



Seismic Interpretation Report

Exploration Permit T/48P

SOSN08C 2D Seismic Survey

Table of Contents

| | |
|--|-----------|
| INTRODUCTION | 1 |
| PERMIT HISTORY | 1 |
| EXPLORATION HISTORY | 3 |
| GEOLOGY AND HYDROCARBON PROSPECTIVITY | 3 |
| SEISMIC MAPPING | 4 |
| AREA AND DATA MAPPED | 4 |
| INTERPRETATION METHODOLOGY | 4 |
| HORIZONS INTERPRETED..... | 4 |
| DEPTH CONVERSION | 4 |
| STRUCTURE MAPS PREPARED | 4 |
| DISCUSSION OF SEISMIC RECORD QUALITY | 5 |
| PLAY TYPES | 5 |
| LEADS AND PROSPECTS | 5 |
| CONCLUSIONS | 6 |
| FIGURES | 7 |
| PERMIT LOCATION MAP..... | 7 |
| DATA LOCATION MAP | 8 |
| STRATIGRAPHIC CHART | 9 |
| PROSPECTS AND LEADS MAP | 10 |
| SYNTHETIC SEISMOGRAMS | 11 |
| SEISMIC DATA QUALITY | 12 |
| SEISMIC DATA QUALITY COMPARISON..... | 13 |
| ENCLOSURES - MAPS OF KEY HORIZONS | 14 |

Introduction

The SOSN08C 2D Seismic Survey was acquired by Santos in March 2008 as part of the work commitment for the T/48P Permit Year 1.

Acquisition occurred over the period 4th March to the 8th March 2008. The survey was acquired by the CGG Veritas MV Pacific Titan seismic vessel. A total of 781.65 Km of seismic data was acquired, over 17 lines (Figure 2). One line, namely SOSN08C-27, was a reshoot of line SOSN08C-017 using a reduced source size of 2130cuin. This line was processed twice – once as a separate line, and again using the velocities from line SOSN08C-017 for PSTM and stacking.

All processing was undertaken at the Fugro Seismic Imaging office in Perth, Western Australia, and commenced in March 2008. The final PSTM stacks, angle stacks, final PSTM gather and velocity archives were delivered to Santos on the 8th October 2008.

Permit History

Exploration Permit T/48P (Figure 1) in the Sorell Basin was awarded to Santos Offshore Pty Ltd on 12 July 2007 for an initial term of 6 years.

The permit consists of 77 part and whole graticular blocks covering an area of approximately 4885 km² (GDA) in water depths of approximately 200m, deepening to 1500m towards the south-western part of the block. Santos Offshore Pty Ltd is the sole interest holder and operator of the permit.

| Company | Percentage Interest |
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The work obligations for Exploration Permit T/48P are set out below:

| PERMIT YEAR (<i>Commencing</i>) | PRIMARY WORK PROGRAM | INDICATIVE EXPENDITURE |
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| One (12 July 2007 – 11 July 2008) | 700 km 2D Seismic Acquisition | \$1,400,000 |
| Two (12 July 2008 – 11 July 2009) | Geological and Geophysical Studies | \$400,000 |
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| | TOTAL FIRM PROGRAM | \$2,200,000 |

| PERMIT YEAR (<i>Commencing</i>) | SECONDARY WORK PROGRAM | INDICATIVE EXPENDITURE |
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| Four (12 July 2011 – 11 July 2012) | 300 km² 3D Seismic Acquisition | \$10,500,000 |
| Four (4 June 2005 – 3 June 2006) | One Exploration Well | \$25,000,000 |
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Exploration History

Described below are the results of the offshore wells closest to the T/48P exploration permit. Well completion reports issued by the Operator and the updated interpretation of seismic data provide the primary source of information for detailing the exploration history. No wells to date have been drilled on the permit.

Prawn-A1 (Esso, 1967). Intersected 712m of Waarre Formation equivalent. Measured porosities in the sandstone exceeded 20% with permeabilities up to 235 mD.

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Thylacine-2 (Origin, 2001). This well was an appraisal to follow up success at Thylacine-1.

Jarver-1 (Santos, 2008). This well is not yet open file.

Geology and Hydrocarbon Prospectivity

The Sorell Basin formed during oblique rifting between the Australian and Antarctic continents in the Late Cretaceous and is considered to be a southern extension of the Otway Basin. While relatively open ocean conditions existed to the north and west in the Otway Basin, a restricted marine embayment was formed in the Sorell region, bounded to the southeast by a land-bridge between the two continents, which did not separate until the Eocene.

Late Cretaceous reservoir sandstones, belonging to the Waarre Formation, Flaxman Formation and Thylacine Sandstone Member (Figure 3), form the main productive zones within Otway Basin fields such as Casino (Santos-operated), Minerva, La Bella, Thylacine and Geographe, located north of the deep water acreage trend. These sandstones exhibit excellent reservoir quality with average log porosity in the range of 15-28% and permeabilities of up to 8 Darcies. These sandstones are mapped extending southwards into Santos' Sorell Basin permits. Deposition of coarse-grained siliciclastics in the Turonian-Santonian is associated with periodic fluvio-deltaic pulses into an overall upwards-deepening/fining section (Belfast Mudstone), providing an effective reservoir-seal couplet. Regional regression in the

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Nine offshore discoveries have been made in the Otway Basin to date proving in excess of 1.6 TCF recoverable gas. These discoveries have been full to spill, with liquids content increasing generally from north to south. Hydrocarbon charge in the basin is considered to come from Albian-aged, Eumeralla Formation source rocks.

Seismic Mapping

Area and Data Mapped

The new SOSN08C 2D seismic data infilled the existing multi-client DS01 and SS02, and Santos acquired SOSN06C 2D, seismic datasets. The SOSN08C acquisition lines were spread across the T/48P permit but the majority were acquired in the southern half of the permit (Figure 4), previously an area of lower seismic density but greater prospectivity. The new dataset was incorporated into the existing interpretation.

Interpretation Methodology

Geoframe IESX was used in the structural interpretation of this seismic data. Well synthetics were created in Geoframe for the Clam (Figure 5), Jarver (Figure 6), Prawn and Whelk wells, and the correlations taken into T/48P using the existing regional seismic lines.

Seismic interpretation was undertaken using the all-offset pre-stack time migrated volumes. The new SOSN08C data was tied to the multiclient DS01 and SS02, and the Santos acquired SOSN06C data.

Horizons Interpreted

Key horizons interpreted include the water bottom (WB), near base Tertiary (K110), top Belfast (K90), near top Reservoir (K85), near top Eumeralla (K75) and Basement (BASE). The Waarre Fm is difficult to pick extensively over the permit. The Prawn-1 and Whelk-1 well logs suggest this could be related to the sand on sand nature of the Waarre interface in this region.

Further interpretation difficulty was associated with a lack of nearby well control, compounded by a high degree of faulting, and also related to signal attenuation under shallow Tertiary mounds and volcanics.

Depth Conversion

Depth conversion was undertaken in Petrosys using seismic stacking velocities extracted as average velocity to the target intervals and tied to the Clam-1 and Jarver-1 wells.

Structure Maps Prepared

Structure maps prepared, in time and depth, include the Water Bottom (WB), near Base Tertiary (K110), near Top Reservoir (K85) and Basement (BASE). Depth maps of these key horizons are attached at the back of this report and also as 1:375000 scale maps (Enclosures 1-4).

Discussion of Seismic Record Quality

Most of the SOSN08C seismic data is of fair-good quality. Reflectors within the sedimentary package are generally robust but lose continuity under apparent mounds within the Late Tertiary which are thought to be both intrusive and extrusive volcanics. Imaging below these mounds is extremely poor, with significant signal attenuation beneath (Figure 7). There also appears to be a persistent sea-floor multiple throughout the survey which increases the difficulty of interpretation in the shallow section (Figure 7).

Apart from the signal attenuation beneath the Tertiary mounds and the sea-floor multiple, the SOSN08C seismic data is of better quality than the multiclient DS01 and SS02 seismic data (Figure 8), mainly due to its higher frequency component allowing higher resolution. The survey appears to be comparable in quality to the SOSN06C 2D Seismic Survey.

Play Types

The key play type targeted in this permit is Cretaceous in age, with Late Cretaceous Thylacine Member, Flaxman Formation or Waarre Formation reservoirs and Belfast or Skull Creek top seals, and hydrocarbons sourced from the Eumeralla or Waarre coals, within faulted structural traps. These plays have been proven in the Otway Basin fields to the north.

Leads and Prospects

Santos applied for Permit T/48P in order to hold up-dip protection acreage in the case of success at the Jarver-1 location, which lies in the westerly, neighbouring, previously Santos operated Permit T/33P. Prior to the acquisition of the SOSN08C 2D Seismic Survey, leads were poorly defined but were believed to be generally low relief, subtle structures. The more robust leads within T/48P relied on charge through fill-and-spill of the Jarver structure. Since no strong hydrocarbon shows were encountered, along with the presence of an anomalously low thermal gradient, during the drilling of Jarver-1, the prospectivity in T/48P remains high risk.

Potter

The SOSN08C 2D Survey has identified new amplitude flags, one of which appears to be associated with a fault-bound three-way dip structure in the southern portion of T/48P. A significant degree of uncertainty surrounds this lead in regards to its interpreted stratigraphic level and lithology, the lack of proven source interval and charge within the sub-basin, and seal lithology. Further analysis of this lead is required and a 3D seismic survey would be necessary to delineate and reduce risk on the lead.

Chaffey

Analysis of the SOSN08C survey at the pre-existing Chaffey lead highlights an upthrown fault-bound three-way dip closure. Chaffey doesn't appear to exhibit attribute support. Further detailed mapping and analysis is required on this lead.

Arnot

Analysis of the pre-existing Arnot lead using the SOSN08C survey indicates a fault-bound three-way dip closure. Arnot also doesn't appear to exhibit attribute support. Further detailed mapping and analysis is required on this lead.

Conclusions

The SOSN08C seismic dataset is of fair-good quality, generally of better quality than the nearby DS01 and SS02 surveys and comparable to the SOSN06C seismic dataset. Interpretation difficulty is increased in the Tertiary section where interpreted volcanic mounds and a sea-floor multiple reduce seismic quality. There is also a significant degree of signal attenuation below the shallow volcanics.

Interpretation of the SOSN08C seismic data and incorporation into the regional grid has led to a better understanding of the geology of the King Island Sub-basin. The previously identified leads, Chaffey and Arnot, remain very high risk while a new amplitude supported lead, Potter, has been identified. Currently, there remains a high degree of uncertainty surrounding these leads. Further work to mature the leads will be undertaken although, at present, it is believed the size of all leads is insufficient to meet minimum economic pool sizes for drilling, even on an unrisksed basis.

Figures

Permit Location Map

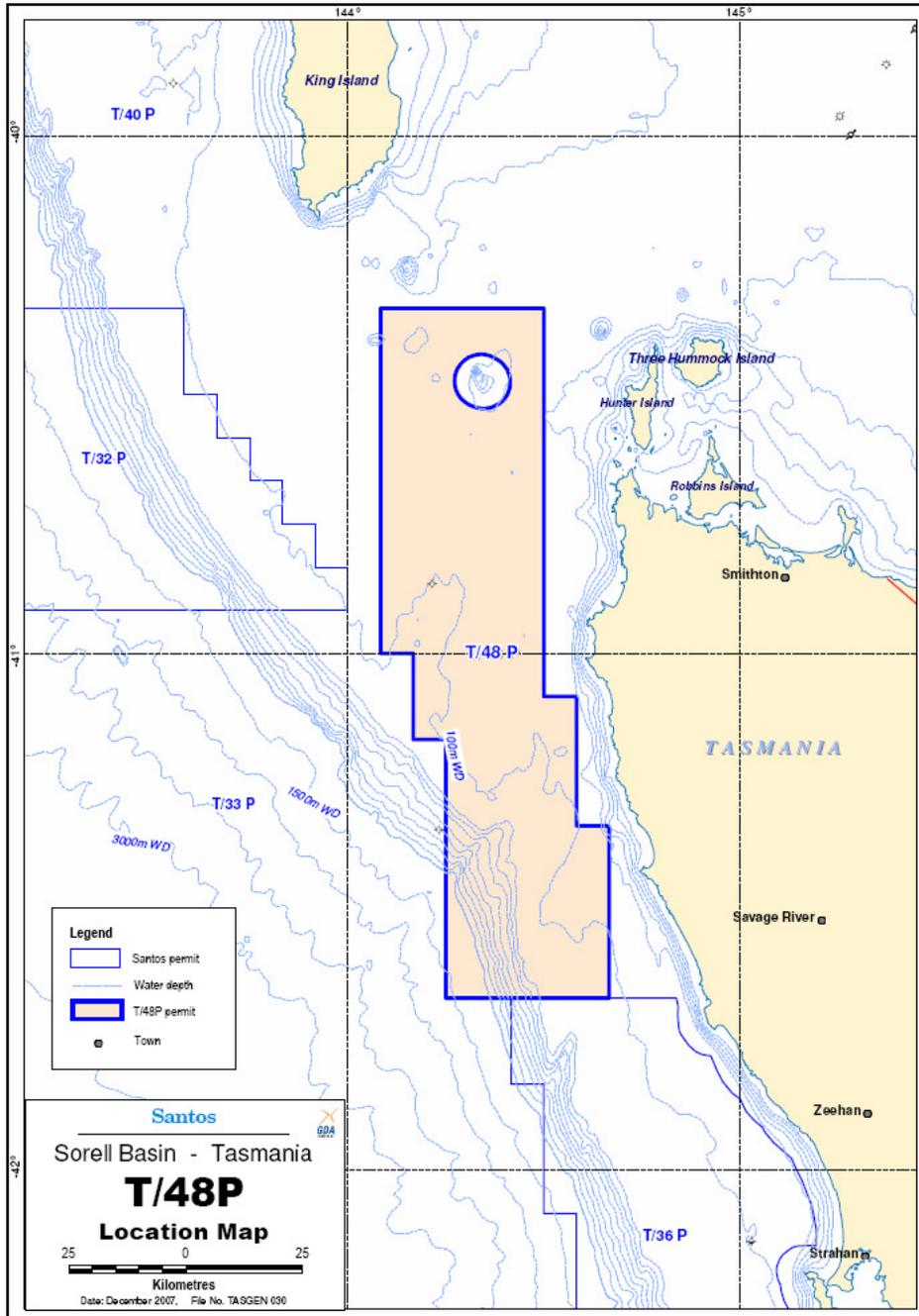


Figure 1. Exploration Permit T/48P Location Map with lines of latitude and longitude, bathymetry, geography and locations of other Santos permits.

