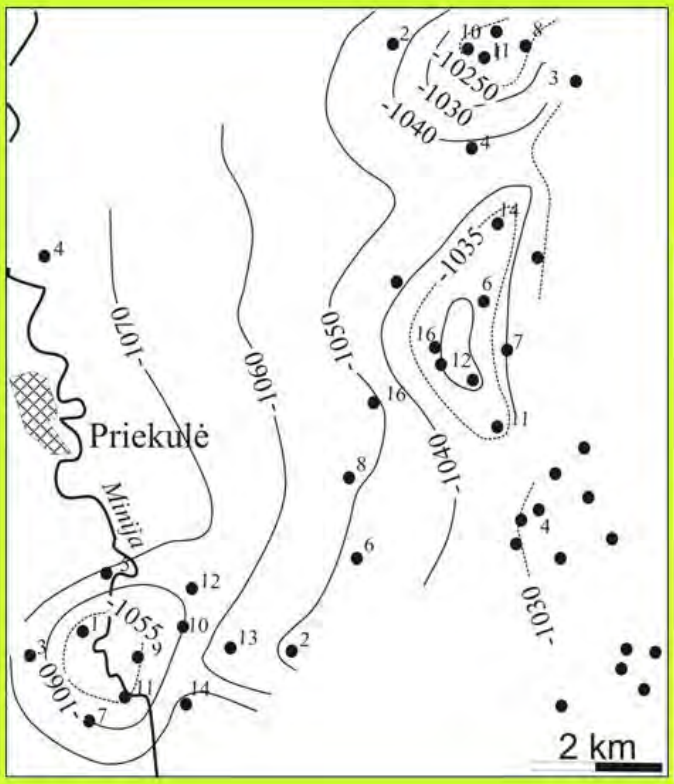
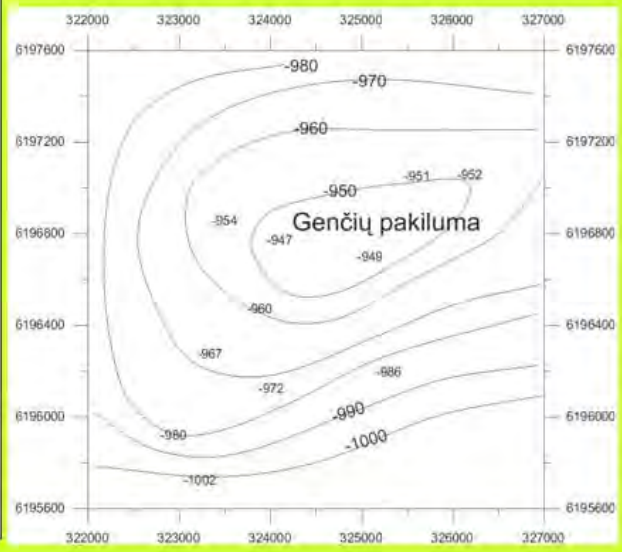
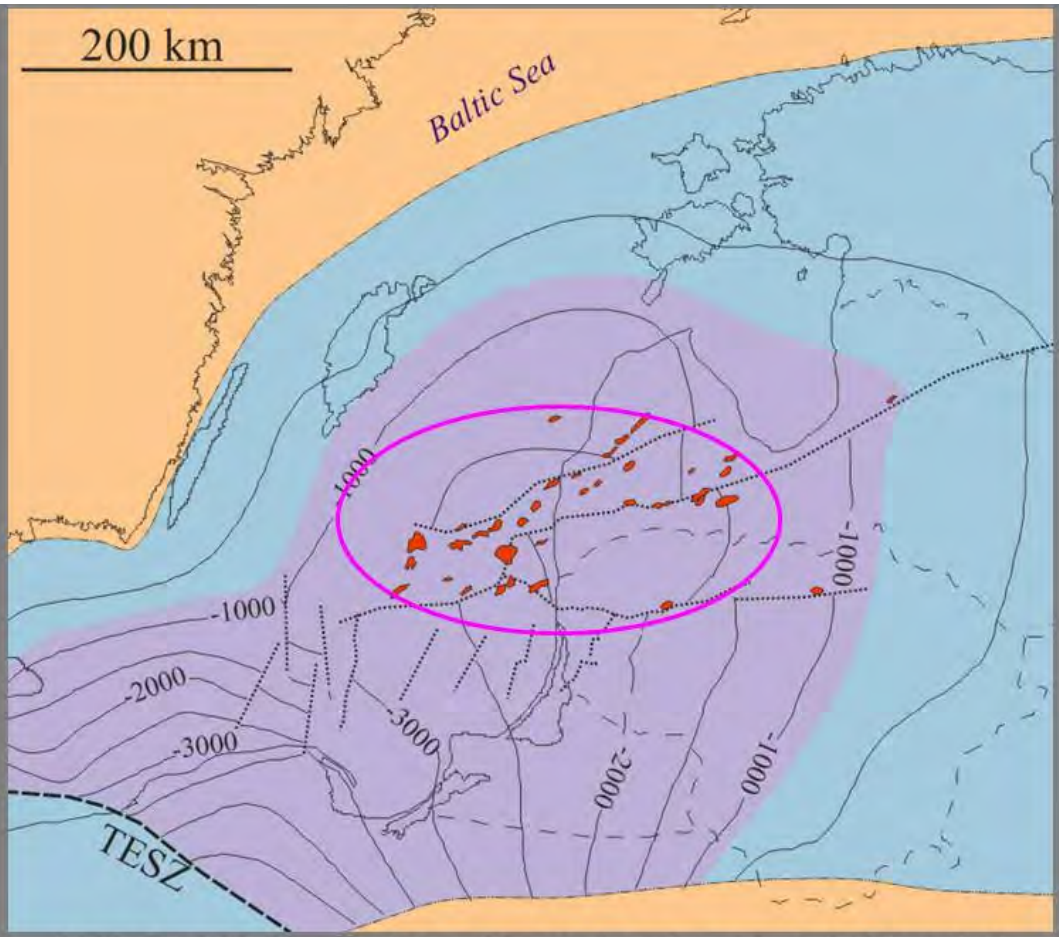
Gargzdai area

