Fact Sheet - Seismic Surveys

What is a seismic survey?

A seismic survey is a low impact, non-invasive method of gathering information about the location and characteristics of geological structures beneath the Earth's surface. This information is used to produce maps of structures identifying areas where gas deposits may be found.

The seismic testing is carried out by a specially configured truck (called a vibroseis truck) that lowers a plate onto the surface. This plate generates an acoustic sound signal that is transmitted into the earth's surface which then reflects off the various geological layers. The returning sounds waves are recorded by small microphones (geophones) strung together that are laid along a predetermined and prepared path called a seismic line.

Thin cables are used to transmit the data from the geophones to a recording vehicle (small van) which is usually positioned on the road verge. The geophones will be spaced several metres apart and comprise small cylinders 5-10 cm in diameter.

The array of geophones and connecting cables will be approximately 4-5 km in length and are laid beside the roads. The geophones, vibroseis truck and recording vehicle progressively move along the seismic lines in 12 m steps at a rate of 8-10 km per day.

How do the seismic trucks travel?

The seismic trucks travel in a line of three vehicles and either use existing road surfaces or a track on a private property. A video demonstrating the seismic survey can be found at https://www.youtube.com/watch?v=hxJa7EvYoFI

How often has seismic surveying occurred in the Northern Rivers?

The first seismic survey in the Northern Rivers area was undertaken in 1962. Since that time 21 different seismic work programs have been undertaken and over 2,000 km of seismic data has been obtained.

That means that seismic work programs have mapped more than 2,000km of Northern Rivers roads and private property.

In 2008, the NSW Government conducted its own seismic surveys in the Northern Rivers.

Metgasco has previously undertaken four seismic work programs in our petroleum exploration areas. These works programs have occurred over the last six years in which we have already 410km of seismic data to complement the 980km of seismic that others acquired before us.

Who will be conducting the Seismic Survey?

The seismic survey will be conducted by an Australian owned and operated company called Terrex Seismic. Terrex has extensive experience in this field, having conducted over 900 onshore seismic surveys over 30 years.

Metgasco Limited ACN 088 196 383
PO Box 5, Casino, NSW 2470 | Phone: +61 2 6662 4543 | Fax: +61 6662 5158
www.metgasco.com.au

Terrex has extensive seismic acquisition experience, having conducted over 900 seismic surveys over 30 years in all major Australian onshore sedimentary basins as well as in New Zealand, PNG and Iran.

What approvals do you need to obtain before the seismic surveying occurs?

Before Metgasco, or any other company, undertakes exploration activities (including seismic survey) a Review of Environmental Factors must be approved by the NSW Department of Resources and Energy. A Review of Environmental Factors acts as an environmental assessment for a proposed exploration program.

Is seismic surveying safe? What will be the biggest impact from the seismic surveying?