Data Location Map

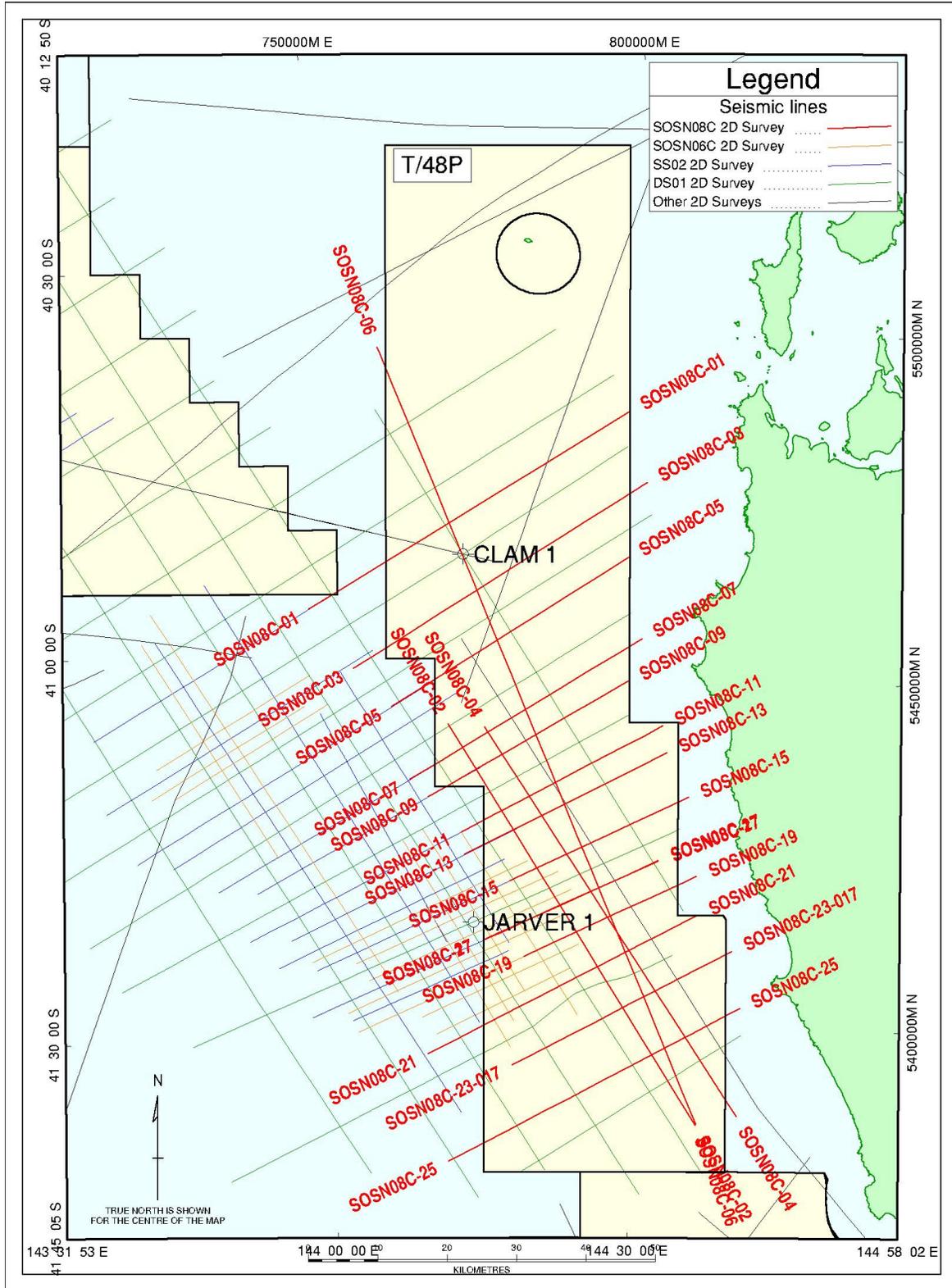


Figure 2. Seismic Survey Location Map

Stratigraphic Chart

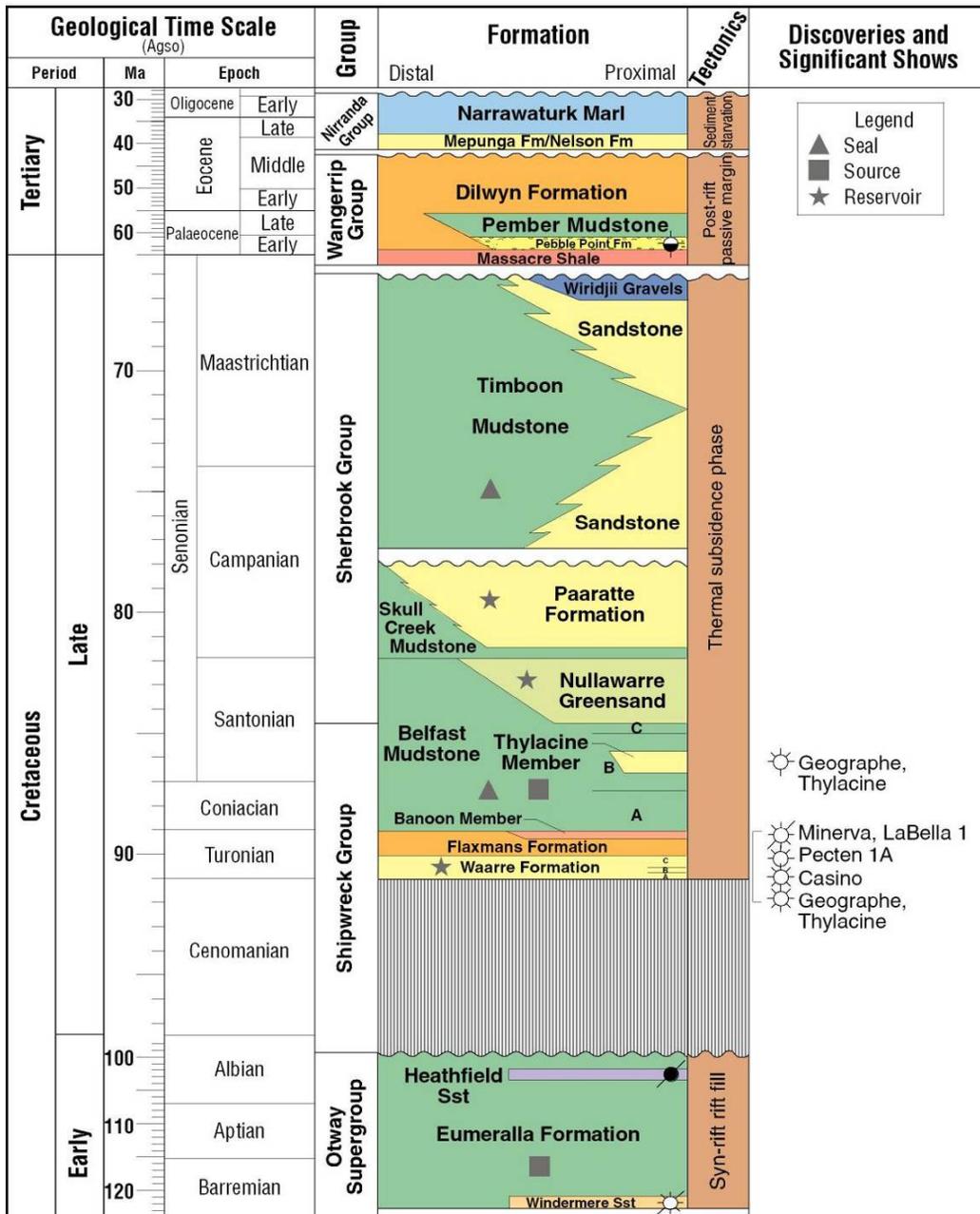


Figure 3. Stratigraphic Chart

Prospects and Leads Map

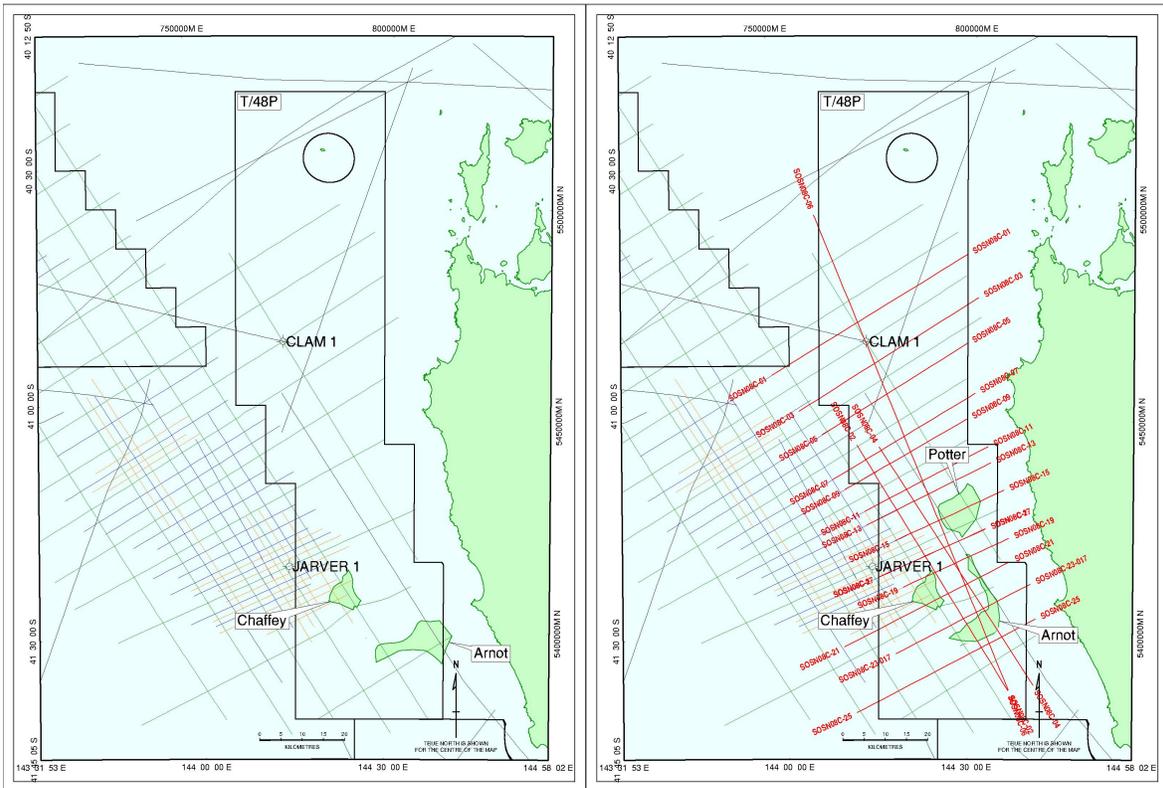


Figure 4. Prospects and Leads Map. Map on left shows pre-SOSN08C lead outlines. Map on right shows post-SOSN08C lead outlines.

Synthetic Seismograms

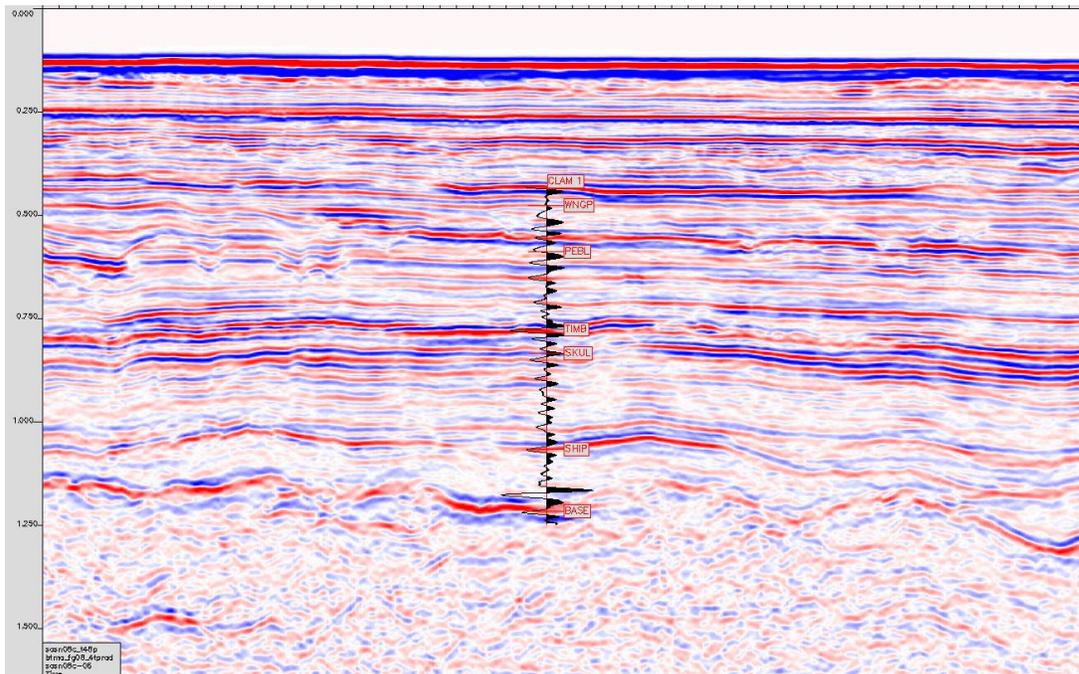


Figure 5. Synthetic seismogram at Clam-1. Seismic Line SOSN08C-06.

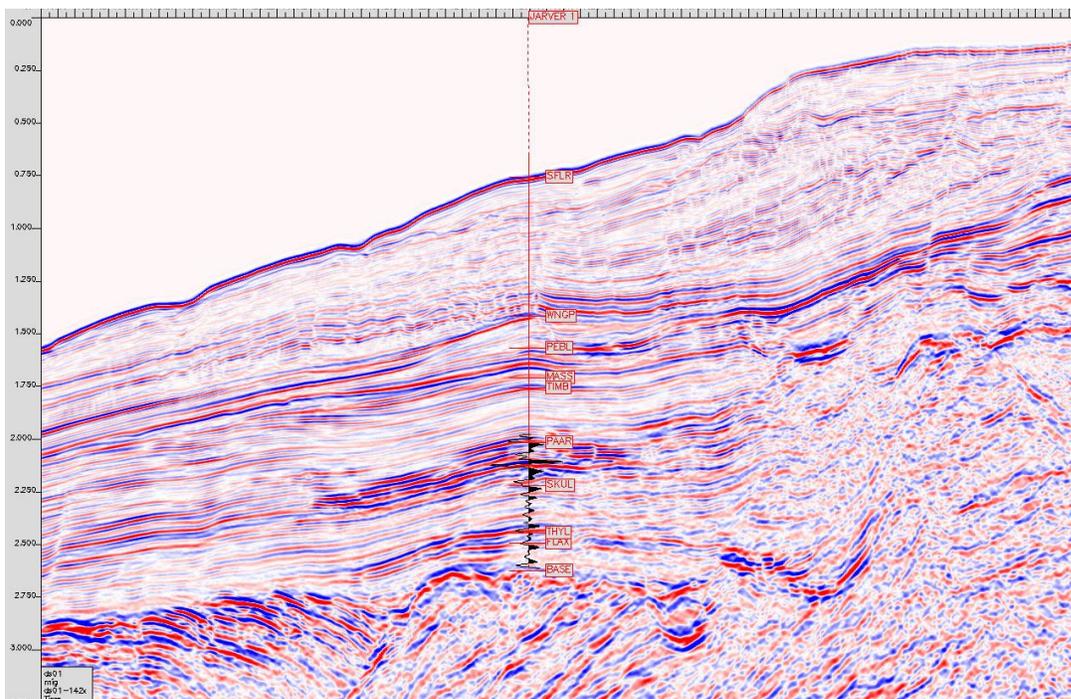


Figure 6. Synthetic seismogram at Jarver-1. Seismic Line DS01-142x.

Seismic Data Quality

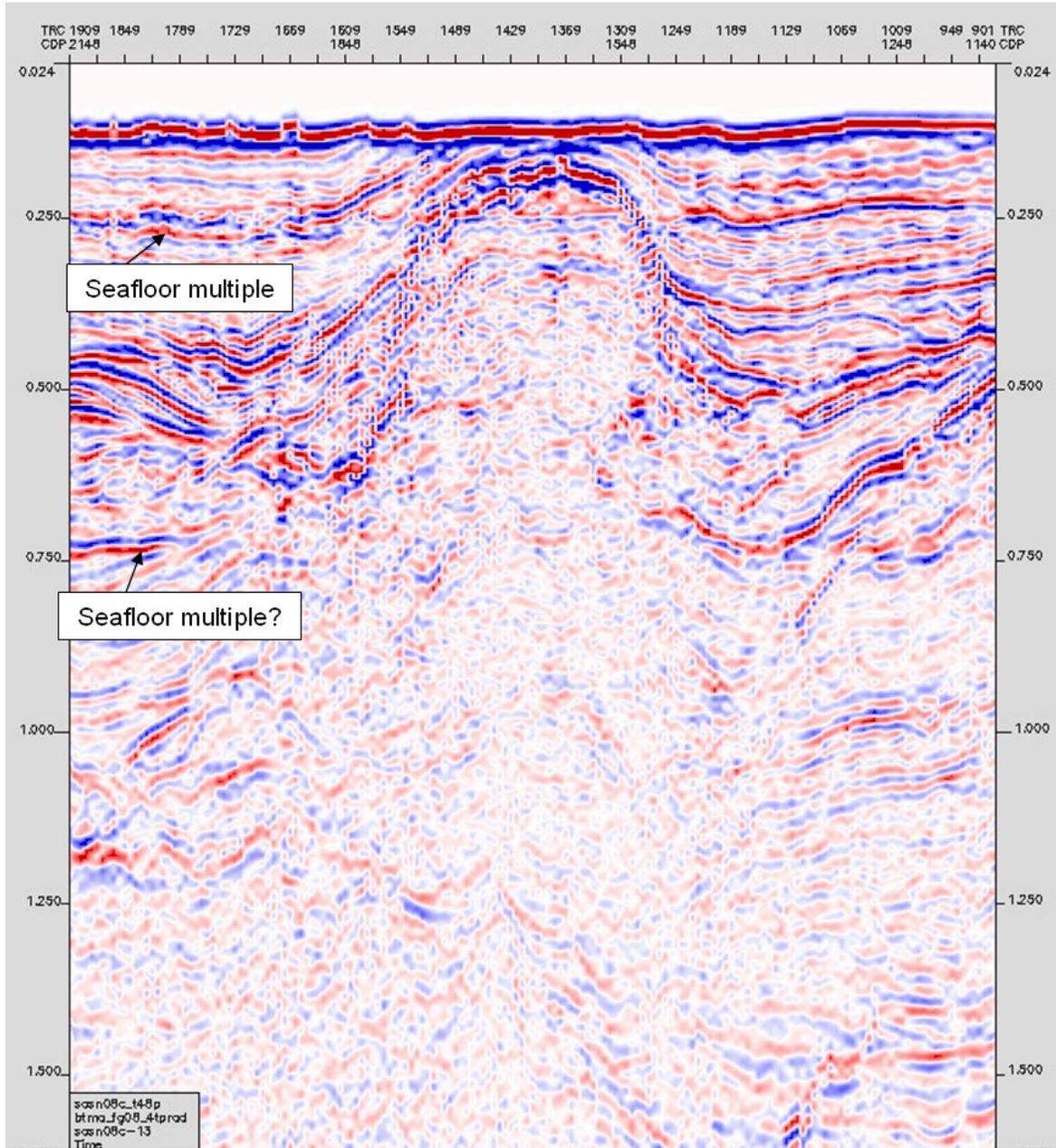


Figure 7. Line SOSN08C-13 showing the presence of a Tertiary mound and sea-floor multiple which increase the difficulty associated with interpretation of the SOSN08C seismic data.

