



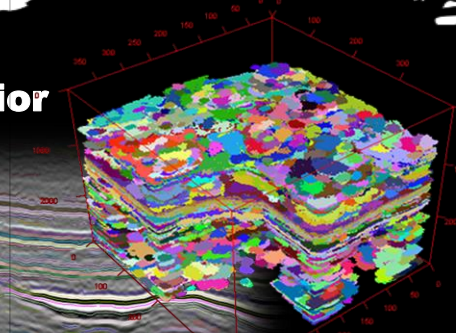
Multi-Client Projects

3D Seismic Interpretation Databases

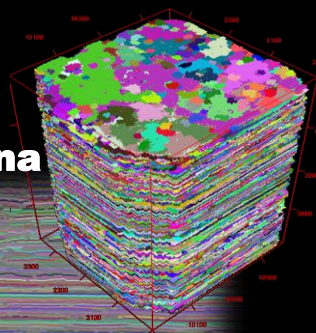
**Cooper-Eromanga
Projects**



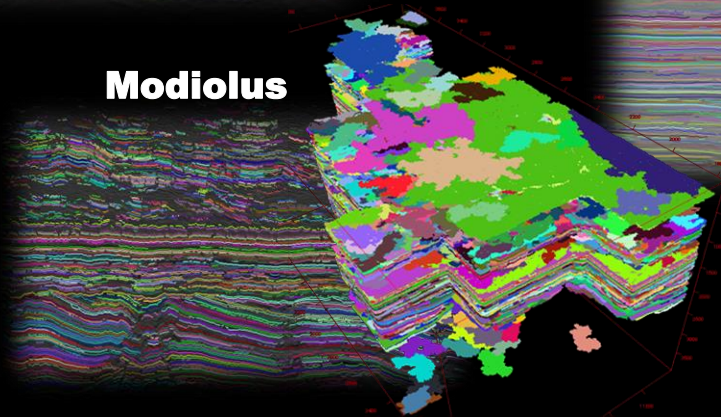
Warrior



Callabonna



Modiolus



Total Depth Exploration Services
21 Churchill Avenue, Subiaco, WA, Australia, 6008.
www.totaldepth.com.au

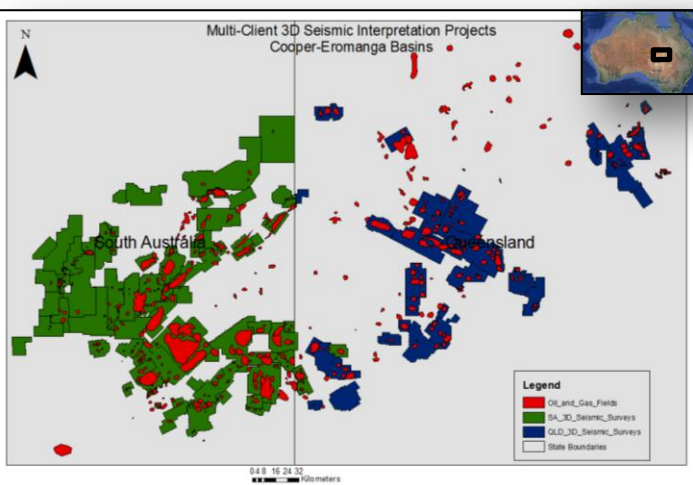


Multi-Client Projects Cooper-Eromanga Basin

Multi-Client 3D Seismic interpretation project data packages are now available individually, collectively or on a subscription basis for purchase over the entire Cooper-Eromanga basins that span across South Australia and Queensland.

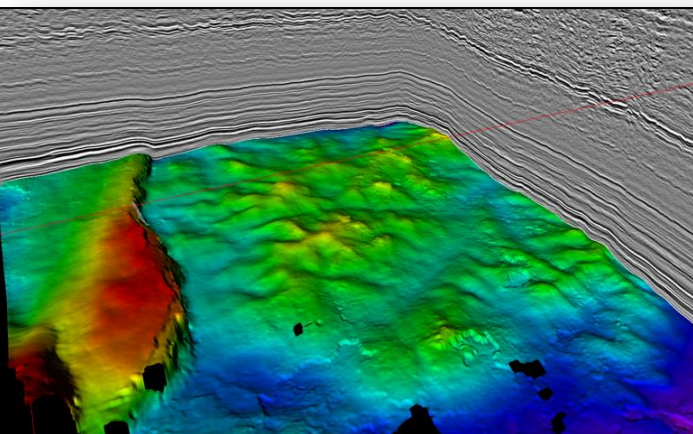
Cooper-Eromanga Basins Project

Total Depth Pty Ltd has applied unique/patented pre-interpretation processing technology to entire 3D seismic datasets creating query-able databases of seismic surfaces and their attributes to the openfile 3D seismic survey from the Cooper-Eromanga basins, Australia's largest onshore petroleum province. More than 13,000 km² of openfile 3D seismic datasets are available over the Cooper-Eromanga basins and Total Depth will grow their pre-interpretation processing libraries as more data becomes available.



Pre-Interpretation Processing Technology:

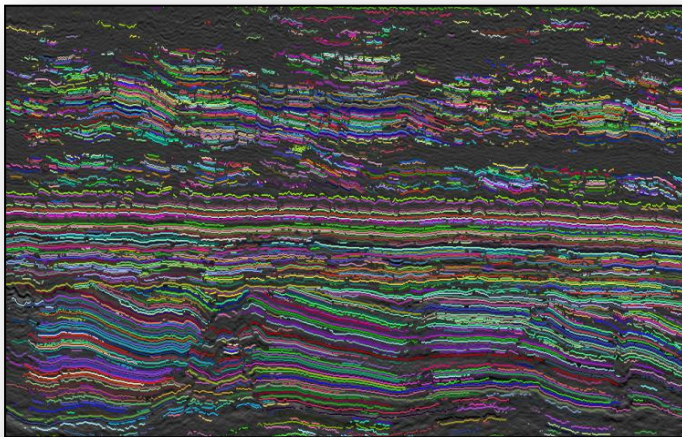
Total Depth Pty Ltd deploys technologies that enable the automated, and cost-effective analysis of entire 3D seismic datasets (single or multi-volume). These processing technologies are unique in that the analysis is consistently applied across any input data {volume, volume(s) or data libraries}. One technology, using patented genetic segmentation, simultaneously grows populations (surfaces) of genetically and spatially similar waveforms until virtually every peak and trough surface in a seismic volume is catalogued into a queryable spatial database of attributes. A second complimentary technology that is designed specifically for the analysis of digital data, calculates the geometric properties associated with the Dupin Indicatrix for each and every data point. The resulting spatial database can be queried to identify and extract objects often difficult to even visualize using conventional methods.



Key Benefits to the Interpretation Teams:

An independent assessment of entire data volumes provides a significant technical advantage over conventional analysis methods. Unbiased extraction processes ensure that human expertise is engaged where it has the most value. Namely, interpretation and deciding what needs to be included into the geological model.

Since pre-interpretation analysis is automated and applied consistently throughout the input dataset producing a database of high quality attributes in a timely and cost-effective manner, any interpreter can spend more of their valuable time focused on understanding the results and their economic potential. Moreover, this approach is so time efficient it encourages more multi-disciplinary collaboration between technical teams and management. Consequently, the collective knowledge base of the group can be integrated. This enables a better understanding of risk, accelerates the decision making process and embraces the unique insights each team member can apply to technical challenges.



Deliverables

For each 3D Survey a license to a Basic Data Package and an Interpretation Package can be purchased. Additional products and services can be purchased upon request. The final data and projects are delivered on External Hard Drives and accessible in a Windows environment.

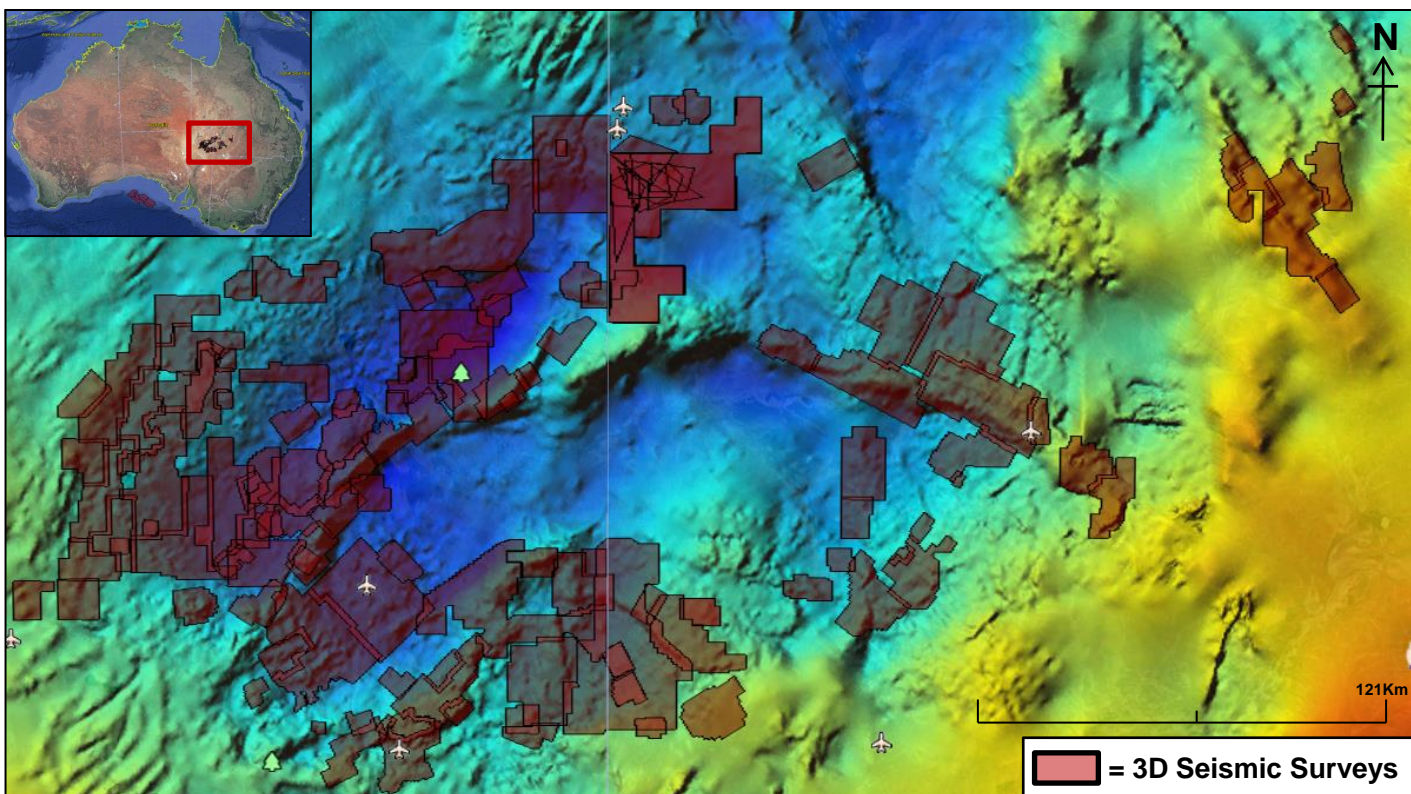
Anticipated Costs

The data packages are now available for purchase from Total Depth Pty Ltd. Pricing is determined by the number of projects acquired and the desired set of deliverables. For a full quote on products available please contact us via phone or email.



Cooper-Eromanga Basin

3D Seismic Surveys



South Australian 3D Seismic Surveys

Aquillus 3D Seismic Survey
Balnaves 3D Seismic Survey
Barina/Farina 3D Seismic Survey
Bauhaus 3D Seismic Survey
Beckler 3D Seismic Survey
Bookabourdie 3D Seismic Survey [CPSN07C]
Bugito/Kobari 3D Seismic Survey [CPSN06B]
Burrungule 3D Seismic Survey
Cabernet 3D Seismic Survey
Caladan/Daralingie 3D Seismic Survey [SA01-2]
Calamia 3D Seismic Survey
Callabonna 3D Seismic Survey
Calpurnus 3D Seismic Survey
Caroowinnie 3D Seismic Survey
Carpenter 3D Marine Seismic Survey
Caseolus 3D Seismic Survey
Charo 3D Seismic Survey
Christies 3D Seismic Survey
Coolibah 3D Seismic Survey
Coonatie 3D Seismic Survey
Cordillo 3D Seismic Survey
Cowralli, Hackett, Tindilpie 3D Seismic Survey
Cuttapirrie 3D Seismic Survey
Dirkalla 3D Seismic Survey
Dullingari/Burke 3D Seismic Survey
Dundinna 3D Seismic Survey
Flax Juniper 3D Seismic Survey
Fly Lake 3D Seismic Survey
Gaschnitz Pilot 3D Seismic Survey [CPSAN13B]
Gidgealpa 3D Seismic Survey
Gidgealpa Unit 3D Seismic Survey

Goyder/Milluna 3D Seismic Survey
Greater Leleptian 3D Seismic Survey [CESAN12]
Greater Strzelecki 3D Seismic Survey
Harpoono 3D Seismic Survey
Haselgrove 3D Seismic Survey
Hillview 3D Seismic Survey
Irus 3D Seismic Survey
Jacaranda Ridge 3D Seismic Survey
Jacenza 3D Seismic Survey
James 3D Seismic Survey [CPSN06]
Jasmine 3D Seismic Survey
Jonothon 3D Seismic Survey
Lake Hope 3D Seismic Survey
Lignum 3D Seismic Survey
Limbatas 3D Seismic Survey
McKinlay 3D Seismic Survey [CPSN05]
MEI 3D Extension Seismic Survey [SA98]
Merrimelia 3D Seismic Survey
Mirage 3D Seismic Survey
Modiolus 3D Seismic Survey
Mollichuta 3D Seismic Survey
Moomba North Flank 3D Seismic Survey
Moomba/Big Lake 3D Seismic Survey
Moorari 3D Seismic Survey
Mudrangie 3D Seismic Survey
Mulka 3D Seismic Survey
Munathiri Infill 3D Survey
Murterre Horst 3D Seismic Survey
Nangwarry 3D Seismic Survey
NE Murterree Horst 3D Seismic Survey [CS03]
Nephrite 3D VSP and Micro Seismic Survey

Netitus 3D Seismic Survey
Nunga Mia 3D Seismic Survey
Paranta 3D Seismic Survey
Pondrinnie 3D [1995] Seismic Survey
Pondrinnie Extension 3D [1997] Seismic Survey
Quasar 3D Seismic Survey
Raven/Moonanga 3D Seismic Survey
Reg Sprigg 3D Seismic Survey
Rincon 3D Seismic Survey
Rogan 3D Seismic Survey
Sellicks 3D Seismic Survey
Solidus 3D Seismic Survey
Spencer Kiana Muteroo 3D Seismic Survey
Spinel 3D Seismic Survey
Sprigg Extension 3D Seismic Survey
St George 3D Seismic Survey
Stokes 3D Seismic Survey [SQ983D]
Swan Lake 3D Seismic Survey
Tallerangie 3D Seismic Survey
Tilbooroo 3D Seismic Survey
Tirrawarra 3D Seismic Survey [CPSN07]
Toolachee Field 3D Seismic Survey
Trim 3D Marine Seismic Survey
Verona 3D Seismic Survey
Wilpinnie 3D Seismic Survey
Wingman 3D Seismic Survey
Wolgolla 3D Seismic Survey
Worrior 3D Seismic Survey