Structural map of top of D1 reservoir, west Lithuania



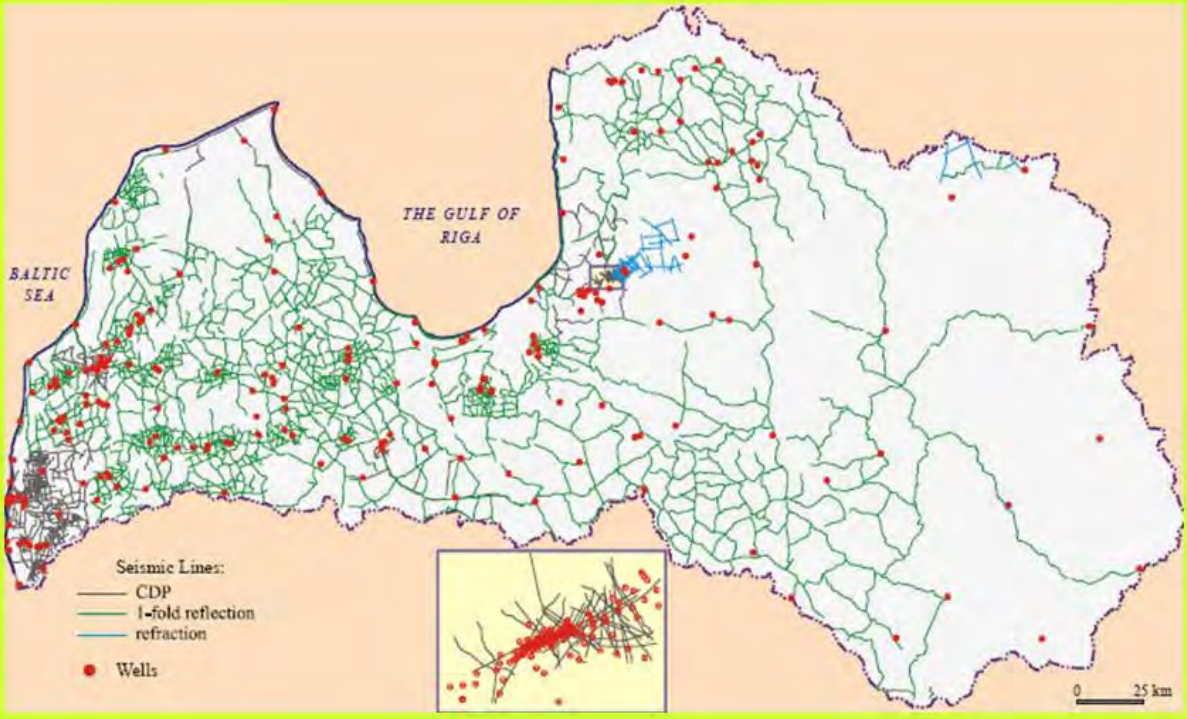
Structures are of very low amplitude (dozen meters)



