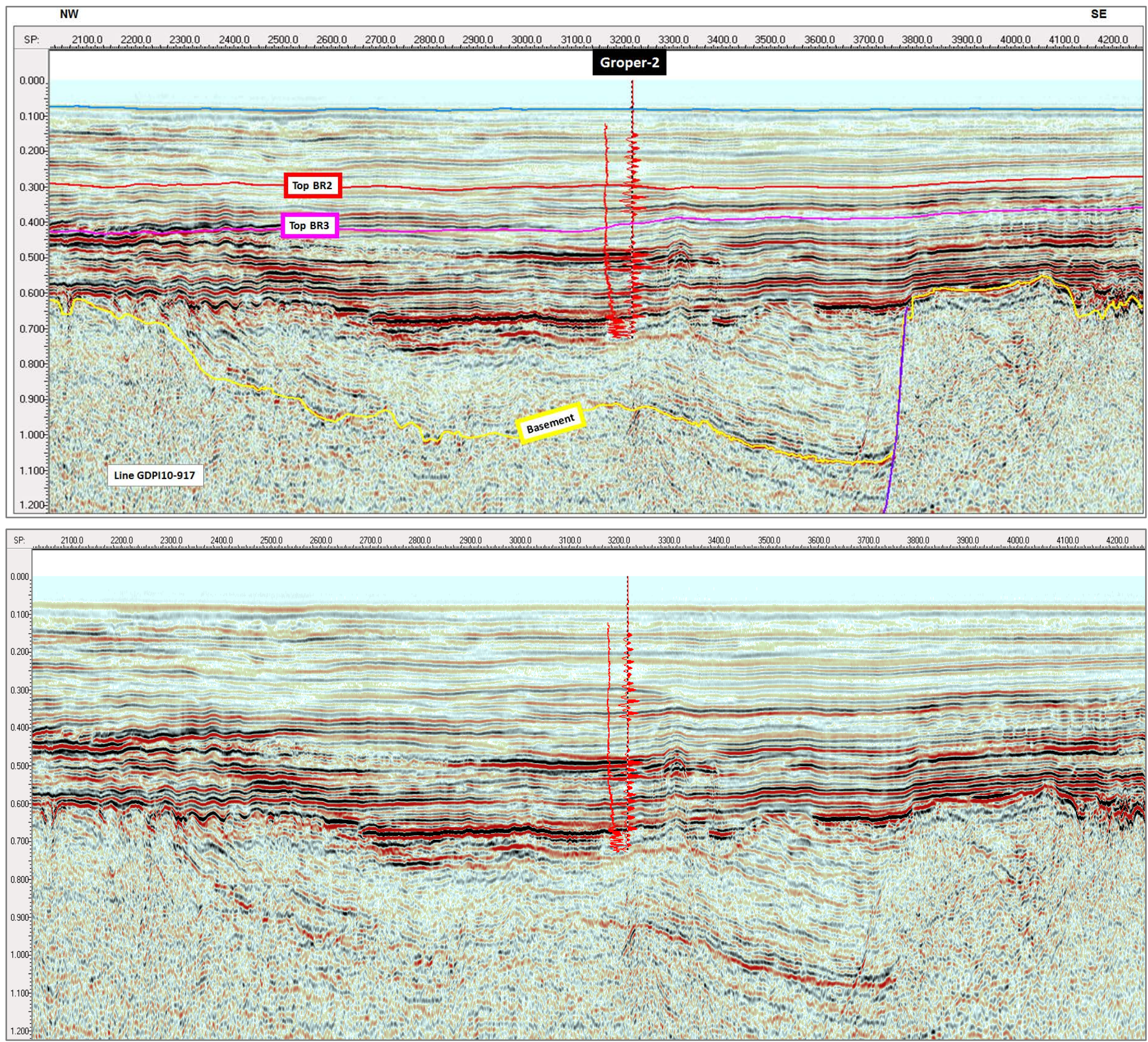


Figure 5.8

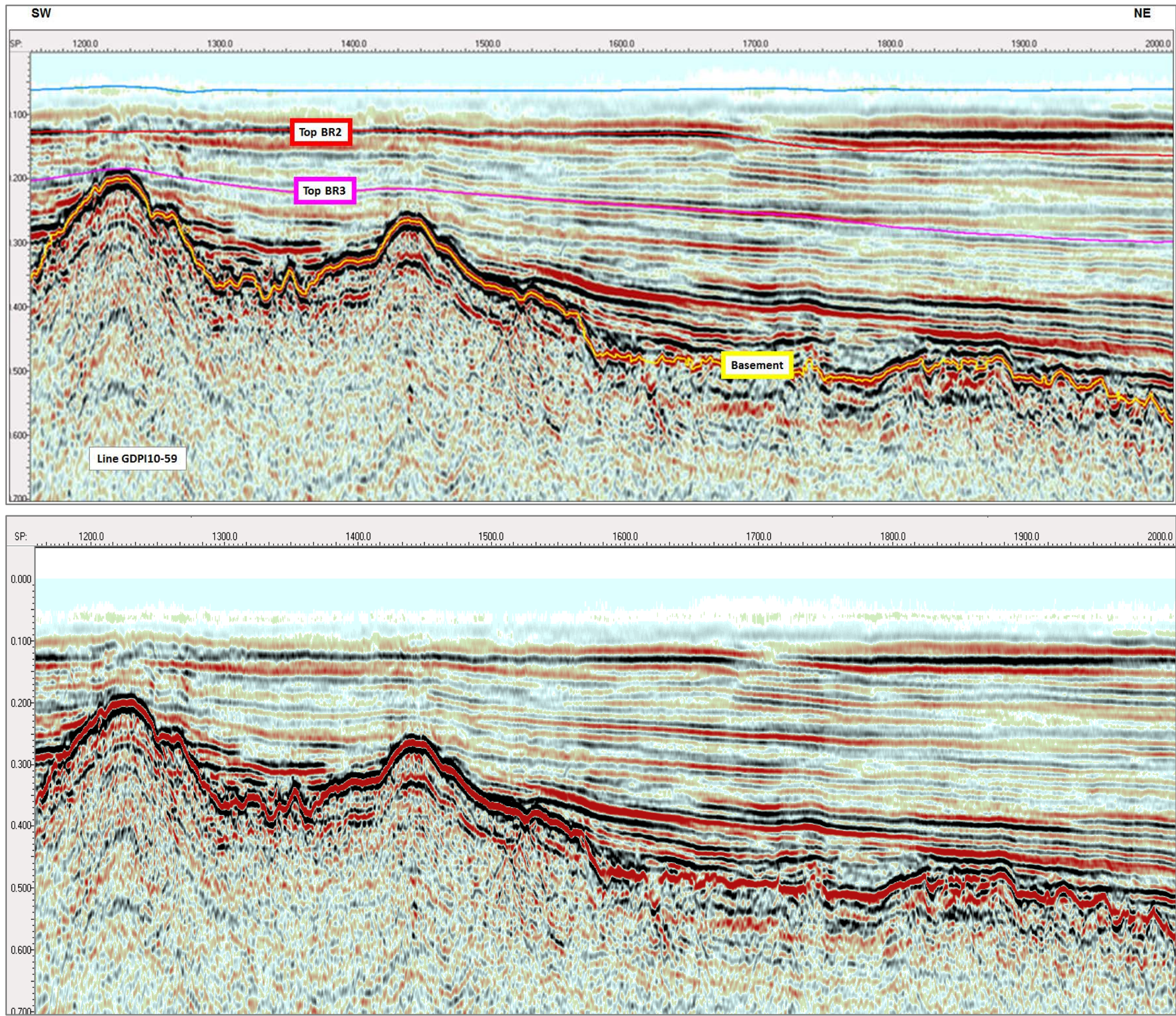


Figure 5.10



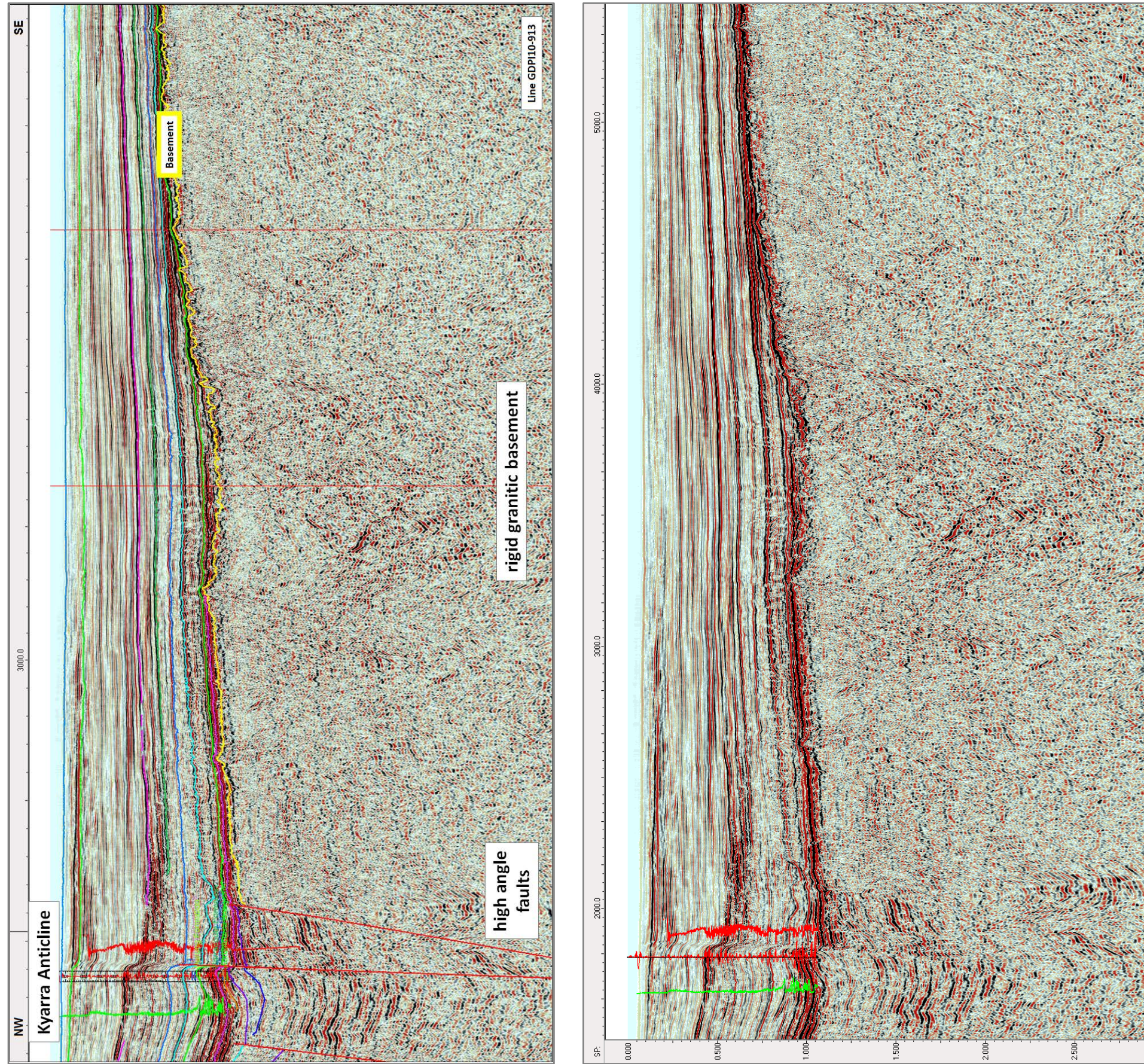


Figure 5.11

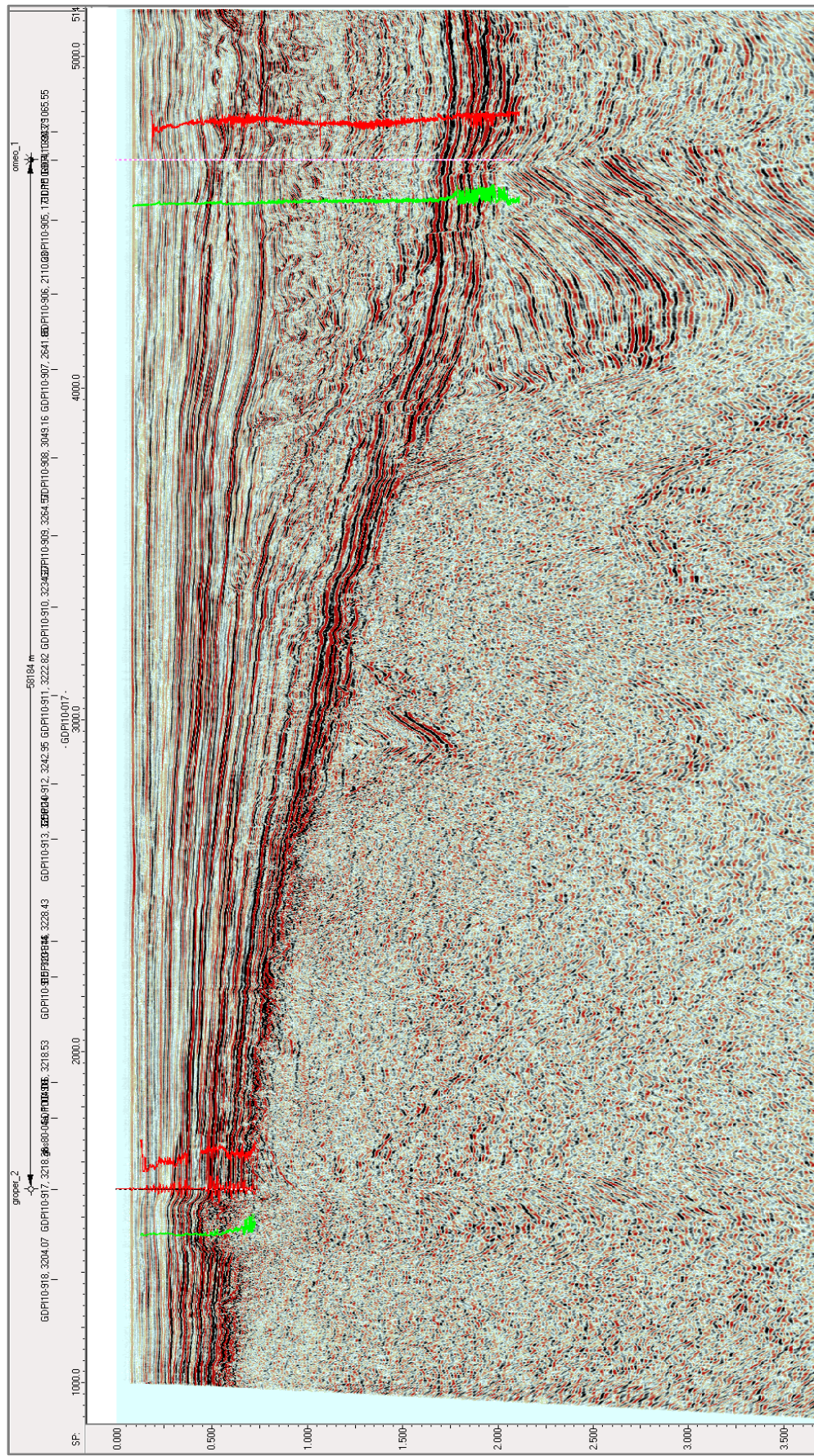
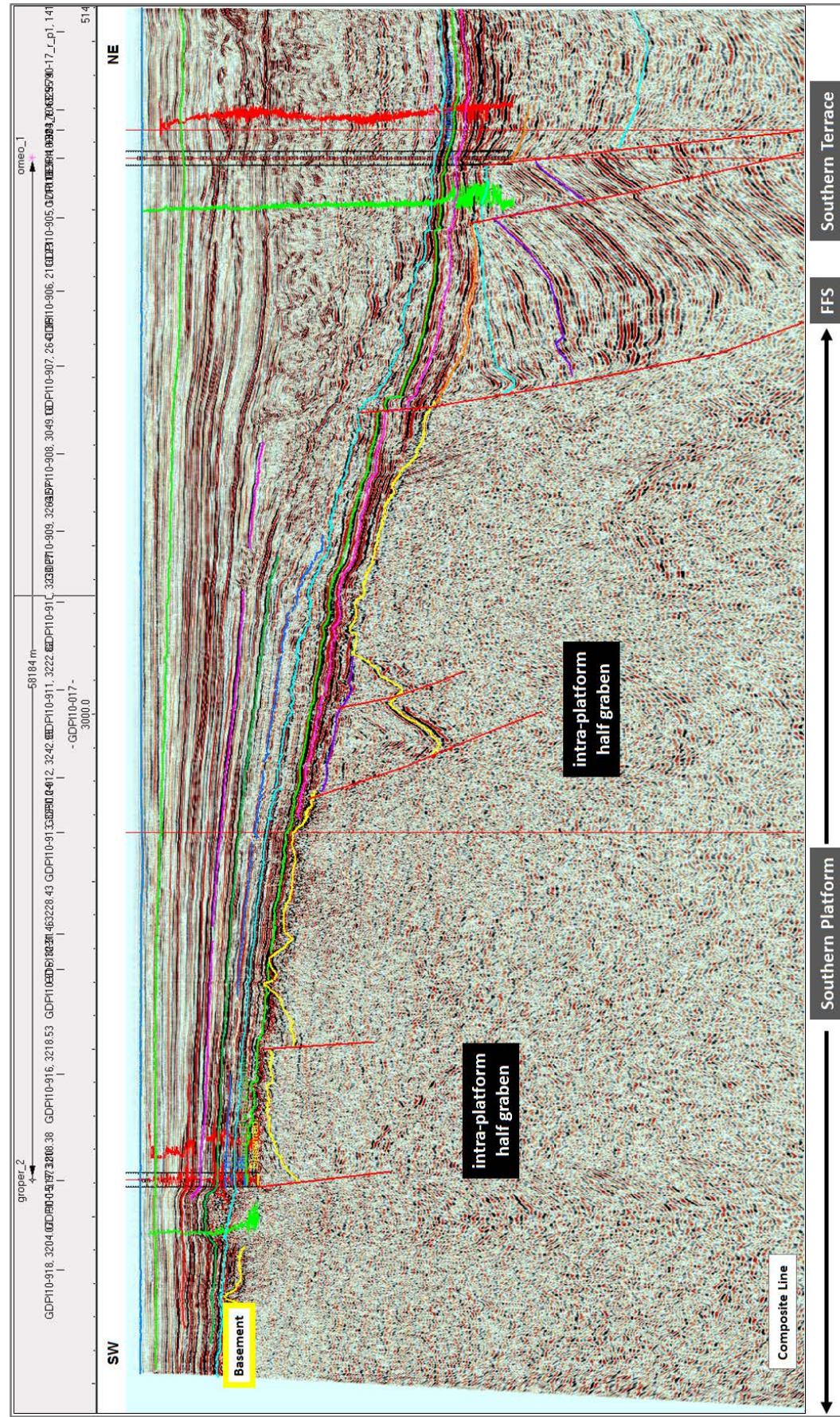


Figure 5.12

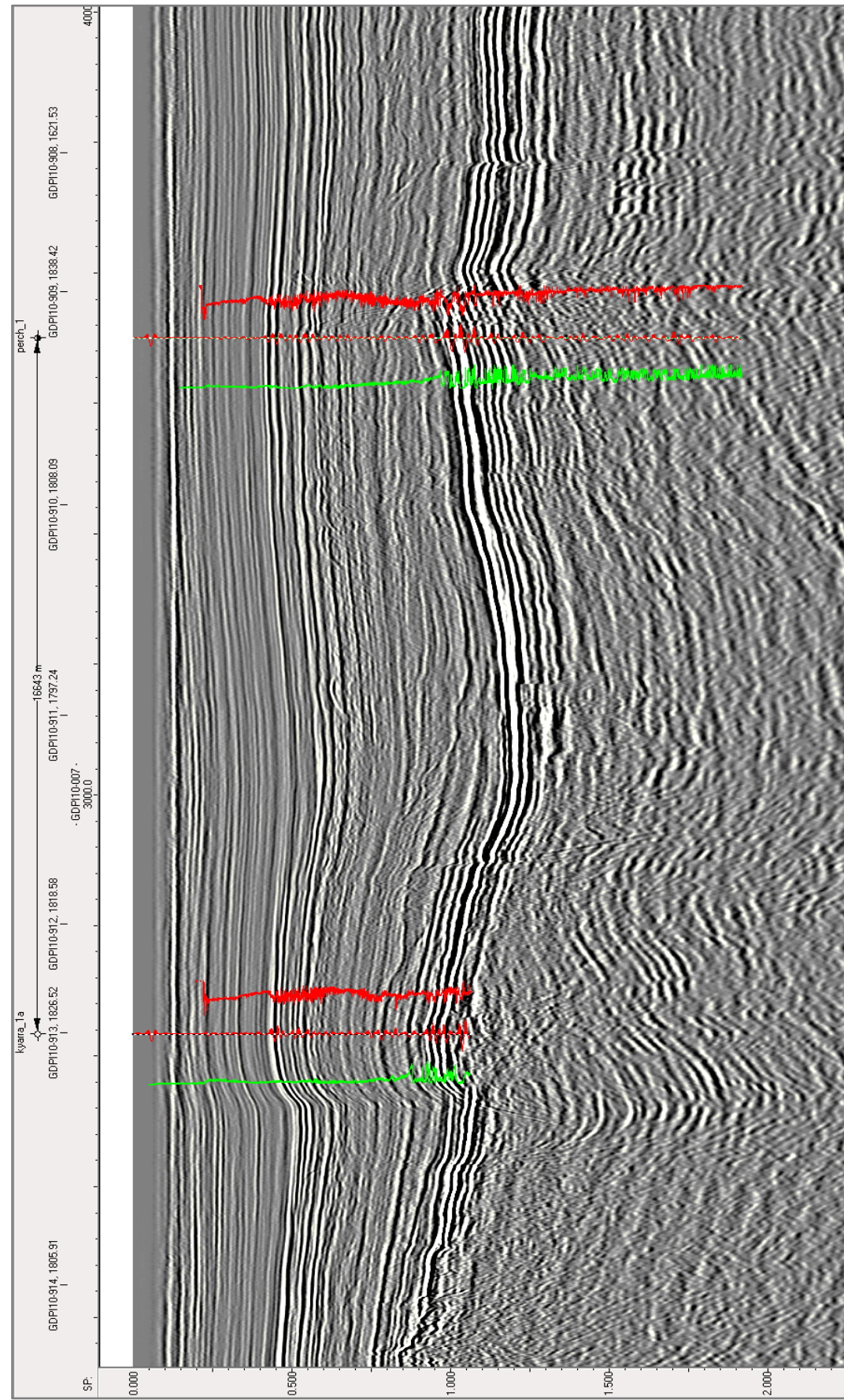
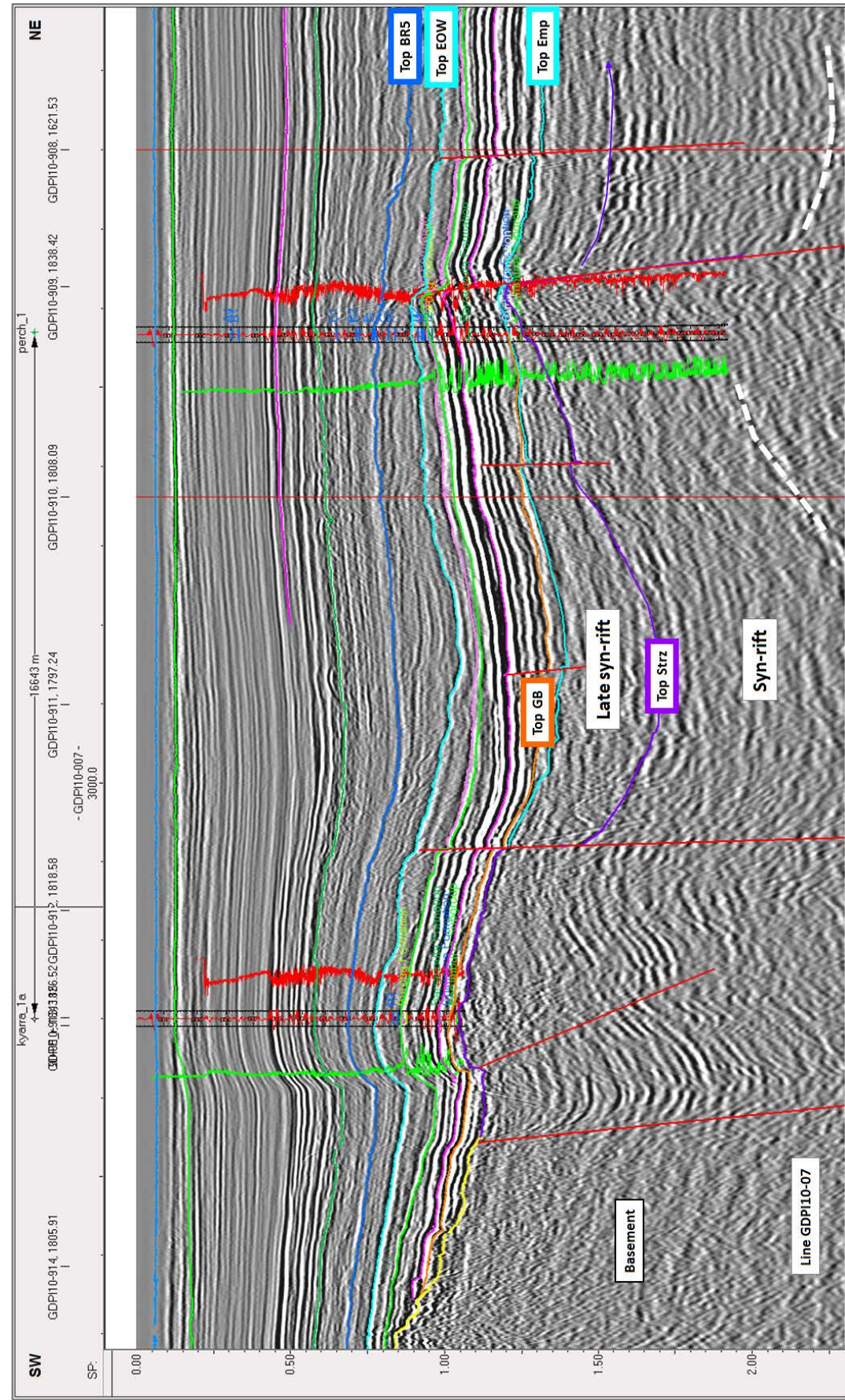


Figure 5.14

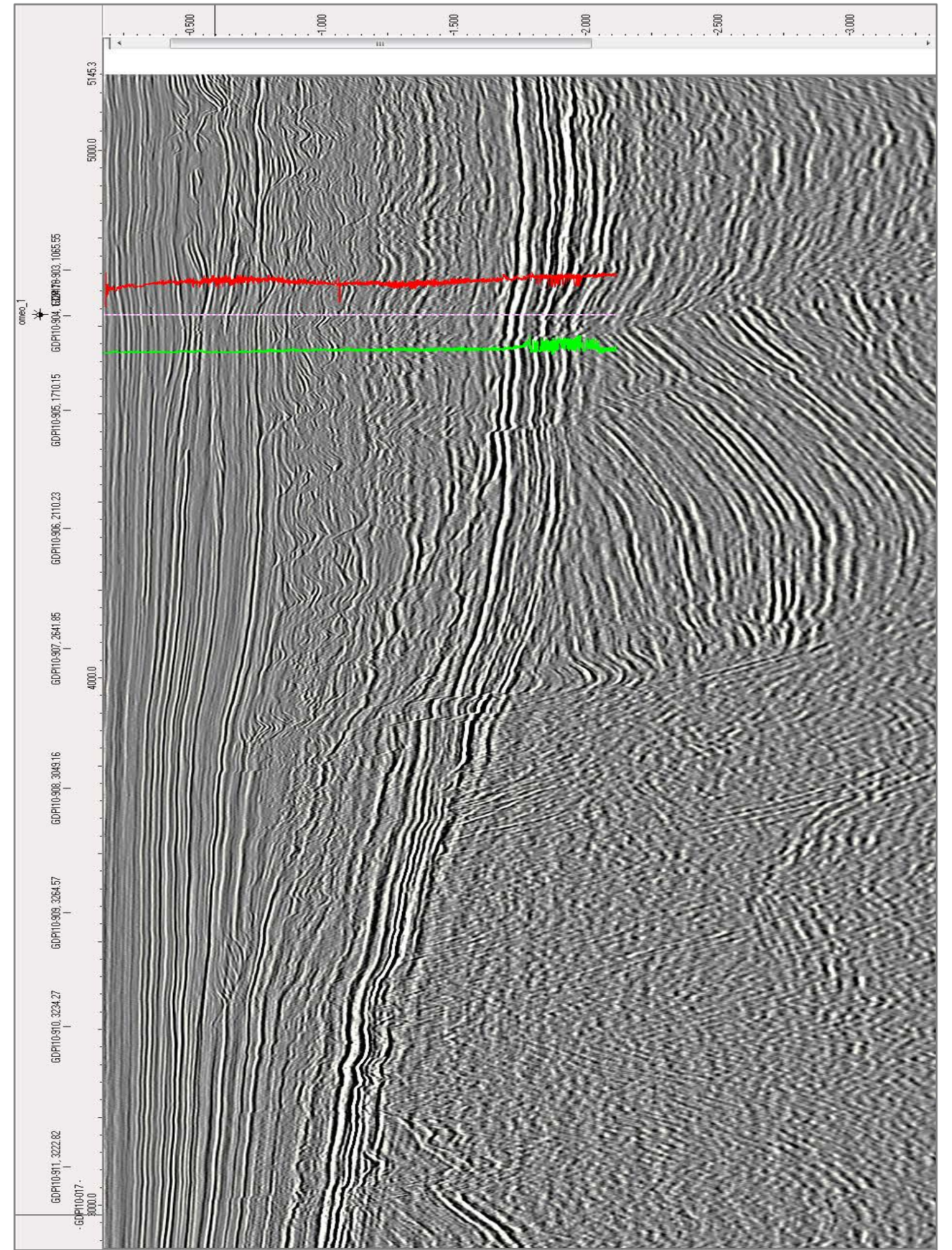
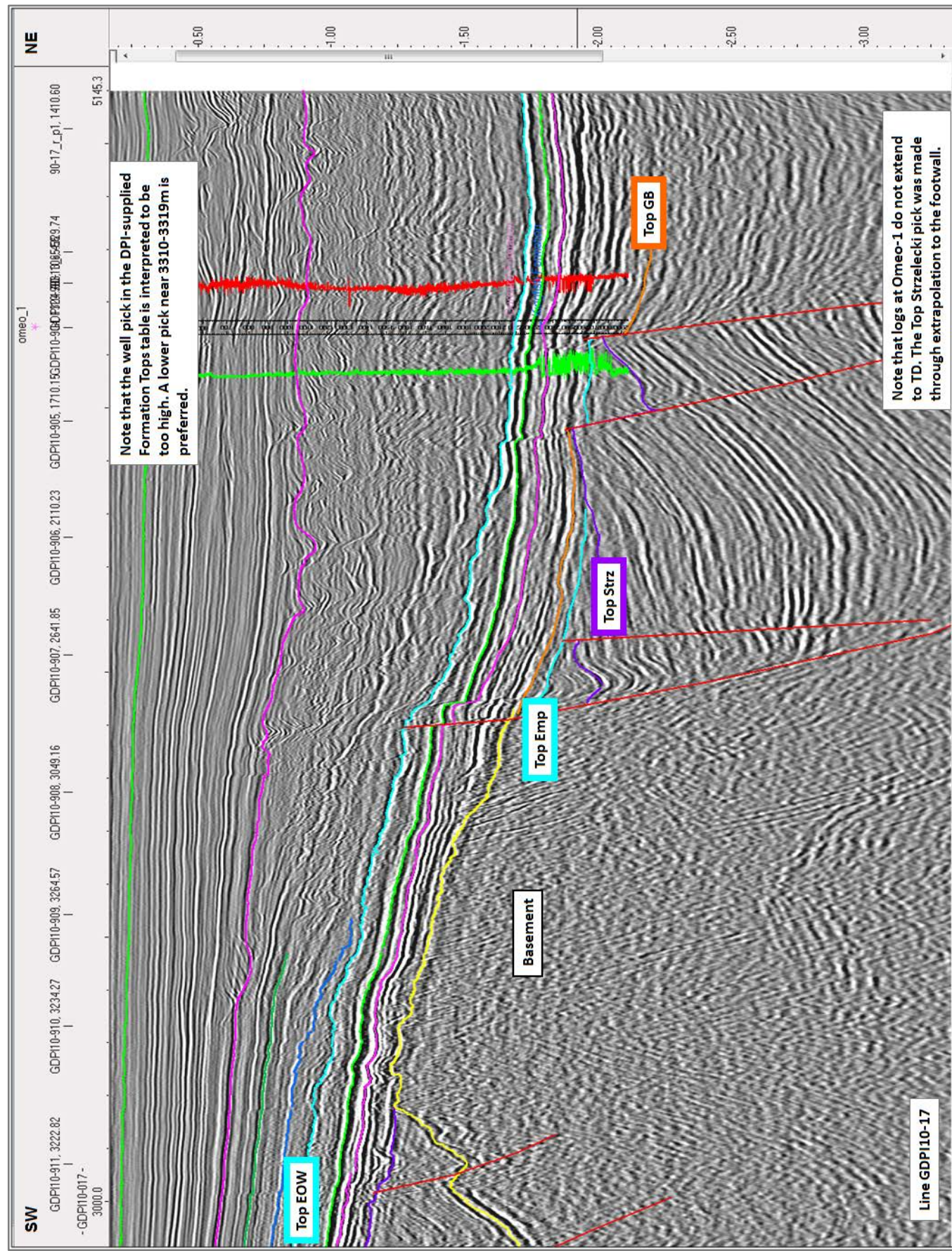


Figure 5.15

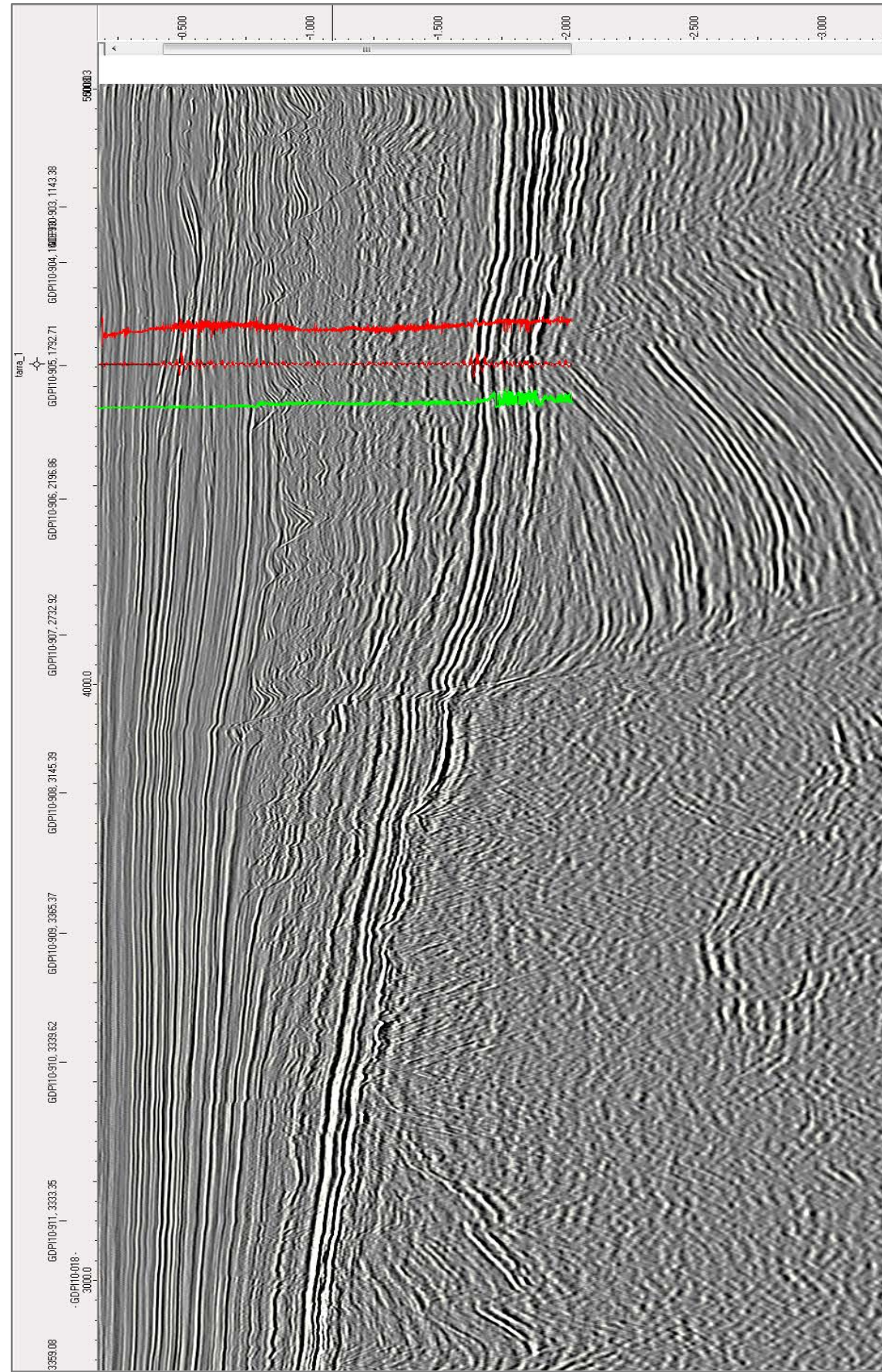
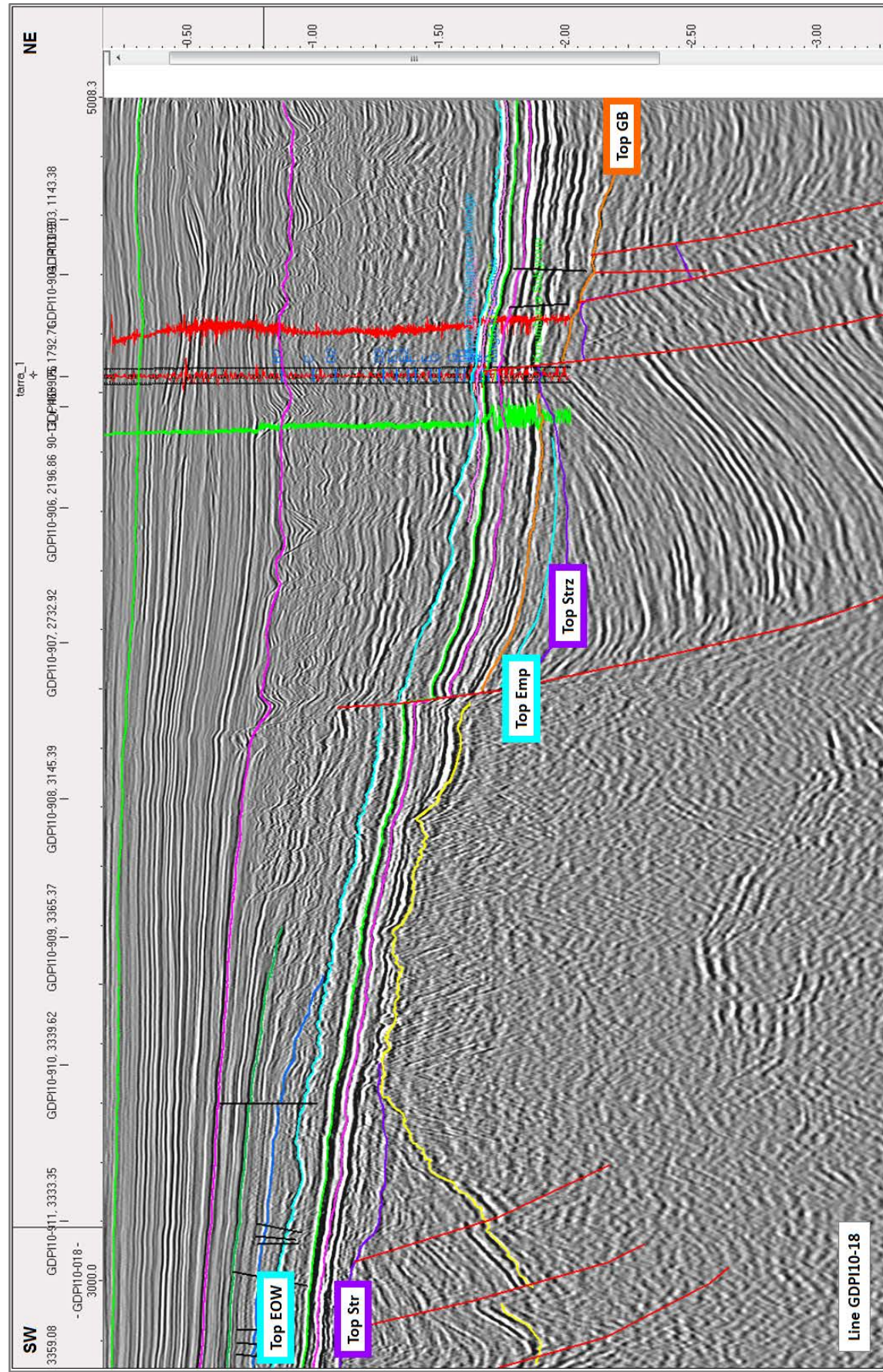