Queensland 3D Seismic Surveys

Acavus 3D Seismic Survey
Aros SE02 3D Seismic Survey
Baralaba 3D Seismic Survey
Bellalie Creek 3D Seismic Survey
Bodalla South 3D Seismic Survey
CESN05- Jackson/Naccowlah 3D Seismic Survey
CESN06B- Cook 3D Seismic Survey
CESN07- Watson 3D Seismic Survey
CESN08- Patrocolus 3D Seismic Survey
CESN08E- Wallawanny 3D Seismic Survey
CESN08F- Genoa 3D Seismic Survey
CESN08G- Bowen 3D Seismic Survey
CESN09- Cusinier 3D Seismic Survey
Cuisinier North 3D Seismic Survey
Dalwogan-Condabri 3D Seismic Survey

Dingara Arglett 3D Seismic Survey
Durham Downs 3D Seismic Survey
Epsilon 3D Seismic Survey
ERNS10- Tintaburra 3D Seismic Survey
ERSB05- Mugginanullah- Koorooa 3D Seismic Survey
ERSN04- Nockatunga Thungo 3D Seismic Survey
ERSN04B- Talgrberry 3D Seismic Survey
ERSN09- Maxwell Kaos 3D Seismic Survey
Gidgee 3D Seismic Survey
Gregory 2D (Jackson and Bolan 3D Seismic Survey)
Kenmore 3D Seismic Survey
Madigan 3D Seismic Survey (Challum Area)
Odyssey (Morney) 3D Seismic Survey
SE02- Aros 3D Seismic Survey
Sprigg 3D Seismic Survey

SQ00- Central Fields 3D Seismic Survey
SQ00- Quasar 3D Seismic Survey
SQ01- North Naccowlah 3D Seismic Survey
SQ02- Wolgolla/Impalla 3D Seismic Survey
SQ04- Baryulah South 3D Seismic Survey
SQ04- Innamincka 3D Seismic Survey
SQ04- Roseneath/ Tickalara 3D Seismic Survey
SQ04- Thoar 3D Seismic Survey
SQ98- Stokes 3D Seismic Survey
SQ99- Barrolka 3D Seismic Survey
Trocus 3D Seismic Survey
Undulla 3D Seismic Survey
Uropla 3D Seismic Survey
Yanda Wackett 3D Seismic Survey

Total Depth Exploration Services

Website: www.totaldepth.com.au, Tel: +61 8 9382 4307; email: info@td.iinet.net.au



Multi-Client: Seisnetics Projects One Page Summaries

Please find links below to some one page summaries from the Multi-Client Seisnetics projects from the Cooper-Eromanga Basin.

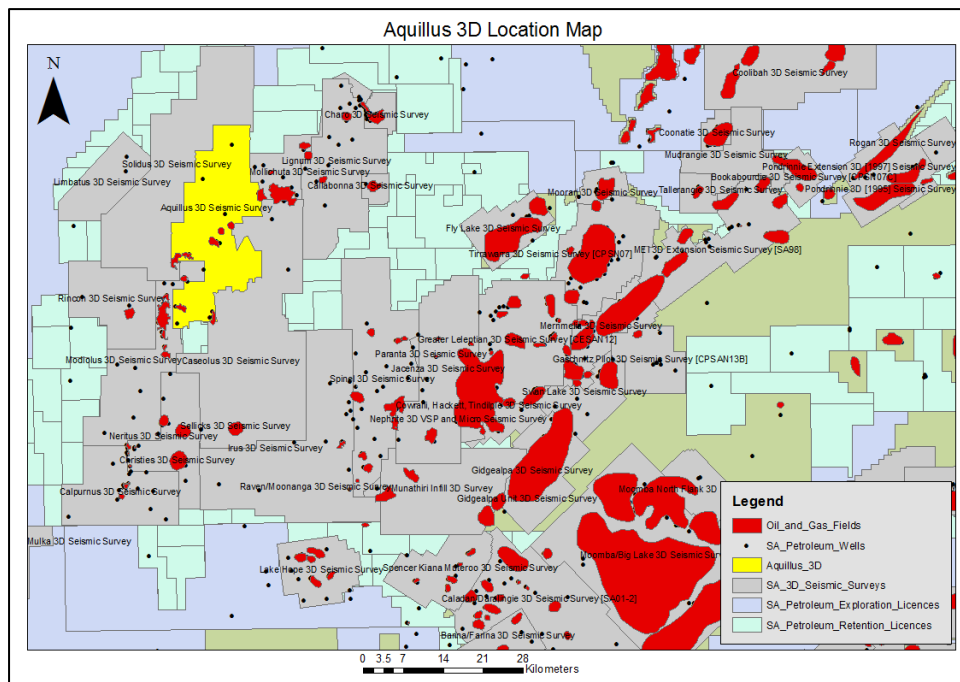
1. [Aquillus 3D Seismic Survey](#)
2. [Callabonna 3D Seismic Survey](#)
3. [Calpurnus 3D Seismic Survey](#)
4. [Caseolus 3D Seismic Survey](#)
5. [Charo 3D Seismic Survey](#)
6. [Christies 3D Seismic Survey](#)
7. [Fly Lake 3D Seismic Survey](#)
8. [Harpoono 3D Seismic Survey](#)
9. [Irus 3D Seismic Survey](#)
10. [Lake Hope 3D Seismic Survey](#)
11. [Lignum 3D Seismic Survey](#)
12. [Limbatus 3D Seismic Survey](#)
13. [Modiolus 3D Seismic Survey](#)
14. [Mollichuta 3D Seismic Survey](#)
15. [Moomba Big Lake 3D Seismic Survey](#)
16. [Moorari Repro 3D Seismic Survey](#)



Aquillus 3D: Multi-Client Project

Between September and December 2011 Terrex seismic acquired the **Aquillus 3D** for Beach Energy. The survey covers approximately 358km² of the Cooper-Eromanga basin and the Balgowan, Basham, Burners, Stunsail, Kalladein and Pennington fields. The main objective was to mature leads to prospect status within the Jurassic formations.

Location Map

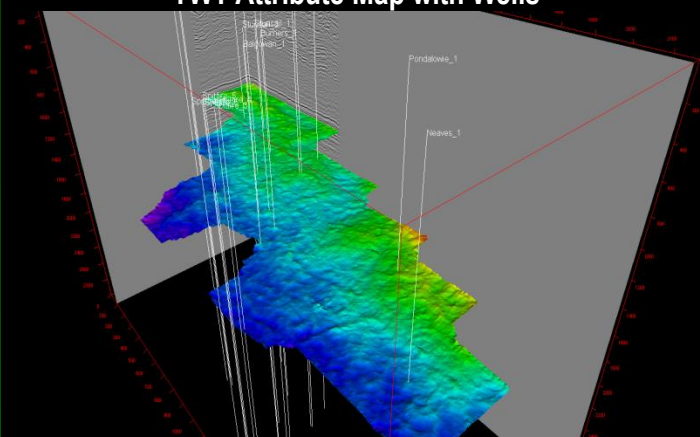


Aquillus 3D Quick Facts:

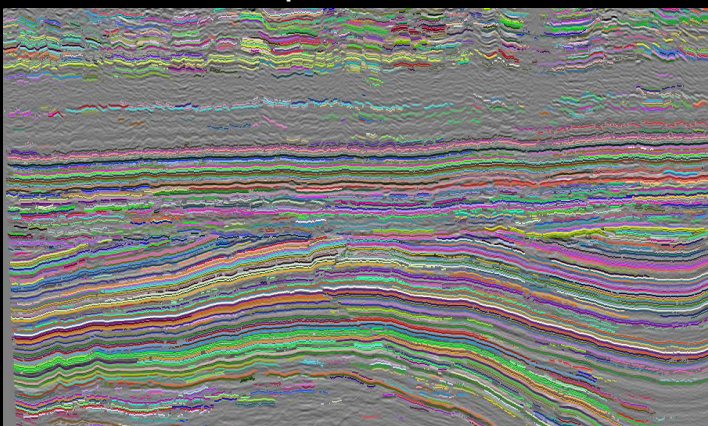
Survey	Aquillus 3D	Date Acquired	12 th September 2011 to 5 th December 2011
GeoPopulation Database*	Total No. of GeoPops 5,087	3D Area (km ²)	358
Basin	Cooper-Eromanga Basin	Fields	Balgowan, Basham, Burners, Stunsail, Kalladeina, Pennington
Permits	PEL 91	Inlines/ Xlines*	IL=1 to 2157 XL=1 to 998
Operator	Beach Energy	Time Range*	0 to 3000ms
Contractor	Terrex Seismic Pty Ltd Velseis Processing	State	South Australia

*Values from 'aquillus_2181_ovt_crs_pstm_trim_stk_sw_filtered.sgy' volume Seisnetics GeoPopulation database.

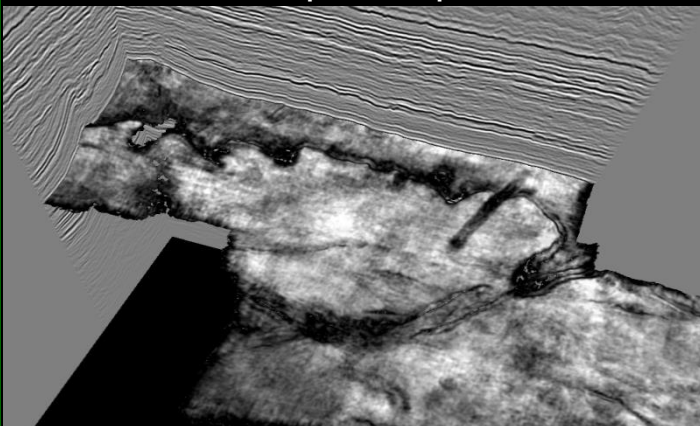
TWT Attribute Map with Wells



GeoPopulations: 2D View



Amplitude Map

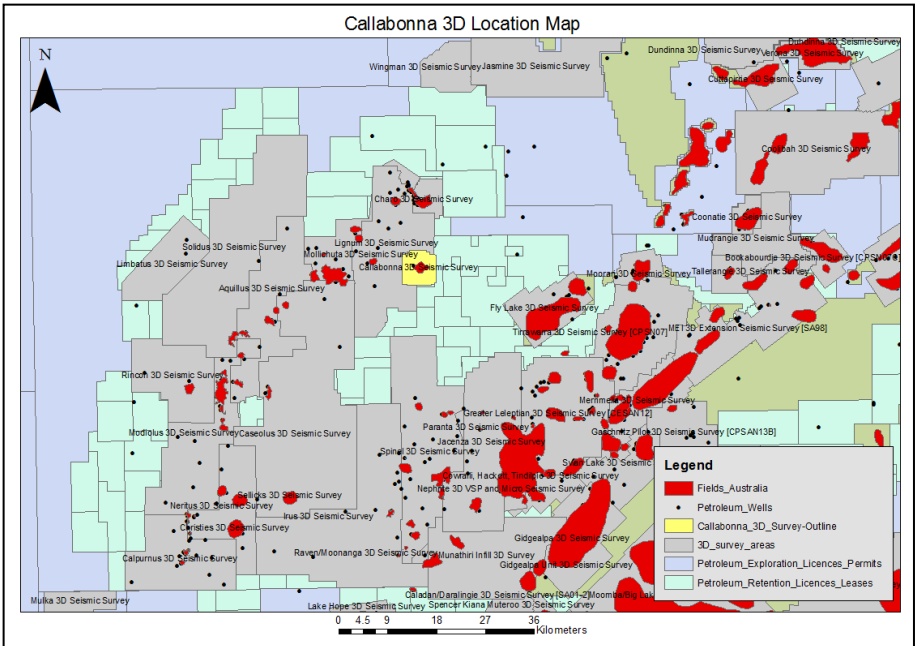
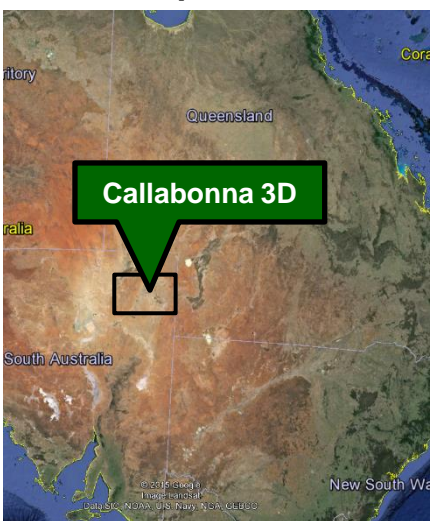




Callabonna 3D: Multi-Client Project

The **Callabonna 3D** covers approximately 38sq km of the Cooper-Eromanga basin and was acquired by Terrex Seismic processed by WesternGeco in August 2008 for Santos Ltd. The primary aim of the survey was to more accurately define the extent of the Callabonna field for development with high quality 3D seismic data. The seismic interpretation databases will help in more accurately defining subtle structural characteristics of the Callabonna structure, a low relief four-way dip closed anticline, while the fitness and amplitude maps can be used to review and assess the stratigraphic characteristic of the field.

Location Map

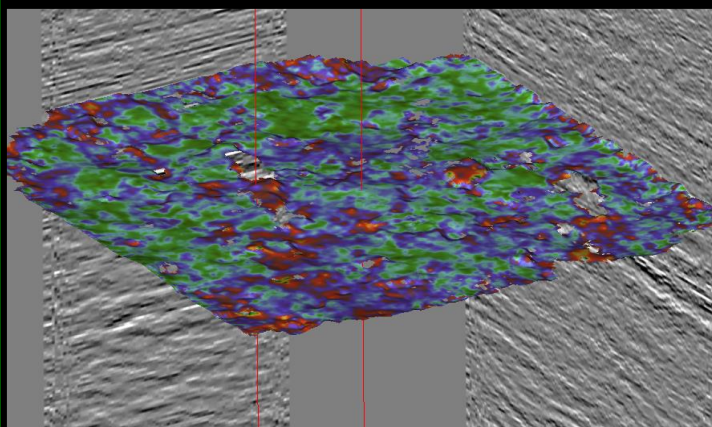


Callabonna 3D Quick Facts:

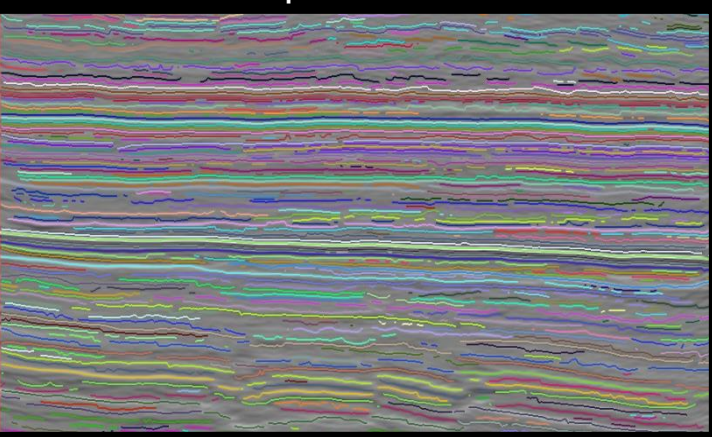
Survey	Callabonna 3D CPSN08D	Date Acquired	2008
GeoPopulation Database	Total No. of Geops 6319*	3D Area (Km ²)	38
Basin	Cooper-Eromanga Basin	Fields	Callabonna
Permits	PPL 176, PEL 104	Inlines/ Xlines	IL: 2000-2351 XL: 10000- 10367
Operator	Santos Ltd	Time Range	0 to 4.0s
Contractors	Terrex Seismic WesternGeco	State	South Australia

*Values from 'callabonna_2054_final_pstrn_monk_sgy' volume database.

