



SUBMISSION BY:

**THE INTERNATIONAL ASSOCIATION
OF GEOPHYSICAL CONTRACTORS
("IAGC")**

to the

**HOUSE OF REPRESENTATIVES
STANDING COMMITTEE INQUIRY INTO
RESOURCE EXPLORATION IMPEDIMENTS**

July 2003

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HOUSE OF REPRESENTATIVES STANDING COMMITTEE INQUIRY INTO RESOURCE EXPLORATION IMPEDIMENTS

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Executive Summary

The IAGC are requesting changes to Australian legislation and regulations that require release of "non-exclusive" seismic data into the public domain, as part of Government's policy on 'Public provision of Geoscientific data'.

Current Government policy regarding release of seismic data is having an increasingly detrimental effect on the financial viability of IAGC member companies, which has already resulted in dramatic falls in investment into Australia over the last two years.

This policy will also further compound the current levels of staffing reductions in the industry, with personnel losses of approximately 40% already seen in Australia over the previous three years. In addition, this remains a contributing factor in the migration of key operational and technical expertise to the emerging regional hubs of Singapore and Kuala Lumpur.

These effects will continue unabated unless the Government improves the terms governing release of non-exclusive seismic data.

The IAGC therefore request the following changes to the two distinct products affected by Government policy:-

3D Seismic Data

- For 3D surveys not yet released into the public domain :
 - Release of the "extracted" 2kmx2km 2D grid amended to 9kmx9km grid
 - Release of the 3D data extended from 9 years to "12-14" years.
 - Release of underlying 'raw' field data extended from 9 years to 25 years.
- For new 3D surveys :
 - NO release of "extracted" 2D grids.
 - Release of the 3D data after 25 years
 - Release of underlying 'raw' field data after 50 years.

2D Seismic Data

- Release of new 2D data extended from 6 years to 15 years.

Existing investment in Australian non-exclusive data is proving to be an increasingly poor business and new funding for exploration is withering. Government through its current deliberations has the opportunity to reinvigorate the geophysical industry represented by the IAGC. Inaction on the part of Government will result in continued contraction in the industry resulting in the exploration burden increasingly shifting toward the Australian tax payer – as has already occurred with recent underwriting for Government funded exploration.

Without the recommended changes outlined in this submission to Government, investment by the largest single investor in Australian geophysical data will continue to diminish as IAGC members invest in those countries with more progressive policies.

The IAGC therefore believe the requested changes bring reasonable balance to IAGC's member needs to operate a profitable business and the Government's desire to make valuable seismic data available in the public domain, as a component of its release of promotional geoscientific data.



Introduction

The IAGC is the international trade association with its headquarters in Houston, USA, and a Secretariat in London, England, which represents the industry that provides geophysical services to the oil and gas industry. Key services provided by the industry include, geophysical data acquisition, seismic data ownership and licensing, geophysical data processing and interpretation, and associated services.

What We Do:

- Act as a focal point and clearinghouse for information about the worldwide geophysical contractor industry.
- Serve as a primary contact for working with governmental bodies on matters affecting the geophysical community.
- Develop industry-wide guidelines and procedures to provide for the safest, most environmentally conscious and efficient geophysical operations possible.
- Provide opportunities for leaders and others within the worldwide geophysical industry to network and discuss industry issues.
- Coordinate closely on matters of common concern with other petroleum industry trade associations, professional societies and other organizations at the local, regional, national and international levels.

A full list of member companies can be viewed on the IAGC website:-

<http://www.iagc.org/content/members/members.asp>

IAGC members currently employ approximately 220 personnel in Australia.

(Please see Appendix 5, for an explanation of industry's key products).

Australian Operations - the effects of current Government policy

With the release period for non-exclusive seismic data so short in Australia, IAGC members are already seeing significant declines in the commercial value of their investments as potential users wait for the data to become “free” particularly in the last 2-3 years of the survey's confidentiality period.

The financial situation of IAGC members is such that the losses the industry is now experiencing against their non-exclusive survey portfolio is having a knock-on effect on their day-to-day business. In particular this is affecting their ‘data processing’ business where seismic data is processed from a raw, to a final product. Australian data processing operations have already been significantly downsized as IAGC members attempt to limit damage to their local, regional and global business.

