



Fact Sheet (updated 23 May '24)

Proposal by TGS/Schlumberger to seismic blast the Otway Basin

Overview

Multinational companies TGS and Schlumberger are seeking approval to conduct 3D seismic blasting in a massive area of the Otway Basin, offshore from Tasmania and Victoria, to detect fossil fuels. If successful it will be the largest 3D seismic project in history, 49,600 square kilometres and extending approximately 180km offshore and to depths of up to 5.5km. Seismic blasting is known to maim and kill marine animals and displace fisheries. The proposed area is of critical importance to endangered marine life, commercial fisheries, and ecosystems associated with the biologically important Bonney Upwelling. Reserves discovered during the blasting would take decades to come online, by which time we need to have moved away from fossil fuels. The geological data may also be used for the purpose of Carbon Capture and Storage (CCS) which is an expensive and unproven process used to keep the fossil fuel industry in business. A more accurate term for it is Carbon Pollution Dumping.

This begs the question of why the blasting is being done in the first place.

What is seismic blasting?

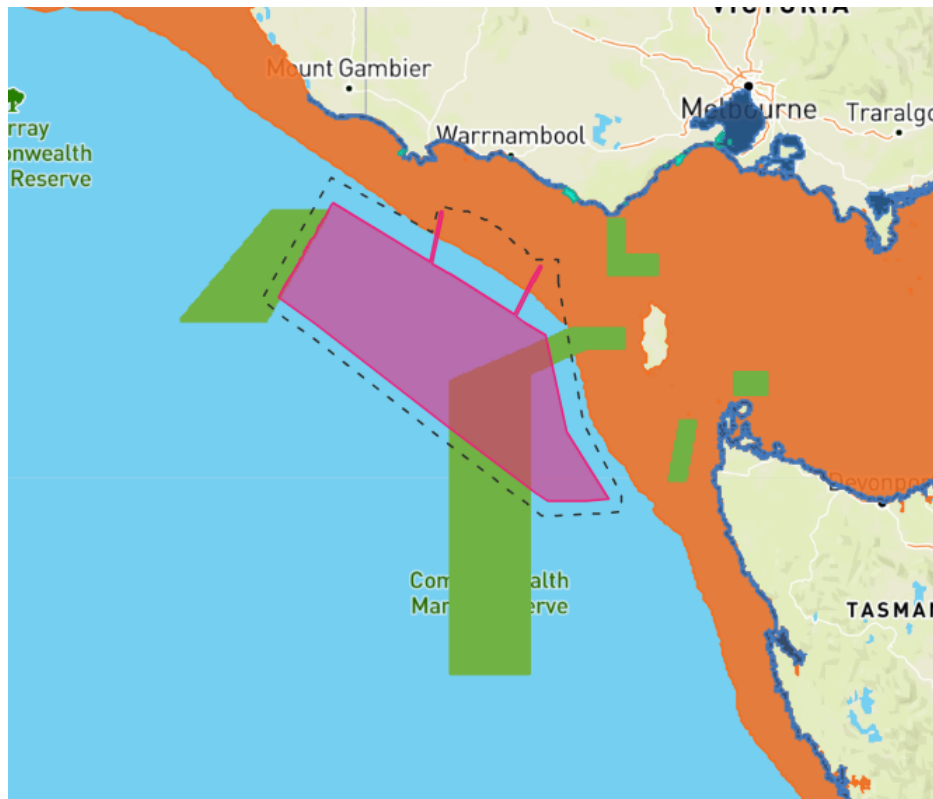
Euphemistically referred to by the industry as seismic testing or surveying, seismic blasting is the first step in offshore oil and gas exploration, and is used to locate fossil fuels or potential CCS sites deep below the seabed. Survey ships tow an array of airguns and receivers behind their stern, covering an area of ocean in a grid pattern. The airguns emit blasts that send a deafening soundwave up to 20km deep into the ocean floor; the signals bounce back up to the receivers and indicate potential fossil fuel reserves. The blasts are up to 250 decibels (that's louder than the Hiroshima bomb) and go off every 5–10 seconds, 24 hours a day, 7 days a week, often for months on end.