Seismic Data Quality Comparison

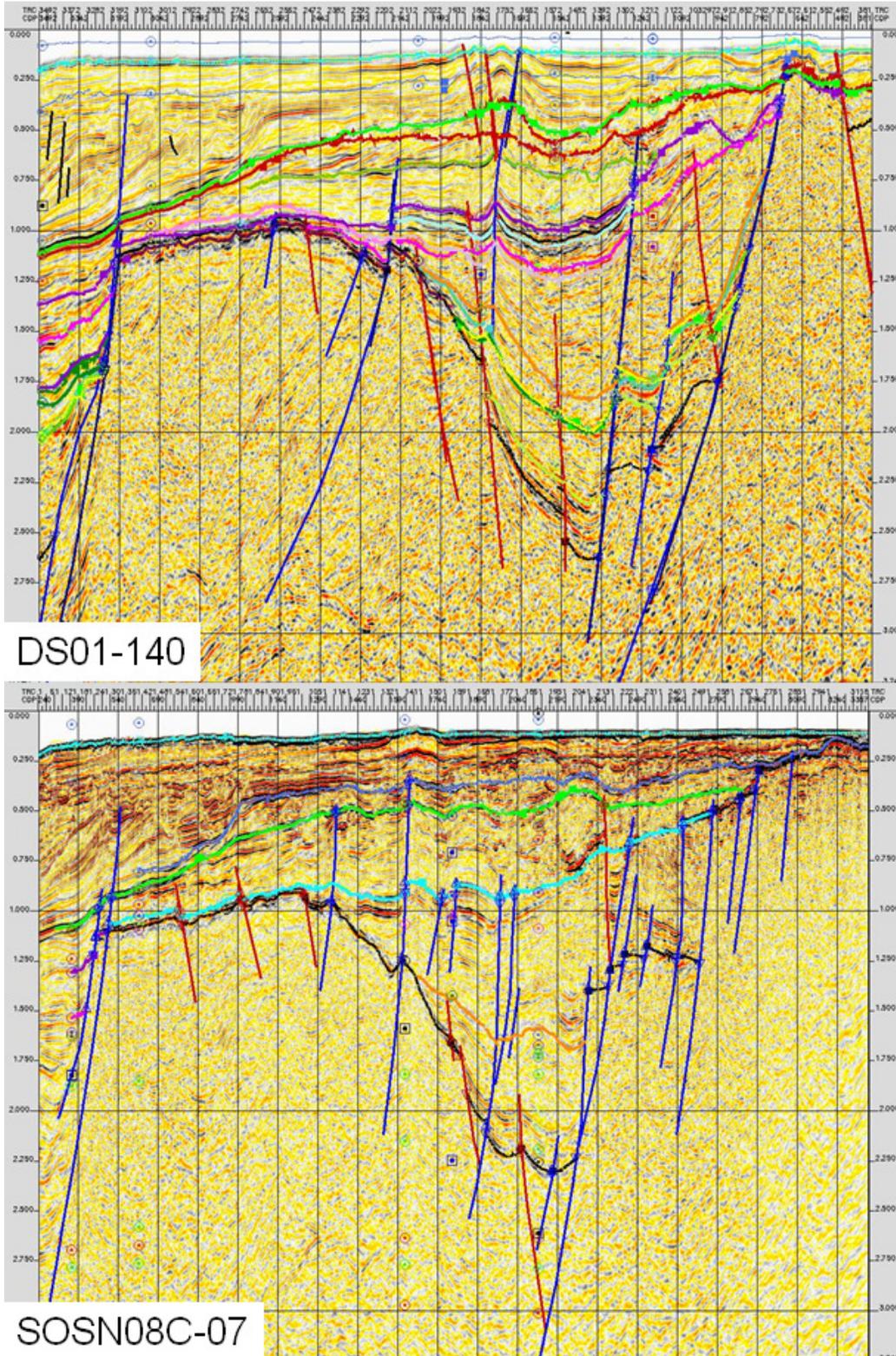
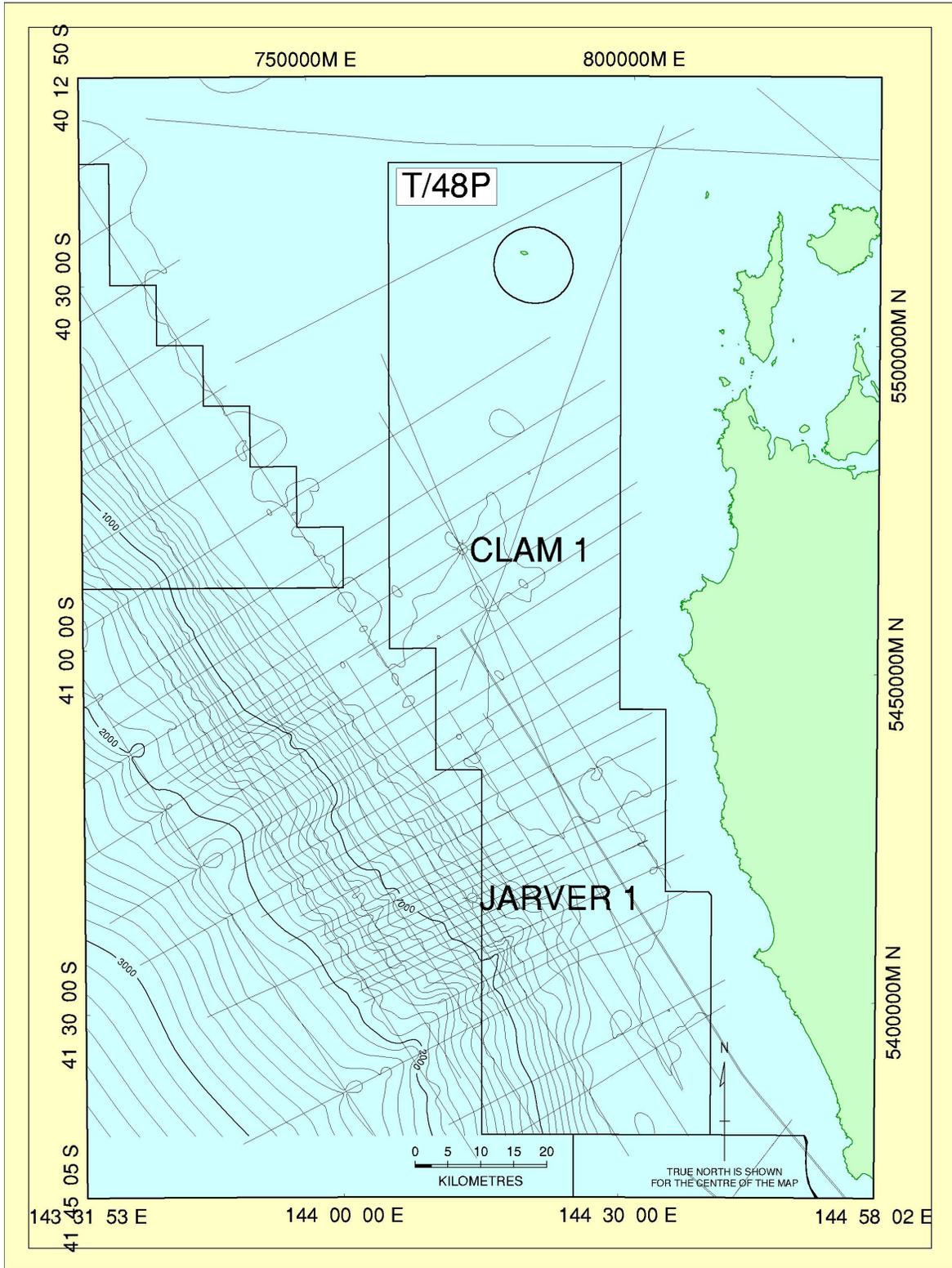
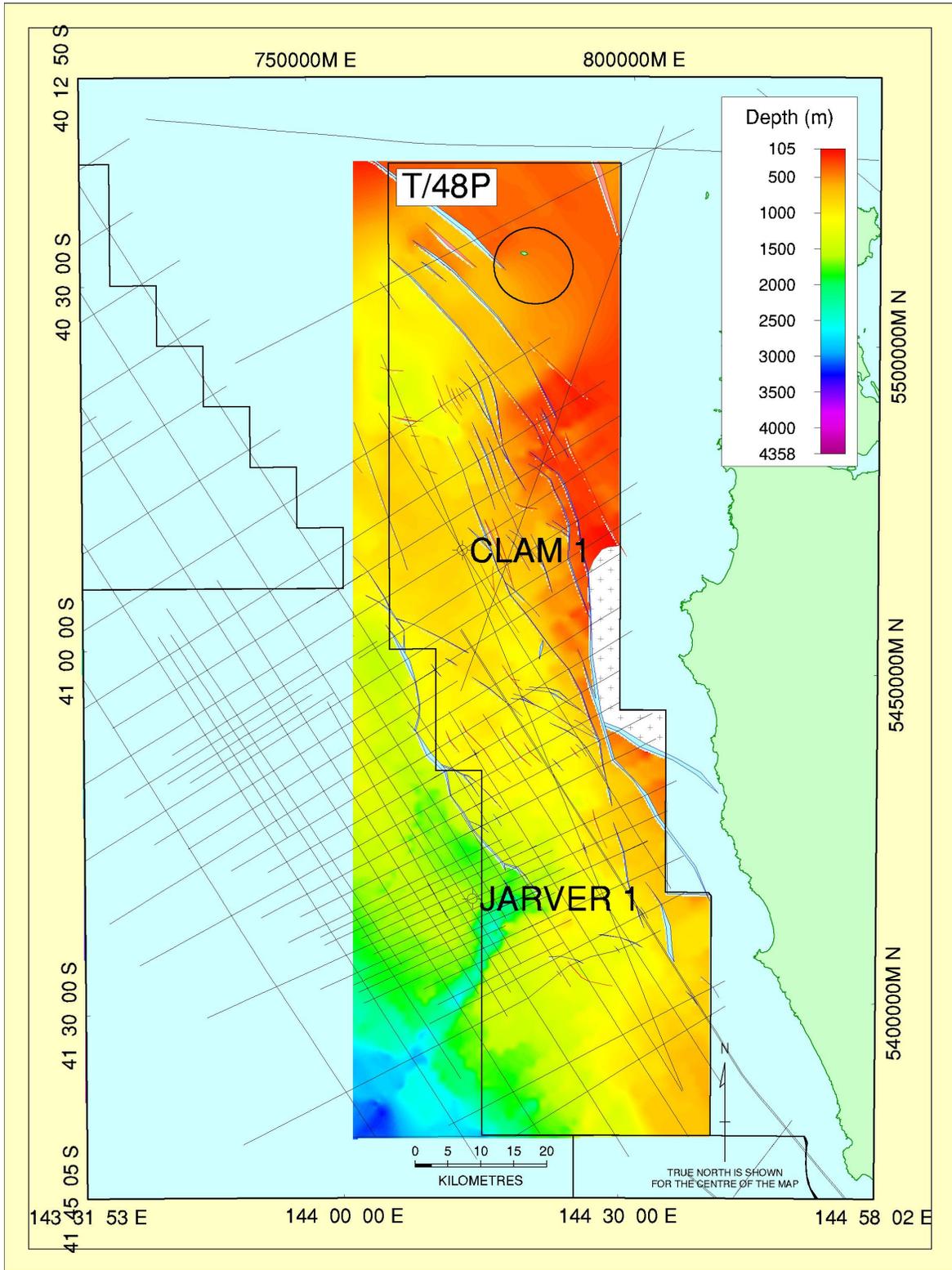


Figure 8. Seismic sections from DS01 and SOSN08C surveys for comparison of data quality.

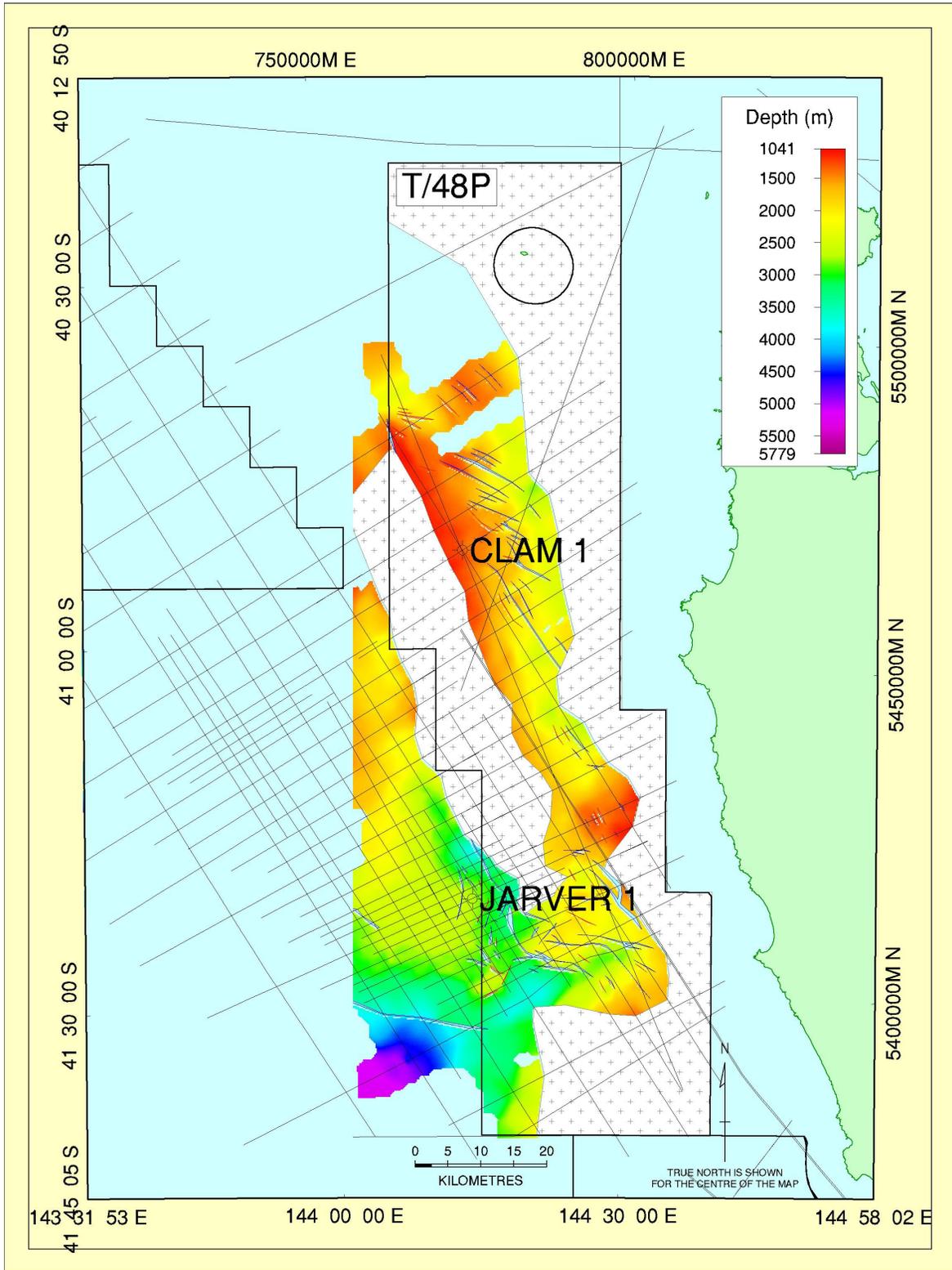
Enclosures - Maps of Key Horizons



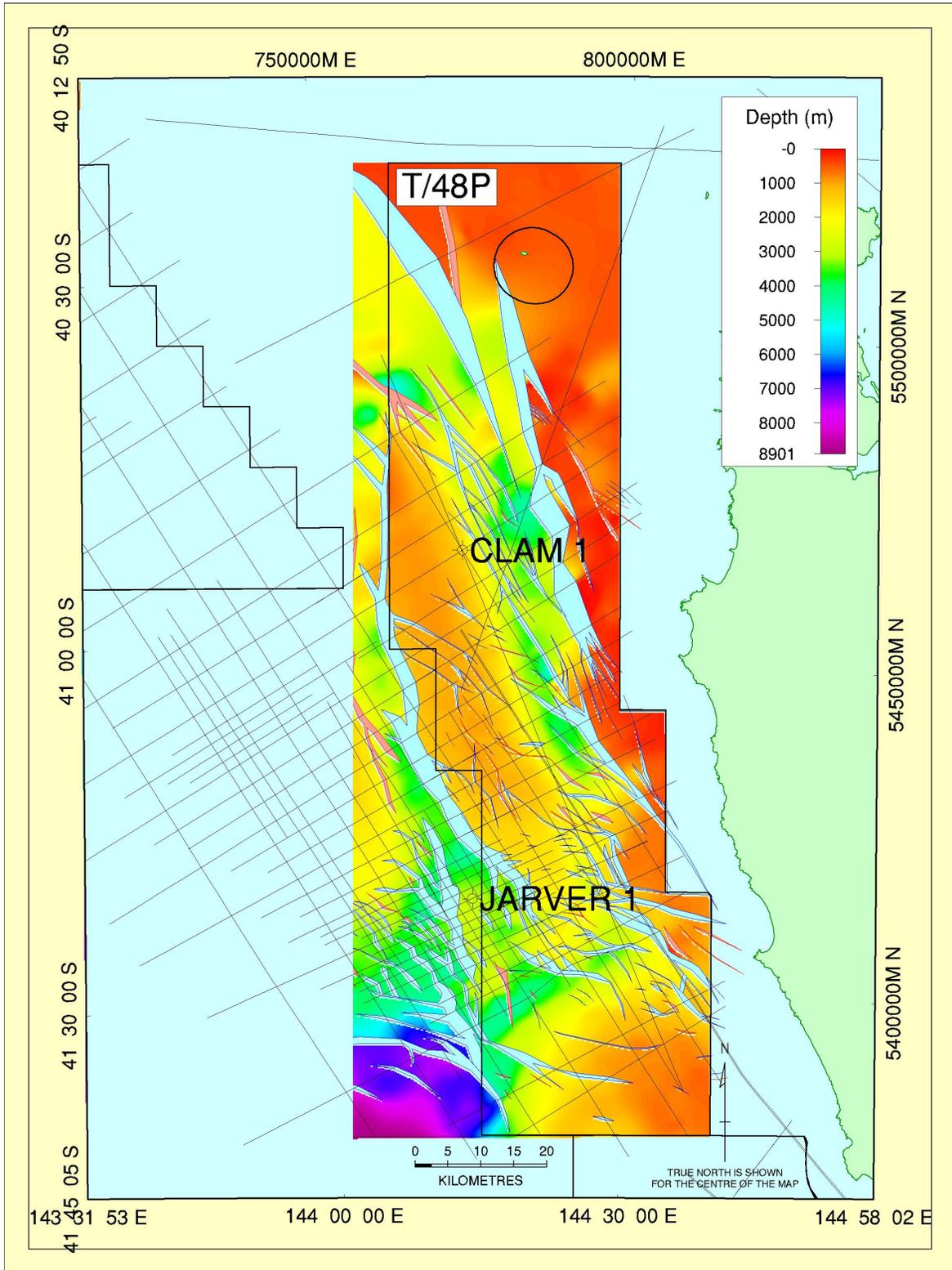
Enclosure 1. Water bottom depth structure map.



Enclosure 2. Near Base Tertiary (K110) depth structure map.



Enclosure 3. Near Top Reservoir (K85) depth structure map.



Enclosure 4. Basement (BASE) depth structure map.



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Figures

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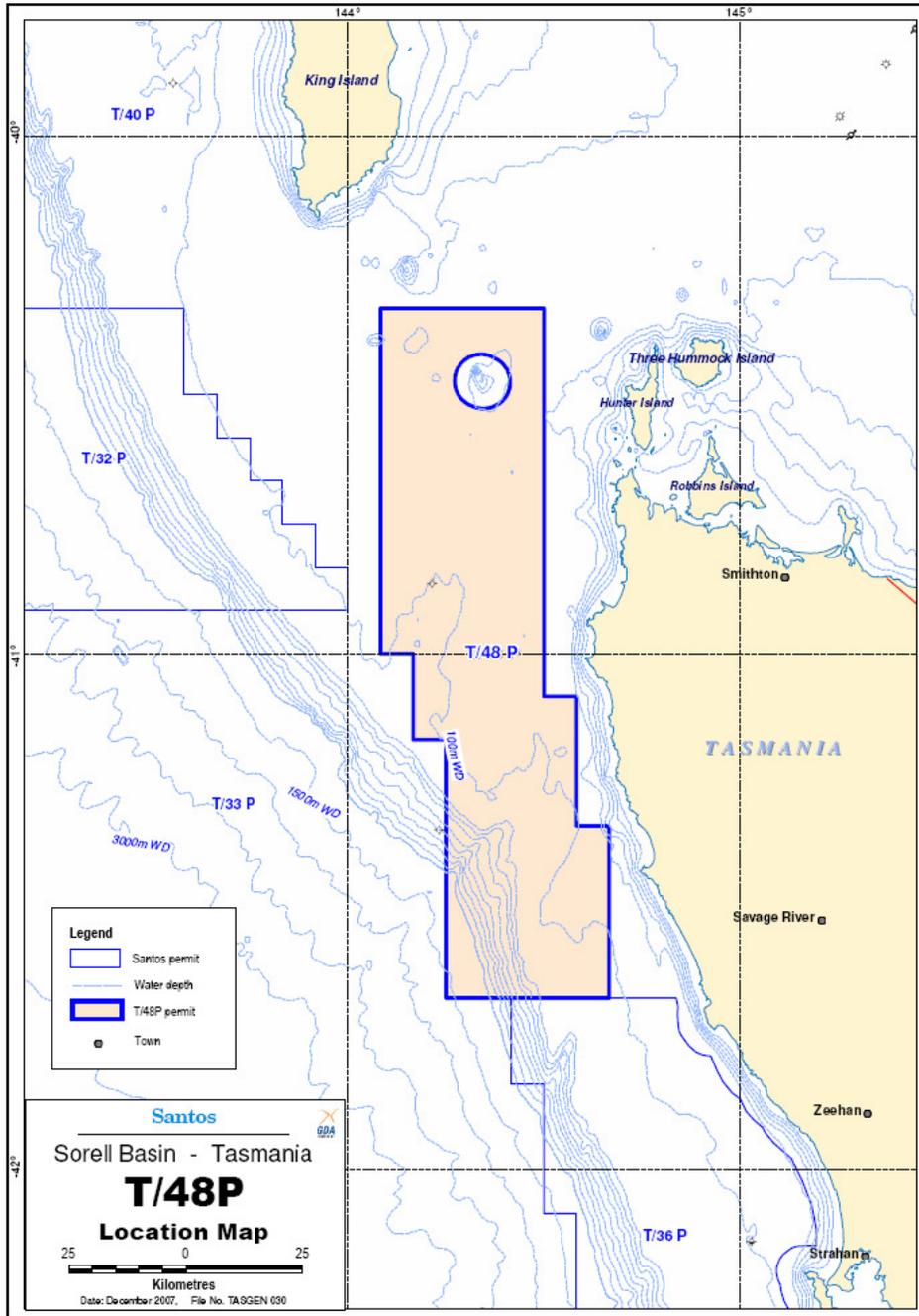


