

Vertical Cable Seismic

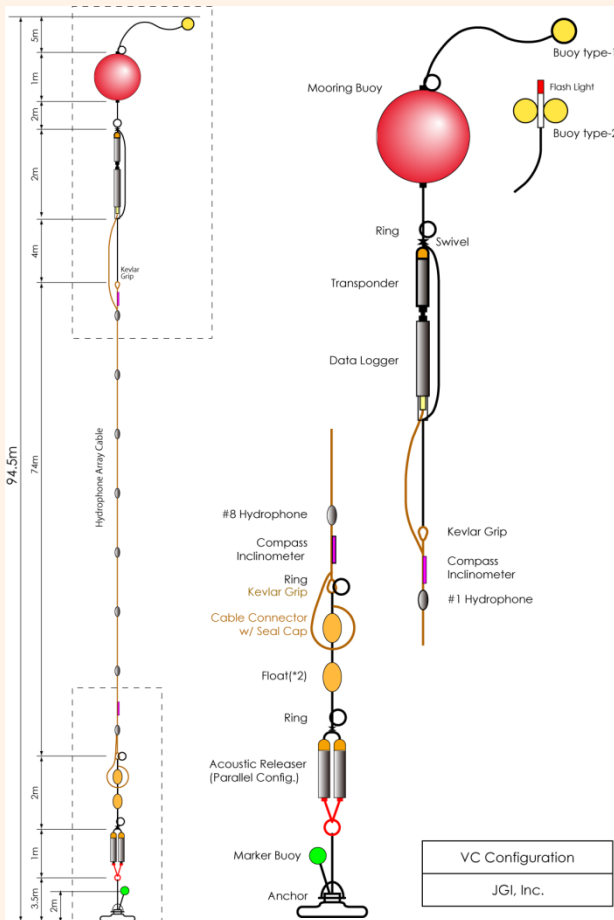
A New Geophysical Challenge to High Resolution Deep Water Survey

Vertical Cable Seismic (VCS) System is an excellent tool to obtain the high resolution seismic data near seabed. Sensors attached along a vertically extended cable from seabed can acquire shallow sub-bottom reflections. Targets of the VCS system are deep water site survey or geohazards. VCS has great advantages over conventional seismic method shown as below;

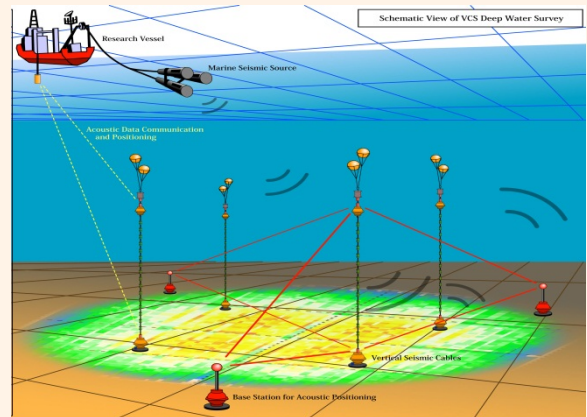
- (1) It achieves efficient high-resolution 3D survey in a limited area. Because hydrophone sensor is close to target, the Fresnel volume is smaller than surface seismic and the background noise level is significantly decreased.
- (2) It avoids the coupling problems between sensor and seabottom that cause serious damage of seismic data quality.
- (3) Various types of marine source are applicable with VCS such as sea-surface source (air gun, water gun etc.) , deep-towed or ocean bottom sources according to the exploration target.

JGI Autonomous VCS System

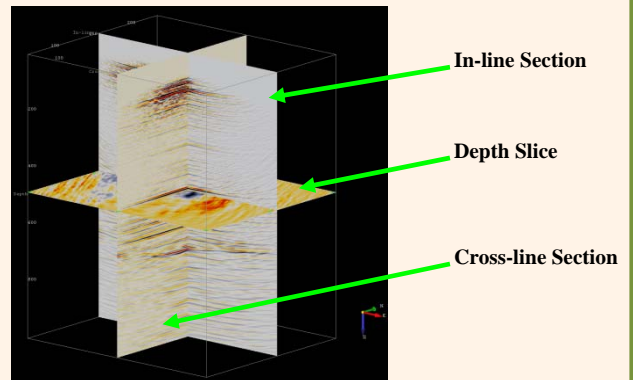
- Vertical Cable with 8 hydrophones
- Autonomous recording system at ocean bottom
- Tandem-type reliable acoustic releaser
- Acoustic positioning system
- Deployment/Recovery system on board
- Sampling rate: 10kHz (24bit 8ch)
- Maximum operation depth: 2000m



System Configuration



Concept of VCS Deep Water Survey



3D Prestack Depth Migrated Volume (500x500x1000m)



Photo of VCS system