



REPP-CO2 Project overview



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REPP-CO2

- Preparation of a **RE**search **P**ilot **P**roject on **CO2** Geological Storage in the Czech Republic
- Příprava výzkumného pilotního projektu geologického ukládání CO2 v České republice

REPP-CO2

- Coordinator: Czech Geological Survey (CGS)
- Partners:
 - IRIS – International Research Institute of Stavanger (IRIS)
 - VŠB – Technical University of Ostrava (VSB)
 - ÚJV Řež, a.s. (UJV)
 - Research Centre Řež (CVR)
 - Miligal, s.r.o. (Miligal)
 - Institute of Physics of the Earth, Masaryk University (UFZ)

REPP-CO2

- Project duration: 23/1/2015 – 30/4/2016
15 months + 1 week
- Budget: 77 586 134,- CZK
(2,798,923.00 EUR)
(24 110 048 NOK)
- Requested grant: 61 321 785,- CZK
generally 80% funding, except UJV (65% + 80% funding)

Project objectives

Main objective is to significantly contribute to the development of the CO₂ geological storage technology in the Czech Republic:

- advancement of the Technology Readiness Level (TRL) of CO₂ geological storage in the Czech conditions from TRL4 (technology validated in laboratory) to TRL5 (technology validated in relevant environment)
- for CO₂ storage, TRL5 means its validation by means of a pilot project in geological settings similar to possible future commercial storage sites

Project objectives

Secondary objectives:

(i) Assess the selected geological structure (a depleted oilfield) as a possible geological storage site for a research CO₂ storage pilot project, utilising the methodology according to the Czech national law No 85/2012 Coll. on the storage of carbon dioxide in natural geological structures;

(ii) Strengthen the Czech-Norwegian cooperation in the area of CO₂ geological storage and related research and development;

Project objectives

Secondary objectives:

- (iii) Test the methodology, procedures and criteria for description and assessment of a planned CO₂ storage complex as specified by the law No 85/2012 Coll. on the storage of carbon dioxide in natural geological structures under real conditions of a concrete storage site preparation;
- (iv) Perform geological modelling of the storage site and subsequent numerical simulation of CO₂ injection;

