

# Engineering-geological and geotechnical surveys

**Standard activity in construction preparation and execution with an exceptional approach**

We do comprehensive geological surveys including geotechnical evaluation. We combine standard survey methods drilling, field tests, sampling, laboratory tests, etc. with efficient geophysical and geotechnical methods.

## Geological work in stages

- STUDY:** Evaluation of possible construction sites in terms of geological conditions based on archive assesment and geophysical measurements, basic determination of territory risk levels.
- PROJECT:** Performing all kinds of geological, geophysical, geotechnical and building surveys for a specific construction design.
- IMPLEMENTATION:** Performing additional surveys, documentation and expert geological and geotechnical supervision during construction.



Hesbena : 18.11.2004  
Vznik : Stará  
Skupina : URB2,5

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W : 203.41 m n.m.  
Dokumentace : RNDK Kras

S : JSDC (Nivela)  
X : 1 153 252.16  
Y : 530 396.70

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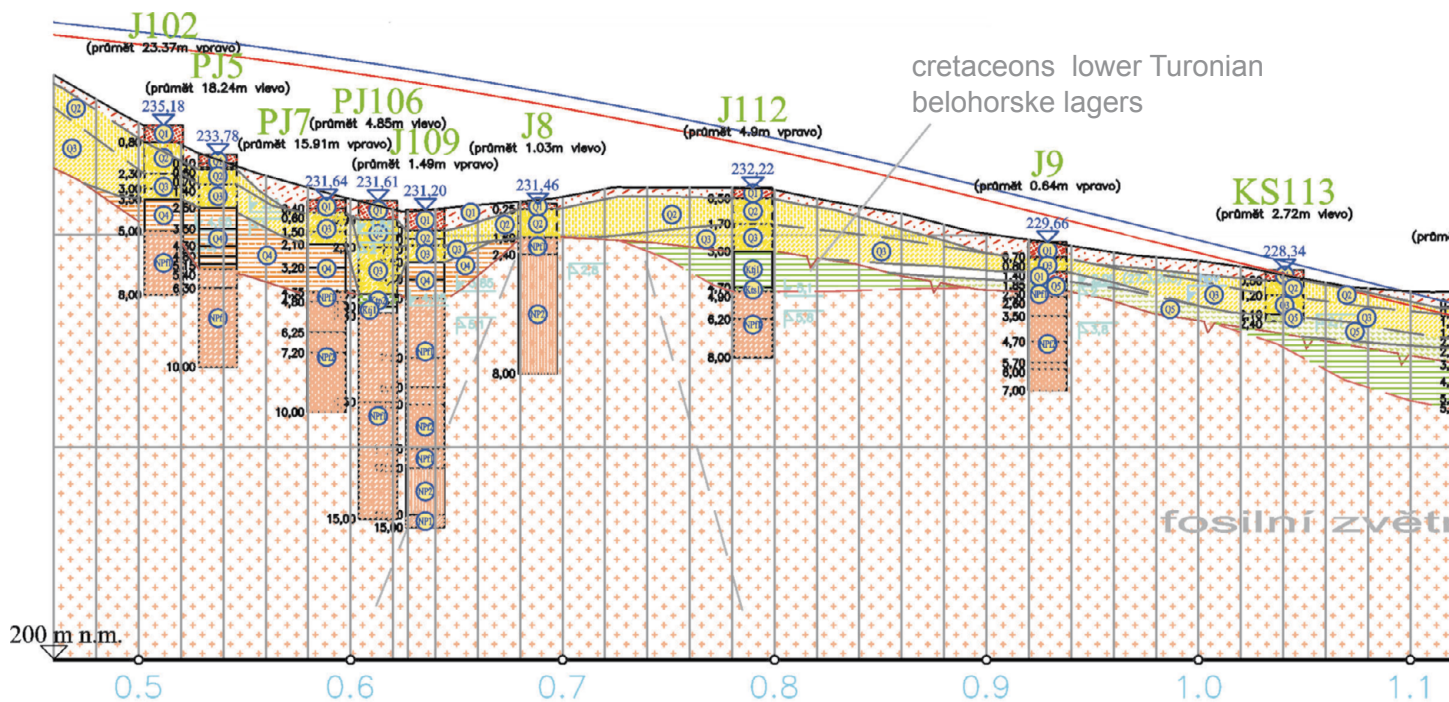
RAB, stavba 4801 Nuliv-Frydka, Podrobná GTP