Non-exclusive data investment is a direct, leveraging investment benefiting the resource manager (i.e. the Government) over and over again. Government has recognized the promotional value of seismic data but instead of stimulating the industry to invest more has chosen to limit the chance of recouping investments by forcing the industry to surrender their data before it has reached cost recovery. This is leading to a collapse in the industry and hence investment in new surveys which will translate into a steep decline in data available for public release in 5-8 years time. It is the IAGC's position that the Government should support sustainable investment in exploration rather than overseeing its demise in Australian waters. In essence, the IAGC wishes to see Australia move toward some level of competitiveness in the global theatre of non-exclusive operations.



Situation

In recent years, IAGC member companies have acquired seismic surveys within Australian waters on a “non-exclusive” basis. This is a business where the IAGC member directly funds acquisition of a seismic survey themselves, rather than the more familiar situation where an oil company directly sub-contracts an IAGC member to carry out a survey over their own acreage (known as a “proprietary” purchase).

Resulting non-exclusive data is licensed (much like computer software) at a much lower up front price than a full proprietary purchase (c.20-50% of the initial cost of proprietary work).

The IAGC members then recover their investment over a period of many years by two main methods:-

- *Pursuing multiple licenses of the same data set.*
- *Contractual success bonuses paid by the oil company, collected over a period of years. These are frequently tied to milestones such as: award of an offshore permit; securing new partners; and drilling new wells over areas covered by the non-exclusive seismic. In all these examples the success bonus reflects the value the oil company has extracted from the data in the course of their business.*

The majority of these surveys have been targeted at ‘exploration’ acreage where oil companies are typically looking to identify new oil and gas fields for subsequent development and production.

The collapse of the oil price in late 1998 to USD 10/barrel resulted in a wave of oil industry consolidation and a refocusing of corporate strategies resulting in a dramatic reduction in exploration expenditure in many areas around the world. As a result Australia, in particular, has seen a significant reduction in the number of potential/active ‘licensees’ who will purchase the data. This reduction has been compounded by the failure to increase new exploration investment, due principally to the low oil prospectivity and the small domestic gas market in Australia. All these factors have resulted in much lower cash flows for IAGC funded projects than was originally forecast.

In many countries around the world, notably the U.S., Indonesia, U.K. and many countries offshore West Africa, government policies create an investment environment to encourage IAGC members to invest in non-exclusive surveys. In these countries where the investment environment is adequate, geophysical industry investment has been more robust through this global downturn. Such countries allow IAGC members to recoup their investment such that they can re-invest in the market by undertaking new surveys.

Australia currently has a policy to release data acquired by IAGC members into the public domain. Several other countries do follow the same policy, however Australia’s policy is the most aggressive in the world stipulating that 2D data be released after 6 years (“5+1” rule) and 3D data after 9 years (“8+1” rule). In addition, the additional 3 years extended to 3D data is conditional upon submission of a 2kmx2km extracted 2D grid from the 3D volume which effectively strips the value of our investment from these surveys – this is a policy which is wholly unique to Australia. Finally, data submitted to Government not only includes the ‘final’ processed product but also the ‘raw’ source data.

With the decline in exploration activity from 1999 onward it is now evident that Australia’s aggressive policy on release of seismic data will not allow the industry to recoup its investments.



For the purpose of comparison, the following tables summarizes policy on release of 3D data into the public domain, around the world:-

	3D Survey Data		
	Confidentiality period for Processed Data	Confidentiality period for Field Data	Release of Extracted 2D grid
IAGC Principle⁽¹⁾	25 years	50 years	None
Australia⁽²⁾	9 years	9 years	6 years
U.S.⁽³⁾	25 years	50 years	Not required
Indonesia⁽⁴⁾	10 years	10 years	Not required
U.K.⁽³⁾	Not released	Not released	Not required
Gabon⁽⁵⁾	Not fixed	Not fixed	Not required
Angola⁽⁶⁾	10 years	10 years	Not required