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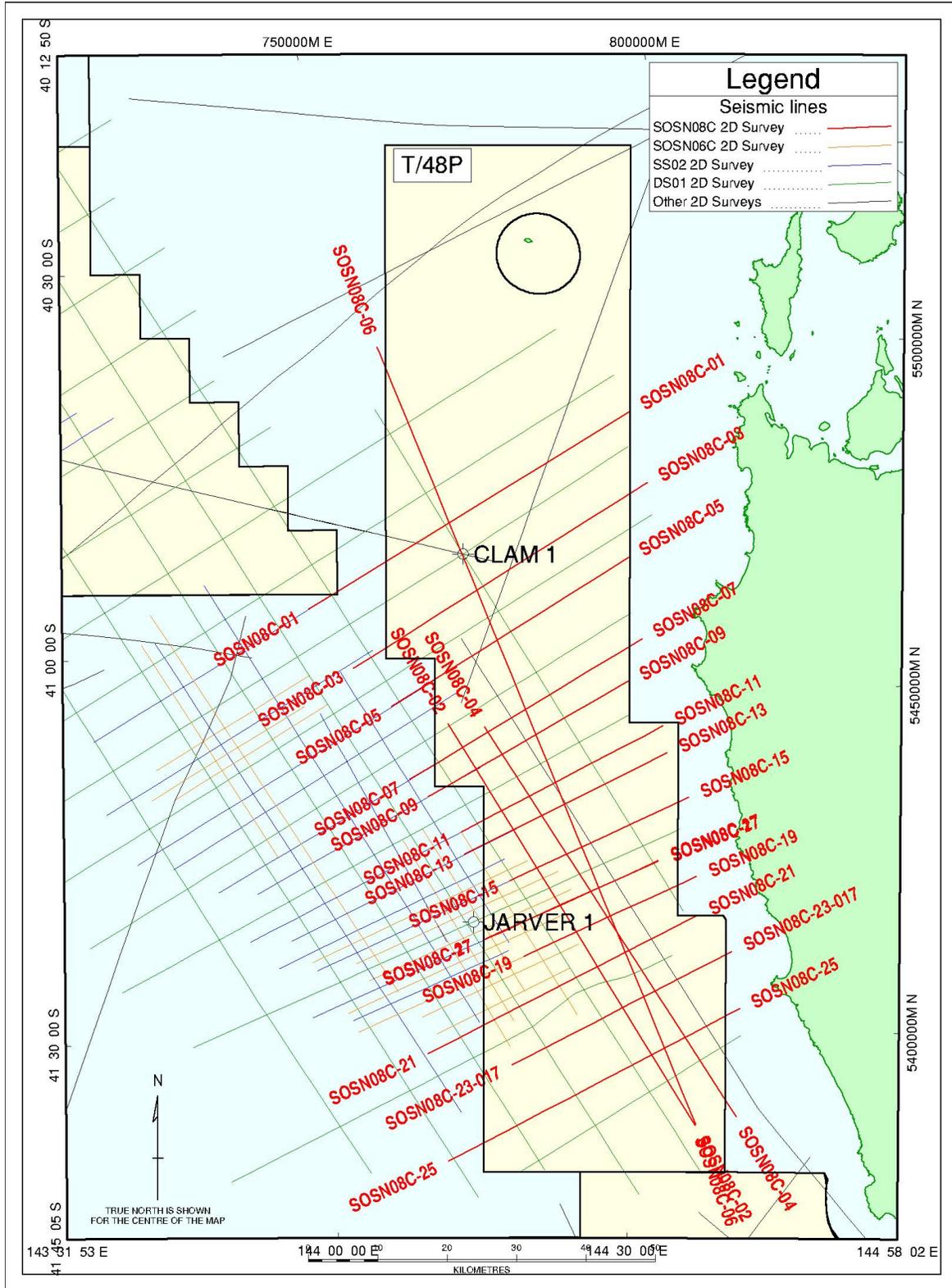


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Stratigraphic Chart

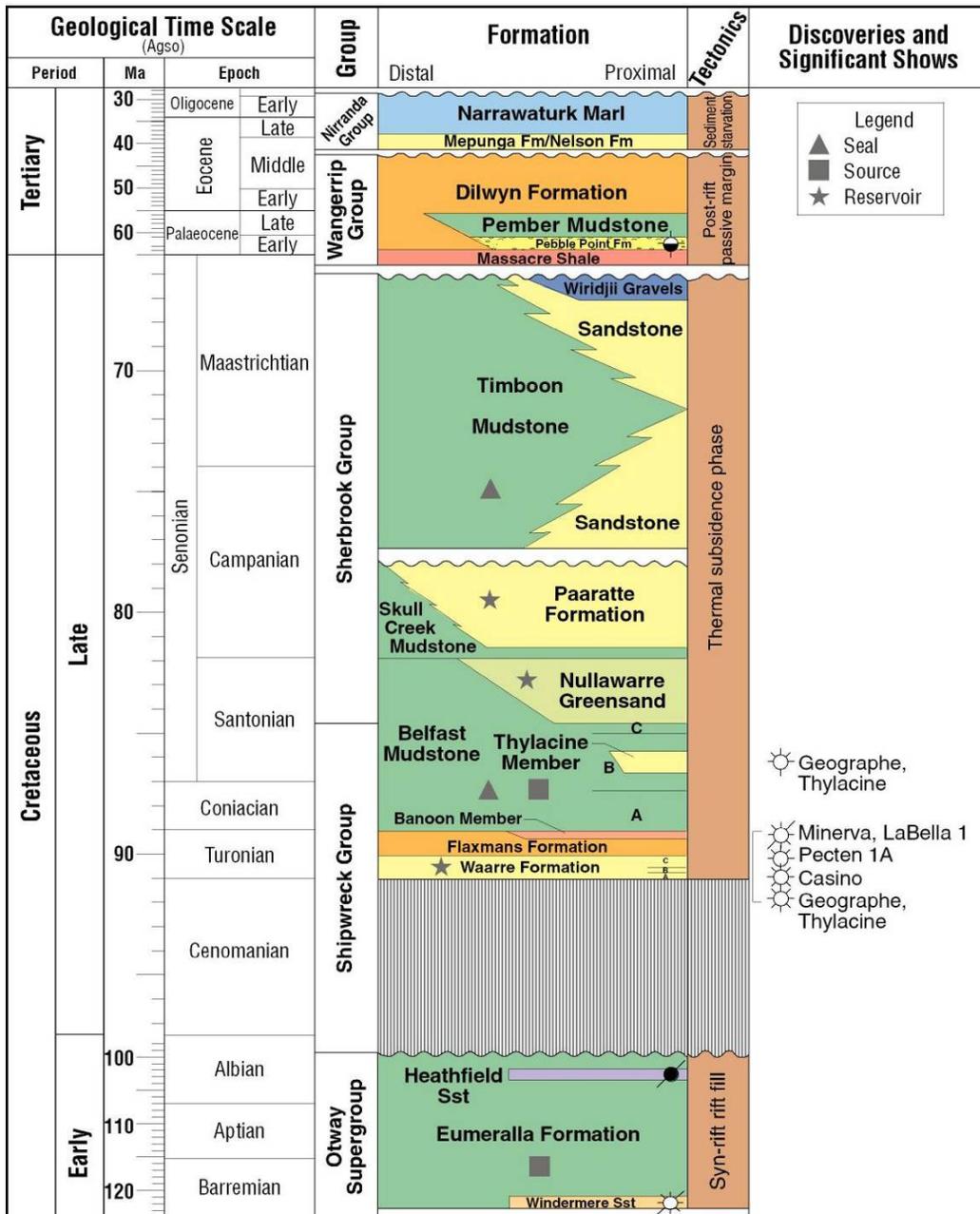


Figure 3. Stratigraphic Chart

Prospects and Leads Map

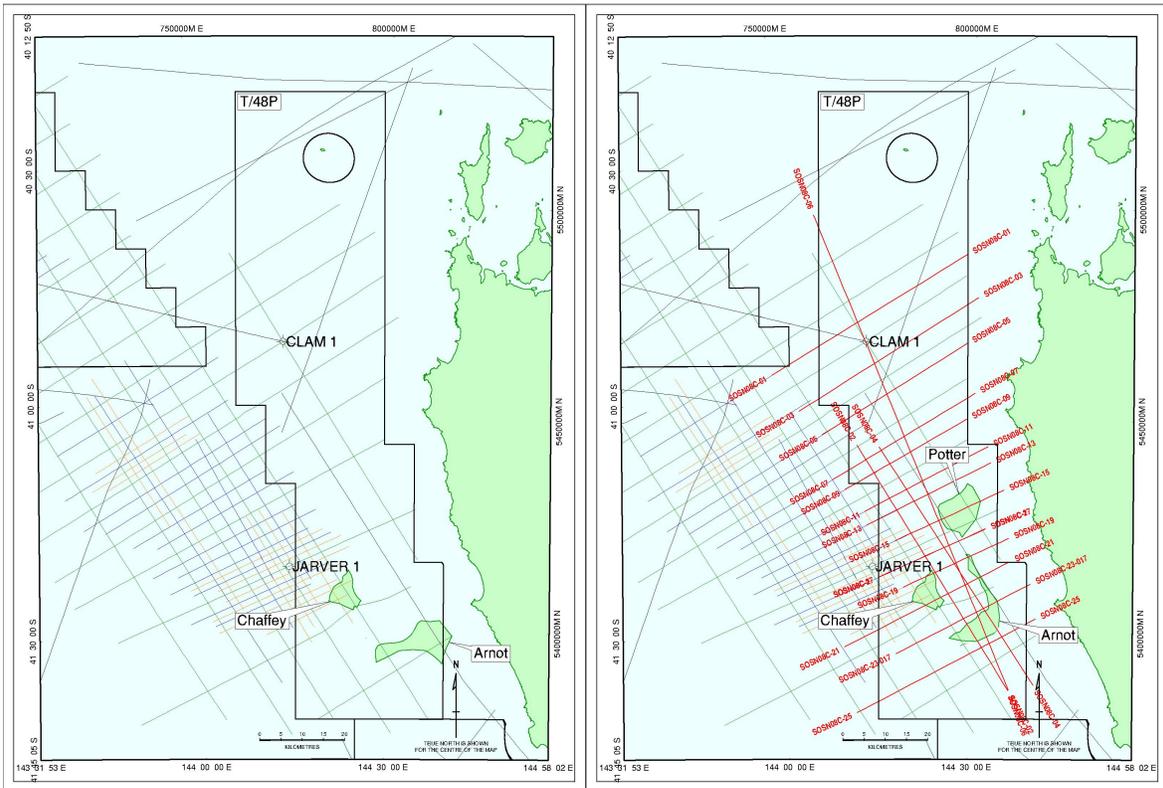


Figure 4. Prospects and Leads Map. Map on left shows pre-SOSN08C lead outlines. Map on right shows post-SOSN08C lead outlines.

Synthetic Seismograms

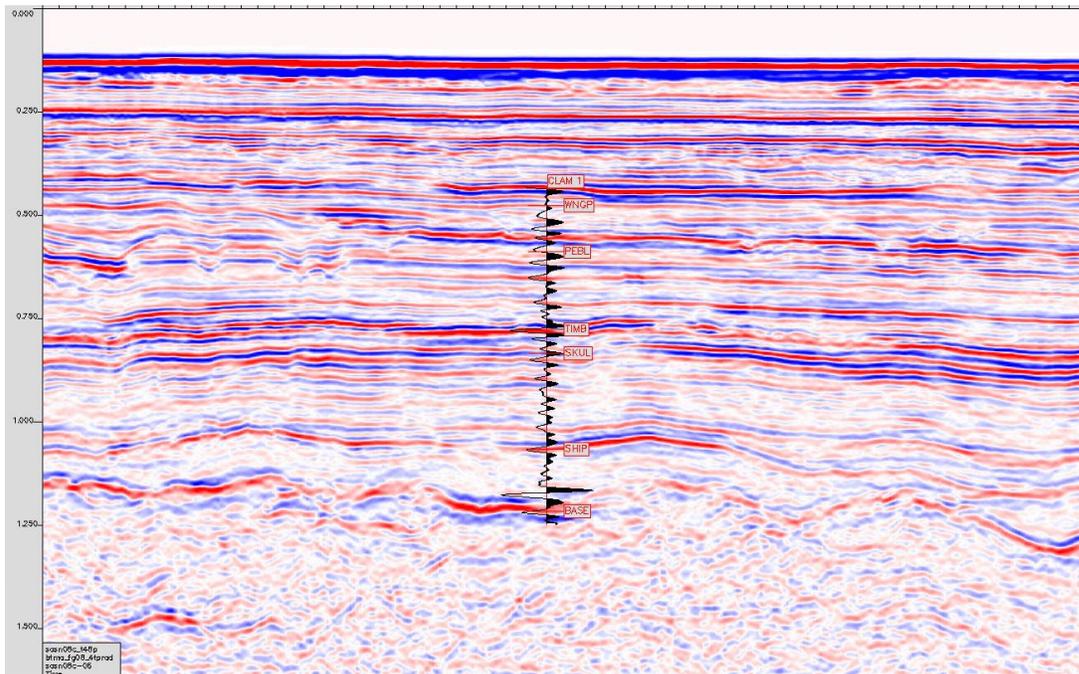


Figure 5. Synthetic seismogram at Clam-1. Seismic Line SOSN08C-06.

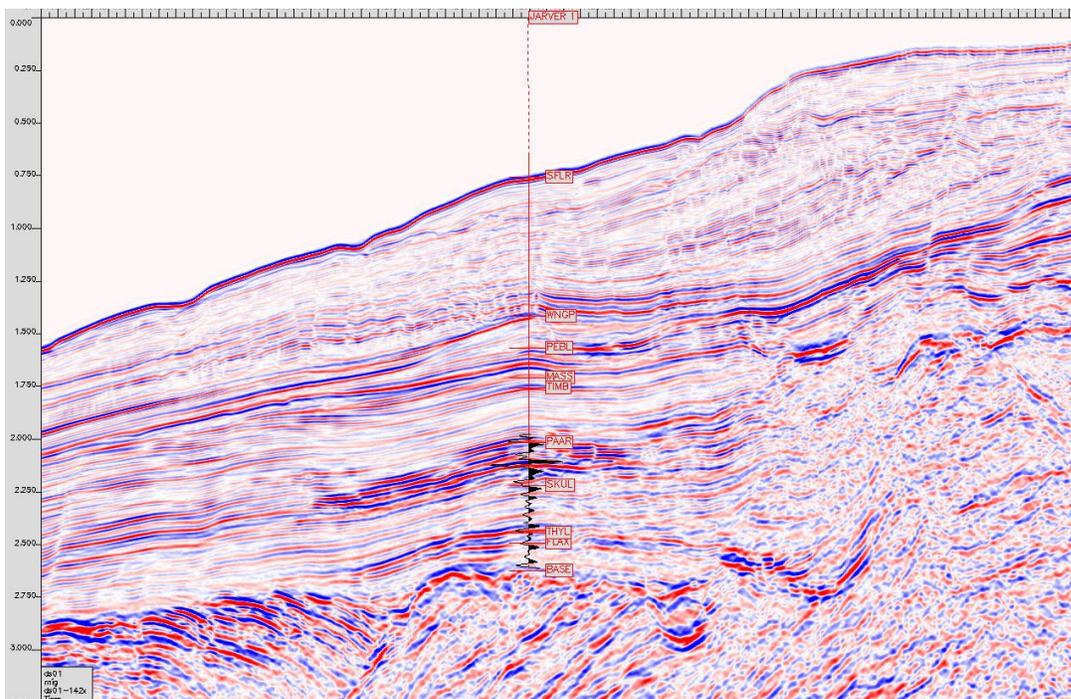


Figure 6. Synthetic seismogram at Jarver-1. Seismic Line DS01-142x.

Seismic Data Quality

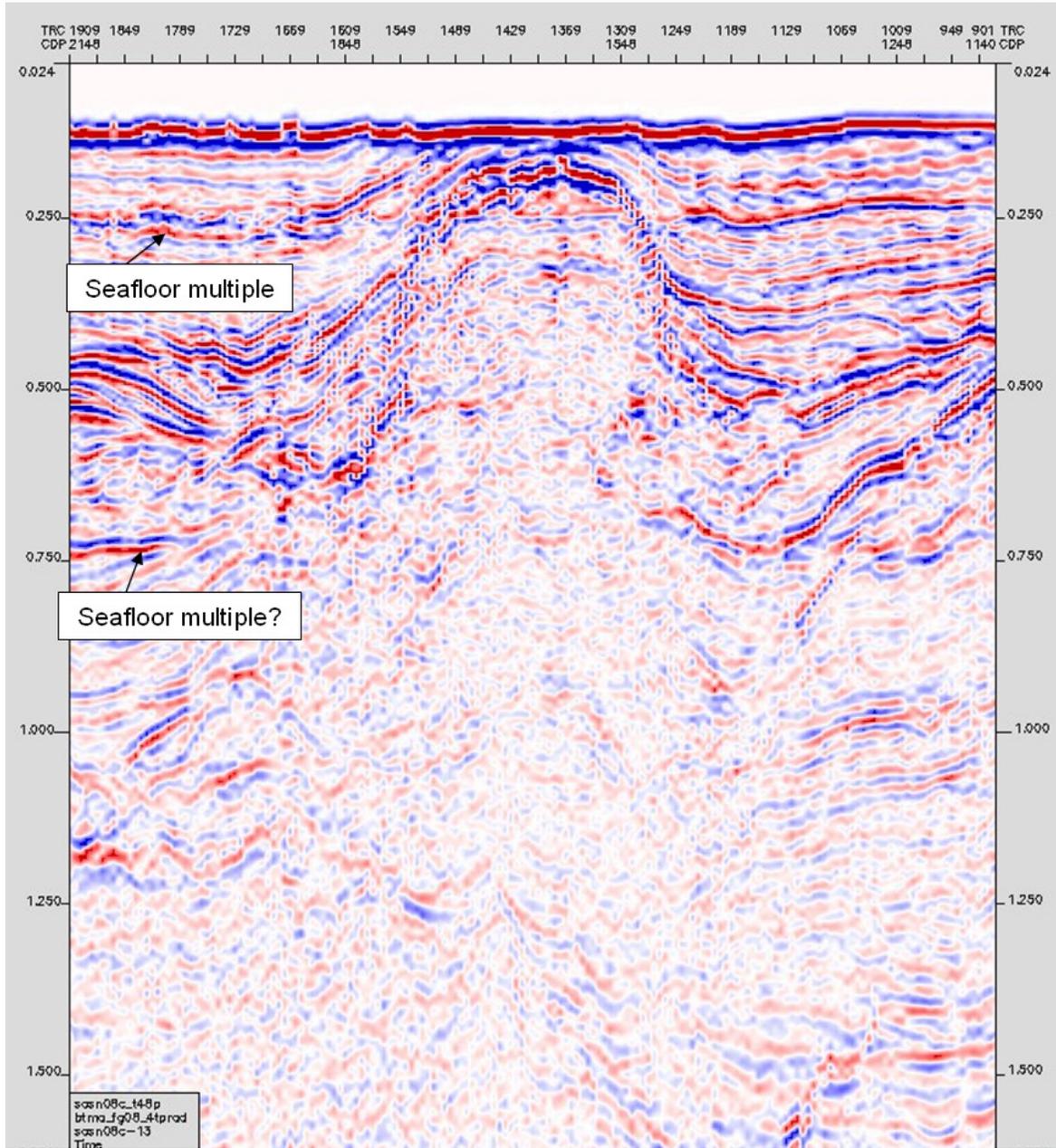


Figure 7. Line SOSN08C-13 showing the presence of a Tertiary mound and sea-floor multiple which increase the difficulty associated with interpretation of the SOSN08C seismic data.