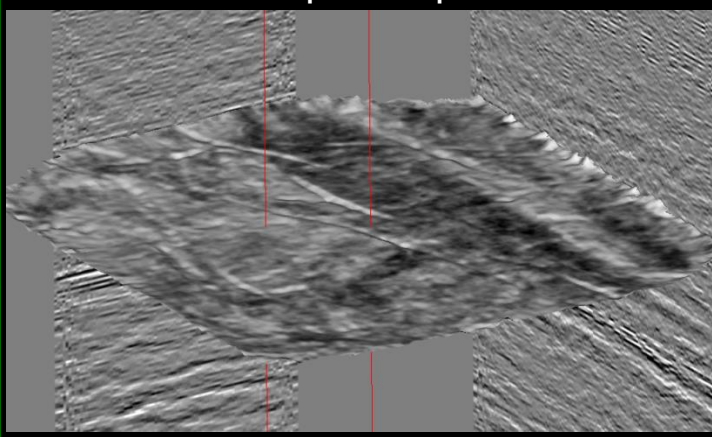
Adori Sst Fitness Attribute Map



GeoPopulations: 2D View



Amplitude Map



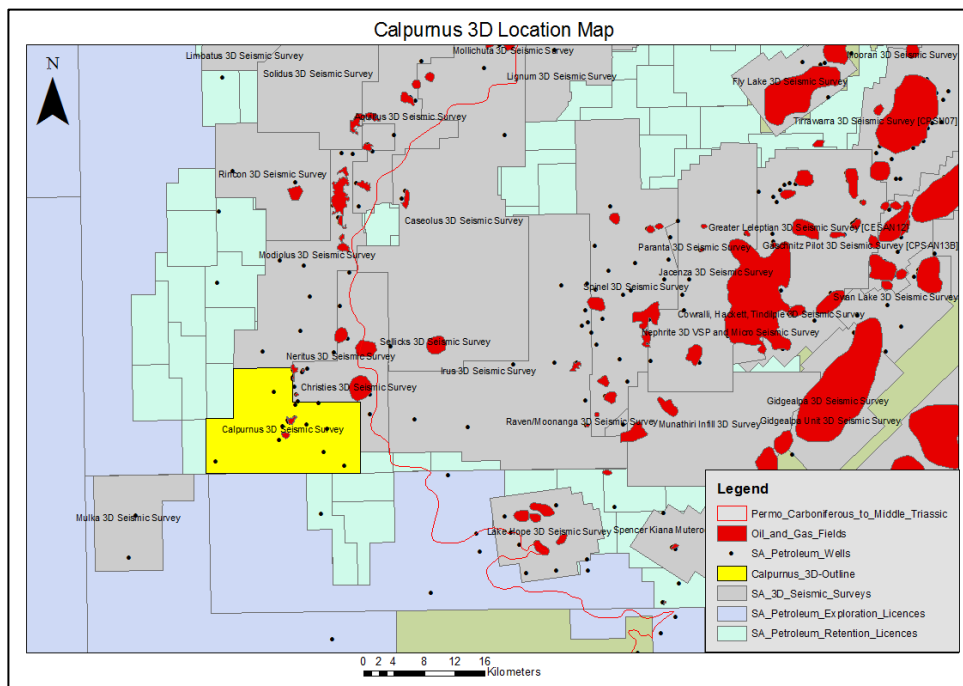
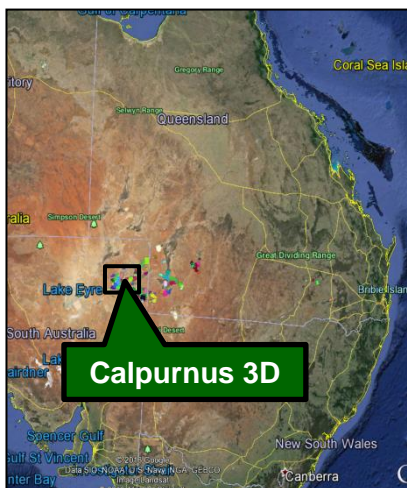


Calpurnus 3D: Multi-Client Project

The 2010 **Calpurnus 3D** seismic survey covered an area of approximately 213.5 km² of the South West Cooper-Eromanga basin in South Australia. Terrex Seismic were contracted out to acquire the survey and the data was processed by CGGVeritas.

The primary objective of the survey was to mature leads to prospect status. While also contributing to overall understanding of the geological model in the area.

Location Map

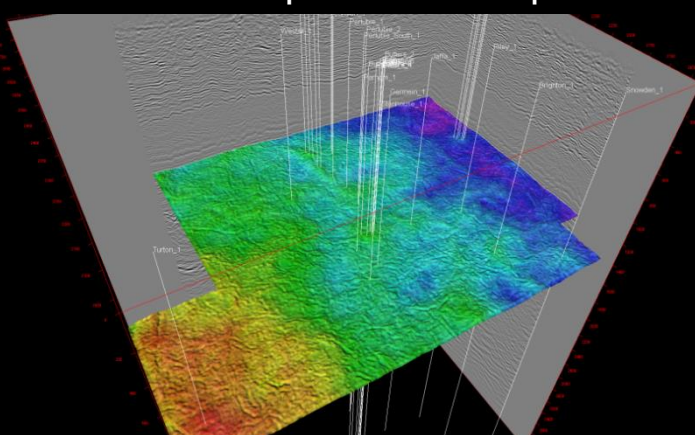


Calpurnus 3D Quick Facts:

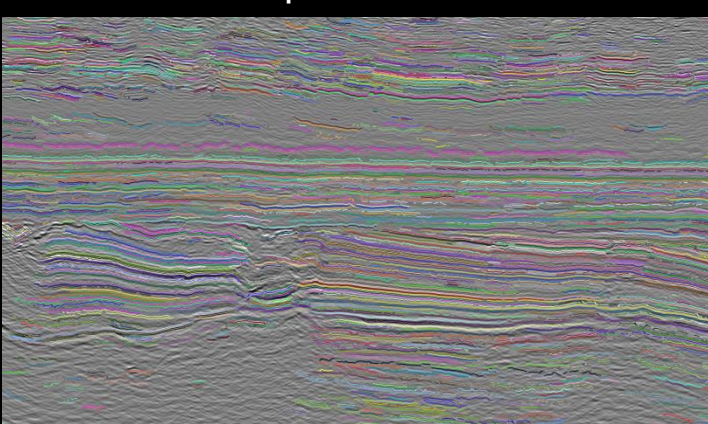
Survey	Calpurnus 3D	Date Acquired	16 th January 2010 28 th March 2010
GeoPopulation Database*	Total No. of GeoPops 20525	3D Area (km ²)	214
Basin	Cooper-Eromanga Basin	Fields	Perlubie, Parsons, Germein, Elliston, Christies, Butler
Permits	PEL92	Inlines/ Xlines*	IL= 2028 to 2840 XL= 10028 to 11108
Operator	Beach Energy Ltd	Time Range*	0 to 4096ms
Contractor	Terrex Seismic CGGVeritas	State	South Australia

*Values from 'calpurnus_2144_pstm_final.sgy' volume Seisnetics GeoPopulation database.

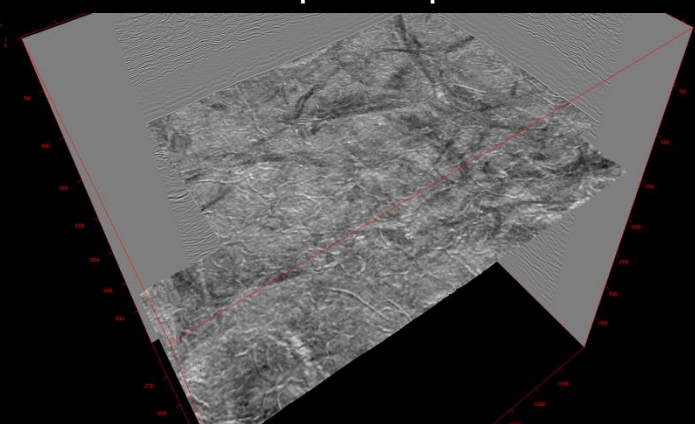
Blended TWT and Amplitude Attribute Map with Wells



GeoPopulations: 2D View



Amplitude Map



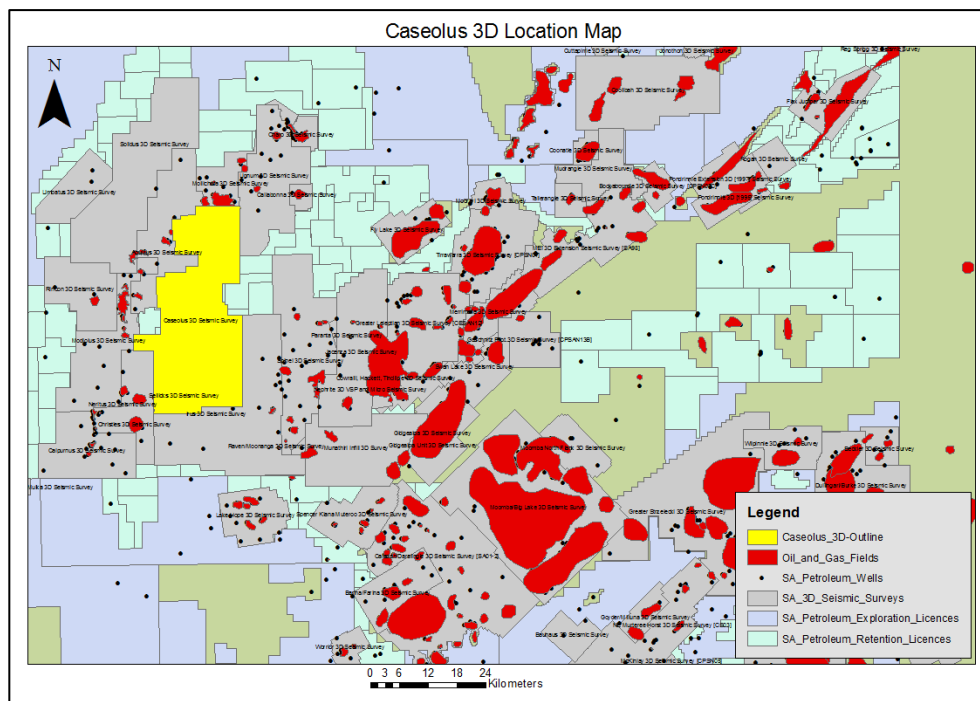
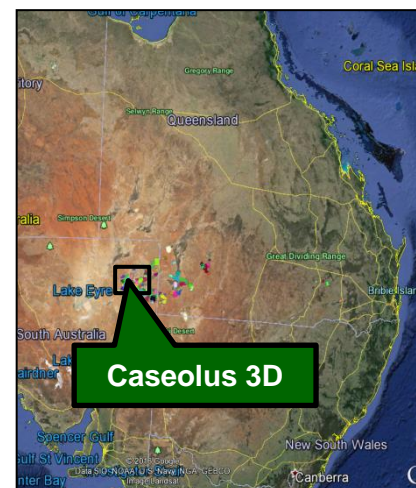


Caseolus 3D: Multi-Client Project

The **Caseolus 3D** covering 587km² of the Cooper-Eromanga basin was acquired by Terrex seismic in 2013 for Beach Energy Ltd. The main objective of the survey was to provide a more comprehensive understanding of this region of the basin.

The survey also intended to provide more detail on potential channel sands within the Namur-Hutton sandstones that could be prospective drilling targets.

Location Map

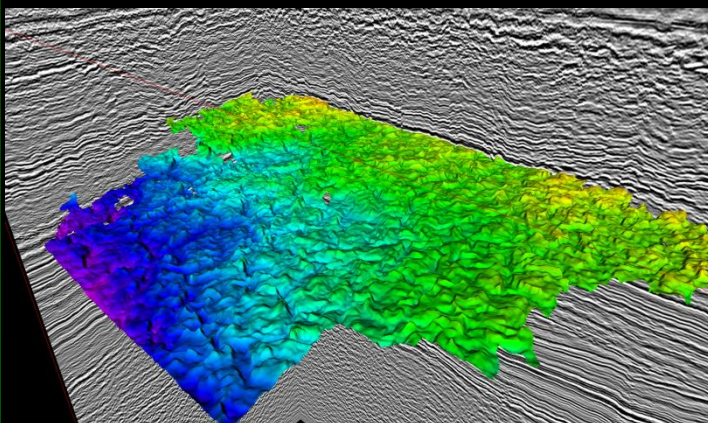


Caseolus 3D Quick Facts:

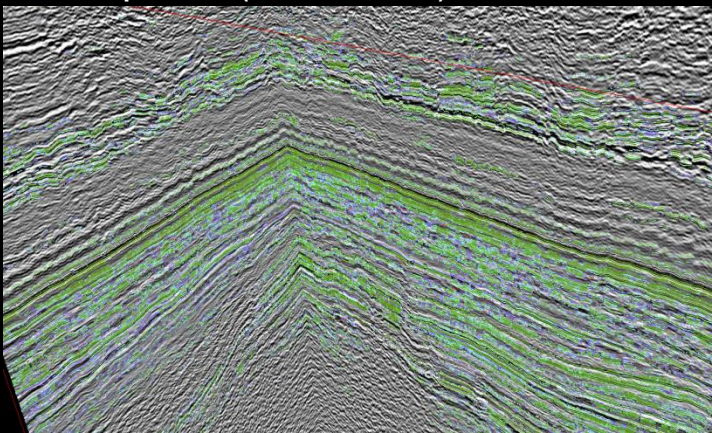
Survey	Caseolus 3D 13CP04	Date Acquired	12/02/2013 to 14/06/2013
GeoPopulation Database*	Total No. of GeoPops 10,493	3D Area (km ²)	684
Basin	Cooper Basin	Fields	Growler, Spitfire, Burners, Balgowan, Sellicks, Pennington
Permits	PEL91,92	Inlines/ Xlines*	IL= 5565 to 7931 XL= 5739 to 7054
Operator	Beach Energy Ltd	Time Range*	0 to 3998ms
Contractor	Terrex Seismic GeoKinetics	State	South Australia

*Values from '2213_StkPstm.sgy' volume Seisnetics GeoPopulation database.