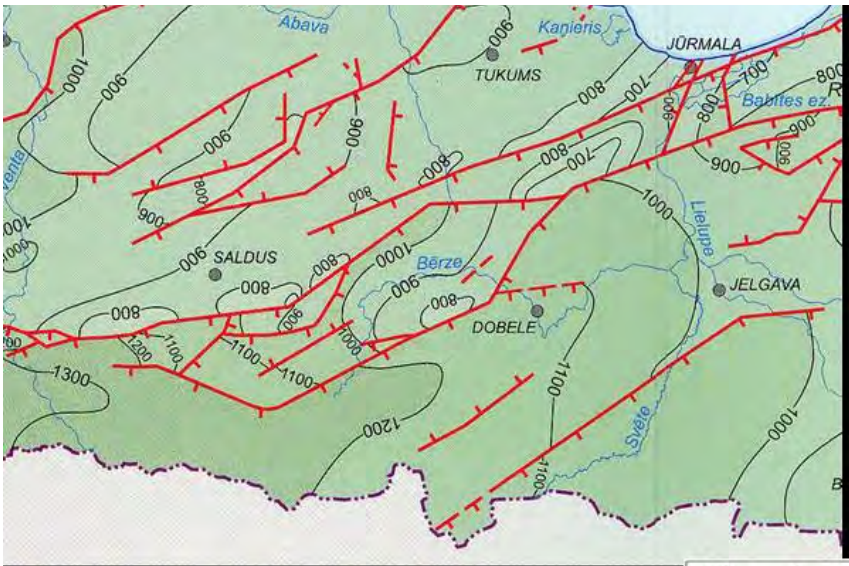


Major Cambrian aquifer saline water structures (34 in total)

Tectonic structures potential for CO2 storage, Latvia

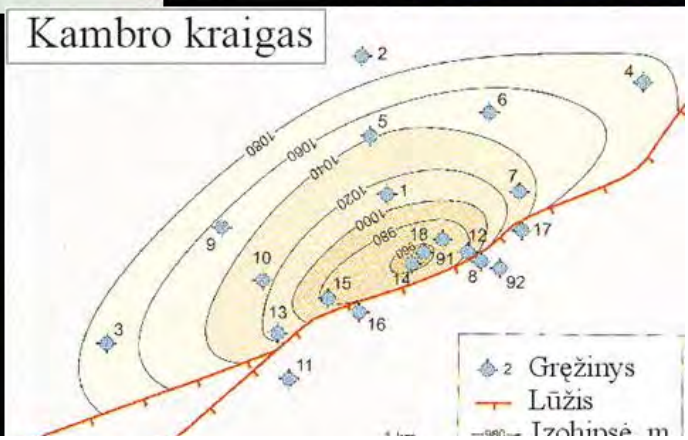


Seismic coverage of the Latvian territory. Green is one-fold reflection, blue – refraction, black – CDP

