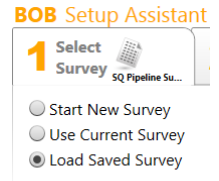


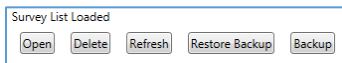
SeaQuest Demo Dataset in BOB

Opening the dataset

1. Start BOB software and select 'Load Saved Survey' in Step 1 of the Setup Assistant. If you are starting a new version of BOB for the first time, it may take a couple of minutes for it to create a list of existing surveys on the computer. (Uninstalling BOB does not delete the surveys you have. You can safely delete BOB and install a new version. All your surveys will be safe, and will appear in the new survey list)



2. Near the bottom of the window, click 'Restore Backup'



3. Navigate to the location of the demo survey (.mms file) and open it. BOB will import that survey into its internal database, and from this point on, it will always be the internal copy that BOB will use. It will no longer be connected to that initial file. This is done to prevent unwanted changes to the source file. If you wish to export a latest copy of the survey from BOB, you can always backup to a new .mms file.
4. The Setup Assistant is made of 4 steps, designed to start a new survey. However, when viewing or editing an existing survey, you can skip all those steps by clicking 'Next' or 'Done'.

MagPlot Window

BOB is made of two main windows: The MagPlot for displaying data profiles and data values, and the GeoPlot for displaying the map and the survey lines. (See Figure 1). Both windows pull-out panels on the sides. MagPlot window has these panels: Layers, Markers, Survey Lines and Targets.

The **Layers panel** contains the list of available data profiles and channels and their scales (use right-click to select scale). You can show or hide any of the data channels. You can also manually drag the data profiles up or down on the MagPlot screen to position those for best viewing. Note that some profiles are not movable, such as those in the Position group. For these, the 0 level is always at the top edge of the screen, representing water surface. For the magnetic field profiles the average level is arbitrary and adjustable for viewing convenience.

The **Markers panel** contains user markers, which can be used as notes during surveying or post-processing. These can be used to mark potential anomalies, or other events such as passing large vessels (that may be seen on the mag profile), or changes in cable layback or vessel speed. The markers can also be grouped.

The **Survey Lines panel** contains a list of survey lines as marked up by the user during processing. Selecting one of the lines from the list will display the profile of that line on the MagPlot, as well as highlight that line on the GeoPlot.

The **Targets panel** contains specific targets or anomalies identified in the survey by the user. This panel is only available as part of the BOB Analysis Module extension.

Note that the 'scroll bar' near the bottom of the MagPlot profile window is actually a time scale zoom tool, not a scroll tool. You can right click on it to choose a pre-selected zoom level (i.e. 3 min), or drag it left and right to change the time scale manually. The corresponding time period will be highlighted in cyan just below on the timeline. The timeline also shows the beginning and end markers for all the survey lines marked by the user. To scroll the profile, simply drag it left or right with a mouse. Or select the survey line from a survey line panel.