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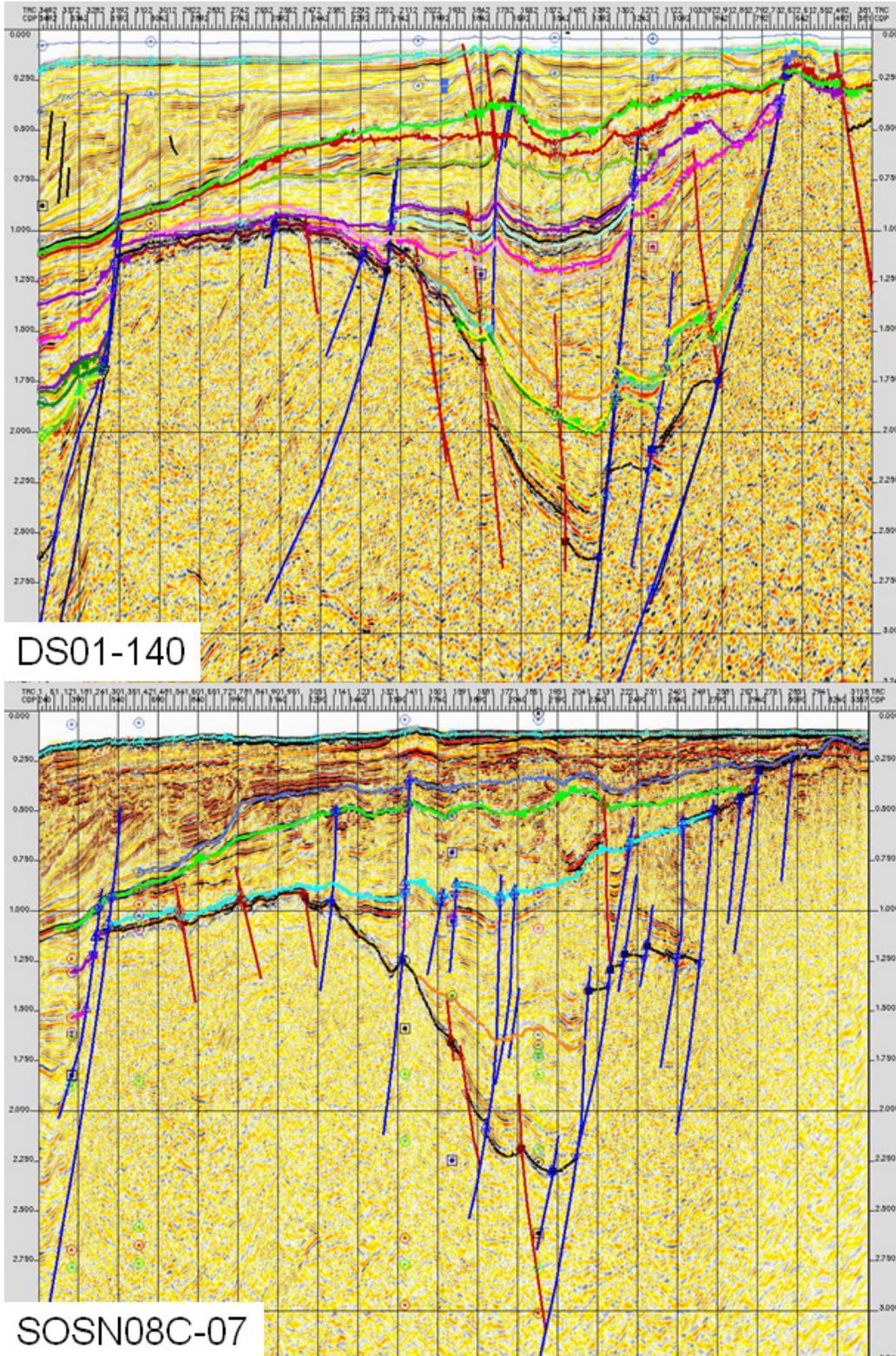
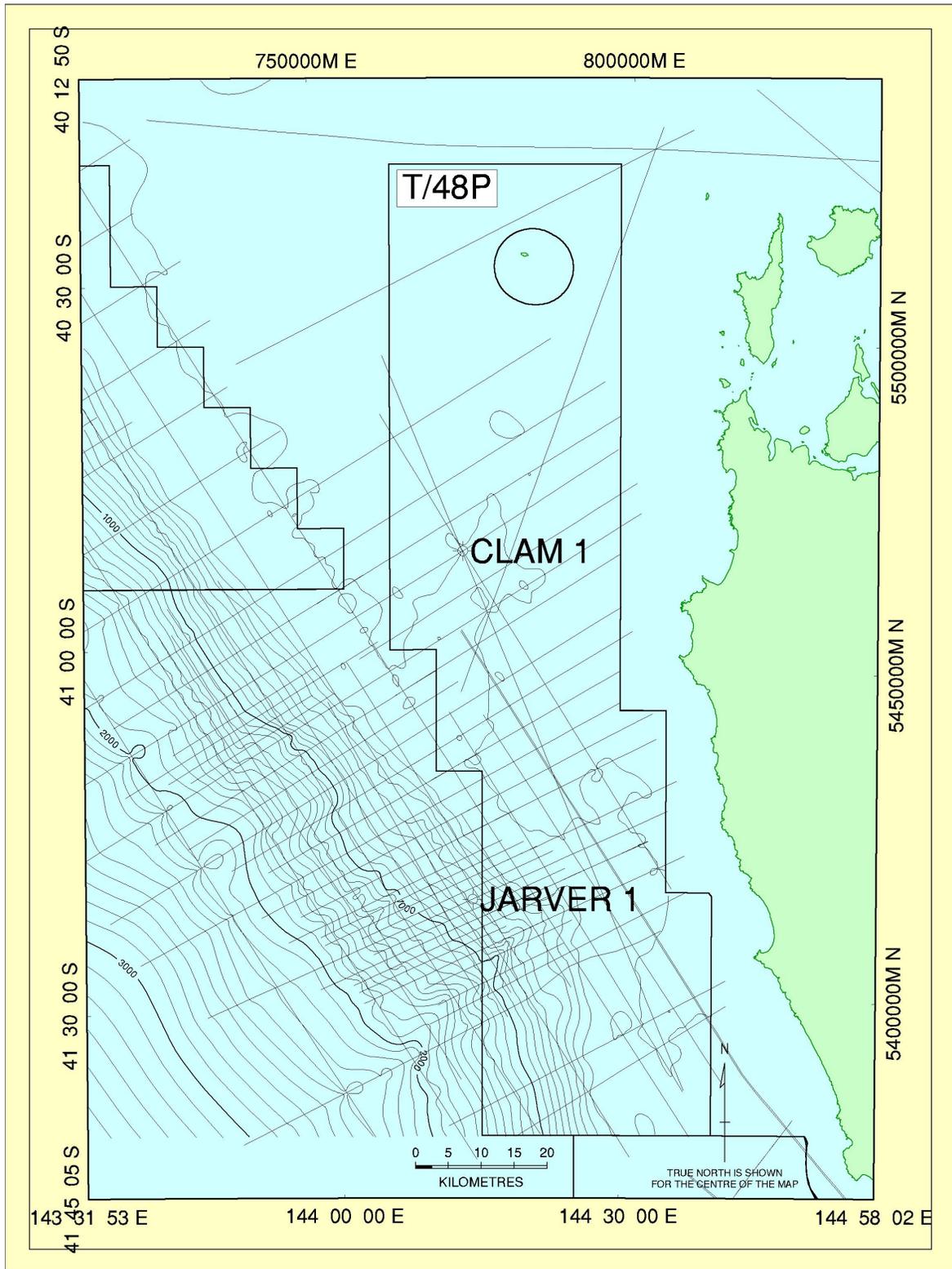
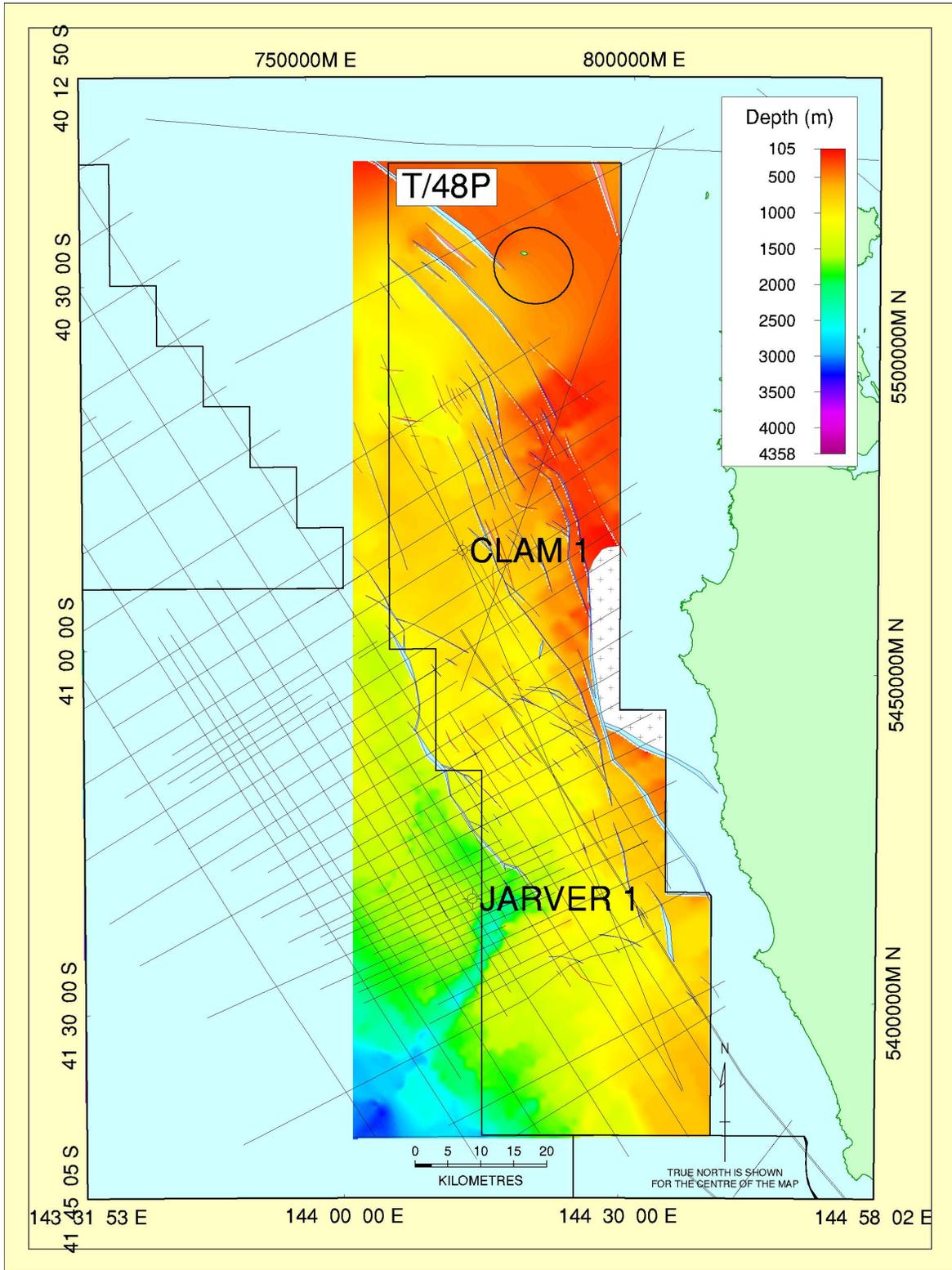


Figure 8. Seismic sections from DS01 and SOSN08C surveys for comparison of data quality.

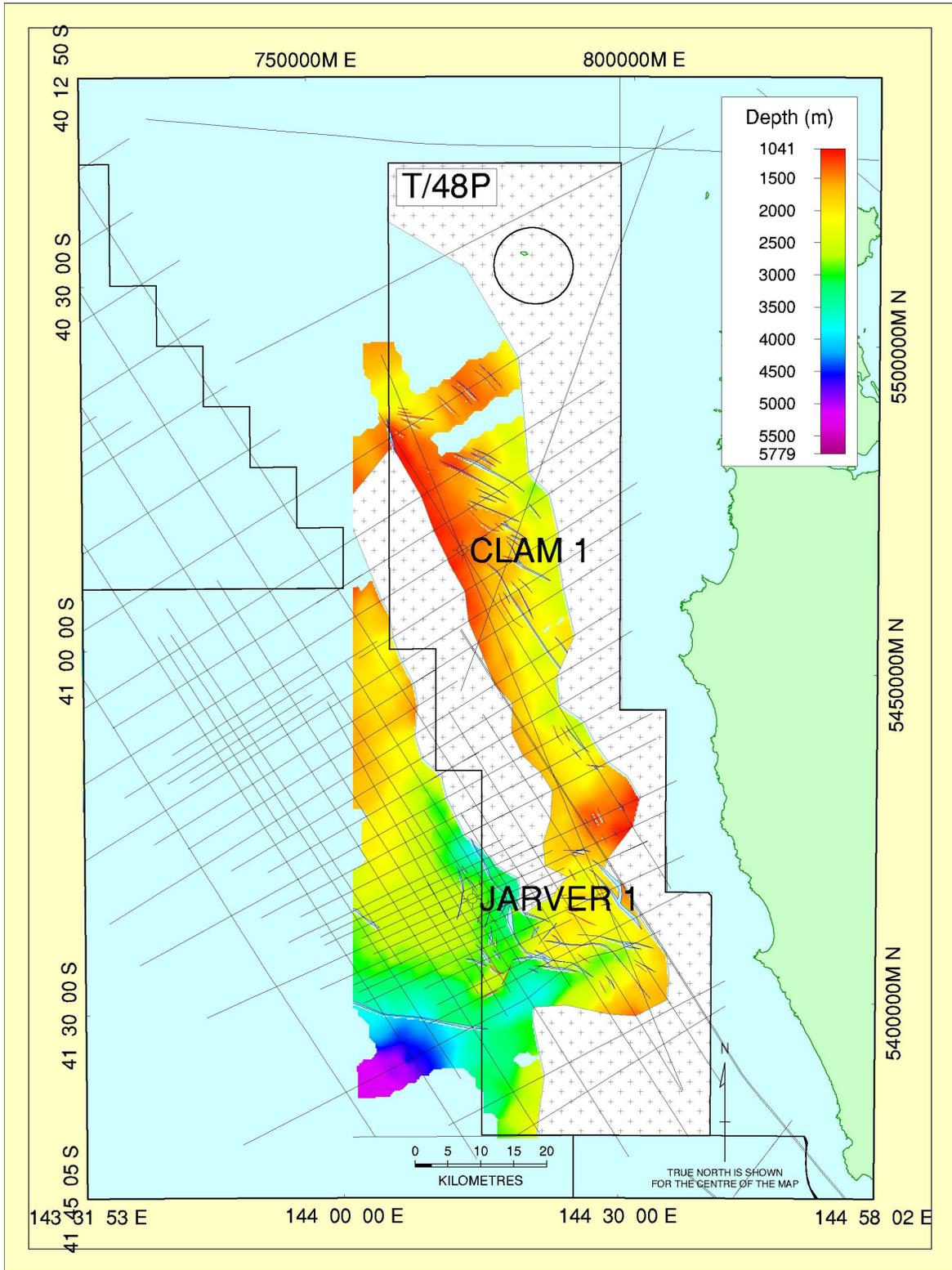
Enclosures - Maps of Key Horizons



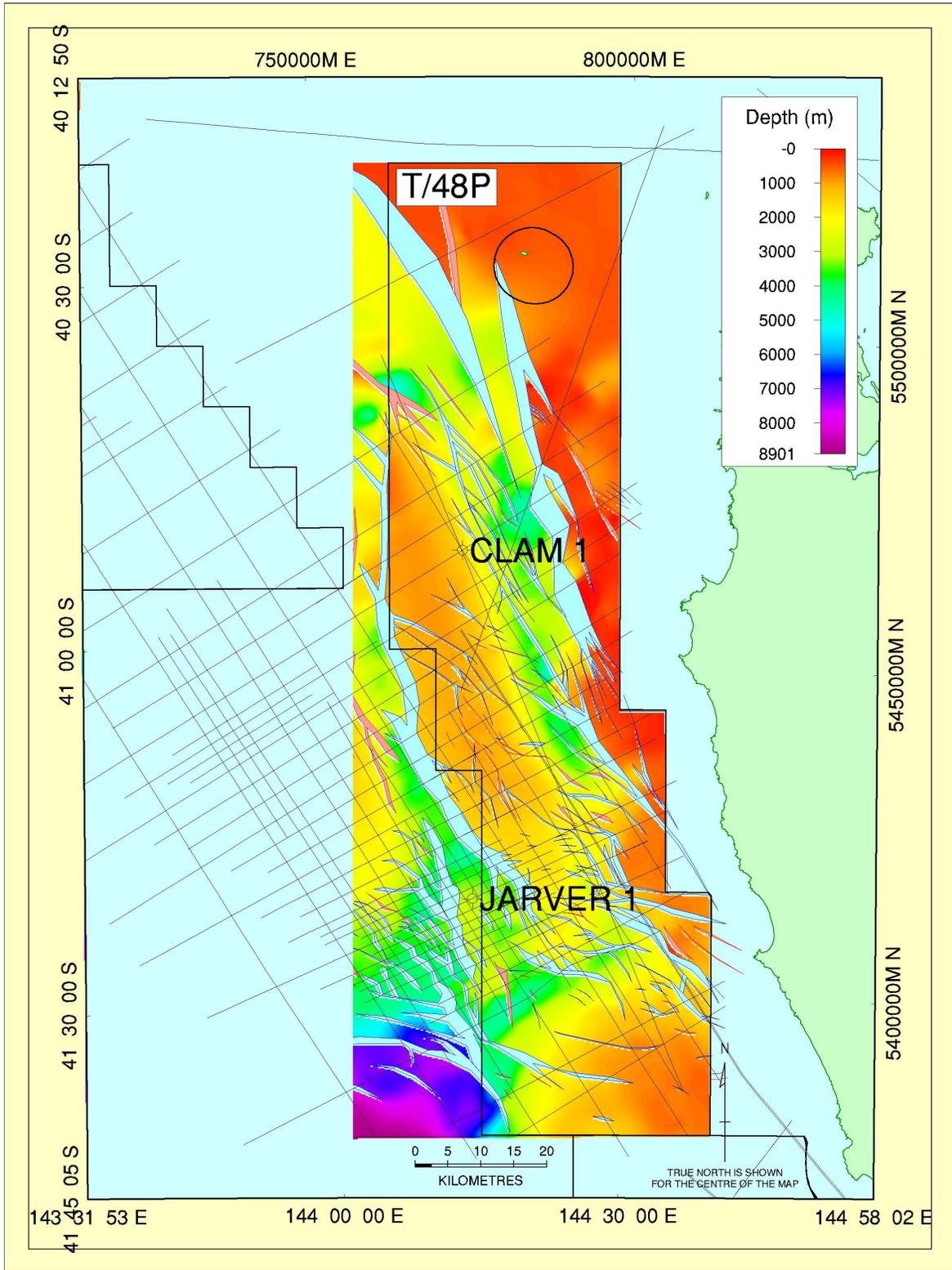
Enclosure 1. Water bottom depth structure map.



