

# Pre-survey Source Comparison Test

## *Polarcus Geophysical Toolbox : Selecting the right source*

### Purpose

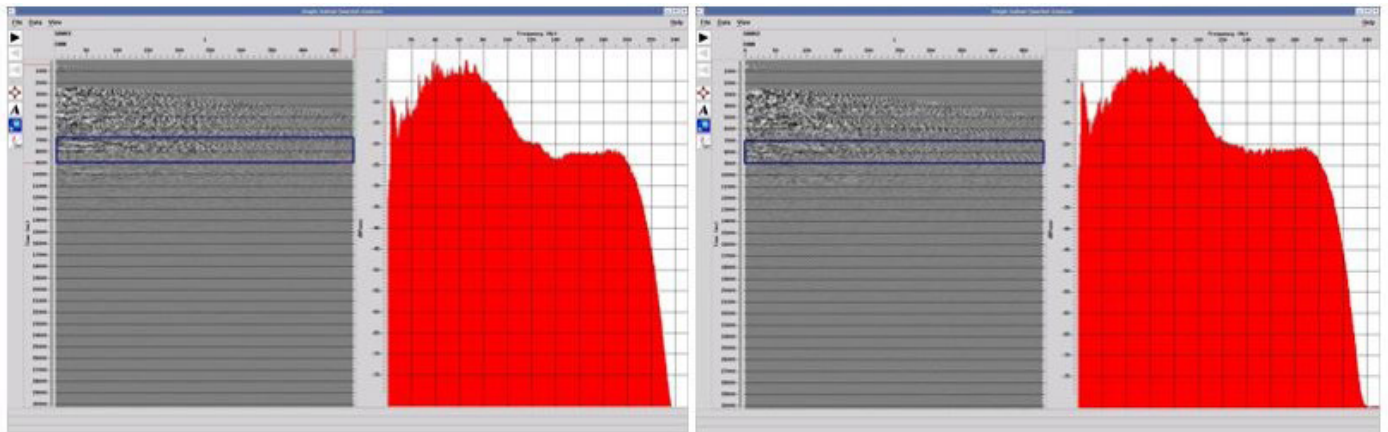
To utilize precisely designed “center weighted” broadband seismic energy sources, that provide the minimum acoustic signal level to achieve high quality recorded seismic data for a particular geologic and acoustic propagation environment. Comparing different source array volumes during survey mobilization allows our clients to choose the right source design to satisfy the geophysical objectives and environmental constraints. The test is carried out during equipment deployment and is quick to complete, with a fast turnaround of results.

### Benefits

- Source levels can be constrained to meet the signal-to-noise requirements of each particular survey. In many cases, bigger is not necessarily better
- Only the sound energy required to meet the geophysical objectives of the survey is emitted into the local environment

### Field Example

Below is an example of spectral analysis performed on data from a Polarcus source comparison test. The array with the smaller volume (B) was selected because there was no gain in S/N by using the large source (A). The survey was completed without compromising the seismic data quality.



(A) 4240 in<sup>3</sup> 2nd Multiple Filtered (2-3-250-250) Spectral Analysis

(B) 2940 in<sup>3</sup> 2nd Multiple Filtered (2-3-250-250) Spectral Analysis

### Impact on EHSQ

As part of the Polarcus Green Agenda, the smallest source option which meets the geophysical objectives of the project is always proposed, to the sound levels emitted into the local environment. Since smaller sources perform more reliably high quality, surveys can be completed faster in a safe and efficient manner. This optimization of survey time reduces the global environmental footprint of our operations and minimizes the exposure of our crews in the remote regions of the world where our vessels are designed to operate.