Figure 5.16

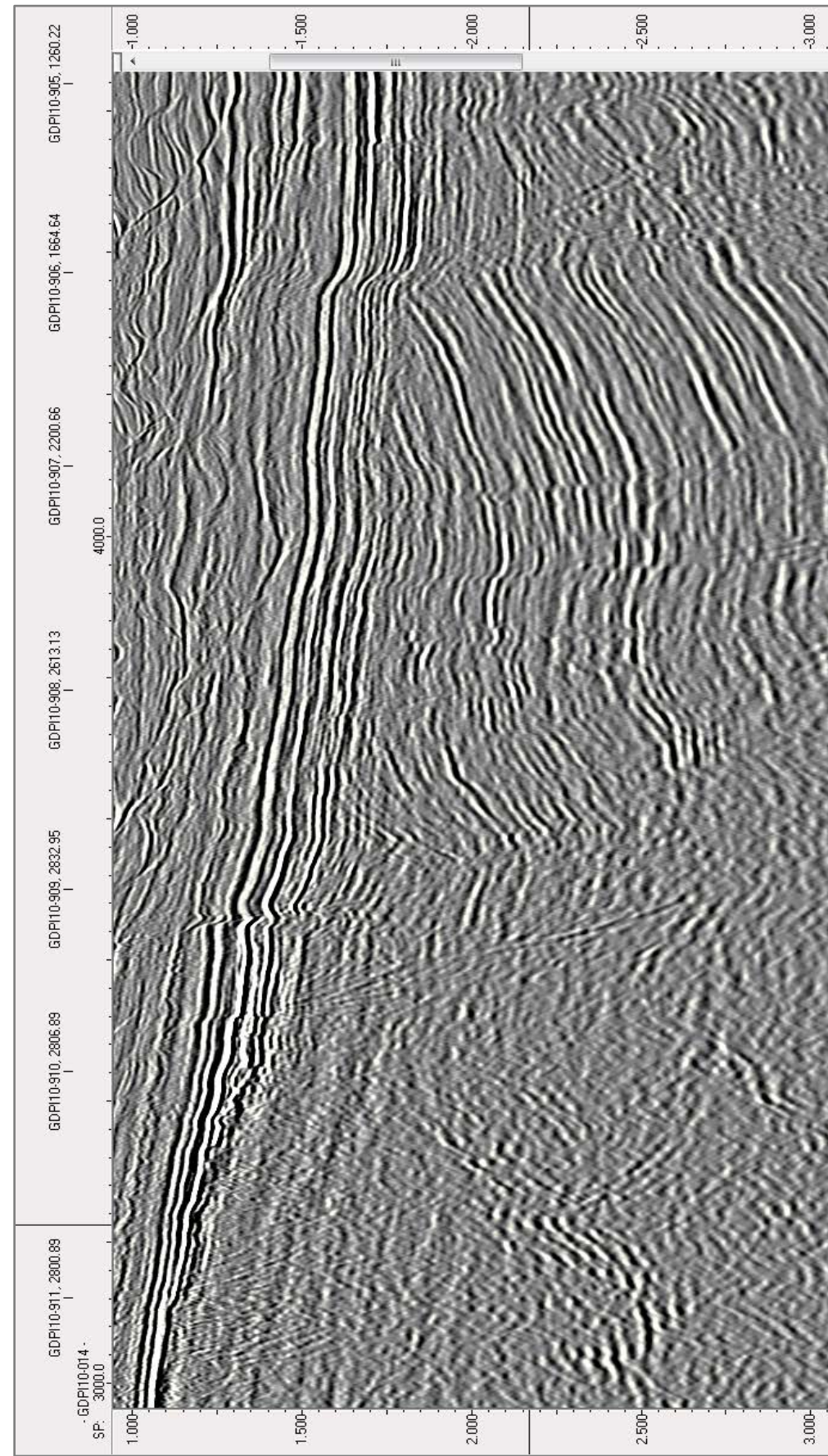
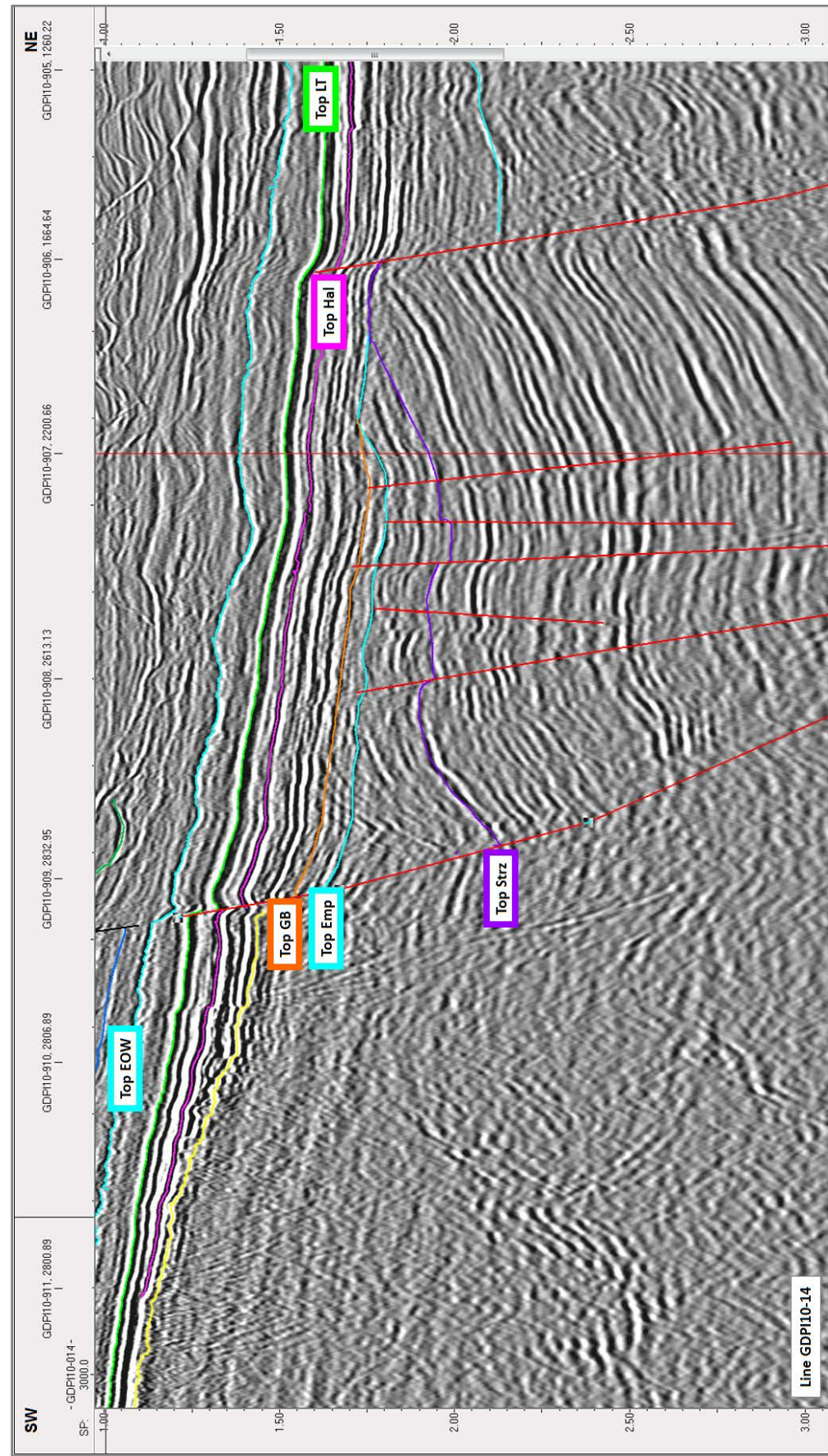


Figure 5.18

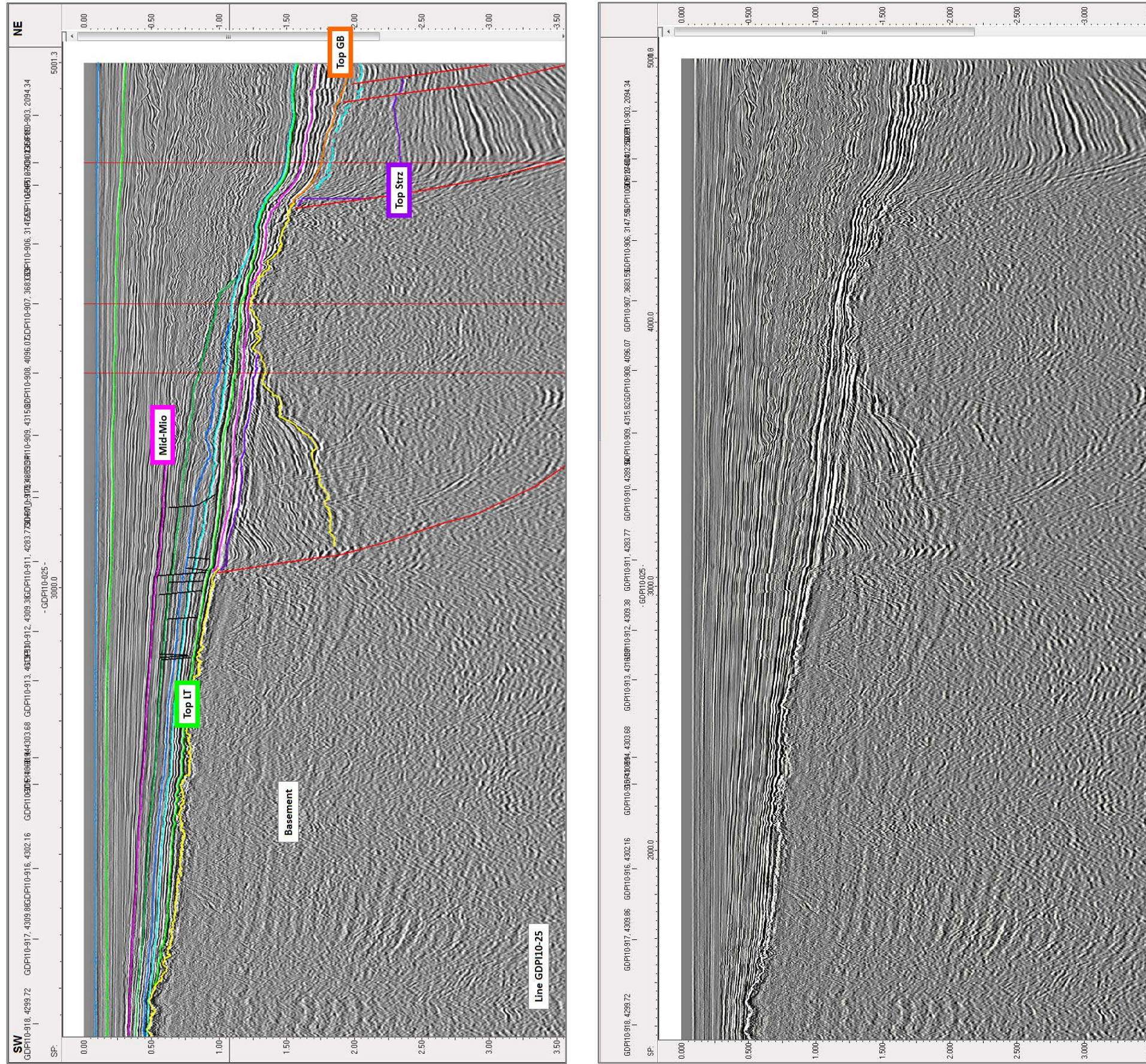


Figure 5.19

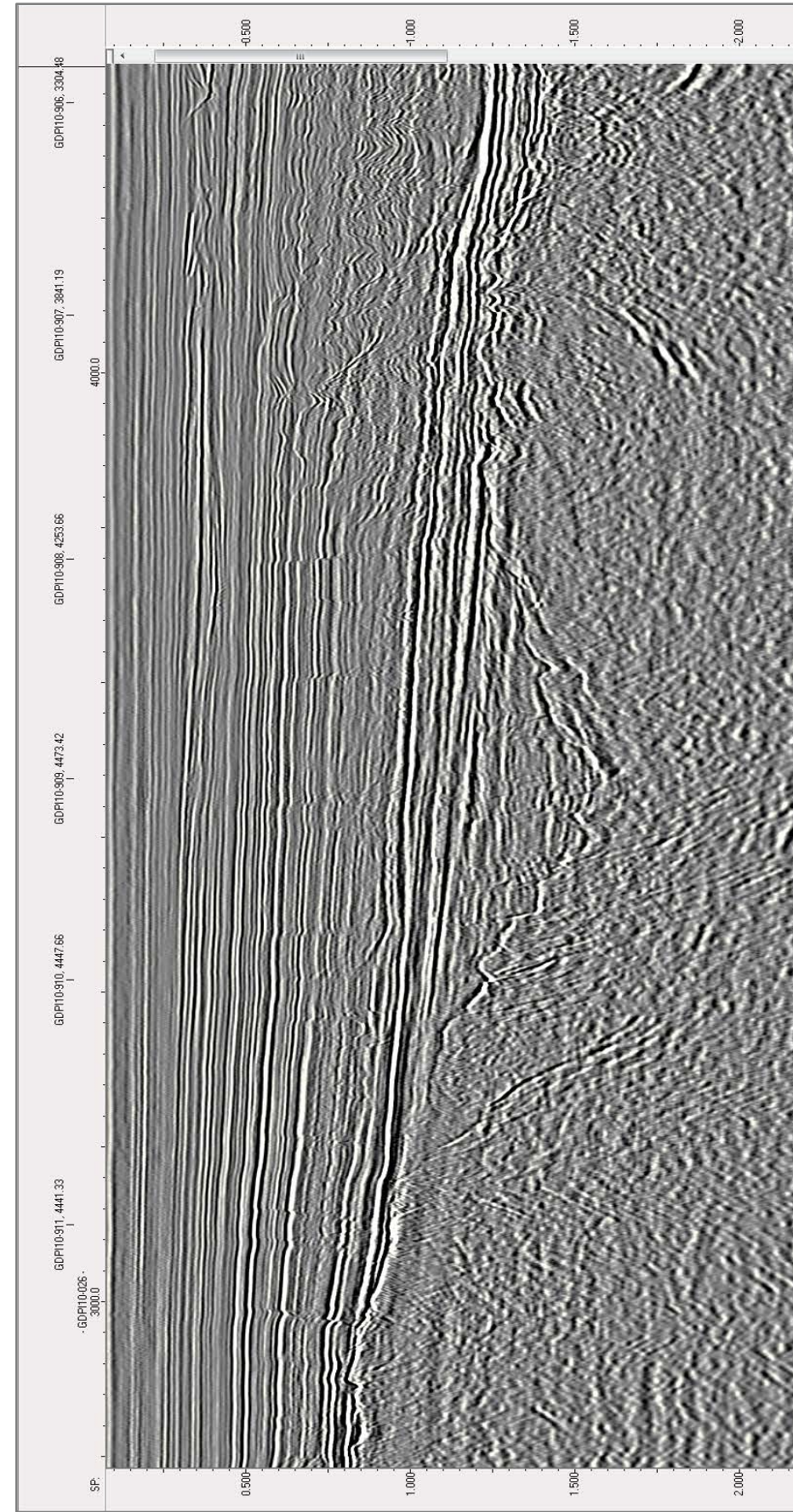
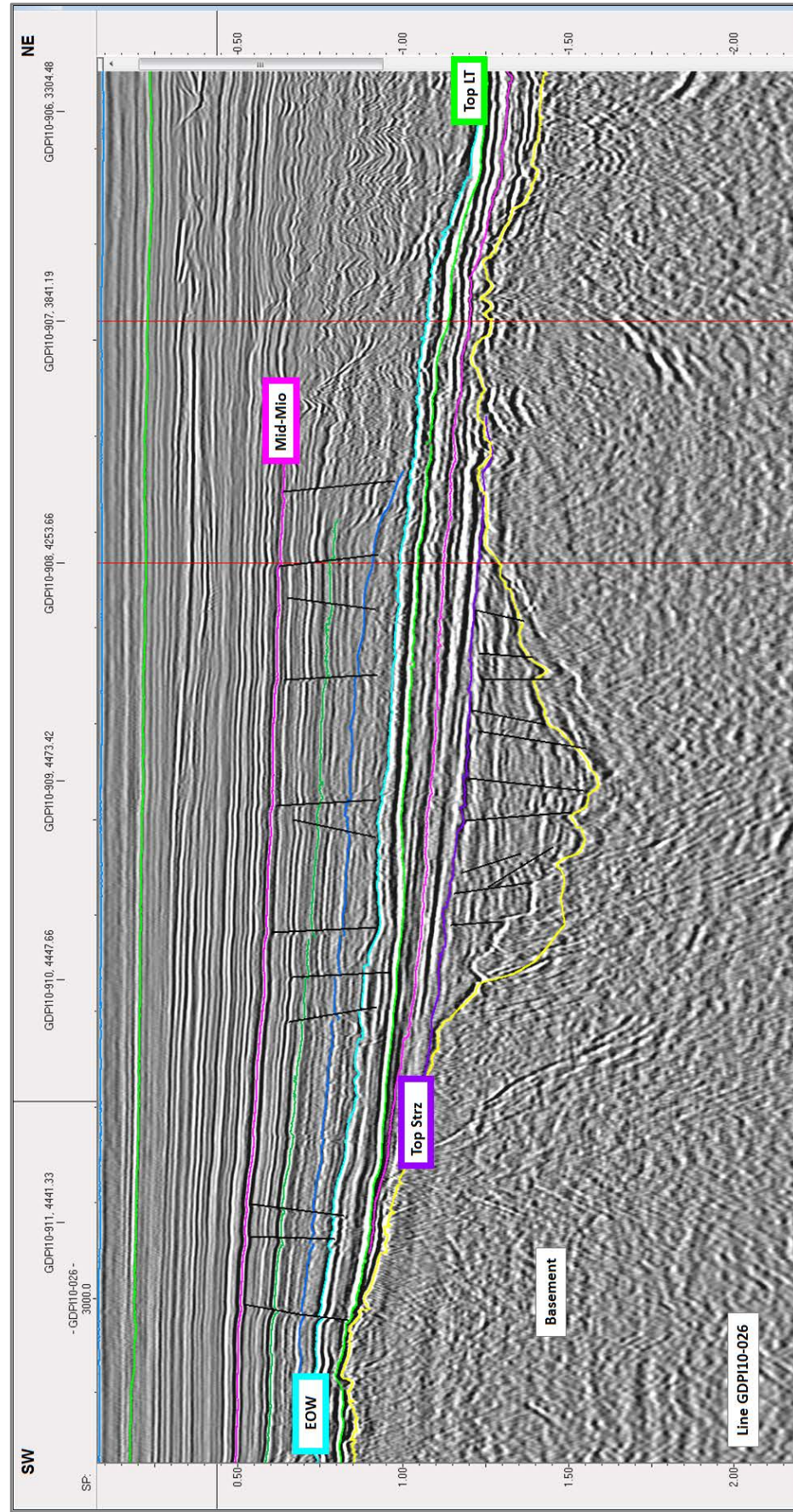


Figure 5.20



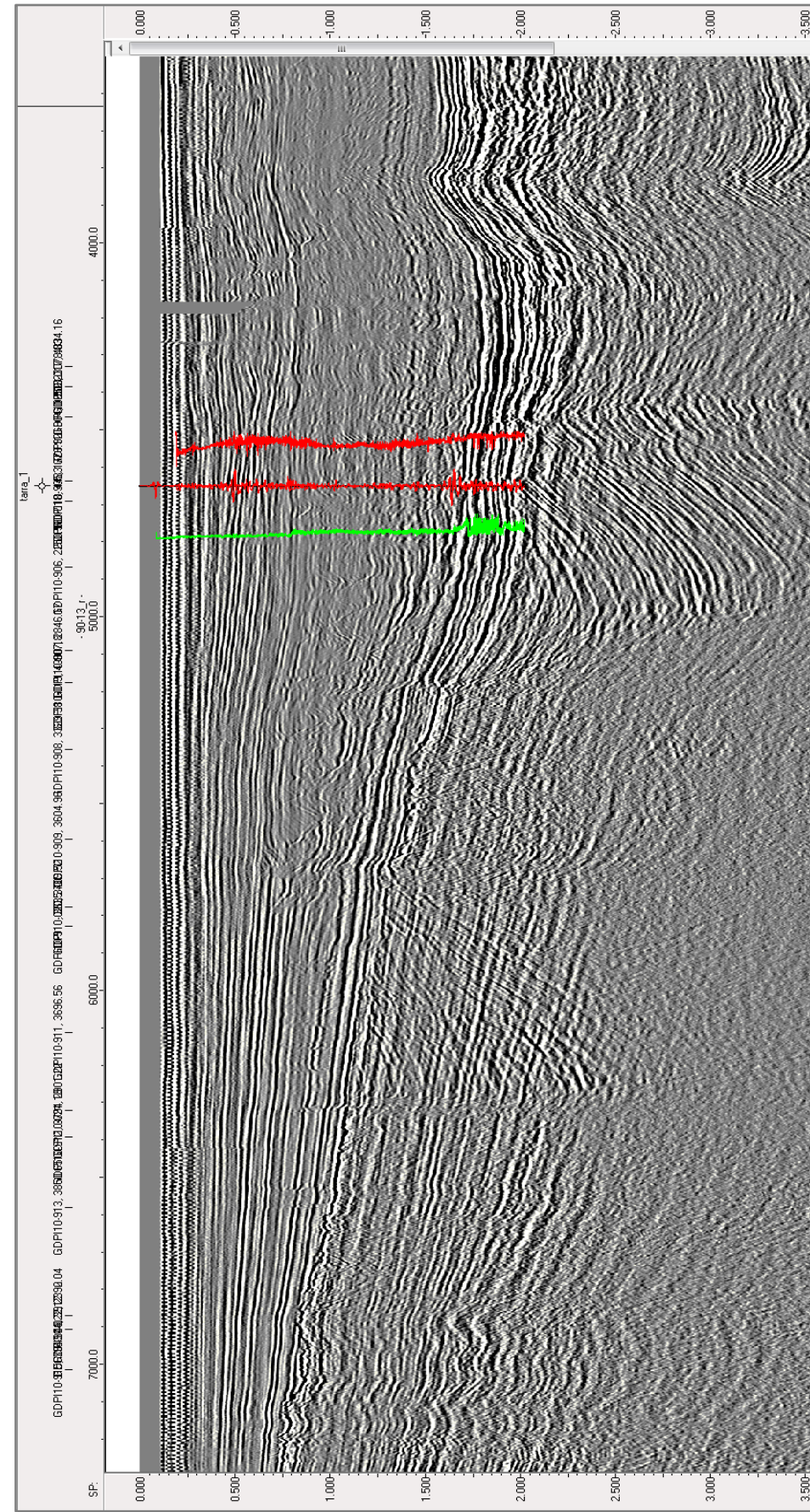
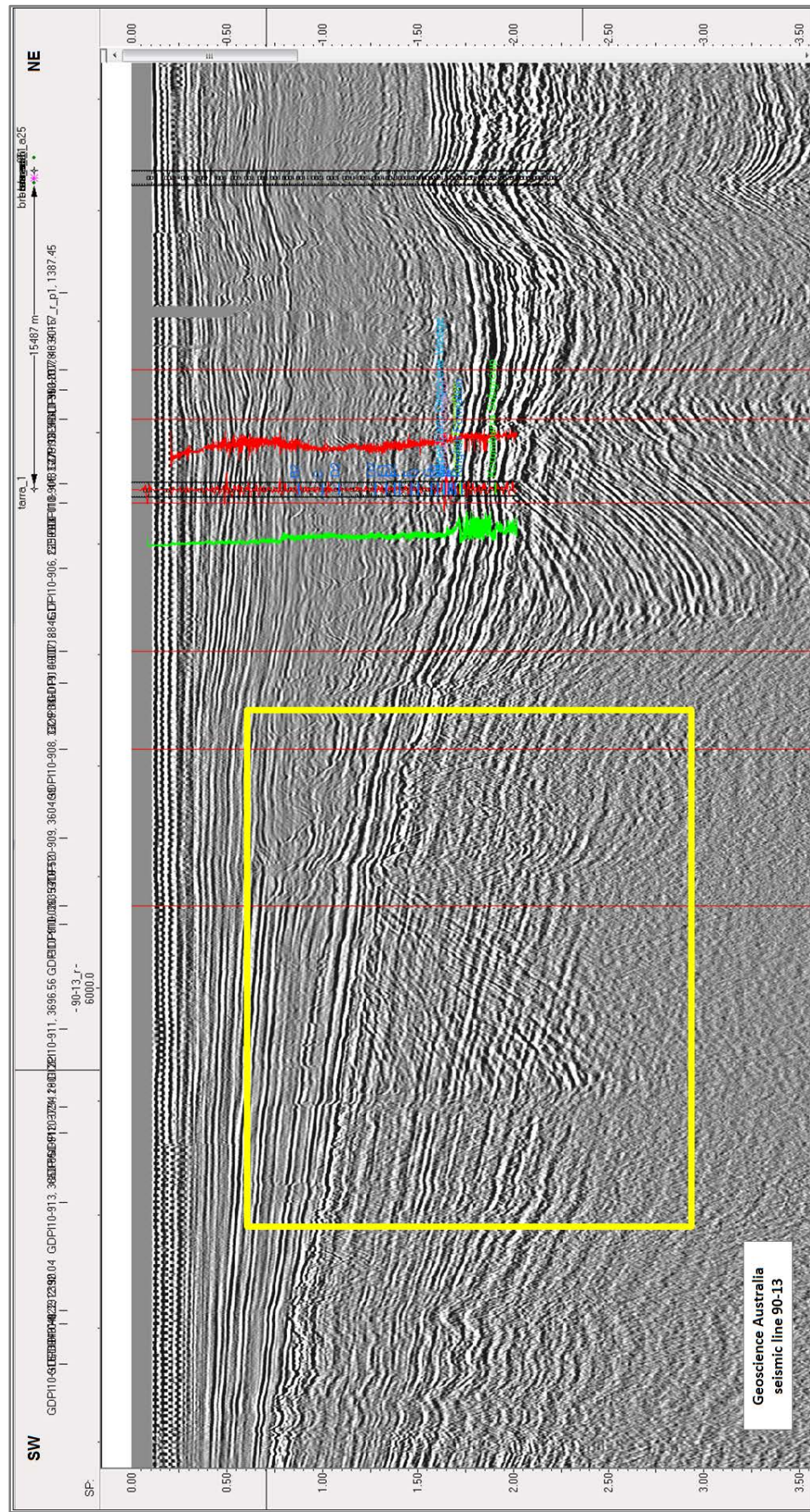


Figure 5.21

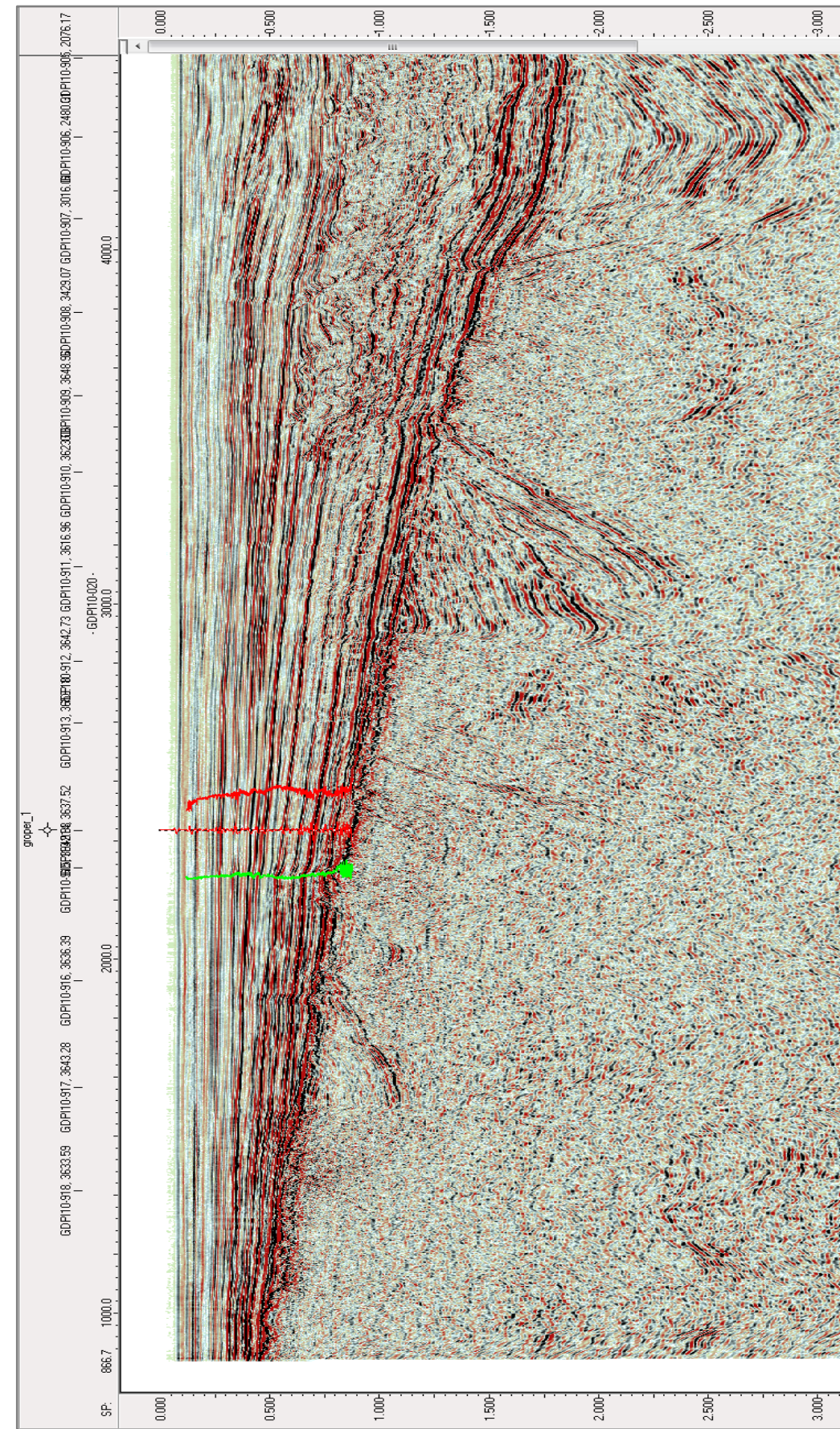
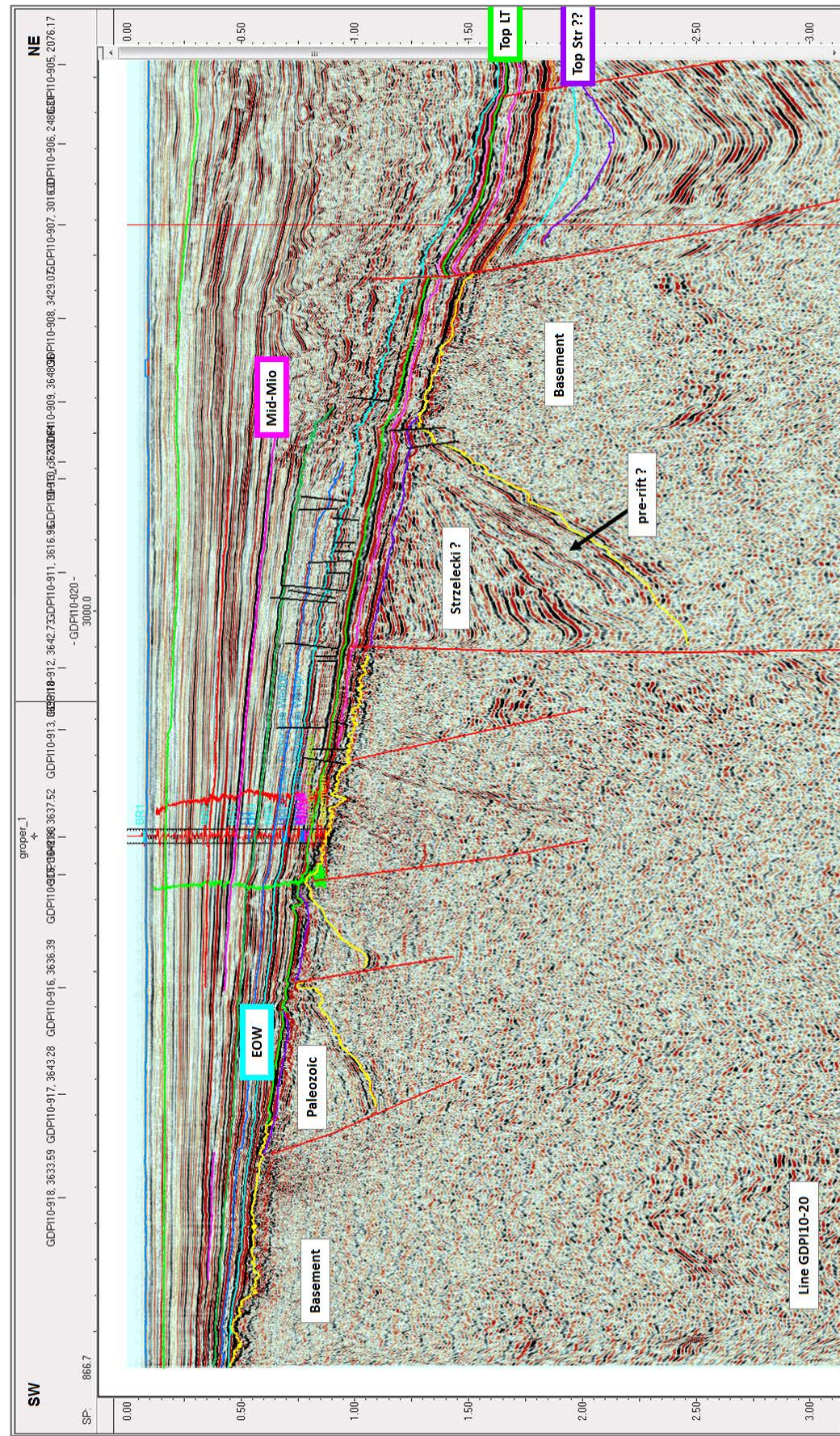


Figure 5.22

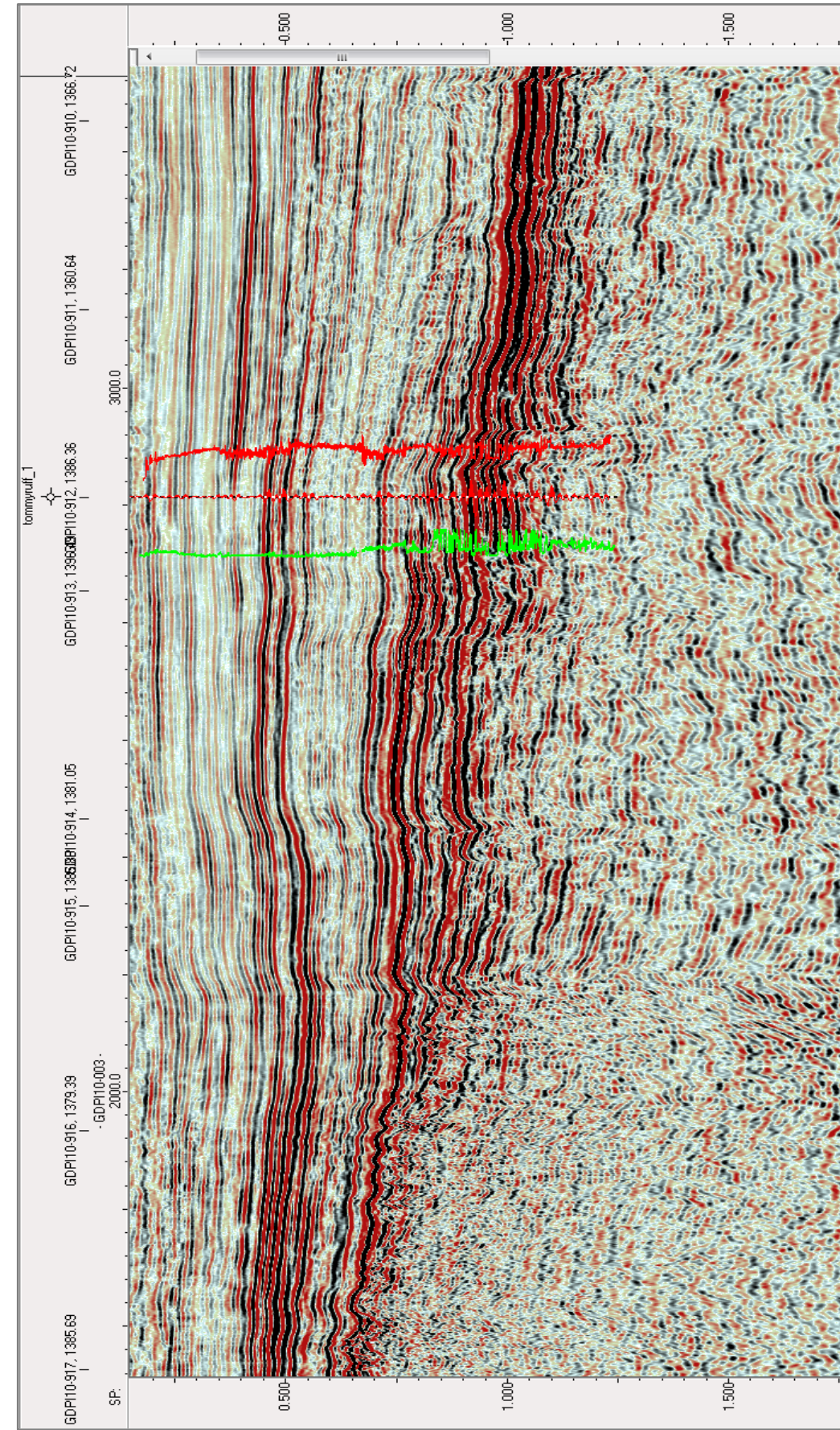
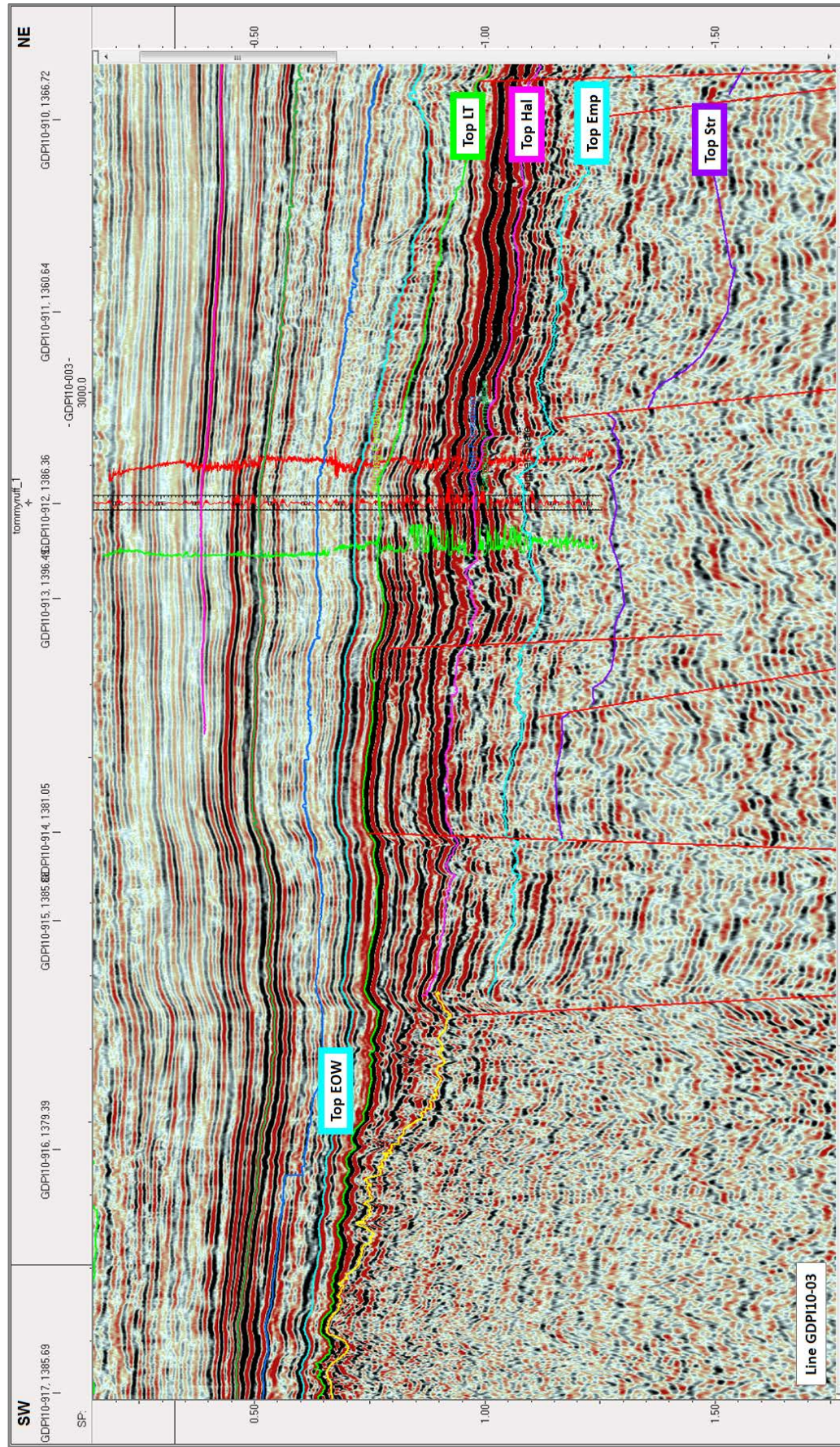