Enclosure 2. Near Base Tertiary (K110) depth structure map.



Enclosure 3. Near Top Reservoir (K85) depth structure map.



Enclosure 4. Basement (BASE) depth structure map.



Seismic Interpretation Report

Exploration Permit T/48P

SOSN08C 2D Seismic Survey

Table of Contents

| | |
|--|-----------|
| INTRODUCTION | 1 |
| PERMIT HISTORY | 1 |
| EXPLORATION HISTORY | 3 |
| GEOLOGY AND HYDROCARBON PROSPECTIVITY | 3 |
| SEISMIC MAPPING | 4 |
| AREA AND DATA MAPPED | 4 |
| INTERPRETATION METHODOLOGY | 4 |
| HORIZONS INTERPRETED..... | 4 |
| DEPTH CONVERSION | 4 |
| STRUCTURE MAPS PREPARED | 4 |
| DISCUSSION OF SEISMIC RECORD QUALITY | 5 |
| PLAY TYPES | 5 |
| LEADS AND PROSPECTS | 5 |
| CONCLUSIONS | 6 |
| FIGURES | 7 |
| PERMIT LOCATION MAP..... | 7 |
| DATA LOCATION MAP | 8 |
| STRATIGRAPHIC CHART | 9 |
| PROSPECTS AND LEADS MAP | 10 |
| SYNTHETIC SEISMOGRAMS | 11 |
| SEISMIC DATA QUALITY | 12 |
| SEISMIC DATA QUALITY COMPARISON..... | 13 |
| ENCLOSURES - MAPS OF KEY HORIZONS | 14 |

Introduction

The SOSN08C 2D Seismic Survey was acquired by Santos in March 2008 as part of the work commitment for the T/48P Permit Year 1.

Acquisition occurred over the period 4th March to the 8th March 2008. The survey was acquired by the CGG Veritas MV Pacific Titan seismic vessel. A total of 781.65 Km of seismic data was acquired, over 17 lines (Figure 2). One line, namely SOSN08C-27, was a reshoot of line SOSN08C-017 using a reduced source size of 2130cuin. This line was processed twice – once as a separate line, and again using the velocities from line SOSN08C-017 for PSTM and stacking.

All processing was undertaken at the Fugro Seismic Imaging office in Perth, Western Australia, and commenced in March 2008. The final PSTM stacks, angle stacks, final PSTM gather and velocity archives were delivered to Santos on the 8th October 2008.

Permit History

Exploration Permit T/48P (Figure 1) in the Sorell Basin was awarded to Santos Offshore Pty Ltd on 12 July 2007 for an initial term of 6 years.

The permit consists of 77 part and whole graticular blocks covering an area of approximately 4885 km² (GDA) in water depths of approximately 200m, deepening to 1500m towards the south-western part of the block. Santos Offshore Pty Ltd is the sole interest holder and operator of the permit.

| Company | Percentage Interest |
|-------------------------|---------------------|
| Santos Offshore Pty Ltd | 100% |

The work obligations for Exploration Permit T/48P are set out below:

| PERMIT YEAR (<i>Commencing</i>) | PRIMARY WORK PROGRAM | INDICATIVE EXPENDITURE |
|--|------------------------------------|-------------------------------|
| One (12 July 2007 – 11 July 2008) | 700 km 2D Seismic Acquisition | \$1,400,000 |
| Two (12 July 2008 – 11 July 2009) | Geological and Geophysical Studies | \$400,000 |
| Three (12 July 2009 – 11 July 2010) | Geological and Geophysical Studies | \$400,000 |
| | TOTAL FIRM PROGRAM | \$2,200,000 |

| PERMIT YEAR (<i>Commencing</i>) | SECONDARY WORK PROGRAM | INDICATIVE EXPENDITURE |
|--|--|-------------------------------|
| Four (12 July 2010 – 11 July 2011) | Geological and Geophysical Studies | \$400,000 |
| Four (12 July 2011 – 11 July 2012) | 300 km² 3D Seismic Acquisition | \$10,500,000 |
| Four (4 June 2005 – 3 June 2006) | One Exploration Well | \$25,000,000 |
| | TOTAL SECONDARY PROGRAM | \$35,900,000 |

Exploration History

Described below are the results of the offshore wells closest to the T/48P exploration permit. Well completion reports issued by the Operator and the updated interpretation of seismic data provide the primary source of information for detailing the exploration history. No wells to date have been drilled on the permit.

Prawn-A1 (Esso, 1967). Intersected 712m of Waarre Formation equivalent. Measured porosities in the sandstone exceeded 20% with permeabilities up to 235 mD.

Clam-1 (Esso, 1969). Tested structural closure of the basal Tertiary and updip pinchout of Cretaceous sediments against the Clam High. Good reservoir sandstones with porosities up to 20% were intersected. Clam-1 reached a depth of only 1592m, intersecting Devonian conglomerates on Pre-Cambrian metamorphic basement. The penetrated sedimentary section is immature for hydrocarbon generation.

Whelk-1 (Esso, 1970). Drilled an anticlinal closure 120 km north of Clam in the southern Otway Basin to test anticipated Waarre Formation sandstones with good reservoir characteristics. Although 94m of Waarre Sandstone was intersected, top seal (Belfast Mudstone) lithologies were not developed.

Thylacine-1 (Origin, 2001). Successfully tested a mapped Waarre Formation closure, with associated amplitude anomaly. It encountered gas within the Thylacine/Flaxman/Waarre section.

Geographe-1 (Origin, 2001). This well was a successful test of a mapped Waarre Formation closure, with associated amplitude anomaly. It encountered gas within the Thylacine/Flaxman/Waarre section.

Geographe North-1 (Origin, 2001). This well drilled as a follow-up test of Geographe-1 and was a dry hole (no full stack amplitude anomaly).

Thylacine-2 (Origin, 2001). This well was an appraisal to follow up success at Thylacine-1.

Jarver-1 (Santos, 2008). This well is not yet open file.

Geology and Hydrocarbon Prospectivity

The Sorell Basin formed during oblique rifting between the Australian and Antarctic continents in the Late Cretaceous and is considered to be a southern extension of the Otway Basin. While relatively open ocean conditions existed to the north and west in the Otway Basin, a restricted marine embayment was formed in the Sorell region, bounded to the southeast by a land-bridge between the two continents, which did not separate until the Eocene.

Late Cretaceous reservoir sandstones, belonging to the Waarre Formation, Flaxman Formation and Thylacine Sandstone Member (Figure 3), form the main productive zones within Otway Basin fields such as Casino (Santos-operated), Minerva, La Bella, Thylacine and Geographe, located north of the deep water acreage trend. These sandstones exhibit excellent reservoir quality with average log porosity in the range of 15-28% and permeabilities of up to 8 Darcies. These sandstones are mapped extending southwards into Santos' Sorell Basin permits. Deposition of coarse-grained siliciclastics in the Turonian-Santonian is associated with periodic fluvio-deltaic pulses into an overall upwards-deepening/fining section (Belfast Mudstone), providing an effective reservoir-seal couplet. Regional regression in the

Campanian led to renewed coarse-grained, fluvio-deltaic input to the basin as the Paaratte and Timboon sandstones. Potential sealing sequences of the Skull Creek and Timboon mudstones and the Massacre Shale are observed to thicken into the basin. Mild structural inversion in the latest Cretaceous was followed by rapid subsidence and transgression resulting in retrogradation of the deltaic systems and deposition of the Wangerrip Group in the Palaeogene. Eventually the marginal sedimentary systems were drowned and, in association with the opening of the seaway in the late Eocene and subsequent formation of the Circum-Antarctic current, deposition came to be dominated by cool-water carbonates that persist to present day.

Nine offshore discoveries have been made in the Otway Basin to date proving in excess of 1.6 TCF recoverable gas. These discoveries have been full to spill, with liquids content increasing generally from north to south. Hydrocarbon charge in the basin is considered to come from Albian-aged, Eumeralla Formation source rocks.

Seismic Mapping

Area and Data Mapped

The new SOSN08C 2D seismic data infilled the existing multi-client DS01 and SS02, and Santos acquired SOSN06C 2D, seismic datasets. The SOSN08C acquisition lines were spread across the T/48P permit but the majority were acquired in the southern half of the permit (Figure 4), previously an area of lower seismic density but greater prospectivity. The new dataset was incorporated into the existing interpretation.

Interpretation Methodology

Geoframe IESX was used in the structural interpretation of this seismic data. Well synthetics were created in Geoframe for the Clam (Figure 5), Jarver (Figure 6), Prawn and Whelk wells, and the correlations taken into T/48P using the existing regional seismic lines.

Seismic interpretation was undertaken using the all-offset pre-stack time migrated volumes. The new SOSN08C data was tied to the multiclient DS01 and SS02, and the Santos acquired SOSN06C data.

Horizons Interpreted

Key horizons interpreted include the water bottom (WB), near base Tertiary (K110), top Belfast (K90), near top Reservoir (K85), near top Eumeralla (K75) and Basement (BASE). The Waarre Fm is difficult to pick extensively over the permit. The Prawn-1 and Whelk-1 well logs suggest this could be related to the sand on sand nature of the Waarre interface in this region.

Further interpretation difficulty was associated with a lack of nearby well control, compounded by a high degree of faulting, and also related to signal attenuation under shallow Tertiary mounds and volcanics.

Depth Conversion

Depth conversion was undertaken in Petrosys using seismic stacking velocities extracted as average velocity to the target intervals and tied to the Clam-1 and Jarver-1 wells.

Structure Maps Prepared

Structure maps prepared, in time and depth, include the Water Bottom (WB), near Base Tertiary (K110), near Top Reservoir (K85) and Basement (BASE). Depth maps of these key horizons are attached at the back of this report and also as 1:375000 scale maps (Enclosures 1-4).

Discussion of Seismic Record Quality

Most of the SOSN08C seismic data is of fair-good quality. Reflectors within the sedimentary package are generally robust but lose continuity under apparent mounds within the Late Tertiary which are thought to be both intrusive and extrusive volcanics. Imaging below these mounds is extremely poor, with significant signal attenuation beneath (Figure 7). There also appears to be a persistent sea-floor multiple throughout the survey which increases the difficulty of interpretation in the shallow section (Figure 7).

Apart from the signal attenuation beneath the Tertiary mounds and the sea-floor multiple, the SOSN08C seismic data is of better quality than the multiclient DS01 and SS02 seismic data (Figure 8), mainly due to its higher frequency component allowing higher resolution. The survey appears to be comparable in quality to the SOSN06C 2D Seismic Survey.

Play Types

The key play type targeted in this permit is Cretaceous in age, with Late Cretaceous Thylacine Member, Flaxman Formation or Waarre Formation reservoirs and Belfast or Skull Creek top seals, and hydrocarbons sourced from the Eumeralla or Waarre coals, within faulted structural traps. These plays have been proven in the Otway Basin fields to the north.

Leads and Prospects

Santos applied for Permit T/48P in order to hold up-dip protection acreage in the case of success at the Jarver-1 location, which lies in the westerly, neighbouring, previously Santos operated Permit T/33P. Prior to the acquisition of the SOSN08C 2D Seismic Survey, leads were poorly defined but were believed to be generally low relief, subtle structures. The more robust leads within T/48P relied on charge through fill-and-spill of the Jarver structure. Since no strong hydrocarbon shows were encountered, along with the presence of an anomalously low thermal gradient, during the drilling of Jarver-1, the prospectivity in T/48P remains high risk.

Potter

The SOSN08C 2D Survey has identified new amplitude flags, one of which appears to be associated with a fault-bound three-way dip structure in the southern portion of T/48P. A significant degree of uncertainty surrounds this lead in regards to its interpreted stratigraphic level and lithology, the lack of proven source interval and charge within the sub-basin, and seal lithology. Further analysis of this lead is required and a 3D seismic survey would be necessary to delineate and reduce risk on the lead.

Chaffey

Analysis of the SOSN08C survey at the pre-existing Chaffey lead highlights an upthrown fault-bound three-way dip closure. Chaffey doesn't appear to exhibit attribute support. Further detailed mapping and analysis is required on this lead.

Arnot

Analysis of the pre-existing Arnot lead using the SOSN08C survey indicates a fault-bound three-way dip closure. Arnot also doesn't appear to exhibit attribute support. Further detailed mapping and analysis is required on this lead.

Conclusions

The SOSN08C seismic dataset is of fair-good quality, generally of better quality than the nearby DS01 and SS02 surveys and comparable to the SOSN06C seismic dataset. Interpretation difficulty is increased in the Tertiary section where interpreted volcanic mounds and a sea-floor multiple reduce seismic quality. There is also a significant degree of signal attenuation below the shallow volcanics.

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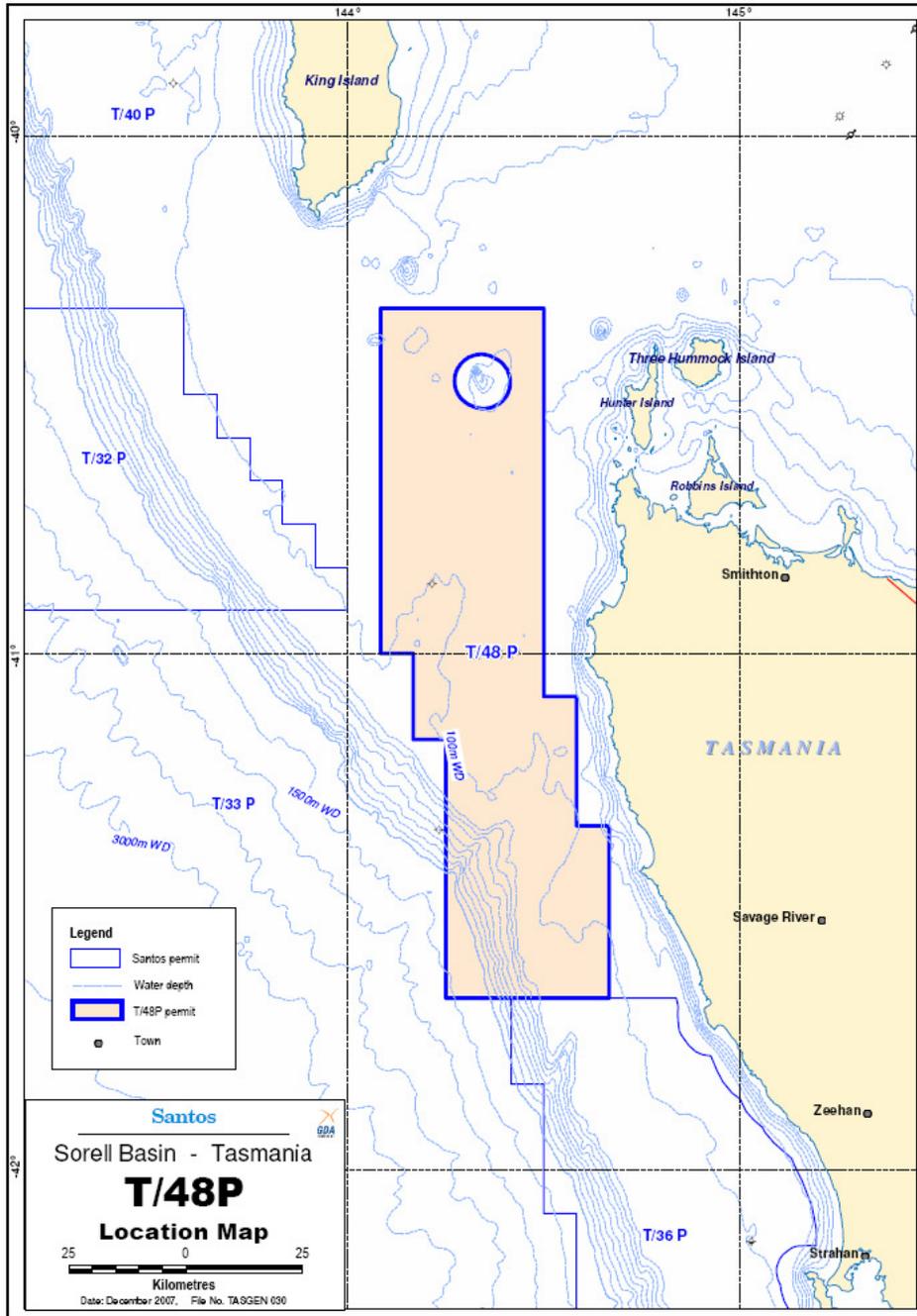


