

Airborne Survey

Information sheet

Gold Hydrogen Yorke Peninsula Airborne Gravity-Magnetic Survey

Gold Hydrogen Ltd (GHY) is an Australian company which is seeking to prove the existence of commercial quantities of natural hydrogen in its Petroleum Exploration Licence 687, covering portions of Yorke Peninsula and Kangaroo Island.

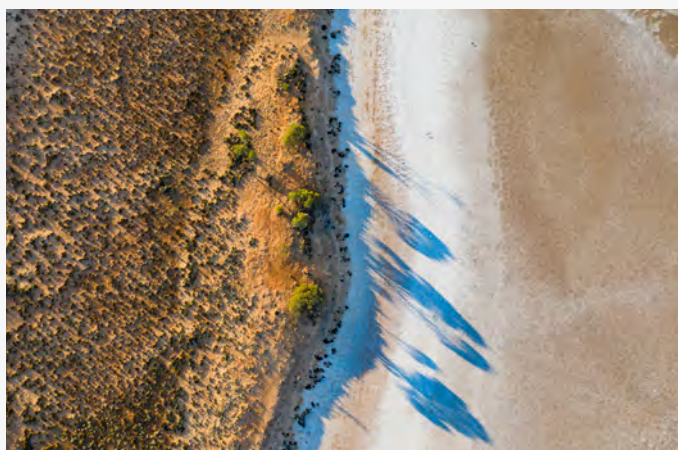
Gold Hydrogen is hoping to prove natural hydrogen resources, first identified between 90 and 100 years ago, can be developed to provide clean, carbon-neutral energy.

As part of its licensed exploration activities, GHY is planning to carry out an airborne gravity-magnetic survey to obtain geoscientific data within the Yorke Peninsula section of the licence area during March 2023.

Similar surveys have been successfully completed many times in South Australia and across Australia. They are regularly undertaken by government agencies and geoscientists as a low impact, cost-effective and efficient way to collect geoscientific data.

Why is the survey being undertaken?

Airborne gravity-magnetic surveys measure and capture natural variations in the strength and other characteristics of the Earth's gravity and magnetic fields. This information will assist GHY geoscientists to understand the sub-surface geological structures in the licence area.



Airborne gravity-magnetic survey method

The survey will be carried out by a fixed wing light aircraft operated by Xcalibur Aviation Australia, a company that specialises in airborne geoscientific surveys.

The aircraft is fitted with instruments that can detect small variations in the force of gravity and natural magnetic fields due to the different types of rocks below the Earth's surface. Gravity and magnetic data acquisition is passive and does not emit any signals.

- The instruments measure the existing gravity and magnetic field variations as the aircraft traverses the survey area. The survey will not involve any disturbance to the ground, and will not impact farming, fishing, or other landholder activities. Data collected will not provide any information about individual land uses.
- The survey program will be conducted in accordance with the approval received from the Department for Energy and Mining under the Petroleum and Geothermal Energy Act 2000.
- The survey will acquire approximately 10,000-line km of gravity-magnetic data along a flight path of parallel lines spaced 500 metres apart.
- The plane will fly in public airspace during daylight hours and to obtain the required data accuracy, it will fly at a height no lower than 150 m in built-up areas and 80 metres in rural areas.
- Most of the lines will be flown only once.



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Timeframe and survey area

The Stage 1 airborne geophysical survey (see map) is expected to be carried out during March 2023.

What you may see or hear

Other than the specialised equipment which it carries, the survey plane is no different to other similar fixed wing light aircraft.

The plane will be intermittently seen during the survey period over towns and surrounding rural and coastal areas of Yorke Peninsula (see map).

Due to the flying height, noise levels on the ground will be audible but transient and less than the sound of a passing motorbike. To minimise noise impact on protected marine mammals, the aircraft will increase elevation when flying over the sea.

Birds are not expected to be affected due to the altitude of the aircraft. Locations with known potential for concentrations of birds (such as wetland areas) will be highlighted in the survey flight safety plan. If large numbers of birds are present, measures to avoid them will be taken. The survey operator will liaise with officers from the Department of Environment and Water regarding birds and other wildlife and implement suitable mitigations if necessary.

Public Safety

All flight details will comply with Civil Aviation Safety Authority regulations. Any potential aviation hazards will be identified and assessed by Xcalibur prior to the survey. Xcalibur uses satellite tracking on all its aircraft and a pre-survey safety meeting involving all crew, will review the operational procedures prior to survey flying.


GHY staff and contractors comply with all Commonwealth and state government COVID-19 legislation, including public health orders and directions.



For further information

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More information about gravity-magnetic surveys can be found at:

Gravity | Geoscience Australia (ga.gov.au)

Magnetics | Geoscience Australia (ga.gov.au)