Borehole trajectory surveys

A precise path of the borehole (x-y-z trajectory) according to requirements is essential for the success of a drilling project. Exact borehole trajectories can be required in the field of

- short anchoring – or injection wells
- longer horizontal or vertical freezing boreholes in subsurface excavations – and urban tunnel construction
- pilot holes for future mineshafts or deep wells in the field of geothermal or oil and gas production.

Magnetic borehole survey devices can be disturbed by magnetic interference due to borehole casing, geology or nearby wells. Therefore, Polymetra relies on MEMS based gyroscopes as a non-magnetic survey technology. Our state-of-the-art MEMS Gyroscopes measure a position change based on the Coriolis force, independent of any magnetic or electromagnetically influences. For reporting, the measured data during the survey is processed and then transformed into a 3D coordinate system to visualize the borehole path.

Polymetra has more than a decade of experience in trajectory surveying in boreholes of different diameters all around the world. Our surveys are performed with highest precision devices, manufactured by our partners in Sweden. The applied MEMS technology stands out for its exceptional robustness and simultaneously high precision with a technical error range of less than 1 m per 1000 m measured depth. Polymetra staff has significant experience in surveying freezing boreholes or geothermal drills in high pressure, high temperature (HPHT) environments. A heat shield protects the probe of overheating in environments from 70°C to more than 200°C ensuring accurate surveys even in challenging environments. Additionally, we have significant experience in the orientation of bottom hole assemblies in directional drilling operations. Such orientation services are successfully completed in collaboration with major service providers on the market.