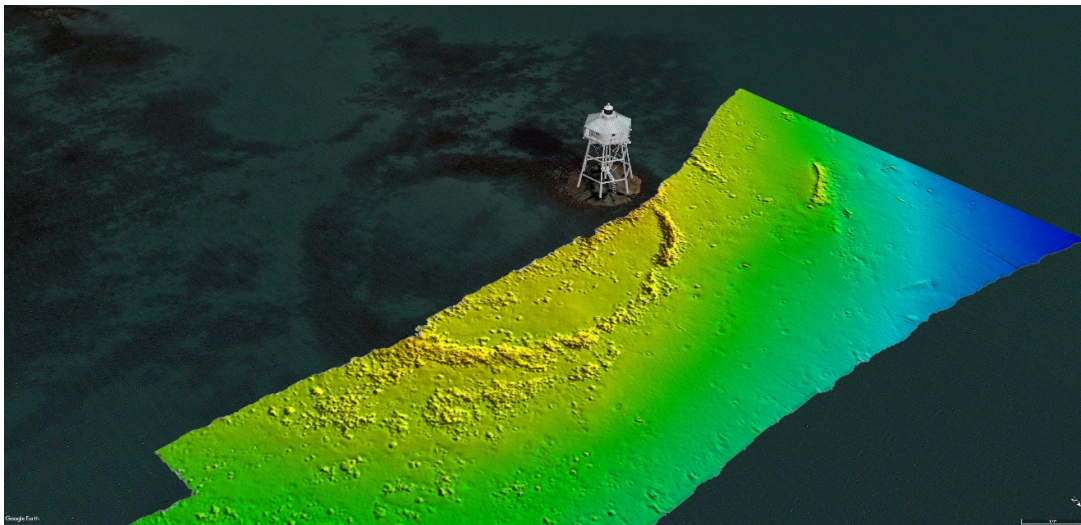

PORTS OF AUCKLAND LTD

HYDROGRAPHIC SURVEY DIVISION

COMPANY PROFILE



Marine Services

Ports of Auckland Ltd

PO Box 1281

AUCKLAND

Phone: 64 9 348 5387

Email: hydro@poal.co.nz

Website: www.poal.co.nz



Ports of Auckland Limited (PoAL) operates a dedicated hydrographic survey division within the Marine Services department of the Port Company. This division not only carries out all surveys for POAL requirements but can be contracted to deliver a range of coastal management and surveying services.

Services available from POAL Hydrographic Survey Division:

- Large and small scale seabed mapping surveys
- Surveys of critical depth areas, pipelines, berths, navigation channels
- Pre, Interim and Post dredge surveys for marine and inland waterway projects
- Creation of customised Electronic Navigation Charts (ENC)
- Production of bathymetric ENC (bENC)
- Seabed profiling for resource consent monitoring
- Recording, analysis and prediction of tides
- Determination of tidal levels and datums
- Professional advice on hydrographic and charting issues
- Tidal stream and current measurements using ADCP

Personnel in the hydrographic survey division have many years of experience in planning and conducting accurate hydrographic surveys for national and international charting and navigational requirements. Personnel maintain expertise in precise navigation, geodetic operations and tidal processes which are all fundamental to the collection of accurate data.

The POAL Hydrographic Division has a long established relationship with Discovery Marine Ltd (www.dmlsurveys.co.nz). This ensures flexibility in operations through sharing of equipment and personnel as survey needs require and allowing rapid mobilisation throughout New Zealand and the South Pacific.

All field survey operations are supervised by an International Hydrographic Organisation (IHO) Category A qualified surveyor. Other staff have relevant marine related skills or university qualifications. Successful alliances with a number of organisations have been created in the past to cater for a variety of specialist operations.



