**FUGRO HYDRAULIC WELL TESTING**

Hydraulic tests conducted in boreholes and wells deliver valuable information for the hydraulic characterization of geological formations and are used for site investigations in a wide range of geotechnical applications.

**HYDRAULIC WELL TESTS** provide an additional service in Fugro’s portfolio of in-situ technologies and borehole services. The tests are performed in boreholes or wells, either testing the entire wellbore section connected to the formation or discrete intervals of the wellbore by using single or straddle packer configurations.

The main feature of a hydraulic test is the injection or production of water into or from the formation. During the process, pressure and flow rate and their variation over time are observed and recorded. The obtained data is then analyzed to derive the hydraulic parameters describing the tested system composed of wellbore and geological formation.

**AREAS OF APPLICATION** for hydraulic well tests range from reservoir evaluation to the hydrogeological investigation of excavations and underground constructions. Practical applications are for example:

- Railway or highway tunnels
- Underground repositories
- Fluid injections
- Storage caverns
- Water power pressure tunnels
- Open pit and underground mines

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**TESTING EQUIPMENT**

and Know-how available at Fugro enables us to test a wide range of geological settings, from low-permeability clays or salt rocks to highly fractured crystalline formations and karstified limestone layers. By close collaboration with equipment suppliers we are able to deliver tailor made solutions for project specific demands as well as standardized tools with high reliability and versatility.

**SERVICES**

we provide to our clients comprise:

- Slug and pulse tests
- Pump and production tests
- Injection tests
- Lugeon tests
- Interference tests
- Water sampling
- Tracer tests
- Installation and long-term monitoring of multipacker systems
- Analytical and numerical data analysis
- Data synthesis and interpretation

**INFORMATION**

obtained from hydraulic well tests:

- Transmissivity / hydraulic conductivity / permeability
- Lugeon value
- Static formation pressure
- Storativity (from interference)
- Flow model
- Distances to hydraulic heterogeneities
- Distance to hydraulic boundaries
- Radius of test influence
- Hydraulic connections
- Water samples

**MARKET SECTORS**

we are experienced to work for:

- Mining
- Oil & Gas
- Power
- Infrastructure
- Nuclear
- Water

The data provided by Fugro's hydraulic well testing service is of interest for many areas of project management in these market sectors. These may range from project engineering to safety and environmental risk assessment, as well as cost management during construction and operation.