Because sound travels significantly further and faster under water than through air, the blasts can be heard in the ocean thousands of kilometres away. Moreover, the scale used to measure decibels is not linear, but logarithmic, so that 20 decibels, for example, are ten times the intensity of 10 decibels; 30 decibels are a hundred times more intense than 10 decibels, and so on. A 250-decibel seismic blast is one million times more intense than the loudest whale calls.¹

Three-dimensional (3D) seismic blasting has a greater impact on marine life than does two-dimensional blasting (2D). Not only are larger airgun blasts emitted, but these 3D blasts travel out on a broader angle, and the transect lines are spaced closer together to ensure there's overlap and the coverage of the sea floor is thorough. Marine creatures that can't move out of the way, or have impaired movement as a result of the blasts, can therefore be impacted multiple times during 3D seismic blasting. Studies on the impact of seismic blasting on marine species are scant and mostly carried out by the fossil fuel industry.

The TGS/SLB Proposal

The companies are seeking a permit that would allow them to commence blasting before the end of 2024. Their project is designed to service multiple clients, and to provide geological information that can be sold to gas exploration companies worldwide. The companies propose to collect data from a large area of Australian waters, 49,600 square kilometres in size; this would take approximately 400 days to complete. The project is known as 'frontier exploration' because the area of ocean has not been released by the Australian government in the form of titles. This data would be the property of TGS and Schlumberger and would be sold to prospective offshore developers. Even Geoscience Australia, a government body, would be charged if it wanted to acquire this data. Much of the area in this proposed site was previously 2D-seismic blasted by Schlumberger in 2019/20, and the site also encompasses areas that have been blasted in the last 5–10 years, meaning that some parts of our southern ocean will be repeatedly impacted by seismic blasting. The area also intersects two Commonwealth marine parks.



Environment Plan – What has happened so far?

The application for the Special Prospecting Authority (SPA) that would allow this blasting was lodged with NOPTA in June 2022, with an expectation to begin blasting later that year. OCEAN and our partners have managed to delay this application substantially, and the project area has twice decreased in size. TGS/SLB submitted their 1400+ page Environment Plan to NOPSEMA (National Offshore Petroleum Safety and Environmental Management Authority) for approval in July 2023. The document was then released for a 30-day public comment period, when *30,785 concerned individuals and groups* made submissions opposing the proposal! After 90 days, NOPSEMA rejected the plan and provided feedback to TGS/SLB. This information has been withheld from the public despite a Freedom of Information application.

TGS and Schlumberger are currently revisiting coastal communities to carry out consultation. They expect to resubmit their Environment Plan to NOPSEMA by the start of June. The Australian people will not be given a second opportunity to comment on the proposal, something OCEAN is opposing on the grounds that the initial consultation by TGS/

SLB was so poor that many relevant persons were not aware of the proposal. OCEAN does not expect TGS/SLB to give up on this proposal.

Environmental Significance of the Area

The area proposed for blasting extends through the eastern side of the Great Australian Bight (as defined by the International Hydrographic Organization), a unique environment that is home to a diversity of marine species, 85% of which are found nowhere else in the world. The proposed blasting area includes the environmentally significant Bonney Upwelling. Upwellings are the powerhouse of ocean nutrient cycling and assist the dispersion of larvae and juvenile organisms. Although upwelling regions cover just one percent of the world's ocean surface, they are responsible for marine health and biodiversity worldwide. The Bonney Upwelling, part of the Great Southern Australian Coastal Upwelling System, is the largest upwelling system in Australia and is a critical phenomenon for many species, including the endangered blue whale and the pygmy blue whale.²

The proposed area also intercepts with the Zeehan Australian Marine Park, located on the west coast of Tasmania, where canyons are responsible for upwellings that support fish nurseries, seabirds, white sharks, and blue and humpback whales.³

What the Science Says About Seismic Blasting

There is an acute paucity of research on the impacts of seismic blasting. The very few studies that have been done were primarily limited to commercial fisheries and ocean mammals. It is logistically extremely difficult, and costly, to conduct controlled studies in offshore seismic blasting areas, and most studies have either been done in a laboratory environment, or funded directly by offshore gas and oil companies.