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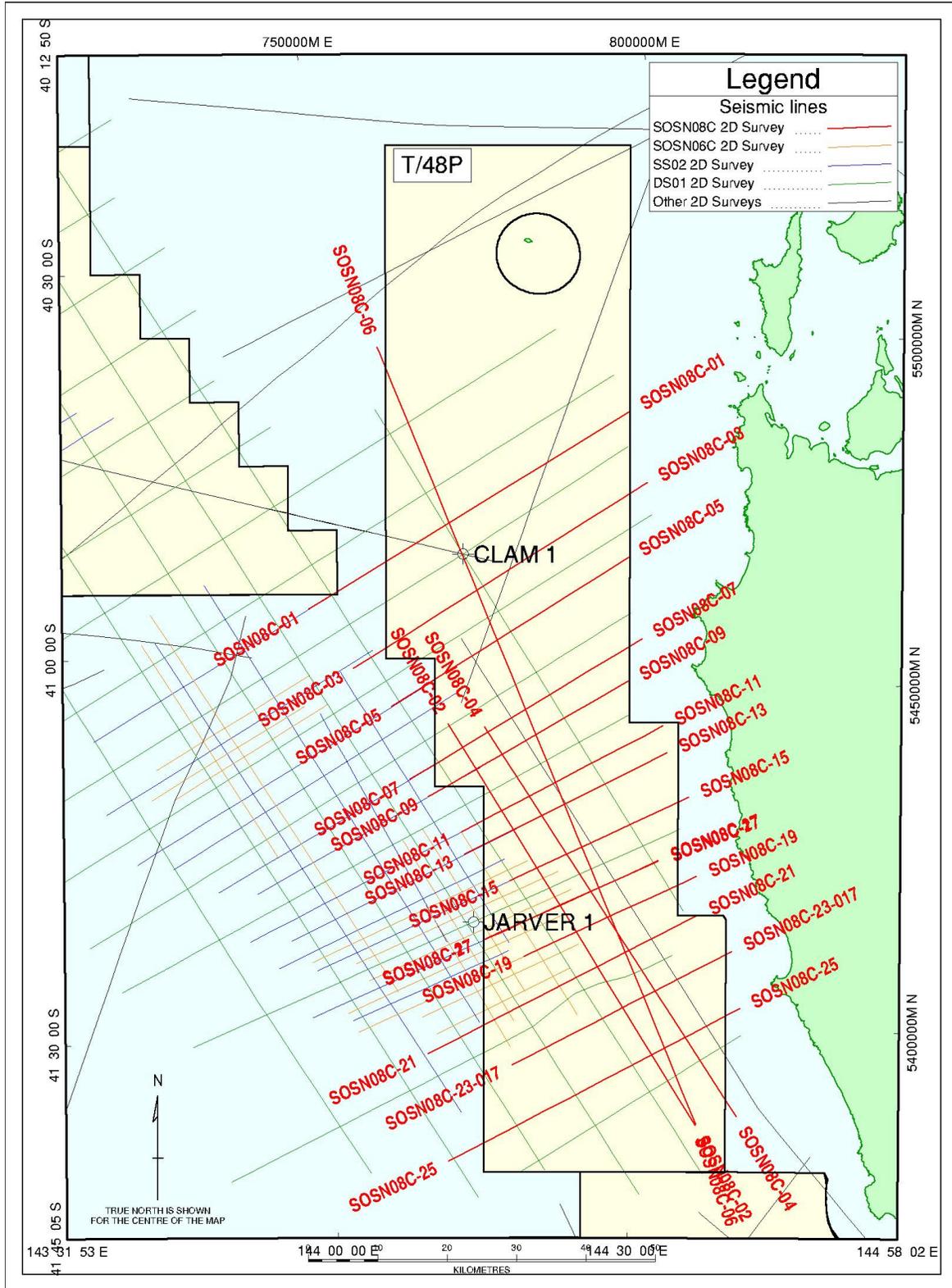


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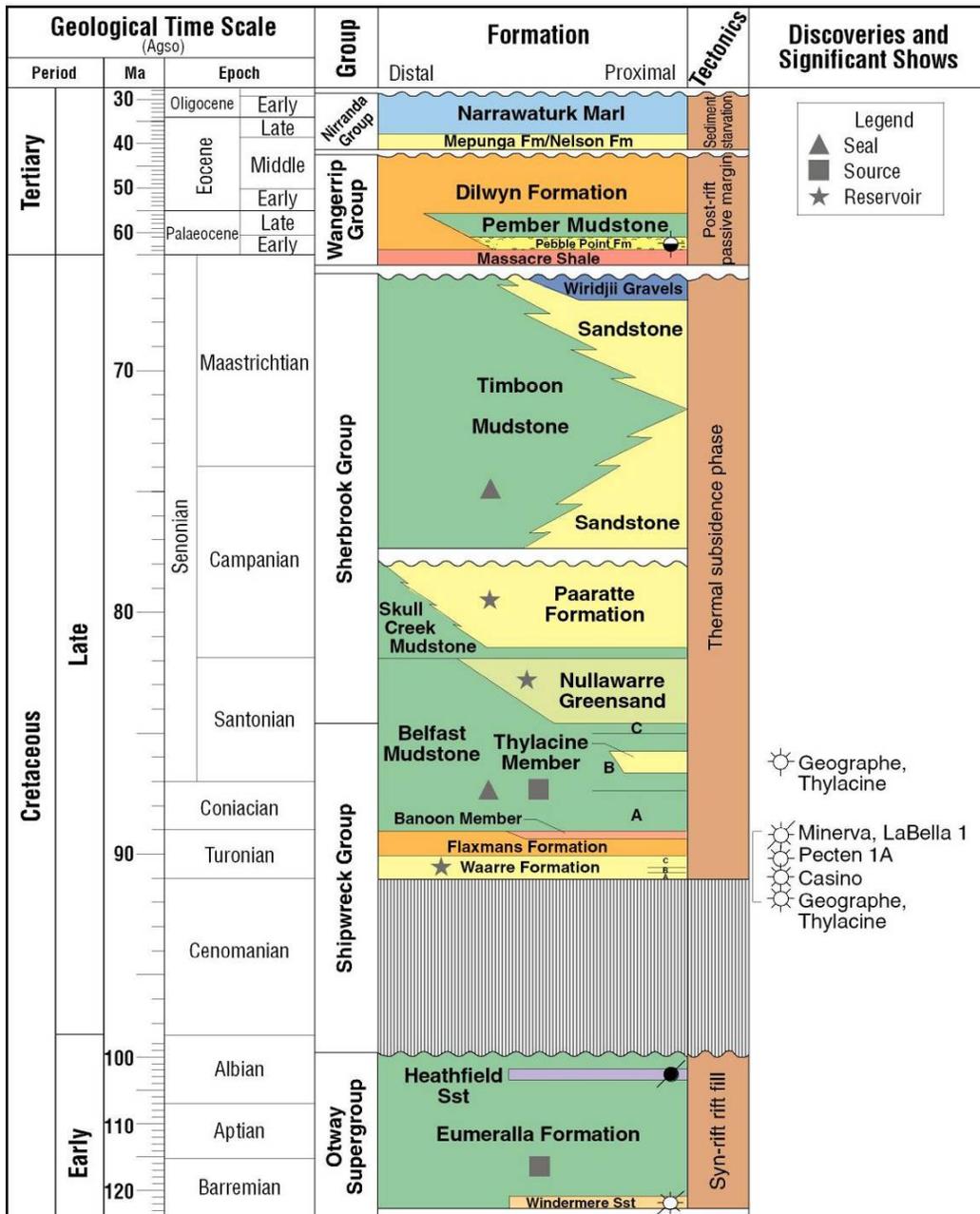


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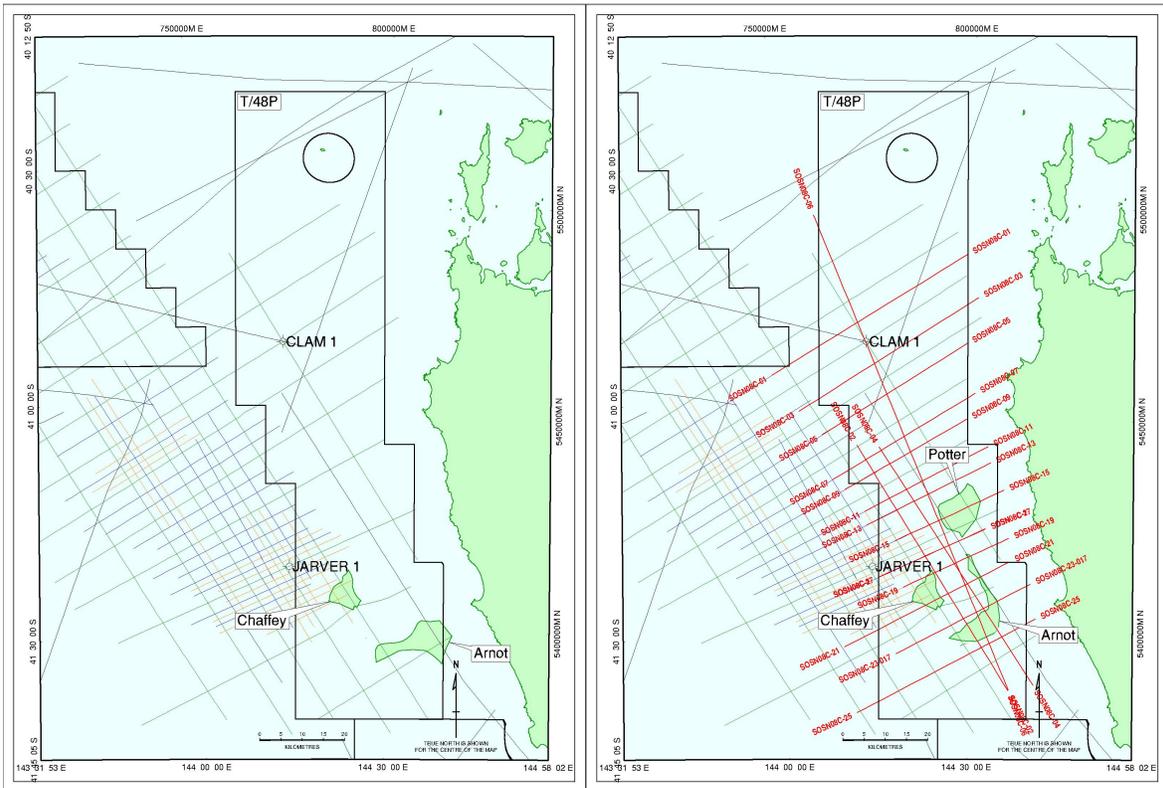


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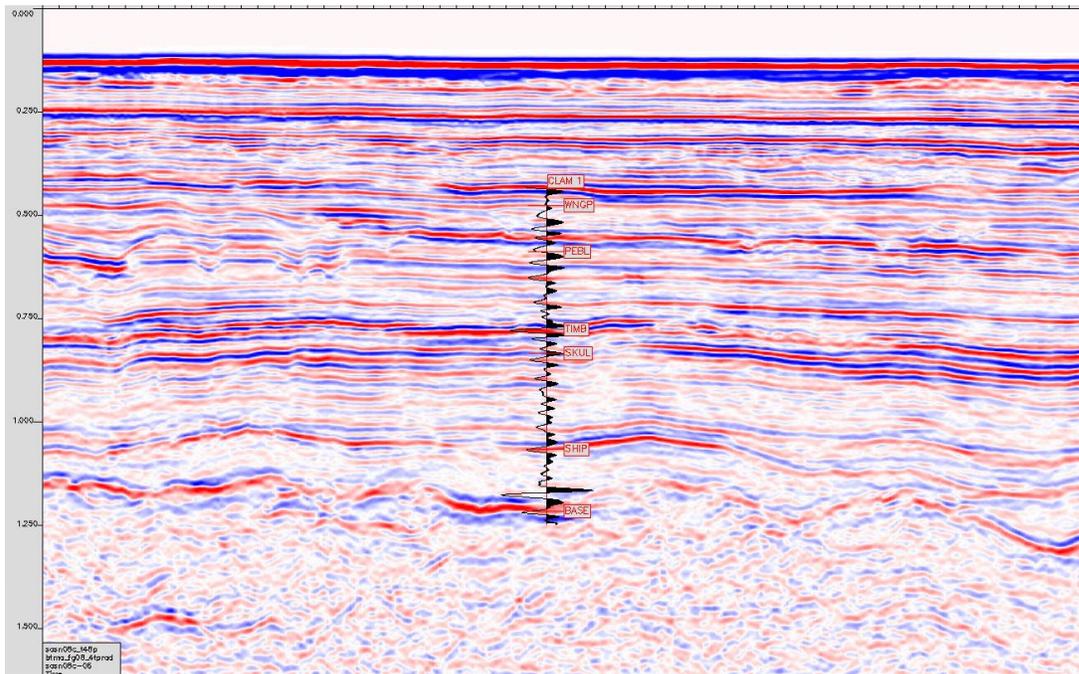


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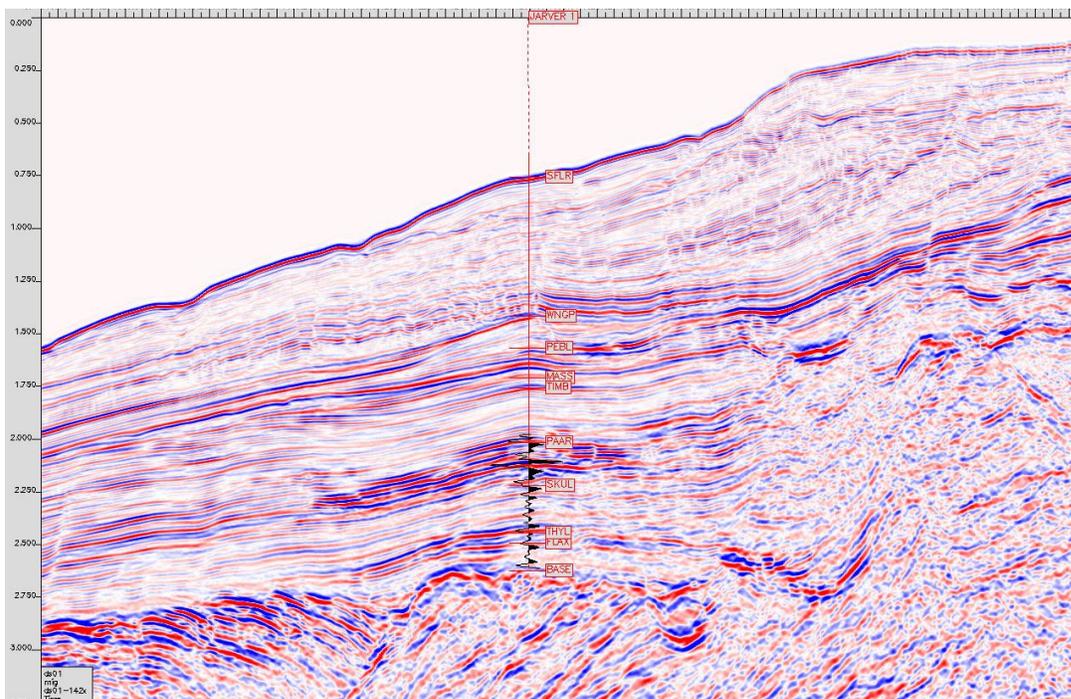


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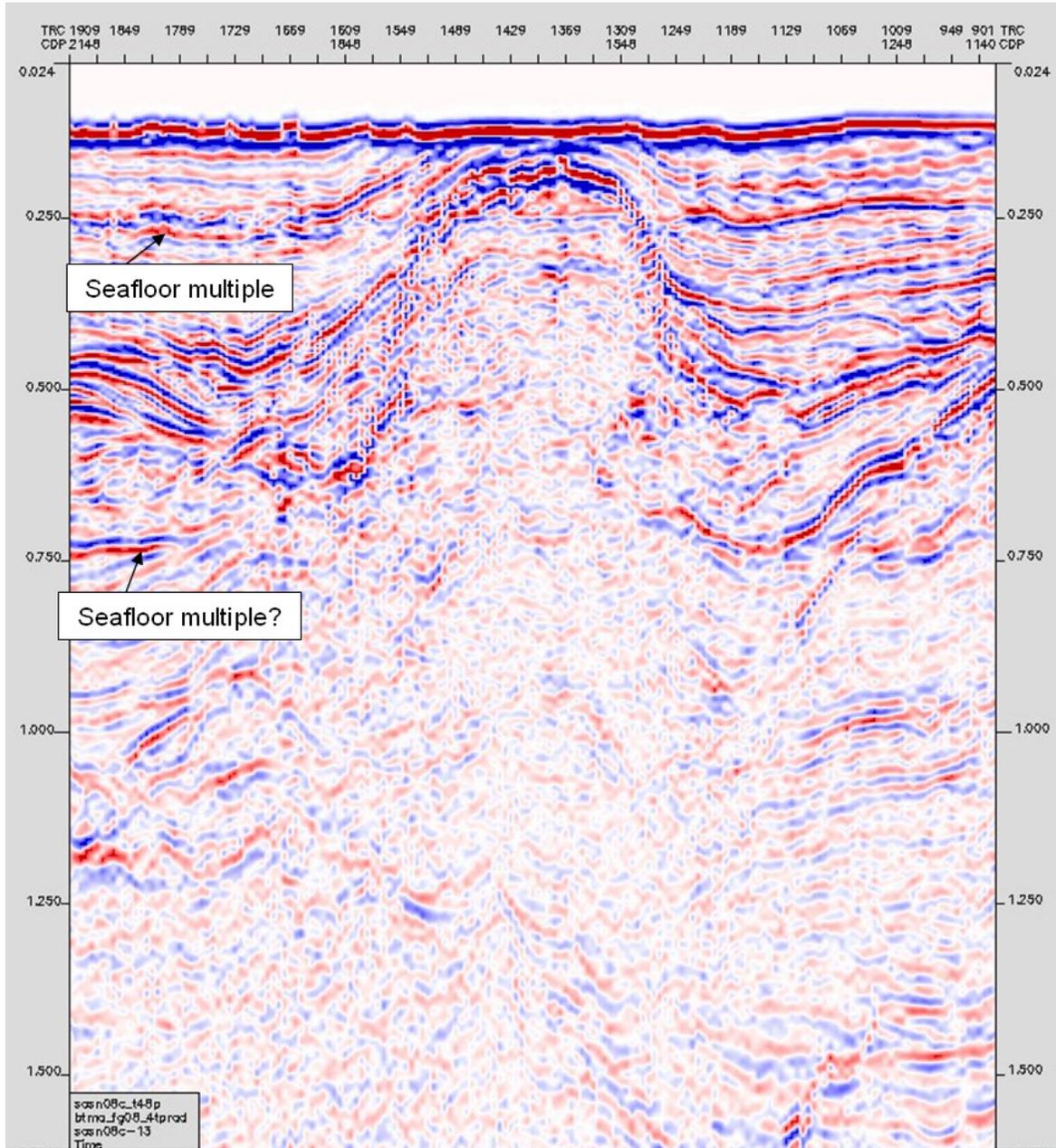