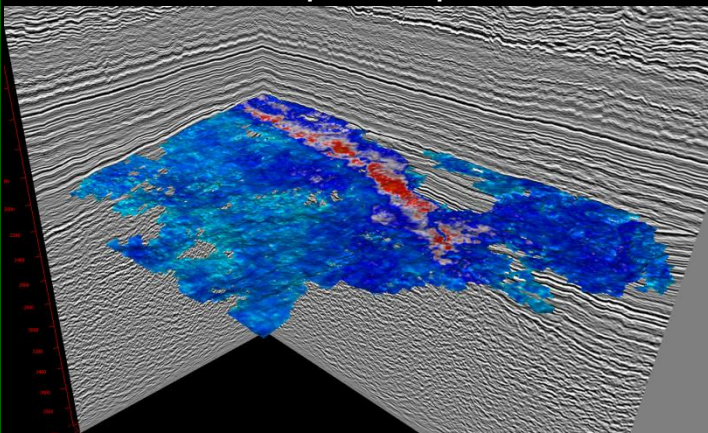
TWT Attribute Map



GeoPopulations(Fitness Ribbon): 2.5D and 3D View



Amplitude Map



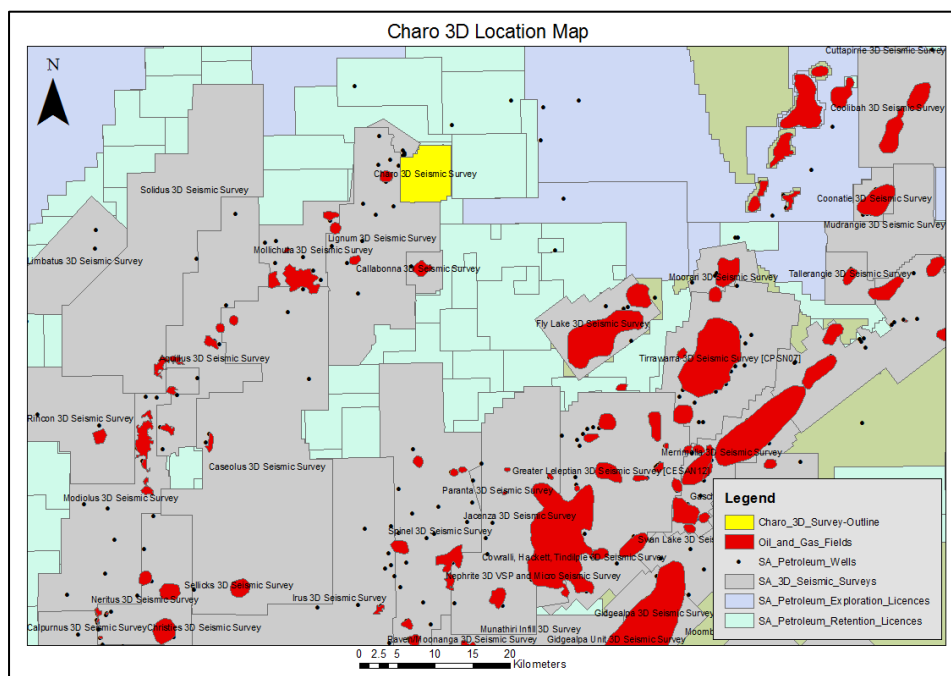


Charo 3D: Multi-Client Project

The **Charo 3D** covering approximately 47sq km of the Cooper basin was acquired by Terrex Seismic Pty Ltd for Santos in August 2008. The main aim of the survey was to accurately map and define the Charo field through high quality 3D seismic data.

The seismic interpretation databases will help in more accurately defining the subtle Birkhead Santcher channel and potentially reveal other prospective channel sands.

Location Map

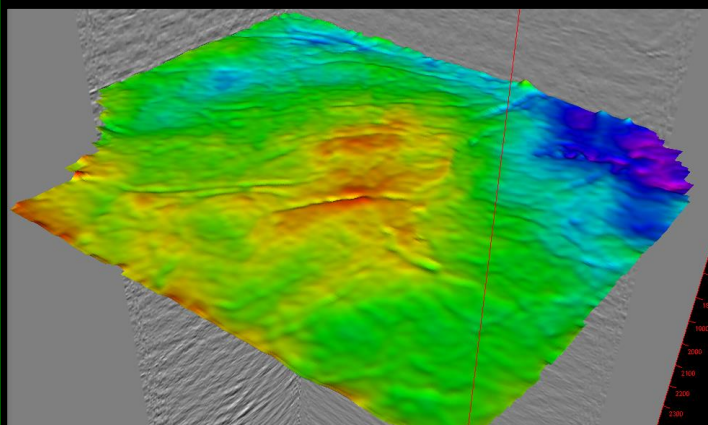


Charo 3D Quick Facts:

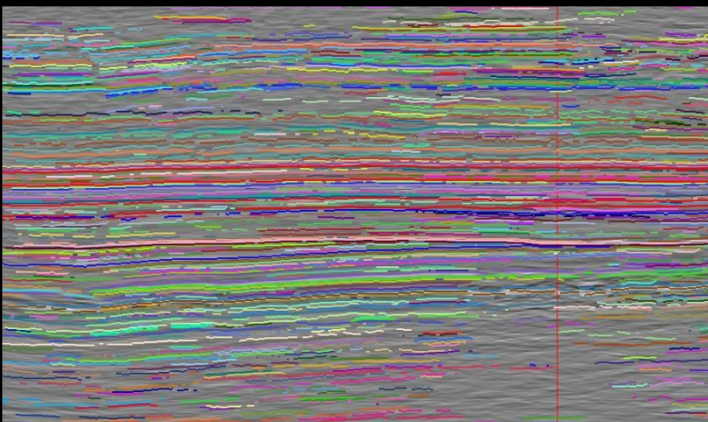
Survey	Charo 3D M.S.S. 08CP04	Date Acquired	04/08/2008 to 12/08/2008
GeoPopulation Database	Total No. of GeoPops 7780*	3D Area (Km ²)	47
Basin	Cooper Basin	Fields	Charo, Snatcher
Permits	PPL177, PEL111	Inlines/ Xlines	IL= 2000 to 2383 XL= 10000 to 10435
Operator	Santos Ltd	Time Range	0 to 4000ms
Contractors	Terrex Seismic Pty Ltd WesternGeco	State	South Australia

*Values from 'charo_2053_final_pstm_monk.sgy' volume database.

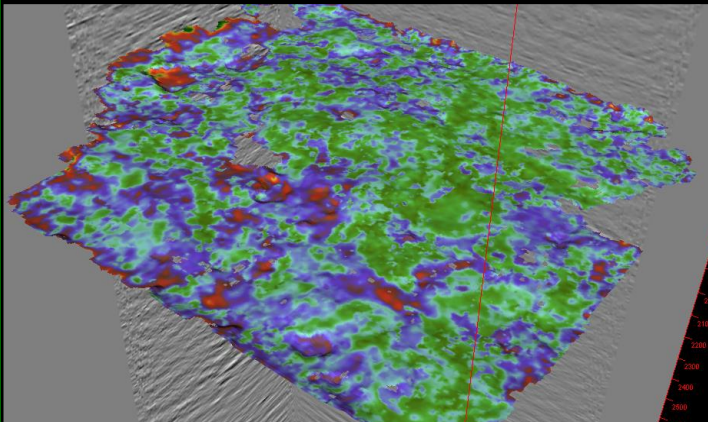
Cadna-Owie Formation Top: TWT Attribute Map



GeoPopulations: 2D View



Adori Sst Formation: Fitness Attribute Map

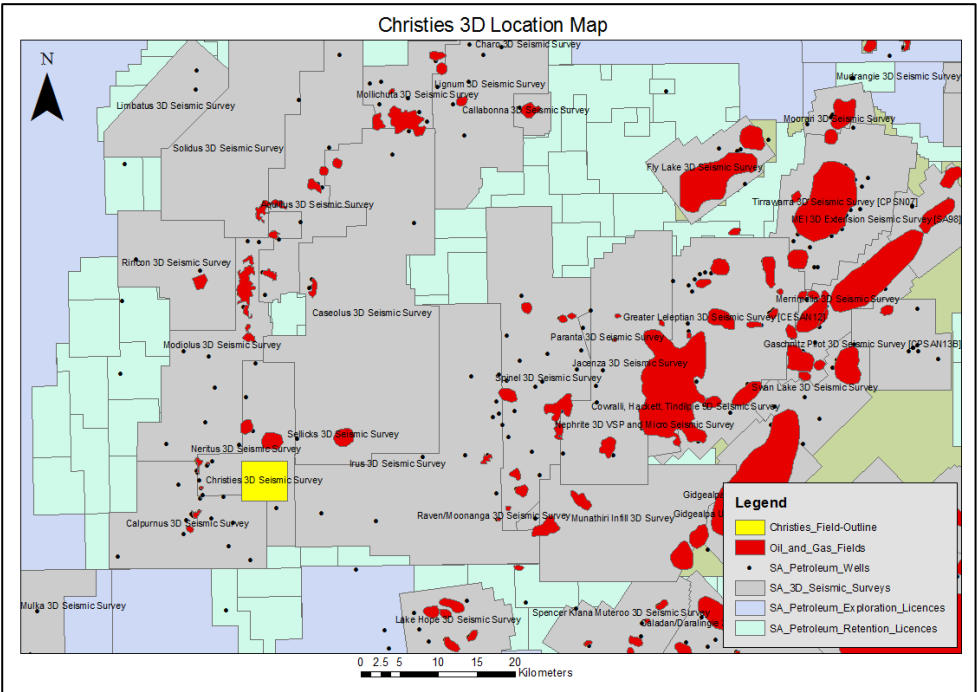




Christies 3D: Multi-Client Project

The **Christies 3D** survey was acquired by Trace Energy Services (now known as Terrex Seismic) between the 7th and 10th of October 2003. The survey covered approximately 29km² of the Cooper-Eromanga basin. The primary objective of the survey was to provide detailed structural and stratigraphic data over the Christies field. The Christies field was discovered in June 2003 with the drilling of the Christies-1 well, the main reservoir are the Hutton/Birkhead sandstone units. The survey was also designed to identify any secondary objectives in the Namur Sandstone and the Poolowanna formation.

Location Map

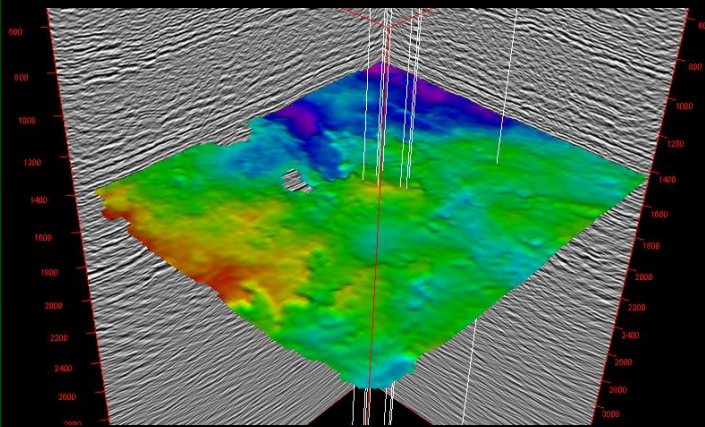


Christies 3D Quick Facts:

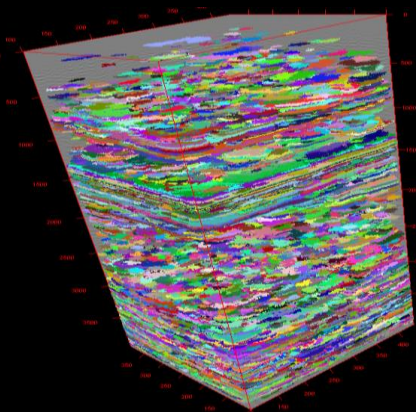
Survey	Christies 3D	Date Acquired	7 th to 10 th October 2003
GeoPopulation Database*	Total No. of GeoPops 9517	3D Area (km ²)	29
Basin	Cooper-Eromanga Basin	Fields	Christies
Permits	PEL 92	Inlines/ Xlines*	IL=101 to 387 XL=101 to 436
Operator	Beach Petroleum Ltd	Time Range*	0 to 3998ms
Contractor	Terrex Seismic Robertson Research	State	South Australia

*Values from 'christies_1834_filtmig.sgy' volume Seisnetics GeoPopulation database.

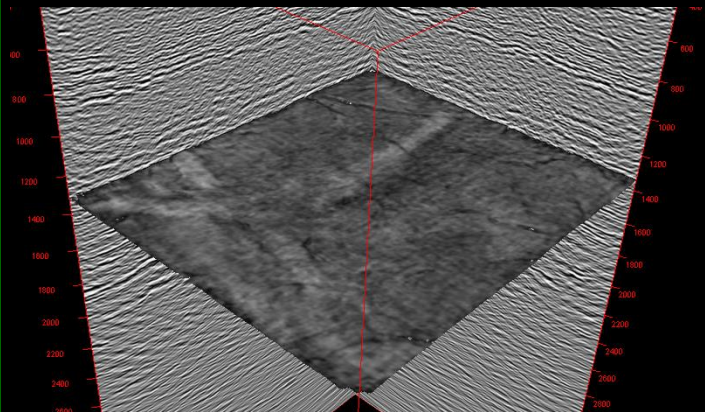
TWT Attribute Map with Wells



GeoPopulations: 3D View



Amplitude Attribute Map



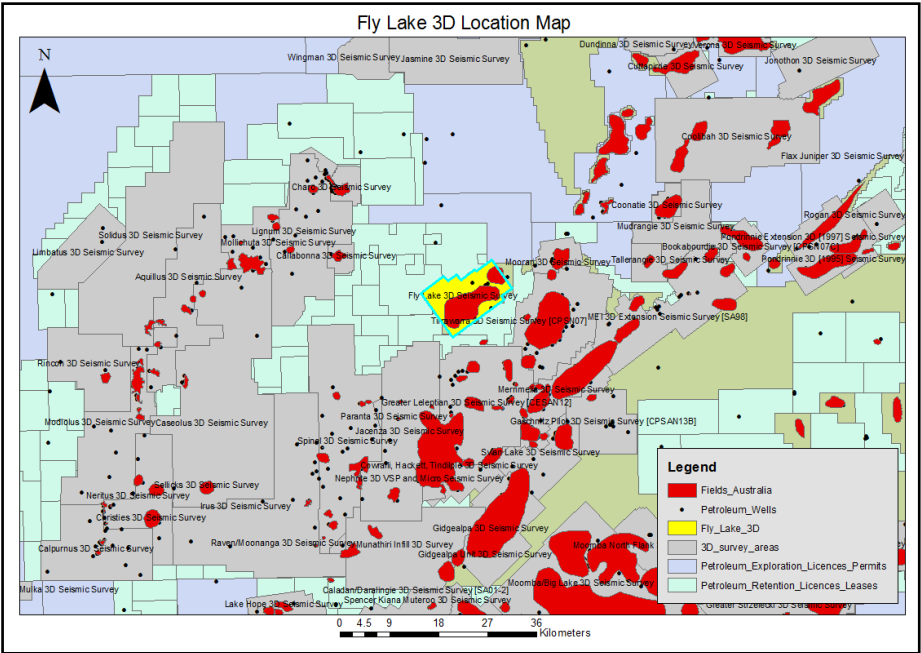
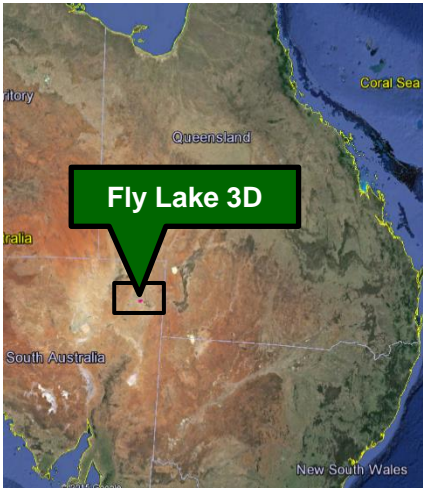


Fly Lake 3D: Multi-Client Project

Between January and August 2000 Santos Ltd recorded five 3D seismic surveys including **Fly Lake**, Goyder-Miluna, Beckler, Cowralli-Hackett-Tindilpie, Swan Lake and the Cascade 2D seismic survey called the SA 2000 survey.

The Fly Lake 3D survey covers approximately 119sq km of the Cooper-Eromanga basin and was acquired by Geco Prakla Australia. The survey was recorded to provide 3D seismic coverage of the Fly Lake field and Santos' petroleum production license 18 (PPL18).