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## Our approach to geological and geotechnical issues allows us to

- Create a continuous geological and then geotechnical environment model with 2D and 3D result display
- Make surveys more efficient and faster, limiting its environmental impacts
- Perform geotechnical calculations and modelling
- Work in difficult to extreme conditions above ground and underground, on roads and in city centres
- Evaluate a survey on the basis of a huge amount of data obtained with the use of empirically verified relations

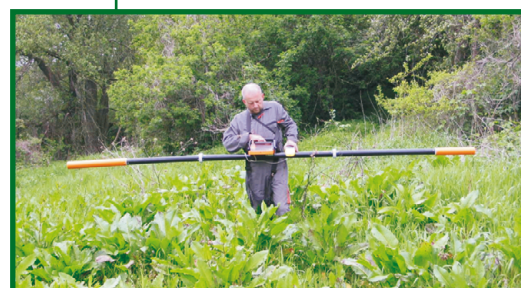


## Hydrogeological surveys

Depending on the project, we offer these as part of geological survey activities, especially for road constructions.

### Hydrogeological surveys focus mainly on:

- Assessment of ground water effects on projected and existing constructions, including the proposal of optimum measures
- Assessment of construction effects on local hydrogeologic and hydrodynamic regimen, groundwater purity and the yield of groundwater sources
- Searching for water sources with a higher yield





