OVERVIEW

AGR’s Australian team were engaged by the Victorian Government to manage the appraisal of Australia’s first offshore Greenhouse Gas (GHG) storage site. This included the Geophysical, 2D seismic and Geotechnical assessment of the site in preparation for the arrival of the Noble Tom Prosser Jack-up MODU. The Pelican storage site is located in the Gippsland Basin approximately 8 km off the coast of Victoria.

The well was drilled conventionally using a 30 x 13 \( \frac{3}{4} \) x 9 \( \frac{3}{8} \) x 7” well design to a total depth of 1,500m. Conventional cores were taken through the 8 \( \frac{1}{2} \)” hole section with wireline logs taken over both the 12 \( \frac{1}{4} \)” and 8 \( \frac{3}{8} \)” hole sections. The 7” liner was perforated to provide the conduit for injectivity testing before the well was abandoned to meet regulatory requirements.

Drilling operations were executed December 2019 – January 2020

AGR APPROACH

AGR assembled a highly experienced, multi-disciplined team with expertise in niche areas to manage all aspects of the Well Management project, ranging from Regulatory submissions, Contracting, Stakeholder Engagement and Engineering. A small and focused team provided the conduit for a streamlined operation, allowing for flexibility and rapid response to the challenges encountered with minimal impact to the project schedule and budget.
ACHIEVEMENTS

- All contracts with the exception of the rig, negotiated, held and managed by AGR following a comprehensive tendering process audited by the Government. The highly experienced contracting team generated $A 7MM in savings to the client.

- All regulatory submissions produced in house, with no delays to any of the Geophysical & seismic, Geotechnical or Drilling campaigns.

- All campaign activities successfully executed with final costs falling below AFE, a great result for the client.

- Logistical challenges overcome with no impact to the critical path of operations. Equipment mobilised from 13 different countries.

- All appraisal objectives successfully met with 89 meters of core taken, an extensive logging campaign and over 9,000 barrels of drill water injected during the injectivity test.

RESULT

The Geophysical, Geotechnical and drilling campaigns were successfully executed with no harm to the environment. The tailored stakeholder engagement strategy was implemented and contributed positively to the acceptance of all regulatory approvals on a comfortable timeline. The leveraging of AGR’s experience generated substantial savings to the client and minimised the impact of the challenges that arose during operations.

The well was successfully appraised and abandoned using materials suitable for future CO₂ storage at the site.

CHALLENGES

- Storage site located only 8 km offshore, adjacent to a holiday destination requiring a comprehensive stakeholder management strategy.

- 2019 Victorian bushfires active whilst operational, heavily impacting logistics. Bespoke arrangements and expertise required to minimise impact on equipment and personnel.

- Well design required flexibility to satisfy both suspension and P&A constraints with CO₂ resistant cement and tubulars also required for future site verification.

- The coring programme extended through multiple interbedded coaly formations requiring additional focus during planning and the use of specialised systems.

- Large thief zone not present within offset wells encountered. Section milling required to place required cement for abandonment.