Location Map

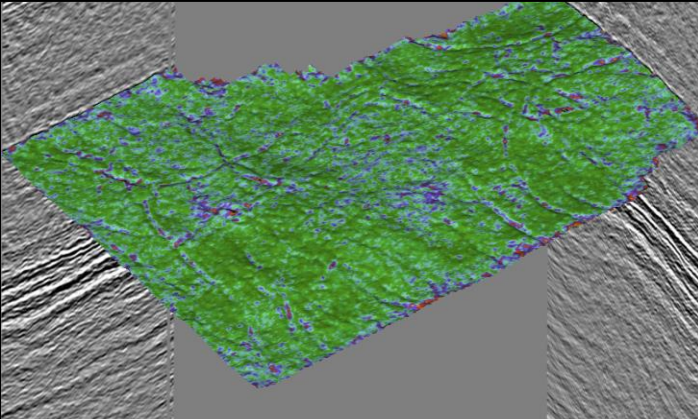


Fly Lake 3D Quick Facts:

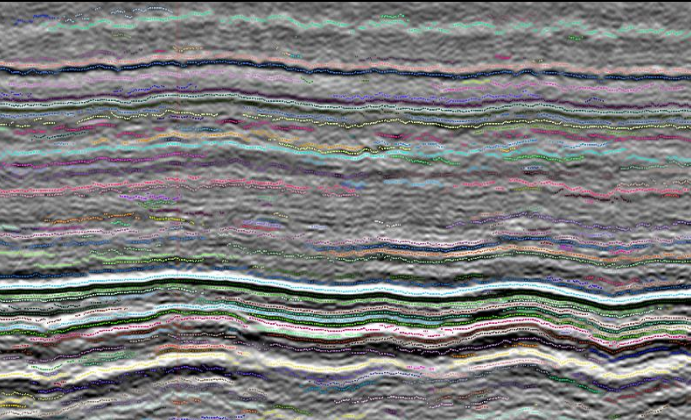
Survey	SA00 Fly Lake 3D	Date Acquired	2000
GeoPopulation Database	Total No. of GeoPops 3624	3D Area (Km ²)	119
Basin	Cooper Basin	Fields	Fly Lake
Permits	PPL 18	Inlines/ Xlines	IL: 1996- 2563 XL: 9994- 10403
Operator	Santos Ltd	Time Range	0 to 4.196s
Contractor	Geco-Prakla (Australia) Pty Ltd	State	South Australia

*Values from 'fly_lake_1450_filtmig.sgy' volume database.

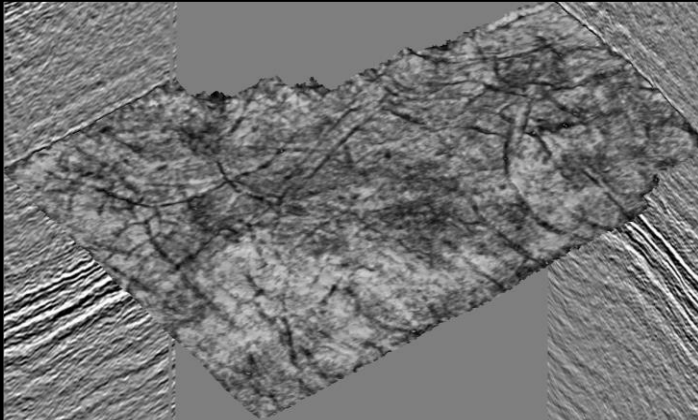
Cadna-Owie Formation Top: Fitness Attribute Map



GeoPopulations: 2D View



Cadna-Owie Formation Top: Amplitude Attribute Map

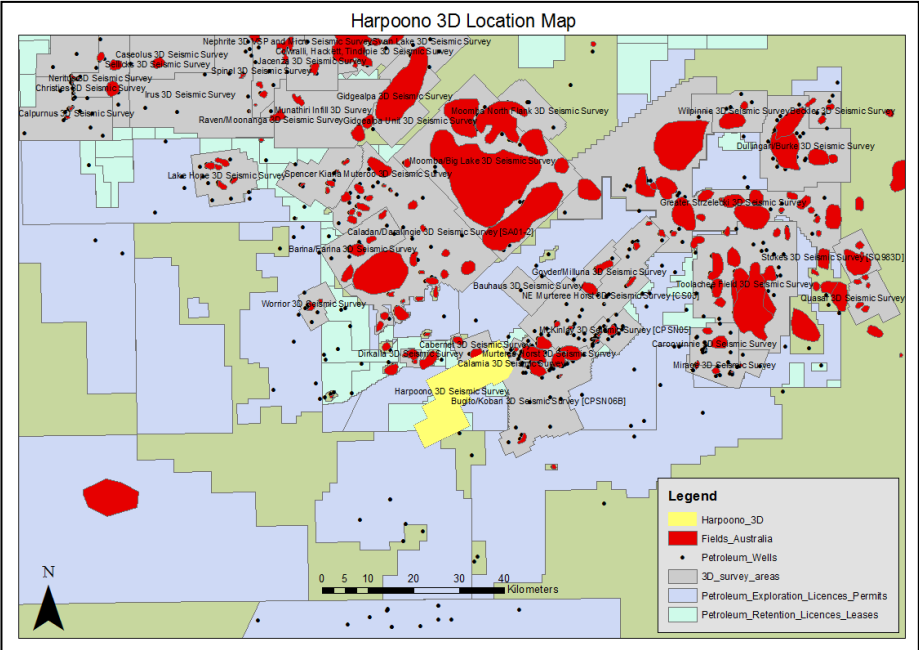




Harpoono 3D: Multi-Client Project

The **Harpoono 3D**, was acquired in 2005 by Stuart Petroleum(now Senex) who contracted out Trace Energy (now known as Terrex) to acquire the 205 square kilometre seismic 3D survey. The acquired data was processed by Velseis Processing Pty Ltd in their Brisbane offices. Over 17,000 GeoPopulations were generated from the Harpoono 3D. The TWT attribute maps clearly define the Dunoon and Murteree high structures, while the fitness and amplitude maps will also provide stratigraphic insights into prospective zones such as in the Murta and Birkhead. Overburden horizons provide key information for shallow hazard studies.

Location Map

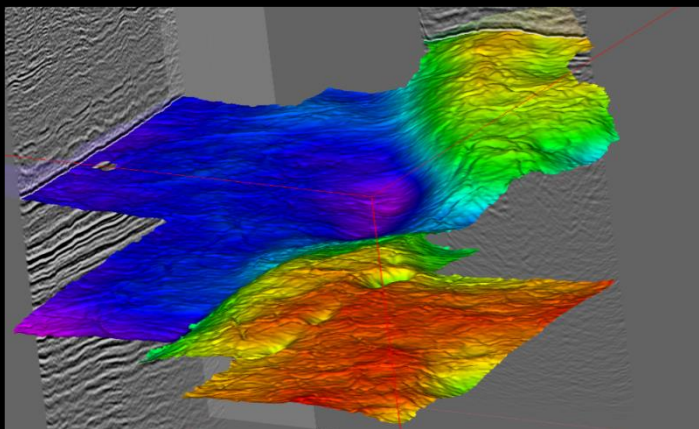


Harpoono 3D Quick Facts:

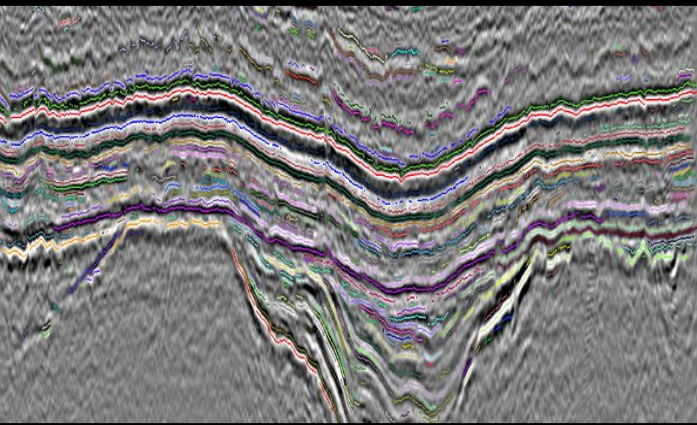
Survey	Harpoono 3D	Date Acquired	June to August 2005
GeoPopulation Database	Total No. of GeoPops 17272	3D Area (Km²)	205
Basin	Cooper-Eromanga Basin	Fields	Harpoono
Permits	PEL 113, PEL94	Inlines/ Xlines	IL: 1-1502 XL: 1-982
Operator	Stuart Petroleum Pty Ltd (Senex)	Time Range	0 to 3.0s
Vessel	Terrex Seismic Velseis	State	South Australia

*Values from 'harpoono_1882-3_filtmig.sgy' volume database.

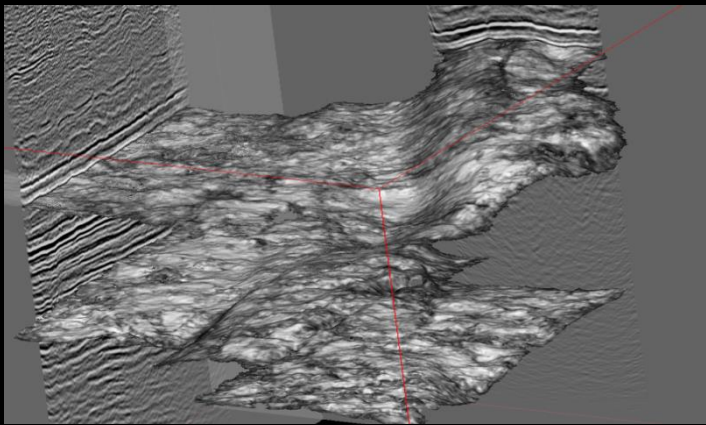
Cadna-Owie Formation Top: TWT Attribute Map



GeoPopulations: 2D View



Namur Formation Top: Amplitude Attribute Map

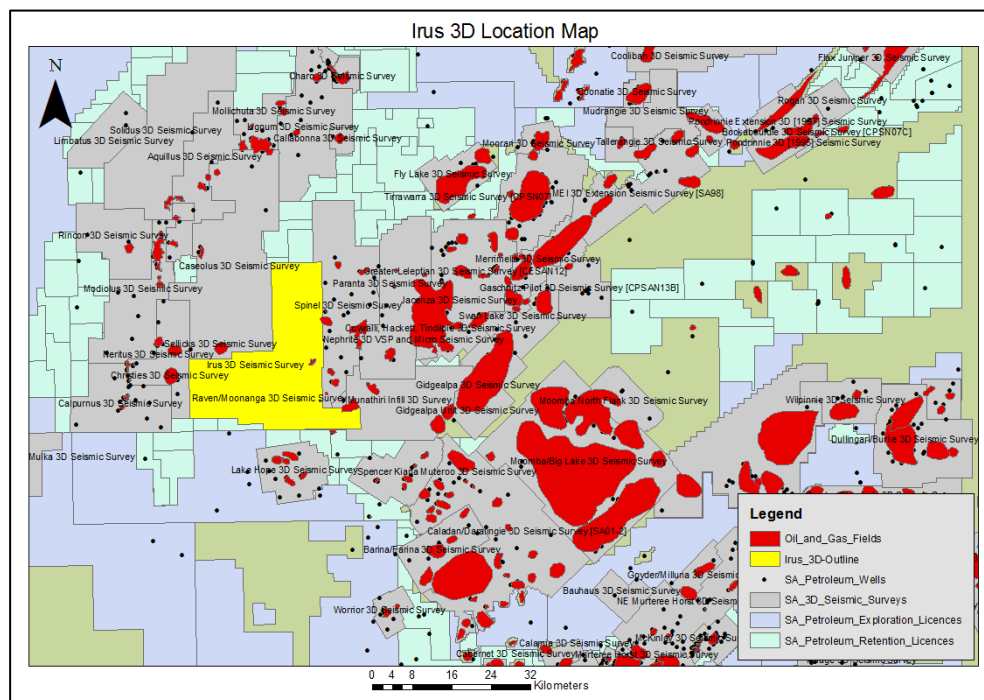
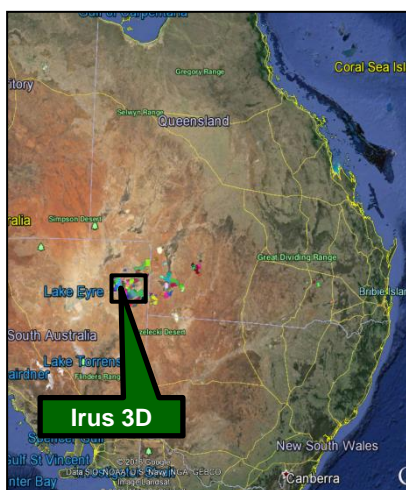




Irus 3D: Multi-Client Project

Between September and November 2012 Terrex Seismic Pty Ltd acquired the **Irus 3D** covering approximately 587 km² of the Cooper basin for Beach Energy Ltd. The survey was recorded over the exploration permits PEL91, 92 and 106 and was designed to enhance the understanding of the regional framework over this portion of the basin. The secondary objective was to provide high quality 3D seismic coverage of potential leads and prospects in the region.

Location Map

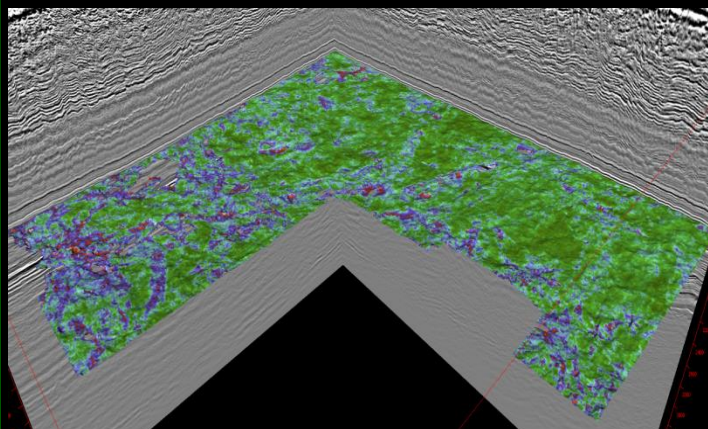


Irus 3D Quick Facts:

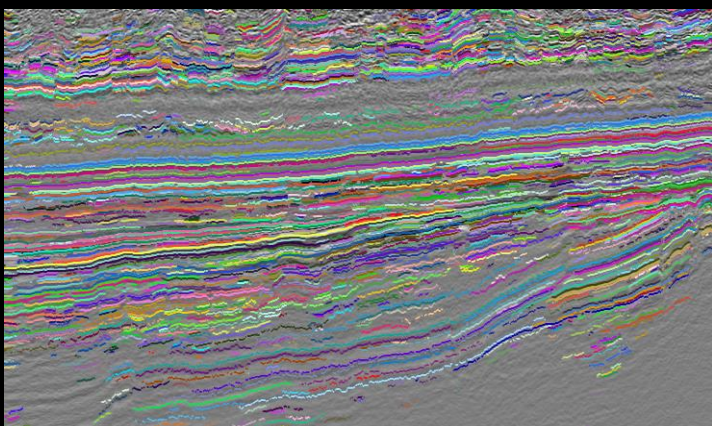
Survey	Irus 3D	Date Acquired	08/09/2012 to 17/11/2012
GeoPopulation Database*	Total No. of GeoPops 14,259	3D Area (Km ²)	599
Basin	Cooper Basin	Fields	Canunda, Raven, Udacha
Permits	PEL91, PEL92, PEL106	Inlines/Xlines*	IL= 9972 to 11763 XL= 8785 to 10762
Operator	Beach Energy Ltd	Time Range*	0 to 3996ms
Contractor	Terrex Seismic	State	South Australia

*Values from 'irus_2209_Final_PSTM_FullFoldStack_COV.sgy' volume database.