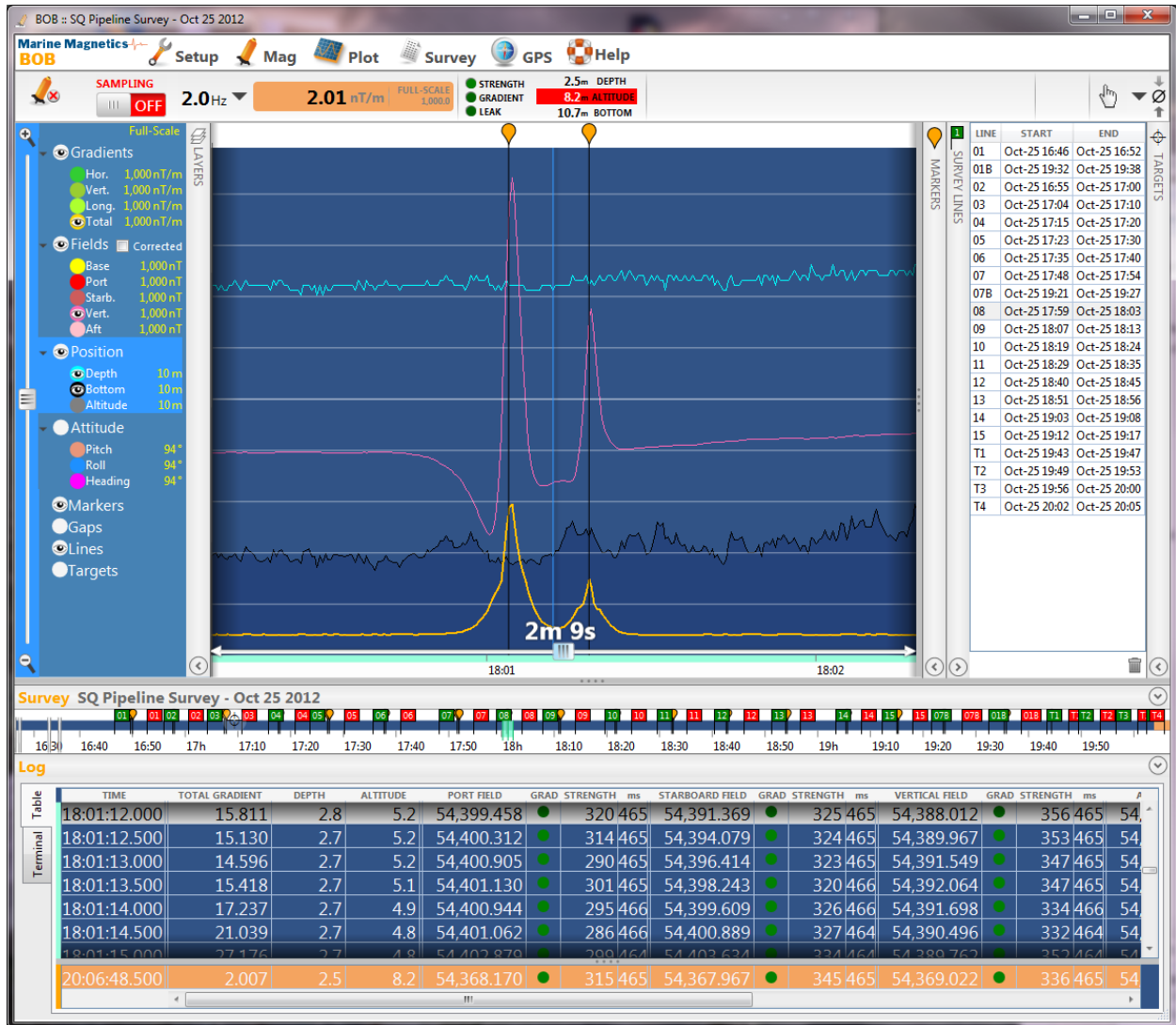


Figure 1 - BOB Main Window with MagPlot and data log table.

This view shows two adjacent pipelines being crossed by the magnetometer: their magnetic field profile (pink profile) and a vertical gradient (yellow profile). It also shows the lake bed near the bottom, and the position of the tow fish magnetometer in the water column (light blue profile).

The scale for all Fields and Gradients is set to 1000 nT for the vertical span of the screen. This means 100 nT per vertical division. It also shows two markers placed over the pipelines. These markers can also be seen on the GeoPlot map.

The data table below shows the values of the survey readings for the cursor position in the MagPlot. During surveying, this table can be divided into two parts: lower for the real-time values (shown in orange), and upper for past readings (shown in blue).

The same can be done to the MagPlot window, using a vertical divider currently located near the right edge of the screen. The real-time readings will appear to the right of the divider in the Real Time pane, while the past readings will appear to the left of the divider in the Review Pane. During post-processing, the Review Pane is automatically maximized. This helps one keep an eye on the current readings while doing some reviewing or marking up the past readings and anomalies.

GeoPlot window

The GeoPlot window consists of the map, a tool bar near the top, a pull-out Layers panel on the left, and the NavAssist pull-out panel on the bottom. (See Figure 2)

The **Layers panel** can be used to show or hide various map elements.

The map itself can be dragged with a mouse to change position, or zoomed with a mouse wheel or the zoom scroll tool left of the Layers panel.

The compass rose indicator can be used to rotate the map to a preferred orientation. To return it back to the North-up orientation, simply click on the center of it.

The tool bar contains tools for locking the boat position to the center of the screen, centering the map, changing coordinate systems, a drop-down tool selector and a layback tool. Also available is a Bob Analysis Module extensions (if purchased) used for creating magnetic maps.

The drop-down tool selector contains tools for measuring distance between points on the map, tools for drawing individual guide lines and rectangular guide line grids, and a tool for making survey lines on the tow fish path.

However, the easiest way to mark survey lines is to zoom in to the appropriate section of the magnetic field profile on the MagPlot window, then right-click on the mag plot and select 'Add Line Marker Here'.

It will create a survey line matching the current view extent of the MagPlot, from left edge of mag plot to the right edge. The green and red line end markers will appear on both the map view and the mag plot. Now you can drag those around with a mouse to fine-tune the line ends.

The Image item on the Layers panel is there to show or hide a user-set background image. This image can be a geo-referenced chart, map or side-scan sonar image in GeoTiff format. To add an image to the Geo Plot, simply right click on the map window, and select Background Image > Set.

The Total Field and Analytic Signal items are reserved for the extra BOB Analysis Module extension.

The NavAssist panel near the bottom of the map is a handy tool for the vessel driver, to help with following the guide lines and keeping track of the boat speed, course, and magnetometer position in the water column (depth and altitude).

Saving Surveys in BOB

Exporting data from BOB is easy. In the Survey menu of the main BOB window, you can choose to save a backup copy as a BOB (.mms) file, or export a survey log as a CSV file, which can be later imported into other post-processing software.

There is also an option to import and apply Base Station correction file. This file can come from a Marine Magnetism Sentinel base magnetometer, or be downloaded from one of the magnetic observatories operated by the global Intermagnet.org network. Please note that you will need to find and download the observatory file yourself. But once you have it, BOB will import it if it's in the standard IAGA2002 format.

Please refer to the BOB user manual for more specific instructions.



Figure 2 - BOB GeoPlot window with Layers panel, a drop-down tool bar, and the NavAssist panel
 The cyan selection and cursor show survey line 8, currently displayed on the MagPlot.
 The orange markers show pipeline anomalies on each line, while the blue marker shows another anomaly, an anchor, and its associated target mark. (The Targets feature is only available as part of the BOB Analysis Module extension)
 The NavAssist panel uses a guide line grid (if one was set up) for navigation assistance.