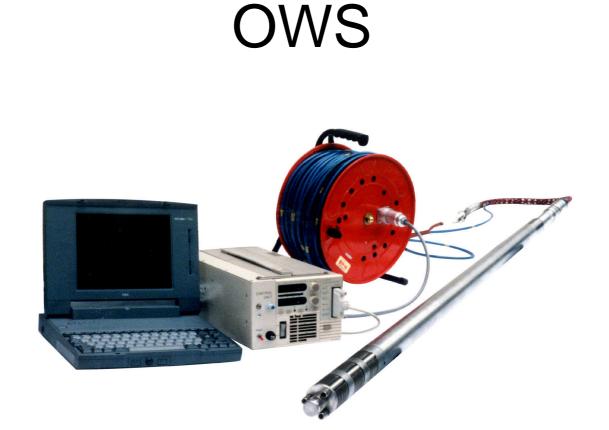
GEOLOGICAL, GEOPHYSICAL, GEOTECHNICAL SERVICES AND INSTRUMENTS



INNOVATIVE DOWNHOLE SEISMIC SOURCE



<Abstract>

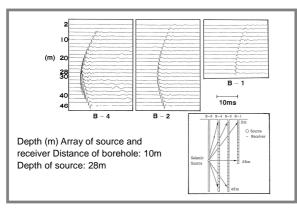
OWS (OYO Wappa Source) is an innovative downhole seismic source with fully different principle from those the conventional ones had.

The source can transmit excited energy to the ground through fluid with higher efficiency. Getting larger seismic force from small electrical energy is focused for designing, which makes no damages to the borehole wall.

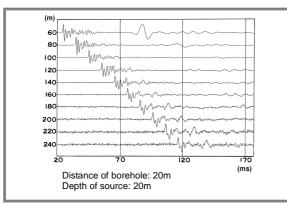
<Features>

- The simplest seismic source being suitable to a 100m scaled crosswell seismic survey. (depends on geological condition)
- Good reproducibility and high frequency source
- Efficient stacking with high speed excitation at every 10 seconds
- Efficient excitation without any damages to borehole wall
- Applicable to 66mm dia. hole and up to 300m in depth
- Simple structure for easy maintenance

<Specifications> <Crosswell Seismic Survey> OWS probe, Model-1394B Cable Hoist Outer dia. : 50mm x 2340(L) mm Weight : 19kg Operating : 0 to 60 deg C \odot temperature Winch Trigger : Two type of trigger signals OWS Geologger-3 Controller are available Felemetry Unit 1) Analog signal from geophone inside the source OWS Probe 2) Signal conditioned pulse Borehole Shuttle-1 3-Component Geophone signal (TTL level) **OWS controller Model-1395A** Borehole Shuttle-2 Power requirement : AC 100V±10% 3-Component Geophone Operating : 0 to 40 deg C Borehole Shuttle-3 3-Component Geophone temperature Dimensions : 295(W) x 140(H) x 450(D) mm Weight : 12kg

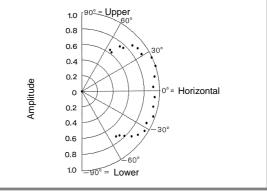


Crosshole measurement use with hydrophone

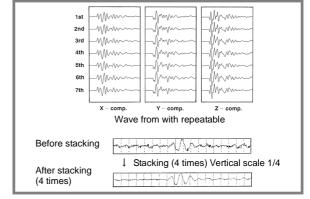


Example of record by Borehole shuttle Maximum distance between source and receiver: 220m with non stack

Geology: Tertiary mudstone



Radiation pattern of OWS Distance of borehole: about 6m Geology: Tertiary conglomerate



Repeatability of wave form It is available for effective stacking with good repeatable wave and stable trigger signal from OWS



Please note specifications are subject to change without notice for the improvement.

Instruments & Solutions Division

- 43 Miyukigaoka, Tsukuba, Ibaraki, 305-0841 Japan Phone: +81-(0)298-51-5078, Fax: +81-(0)298-51-7290 e-mail: seihin@oyo.jp
- Sigmetric, S.A. de C.V. Erasmo Castellanos Quinto 444, Colonia Educación, Ciudad de México, 04400 Teléfono: 55.5658.2997 & 55.5554.9657





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