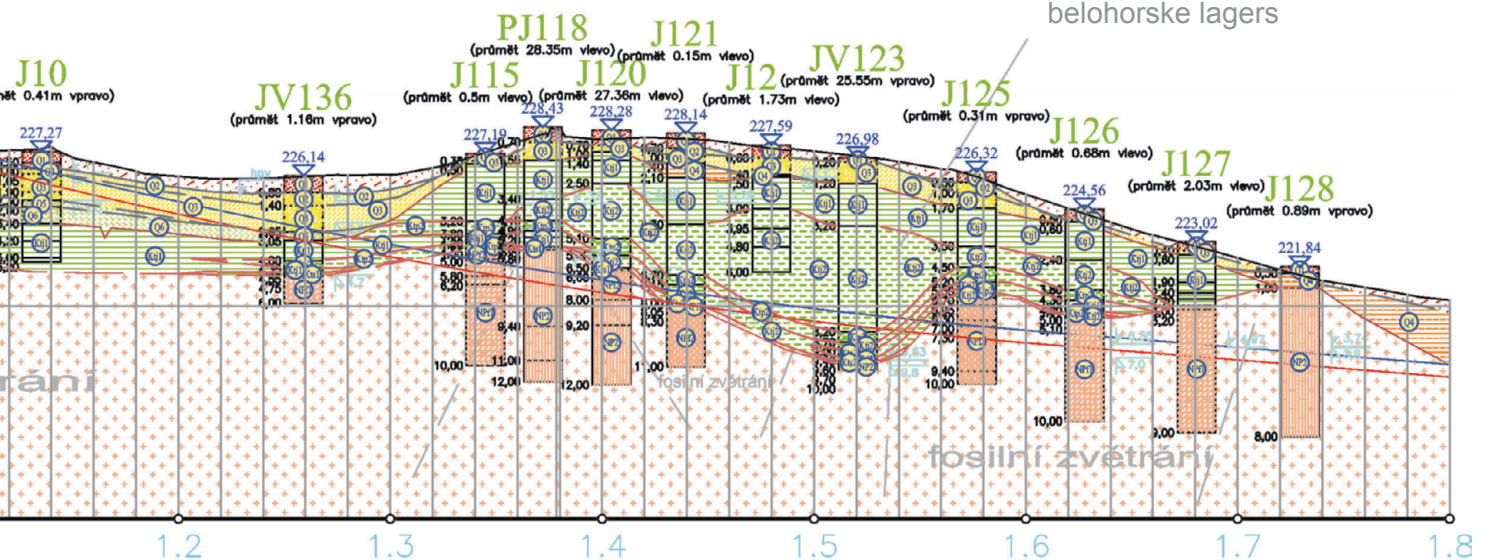
## Geophysical surveys

A geophysical survey is part of geological work and is also suitable for handling separate tasks. Geophysical survey methods enable continual monitoring of changes in physical parameters on areas of interests, planar and spatial, including the observance of any time variations in physical fields.

In surveys, we utilize, in particular, seismic methods, georadar measurements, gravimetry and geoelectric methods using the most powerful measurement equipment and software processing available today. Our wide range of apparatuses allows us to use the optimum survey technique.

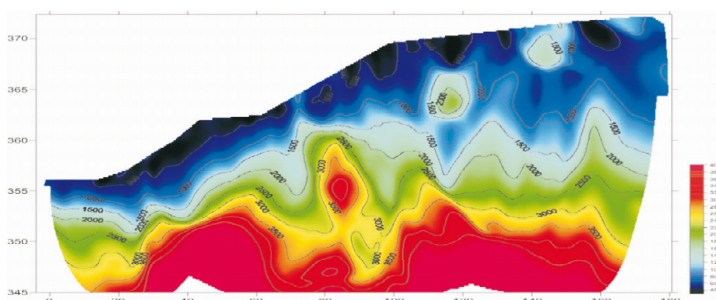


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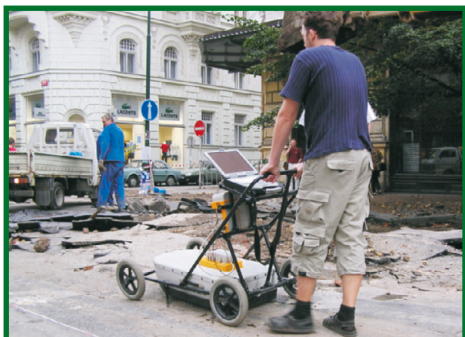


## Foundation construction diagnostics

- Static and dynamic loading tests of foundation beds and constructions
- Integrity test
- Ultrasonic and seismic scanning with tomography evaluation



**With its methodology, equipment and professional focus, our company is prepared to solve difficult tasks in complicated geological conditions**



#### **Main company activities:**

- Surveys for the constructions and repair of transport-related structures (highways, roads, railways, airports, bridges, tunnels)
- Surveys for the construction and improvement of underground utility lines (ducts, sewers, gas lines, water lines)
- Surveys when handling defects in engineering structures and underground utility structures
- Localization of cavities, old mine workings, underground passages and cellars in built-up areas and on open ground with instability assessment
- Surveys and monitoring of landslide areas
- Services for tunnelling and other underground work
- Assessment of building material deposits and borrow pits
- Expert geological and geotechnical construction supervision we guarantee the customer maintenance of the required level of safety and the maximum level of economic optimization

#### **Other activities related to the assessment of ground environment characteristics**

- **Corrosion survey** - determining environmental aggressiveness, measuring stray current fields, electric and geophysical measurements on engineering structures bridges, tunnels
- **Pedologic survey** preparing complete documentation for an application for land removal from the agricultural fund
- **Pyrotechnic and archaeophysical survey** searching for unexploded ammunition and other metal objects underground
- **Surveys related to the ecological load of the ground environment**
- **Expert reports** preparing reports in the field of engineering geology, hydrogeology, geotechnics and geophysics, engineering structure diagnostics, seismic load of constructions