Figure 5.25

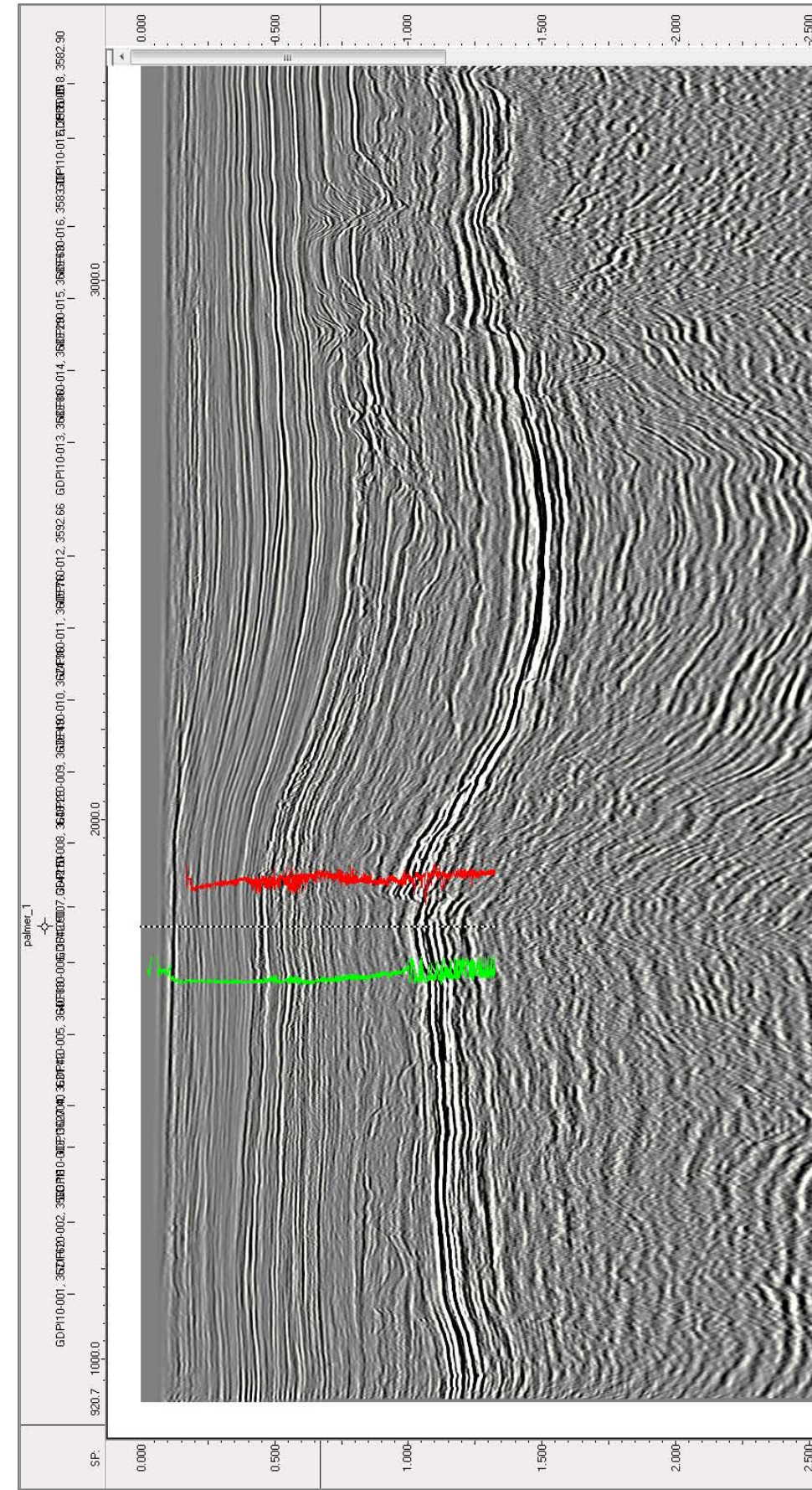
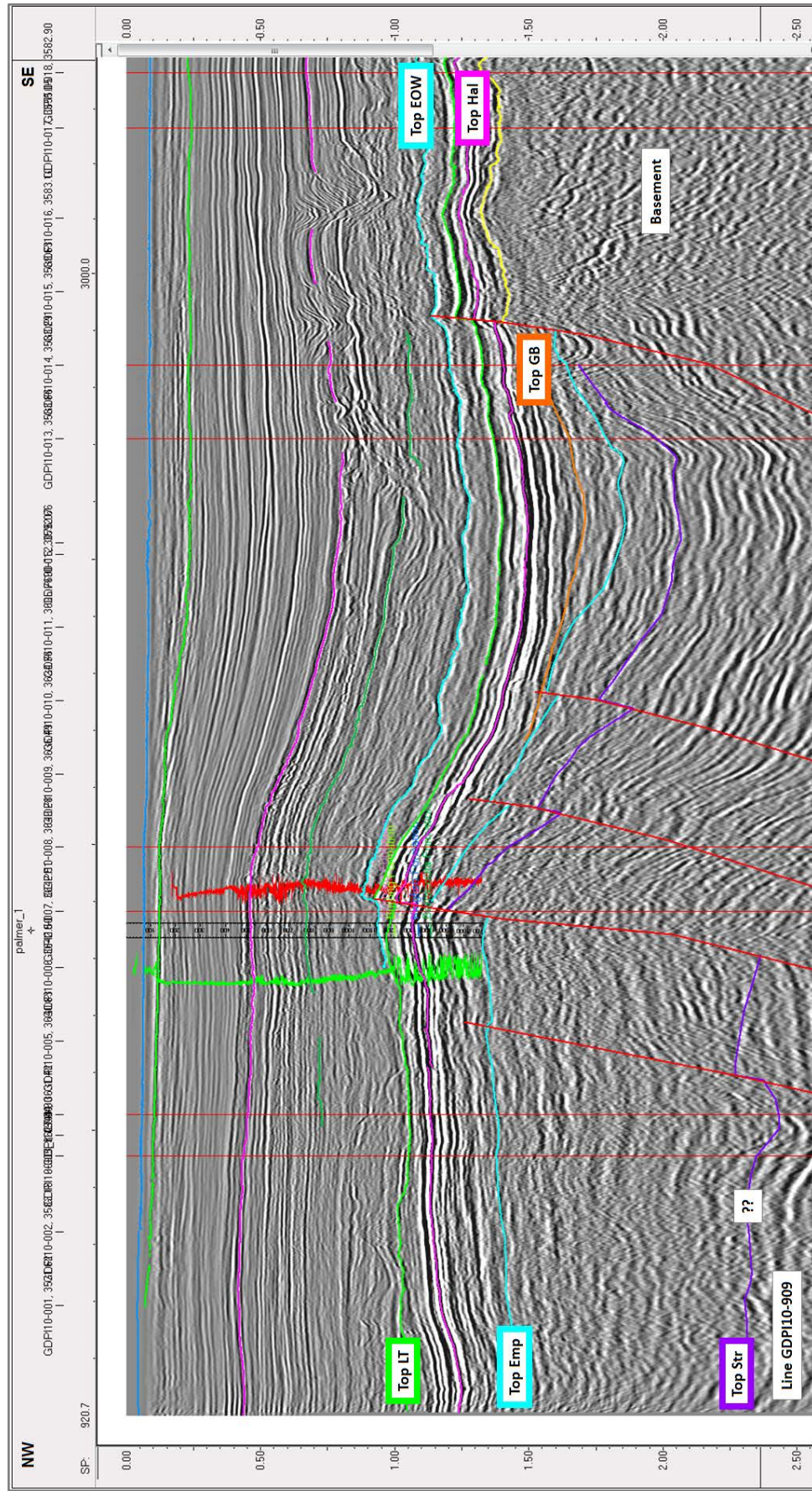


Figure 5.26

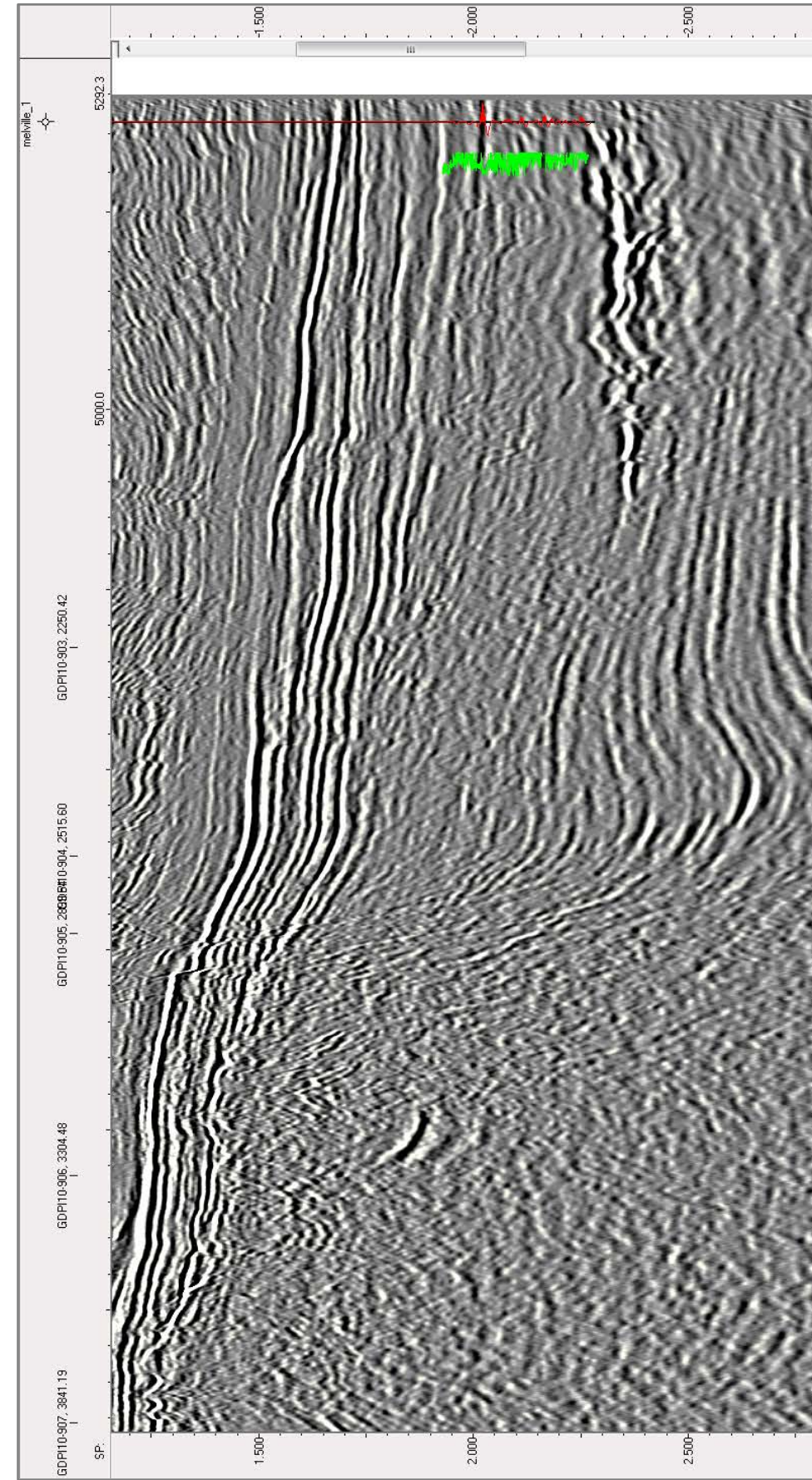
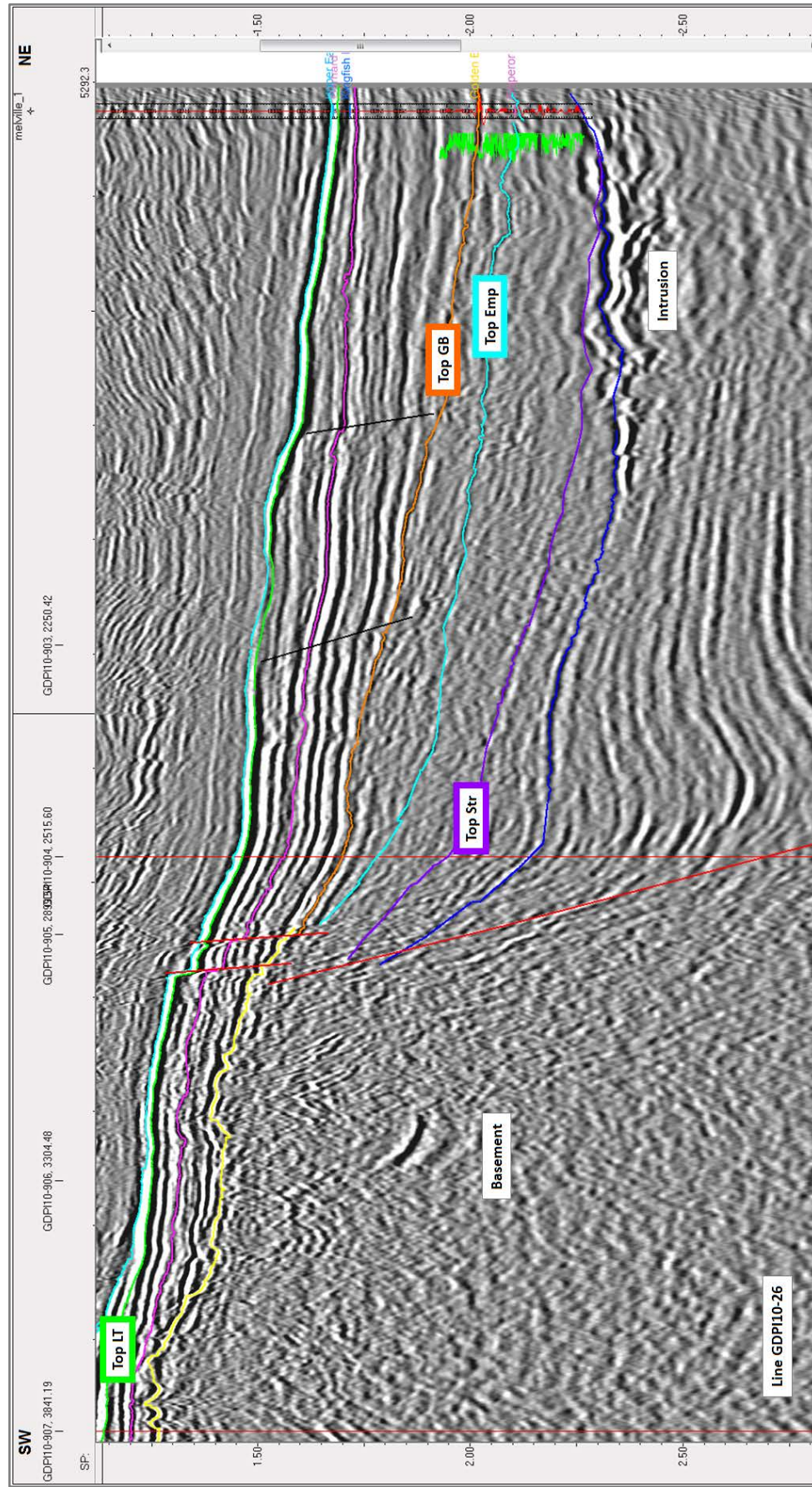


Figure 5.27

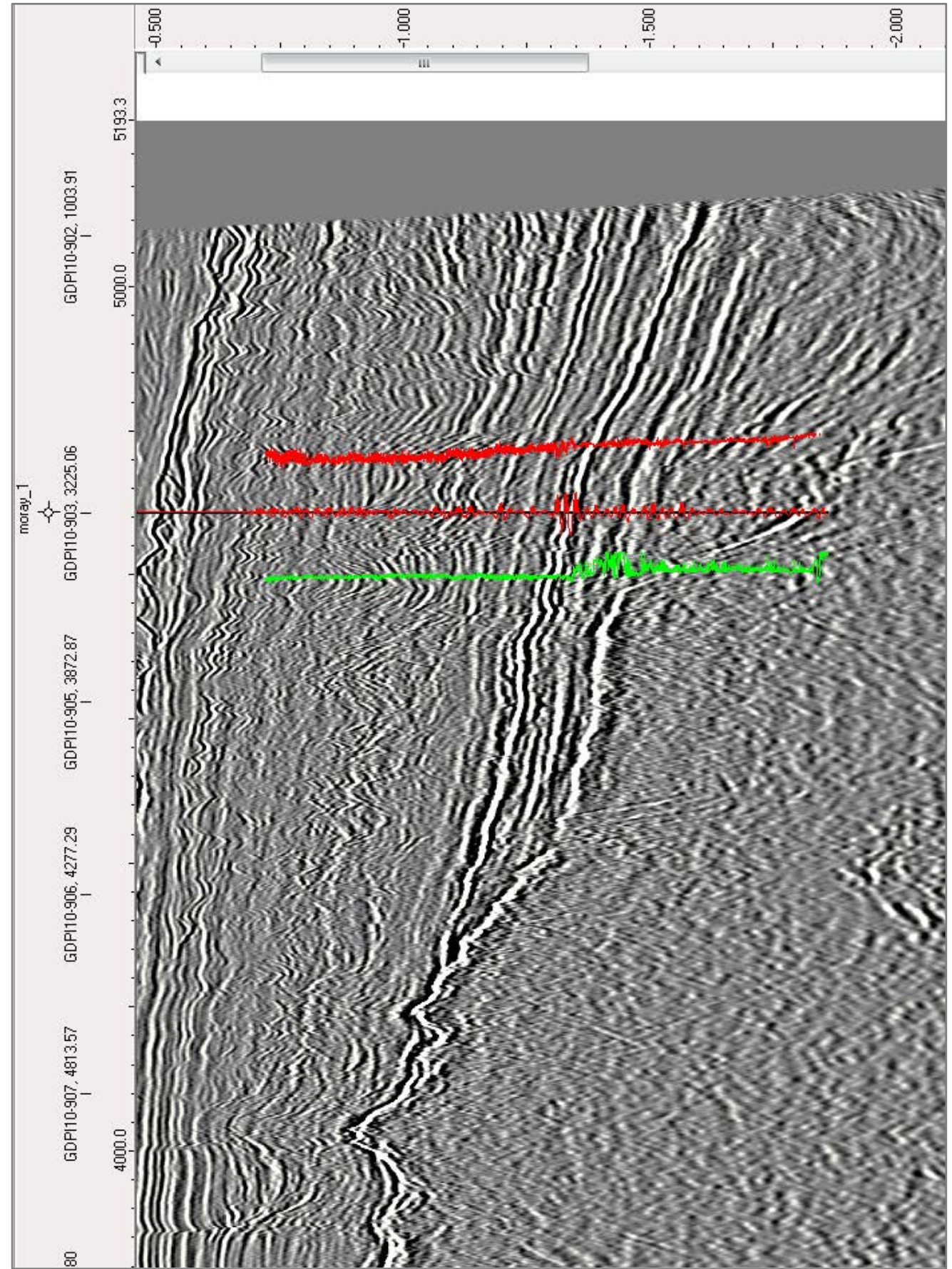
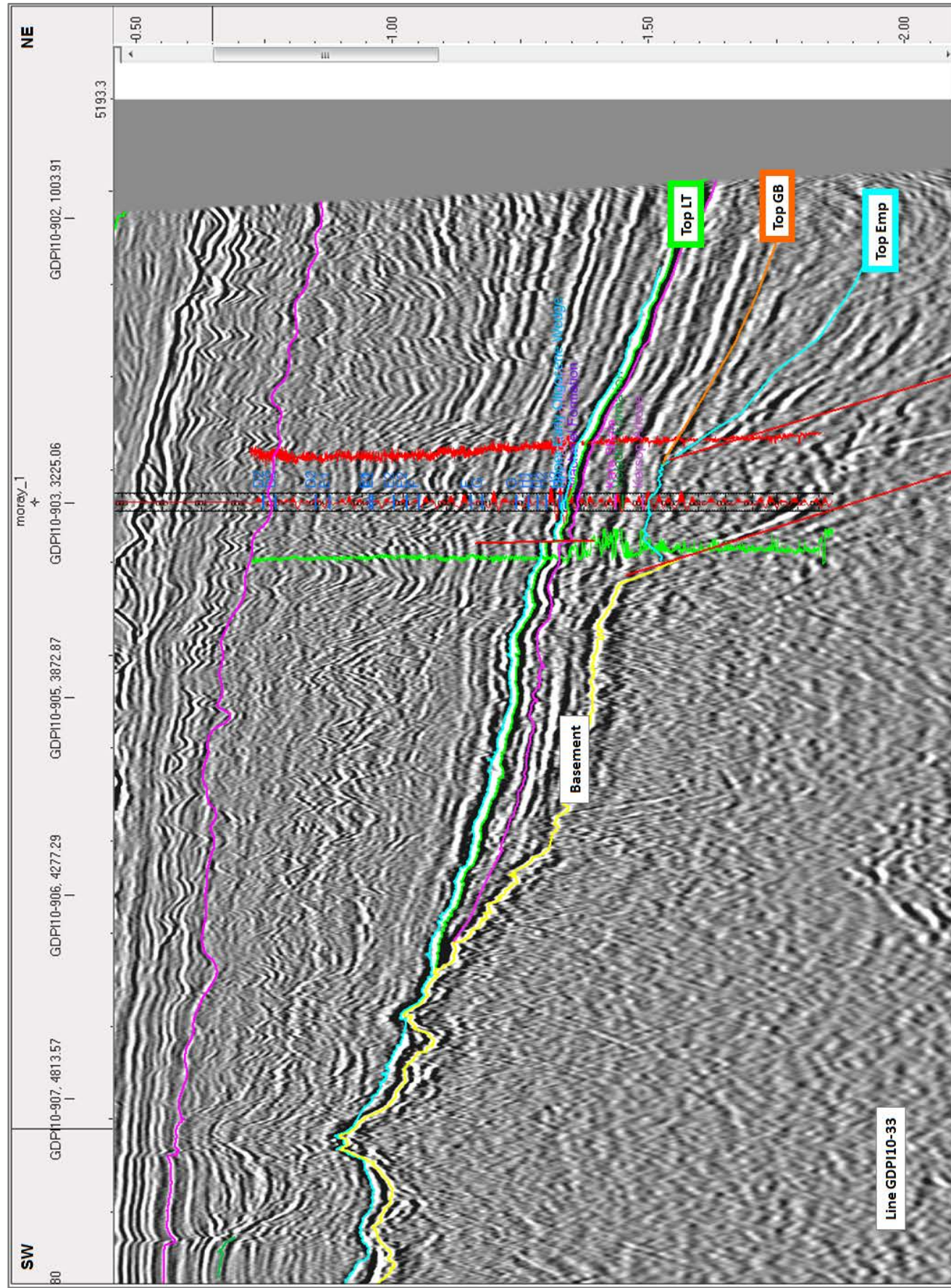
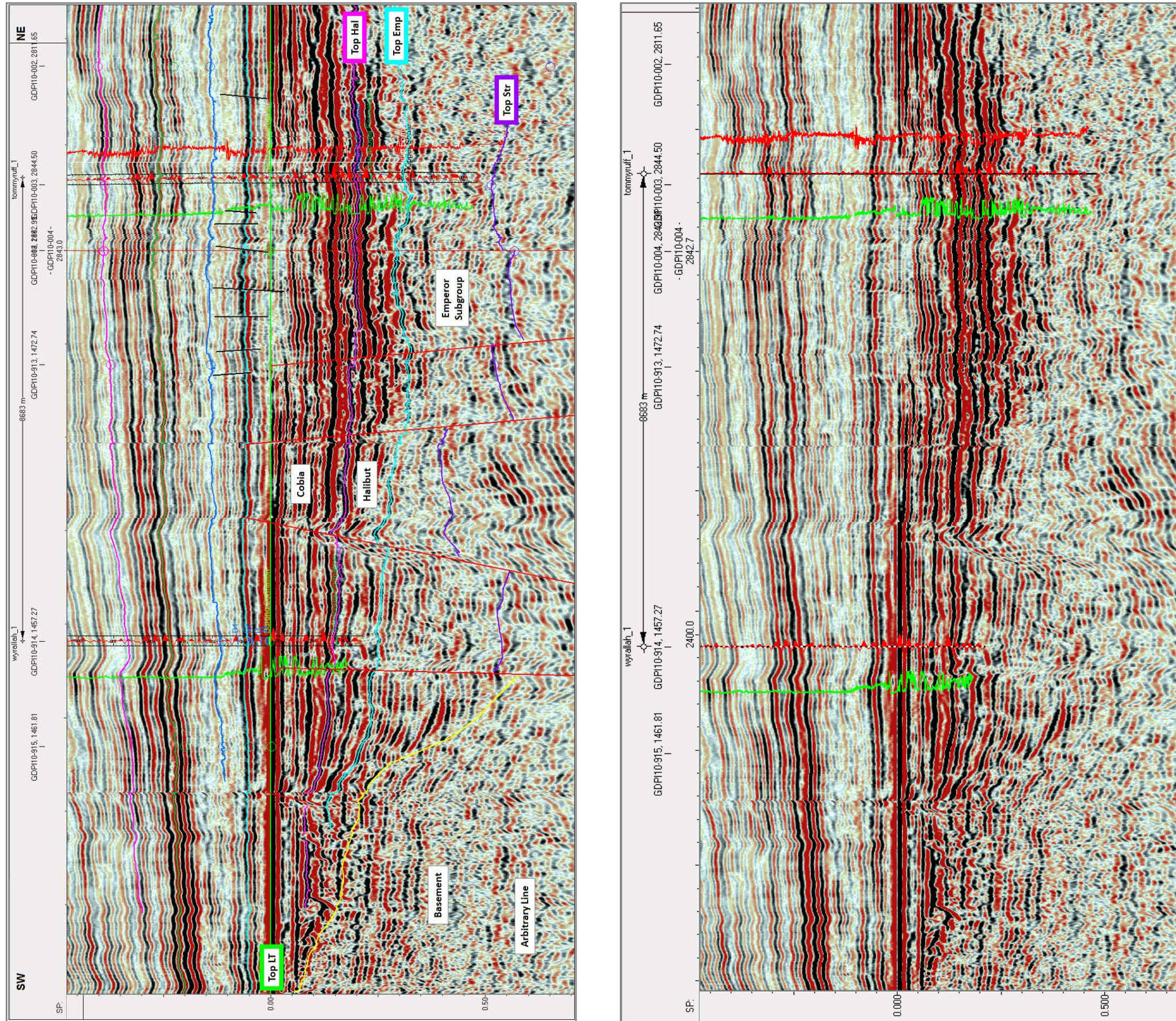


Figure 5.28

Figure 5.29



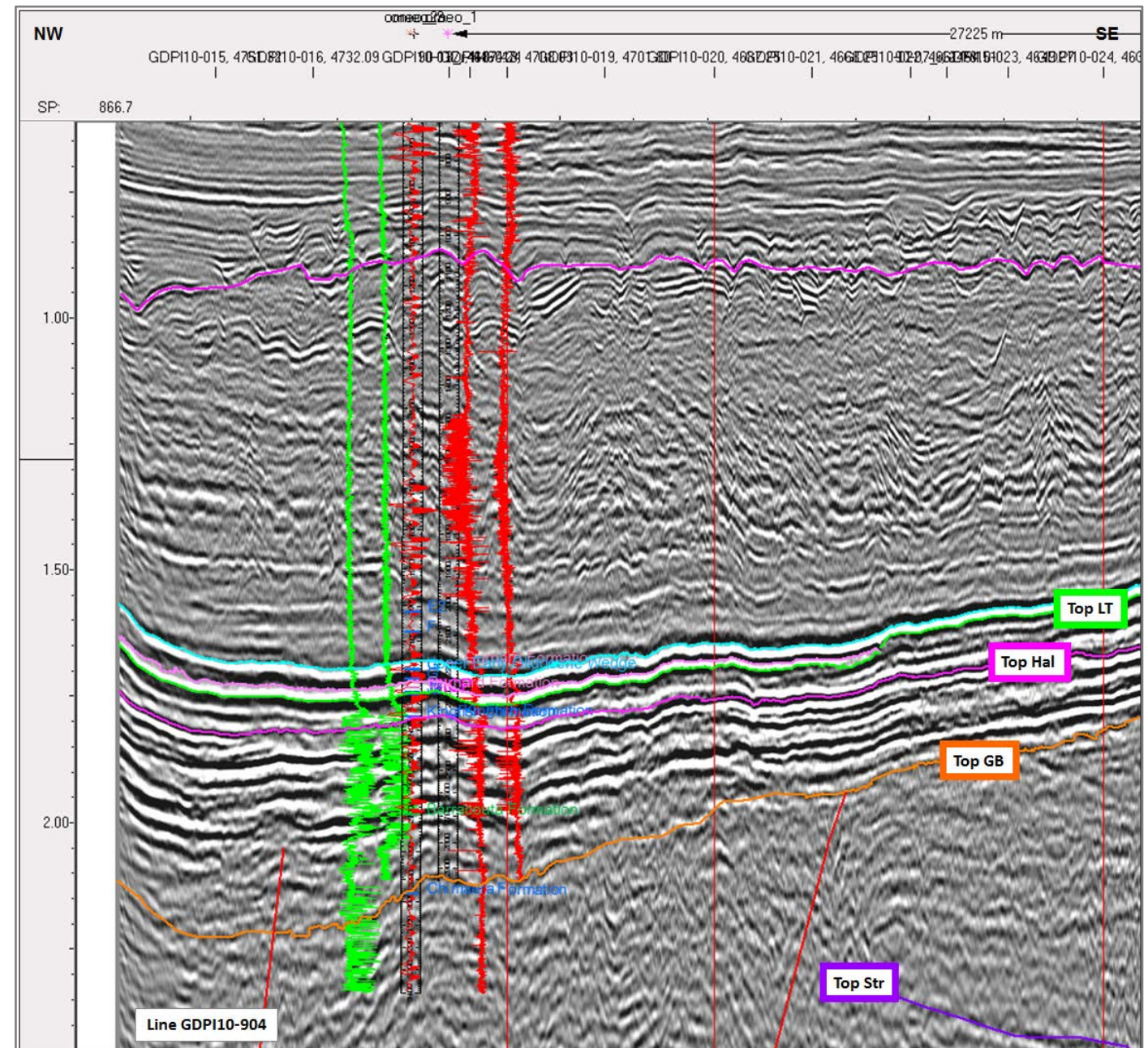
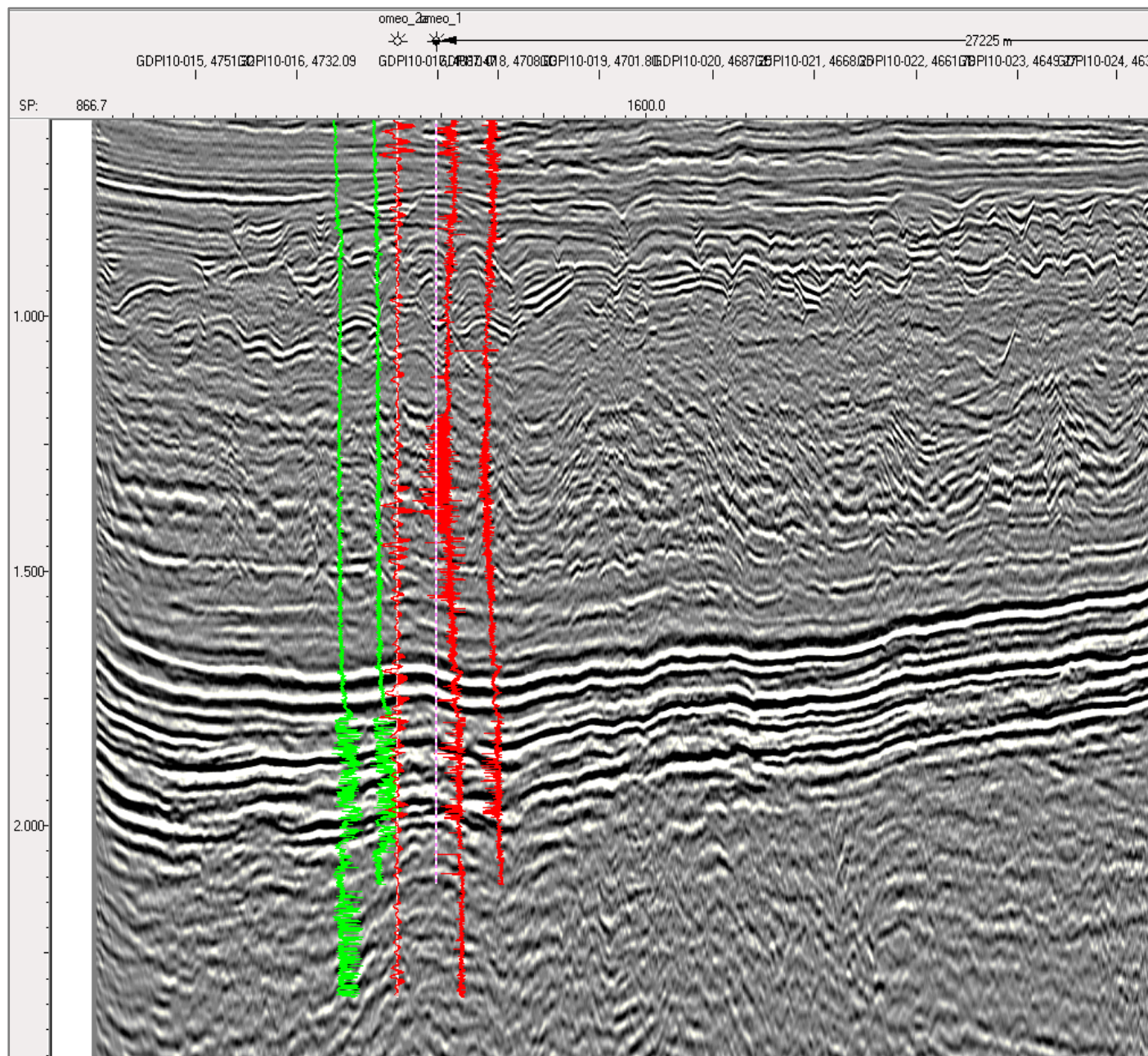


Figure 5.31



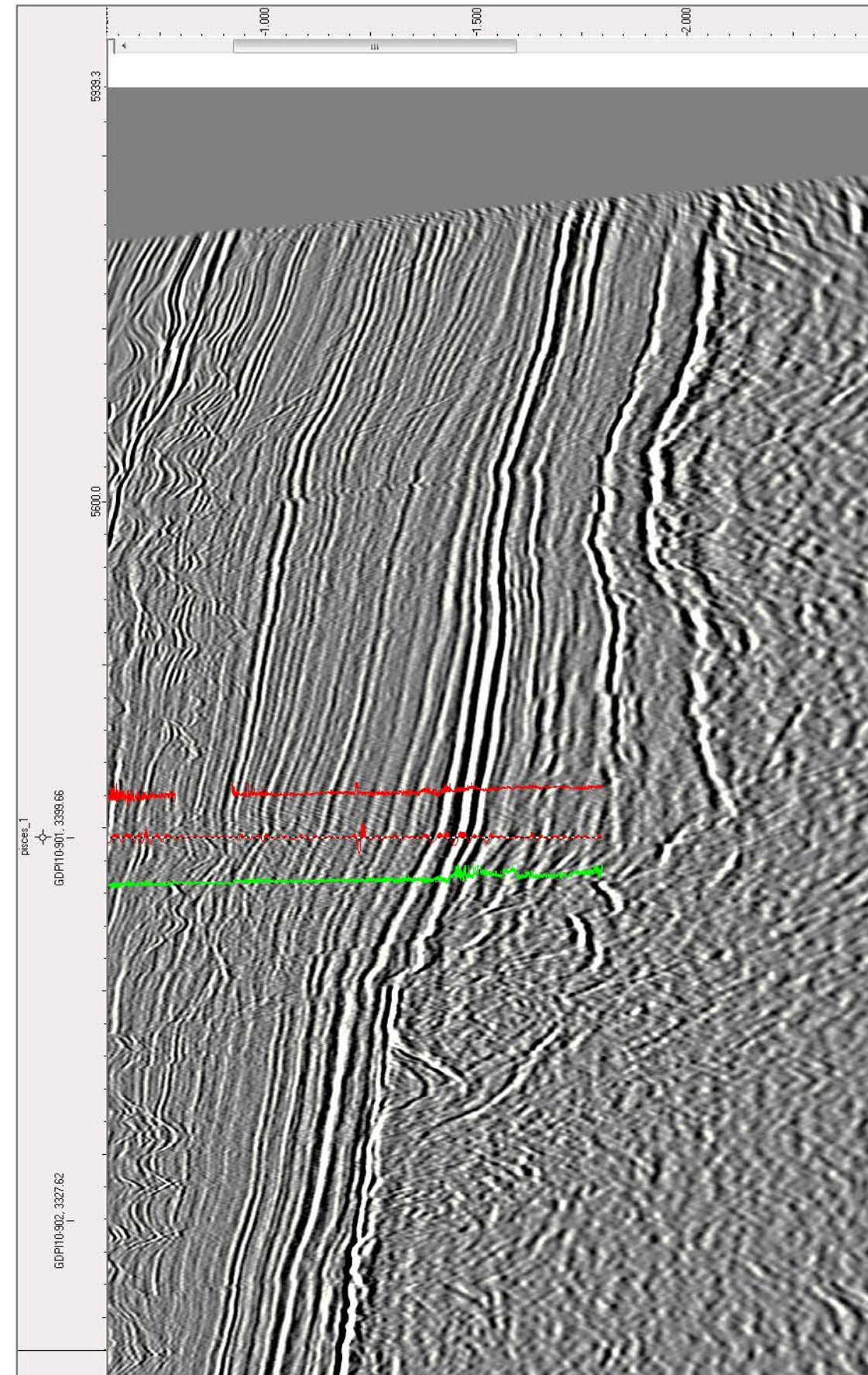
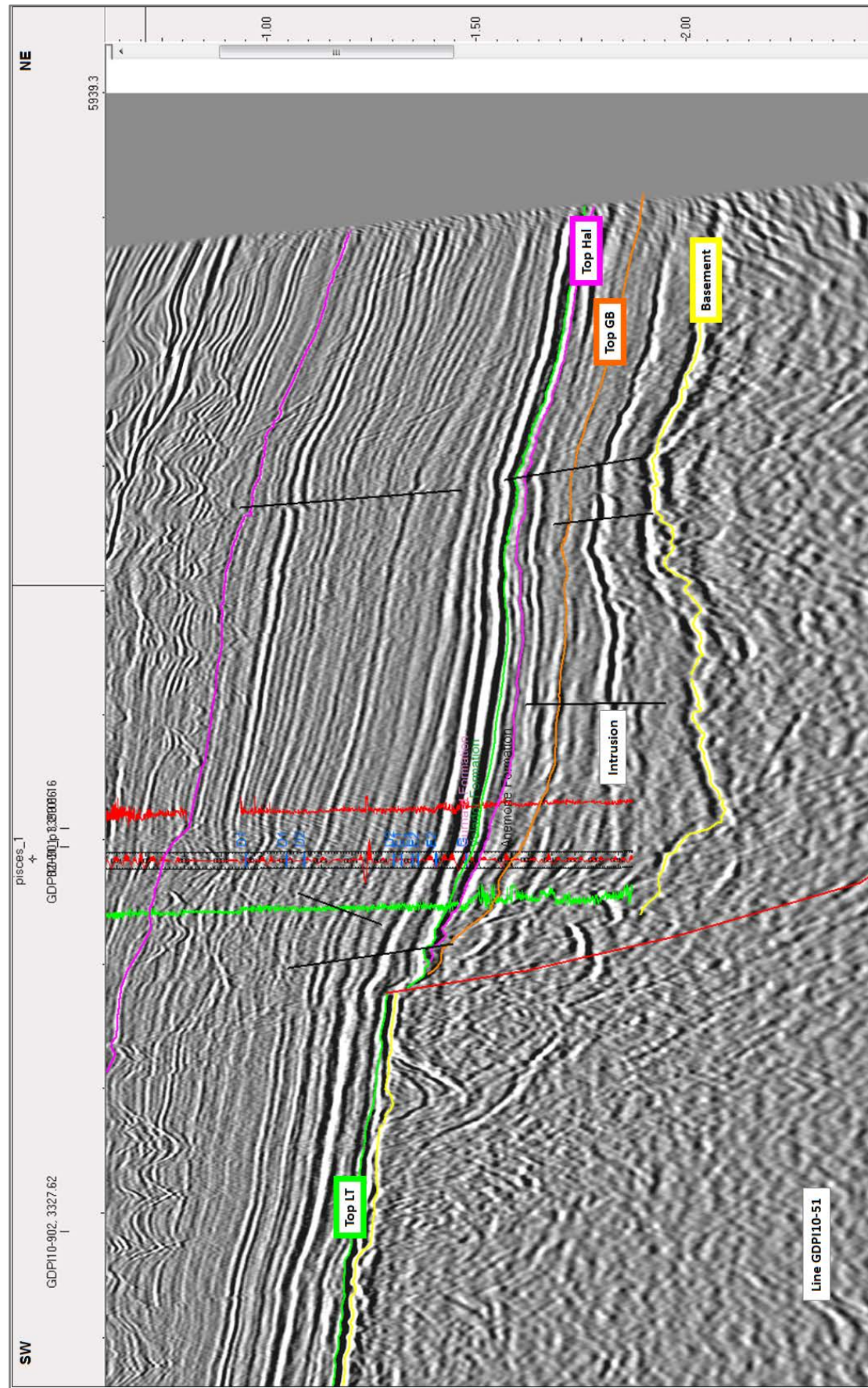