Notes

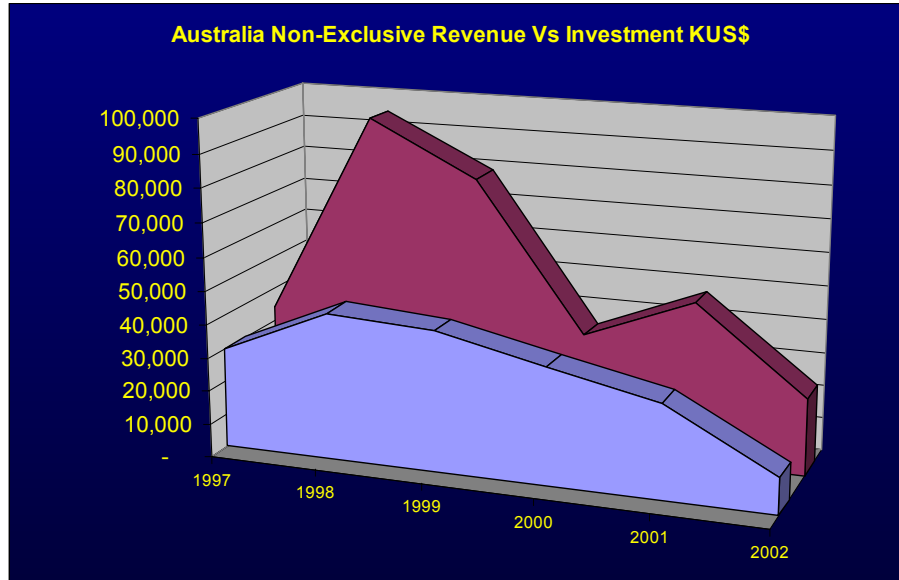
- (1) Recommended release schedule per the IAGC's Statement of Principles.
- (2) Release of an extracted 2D grid is unique to Australia.
- (3) Regulation of non-exclusive data is currently under review in both the U.S. and the U.K.
- (4) Indonesia grants extensions to the nominal 10 year period in the event that the survey has not reached cost recovery. These extensions are granted as increments of three years.
- (5) Release of data does not occur before 'cost recovery' for the IAGC member and is generally negotiable beyond this milestone conditional on the company's continuing investment in exploration surveys.
- (6) Release of data is nominally set at ten years but can be extended upon mutual agreement for an additional period if cost recovery has not been achieved.

It is worthy of note that the periods defined above are also a reflection of a country's market activity and oil and gas prospectivity. Of the countries listed above, Australia arguably has the lowest prospectivity and market activity and consequently would be *expected* to issue terms slightly better than the global average. In reality however, Australia has the least competitive terms in the world.

Critically, those countries with shorter release periods make provision for the IAGC member companies to recover the cost of their investment, e.g. Indonesia, Angola, and Gabon. This of course helps to ensure ongoing reinvestment by IAGC companies.

Request to Government

The aggregate IAGC industry investment for 1997 to Q3, 2002 is USD 315M with revenue in the same period of USD 190M (Equivalent to AUD 485M and AUD 290M respectively, using current day exchange rates).



Figure, showing cash-flow (pale blue) against investment in Australia

We (IAGC members) request that the Government apply its powers of special dispensation to the release of 3D data acquired since 1996, which accounts for the bulk of industry investment to date.

In addition, we also request that Government amend its policy going forward to ensure Australia's place on the world stage for new 2D and 3D non-exclusive data acquisition.

Our specific request is thus:-

3D Seismic Data

- For 3D surveys not yet released into the public domain :
 - Release of the "extracted" 2kmx2km 2D grid amended to 9kmx9km grid
 - Release of the 3D data extended from 9 years to "12-14" years.
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2D Seismic Data

- Release of new 2D data extended from 6 years to 15 years.

Importantly, the IAGC stress the need for a common minimum of 15 years for **any** data release. This then allows IAGC companies to employ their model of 'multiple sales' more efficiently by providing at least two bites at the cherry. This is built on the premise that offshore acreage turns over every six years, with a period of six months to two years before a second term begins. This intervening period is due either to negotiations to extend the term of the existing oil company license or alternatively promotion of the area as part of a new Government gazettal of available acreage.