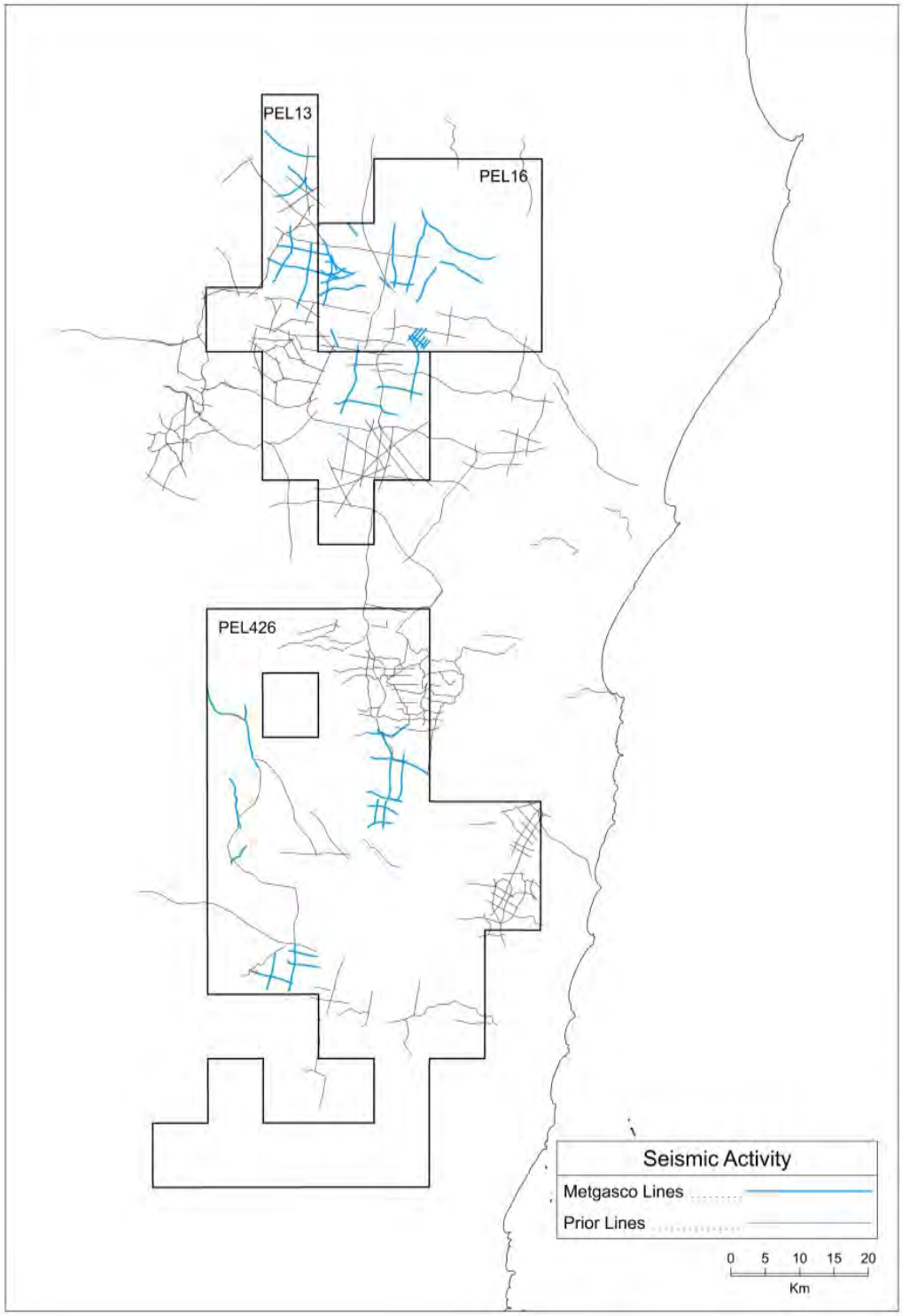
A seismic survey is a low impact, non-invasive method of gathering information about the location and characteristics of geological structures beneath the Earth's surface.

Activities will be conducted on a 10-12 hours per day (daylight) basis. Noise from activities is expected to be at ambient levels at a distance of 200m from the seismic lines; due to the restricted work hours and the fact that trucks are moving, it is not envisioned that this will impact on the amenity of the area.

If necessary, periodic on-site noise monitoring will be conducted for the duration of the work. Vibration from the data acquisition will not be felt beyond about 30 metres.