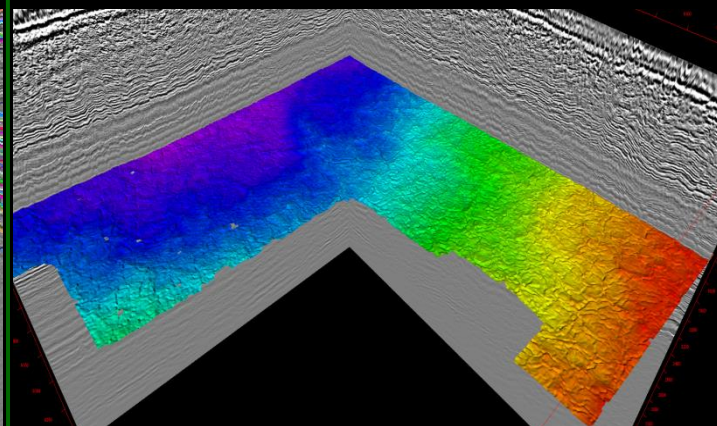
Fitness Attribute Map



GeoPopulations: 2D View



TWT Attribute Map

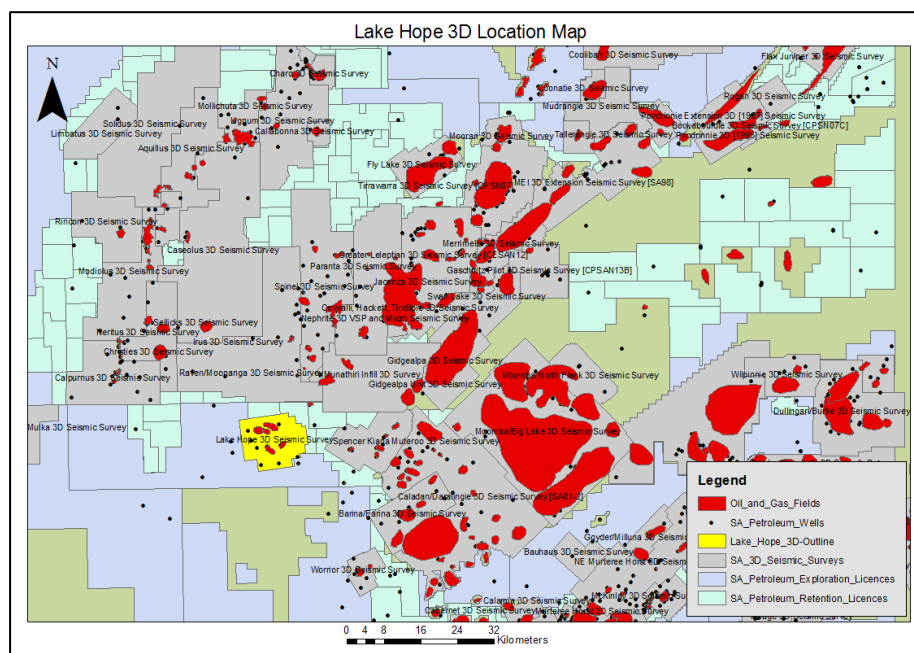
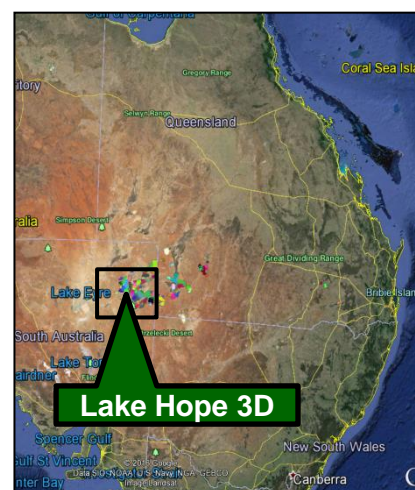




Lake Hope 3D: Multi-Client Project

The **Lake Hope 3D** was collected as part of the 1992 Hume Seismic survey which also included the acquisition of the Dirkala and Gidgealpa 3Ds. The survey was recorded in December 1992 and was the second 3D to be recorded in the area after the Cuttappirrie 3D in 1981. It was designed to provide high density 3D coverage over the existing Lake Hope fields including the Sturt, Sturt East, Tantanna, Taloola and Malgoona and provide further insights in the target structures flanks. The main target intervals ranged from the Top Namur sandstone through to the Merrimelia formation.

Location Map

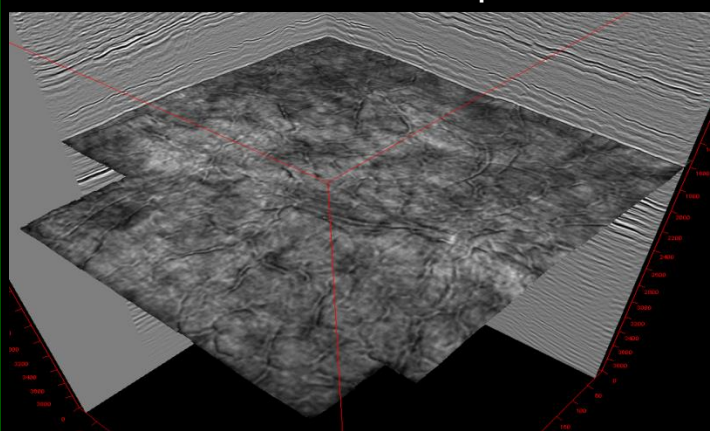


Lake Hope 3D Quick Facts:

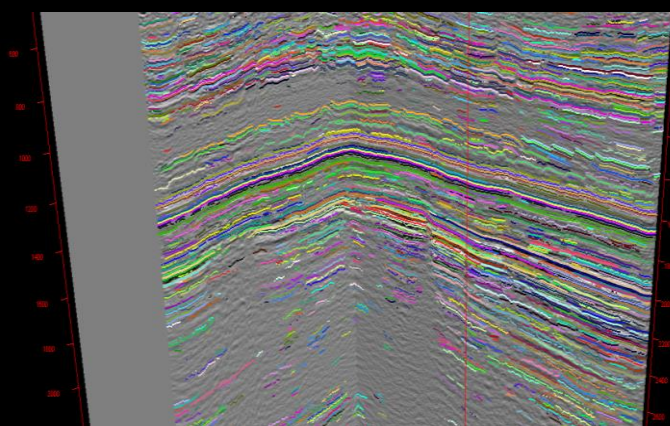
Survey	Lake Hope 3D AKA 1992 Hume Seismic Survey	Date Acquired	10/11/1992 07/12/1992
GeoPopulation Database*	Total No. of GeoPops 9,912	3D Area (km ²)	140
Basin	Cooper-Eromanga Basins	Fields	Tantanna, Taloola, Sturt, Sturt East, Malgoona
Permits	PPL63, PPL64, PRL175, PRL176, PEL512	Inlines/ Xlines*	IL= 2 to 656 XL=1 to 613
Operator	Santos Ltd	Time Range*	0 to 4000ms
Contractor	Halliburton Geophysical Services	State	South Australia

*Values from "LakeHope_FiltMig_4byte.sgy" volume Seisnetics GeoPopulation database.

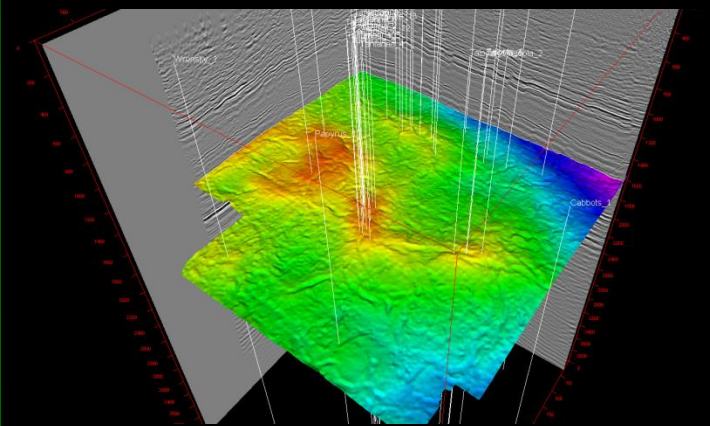
Fitness Attribute Map



GeoPopulations: 2D View



TWT Attribute Map

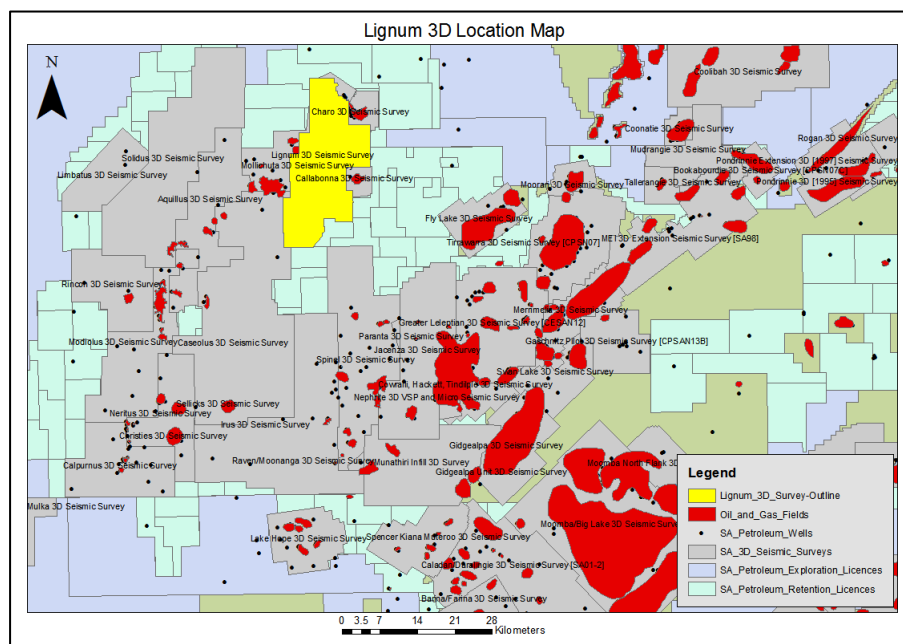




Lignum 3D: Multi-Client Project

Senex Energy contracted Terrex Seismic to conduct the **Lignum 3D** survey which covers approximately 317km² of the western flank of the Patchawarra Trough of the Cooper basin. The main objective of the survey was to identify new drilling targets while maturing existing leads in the exploration and production licenses PEL104, PEL111, PPL230 and PPL243. The main targets were stratigraphic Birkhead formation channel prospects, secondary targets were convention Triassic Tinchoo formation prospects in the north and deep unconventional Patchawarra and Epsilon formation prospects in the south.

Location Map

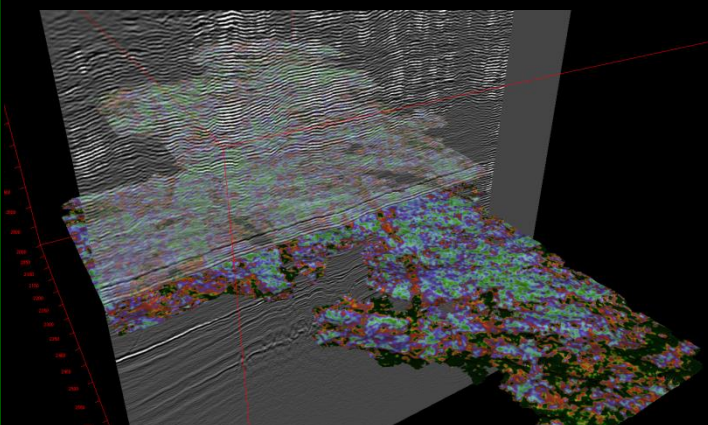


Lignum 3D Quick Facts:

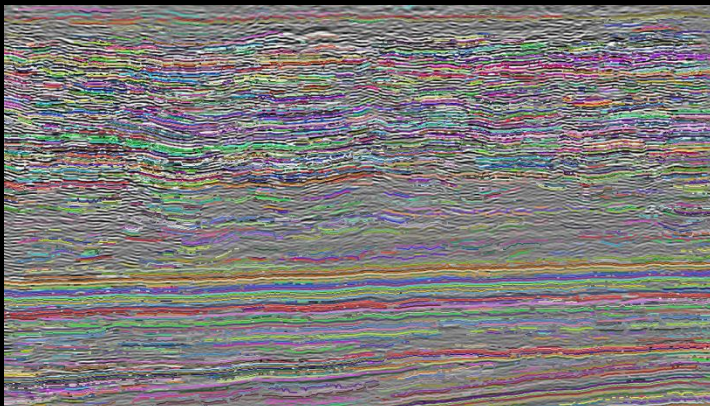
Survey	Lignum 3D	Date Acquired	November 2012 to January 2013
GeoPopulation Database*	Total No. of GeoPops 33,137	3D Area (km ²)	317
Basin	Cooper Basin	Fields	Tigercat, Martlet, Mustang, Snatcher
Permits	PEL104, PEL111, PPL230, PPL243	Inlines/Xlines*	IL=1999 to 3260 XL=9999 to 10651
Operator	Senex Energy Ltd	Time Range*	0 to 2996ms
Contractor	Terrex Seismic Pty Ltd	State	South Australia

*Values from 'lignum_2205_5Dint_Final_PSTM_FullFold_Stack_InvQ_padded.sg' volume Seisnetics GeoPopulation database.

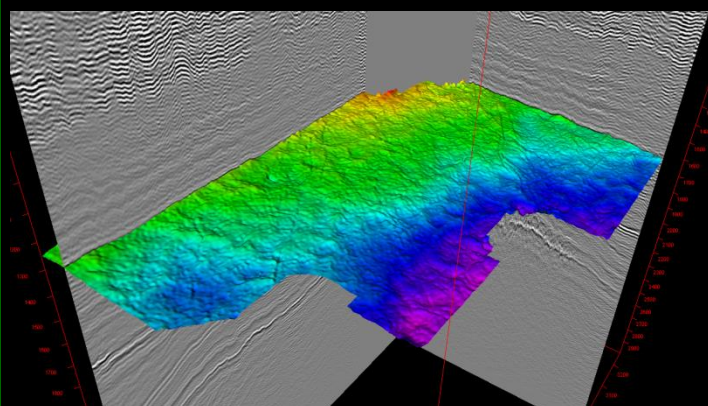
Fitness Attribute Map showing Subtle Channeling



GeoPopulations: 2D View



TWT Attribute Map

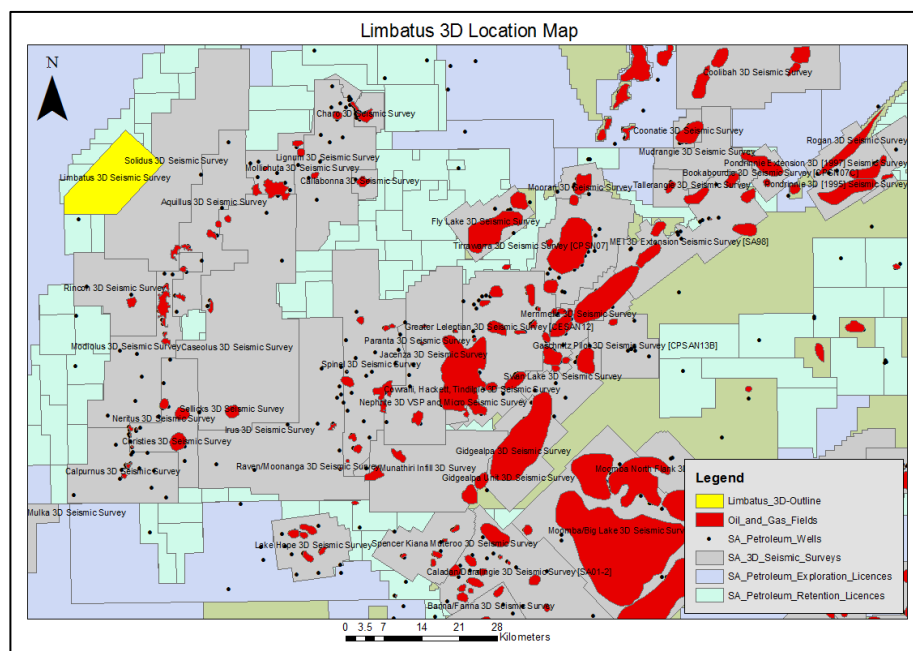
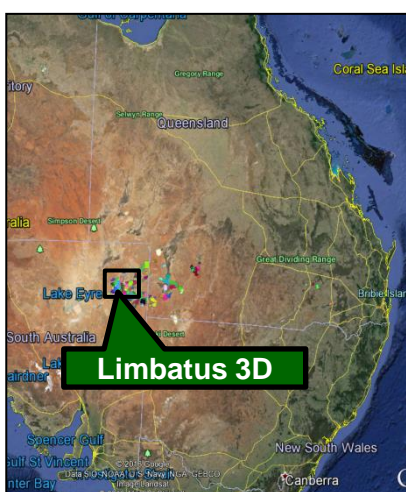


Limbatus 3D: Multi-Client Project

Beach Energy contracted Terrex Seismic to acquire the **Limbatus 3D** within the PEL 91 at the end of 2011. The survey covers approximately 153km² of the Western Flank oil fairway within the Cooper-Eromanga basin.

