M3 SONAR® BATHY

KONGSBERG

SHALLOW-WATER BATHYMETRIC SURVEY SYSTEM

Applications

- Engineering inspection of marine structures in ports and harbours
- Dams and water intake inspections
- Bridge pier and dock inspections
- Shallow water surveys
- Outfalls and pipe inspections
- Pipeline surveys
- Dredge monitoring

High Performance at Low Cost

The M3 Sonar® Bathy is a powerful, affordable, entry level turn-key survey system. M3 Sonar® Bathy features an incredibly small multi-beam sonar head and convenient top-side surface unit with no need for an additional processing unit, just a commercial laptop. Special rack mounts are not required. M3 Sonar® Bathy delivers excellent quality data at very low cost of ownership. It is designed for rapid installation, operation and removal using vessels of opportunity.

IHO Compliance to Special Order & 1A

The M3 Sonar® is capable of achieving bathymetric survey data that meets two orders of IHO standards. Specifically:

- Vertical Accuracy compliance can be met over the full +/-60° sector for Order 1 surveys and to at least +/-55° for Special Order.
- Special Order target detection (1 m cube) is met to 20 m and Order 1A target detection (2 m cube) is maintained to 40 m.

Fast, Easy Plug-and-Play Set-Up and Take-Down

The M3 Sonar® Bathy is a complete plug-and-play system that is supplied in a rugged, re-usable equipment case. The M3 Sonar® Bathy includes all required sensors for deployment. It can be set up by two people in under one hour using the Quick Start Guide.

Preconfigured Survey Acquisition and Processing Sotware

The M3 Sonar® Bathy provides excellent survey data at very low cost. All sensors are input to a laptop computer that is preconfigured with the user's specified survey acquisition and processing software and the M3 Software. The M3 Sonar® Bathy operates seamlessly with HYPACK and QINSy Software (included in the system price). Optional mosaicking software to create real-time mosaics of imaging data is also available.

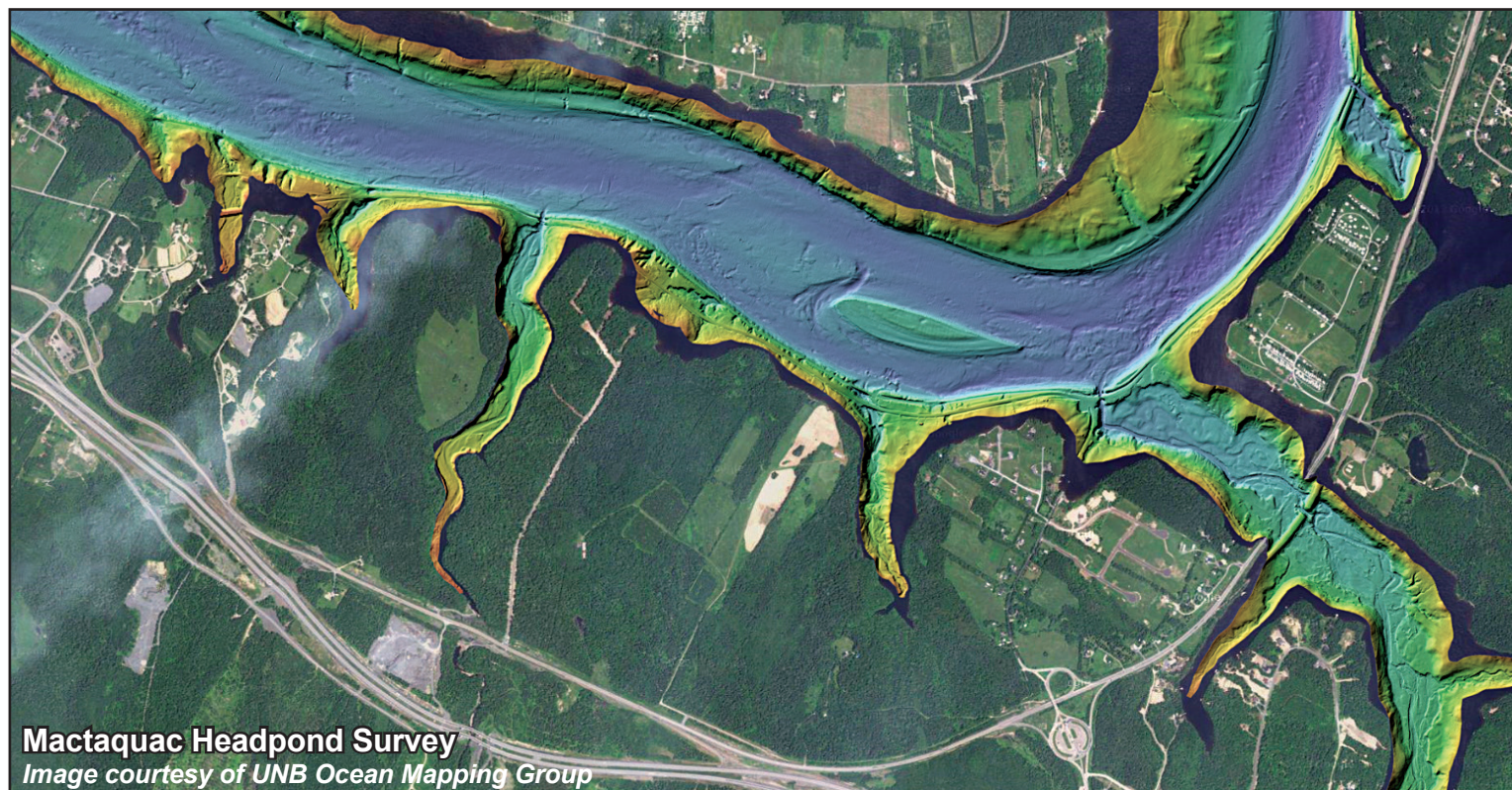### Proven M3 Series MultiMode Multibeam Sonar