Consequences of inaction

Without the requested changes current policy will be play a significant factor in the following:-

- Further contraction of the exploration industry within Australia.
- Redundancies resulting from downsizing of operations in Australia
- Loss of expertise overseas, to the emerging regional hubs of Singapore and Kuala Lumpur.
- Investment in new exploration shifted from oil companies and IAGC members to the Australian taxpayer.
- Significant reductions in investment from the IAGC – Australia’s single largest investor in seismic exploration.
- Reduction in geophysical support staff, available locally to the oil and gas industry.
- Finally, those countries, which see the greatest investment in new seismic surveys, also see the greatest exposure to new seismic technologies, which increase the returns of oil companies and consequently the tax dollars flowing into the coffers of governments. With the refocusing of IAGC business to ‘greener pastures’, Australia will increasingly become a laggard in the deployment of these new enabling technologies.

Unlike some industries our appeal to Government is not for cash subsidies or support but rather ample TIME to recoup our investments so that we can continue investing in Australia.



Appendix 1 : Summary of Benefits

In addition to facilitating a free market of ideas, the Non-Exclusive data business model represents an additional source of exploration capital in the full-cycle Exploration & Production economic model. This investment and risk on the part of the geophysical and data companies provides the following benefits:-

- Lowers the economic hurdles to exploring for and producing oil and gas, thereby allowing smaller E&P companies to overcome the hurdles and deploy their capital;
- Lowers the barriers to entry to riskier and often more expensive plays;
- Accelerated screening of offshore acreage – assisting in time to production.
- Allows many more E&P companies to prospect on trend or regional bases, creating the opportunity to correlate new well information across large areas and extend new ideas beyond the immediate vicinity of success;
- Facilitates higher exploration and development drilling success rates; this can be additive and create its own critical mass. Wells drilled only on 2D are less likely to be successful. Once a dry hole has been drilled, it's harder for the next explorationist to justify and secure approval for the next exploration well to test a concept in an area. However, when drilled on 3D data (now more affordable due to Non-Exclusive data investment), wells are more likely to be successful. The result is that there is less likelihood an area will be "tainted" by a dry hole and more likelihood it will attract more industry attention and investment, and ultimately greater development of the resource.
- Provides E&P companies the opportunity for greater resolution of subsurface images when making large-value exploitation and development decisions, thereby improving the quality of those decisions and reducing the cost of poor decisions;
- Larger surveys have allowed, through non-exclusive data's economies of scale unprecedented understanding of basin-wide petroleum systems
- Enables smaller, more marginal projects to pass economic hurdles and therefore be pursued;
- Improves the economic efficiency of E&P investments, making them more attractive and easier to justify, resulting in more such investments;
- Provides access to cutting edge technology into the hands of large and small companies alike;
- Provides governments with greater data with which to make their decisions about operational matters, e.g. the U.S. use non-exclusive data in confidence to assess the level of bids submitted on permits;
- Provides the opportunity to create sub-surface maps that can help the governments in their stewardship of the natural resources
- IAGC members promote investment in Australia through their global sales teams located in oil and gas industry hubs around the world e.g. Houston, London, etc.
- As the world's largest private investor in computing power and data storage, IAGC companies indirectly support Australian computer and data storage suppliers;
- Major employer of Geophysical graduates in Australia;
- Employment of Australian maritime crews and logistical support personnel; and
- Ability to support the oil and gas industry on the doorstep off their operations, through IAGC offices currently located in Perth.



Appendix 2 : IAGC Core Members in Australia

In alphabetical order :-

CGG
Fugro (formerly Seismic Australia)
PGS
TGS-NOPEC
Veritas
WesternGeco (a Schlumberger / Baker Hughes company)

Appendix 3 : Market factors – Australian perspective

The following is a qualitative summary of other factors other than the public domain release of data which affect the viability of the non-exclusive business model in Australia :-

Block size

Is typically large which reduces the scope for multiple data licensing. For the purpose of comparison block sizes in Australia fall typically within the range 400-5,000 km² whereas the U.S. averages 25 – 36 km² and the U.K. 400 km²

Acreage turnover

Is slower than many countries due to the relatively lower prospectivity of the offshore area.