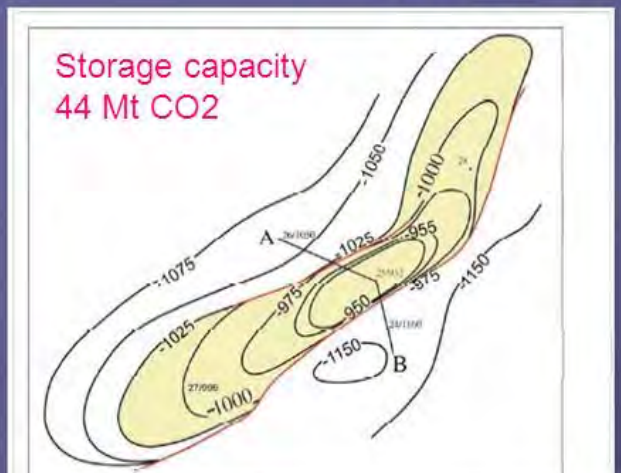


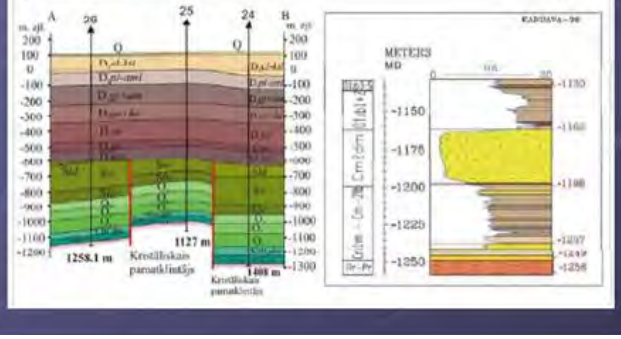
Dobele structure

Tectonic Map of central Latvia



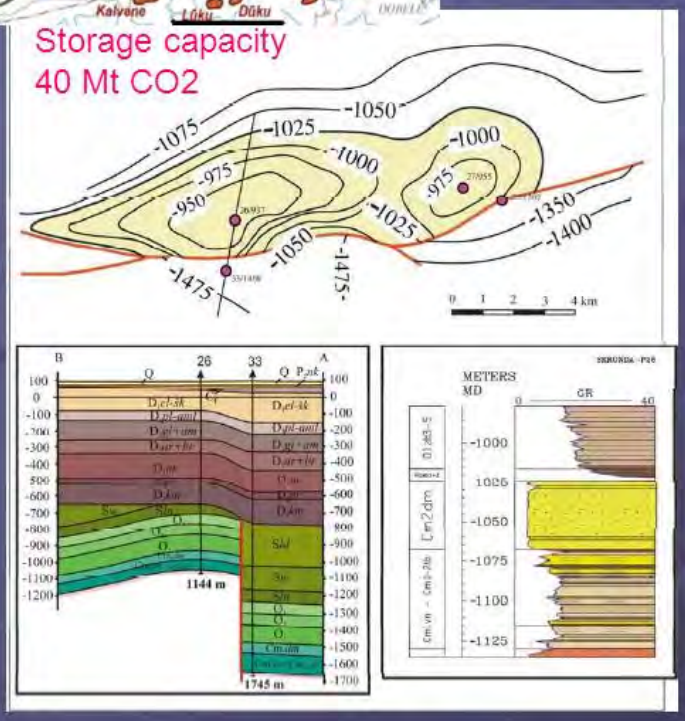
South Kandava





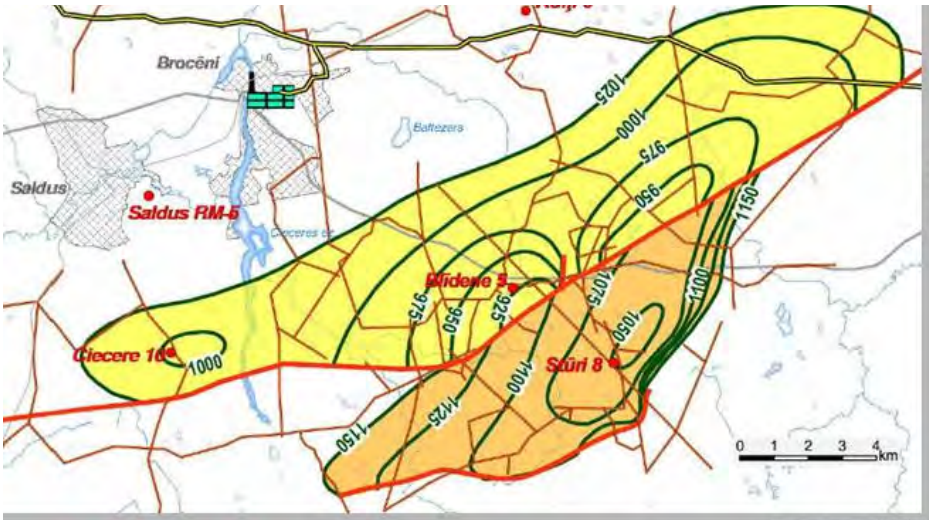
- These structures were determined by seismic investigations and studied by four (Luku-Duku) and five (South Kandava) boreholes.
- South Kandava is brachyanticlinal fold structure of north-eastern stretching located in the centre of Latvia.
- The south-eastern and north-western flanks of the brachyanticlinal fold are bounded by faults.
- Its area is about 69 km2, thickness of reservoir is 25-36 m.
- The top of reservoir rocks represented by sandstones of the Middle Cambrian Deimena Formation located at the depth of 1053 m. They covered by argillaceous rocks of Lower Ordovician Zebrus Formation.