Figure 5.32

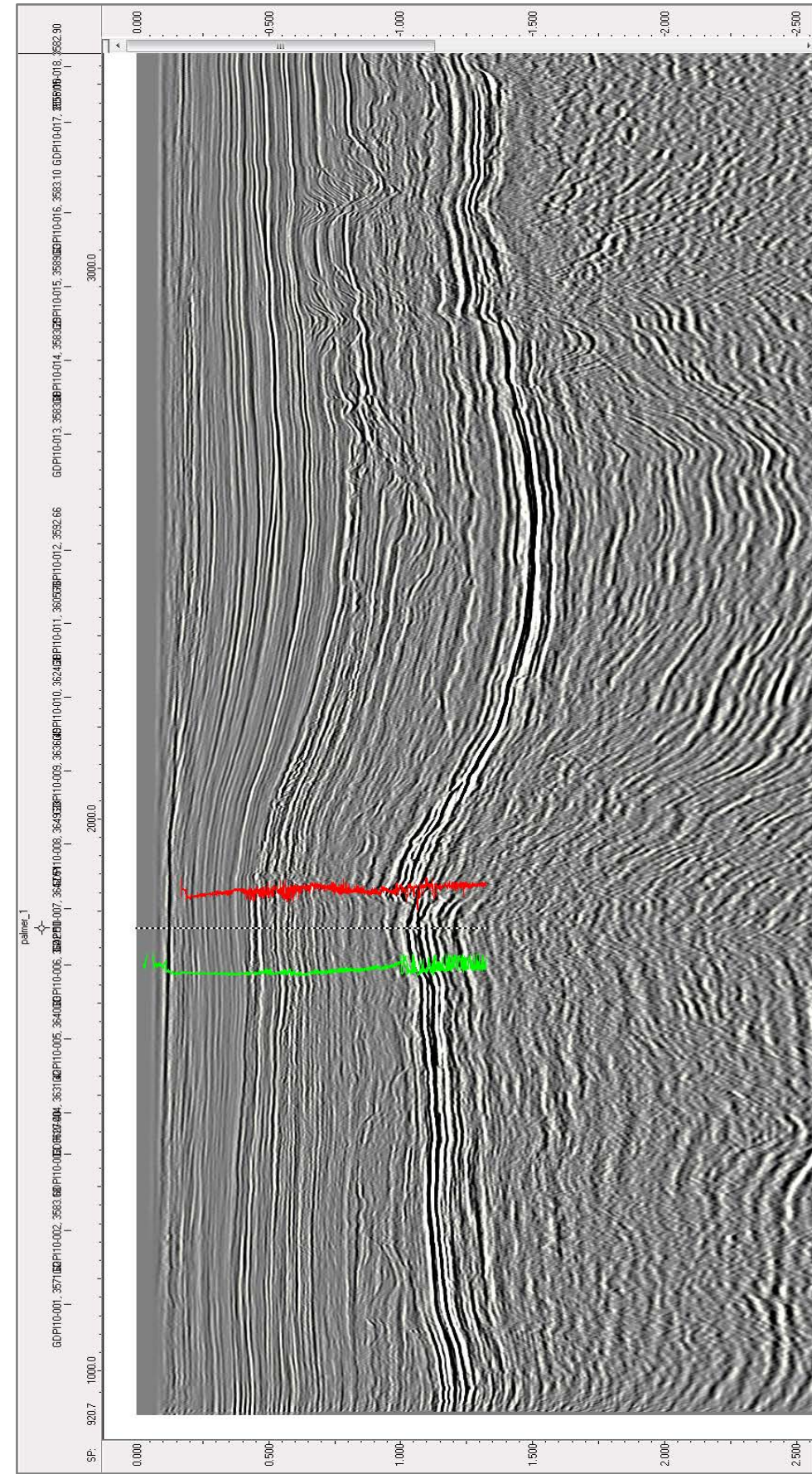
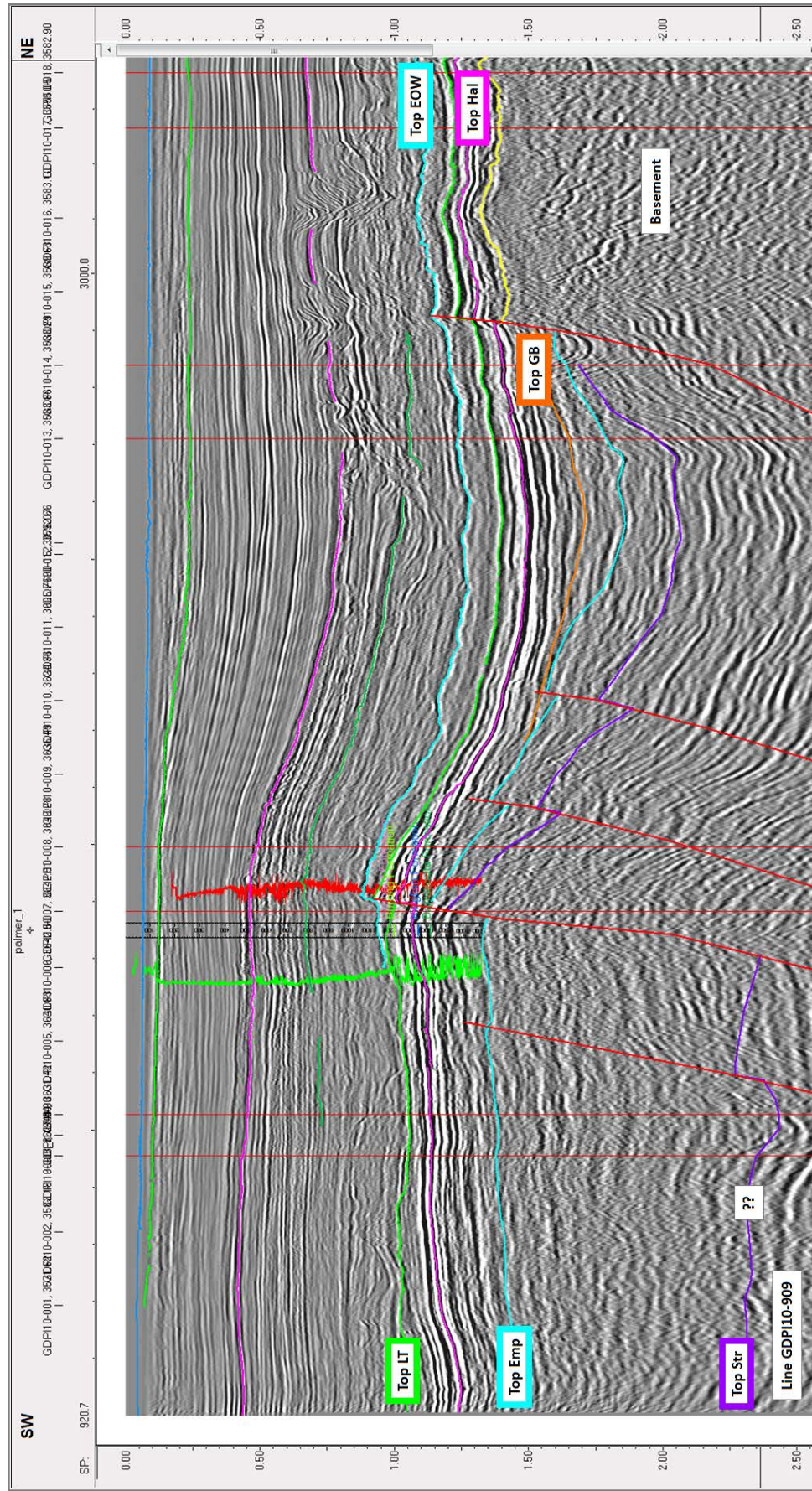


Figure 5.33

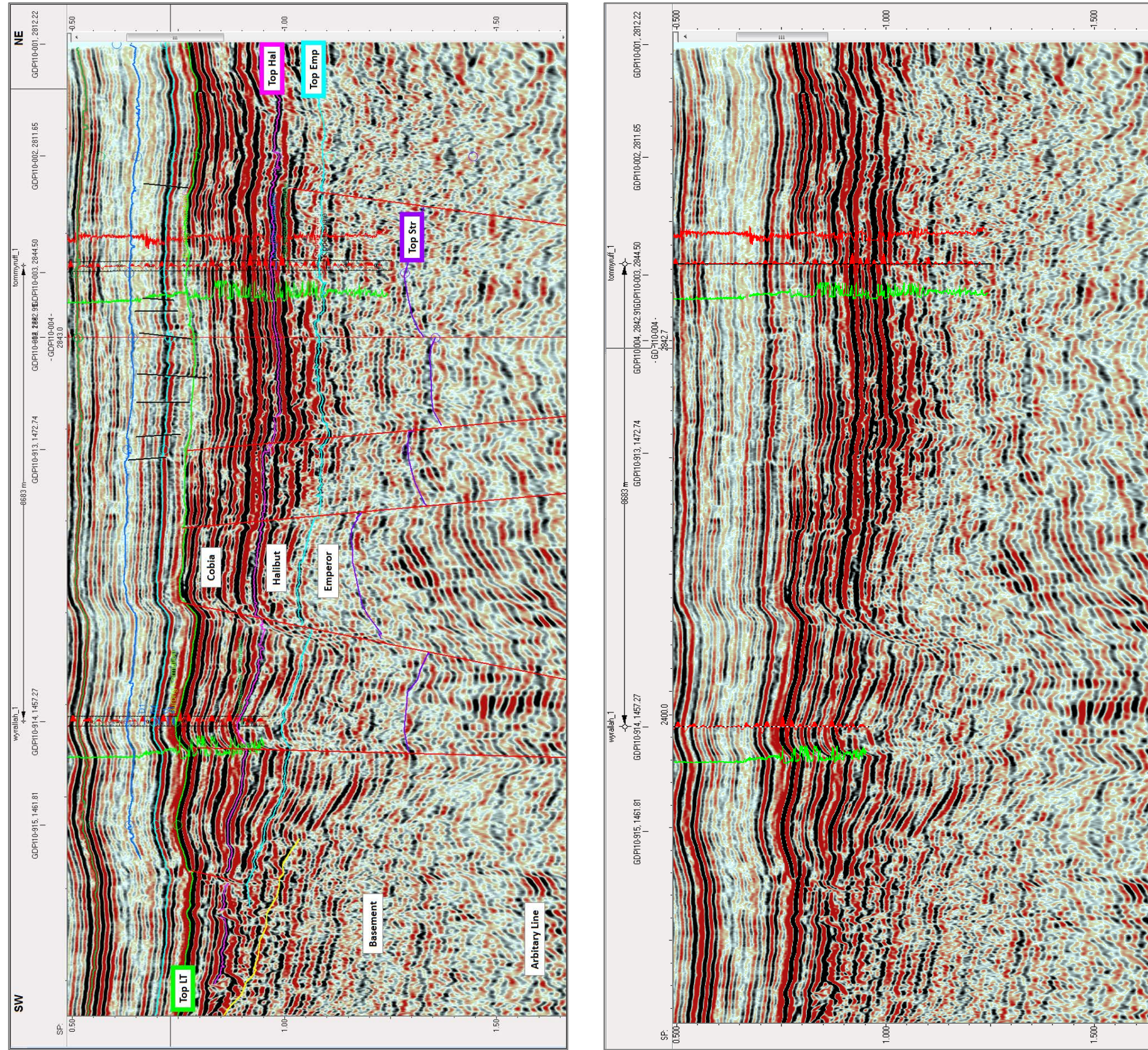


Figure 5.35

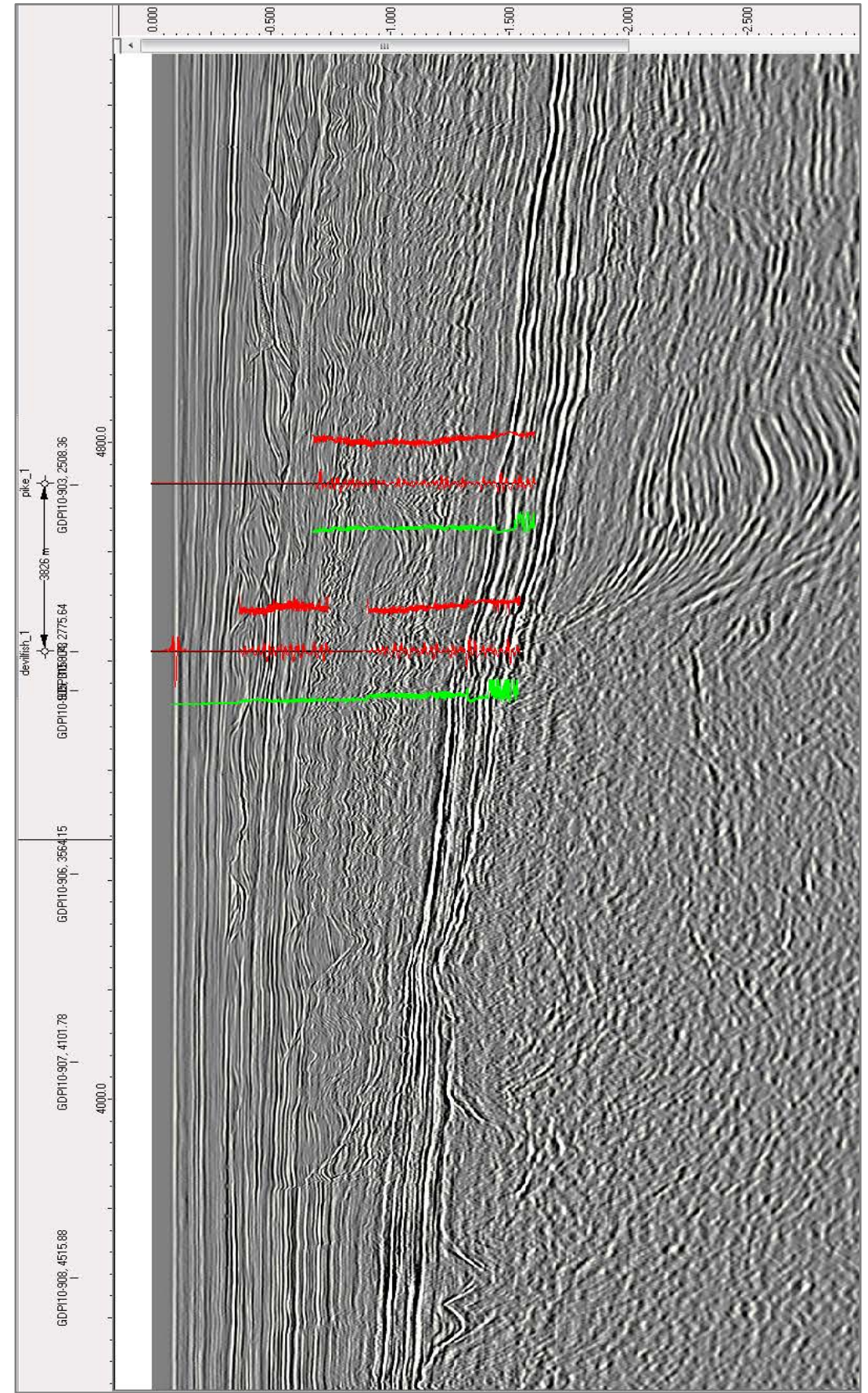
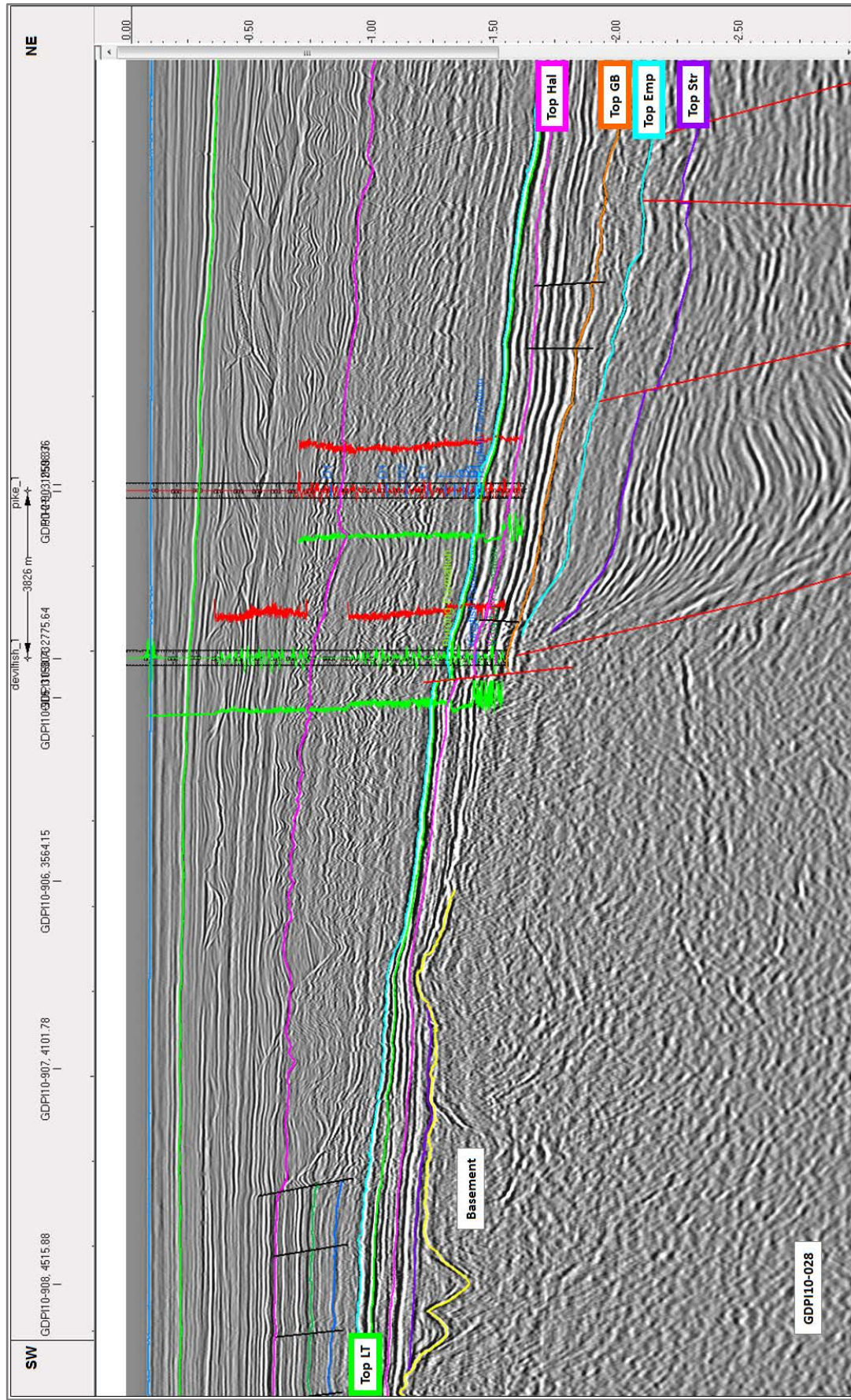


Figure 5.36

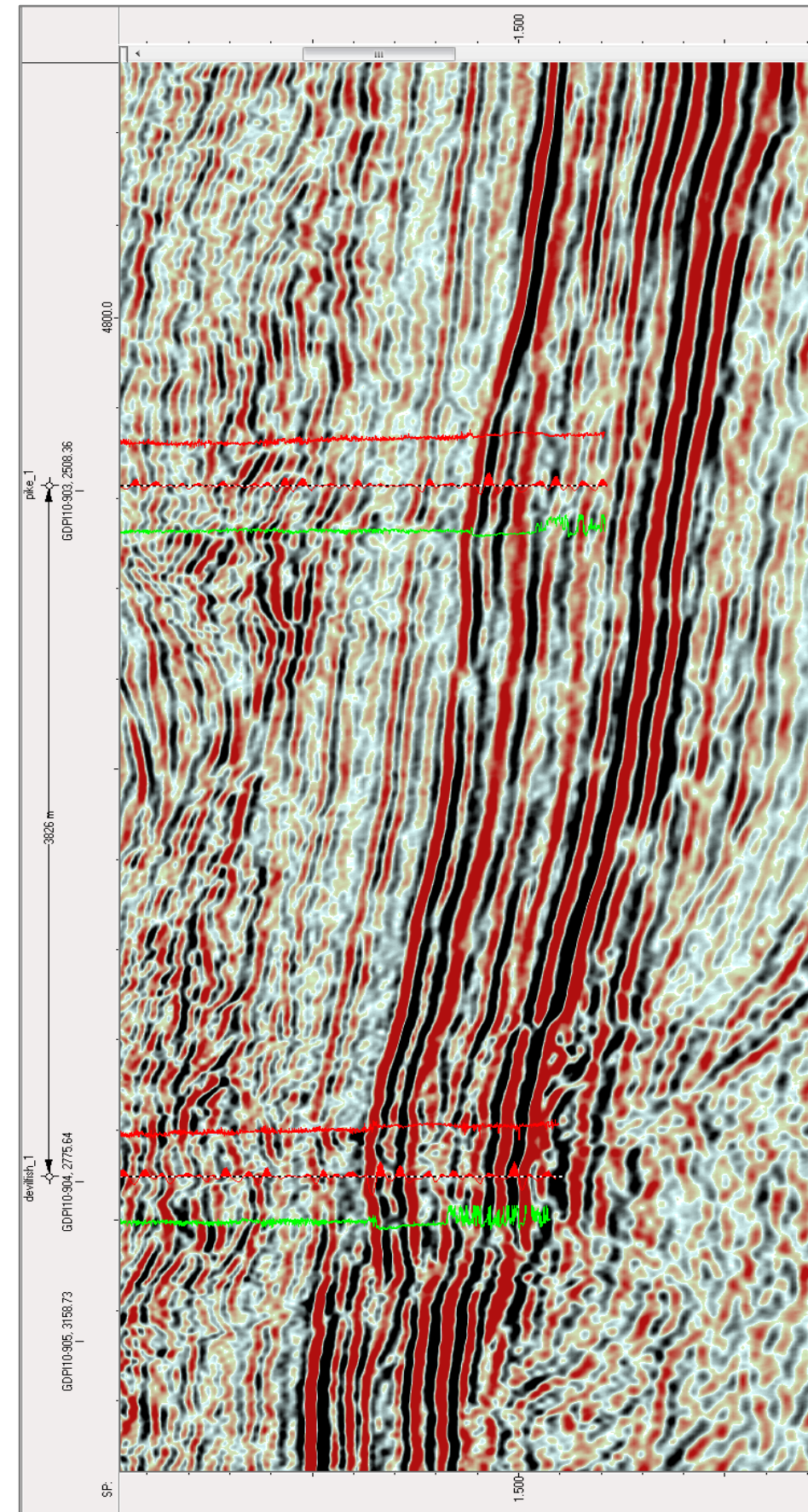
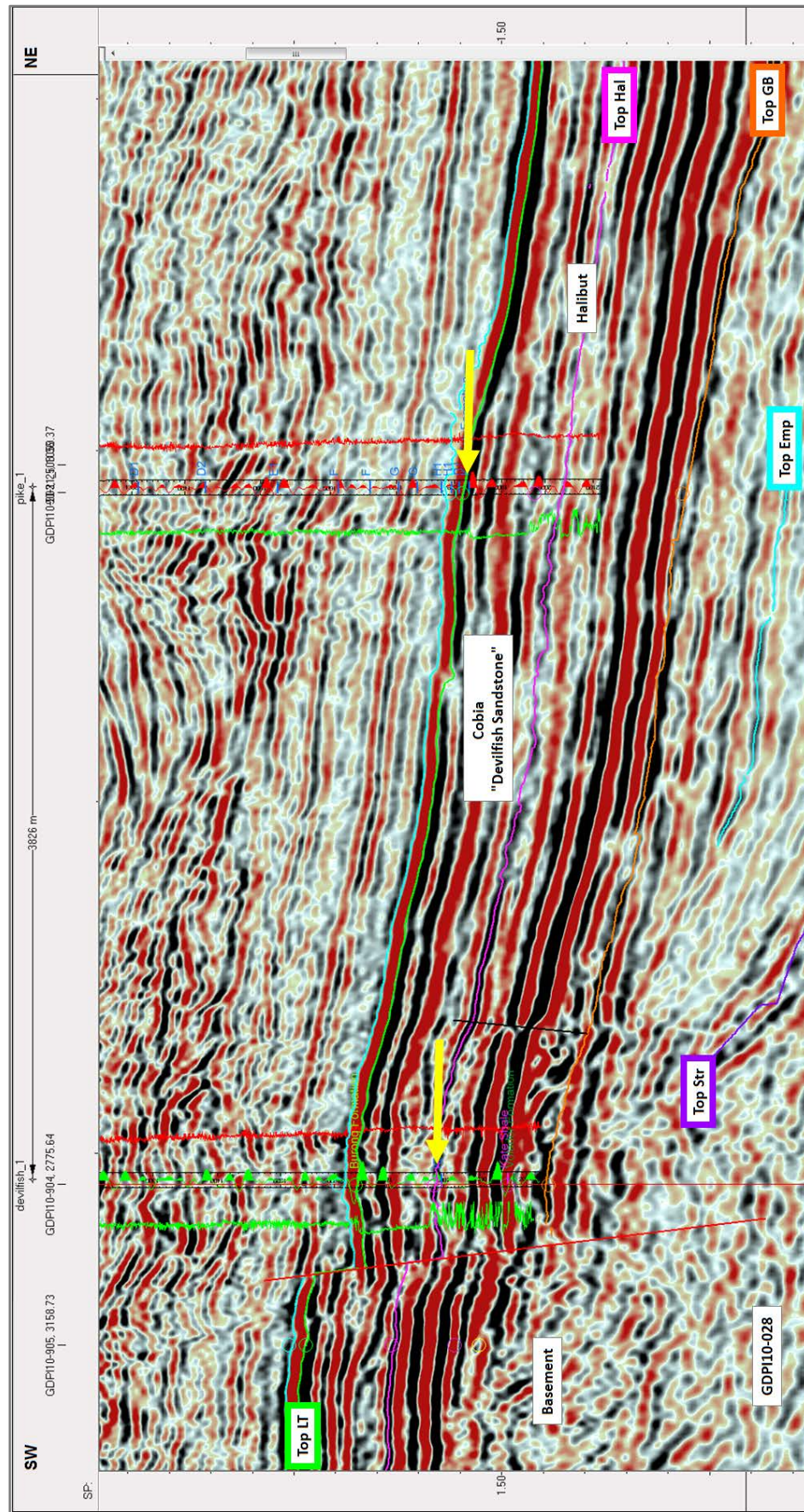


Figure 5.37

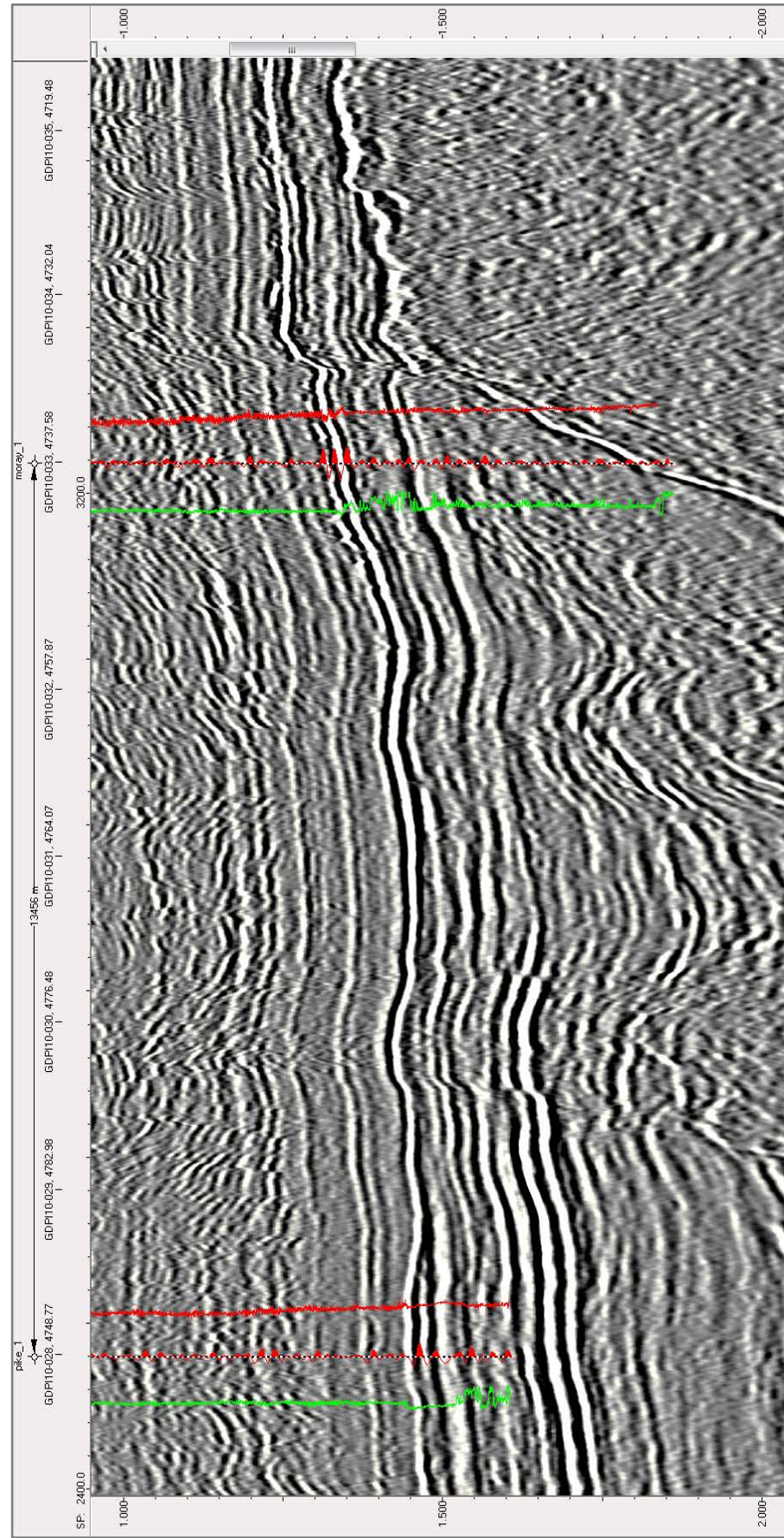
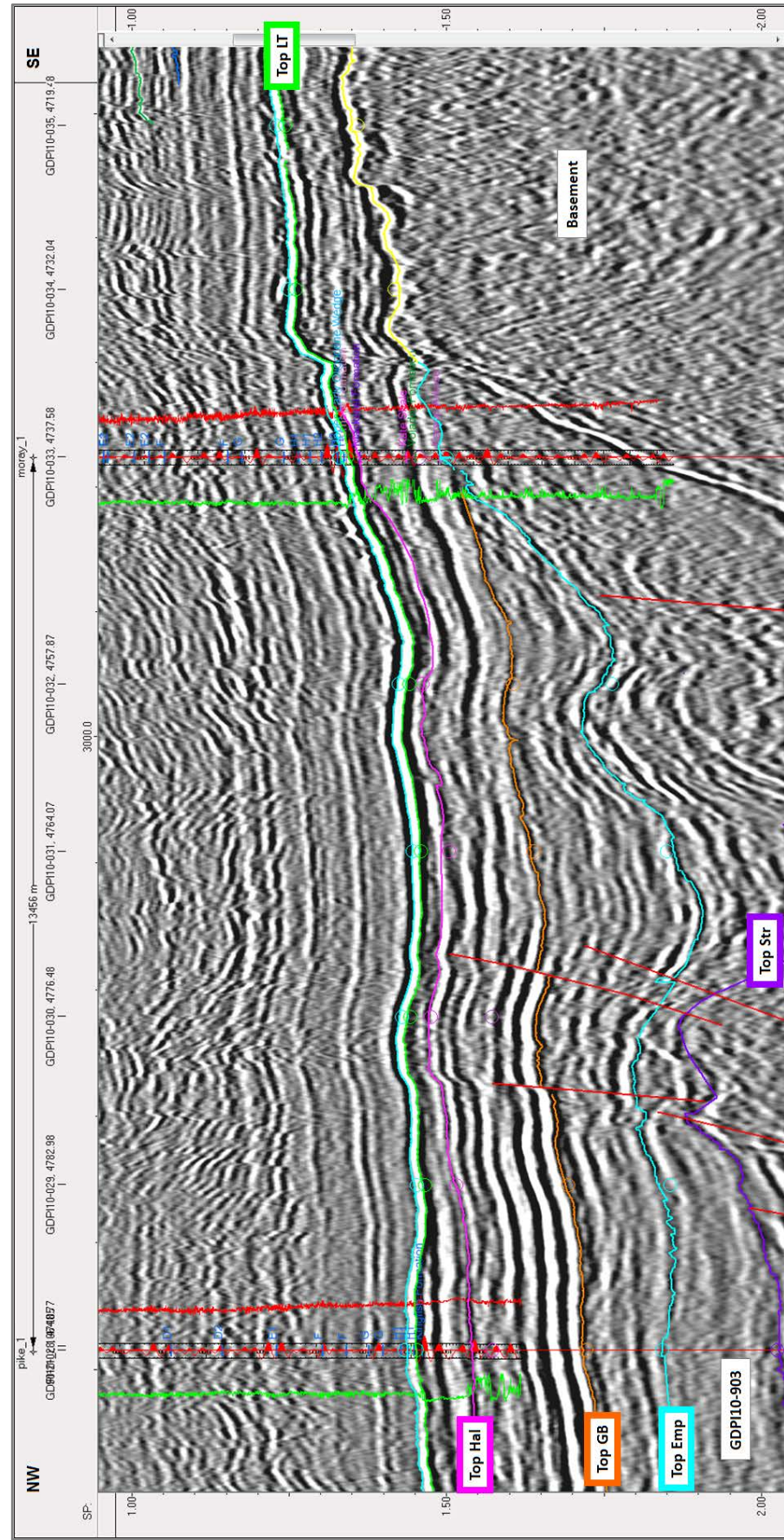