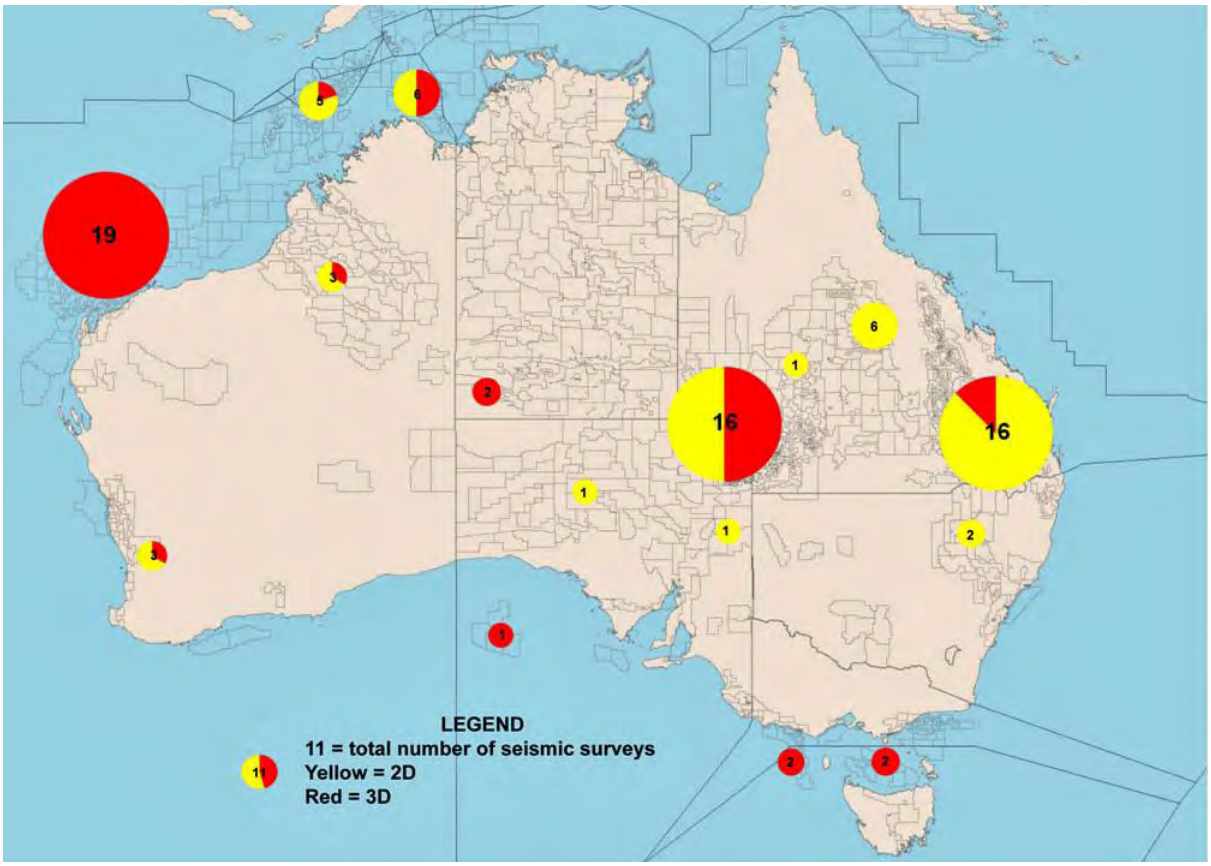
Seismic Images

Past Seismic Activity in Petroleum Exploration Licence Areas 13, 16 & 426

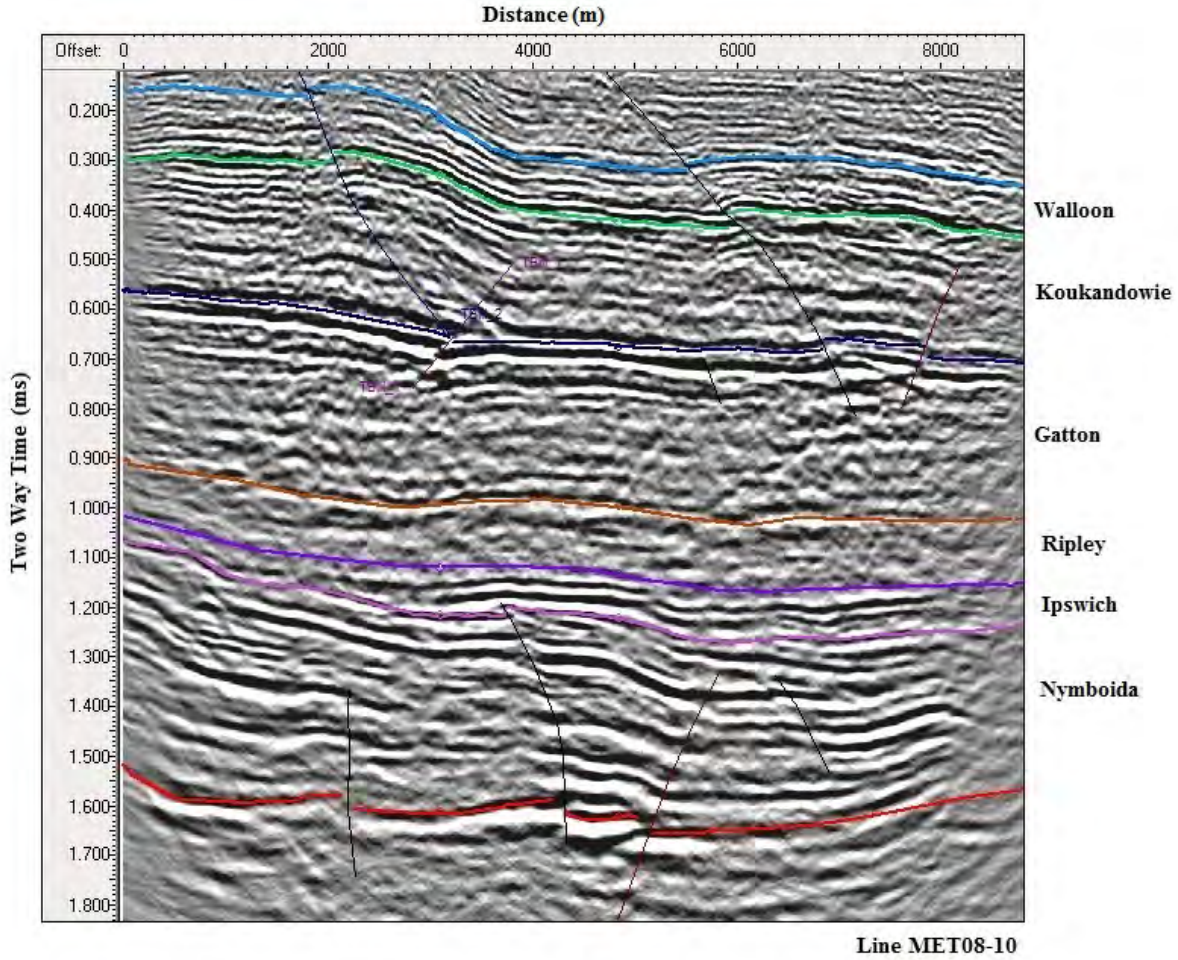


Seismic Surveys in Australia in 2011

State	Total Number	2D	Total Length km	3D	Total Area km²	Onshore	Offshore
WA	33	8	10348	25	26195	4	29
NT	5	2	1016	3	1722	2	3
Qld	33	27	3110	6	605	33	0
NSW	2	2	61	0	0	2	0
Vic	0	0	0	0	0	0	0
Tas	4	0	0	4	1707	0	4
SA*	9	3	4072	6	4448	8	1
Australia	**86**	**42**	**18607**	**44**	**34677**	**49**	**37**

