CASE HISTORY

Application:	**Port Expansion**
Technology:	**PS Logger® | 2000m Marine Winch**
Location:	**Puerto San Antonio, Chile**

Robertson Geo Services was commissioned to collect data as part of a near shore survey for the Puerto de Gran Escala outer harbour development project in San Antonio, Chile.

The objective of the project is to increase the operating capacity of the current Puerto San Antonio, which will reach its maximum capacity in 2026. The Outer Harbour will be in the town of San Antonio, Valparaíso Region and consists of the construction and operation of 2 port terminals, one on land and the other on the sea. The project will provide a major expansion of the existing port infrastructure of Puerto San Antonio with a proposed staged development over a 19-year time span, with an estimated overall cost of $3.4 billion.

Requirement:

The client required PS Logger® data be collected from five offshore boreholes up to 40m depth below seabed, as part of a geotechnical investigation. The resulting data was used to confirm geophysical data that had been previously obtained.

Operation:

The survey area was close to shore near the surf zone and required a drill ship with shallow draft which successfully maintained position over the boreholes using four anchors.

The Probe:

The PS Logger® probe measures compressional (P) and shear (S) wave velocities in a single borehole, uniquely without the need for an external source. When combined with a bulk density value, small strain moduli are readily calculated (Shear, Young's and Bulk). The probe is effective in a range of formations from unconsolidated sands and clays through weak rocks such as siltstone/mudstone and chalk up to the hardest bedrocks.

Challenges and Solutions:

Choppy near shore waves – Careful planning and efficient working practises meant the project was completed on time.
Possible presence of gas – Shallow gas procedures were observed throughout.

End value to client:

The PS Logger® successfully collected data at the specified locations despite the difficult sea conditions.