Figure 5.38

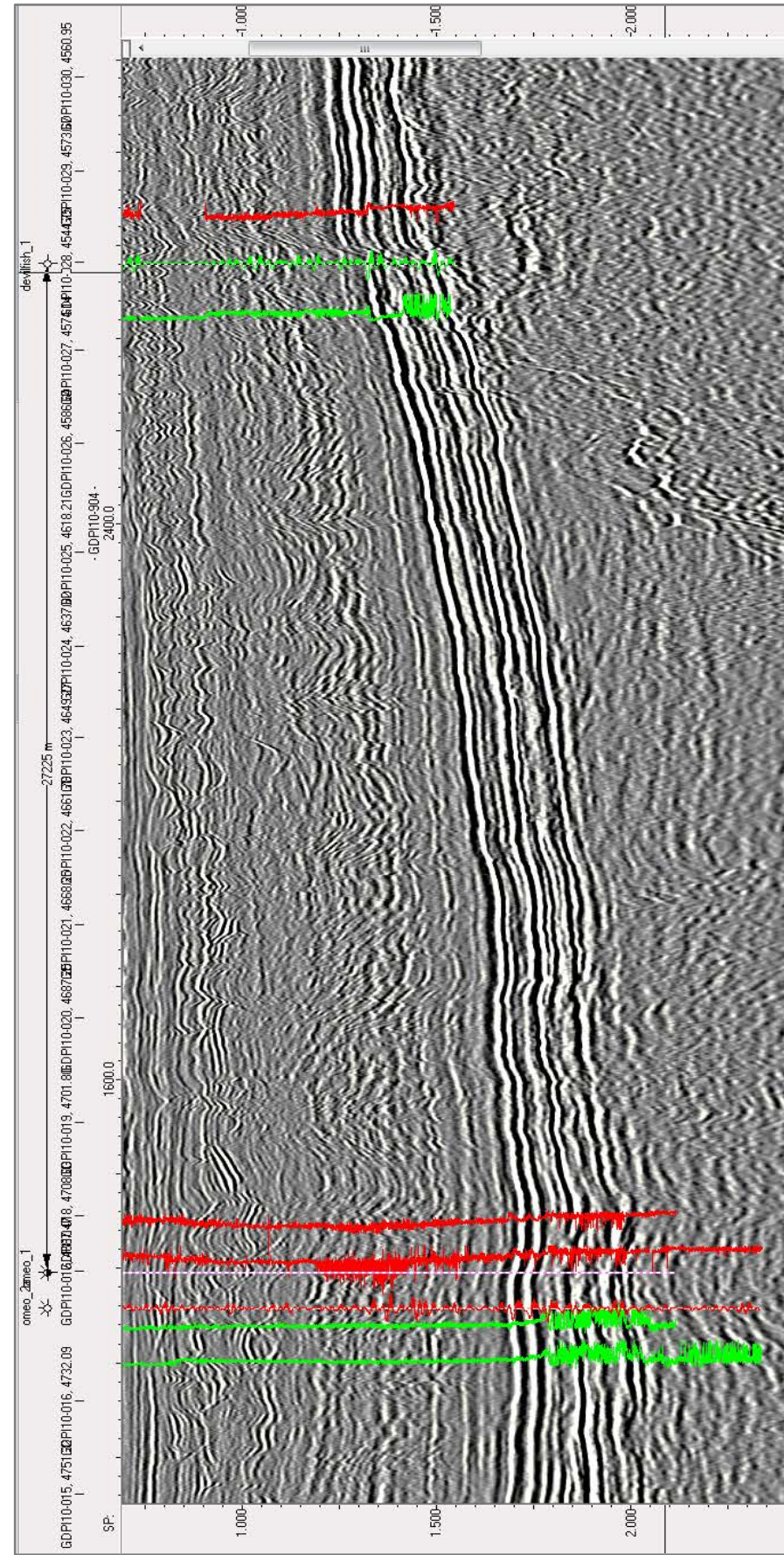
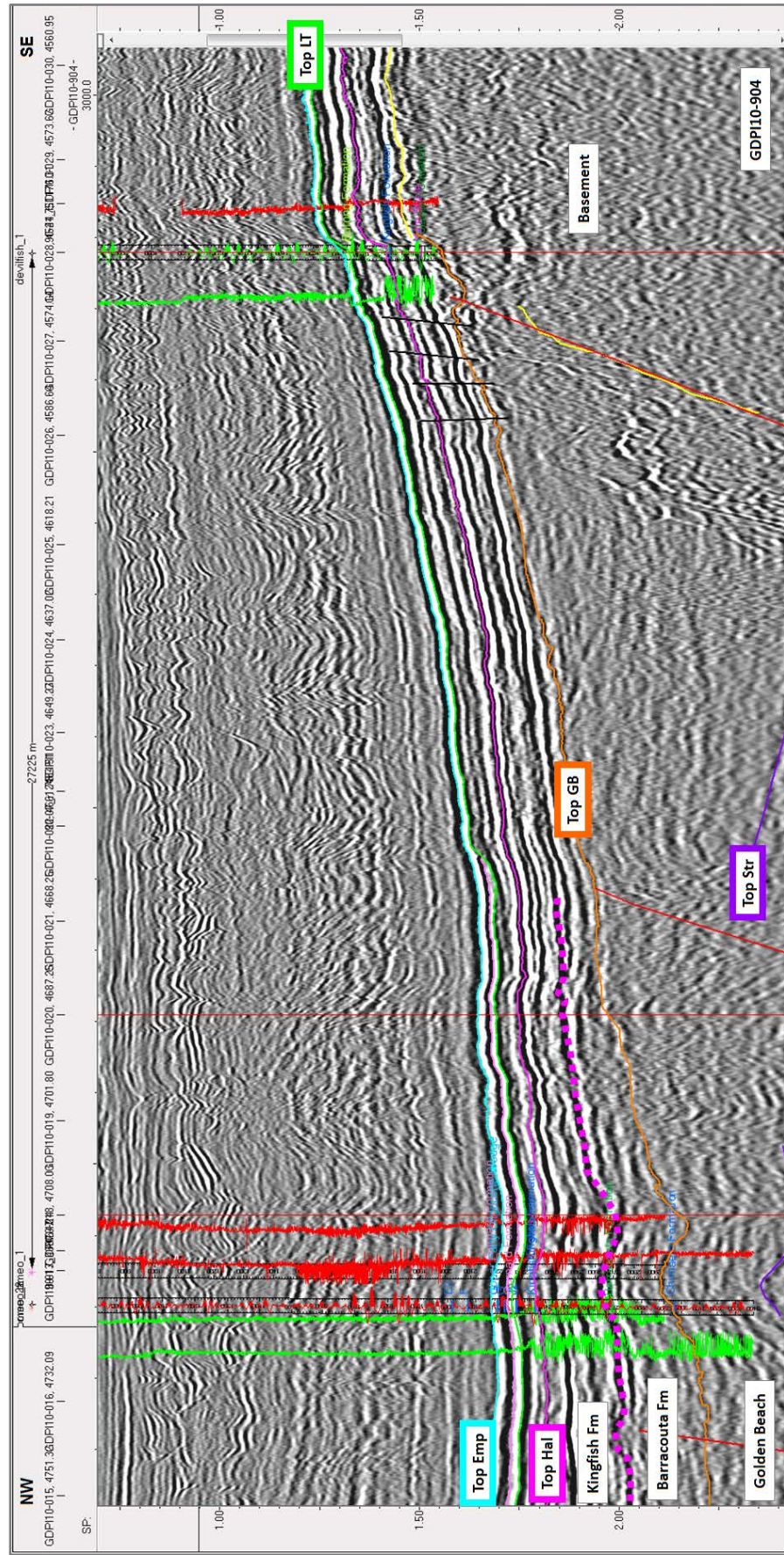


Figure 5.39

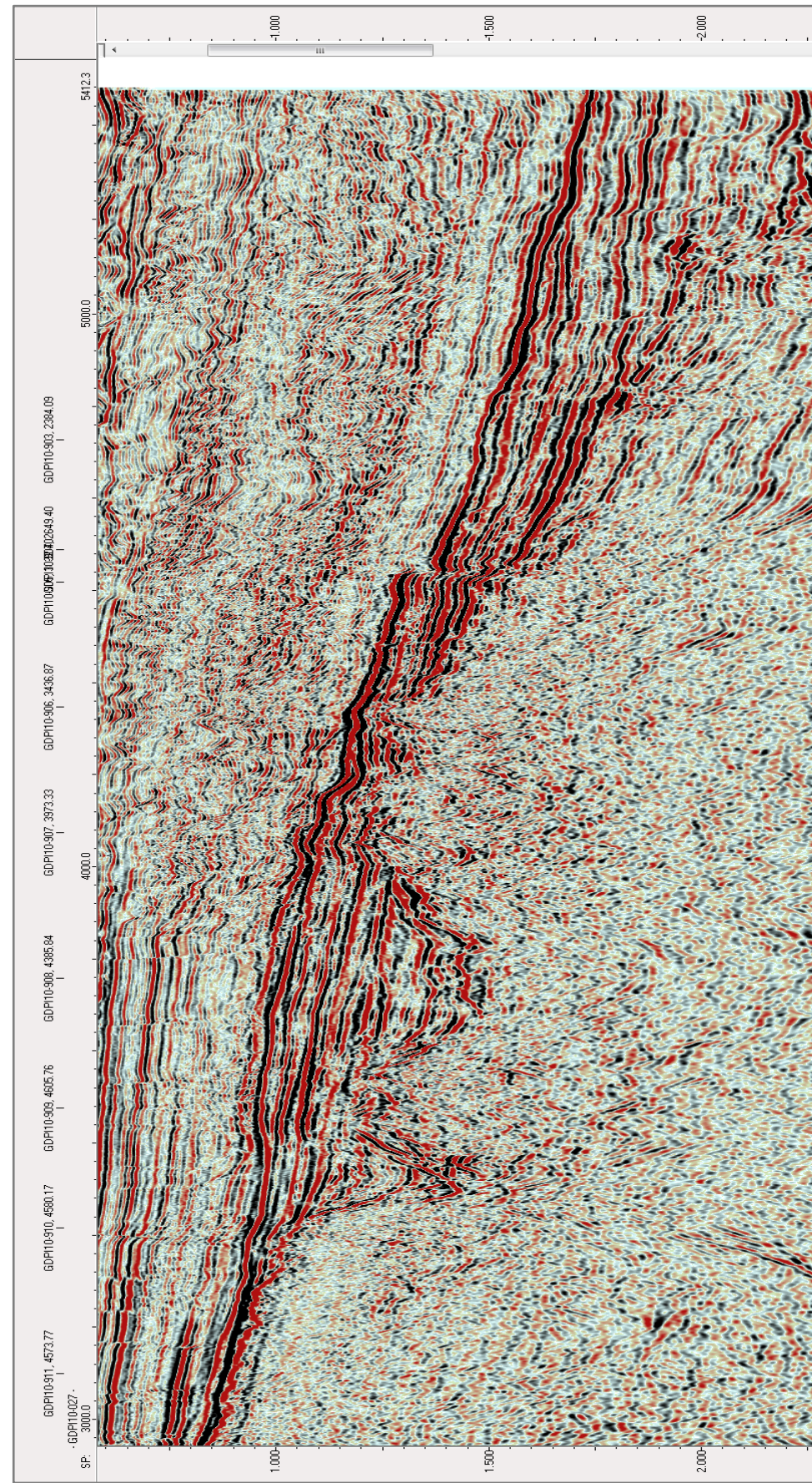
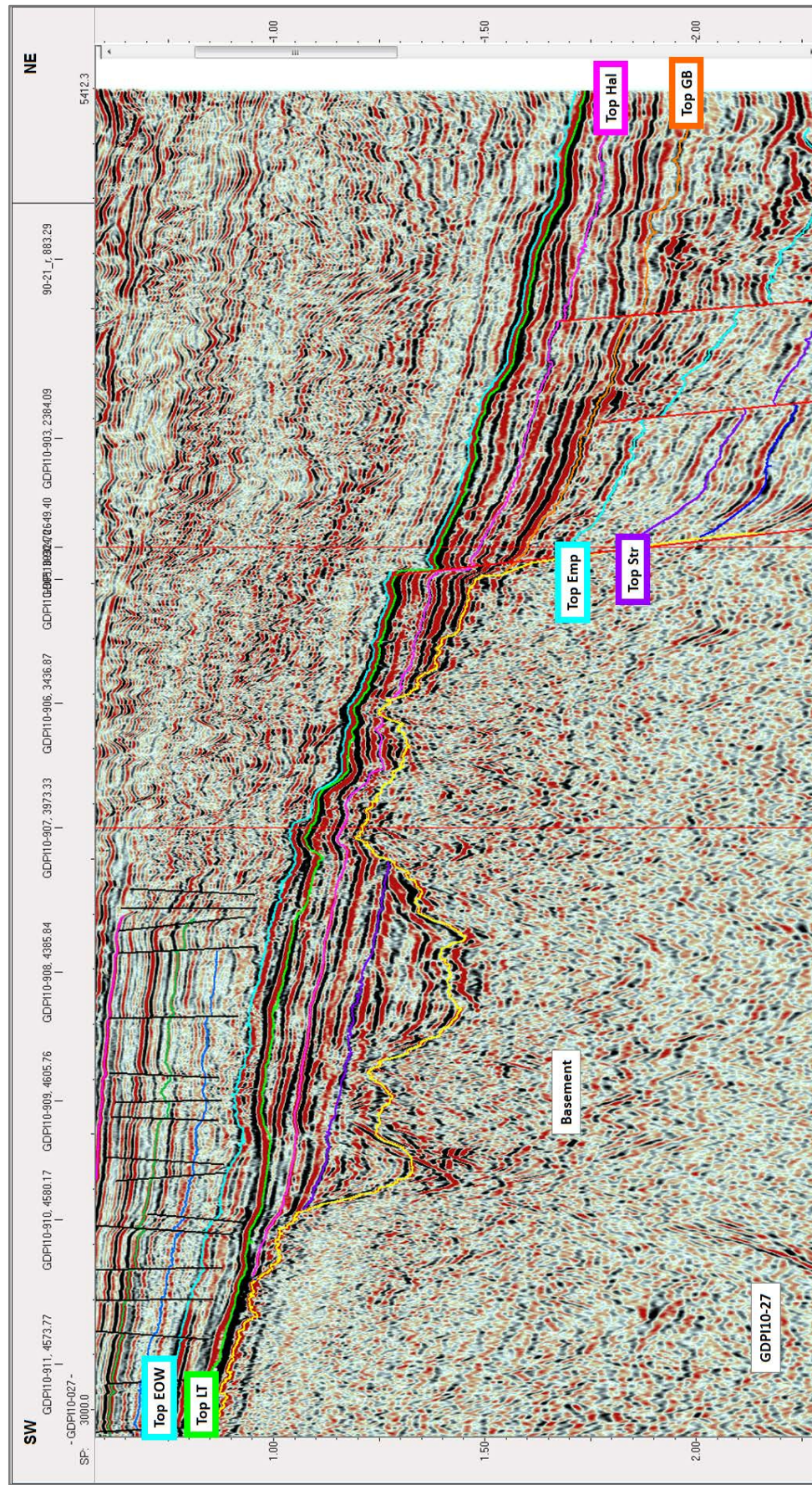


Figure 5.40



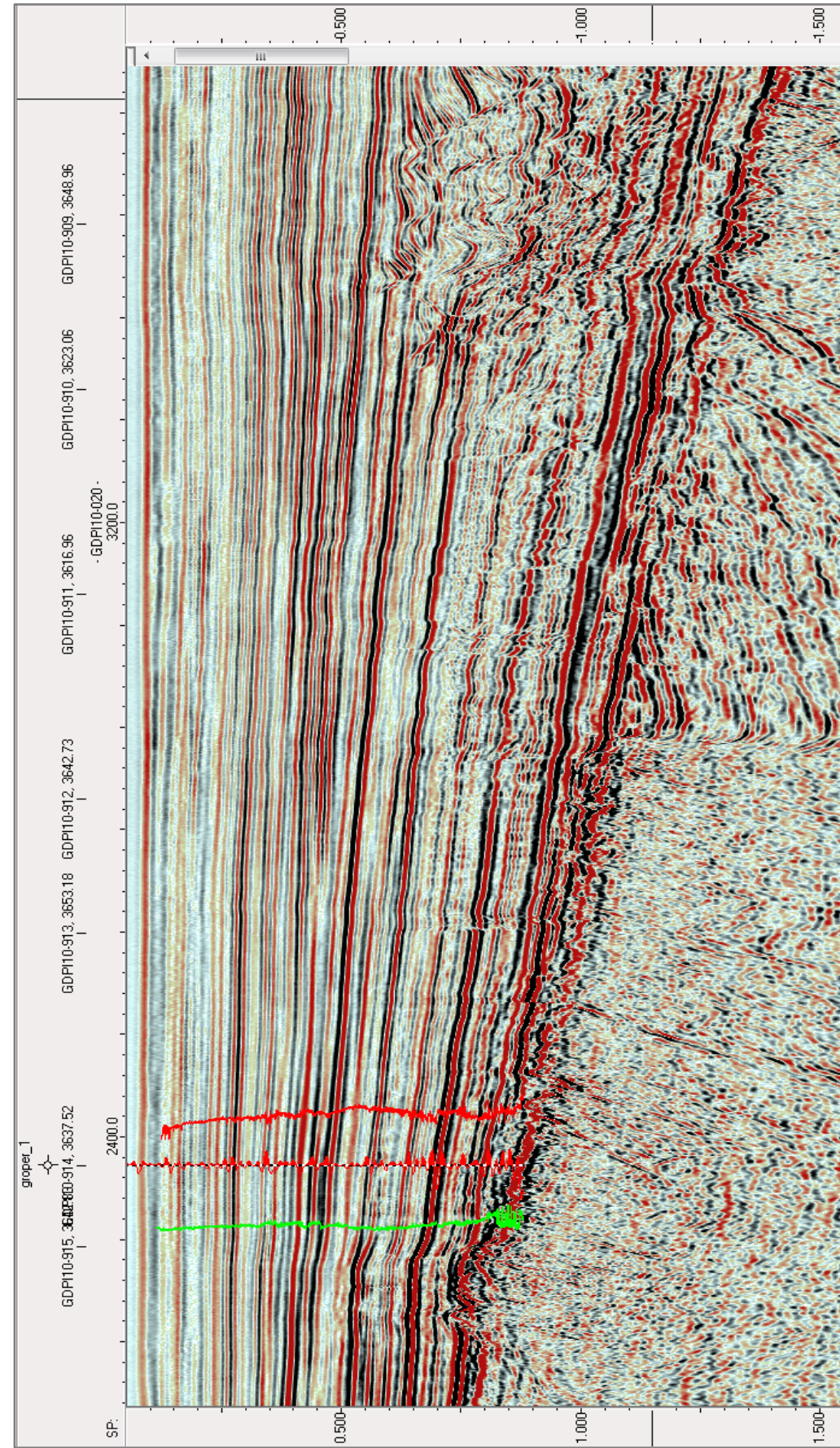
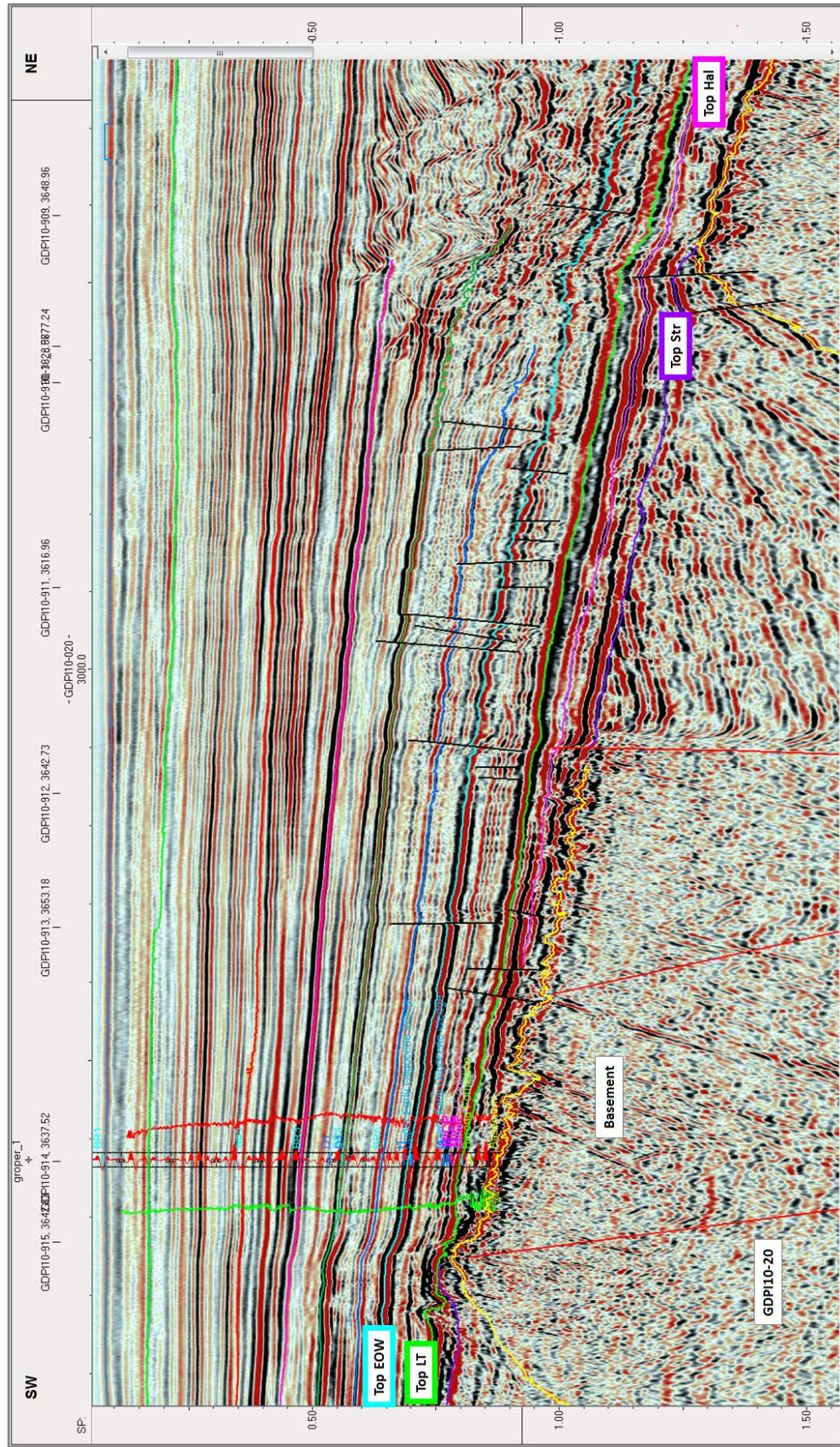


Figure 5.43

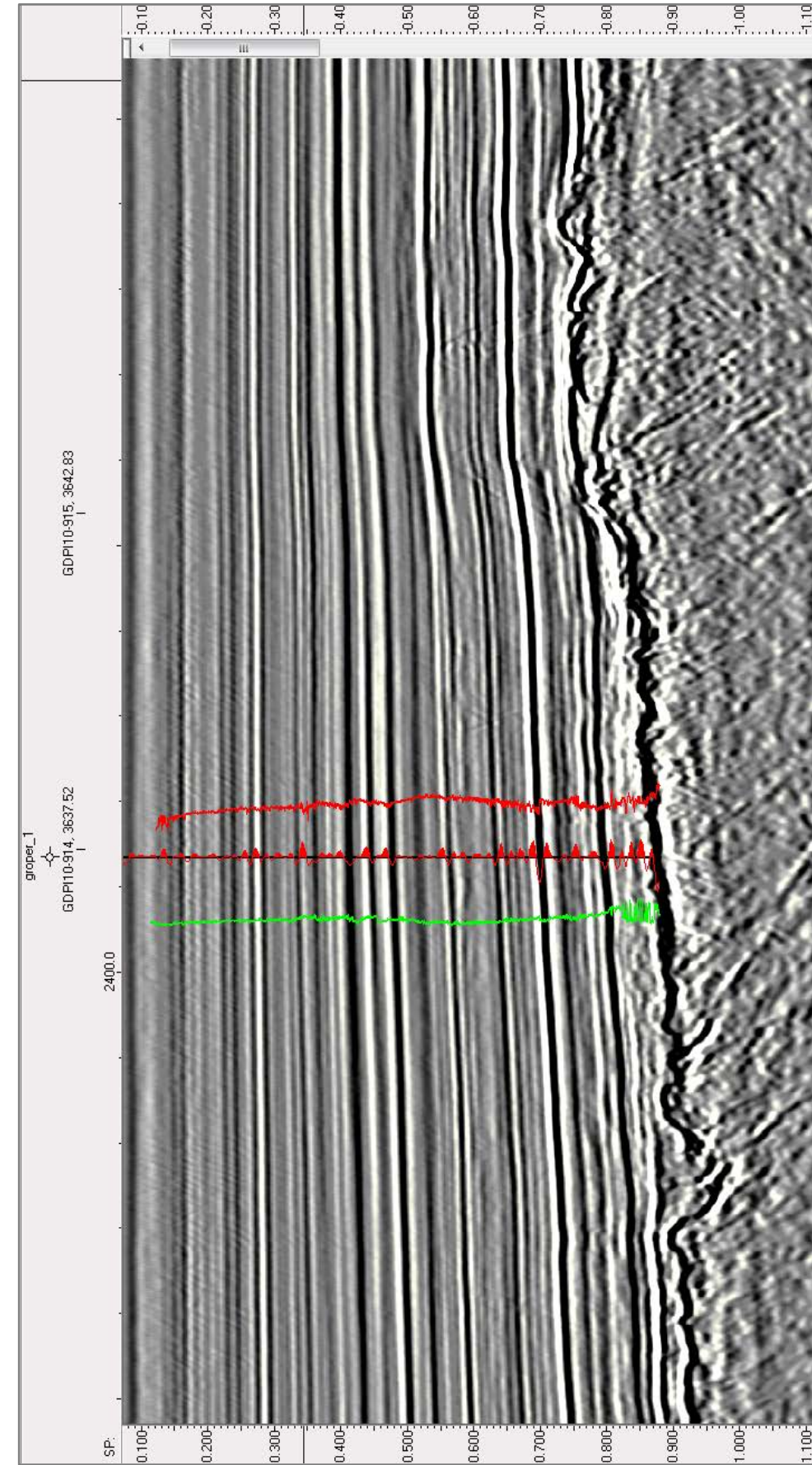
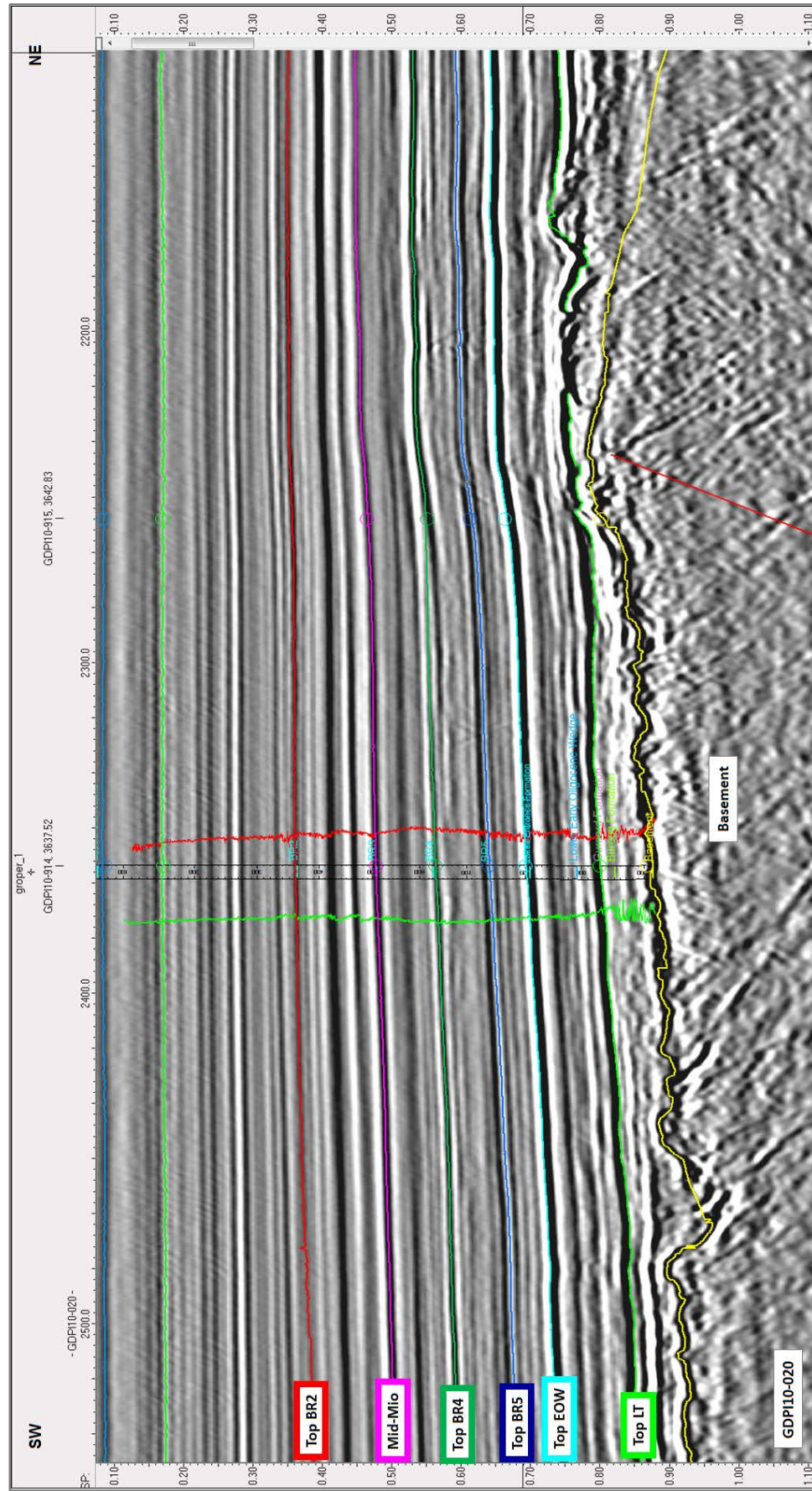


Figure 5.45

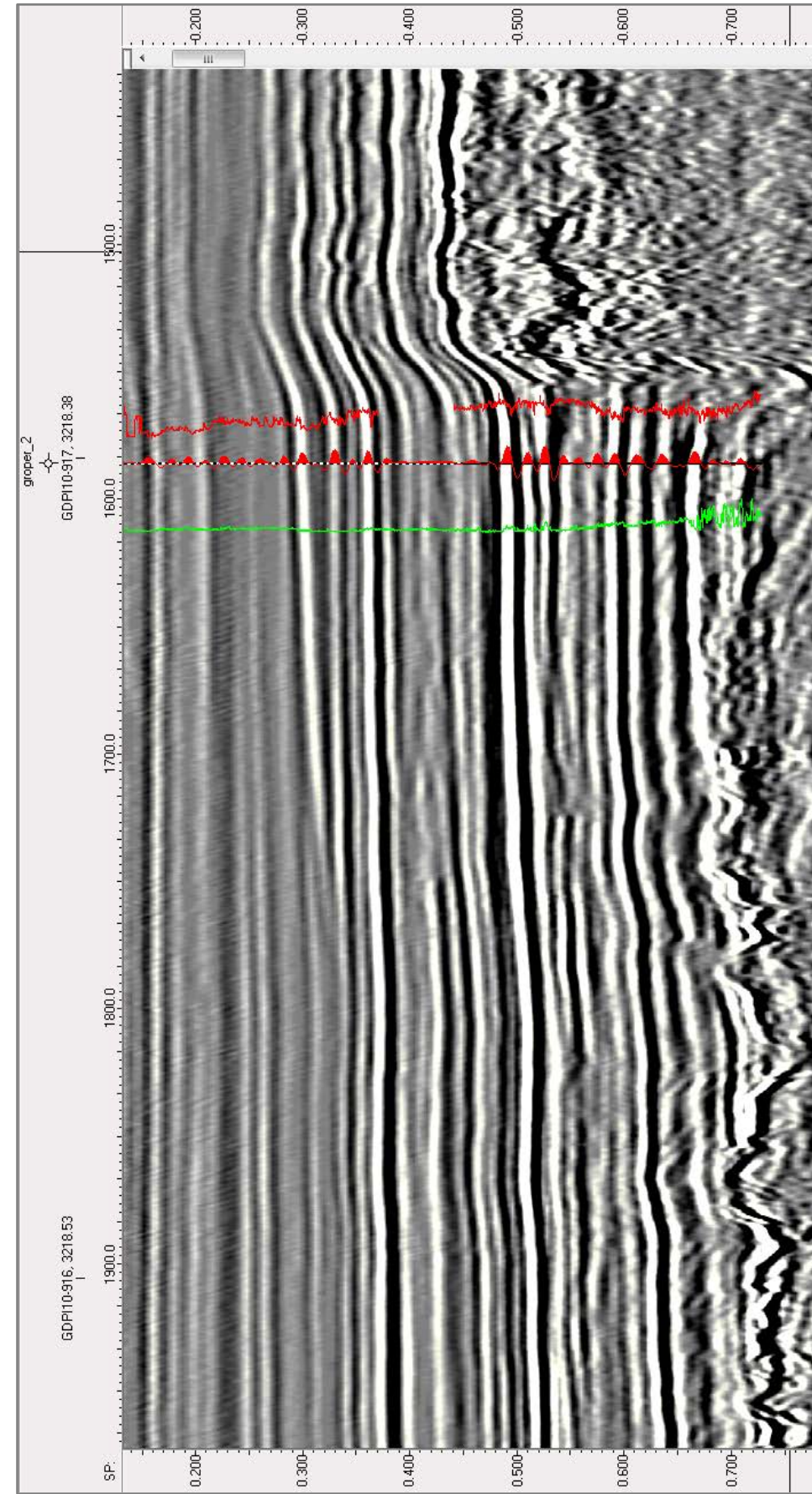
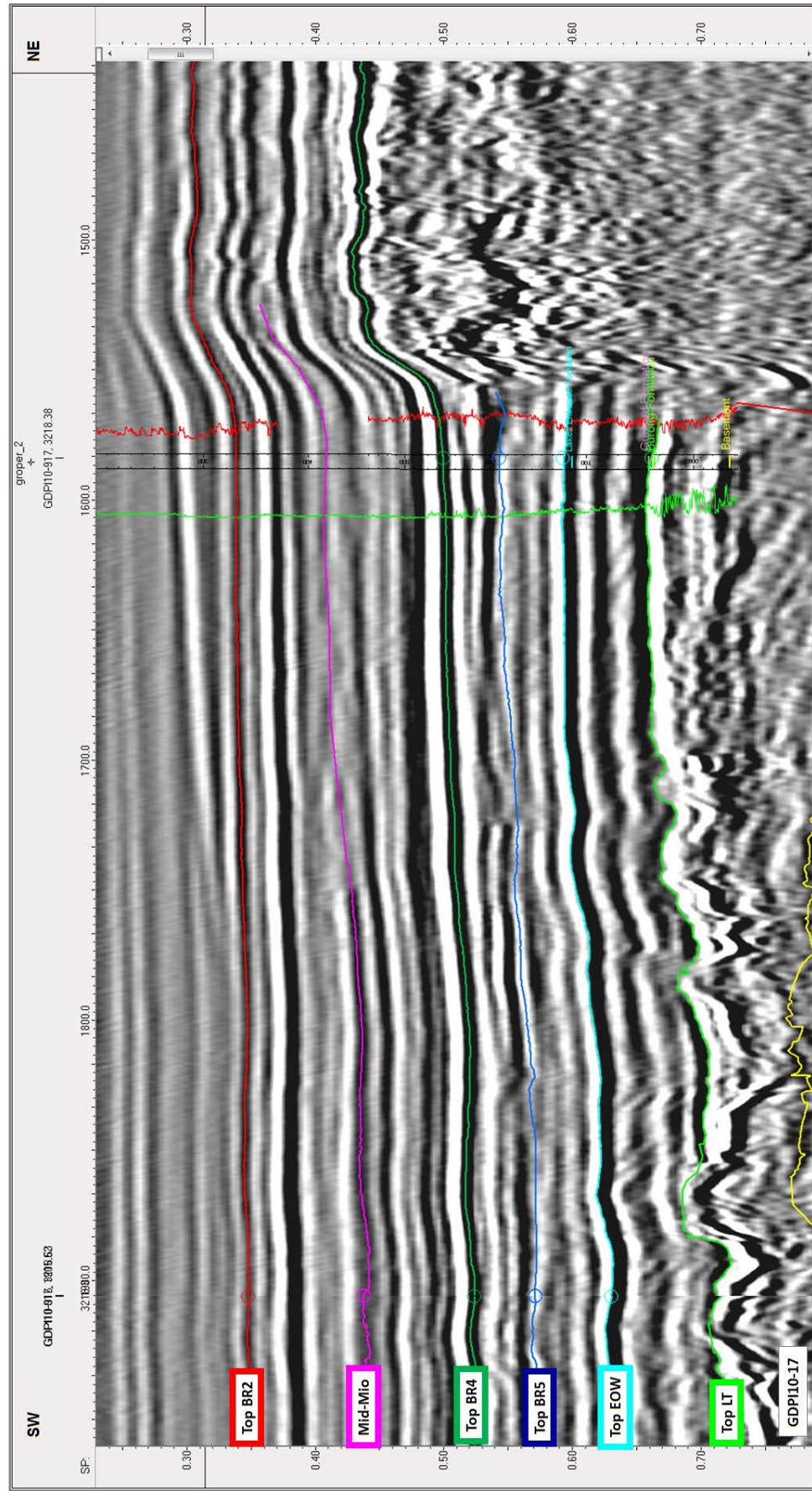


Figure 5.46

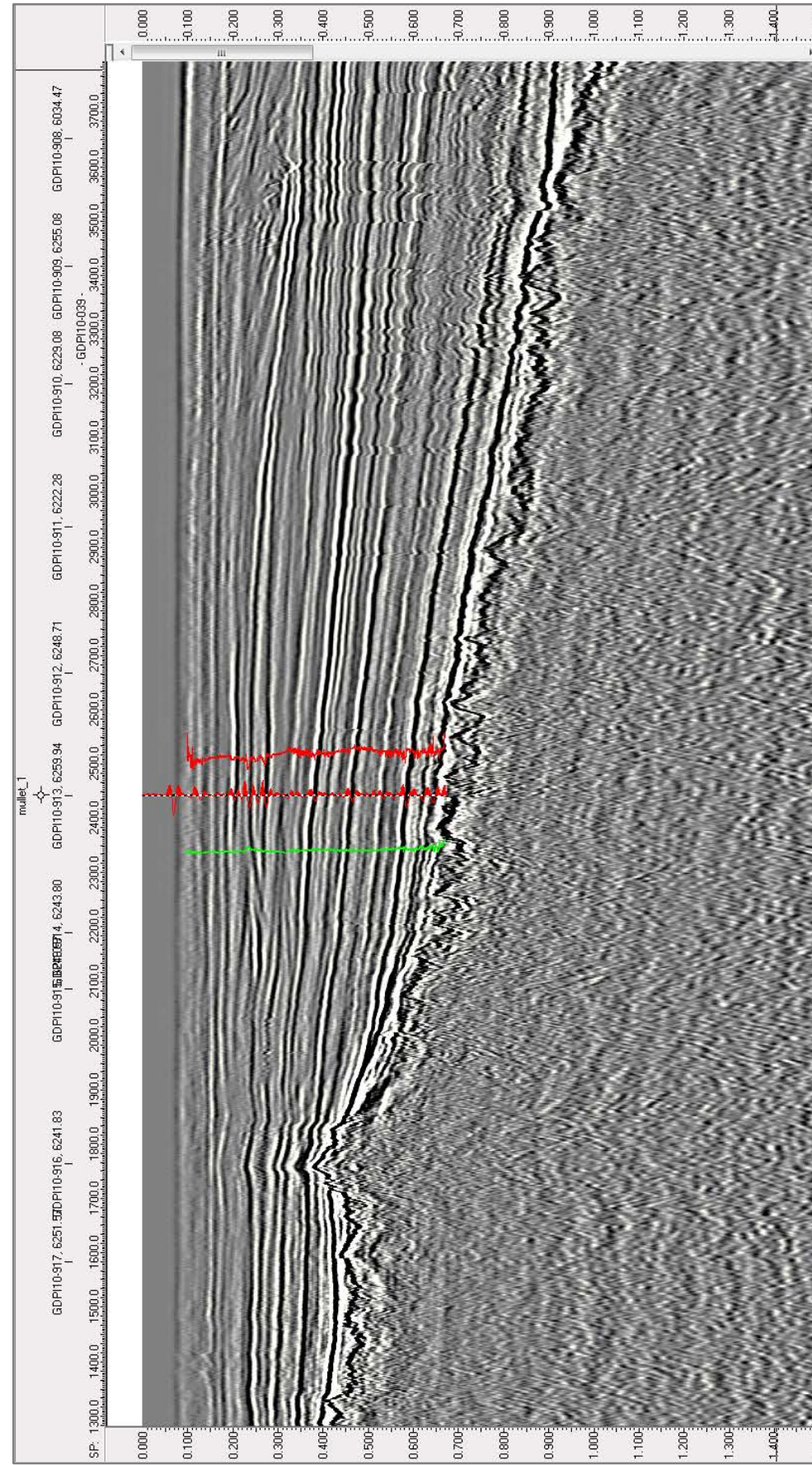
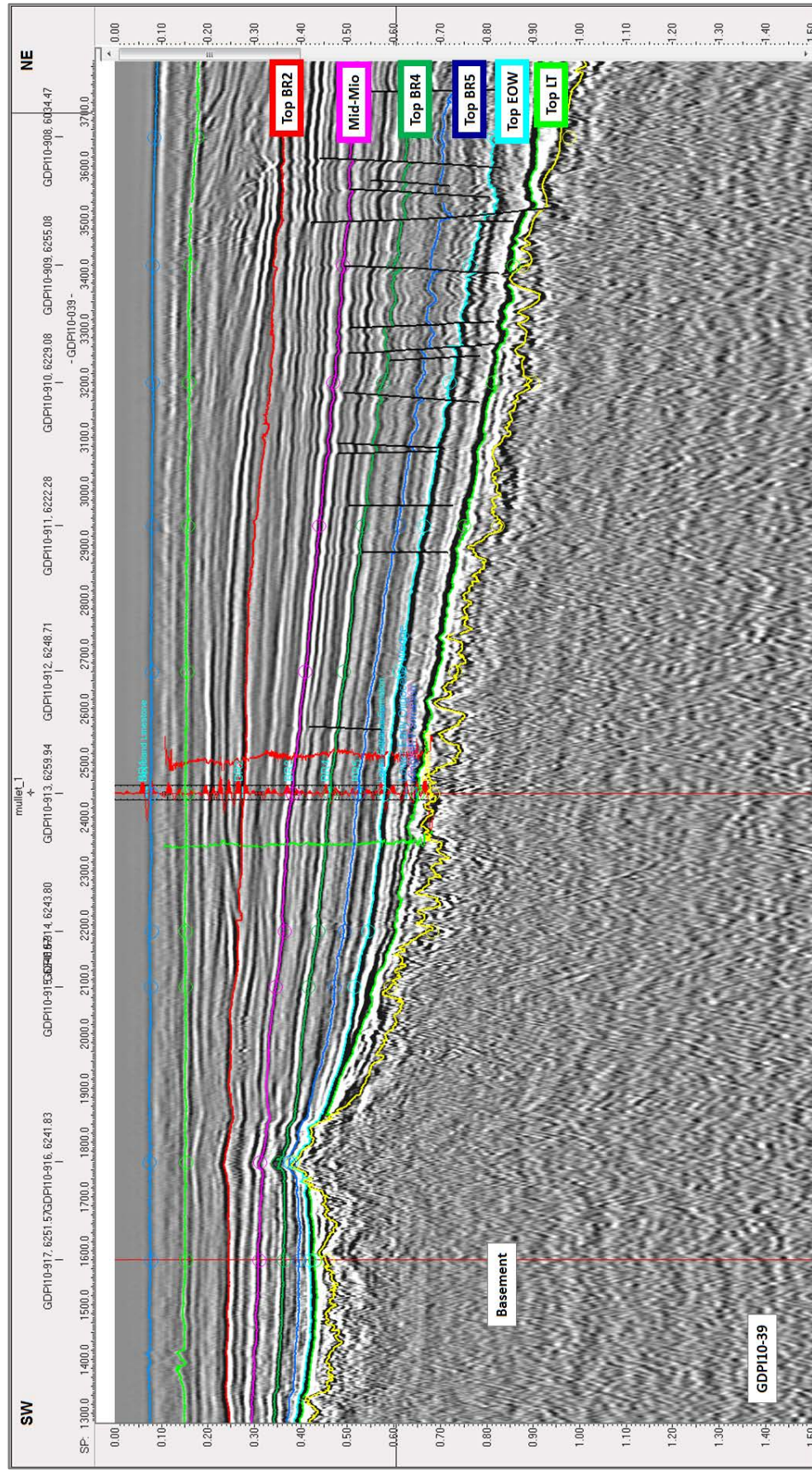