The core of the M3 Sonar® Bathy is Kongsberg Mesotech's proven M3 Series MultiMode Multibeam Sonar. The M3 Sonar® is the only instrument in its price point that produces high-quality imaging records and 3D bathymetric datasets using the same sonar head.

Compact and Integrated INS/GNSS System

Attitude and Positioning Sensor with antennas and receivers. No accuracy degradation in roll, pitch and heave measurements during turns; 120 channel dual frequency GPS/GLONASS receiver, RTK, SBAS correction; can support Omnistar and Marinestar
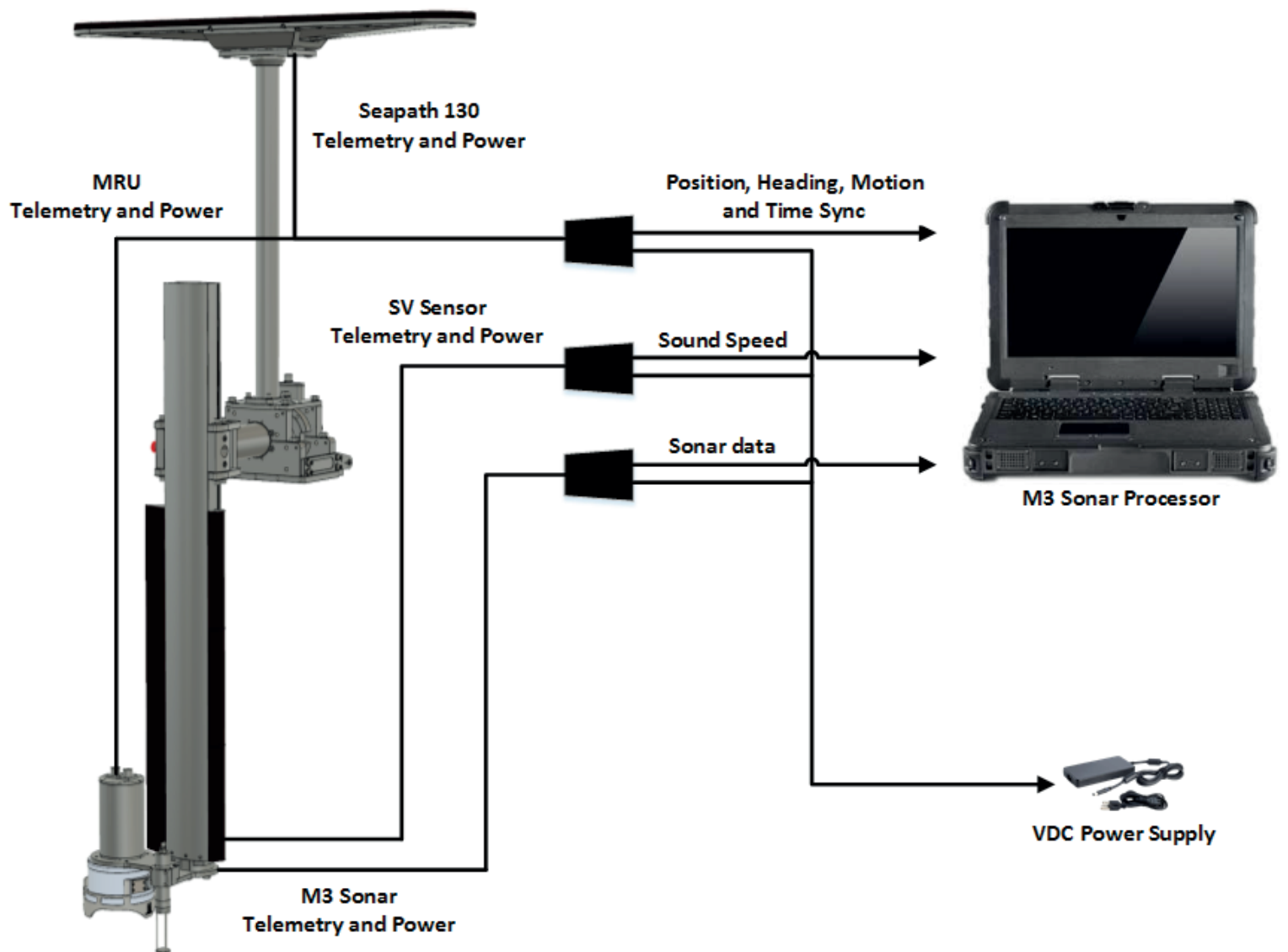
Seapath 130-3 (with MRU-3) to 0.08° roll & pitch accuracy
Seapath 130-H (with MRU-H) to 0.03° roll & pitch accuracy