What we do know is that blasting can damage and kill zooplankton for a radius of at least 1.2 kilometres with every blast. When this impact is combined with tidal flows moving in an east and west direction across the bottom of Australia, vast rivers devoid of zooplankton or dead zones are created downstream of the impact zone. Zooplankton are the foundation of life in the ocean and include the juvenile stages and larvae of many marine species. Any impact on zooplankton communities can have huge impacts on whole ecosystems. A study of the effects of seismic blasting on zooplankton published in 2017 found a twofold to threefold

increase in the mortality of those zooplankton exposed to seismic blasting, compared with those not exposed.⁴ A paper written by Rob McCauley found that the blasts killed 100% of juvenile krill. Krill is a keystone species that is vital to the function of healthy marine ecosystems and to marine mammals supposedly protected by the EPBC Act.

It is also known that seismic blasting has wiped out entire scallop beds in the Bass Strait (which neighbours the Great Australian Bight), and that it damages the sensory organs of rock lobsters that enable them to escape predators.⁵ According to research undertaken in Lakes Entrance, Victoria, immediately after seismic blasting was conducted in the area in 2020, fisheries suffered a reduction in whiting catches of 99.5%, and a reduction in flathead catches of 71%.⁶ Seismic blasts impact the breeding, feeding and migration of whales, making them vulnerable to errors in navigation and to predation. There is anecdotal evidence that it displaces fisheries, and impacts both commercial and recreational tuna fishing. These stocks may take many years to recover.

Following seismic blasting in Bass Strait in 2010, scallop fishermen in the area reported large losses in catches. At the end of the 2011 season, the scallop industry attributed a loss of 24,000 tonnes (worth \$70 million) directly to the impact of the blasting. This prompted research by the Fisheries Research and Development Corporation on both scallops and southern rock lobsters. The research found that scallops were severely impacted by seismic blasting, with the rate of scallop mortality directly related to seismic exposure. Over a four-month period the health of scallops in the region declined, with no recovery.⁷

A submission by CSIRO to a 2019 senate inquiry into the impacts of seismic testing expressed concern that a balance has not been achieved between conserving the health and natural capital of our oceans and the economic benefits of resource extraction. It was further noted that this has the potential to result in a lack of confidence in the management and regulation of the industry.⁸

The Permit Approval Process

This is shadowy, to say the least. The type of blasting proposed by TGS/SLB requires a Special Prospecting Authority (SPA). This permit is managed by the National Offshore Petroleum Titles Administrator (NOPTA), a branch within the Department of Industry, Science and Resources. SPAs sit outside the annual Offshore Acreage Release; they're a

direct arrangement between oilfield-services companies and the NOPTA. Whereas the Acreage Releases require the approval of the Joint Authority (comprising the federal resources minister and, in some states, the relevant state minister, depending on individual states' arrangements with the federal department) and are subject to a 30-day public comment period, an SPA requires *only* the approval of the NOPTA. Thus, a decision with far-reaching consequences for all Australians is in the hands of a bureaucrat, not an elected member of government.

Schlumberger/SLB, which is partnering TGS in the current proposal, is currently under criminal investigation by NOPSEMA for breaching limitations placed on its seismic blasting in the Otway Basin in 2019/20. As of May 2024, the investigation is ongoing. OCEAN has been informed by both NOPSEMA and NOPTA that the outcome of this investigation will have no bearing on the decision to approve or not approve the current SPA applied for by the two companies. The current legislation, in other words, does not prevent untrustworthy companies or those with a bad history of compliance from being granted a further permit. Our friends at the Australian Marine Conservation Society are petitioning to abolish SPAs. You can support this petition and take action on the OCEAN webpage. www.ocean.org.au.

The SLB corporation

During its 2019 seismic blasting of the Otway Basin, the SLB flagship the *Nordic Explorer* blasted over a dump site for WWI and WWII chemical and artillery weapons. It remains unknown, despite inquiries, what impact these blasts had on the canisters of chemicals.

In late 2022 the Schlumberger corporation rebranded itself as SLB. It is one of the largest companies, in any industry, on the planet, and one of the most secretive. In April 2015, it was handed the biggest corporate criminal fine in US history, along with three years' corporate probation, for violations of sanctions in Iran and Sudan.⁹ These facts indicate that SLB is not a fit company to be seismic blasting in Australian waters.

OCEAN will continue to fight this proposal, and we hope you will support us.

Contact us at info@ocean.org.au and sign up. Thank you.

Sources

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