Figure 5.47

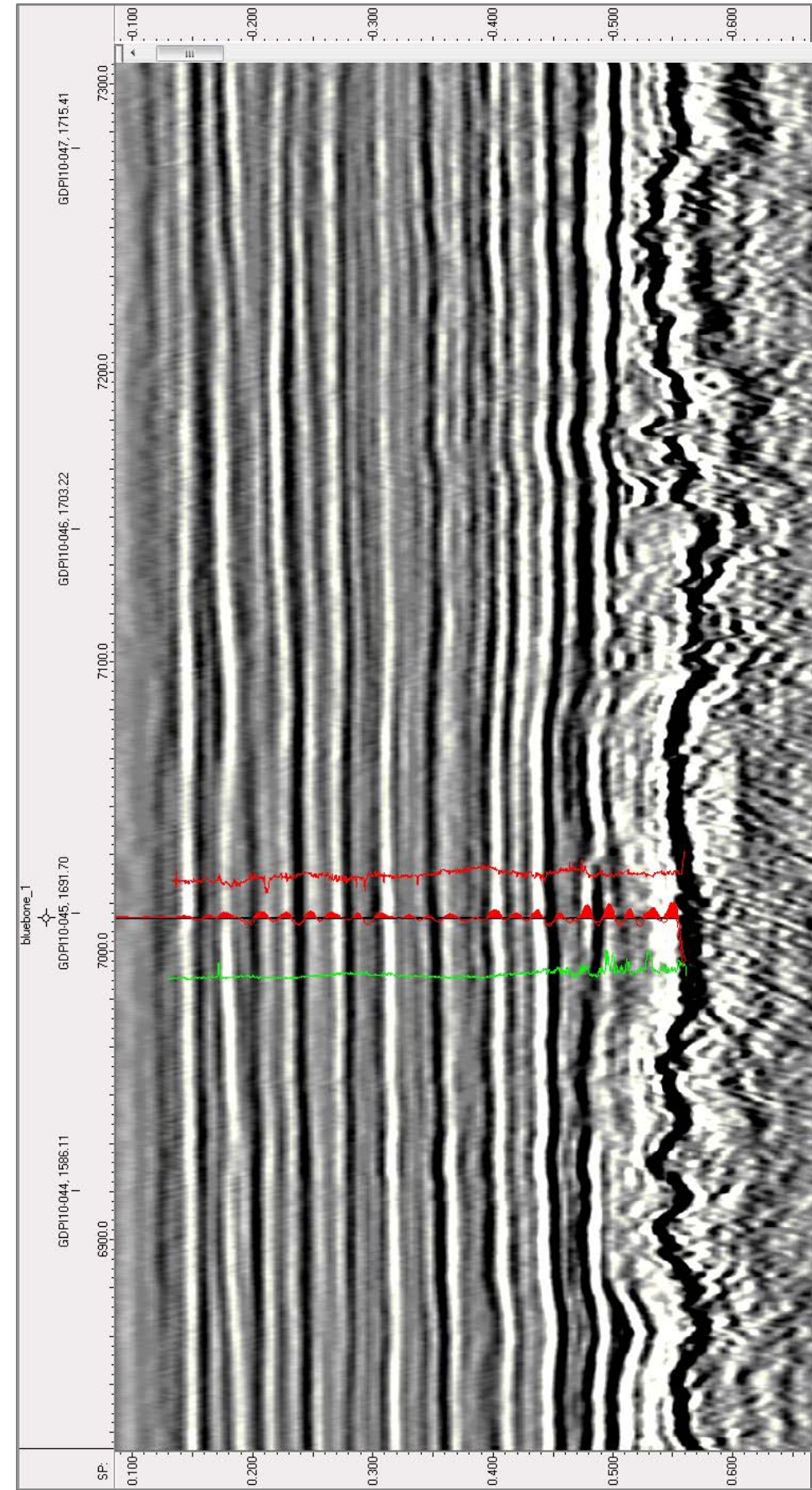
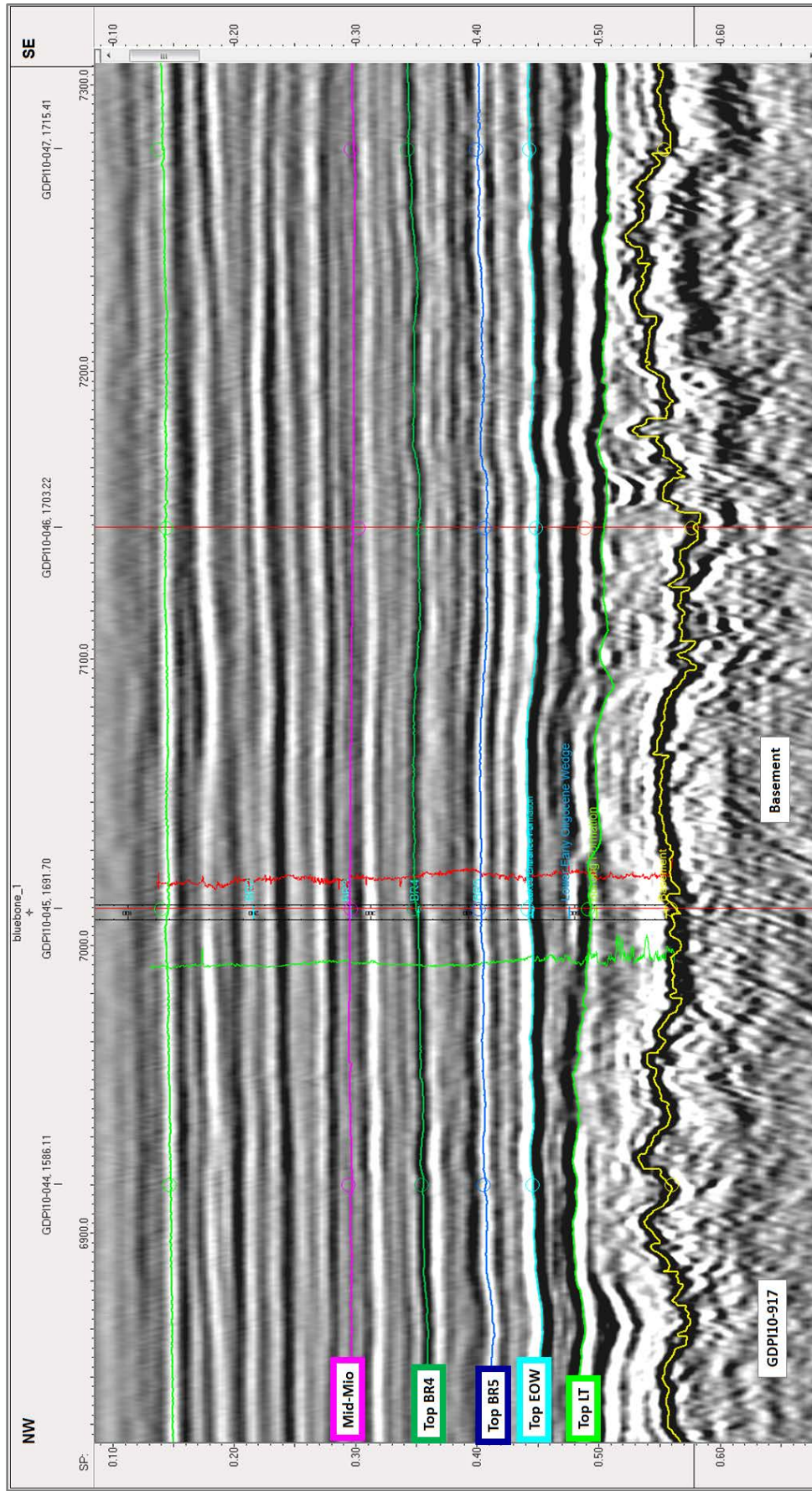


Figure 5.48

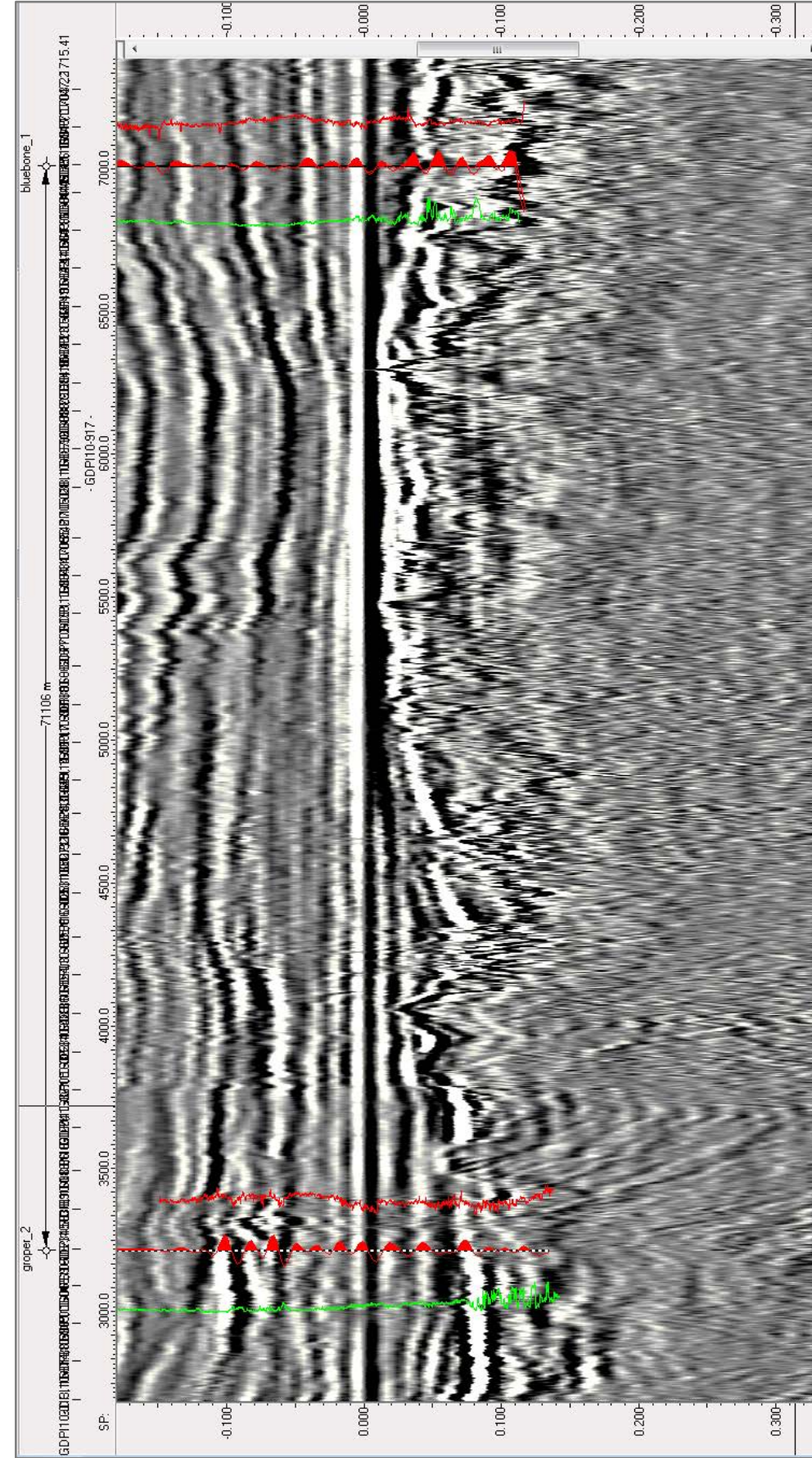
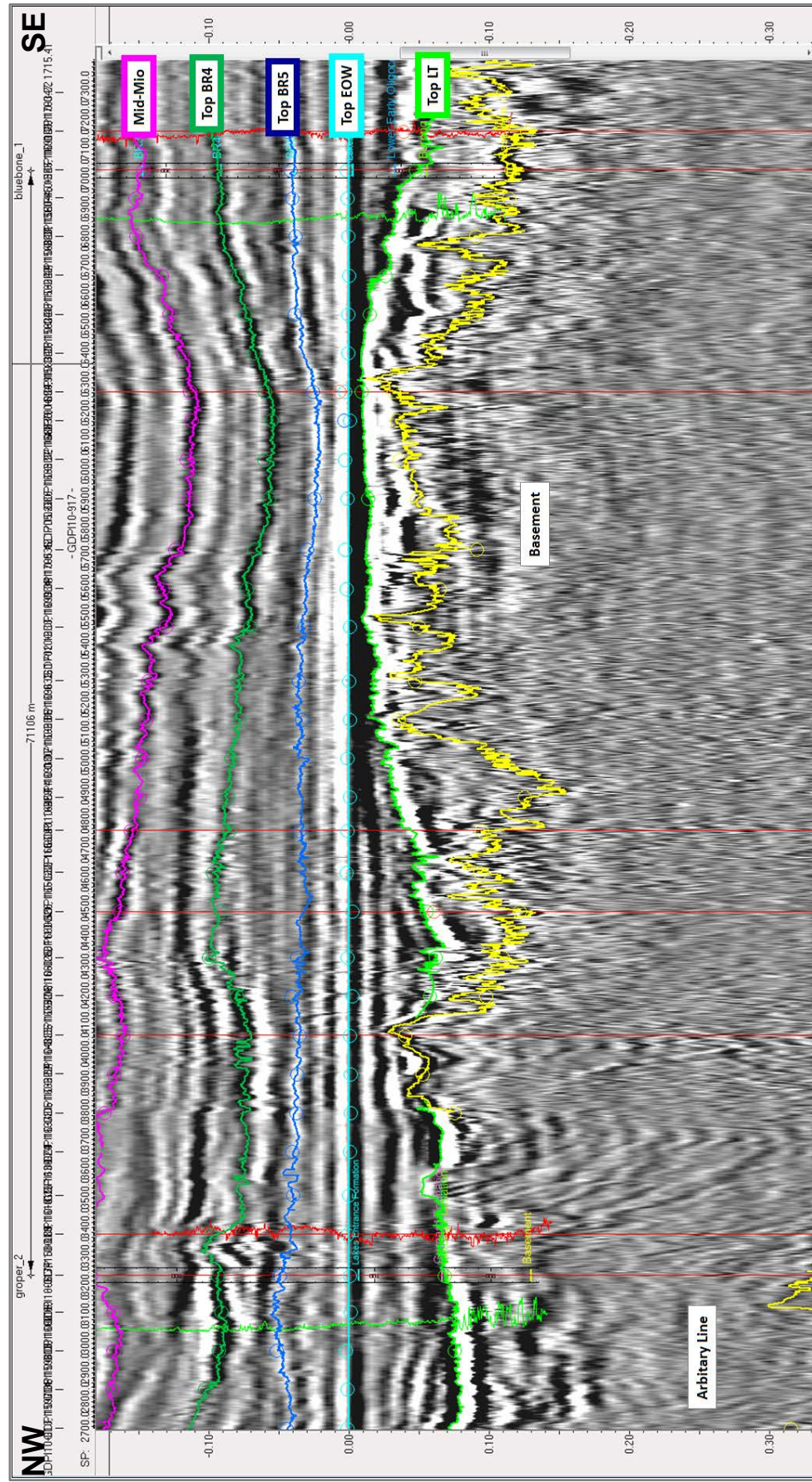


Figure 5.49

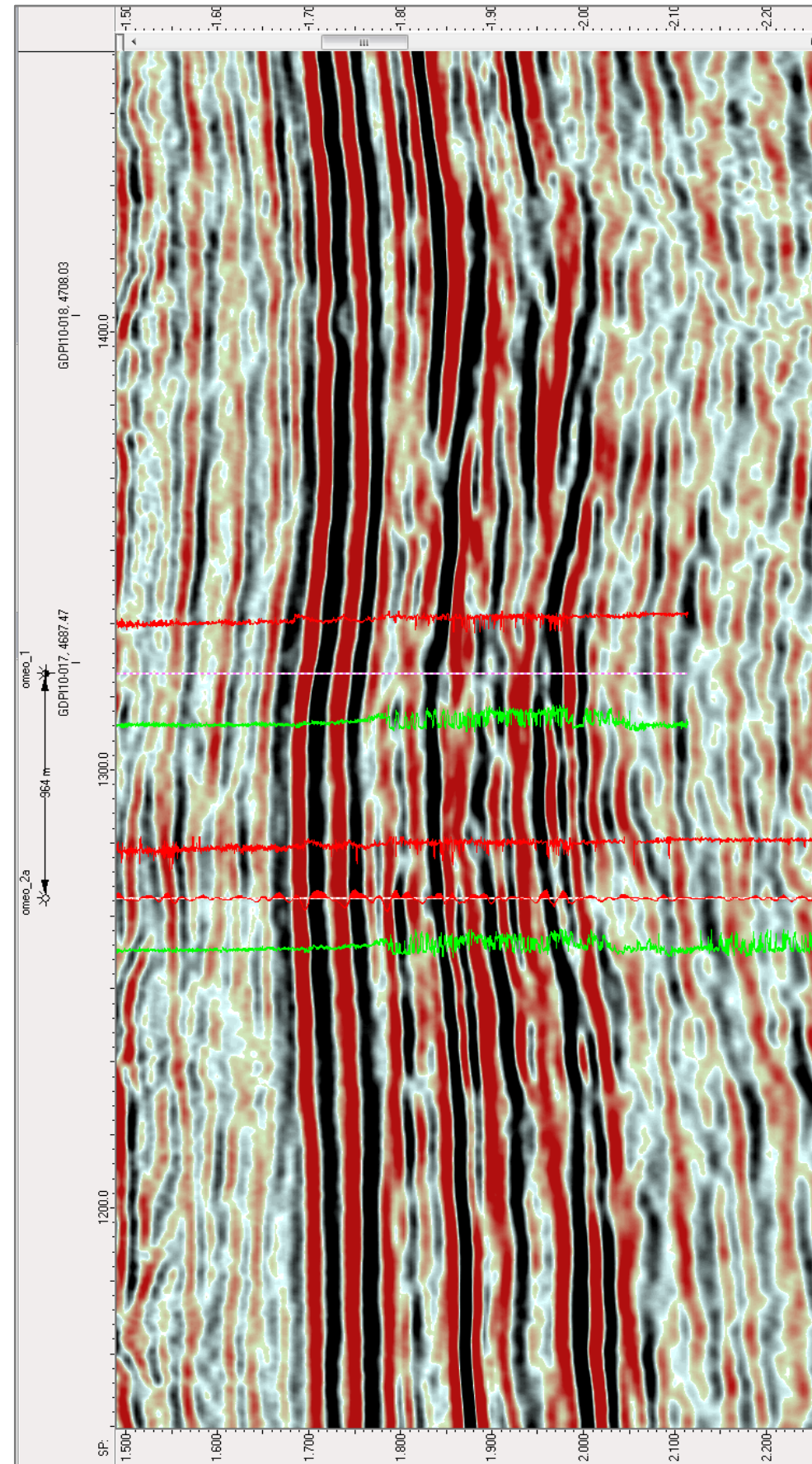
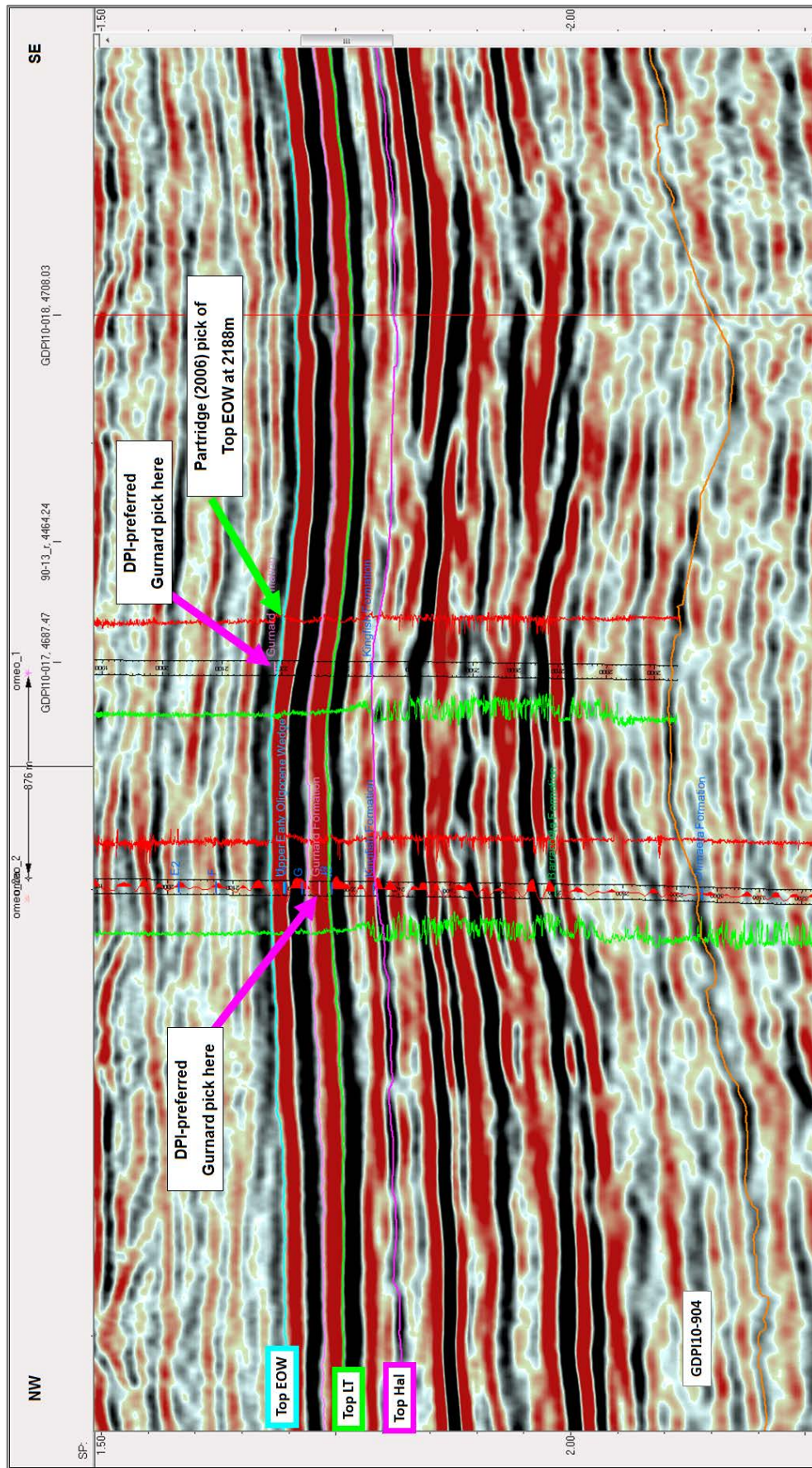


Figure 5.50

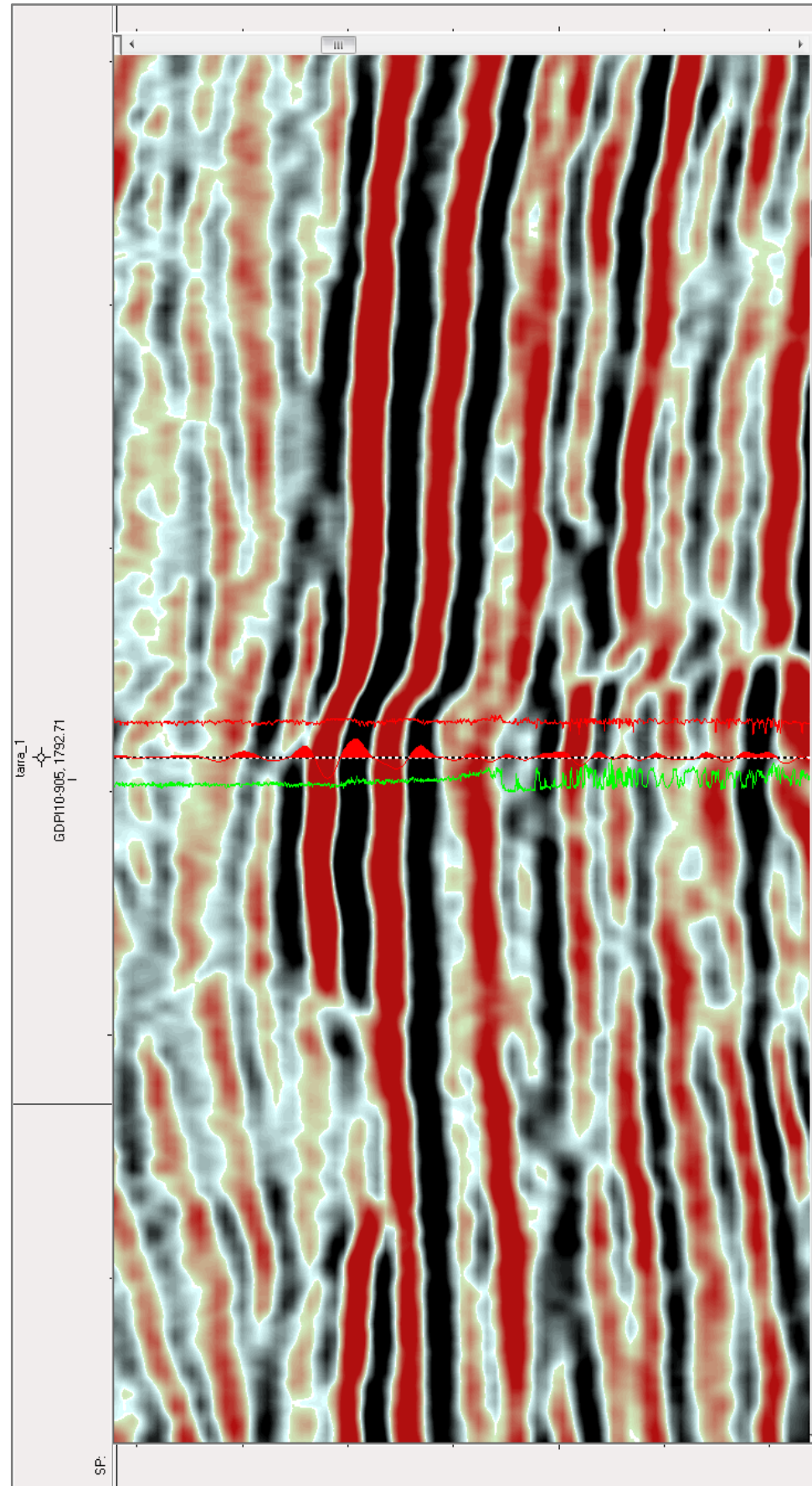
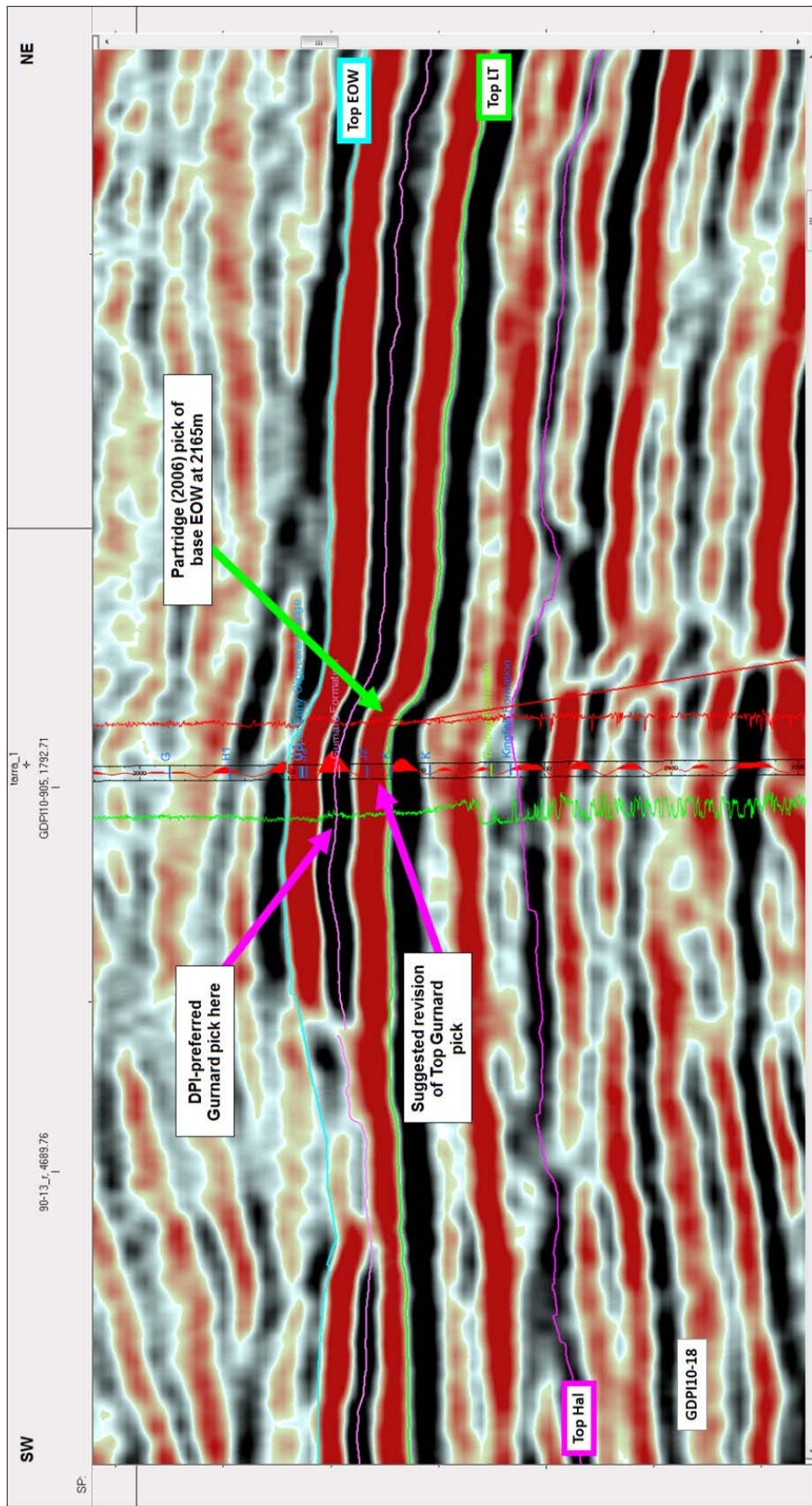


Figure 5.51



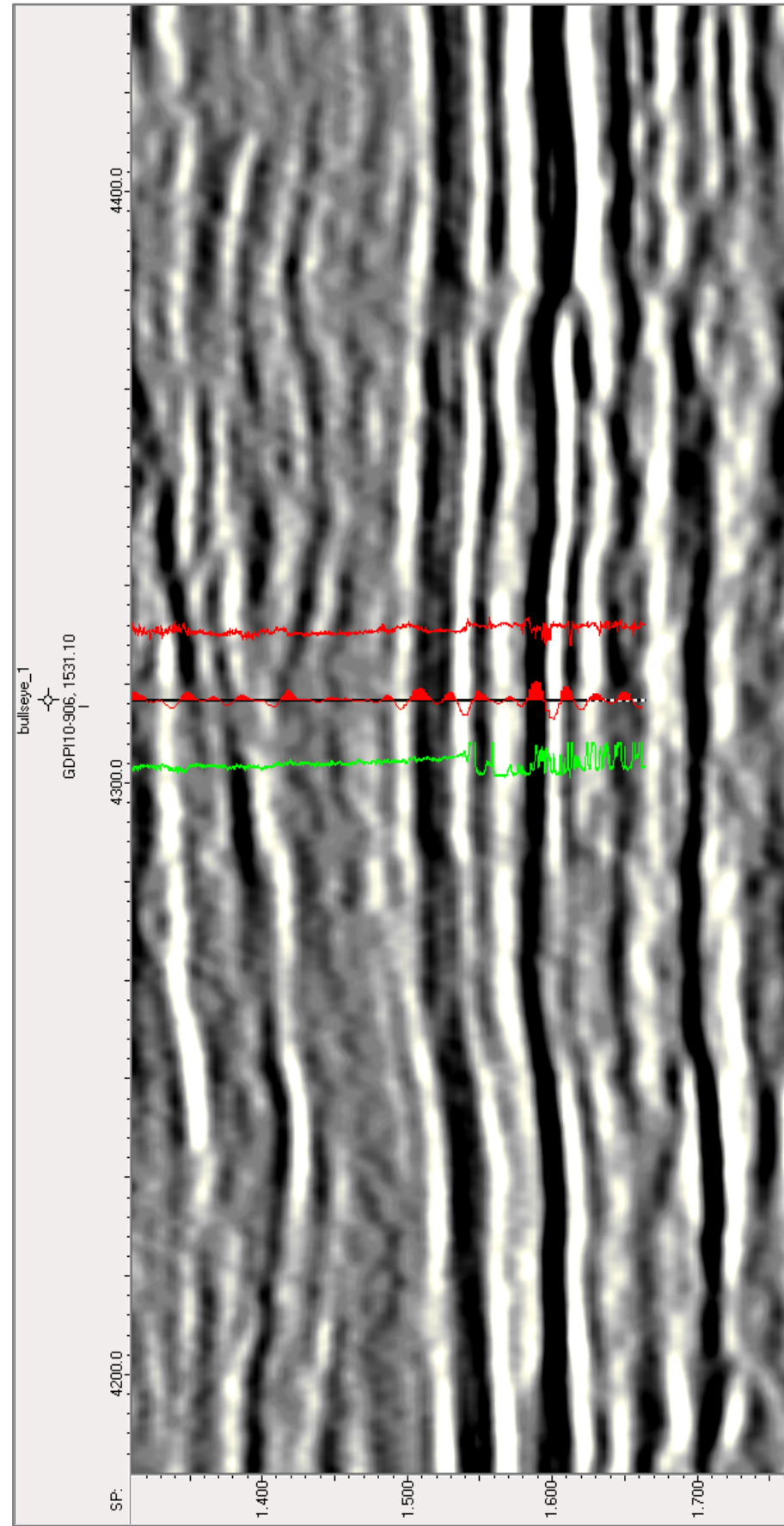
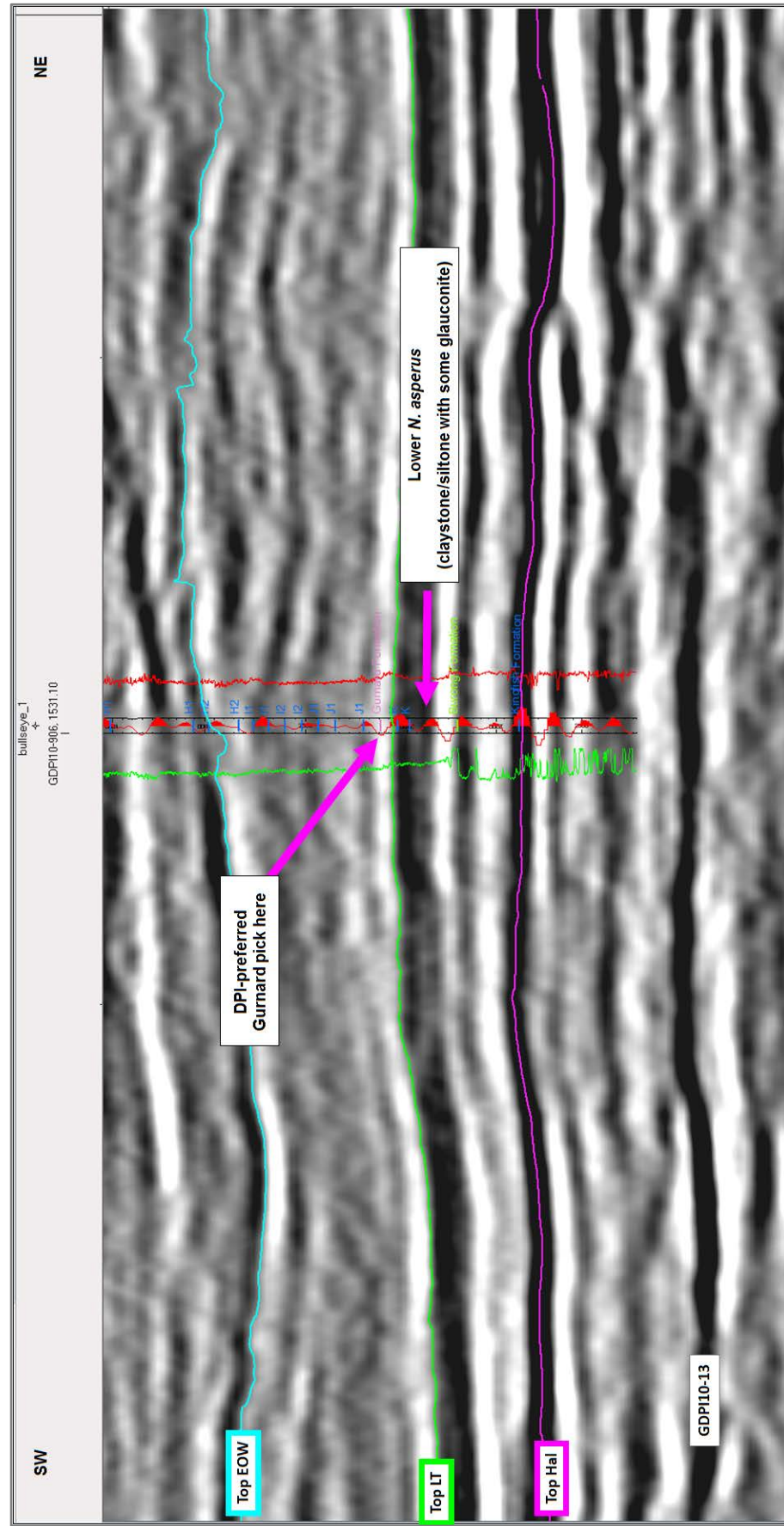