Mactaquac Headpond Survey
Image courtesy of UNB Ocean Mapping Group

Seapath 130
Telemetry and Power

MRU
Telemetry and Power

Position, Heading, Motion
and Time Sync

SV Sensor
Telemetry and Power

Sound Speed

Sonar data

M3 Sonar Processor

M3 Sonar
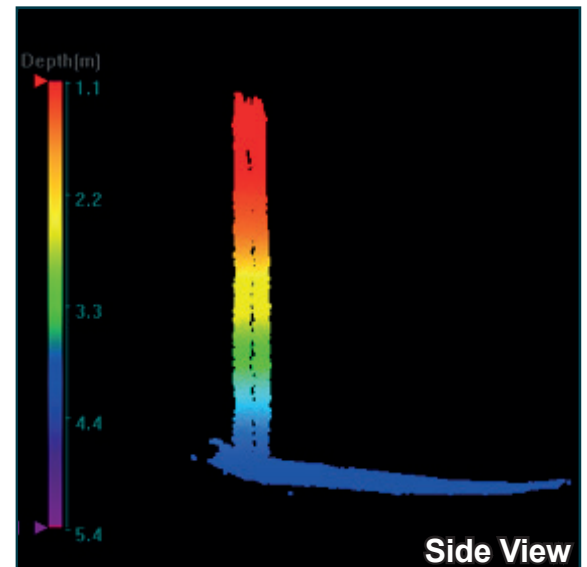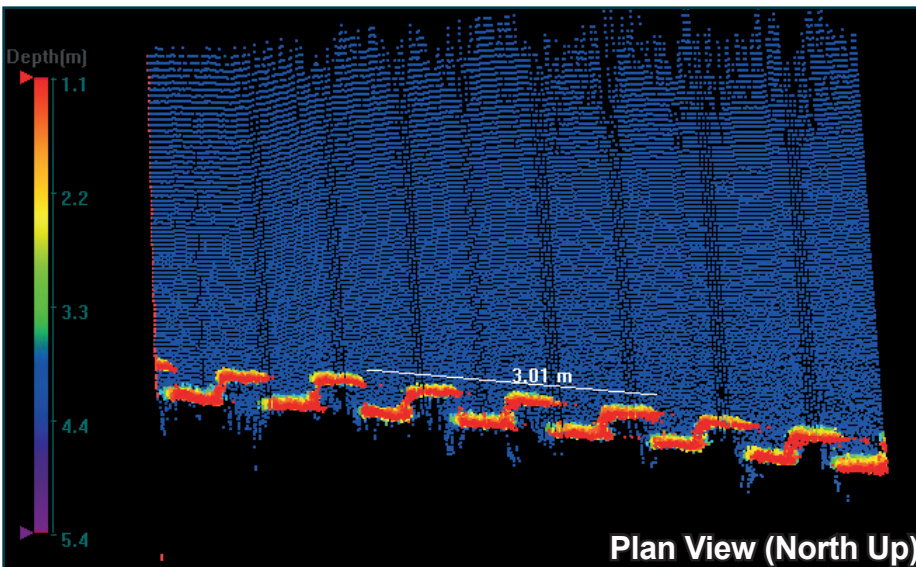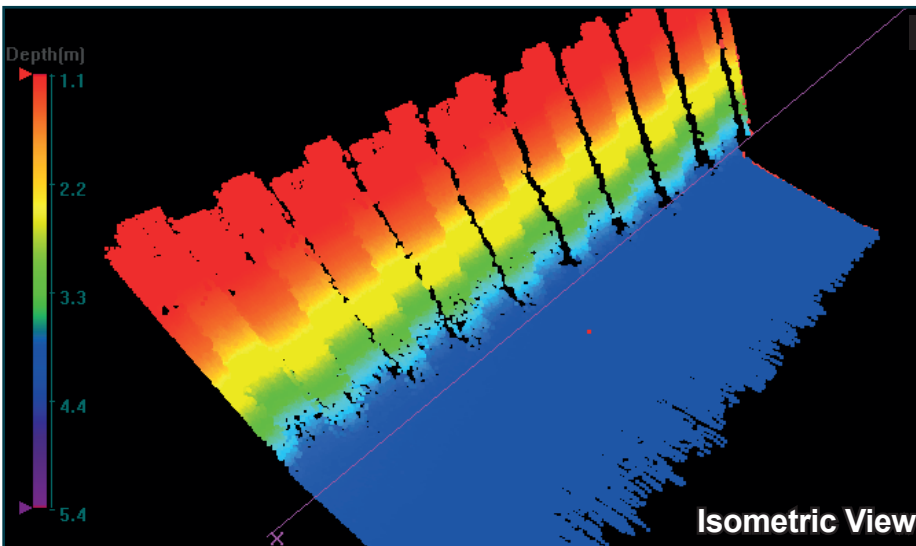Telemetry and Power

