

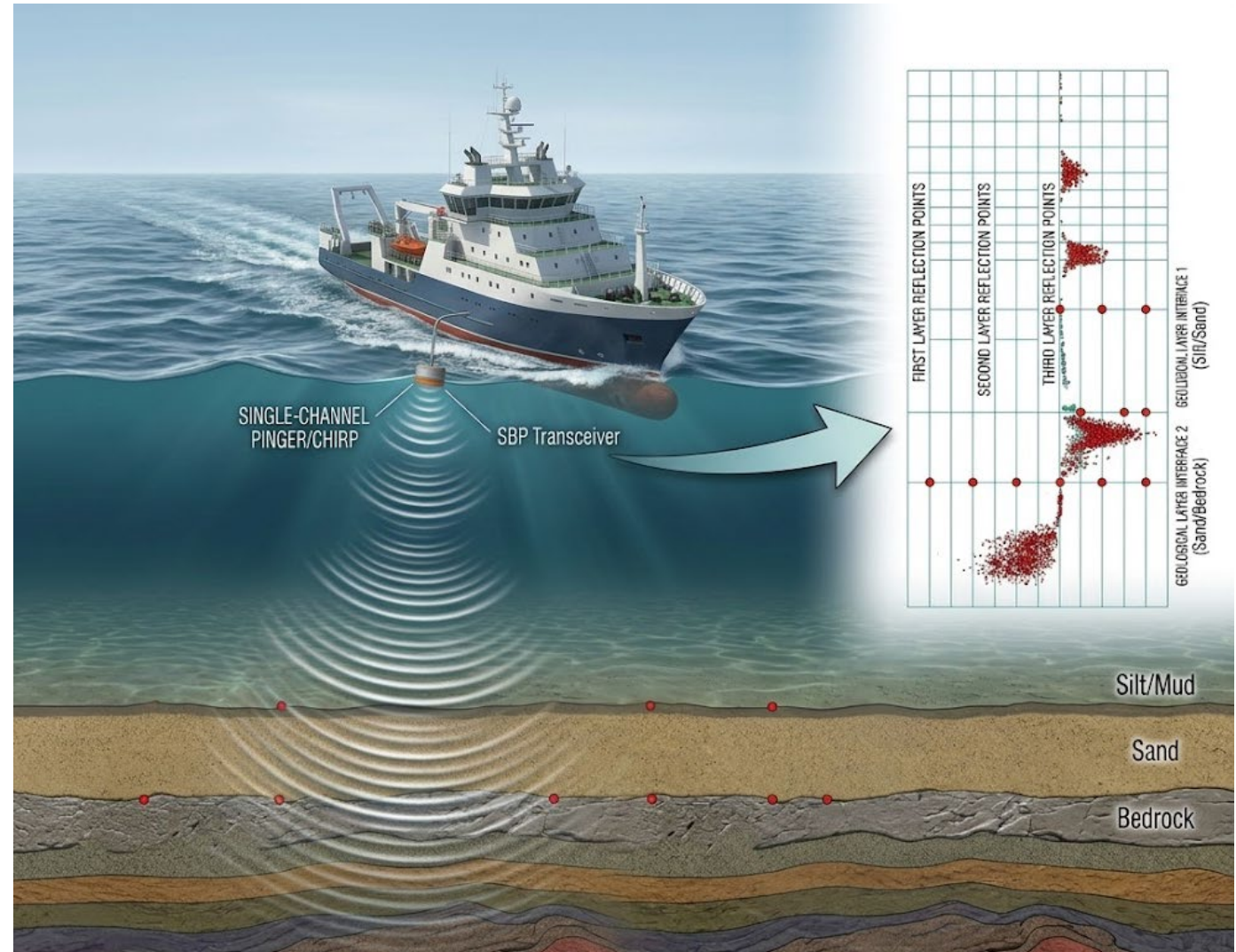
Introduction

Reflection seismology

identifies subsurface conditions by exploiting variations in **acoustic impedance** across different rock and soil strata.

When seismic waves encounter interfaces with significant impedance contrasts, they reflect back to the surface.

By recording and analysing the **spatiotemporal characteristics** of these reflections, geophysicists can accurately map the underlying geological structure.



Graphical Illustration for Reflection Seismology for Sub-Bottom Profiling

Accuracy

Exploits acoustic impedance contrasts to deliver mapping of bedrock and complex geological strata (resolution as fine as **15cm to 20cm**)

Multi-Layer Imaging

Generates a complete cross-sectional view of the entire stratigraphic sequence in a single survey pass.

Low Velocity Detection

Accurately images hidden structural weaknesses, such as soft sand layers trapped beneath harder clay

Cost-Effectiveness

Utilizes multi-channel floating streamers for rapid "underway" data acquisition, significantly shortening survey cycles

Non-Destructive

Provides continuous subsurface profiles without the need for invasive physical excavation or environmental disturbance

Environmentally Safe

Employs **patented** pneumatic sources that eliminate the hazards associated with traditional explosives or sparker systems

Advantages of Reflection Seismology