The main objectives of the survey was to mature structural and stratigraphic leads and prospects along the Birdsville track ridge within the potential Jurassic reservoir formations.

Location Map

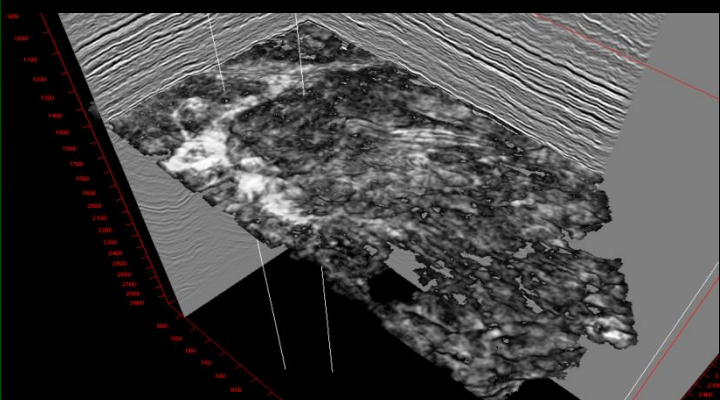


Limbatus 3D Quick Facts:

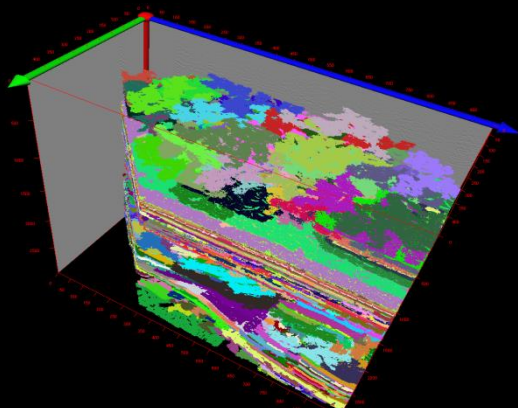
Survey	Limbatus 3D	Date Acquired	6 th December 2011 22 nd January 2012
GeoPopulation Database*	Total No. of GeoPops 20,326	3D Area (km ²)	153
Basin	Cooper-Eromanga Basin	Fields	N/A
Permits	PEL 91	Inlines/ Xlines*	IL= 1 to 945 XL= 1 to 464
Operator	Beach Energy	Time Range*	0 to 3000ms
Contractor	Terrex Seismic	State	South Australia

*Values from 'limbatus_2182_ovt_crs_pstm_stk_sw_filtered.sgy'.
* volume Seisnetics GeoPopulation database.

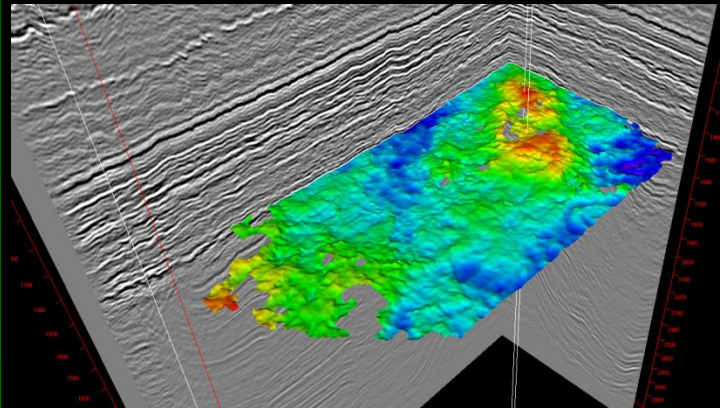
Amplitude Attribute Map



GeoPopulations: 3D View



TWT Attribute Map

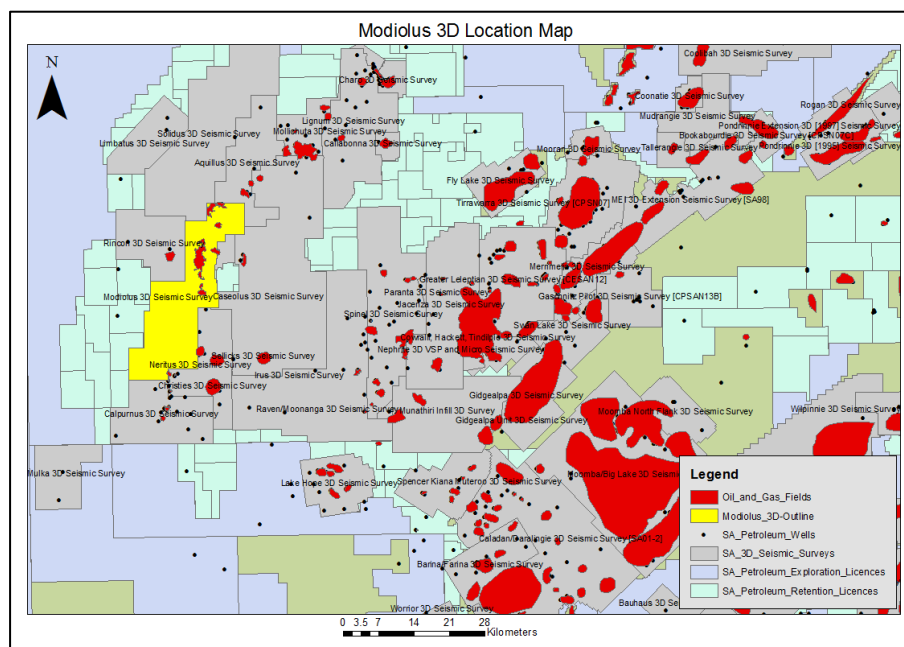
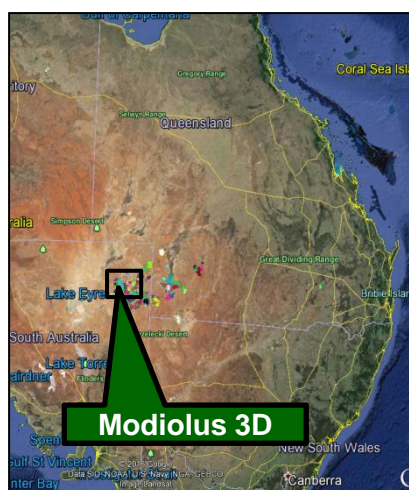




Modiolus 3D: Multi-Client Project

Between May and July 2008 Beach Petroleum Ltd contracted Terrex Seismic services to shoot the **Modiolus 3D** covering approximately 346sq km of the Cooper-Eromanga basin. Located approximately 100kms West of Moomba the main aim of the survey was to evaluate a number of prospects already identified within exploration permits PEL91 and PEL 92, whilst providing a high quality seismic coverage of the Bauer field. The seismic interpretation databases will help in more accurately defining the subtle structural and stratigraphic characteristics of the Bauer field. The fitness and amplitude maps can be used to review and assess the prospective Birkhead channels sands.

Location Map

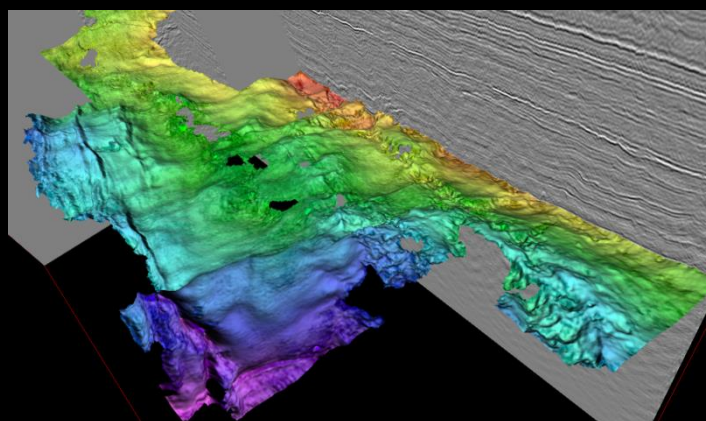


Modiolus 3D Quick Facts:

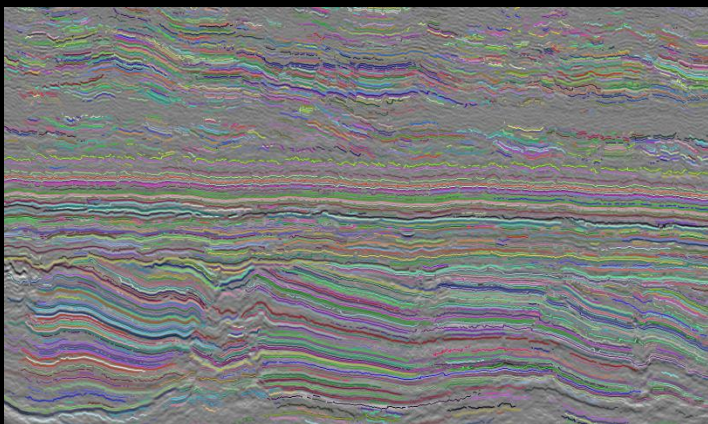
Survey	Modiolus 3D	Date Acquired	30/05/2008 to 26/07/2008
GeoPopulation Database	Total No. of GeoPops 42,187	3D Area (Km ²)	346
Basin	Cooper Basin	Fields	Arno, Basham, Bauer, Chiton, Kalladeina, Hanson, Parsons, Sceale, Snellings
Permits	PEL91, PEL92	Inlines/ Xlines	IL=1766 to 3993 XL=10255 to 11389
Operator	Beach Petroleum	Time Range	0 to 4000ms
Contractor	Terrex Seismic Western Geco	State	South Australia

*Values from 'modiolus_2078_2079_final_pstm_monk.sgy' volume database.

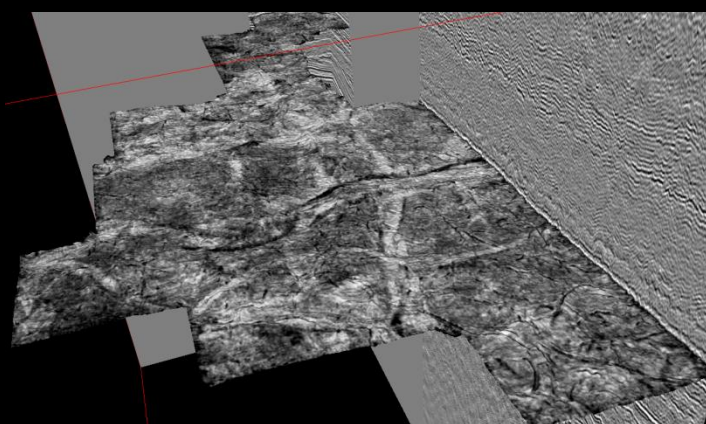
Blended TWT and Amplitude Attribute Map



GeoPopulations: 2D View



Cadna Owie: Amplitude Attribute Map

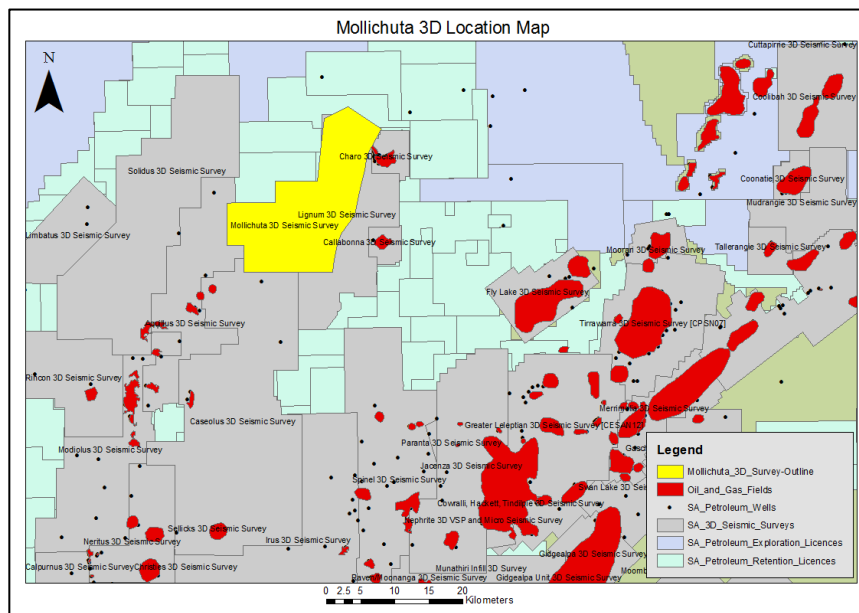
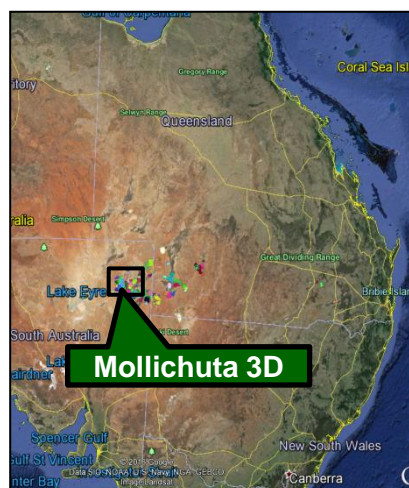




Mollichuta 3D: Multi-Client Project

The **Mollichuta 3D** covering 254 sq km of the Cooper basin was acquired by Terrex Seismic and processed by CGG Veritas in 2009. The primary aim of the survey was to more accurately define the extent of Growler oil field for development. The survey was also designed to evaluate the Birkhead Formation for prospective reservoir quality channel sands similar to the Snatcher and Charo reservoirs, including the Wirraway, Warhawk and Tigercat. The seismic interpretation databases will help in more accurately defining subtle structural characteristics of the Growler structure, a low relief four-way dip closed anticline, while the fitness and amplitude maps can be used to review and assess the prospectivity of the Birkhead channel sands through comparison with similar analogues from neighbouring 3D's.