VDC Power Supply

DESIGN

The Seapath 130 series is developed specifically for hydrographic surveying where high precision heading, position, roll, pitch, heave and timing are critical measurements. The product combines state-of-the-art dual frequency GNSS receivers, inertial technology and processing algorithms in a compact and portable package.
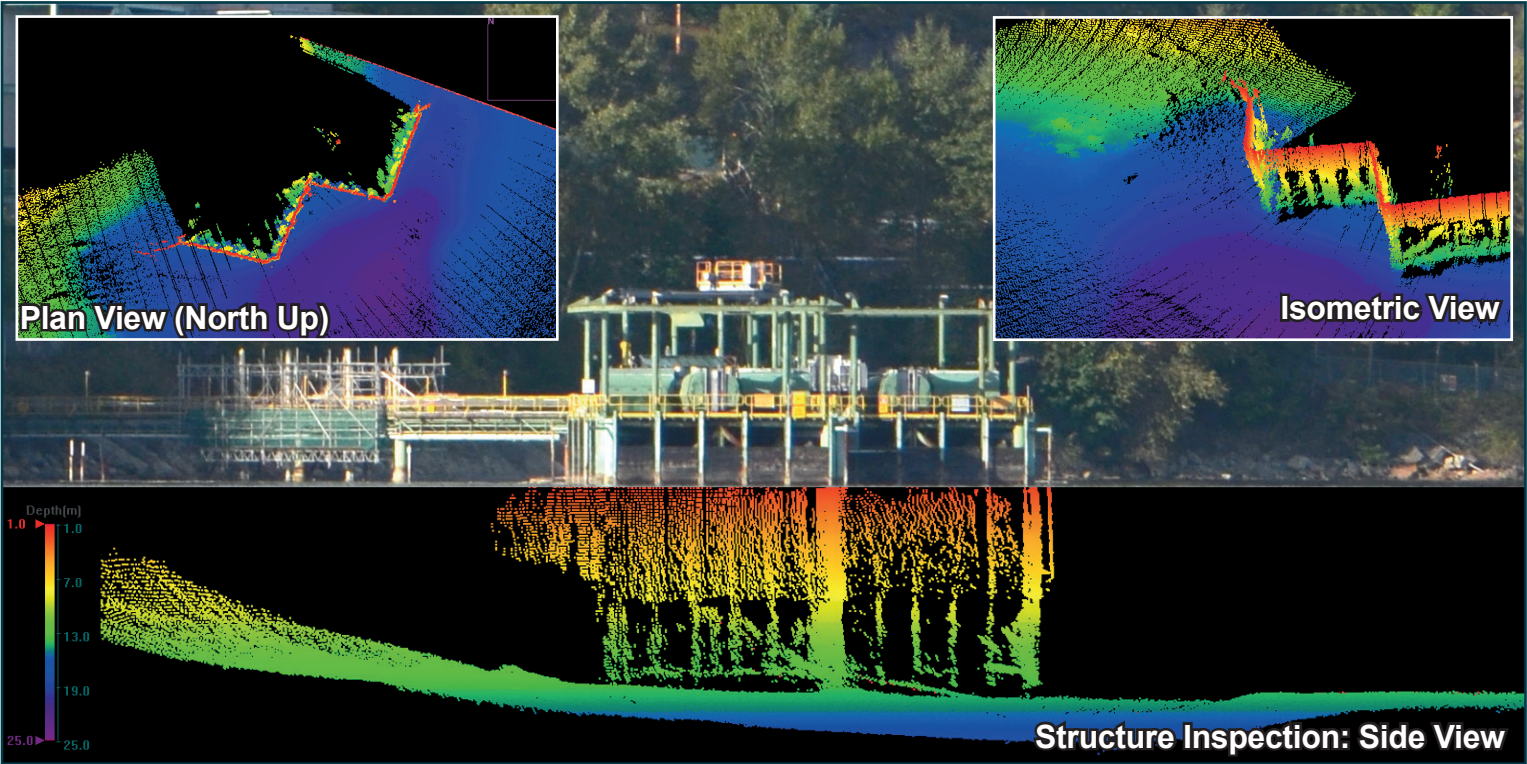
The advanced Seapath navigation algorithms integrates RTK GNSS data with the inertial sensor data from the MRU. This gives the Seapath 130 unique advantages compared to stand- alone RTK products. The Seapath product's accurate roll, pitch and heading measurements allow the RTK antenna