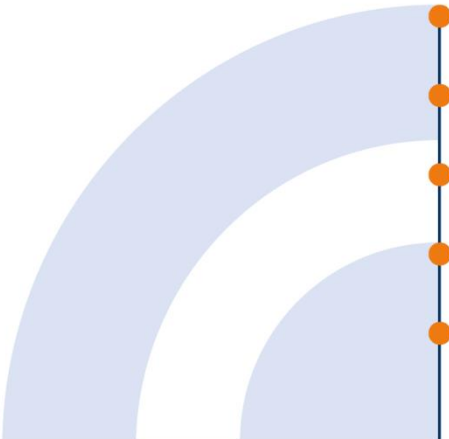




REGIONAL STUDY

OIL AND GAZ PROSPECT

DEEP GEOTHERMAL PROSPECT

UNDERGROUND STORAGE

HYDROGEOLOGY

Non exclusive hungarian seismic project

Reprocessing and interpretation
of 11 Regional Seismic
Transects (2214 km)



CDP Consulting and Geoinform propose a regional structural study of Hungary based on 11 seismic transects

These transects are created by reprocessing, harmonization and merge of approximately 200 seismic profiles of about 2214 km, recorded by petroleum operators between 1970 and 2000. Selected transects display basin wide regional geology, connect productive fields, significant wells and cross existing public domain 3D data sets.

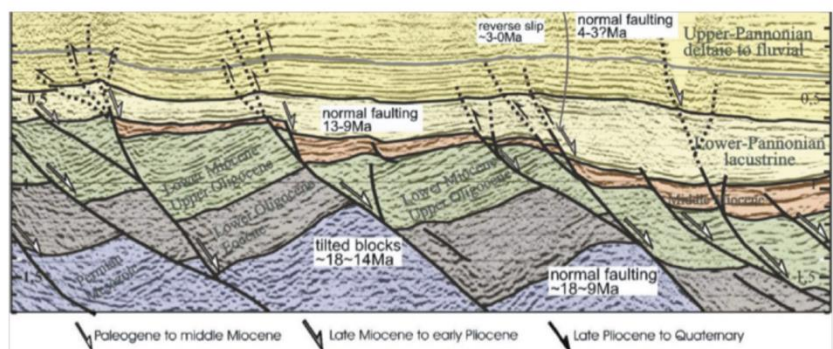
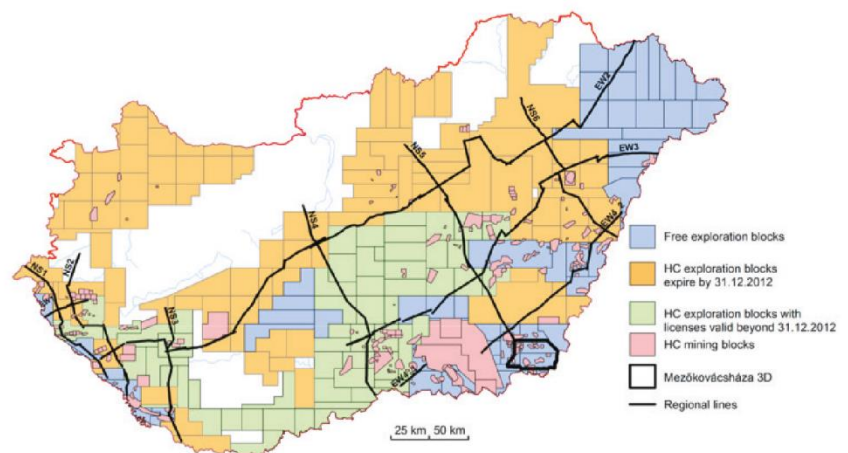
This 3D seismic data set is about 533 km²

An example of a large 3D seismic block (Mezőkovácsháza) is also provided to highlight the quality of the seismic acquisition and the reprocessing.

This study will interest you for :

- assessing conventional and unconventional potential for oil and gas of the Pannonian Basin
- exploring potential for geothermal resources
- preparation for upcoming major redistribution of the petroleum licenses

Example of interpreted 2D seismic line (Fodor et al. 2005)



Reprocessing sequence

The original field data are gathered for 200 individual profiles of 11 regional lines, from the very start. Each line requires 12 iterations in order to obtain the final version.

The reprocessing sequence includes :

Pre-stack processing steps :

- Geological static corrections computation
- SEG-Y data transfer on disk, sweep correlation
- Amplitude recovery, spherical divergence correction
- Residual static corrections, using refraction methods
- Medium to long wave length residual static corrections by stack optimization and cross correlation
- Deconvolution
- Velocity analyses
- Mute

Post-stack processing steps :

- Band pass filtering
- Correlation operator computation, in order to merge lines
- Interpretation of the regional lines with new CDP distance
- FX domain time migration

Interpretation

The interpretation includes seismic/well calibration using available data on wells located along the seismic profiles.

Interpreted horizons are:

- Base upper Pannonian
- Base lower Pannonian
- Top of Pre-Cenozoic basement

DELIVERABLES

The regional seismic profiles will be delivered in reprocessed and interpreted versions, but also in paper and digital formats.

Reprocessed version of the 11 transects and one optional 3D data set will be delivered:

- On SEG-Y files directly loadable on a work station
- On 2 sets of paper copy and 1 reproducible version on a regional scale (horizontal 1/100 000, vertical 10 cm or 5 inch/second)

The interpreted version of the 11 transects will be delivered:

- On TIFF or JPEG file format
- On 1 paper copy on a regional scale (horizontal 1/100 000, vertical 10 cm or 5 inch /second)

HYDROCARBON EXPLORATION IN HUNGARY

3 main oil provinces:

- **In the West** (on the Croatia and Slovenia borders), where the first discovery occurred in 1937 in Budafa, the oil exploration focuses on Miocene and the Pannonian.
- **In the South** (on the Serbia border), the exploration focuses on the Pannonian, Miocene, Triassic and Permian formations and also in the metamorphic basement. (ex: ALGYO field, 500 million barrels as recoverable reserve).
- **In the North** (on the Slovakian border) with small discoveries at shallow depth (from 70 m to 400 m).

Some key-numbers

9 000 wells

121 000 km
2D seismic lines

15 481 km²
3D seismic area

FINANCIAL CONDITIONS

The complete package will be available in 2017.

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