The IAGC understands Government is already considering new 'promotional' acreage licences of three years as opposed to the normal six years. The IAGC wholeheartedly supports this as a policy to stimulate activity in the market.

Prospectivity

Australia's gas prospectivity ranks in the top five globally however transportation and marketing of gas reserves are still far more problematic than oil. Australia has a low global ranking with regard to oil due to the lack of significant reserves identified to date.

Fallow Periods

When an oil company 'relinquishes' its acreage the Government generally allow the area to remain 'fallow' for a period of at least one year before offering it again in a subsequent gazettal. The IAGC has no issue with this policy however they respectfully ask that this period of significantly reduced sales potential, be accounted for in policies relating to seismic data.

Permit Renewal Process

At the end of an oil company's six-year term for a permit, the company frequently enters negotiations with Government to secure an additional six-year term. Negotiation for these renewals are often protracted and may last twelve to twenty-four months, again eroding the marketing potential of any overlying non-exclusive seismic data.

Consumer Market

Australia has no large markets proximal to the bulk of its reserves thus making the reserves less appealing for development. This is reflected in the low level of oil company activity in Australia, especially by the 'Super Majors', i.e. Shell, BP, Total, Exxon

Appendix 4 – Reduction in exploration activity in Australia

Western Australia is the nation’s largest oil & gas producer. WA combined with the Northern Territories have seen by far the greatest investment in non-exclusive seismic, with acquisition of approximately 60,000 km² of non-exclusive 3D data in the past 5-8 years.

This investment has been further complimented by acquisition in excess of 50,000 kilometers of 2D since 1996