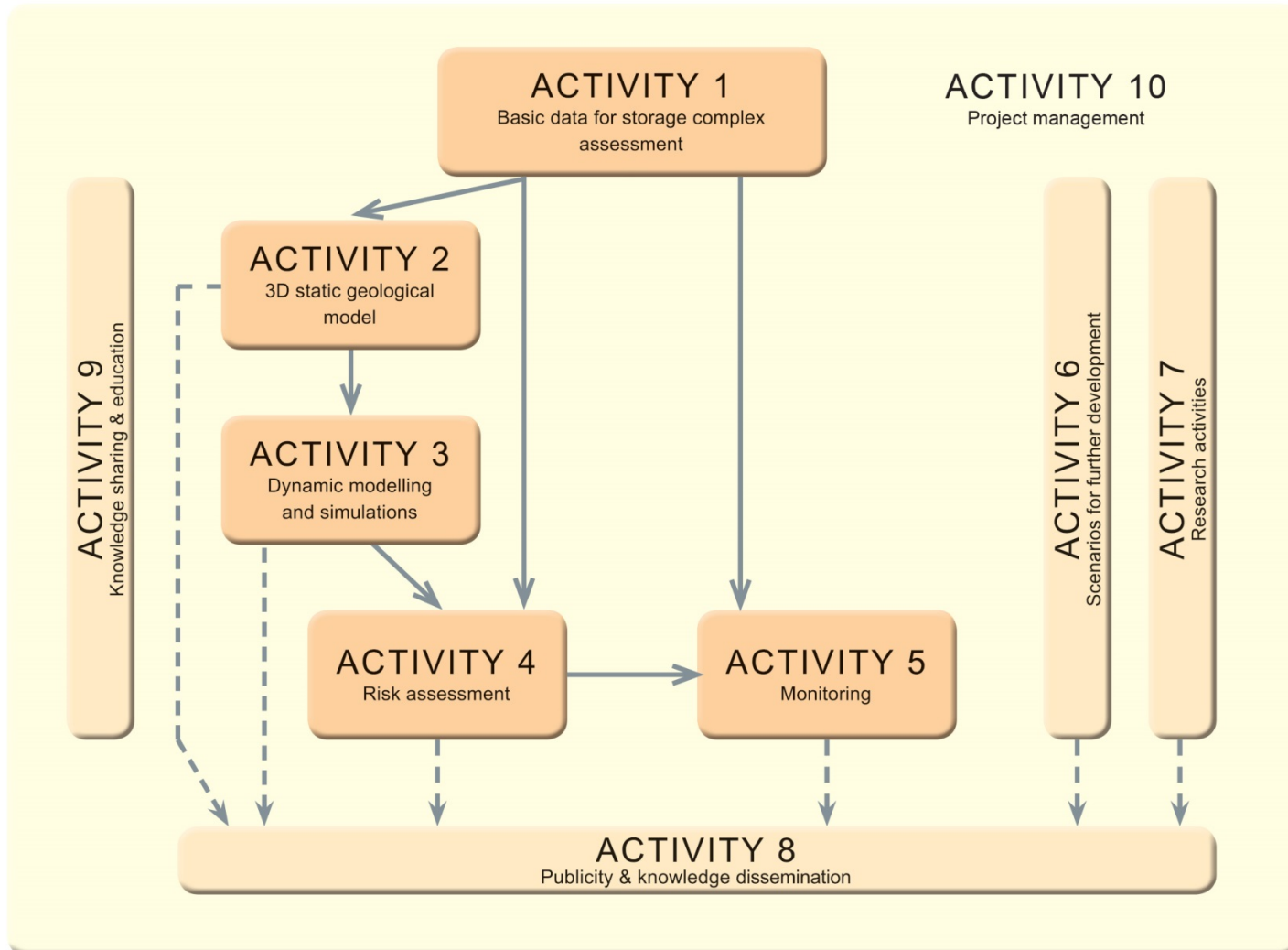
Project objectives

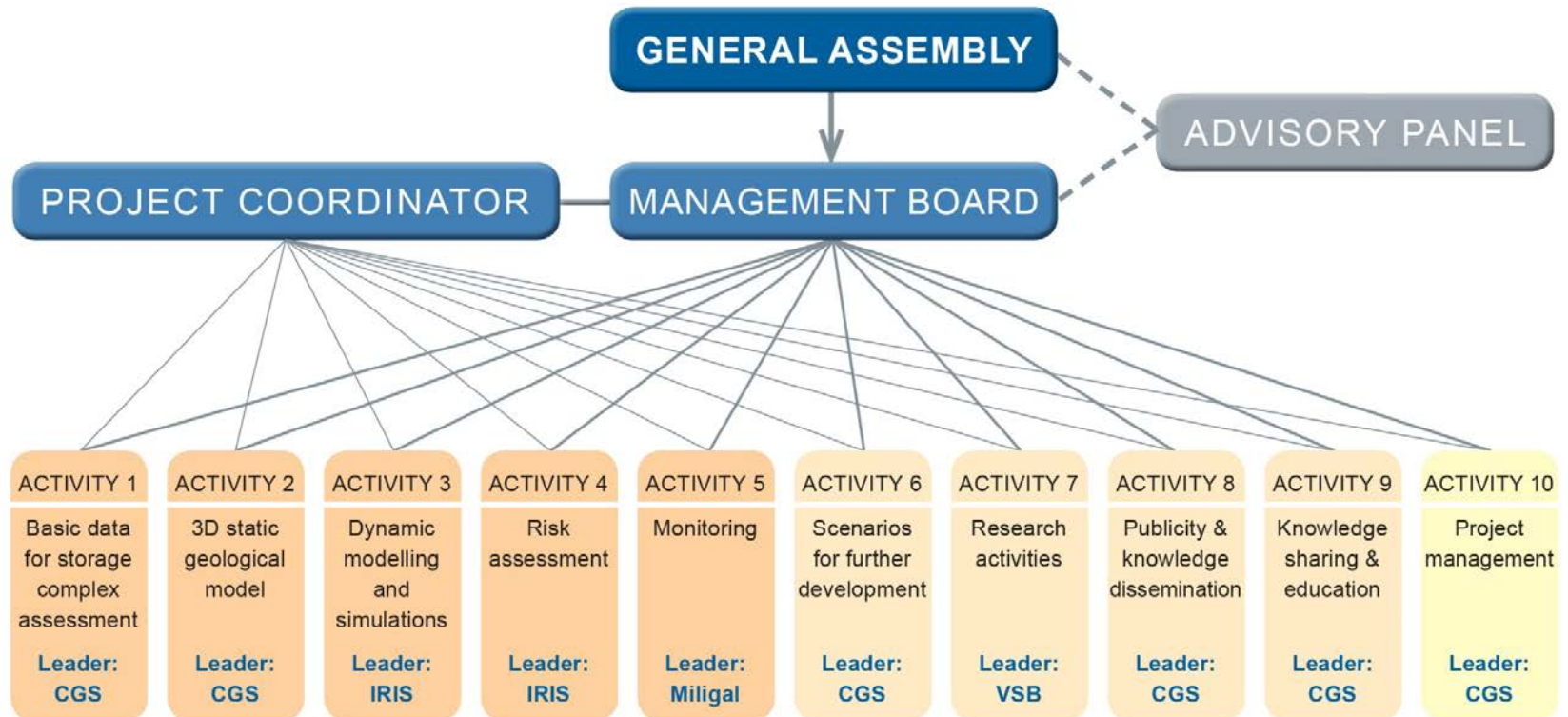
Secondary objectives:

(v) Perform a risk analysis of the storage site, including assessment of conflicts of interest, proposal of risk mitigation measures and compilation of storage site monitoring plan;

(vi) Newly assess the potential of the Carpathian rock formations in the area of the Czech Republic from the CO₂ storage point of view.

Project structure



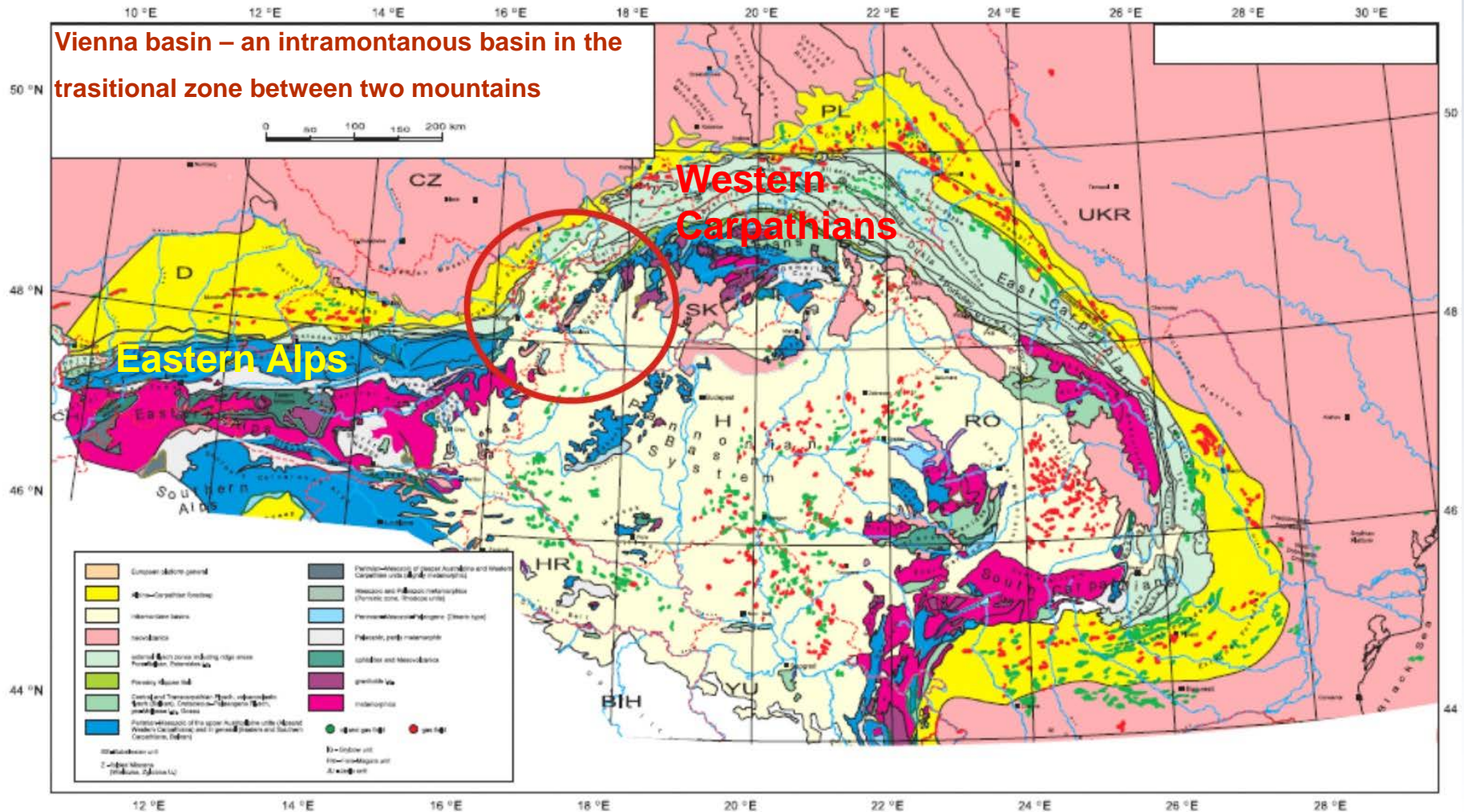


Project complexity

Team work, cooperation and keeping deadlines are essential:

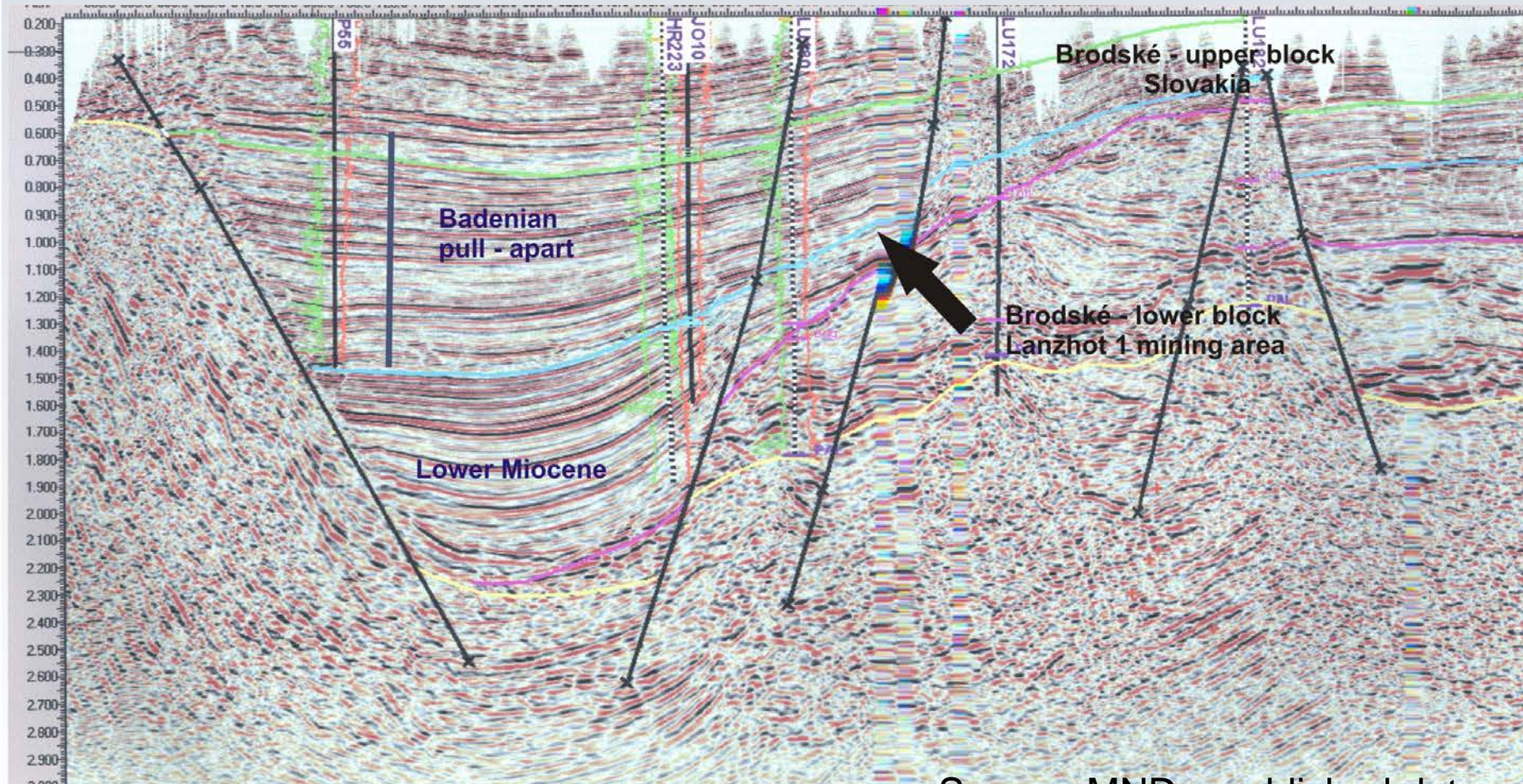
- 10 Activities
- 54 Tasks
- 109 researchers and technicians from 7 institutions
- CGS - 49 collaborators from 4 workplaces (Brno, Jeseník, Klárov, Barrandov)

