

ILLUSTRATION OF A LAND VSP FIELD OPERATION WITH VIBRATOR SOURCE AROUND THE DRILLING SITE, GRAND PARIS AREA, FRANCE.

- *COMMENTED PRESENTATION SLIDES CONSTITUTE THE MAIN FILE*
CTRL CLICK: [GGR5-VSP field operation, illustrated](#) TO ACCESS THIS FILE.
- *TWO VIDEOS OF SEISMIC VIBRATOR IN ACTION CAN BE ACCESSED BY CLICKING THE **RED BOLD** CHAINS OF CHARACTERS ON [SLIDE 10](#) OR REFERENCES A & B BELOW...*

The general procedure for the Vertical Seismic Profile (VSP) technique of borehole measurement is explained here for the non-specialist, during an operation carried out in 2023 on the GGR5 geothermal deviated well site, in outskirts of the town of Grigny, in the suburbs of Paris, France.

The doublet of geothermal boreholes targets the Dogger aquifer at a depth of 1500m, to exploit heat at low temperatures of 70°C

The presentation in reference illustrates the equipment used and their implementation for the acquisition of measurements, the quality of which is controlled in real time by field technicians, as well as the objectives pursued, in particular by broadband seismic transmission (5-175Hz) in order to obtain the most detailed image of the subsurface possible.

The final imaging results are obtained after processing the seismic signals in the office using an appropriate arsenal of processing routines, however the publication of these results is not reported in the reference presentation.

The acquisition and processing of seismic signals beyond 110 Hz are the subject of work to improve procedures, and research actions are justified with regard to the influence of certain subsurface heterogeneities on seismic propagation, and on the resulting geological interpretation.

The preprocessed seismic dataset of the Grigny-GGR5 VSP in SEG-Y format can be provided upon request to Miklos Antics with GEOFLUID.

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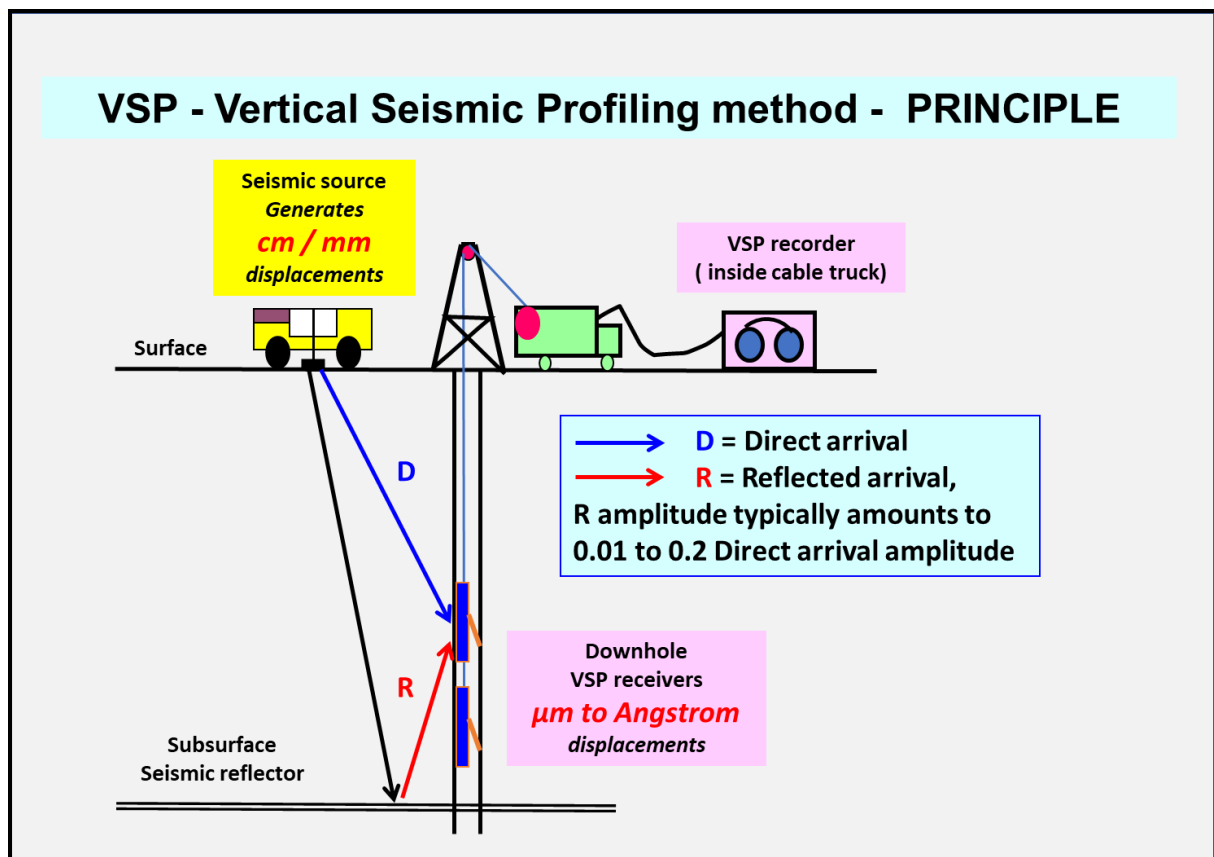


Figure 1 : Vertical Seismic Profile technique and method. Basic principle.

References:

- Presentation of the field VSP acquisition operation in Grigny- GGR5 borehole: [GGR5-VSP field operation, illustrated](#) (Ctrl-Clic)
- Videos of the SERCEL NOMAD 65 vibrator in action: (Ctrl-Clic)
 - A- [Looking for a fix position of VSP source](#)
 - B- [Sweep emission Log7 \(5-175Hz\)](#)