

A Potential Clients for RACOS[®]

- *Petroleum, gas and energy companies (planning, investigation, production, storage)*
- *Underground mining (planning, investigation, mining, supervision and remediation)*
- *Tunnel projects (planning, investigation, excavation, supervision)*
- *Geoscience research projects*

B Possible Uses of RACOS[®]

- *Planning of drilling and production projects (3D borehole-path, mud pressure, depletion, casing etc.)*
- *Analysis and avoidance of critical states (instability, seismic events etc.)*
- *Project optimization*
- *Development of geological / tectonic models*

C RACOS[®] - Procedures and Applications

C1 Determination of the recent 3D in situ stresses as input parameters for

- *Stability analysis of boreholes¹, tunnels and mineworkings,*
- *Identification of the causes of observed instabilities,*
- *Evaluation of seismic hazards,*
- *Setting up 3D (spatial) models of in situ loading.*

C2 Determination of the pore pressure induced 3D in situ stress modifications for

- *Planning of production / injection / storage of fluids*
- *Identification of the influence of pore pressure for in situ failures*

C3 Determination of the tectonic stress components and of palaeo in situ stresses for

- *Setting up tectonic in situ models,*
- *Characterization of fault zones.*

C4 Determination of the 3D in situ deformations (together with C2) for

- *Evaluation of land subsidence or heave resulting from pore pressure changes,*
- *Determination of the modification of reservoir pore volume resulting from pore pressure changes.*

D Advantages and Cost Efficiency of RACOS[®]

D1 Cost savings resulting from optimization with RACOS[®] of project technical parameters and from avoidance or minimization of instabilities

D2 Improved geological / tectonic insight

D3 Simple prerequisites for the analysis

- *The only substantial prerequisite for RACOS[®] is a consolidated section of borehole core.*
- *Besides the coring the analyses require no other on-site activities.*
- *The analyses can be carried out at any convenient time after the coring.*

D4 Optimized analysis effort

- *In all of the analyses (C1 - C4) - in contrast with other procedures (hydraulic fracturing etc.) - the complete 3D parameter set (effective and total stresses, pore pressure effectiveness, elastic and total deformations) is determined.*
- *With the collected basic data (C1), if necessary, at any convenient later time, the further analyses (C2 - C4) can be carried out without any additional laboratory work.*

¹ For rapid 3D analyses of borehole stability we also offer our **BOREHOLE** software package.