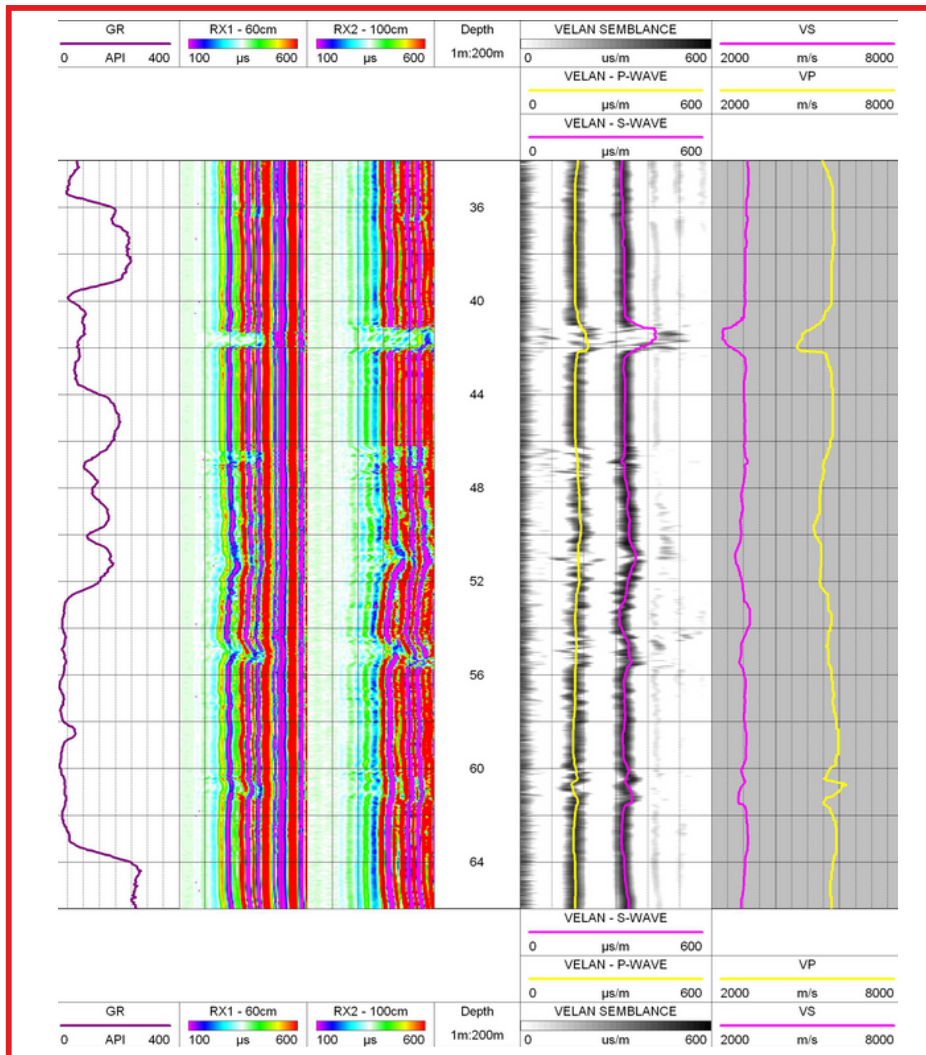


## Case study - Full Wave Sonic logging



The example log shown on the left was recorded in an HQ-cored borehole drilled through a sequence of metamorphic formations as part of a geotechnical investigation in the Alpine region of France. The borehole was inclined at more than 45° to the vertical over the section shown.

The **FWS60G** probe used was equipped with two sonic wave-train receivers (located at 60 and 100 cm from the transmitter) and a natural gamma detector.

A velocity analysis process using the semblance method was applied to the raw data in order to obtain P- and S-wave acoustic velocities.

Between 40 and 56 m the borehole has traversed a fractured zone, as shown by localised signal energy losses and decreases in calculated acoustic velocity.

The variations in gamma ray response (at the far left on the image) clearly delimit the different lithological units encountered by the borehole over this interval.



The borehole encountered very hard and abrasive metamorphic rocks (meta-limestones, gneiss with multiple quartz veins and quartz-rich horizons), the photo opposite shows a typical core sample.