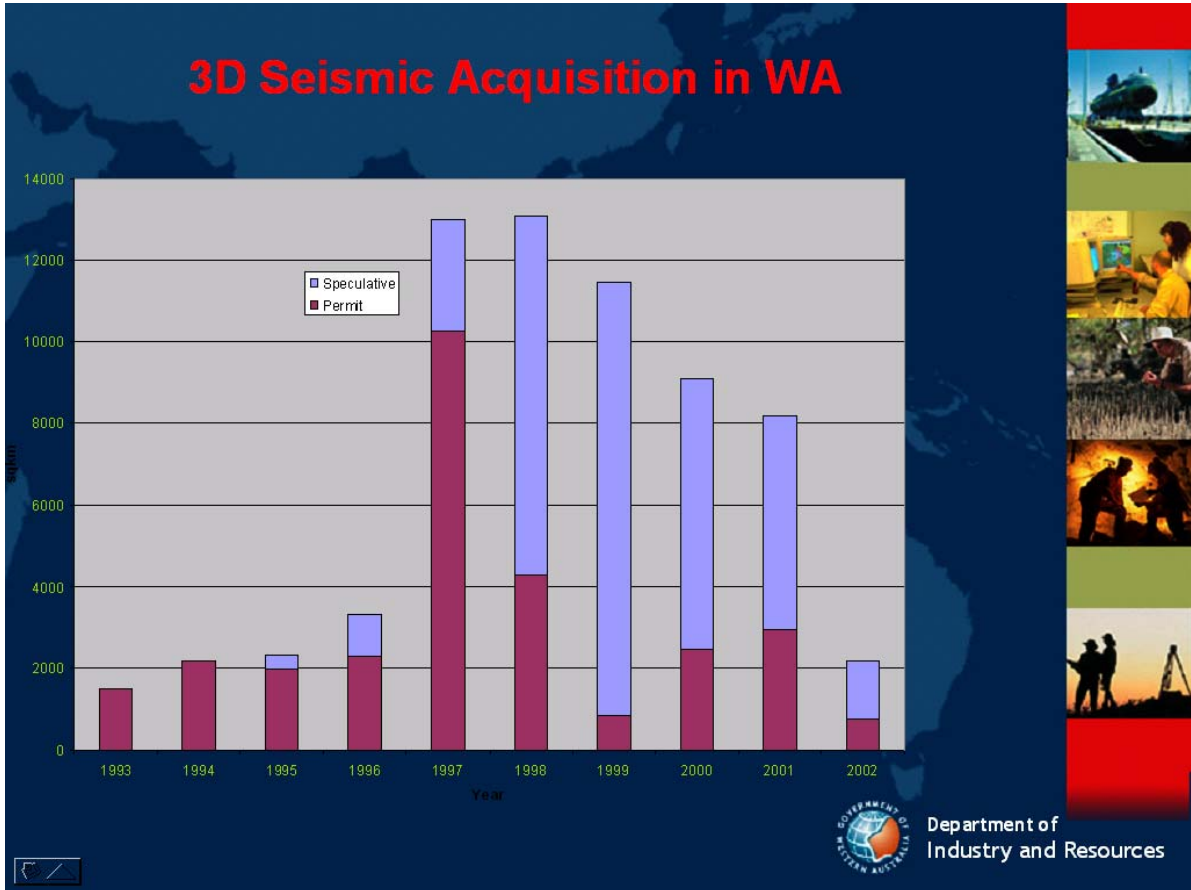


Figure provided courtesy of Western Australian Department of Industry and Resources.

Key :

Vertical axis – survey area in square kilometers.

Horizontal axis – cumulative 3D acquisition on an annual basis

Pale Blue – Non-Exclusive 3D surveys (also known as “spec”)

Mauve – Proprietary 3D surveys (surveys funded directly by oil companies)

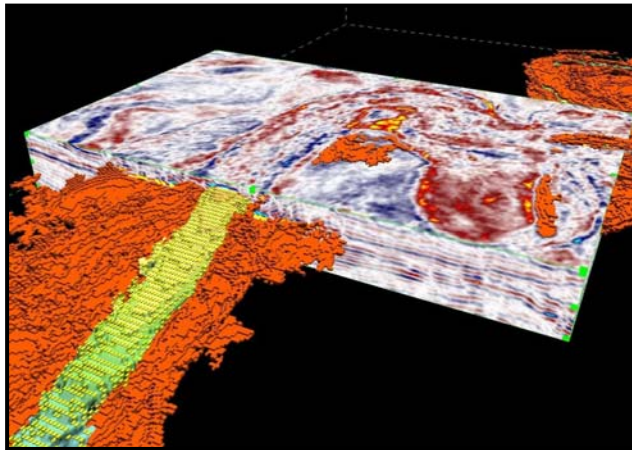
Appendix 5 : Our core technological products

For those unfamiliar with “2D” and “3D” seismic data, this is the technology employed for the vast majority of oil and gas exploration to image the earth below the surface. This imaging technique is much like medical ultrasound or more advanced CAT scan imaging used to peer inside the brain.

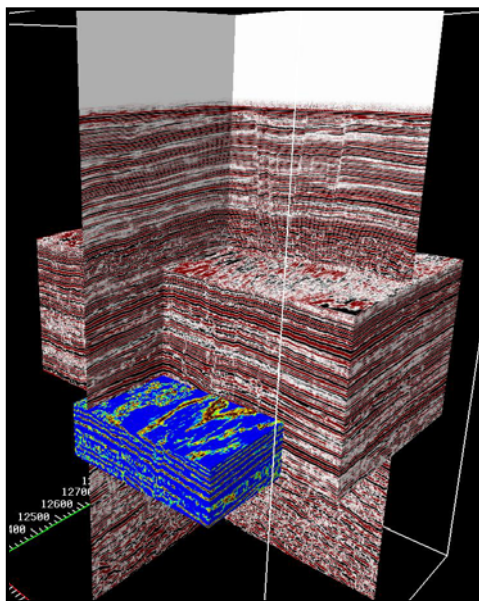
“2D” is a form of data, which provides a “two-dimensional” cross section or “slice” down through the earth to depths of typically 10km.

“3D” is a form of data, which provides a “three dimensional” image of the earth to depths of typically 10km. Viewed simplistically it, is built up of thousands of 2D lines packed extremely close together.

Through its very nature 3D provides a much higher resolution picture of the earth’s structure allowing more accurate and efficient placement of wells by oil companies. As may be expected the cost of acquiring 3D compared to 2D is significantly higher, with costs for single surveys running from millions to tens of millions of Australian Dollars. The benefits to oil companies can however run into orders of magnitude compared to their investment in seismic (*see Appendix 6 – The Value of Seismic*).



