

Ramsay Project 2D Seismic Survey

Information sheet

About Gold Hydrogen

Gold Hydrogen Ltd is an Australian company seeking to verify the existence of commercial quantities of natural hydrogen in its Petroleum Exploration Licence 687, covering portions of the Yorke Peninsula. During 2023 we have completed an aerial geophysical survey of the licence area, a soil-gas survey, and commenced our exploration program successfully drilling two exploration wells as part of our Ramsay Project.

What is a seismic survey?

An on road seismic survey is a low-impact and efficient way to collect information about geological structures below the earth's surface as part of its exploration activity. Seismic surveys are non-invasive which minimises disturbance to the environment, local populations, and land users.

A seismic survey uses similar technology as “ultrasound” used for medical imaging, except on a much larger scale. Sound waves are sent into the ground, reflect off geological structures and are measured at the surface by sound sensors.

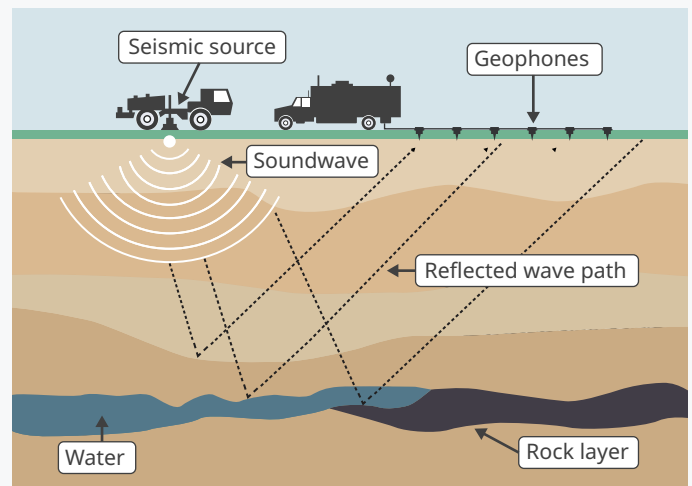
Seismic sound waves will be generated with a ‘vibroseis’ source where a weighted plate mounted on a truck is placed onto the ground and vibrated at a range of frequencies for several seconds. Seismic waves are recorded with wireless geophones (sensors). Geophones are microphones enclosed in a sturdy case with an element inside that generates an electric signal when stimulated by the seismic sound wave. When these recordings are analysed sub-surface images are created and will be interpreted by Gold Hydrogen’s geoscientists using specialist software.

Local impact

The Ramsay 2D seismic survey has been carefully designed and planned with minimal impact on people and the environment, and complies with regulatory standards and processes. It will be conducted primarily on local council controlled public roads and, with permission from landowners, on some privately owned tracks, both of which required regulated permit access. Vibroseis sources will be operated at a buffer distance from infrastructure (e.g. houses) to ensure that there is no risk of damage from any minor physical vibrations. The seismic survey will be undertaken without the need for any vegetation clearing.

Traffic management

An approved Traffic Management Plan is in place with local traffic control operations during survey activity to ensure that both the seismic survey personnel and the community road users are kept safe during the roadside operations.



Cross section of seismic survey (Source: APPEA 2019)

Seismic survey key information

- Timing:** From mid-June to mid-July 2024, daylight hours.
- Location:** Southern Yorke Peninsula on public roads and some private tracks (with landowner permission). In total the survey will acquire approximately 650-line km of seismic data.
- Visibility:** You may see the seismic crew at work on local roads and two to three trucks and some of their vehicles moving slowly on the road with traffic management in place to ensure safety.
- Sound:** If you are very close to the seismic crew you may hear some periodic noise or feel a slight vibration from activities during daylight hours when the survey is underway.
- Contractor:** The seismic survey will be conducted by a specialist contractor, Terrex Seismic.

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Field activity

The field activities for the Ramsay 2D seismic survey include:

1. Seismic spatial surveying

Prior to placement of geophones, each seismic line is marked out with biodegradable line marking paint and other physical markers, such as wooden pegs, to ensure the exact coordinates of the geophone locations. This work is completed by a small team of qualified GPS surveyors who will walk or drive along the seismic lines while they undertake these activities.

2. Placing geophones

Once the GPS surveyors have marked the geophone locations, the geophones are dropped along the seismic line. A seismic line crew will then walk along the line putting the geophones tightly into the ground. This involves digging a small hole so that most of the geophone is buried and away from wind noise.

3. Vibroseis truck

The seismic vibroseis trucks work their way along the seismic line sending sound waves into the ground. The sound waves reflect off geological structures below the surface and are recorded by the geophones.

4. Recovery of geophones

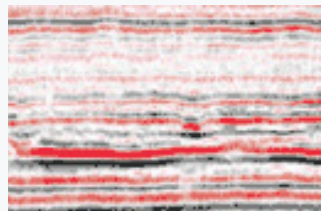
After a seismic line is completed, the seismic crew picks up the geophones and remove any pegs, flagging or signage. The data is downloaded from the geophones which are then recharged and reused.



Wireless geophone



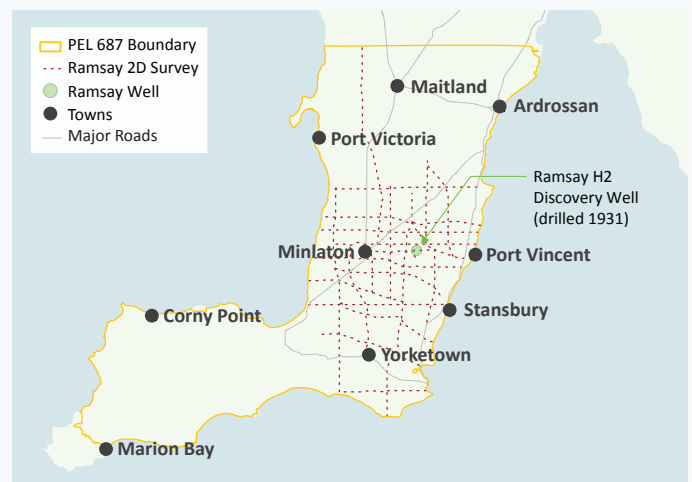
Vibroseis truck



2D seismic section

Data collection, processing and interpretation

The data is transferred to a high powered data processing computer and will be processed by a geophysicist using geophysics algorithms to produce the highest resolution data to create subsurface images. A geoscientist will combine the seismic data with other data to build a detailed geological model which will assist Gold Hydrogen to better understand the large scale geology relevant to hydrogen exploration.



Map showing layout of seismic lines

For further information

More information about the Gold Hydrogen Seismic survey can be found on our website:



goldhydrogen.com.au/ramsay-project/

If you want to contact Gold Hydrogen about the seismic survey you can email us at



info@goldhydrogen.com



or call Tim Scholz on 0431 683 900