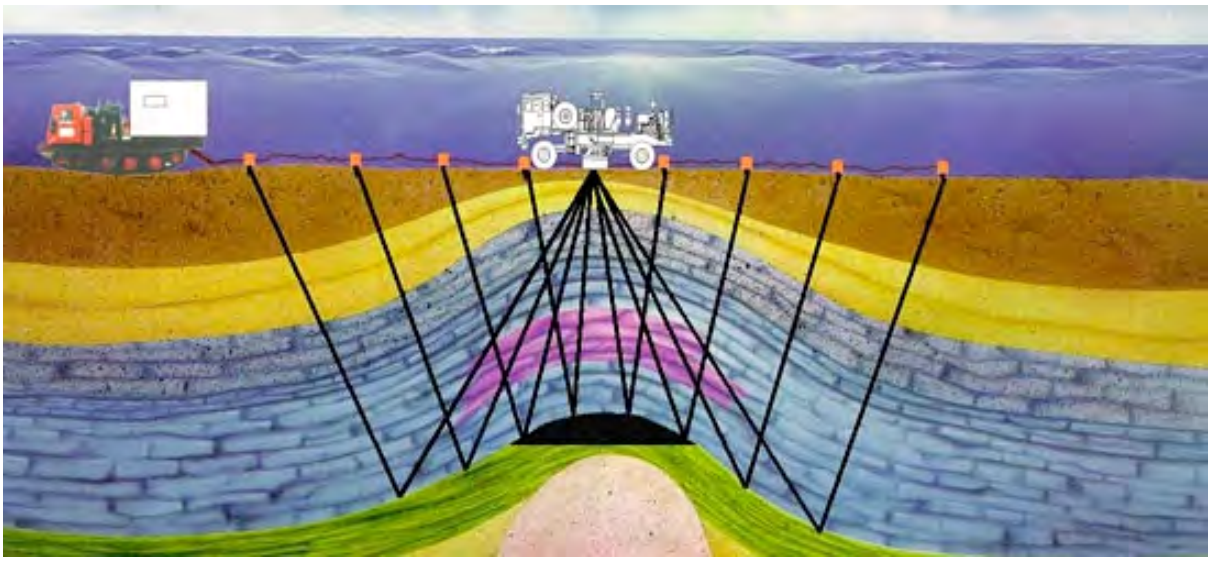


Example of a Seismic Section

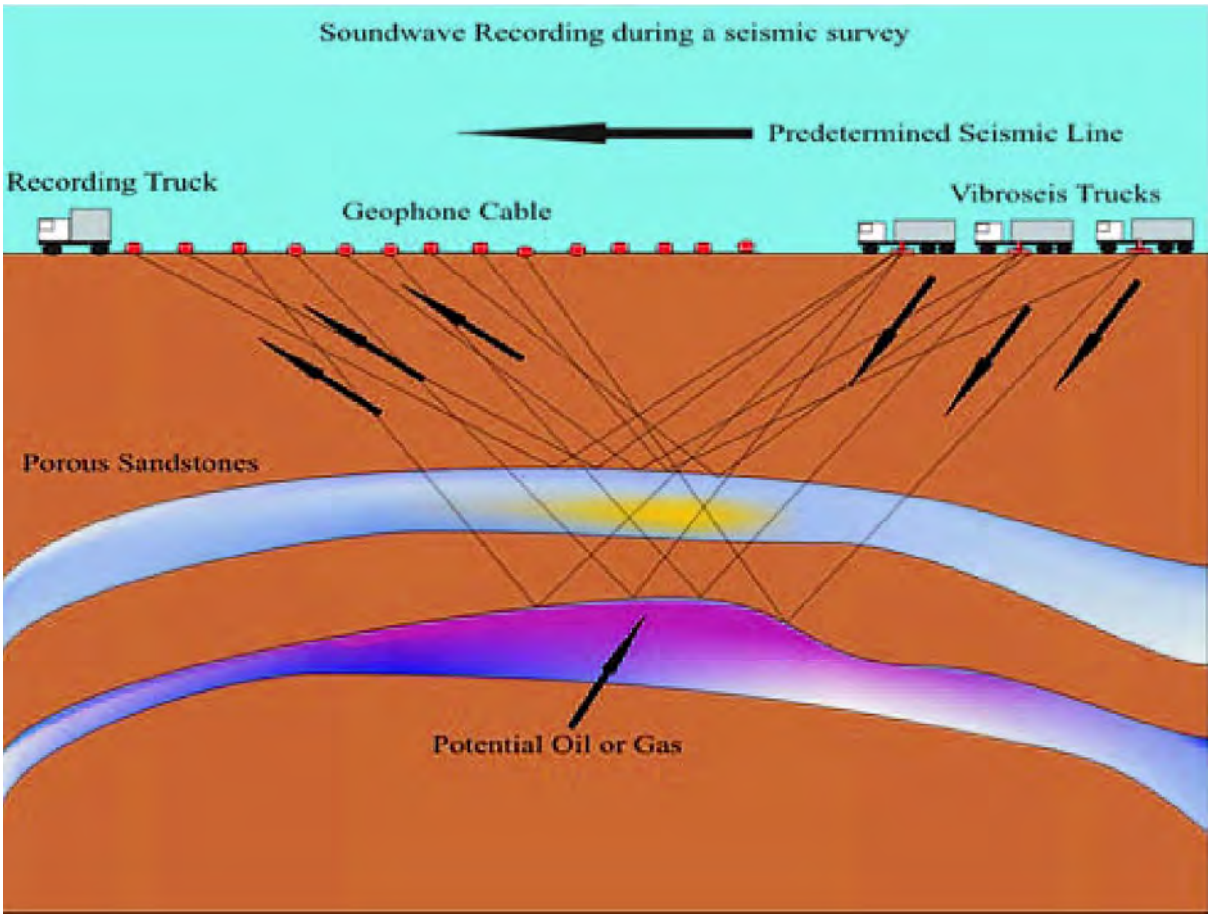


Seismic is a tool that permits a geoscientist to subdivide changes in geology into a series of time related events. Essentially it can provide with an image of the subsurface by recording variations in rock composition