Figure 5.52

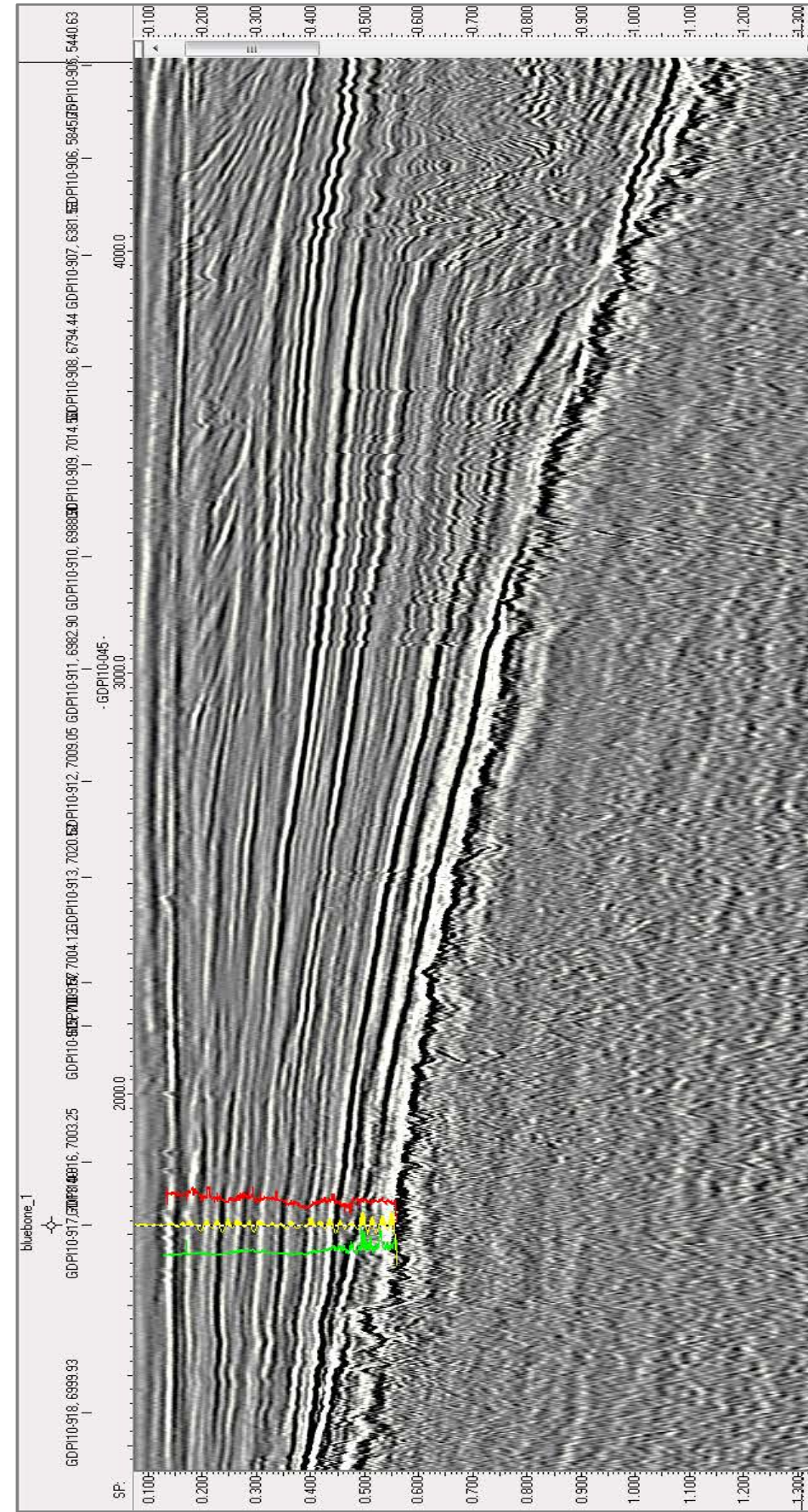
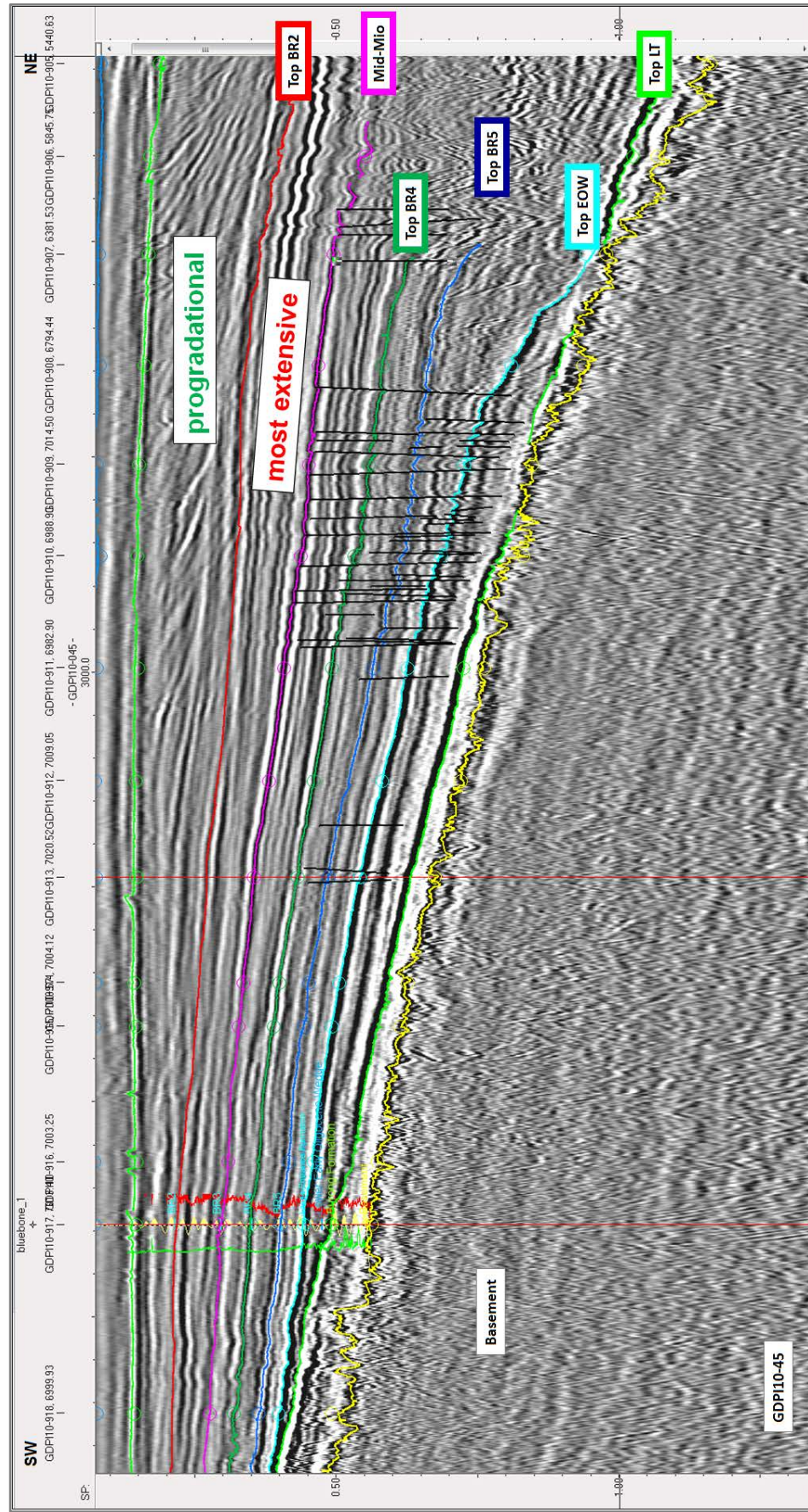


Figure 5.53

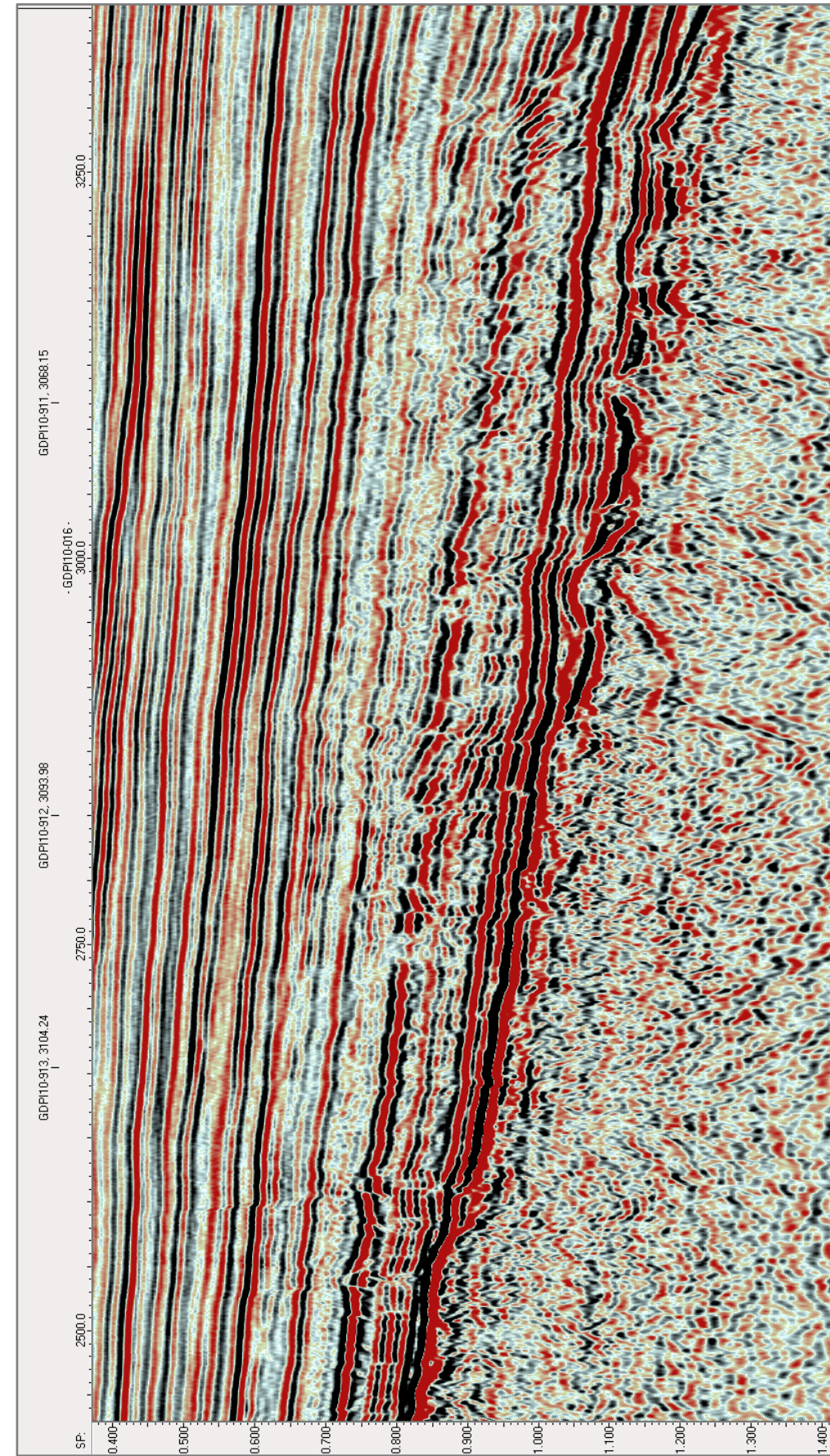
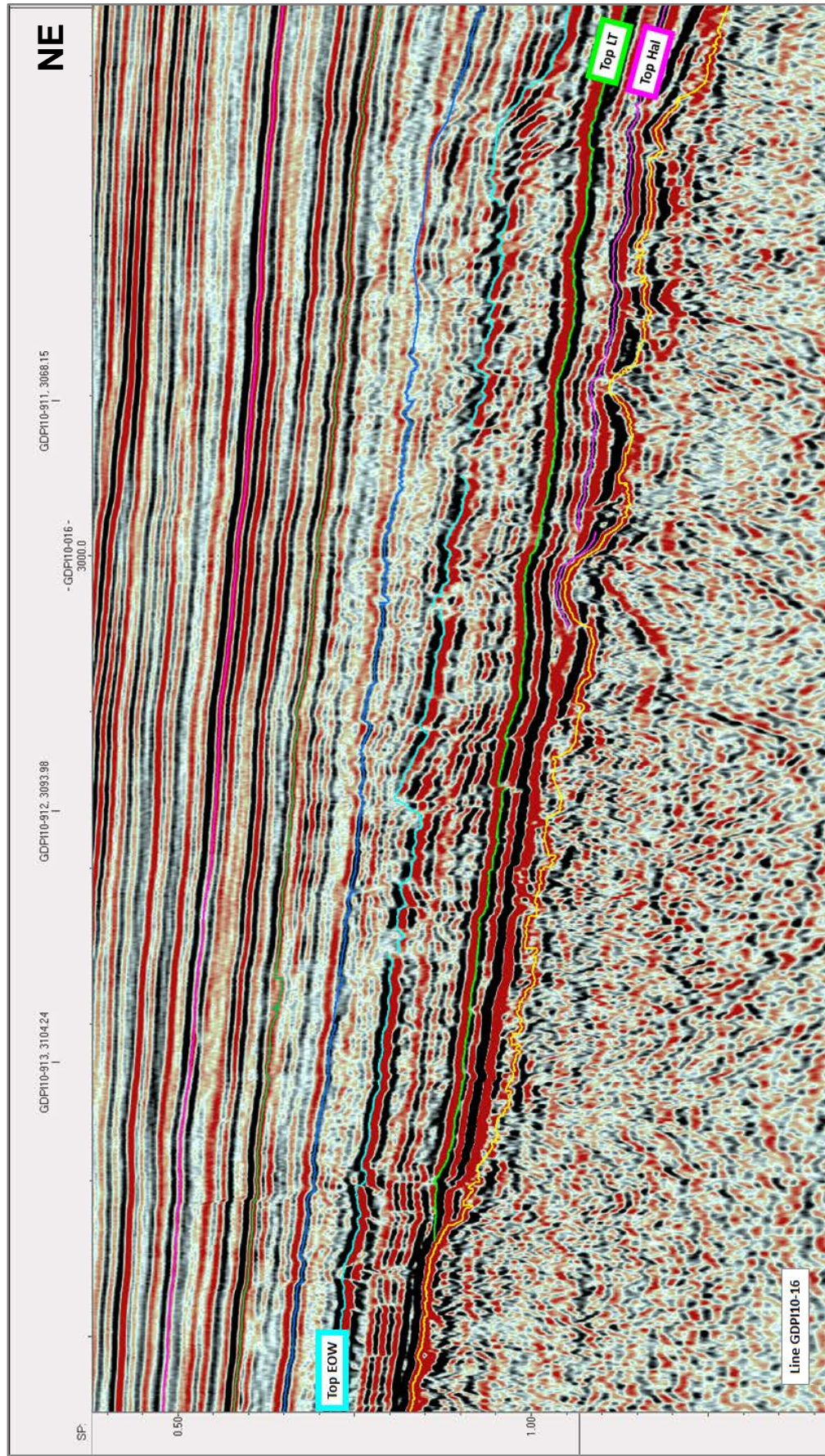


Figure 6.22

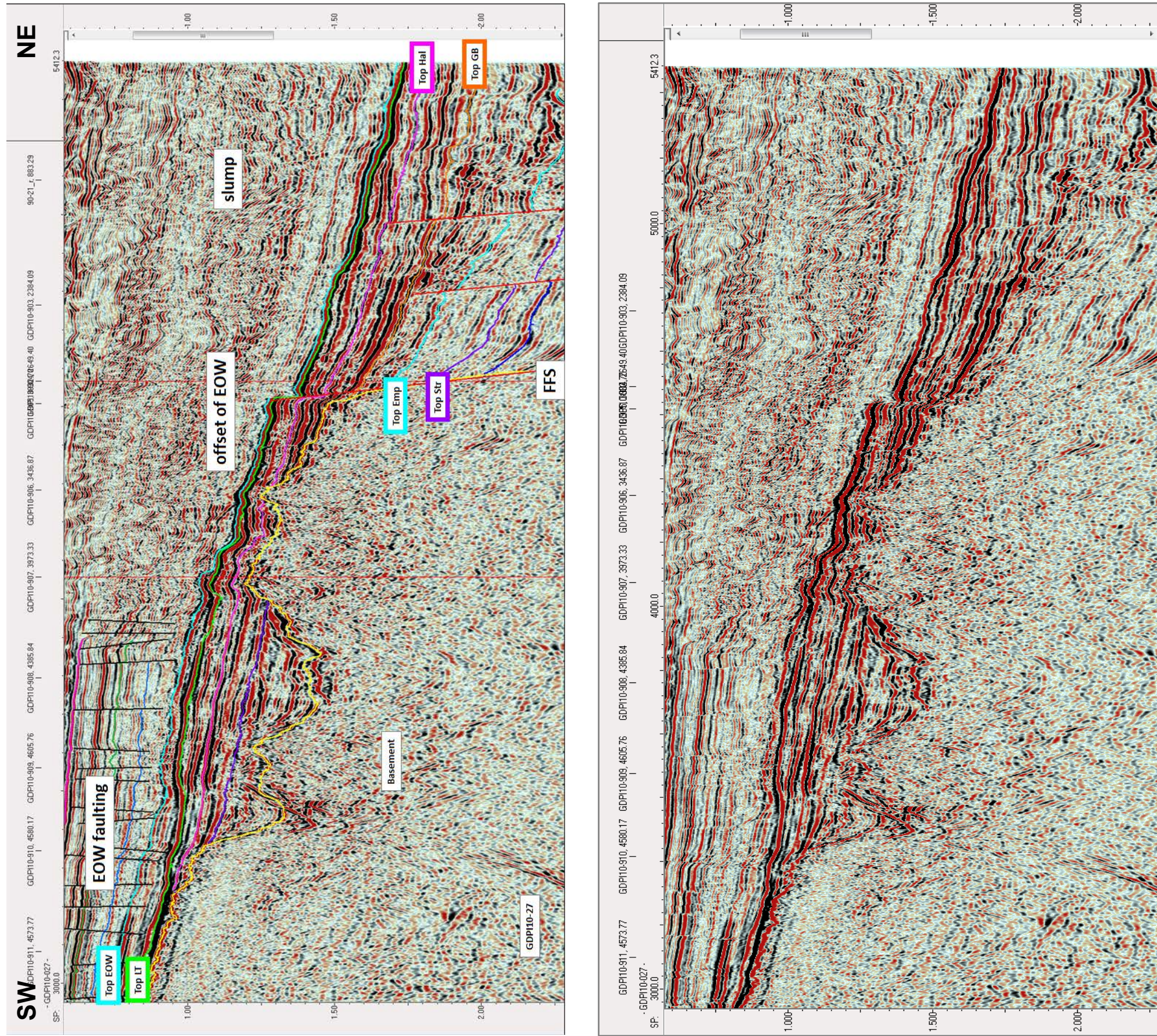
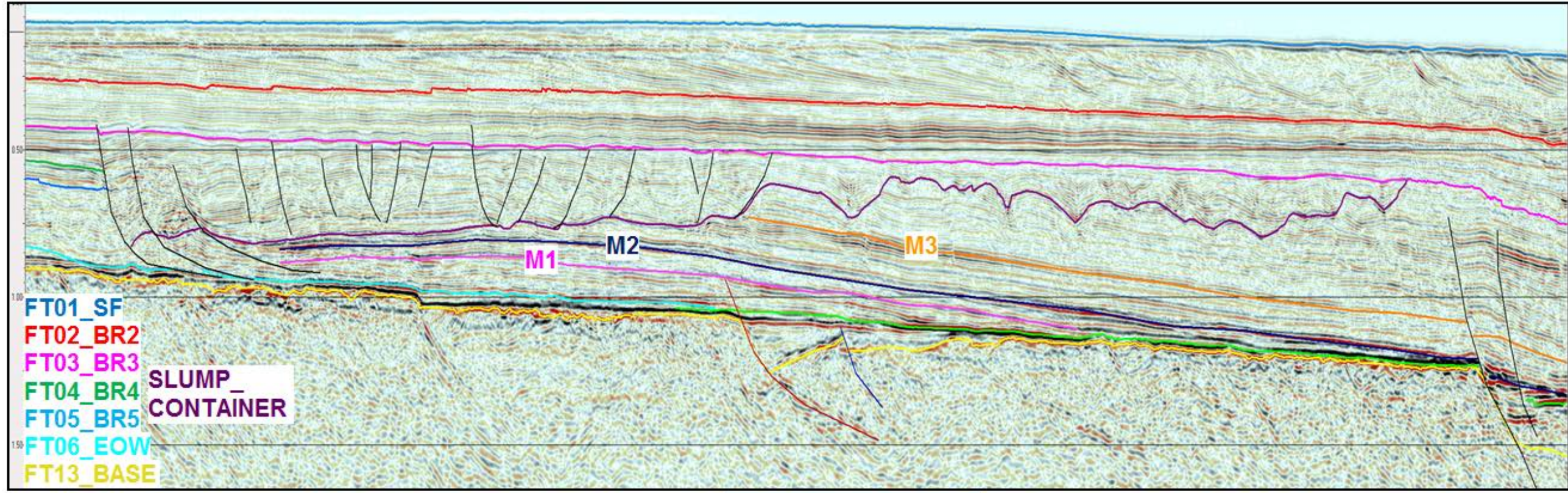


Figure 6.23

SW

NE



5 km

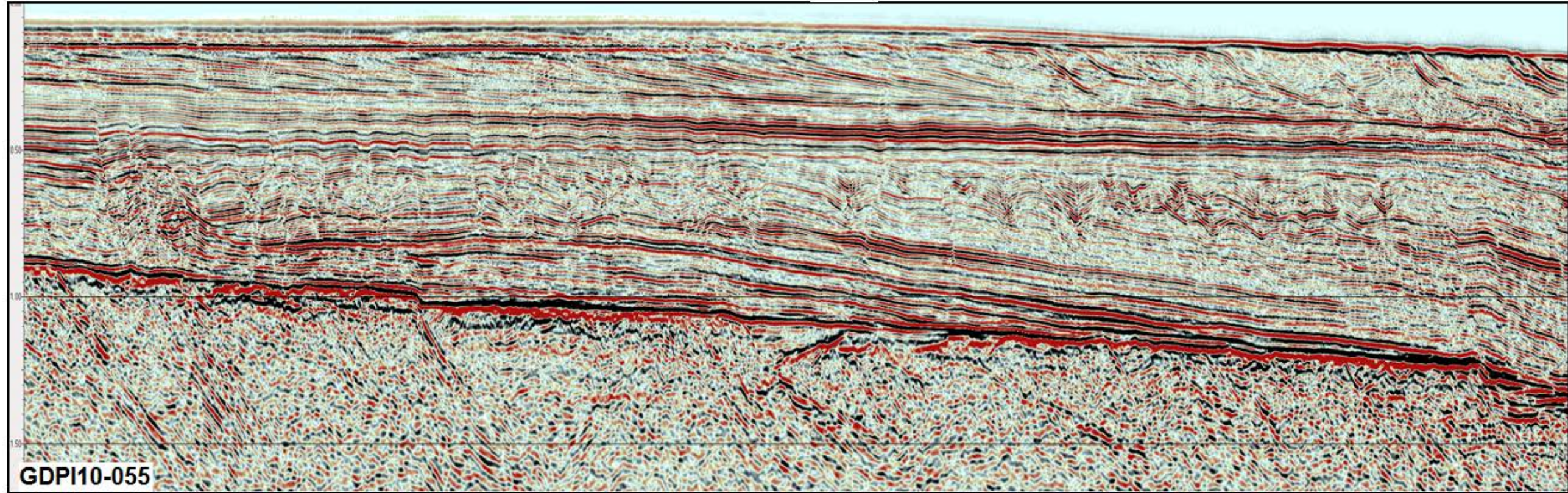


Figure 6.27

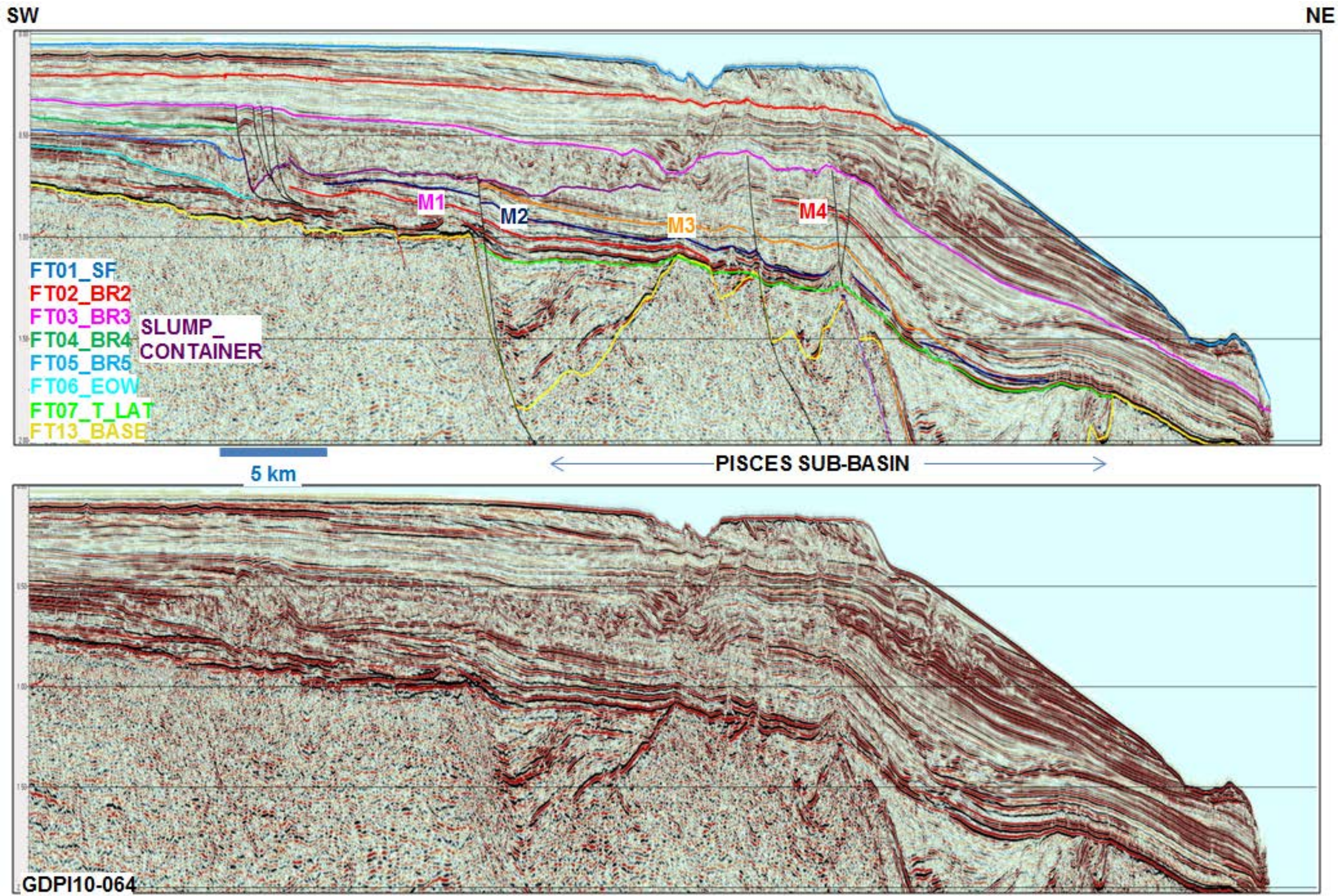


Figure 6.29

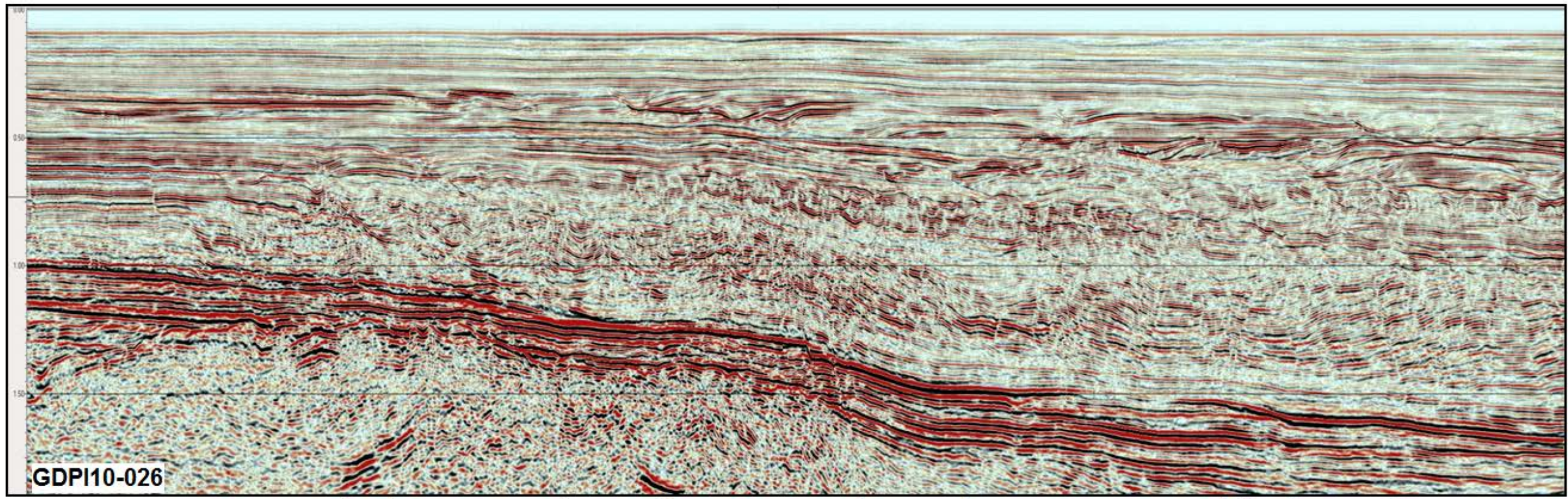
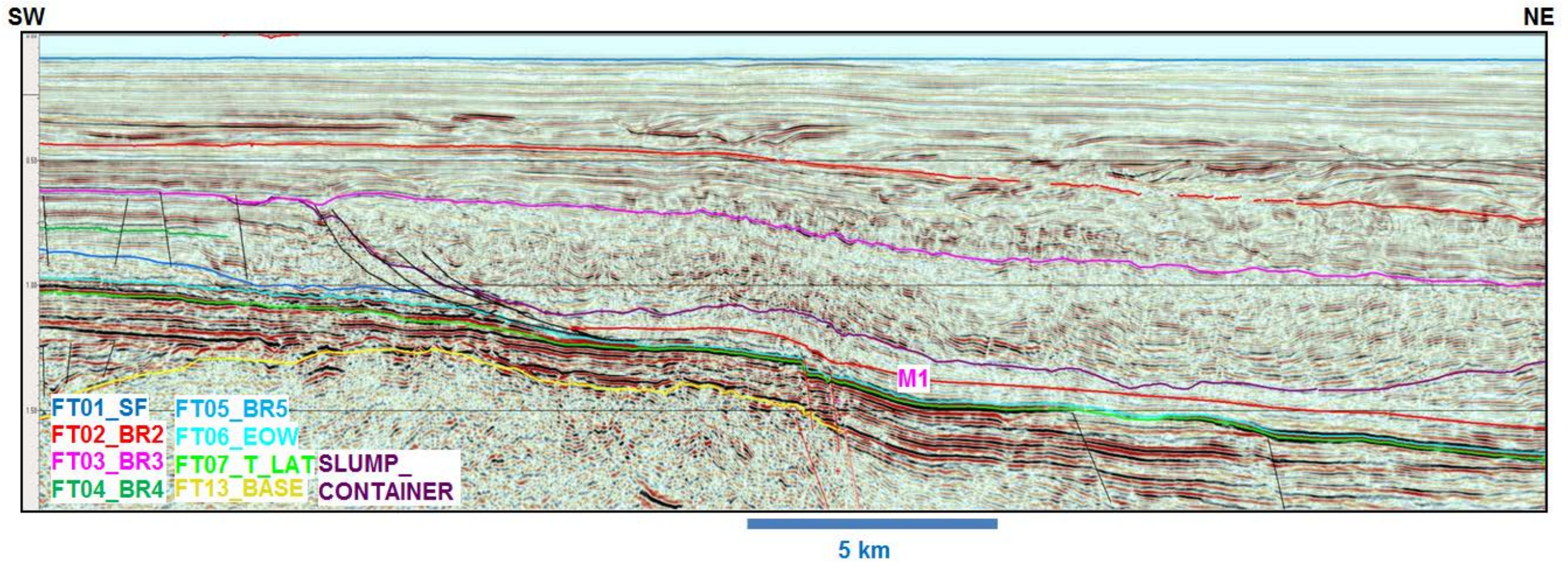