General overview and distribution of oil and gas fields in the Circum Carpathian Region of Central Europe. (Golonka & Picha, 2006)



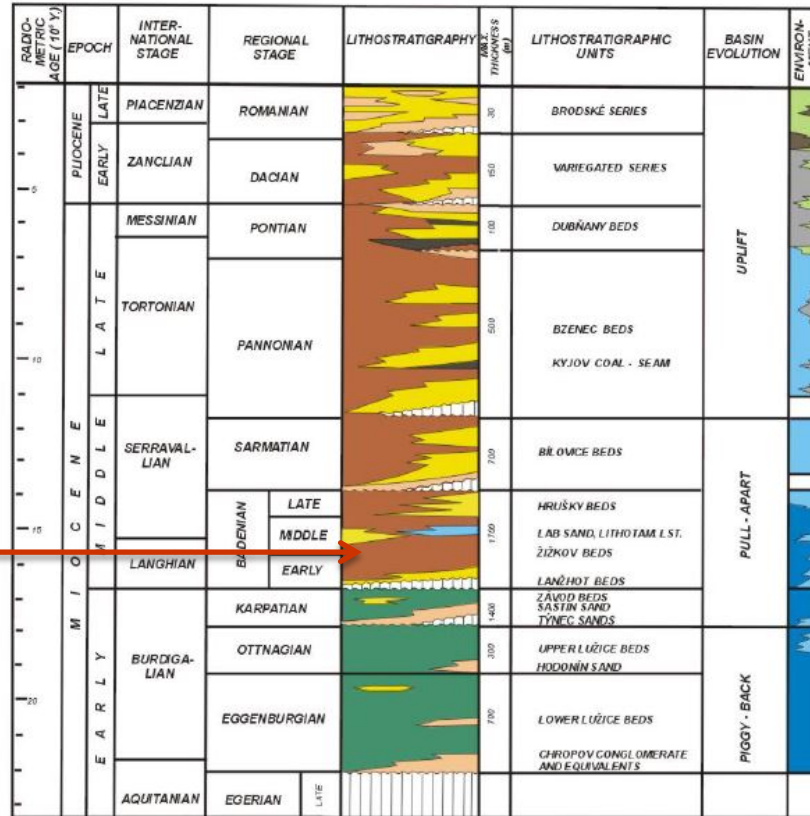
Example of a seismic line north of the LBr-1 oil field (depth section).

meters



Source: MND – published data

STRATIGRAPHY OF THE VIENNA BASIN (MORAVIAN PART)