position to be referenced to any point on the vessel where accurate position and velocity are required. All data from Seapath have the same time stamp and the output is in real-time. Subdecimetre position accuracy can be achieved through download of satellite orbit and clock data from internet and by post processing of satellite and IMU data.
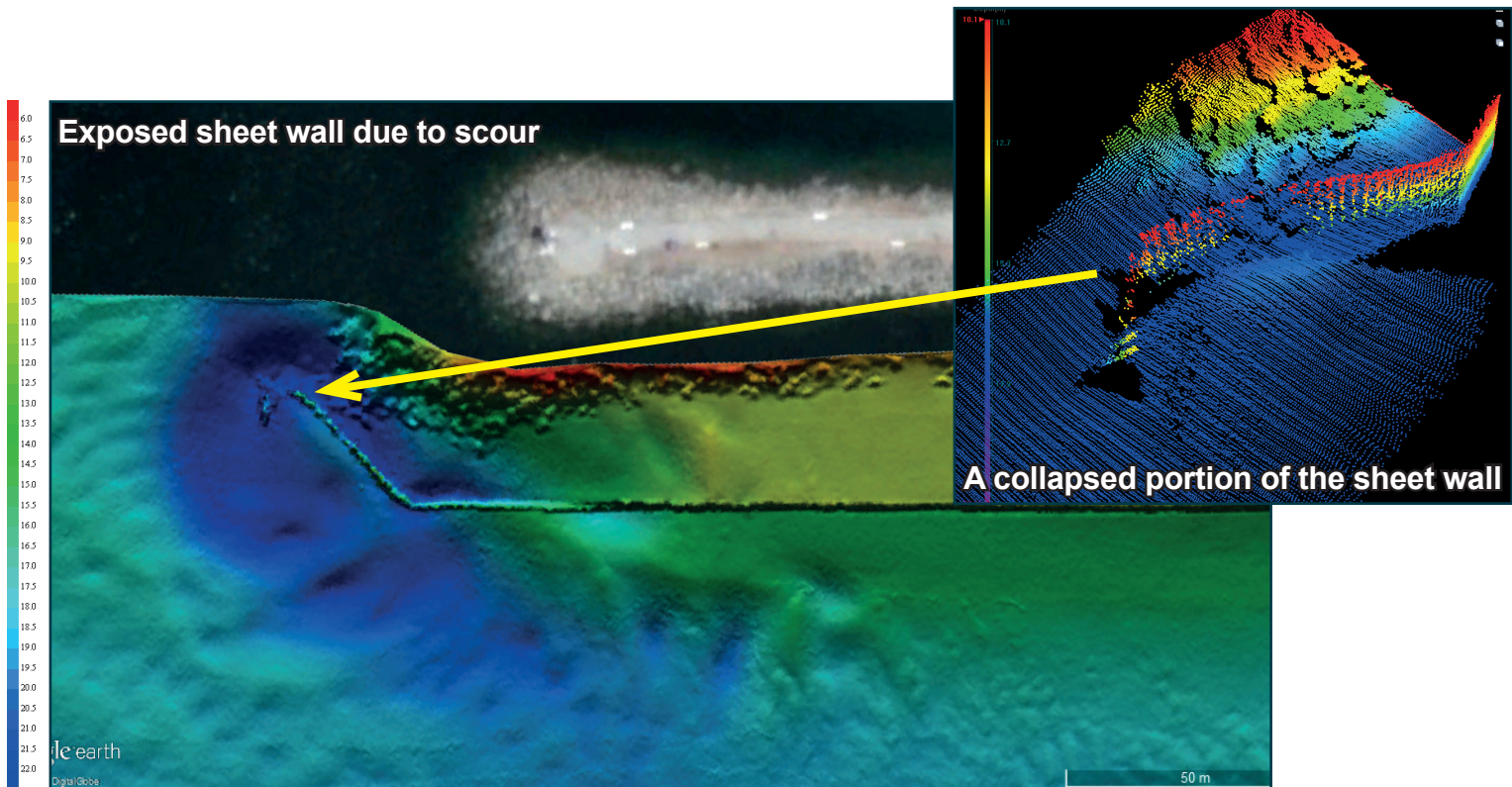

Seapath® Compact 130 Series

STRUCTURE INSPECTION

Isometric View

3.01 m

Plan View (North Up)

Side View

STRUCTURE INSPECTION

Plan View (North Up)

Isometric View

Structure Inspection: Side View

SHEET PILE WALL

Exposed sheet wall due to scour

A collapsed portion of the sheet wall