Figure 6.30

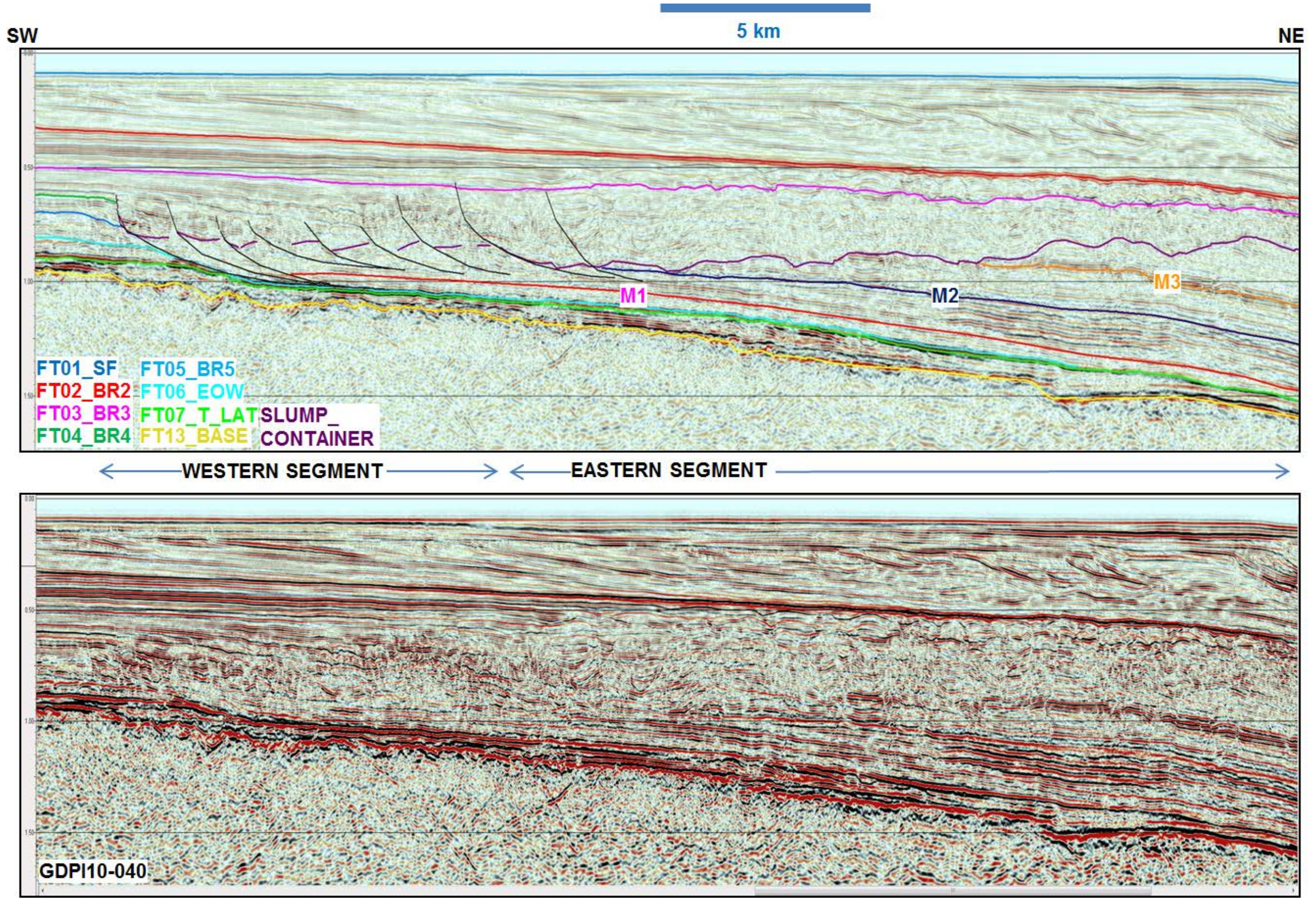


Figure 6.31



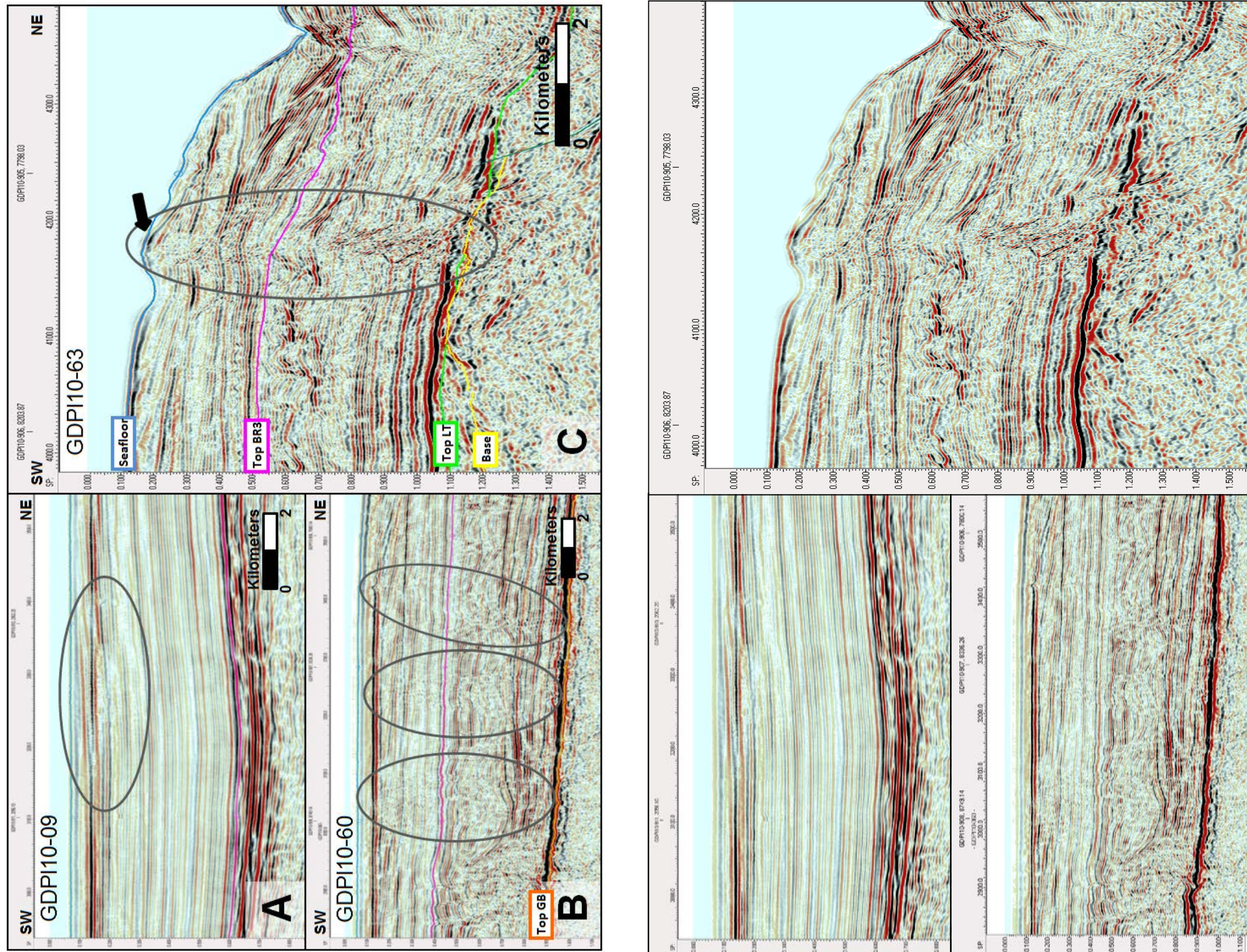


Figure 6.33

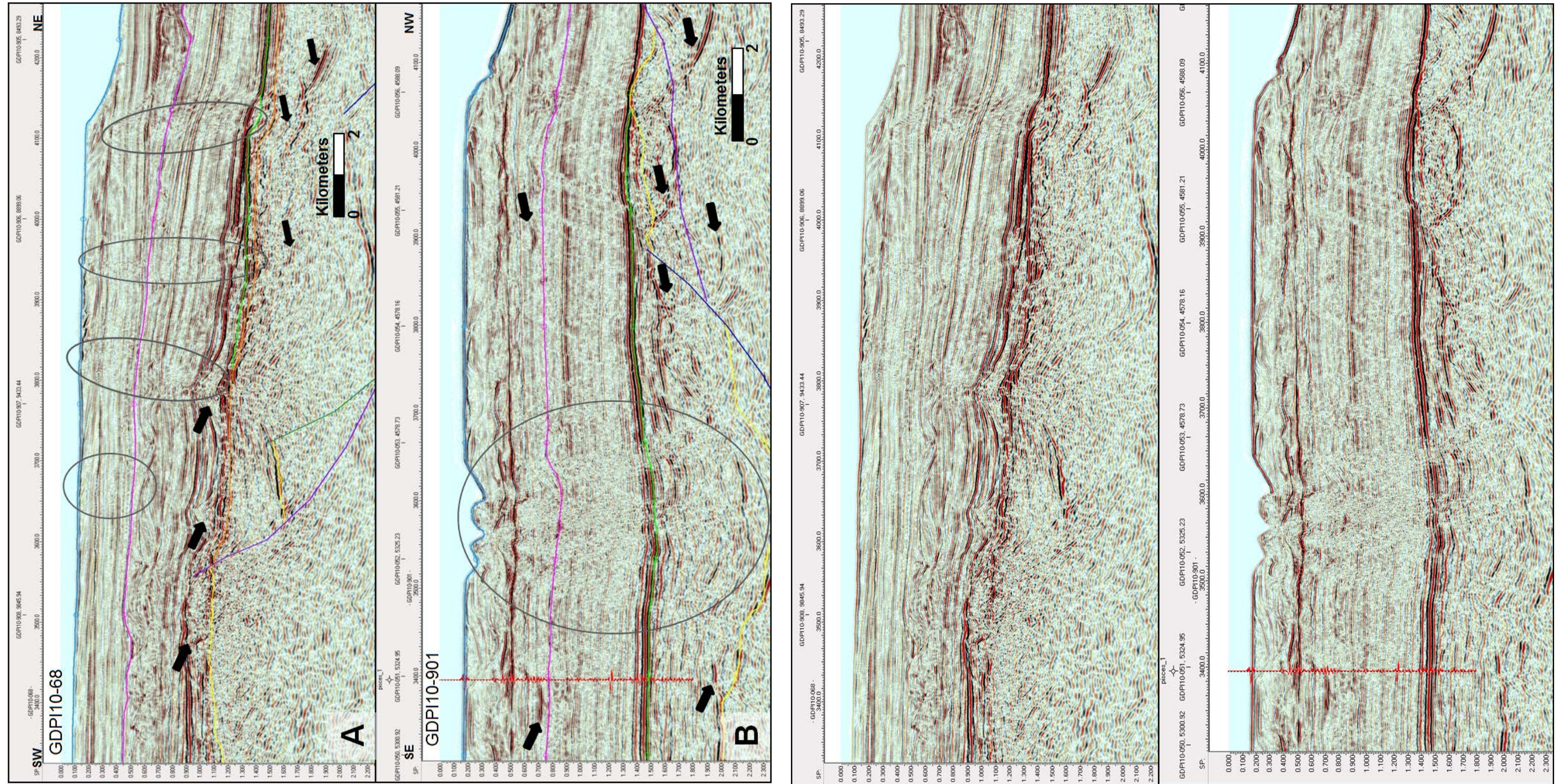


Figure 6.35

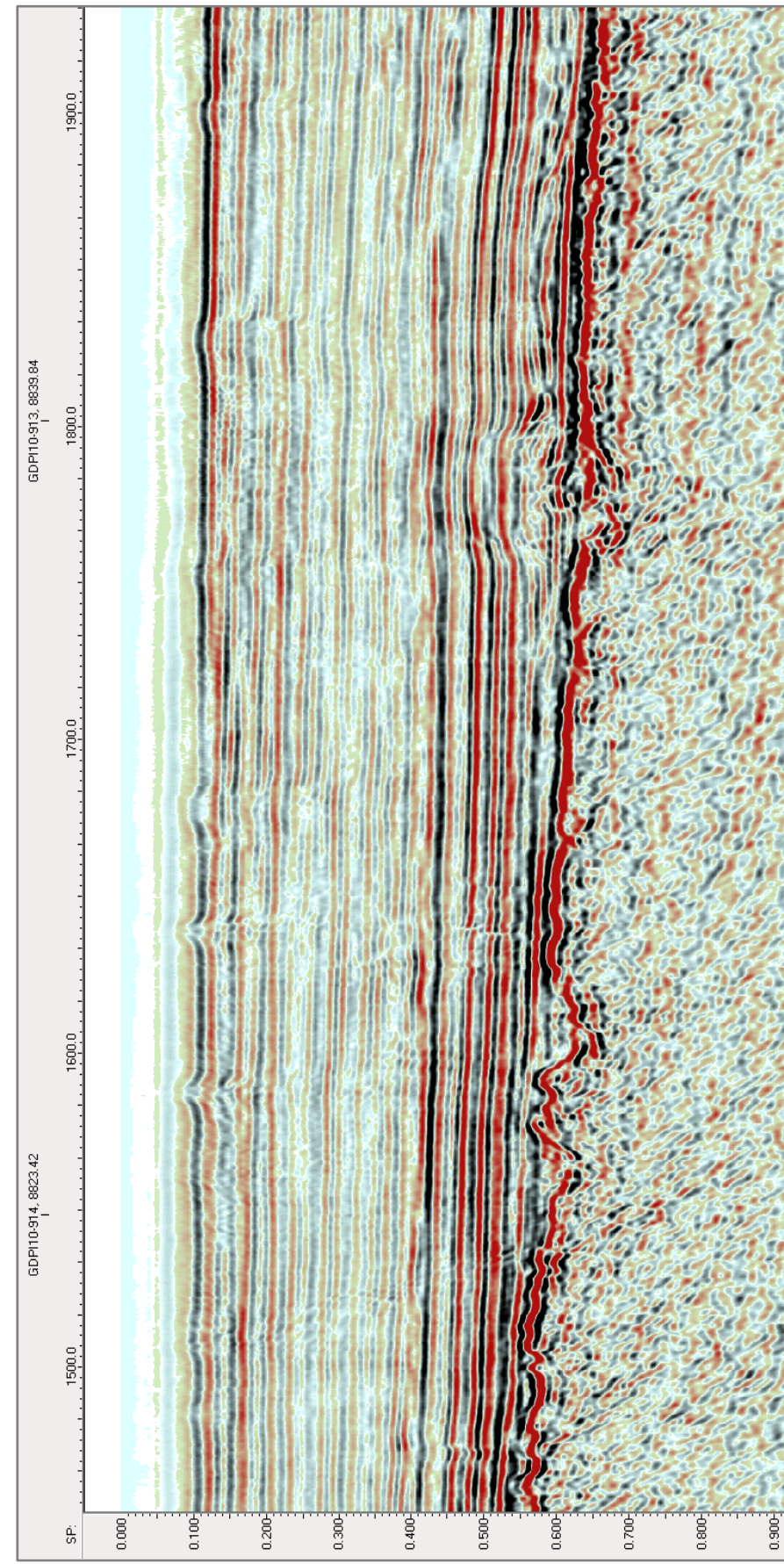
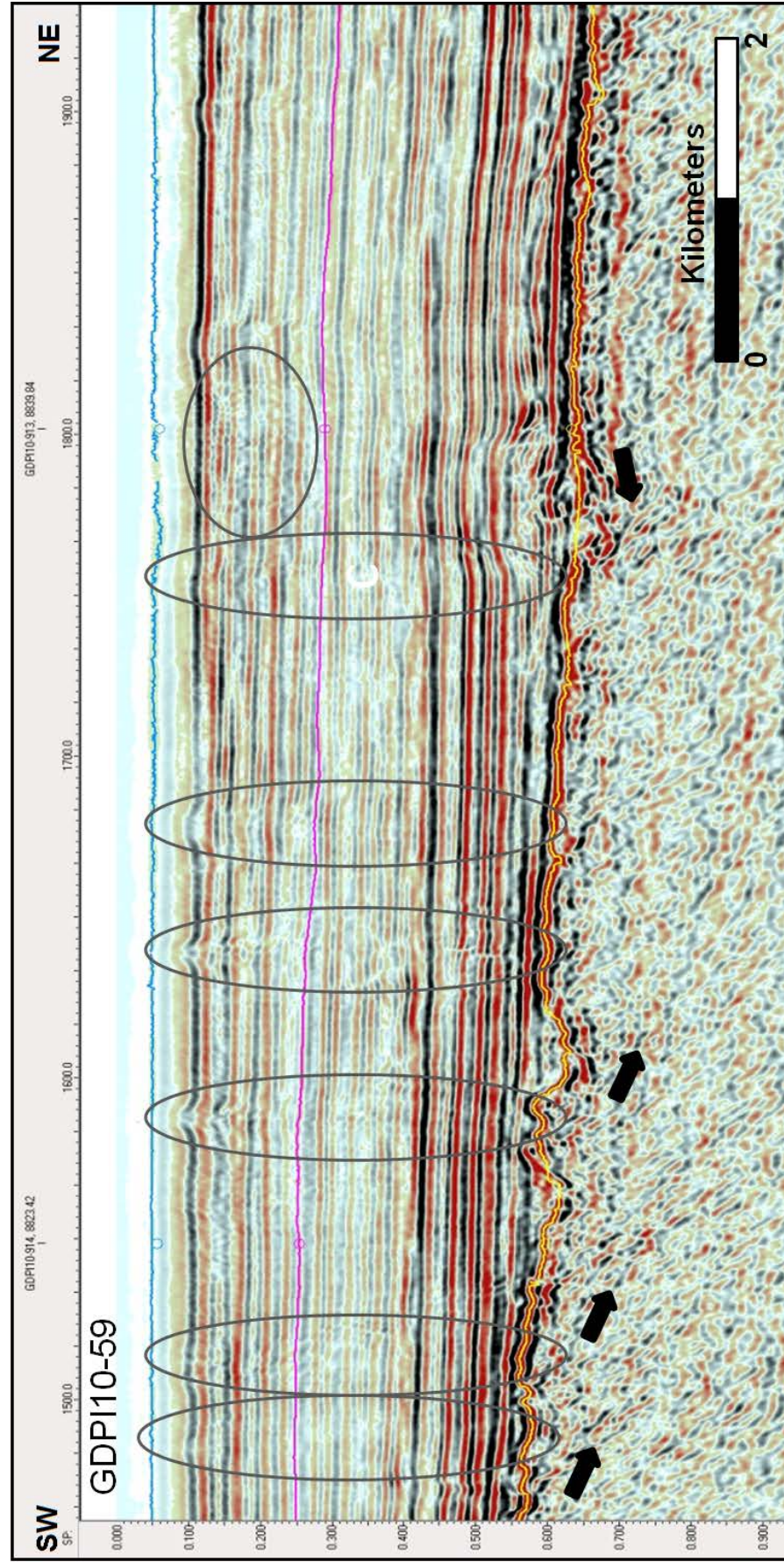


Figure 6.37

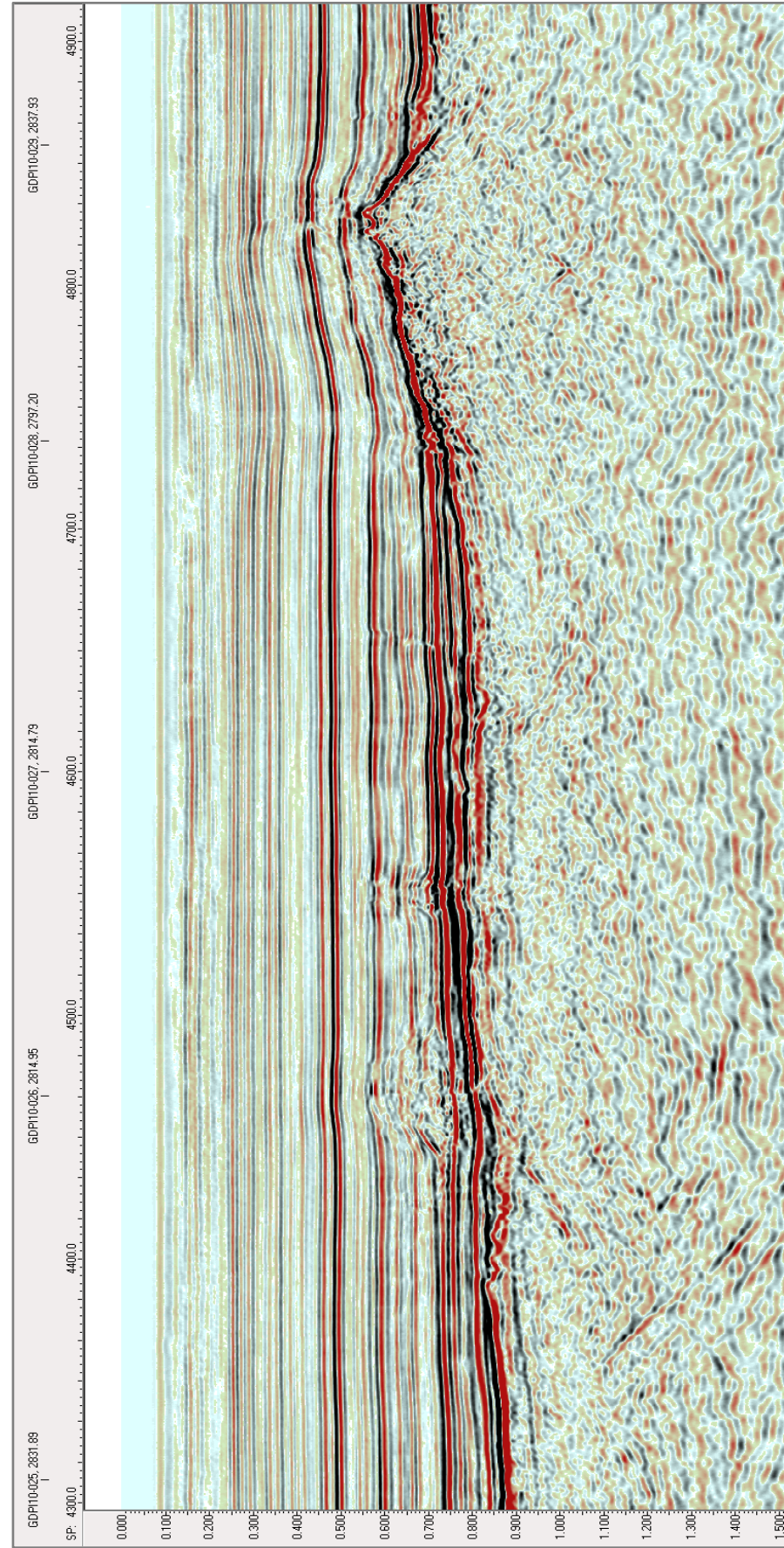
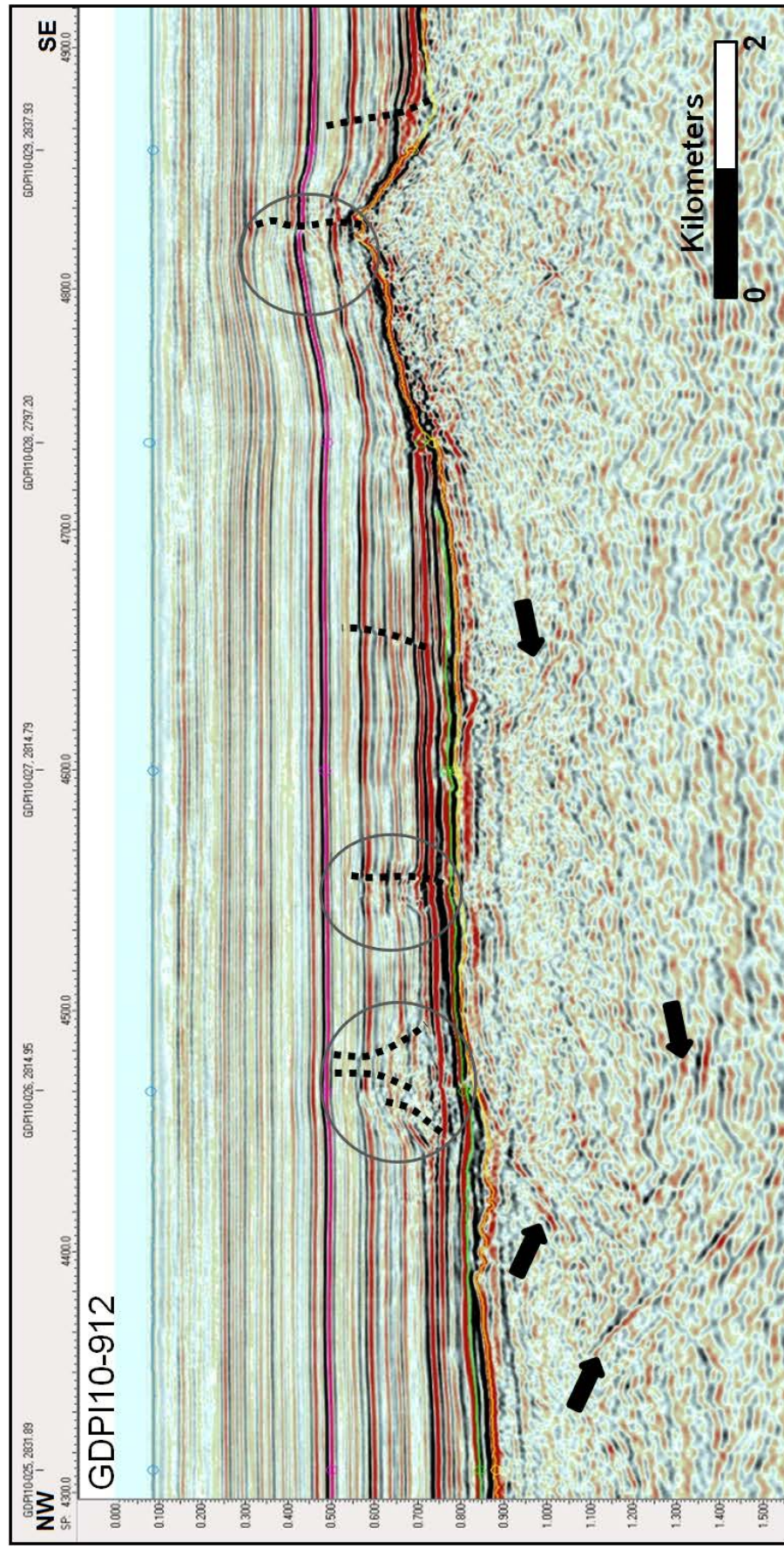


Figure 6.36

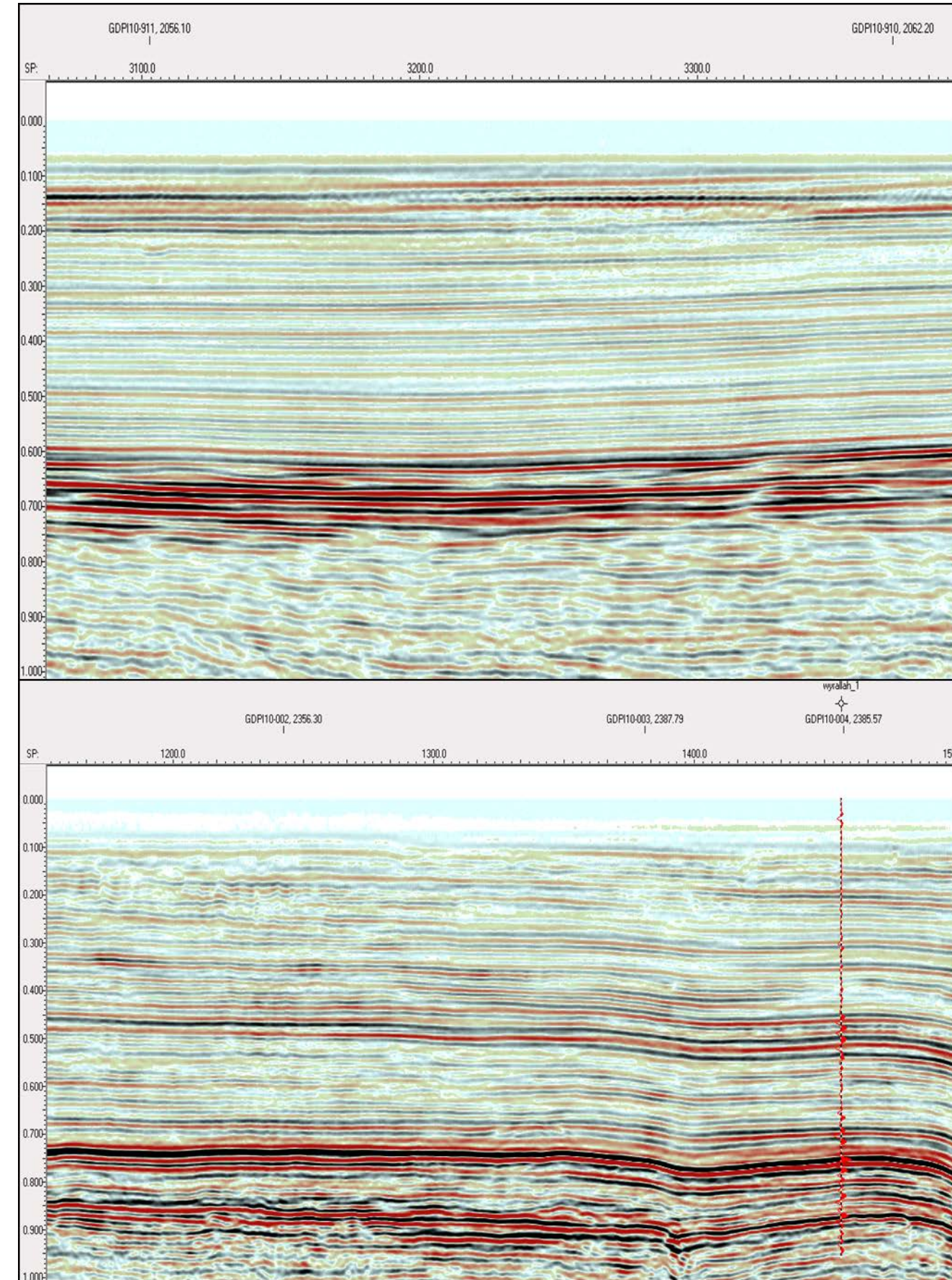
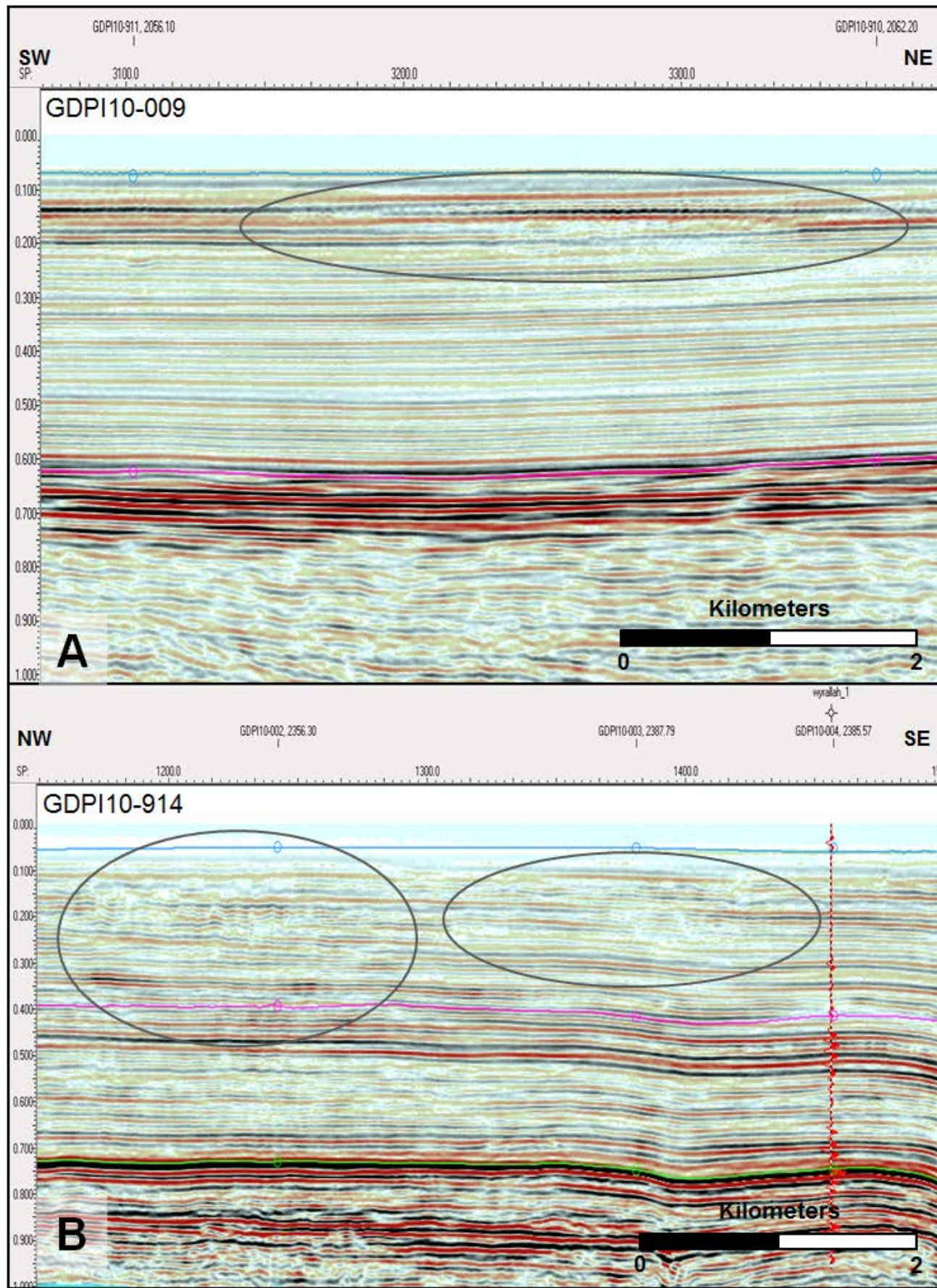


Figure 6.38

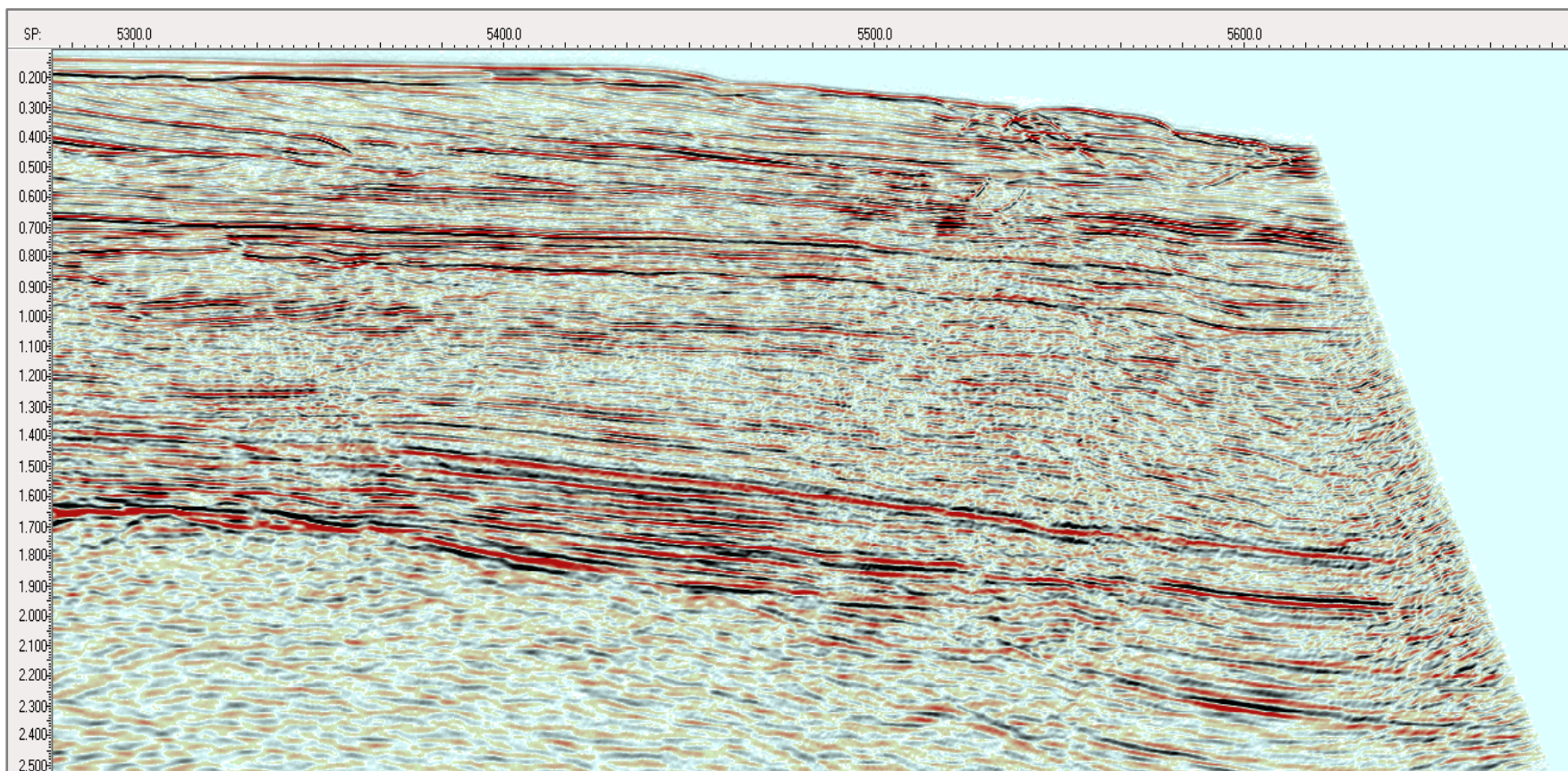
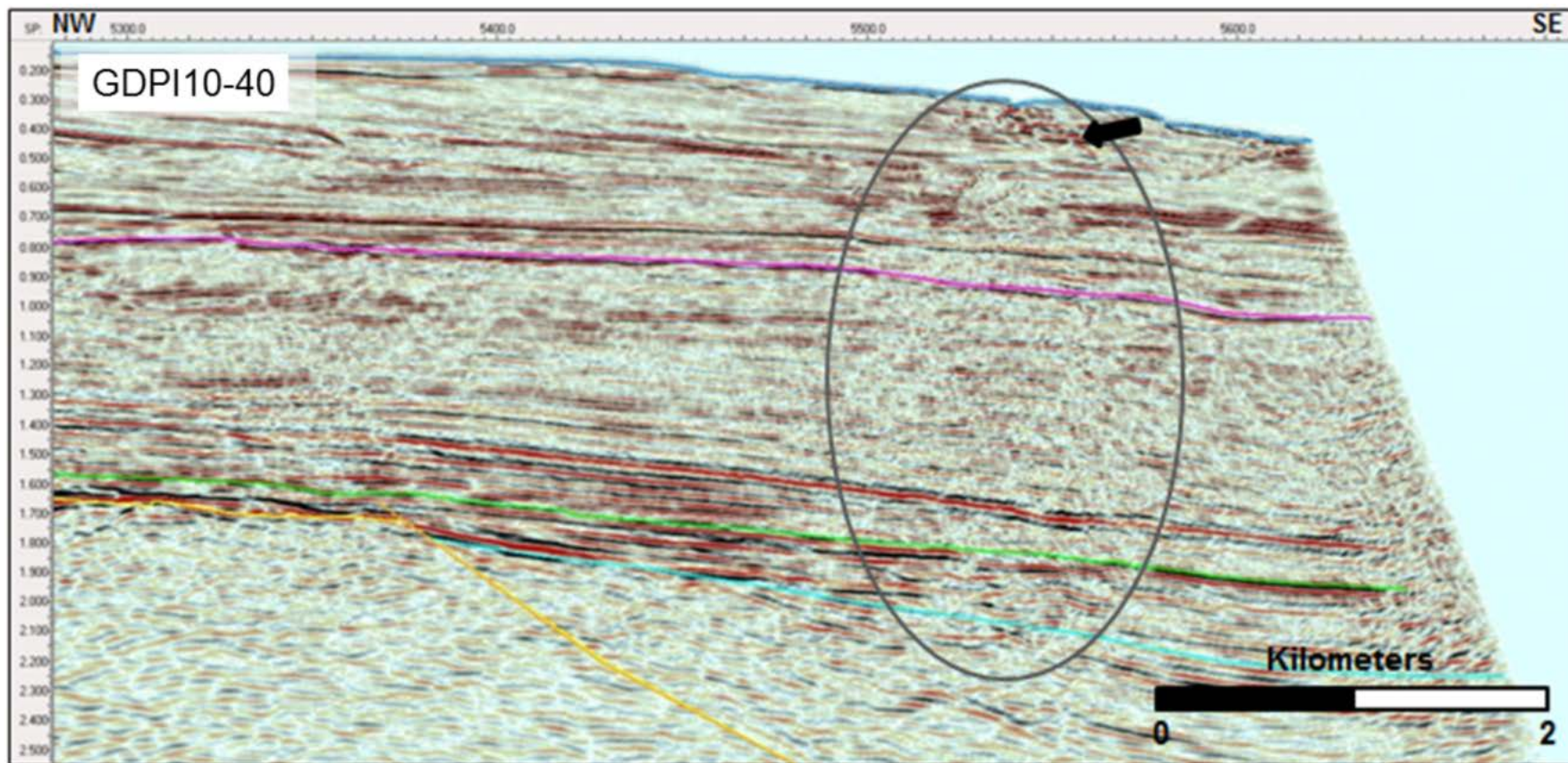


Figure 6.39

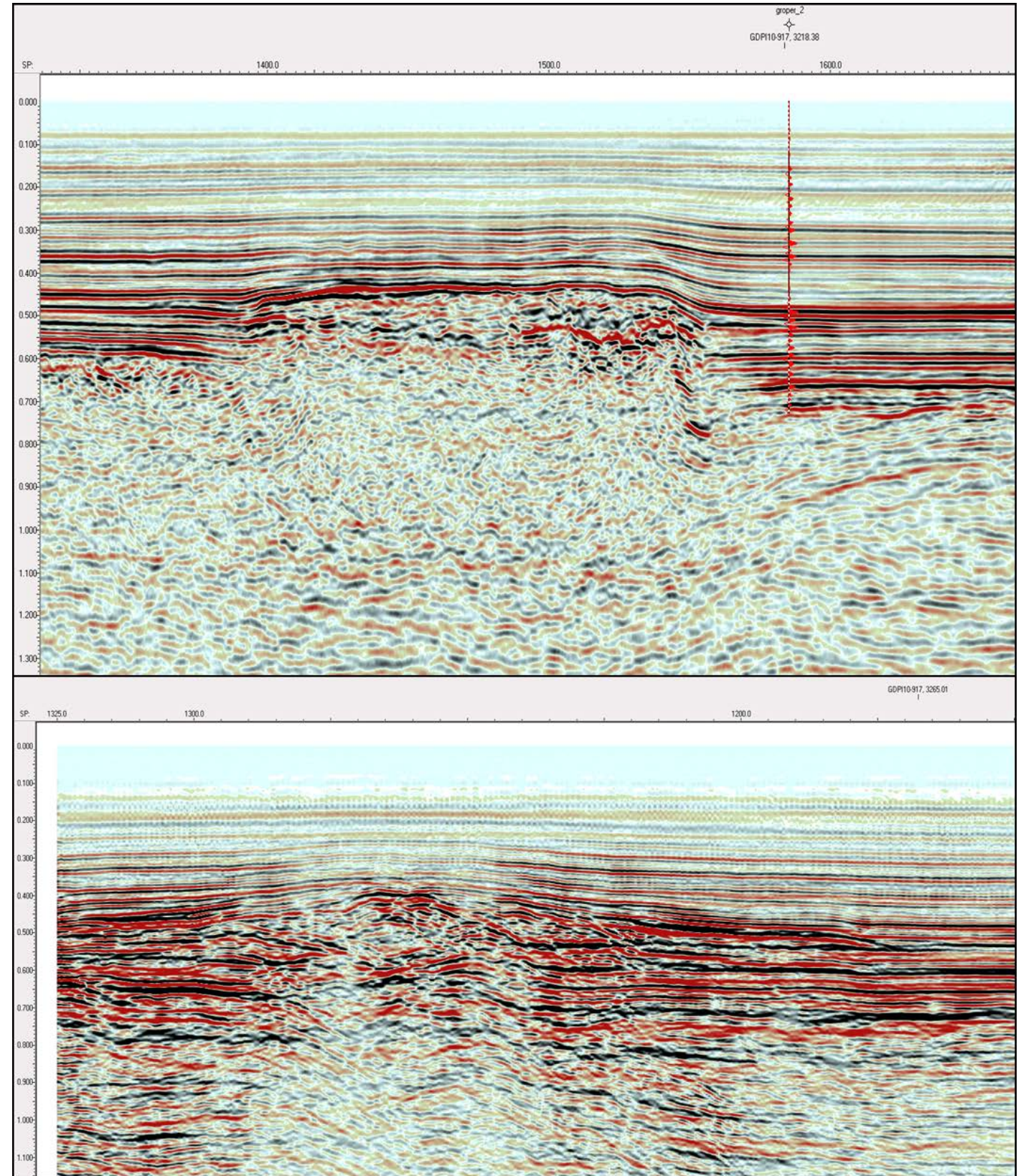
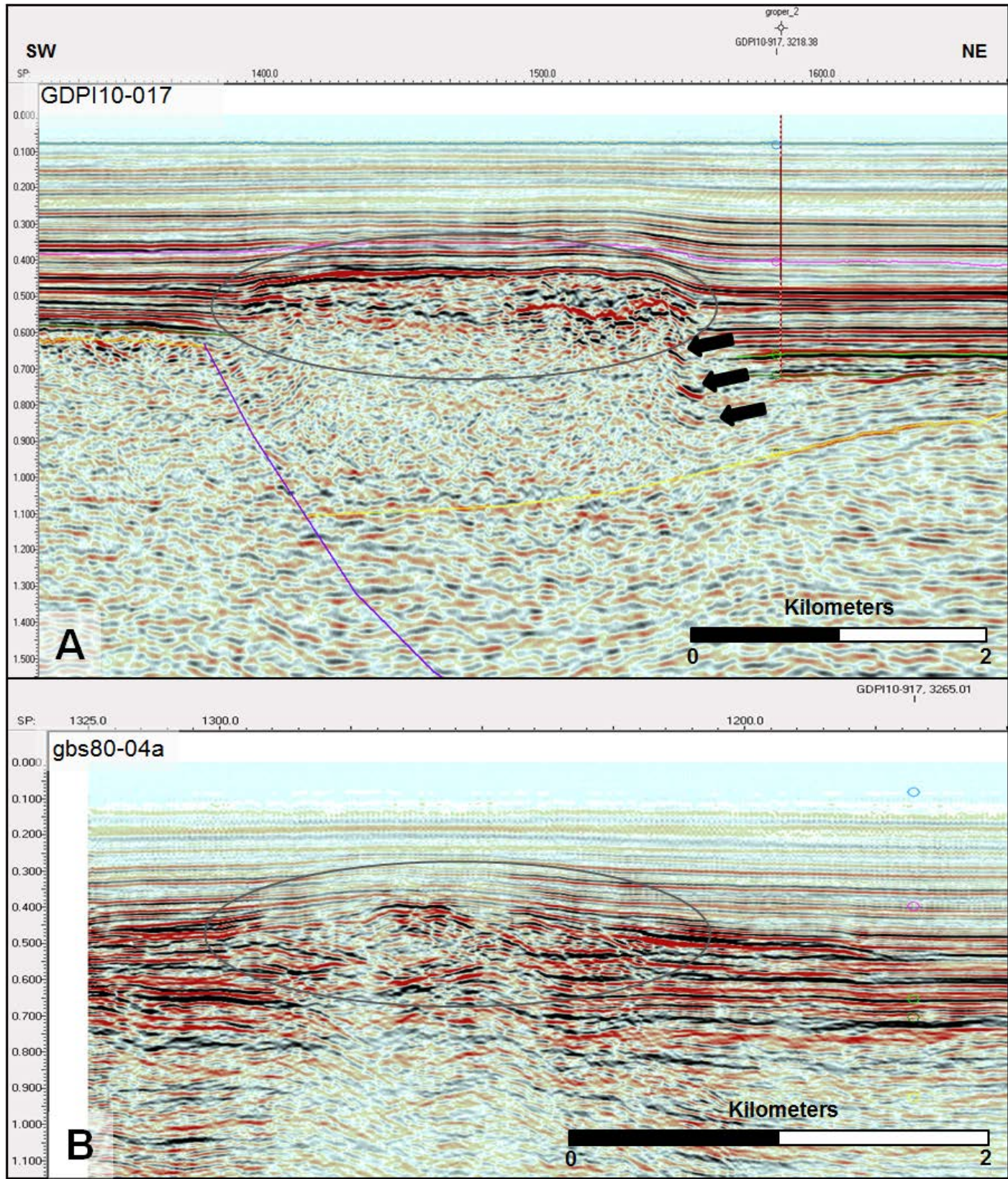


Figure 6.40