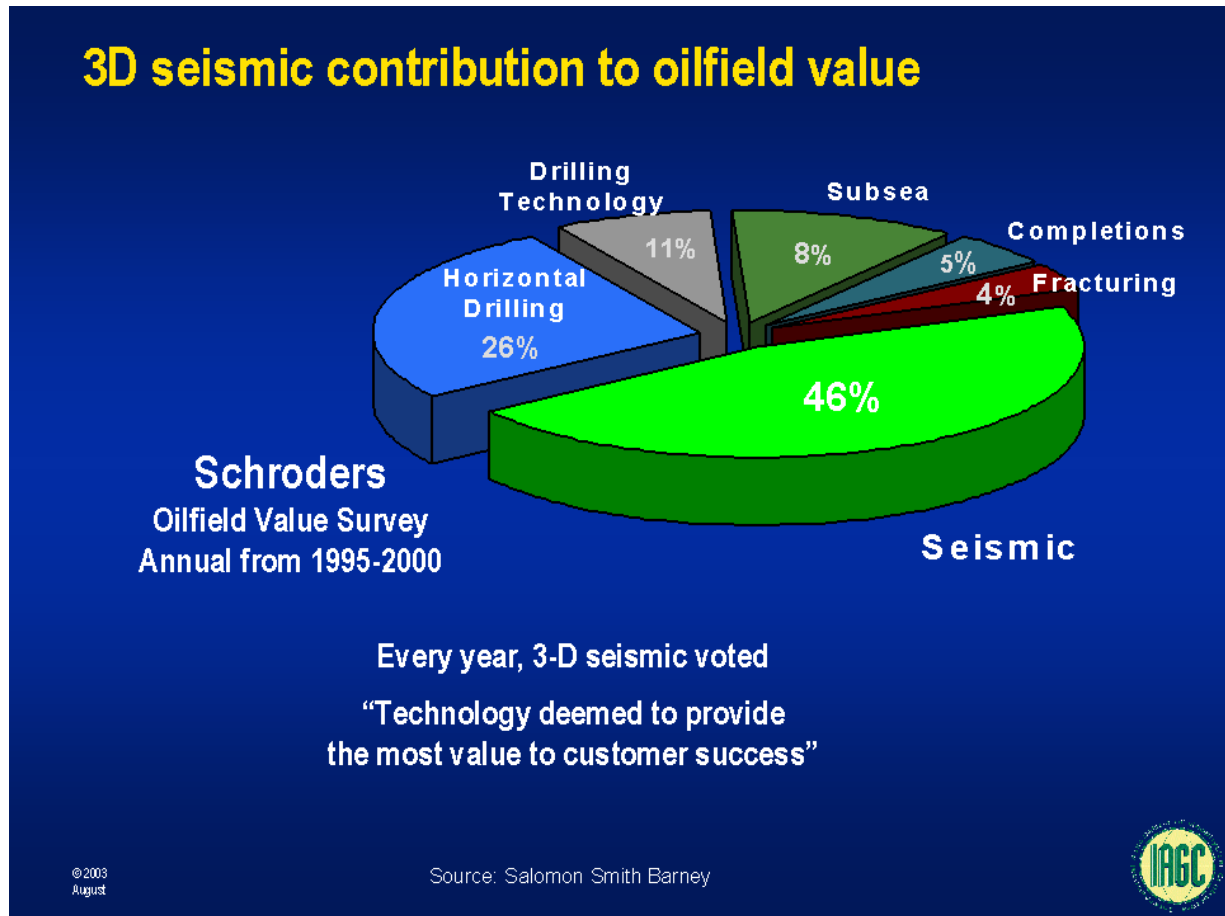
Figure, showing channels within a deep-water non-exclusive 3D dataset, offshore Angola (image courtesy of WesternGeco).



Figure, showing three-dimensional volume of seismic data from a non-exclusive survey in the Browse Basin, offshore Western Australia (image courtesy of WesternGeco).



Appendix 6 : The value of seismic



Figure, showing 3D seismic's value to the oil industry.