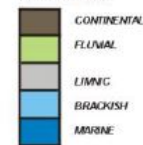
LBr-1 oil field

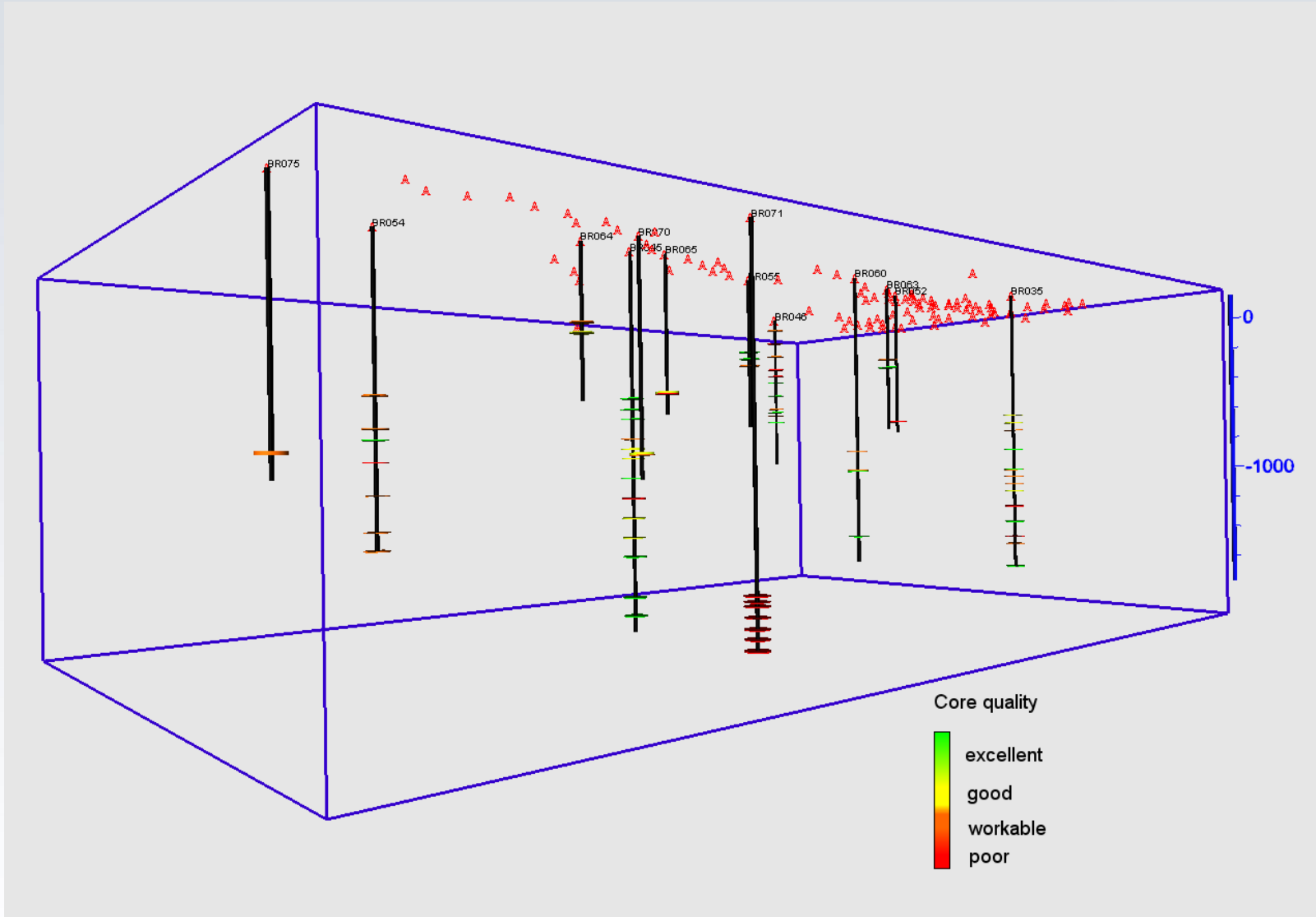


LITHOLOGY AND PALEONTOLOGY



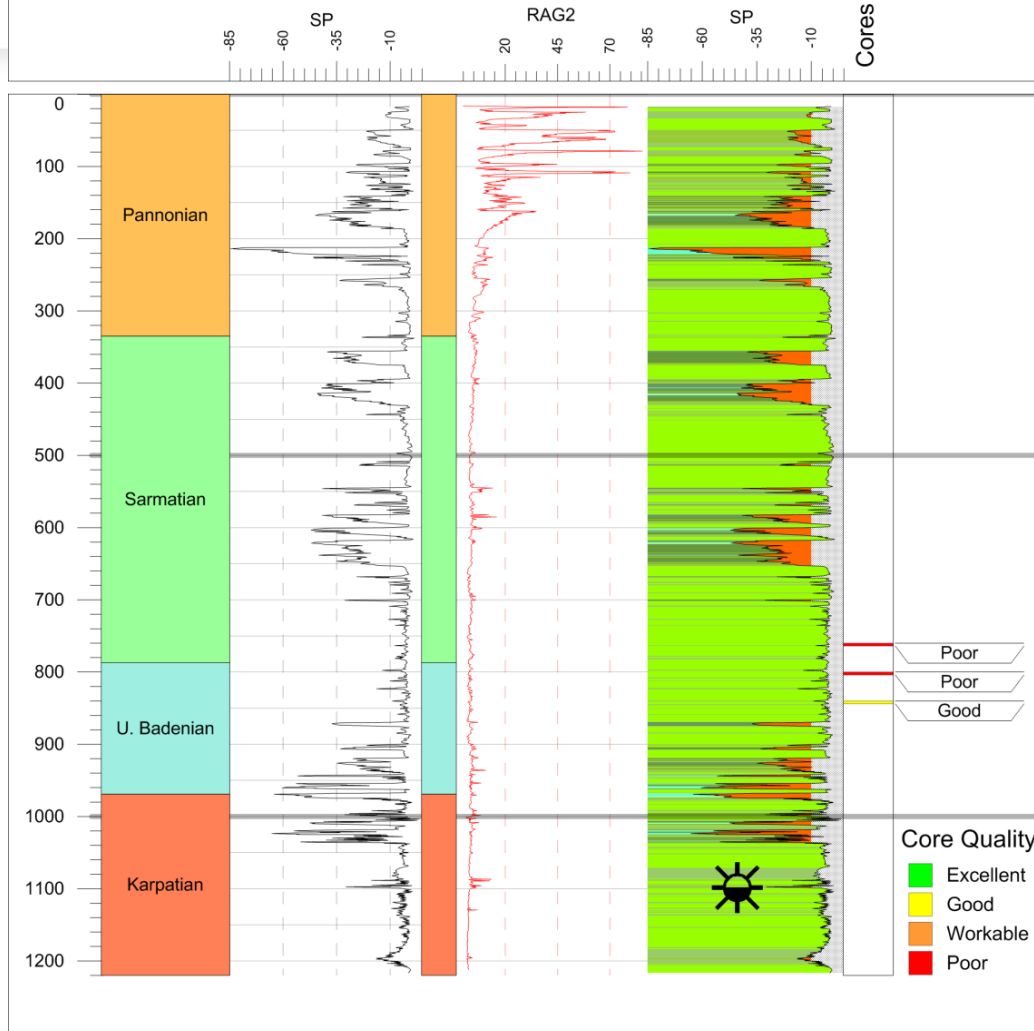
ENVIRONMENT



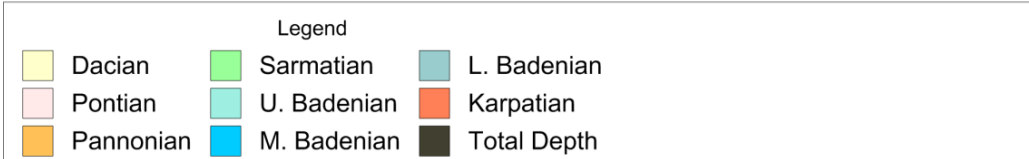


LB Wells

BR55



Example of processing of legacy well data for sequence stratigraphy analysis and building of geological model





Sustainability of results

- All data and project deliverables stored in the geodatabase for future use
- Activity 6 focused on broader aspects of storage site development
- Advisory Panel – increased knowledge of regulators and other stakeholders, more trust in CCS technology
- Inclusion of the Czech pilot site in a prepared European project (Horizon 2020)
- Strengthened professional capacity and knowledge of Czech partners
- Re-assessment of the storage potential of the Carpathians



www.geology.cz/repp-co2