Location Map

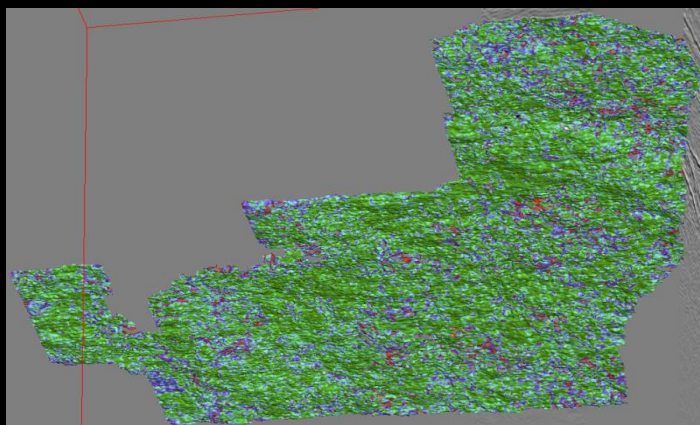


Mollichuta 3D Quick Facts:

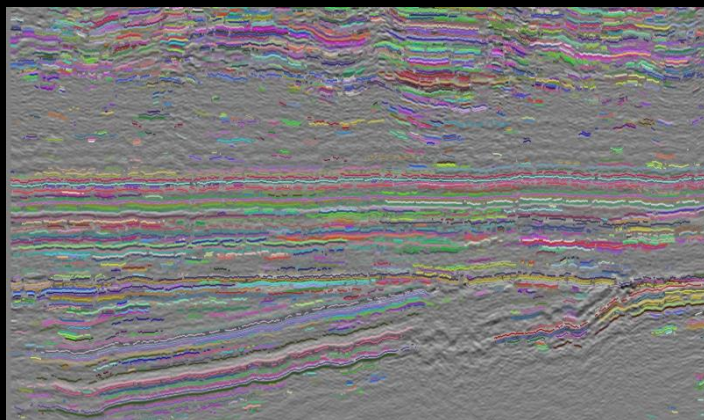
Survey	Mollichuta 3D 09CP02	Date Acquired	04/03/2009 to 01/03/2009
GeoPopulation Database	Total No. of GeoPops 32,454*	3DArea (Km ²)	254
Basin	Cooper Basin	Fields	Charo, Growler, Martlet, Mustang, Snatcher, Spitfire, Tigercat, Warhawk, Wirraway.
Permits	PEL104, PEL111, PRL 15	Inlines/Xlines	IL= 2003 to 2965 XL= 10001 to 10897
Operator	Senex Energy (Formerly known as Victoria Petroleum)	Time Range	0 to 5098ms
Contractor	Terrex Seismic CGG Veritas	State	South Australia

*Values from 'mollichuta_2123_final_pstm_whitening.sgy' volume database.

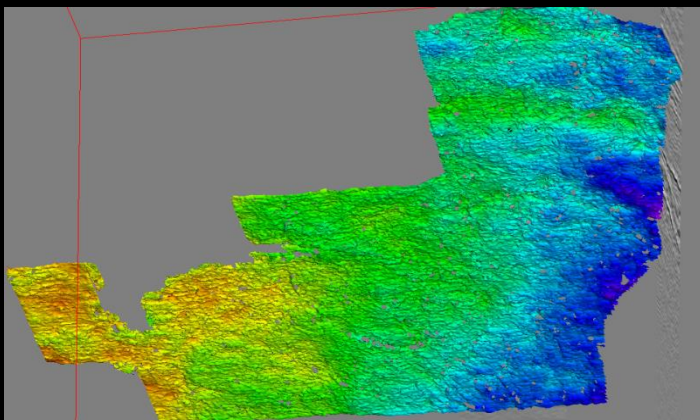
Namur Fitness Attribute Map



GeoPopulations: 2D View



Cadna Owie: TWT Attribute Map

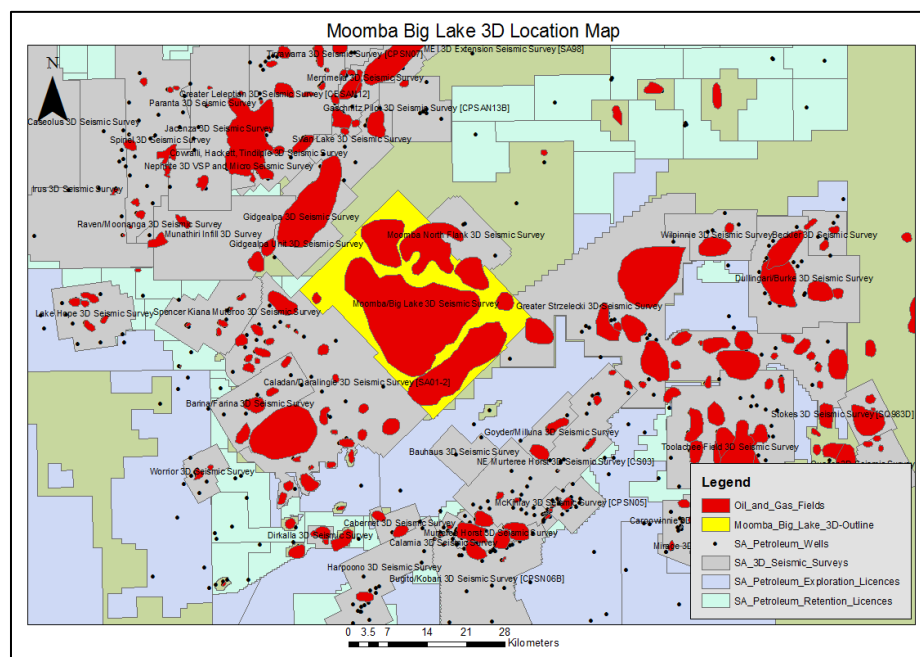




Moomba Big Lake 3D: Multi-Client Project

In 1997 Santos ran a major seismic acquisition programme in the Cooper-Eromanga basin as operator of PEL 5 and PEL 6. The 'SA 97 Seismic Survey' recorded 2,713km² of 2D data and 4 3D seismic surveys including the Toolachee, Pondrinnie, Dullingari Burke and **Moomba Big Lake**. The Moomba Big Lake 3D covered an area of approximately 806 km², was acquired by Geco-Prakla Australia and processed by Western Geophysical and Digital Exploration. Due to the size, location and significance of the Moomba field the main oil and gas production facility for the Cooper-Eromanga basin is situated in Moomba.

Location Map

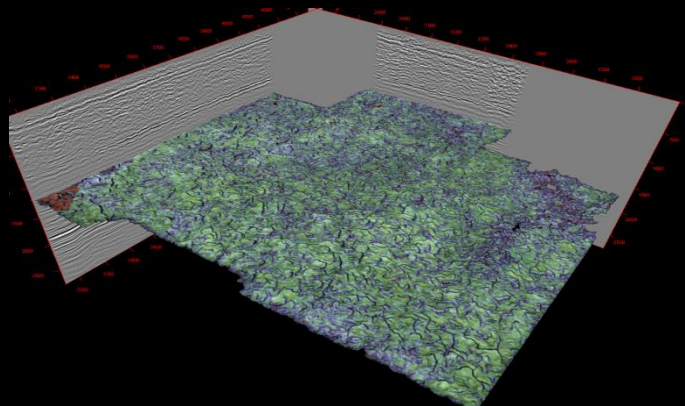


Moomba Big Lake 3D Quick Facts:

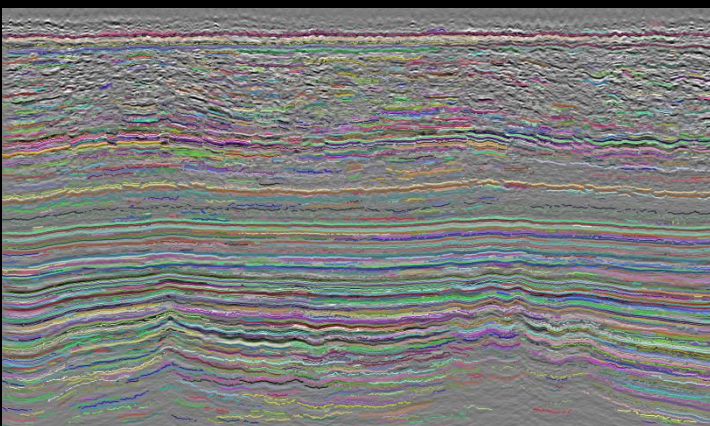
Survey	Moomba Big Lake 3D	Date Acquired	11/05/1997 to 14/07/1997
GeoPopulation Database	Total No. of GeoPops 23,375	3D Area (Km ²)	806
Basin	Cooper Basin	Fields	Big Lake, Kirralie, Moomba, Moomba East, Moomba North, Moomba Northwest, Namur,
Permits	PPL8, PPL9, PPL11	Inlines/ Xlines	IL= 2576 to 3919 XL= 3152 to 4448
Operator	Santos Ltd	Time Range	0 to 2800ma
Contractor	Geco-Prakla (Australia) Pty Ltd	State	South Australia

*Values from 'SPECW_PSTM.sgy' volume database.

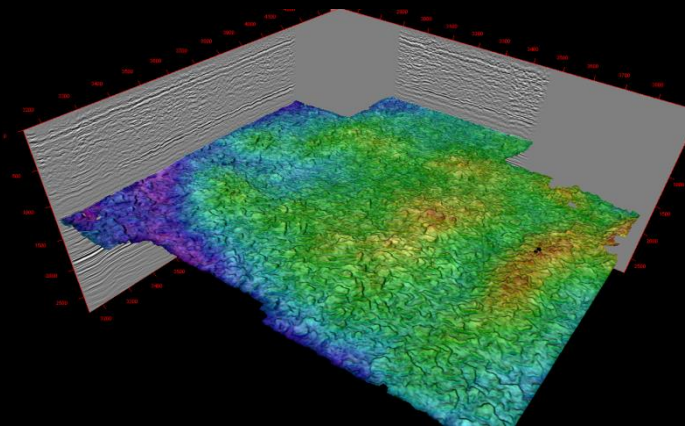
Fitness Attribute Map



GeoPopulations: 2D View



TWT Attribute Map

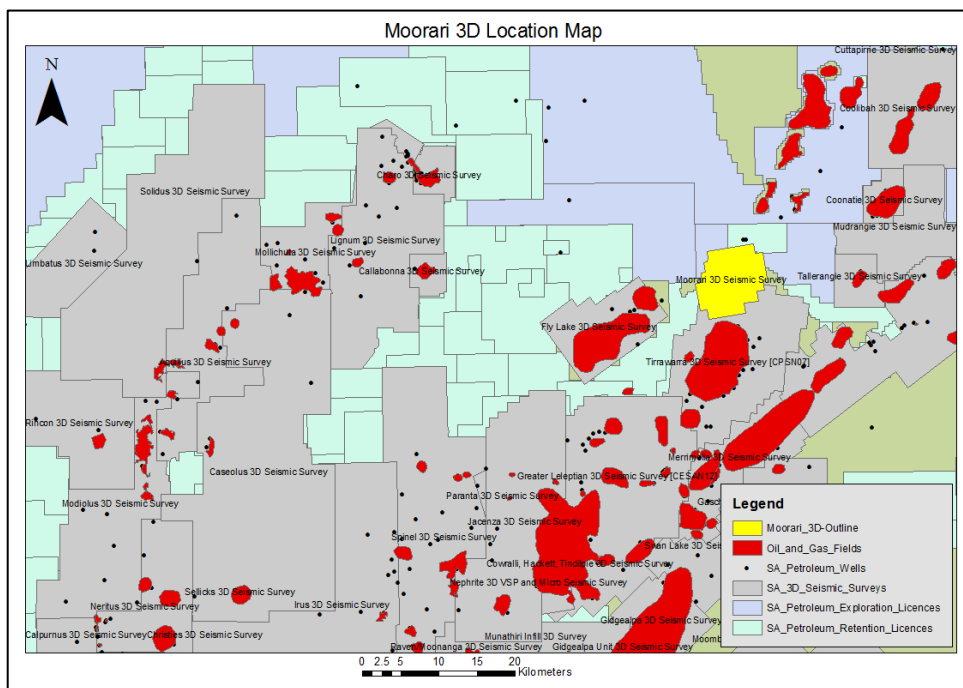
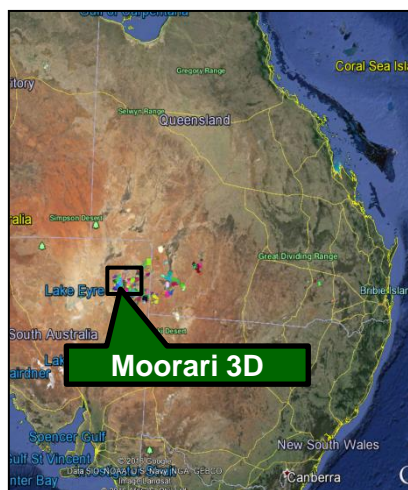




Moorari Repro 3D: Multi-Client Project

The **Moorari 3D** was originally acquired in 1994 by Geco-Prakla, in 2007 the 3D seismic volume was reprocessed by CGG Veritas as part of the acquisition of the Tirrawarra 3D. The reprocessed seismic survey covers approximately 33km² of the Cooper-Eromanga basin and was designed to provide highly detailed coverage of the Moorari field.

Location Map

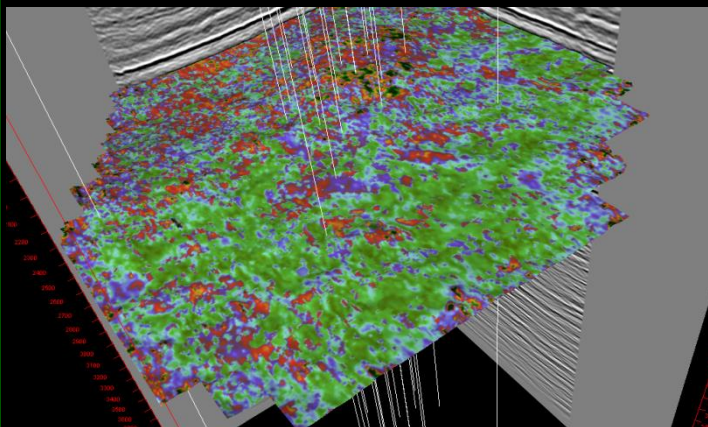


Moorari 3D Repro Quick Facts:

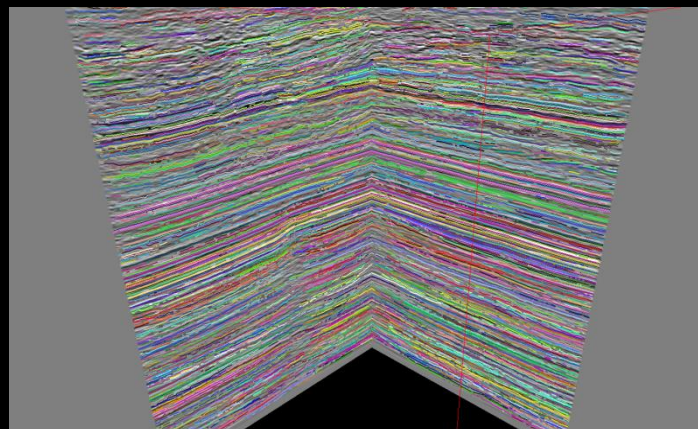
Survey	Moorari 3D	Date Acquired	Originally acquired in 1994, Reprocessed in 2007
GeoPopulation Database*	Total No. of GeoPops 8,337	3D Area (km ²)	33
Basin	Cooper-Eromanga Basin	Fields	Moorari, Woolkina
Permits	PPL 19, PPI 193, PRL 108, PRL 203, PEL 638	Inlines/ Xlines*	IL= 800 to 1231 XL= 1000 to 1463
Operator	Santos Ltd	Time Range*	0 to 4000ms
Contractor	Geco-Prakla CGG Veritas-Reprocessing	State	South Australia

*Values from "???" volume Seisnetics GeoPopulation database.

Fitness Attribute Map



GeoPopulations: 2D View



TWT Attribute Map with Wells