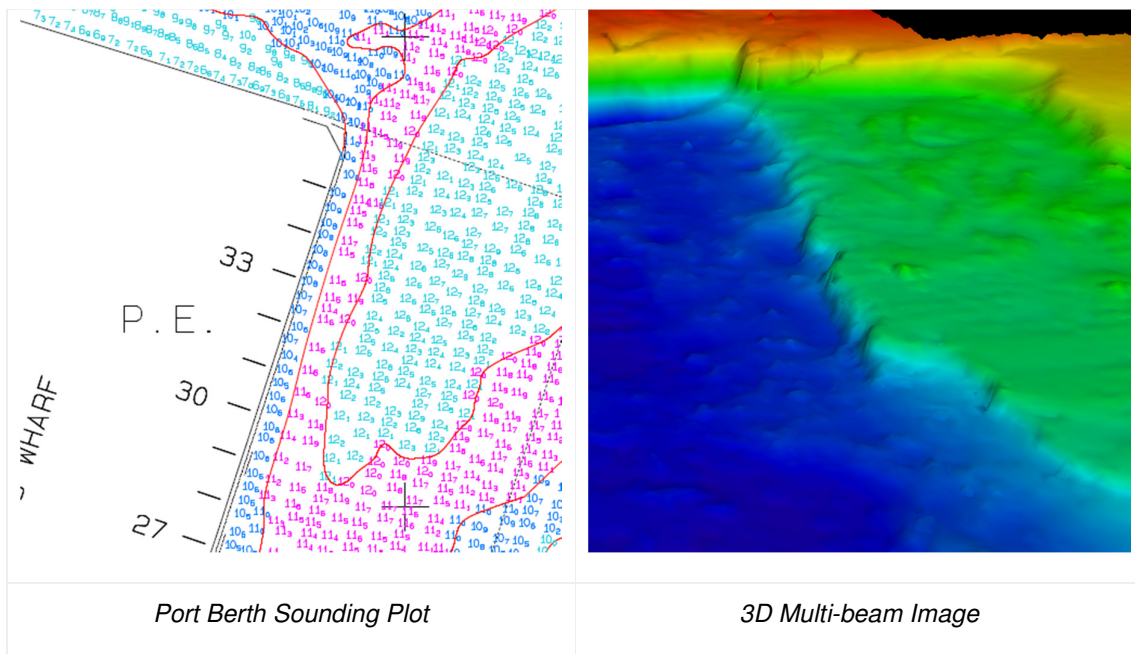
Leveling for tidal observations Limestone Island wharf – Portland channel Whangarei



“ACHERON” Launching at dawn. Kaipara survey

POAL operates a customized 8.7m Senator survey vessel “Acheron” and has access to other vessels as required for specific projects.

For all survey projects, vessel positioning is either by differential GNSS with sub-metre accuracy or RTK GNSS with decimetre accuracy. Position information, along with depth data from digital sonars (multi-beam or single-beam) and motion sensors is interfaced with our survey software. Once processed the data can be presented as either sounding plots, 2D/3D images or digital data files for integration with other digital databases. A range of two and three-dimensional terrain models can also be produced using contouring and surface mapping software.



POAL Hydrographic Survey Equipment

POAL is continually upgrading its survey equipment to keep abreast of all industry developments. A full set of portable equipment is maintained for use in rapid deployment operations. Key equipment currently operated are:

- Trimble SPS852 and Hemisphere AtlasLink Smart Antenna GNSS receivers
- Applanix WaveMaster II POSMV
- RTK corrections provided by Trimble VRS Now (GSM broadcast) and Atlas H10 Global Correction Service (satellite broadcast)
- Reson SeaBat T50R Multi-beam Echo Sounder integrated with INS-20 IMU
- Odom Echotrac Mk III DF3200 and Navisound 210 Single-beam Echo Sounders
- TSS DMS-25 Motion Sensor
- RDI Workhorse 400 kHz ADCP
- Valeport Portable Tide Gauges
- Teledyne PDS Acquisition and Processing Software
- CARIS HIPS & SIPS, BASE Editor and S-57 Composer
- Trimble HydroPro Navigation Software
- Terramodel Data Processing Software

POAL COMPANY DETAILS

QUALITY ASSURANCE AND HEALTH & SAFETY:

- POAL is a certified ISO 9001 Company
- The hydrographic survey division has its own Operating Procedures Manual. This manual includes Company policy on survey standards and QA procedures.
- Port surveys are undertaken in accordance with IHO standards with due reference to LINZ and MNZ standards and guidelines.
- All vessels are operated under the Maritime New Zealand Safe Ship Management System.



CONTACT DETAILS:

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