with depth, for example a change of a sandstone layer to an underlying rock of different composition such as coal.

Vibroseis seismic data acquisition schematic

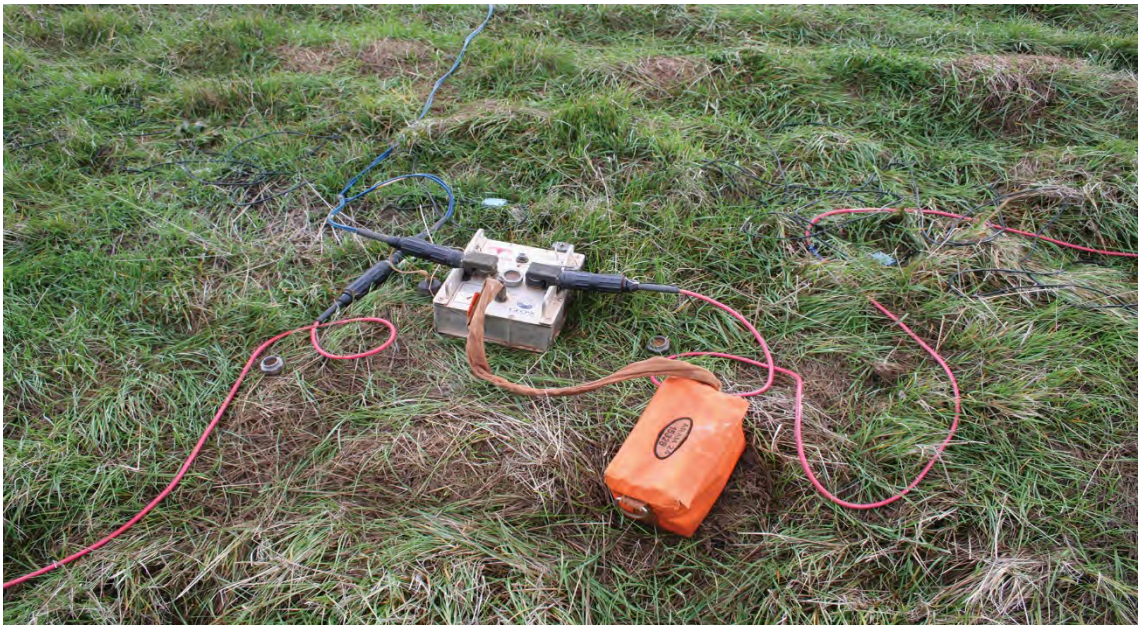


Black lines represent path of sound waves



Vibrosesis truck in operation

Geophones to record the sound waves



Recording Truck