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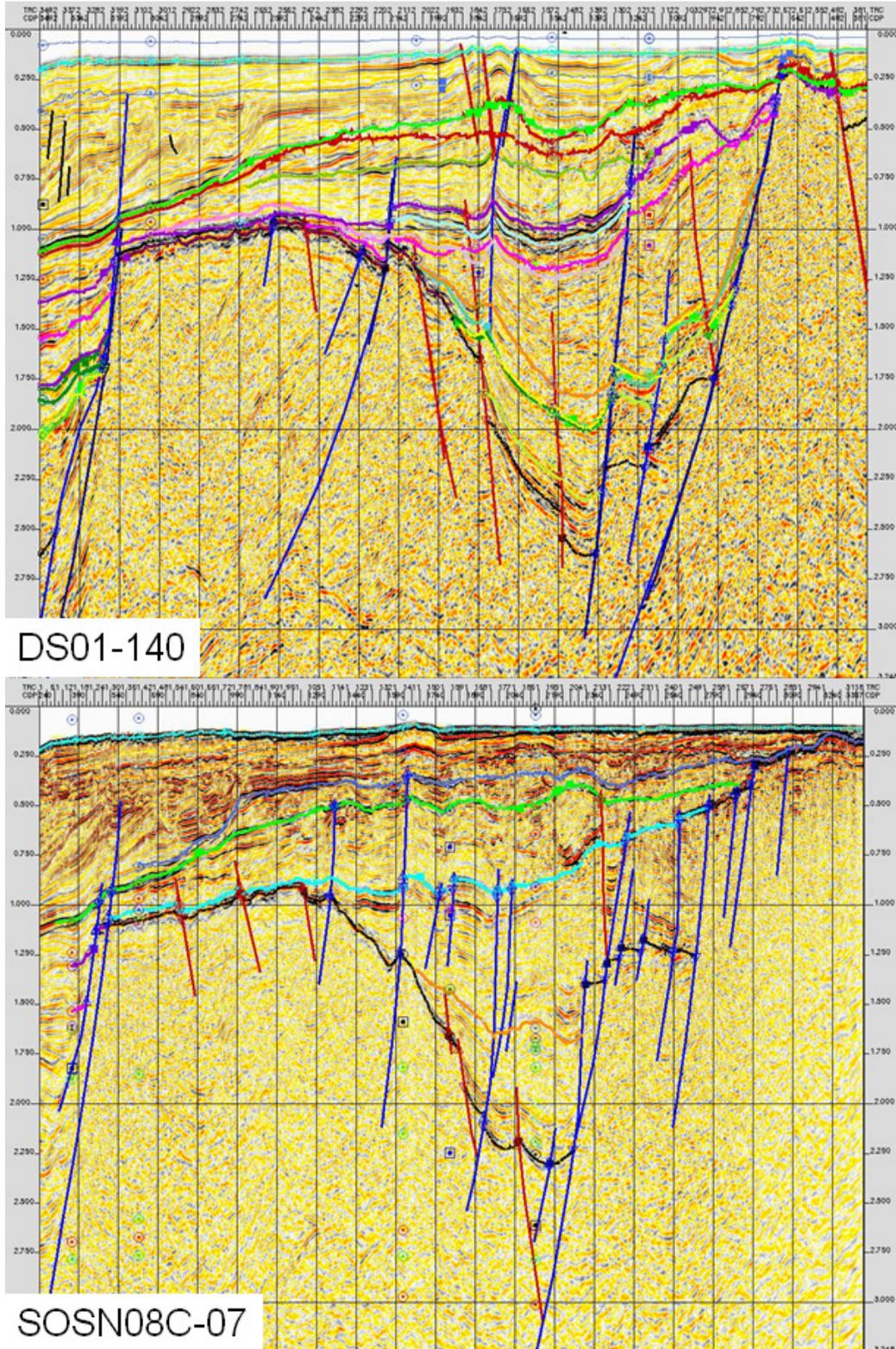
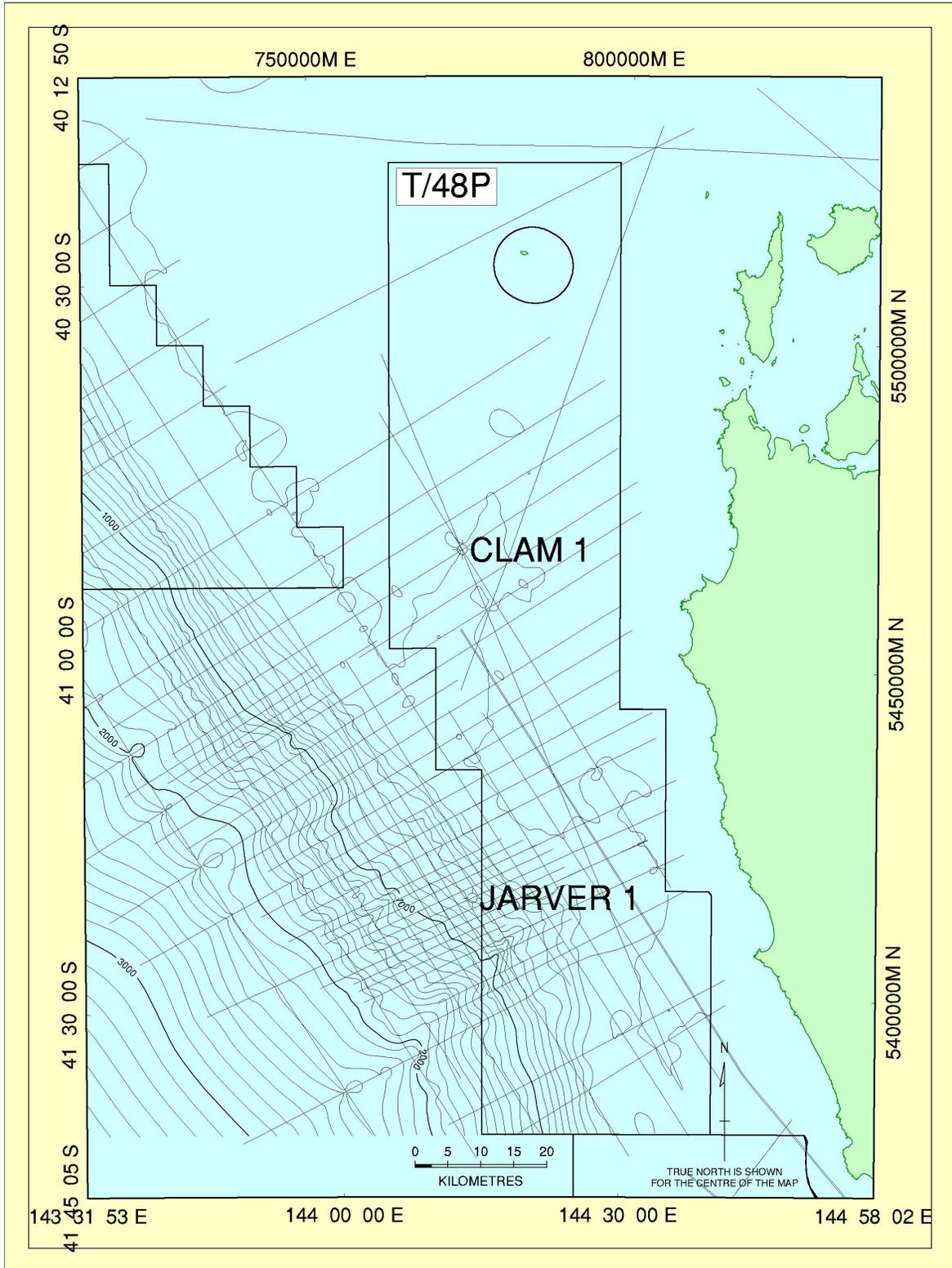
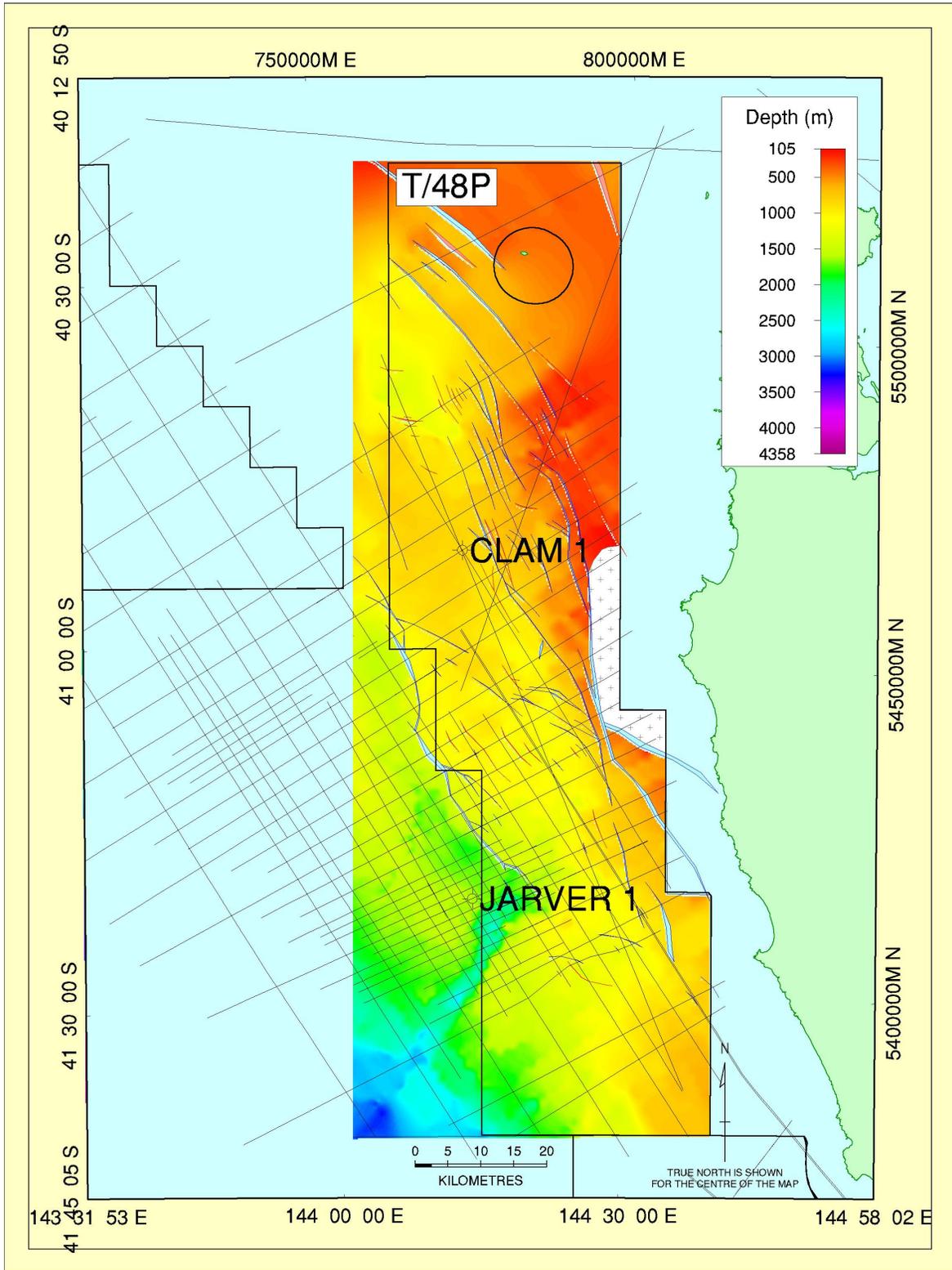


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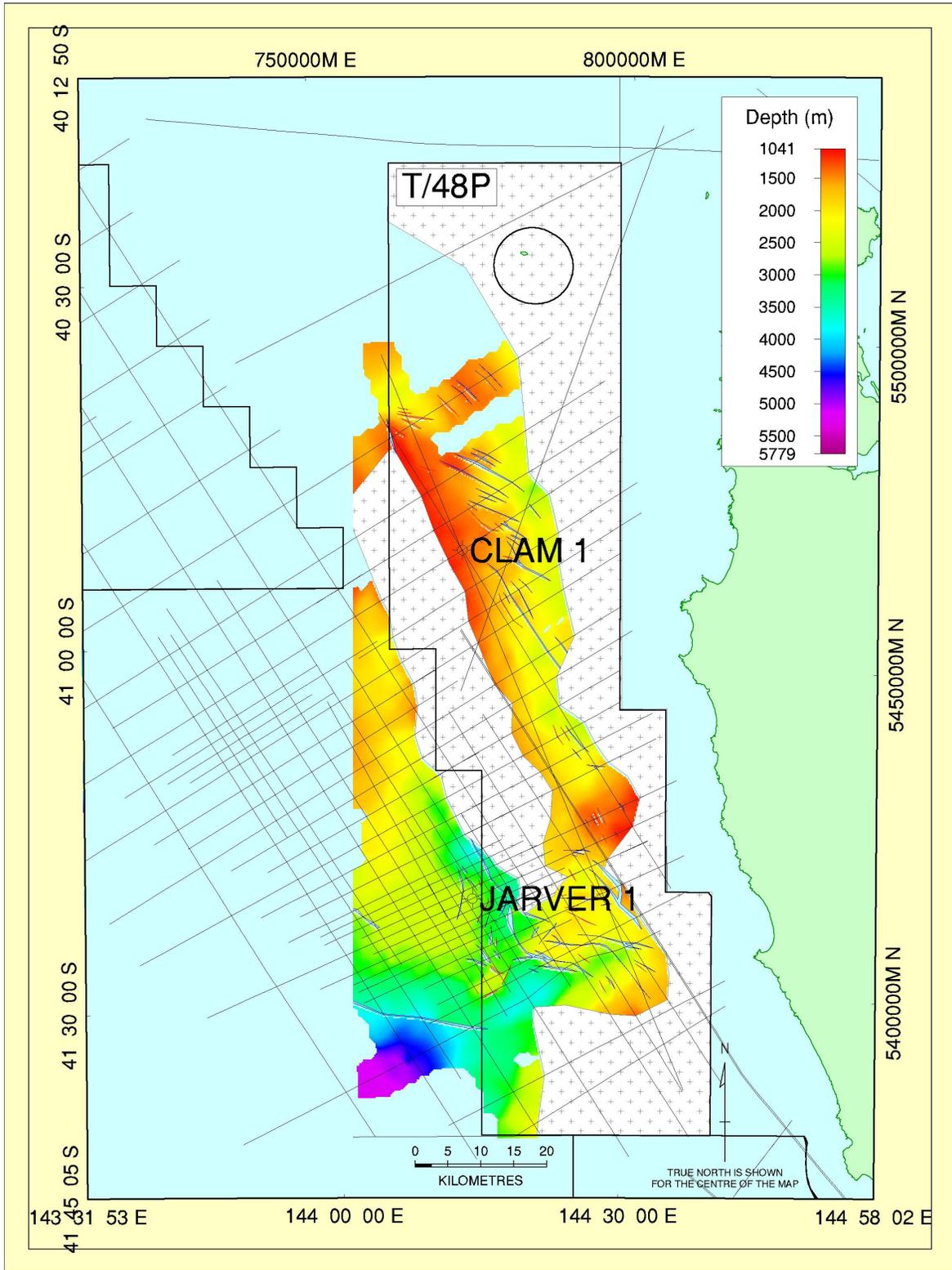
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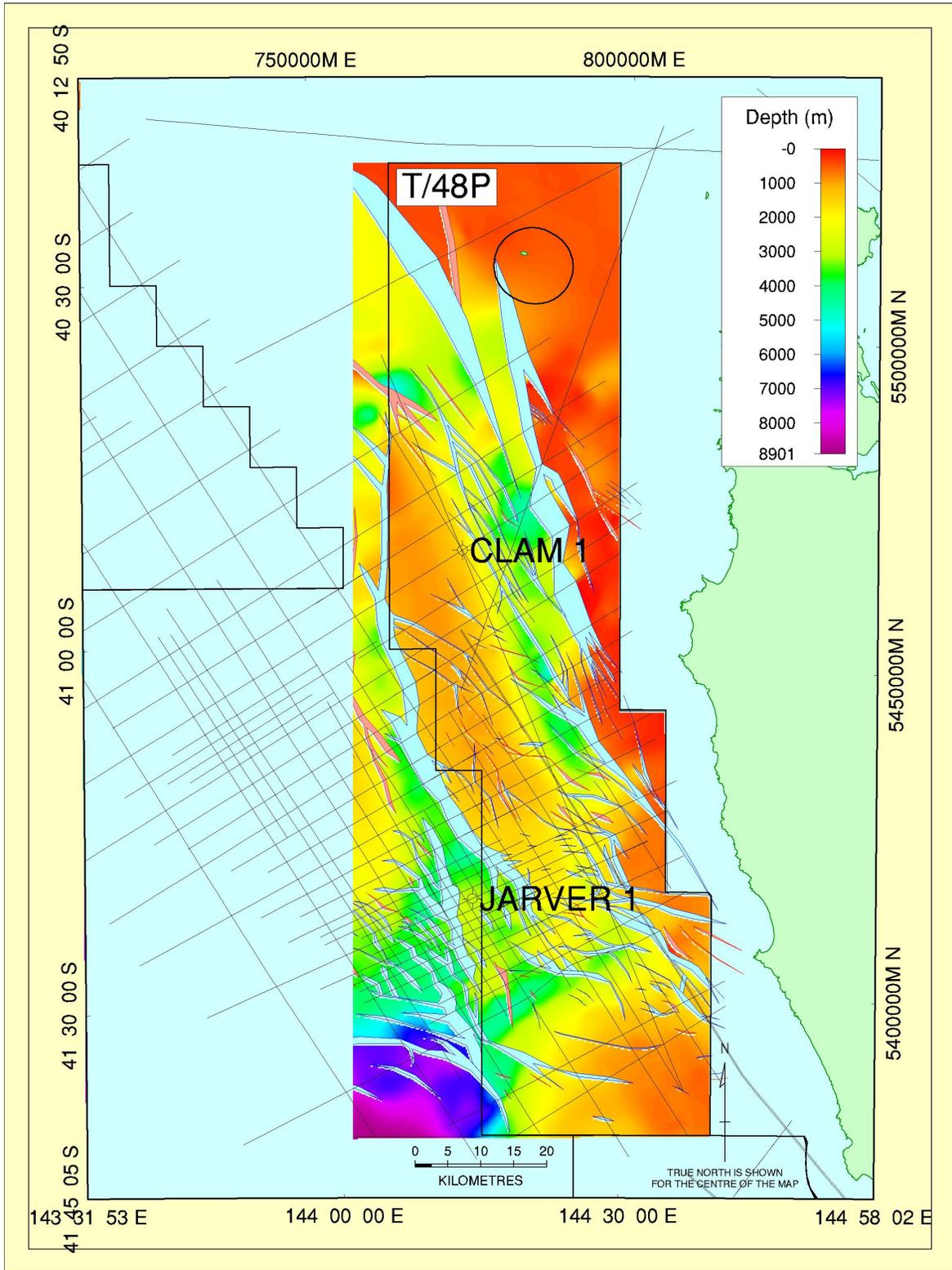
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