Luku-Duku



- Luku-Duku (Figure 3.6) is situated within the tectonically dislocated zone Saldus-Sloka-Inčukalns high. The Luku-Duku local high is near-fault brachyanticlinal fold. Its area is about 50 km2, thickness of reservoir rocl is 45 m, their top depth is 1024 m. Reservoir rocks are represented by sandstones of Middle Cambrian Deimena Formation. They covered by argillaceous rocks of Lower Ordovician Zebrus Formation.

Sink name	Luku-Duku	S.Kandava
Depth (m) (from the earth surface)	1024	1053
Current reservoir pressure (bar)	113	114
Maximum reservoir pressure (bar)	155	156
Reservoir radius (km)	8	5
Trap radius (km)	8	5
Reservoir thickness (m)	45	28
Porosity (%)	22	20
Net-gross *(aquifers only)*	0.8	0.8
Reservoir temperature (°C)	19	11
Permeability (mD)	>200-300	300
Well radius (m)	0.15	0.15
Storage capacity ($MtCO_2$)		
in Geocapacity database	40.2	44
Well injection rate (Mt/yr)	2	2
Storage efficiency factor (%)		
Aquifers : fraction of		
▪ *available total pore space*	40	40

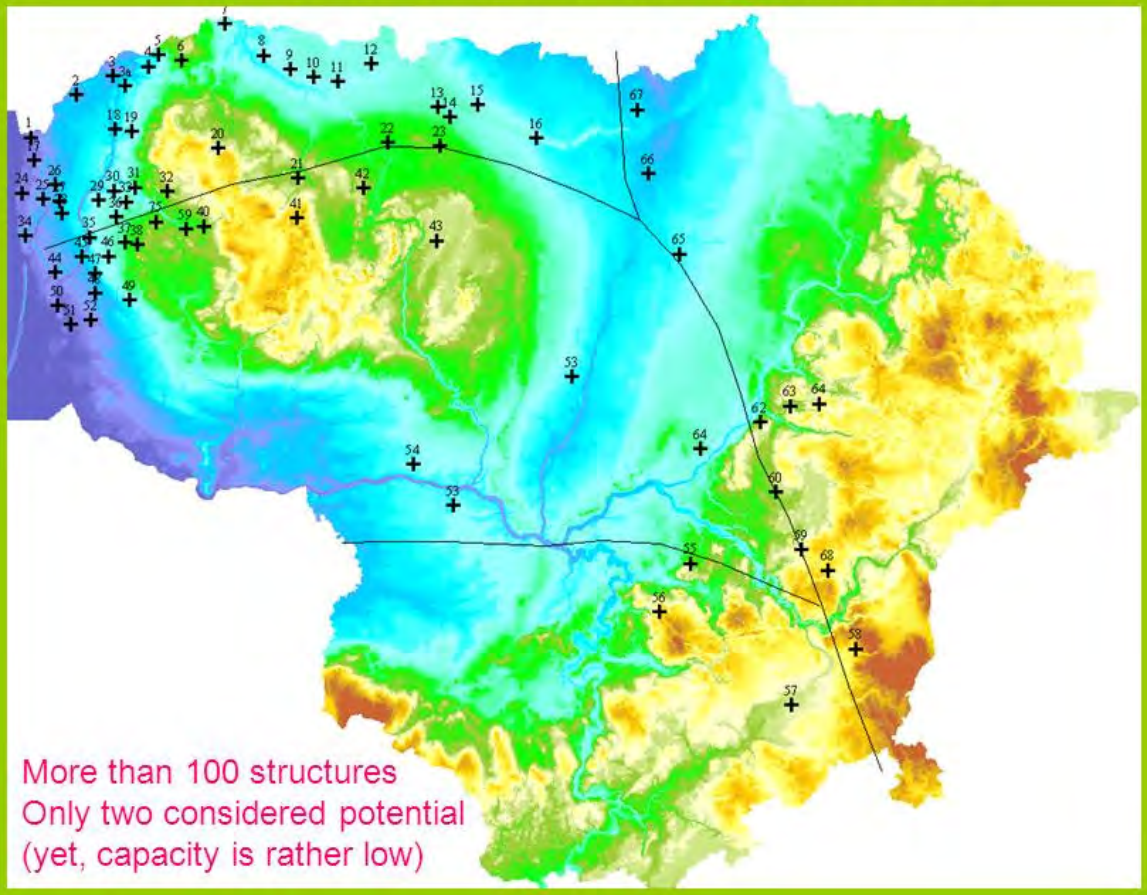


. Blidene and North Blidene structures, top of Cambrian

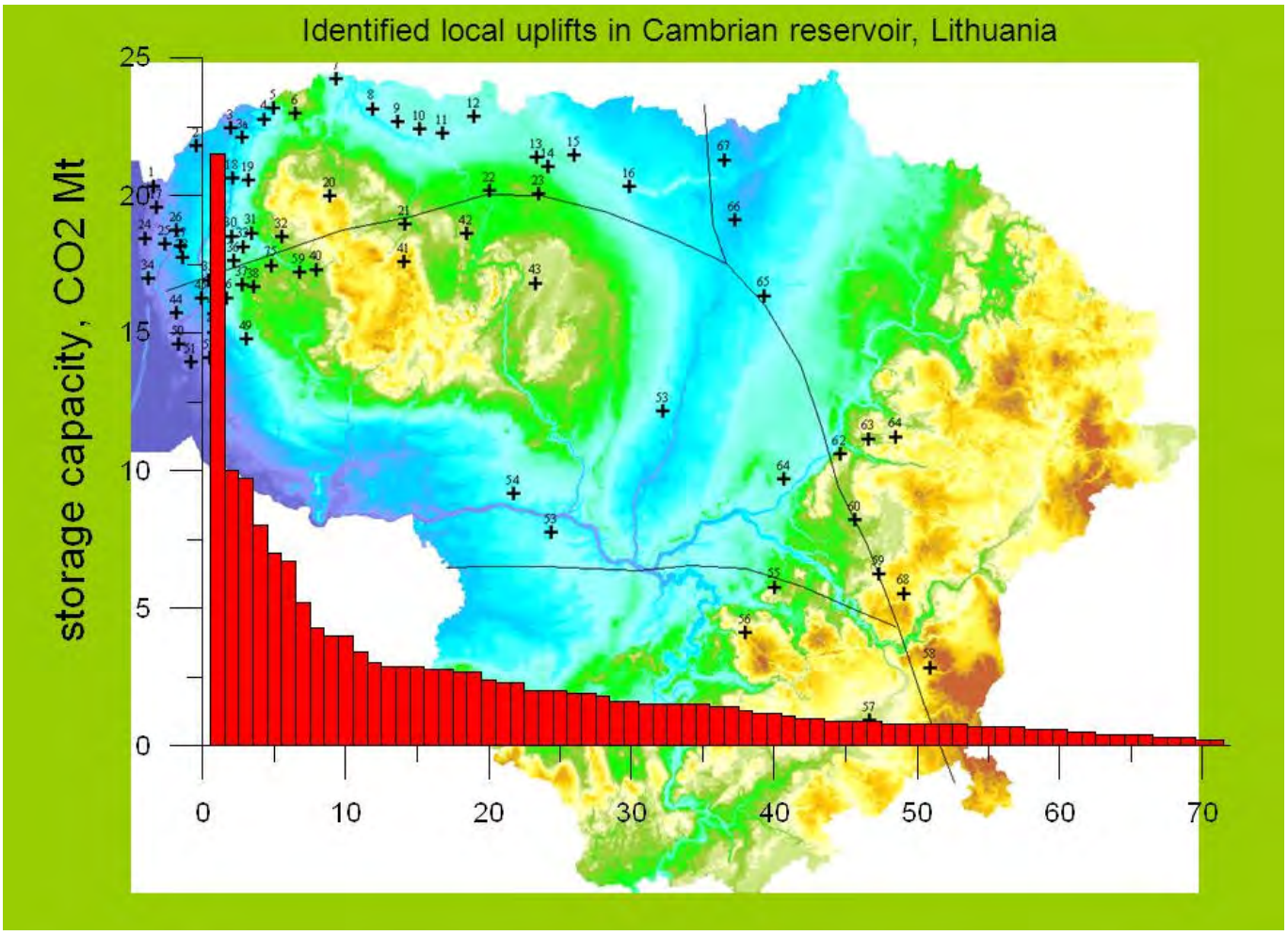
Storage capacity
58+74 Mt CO2

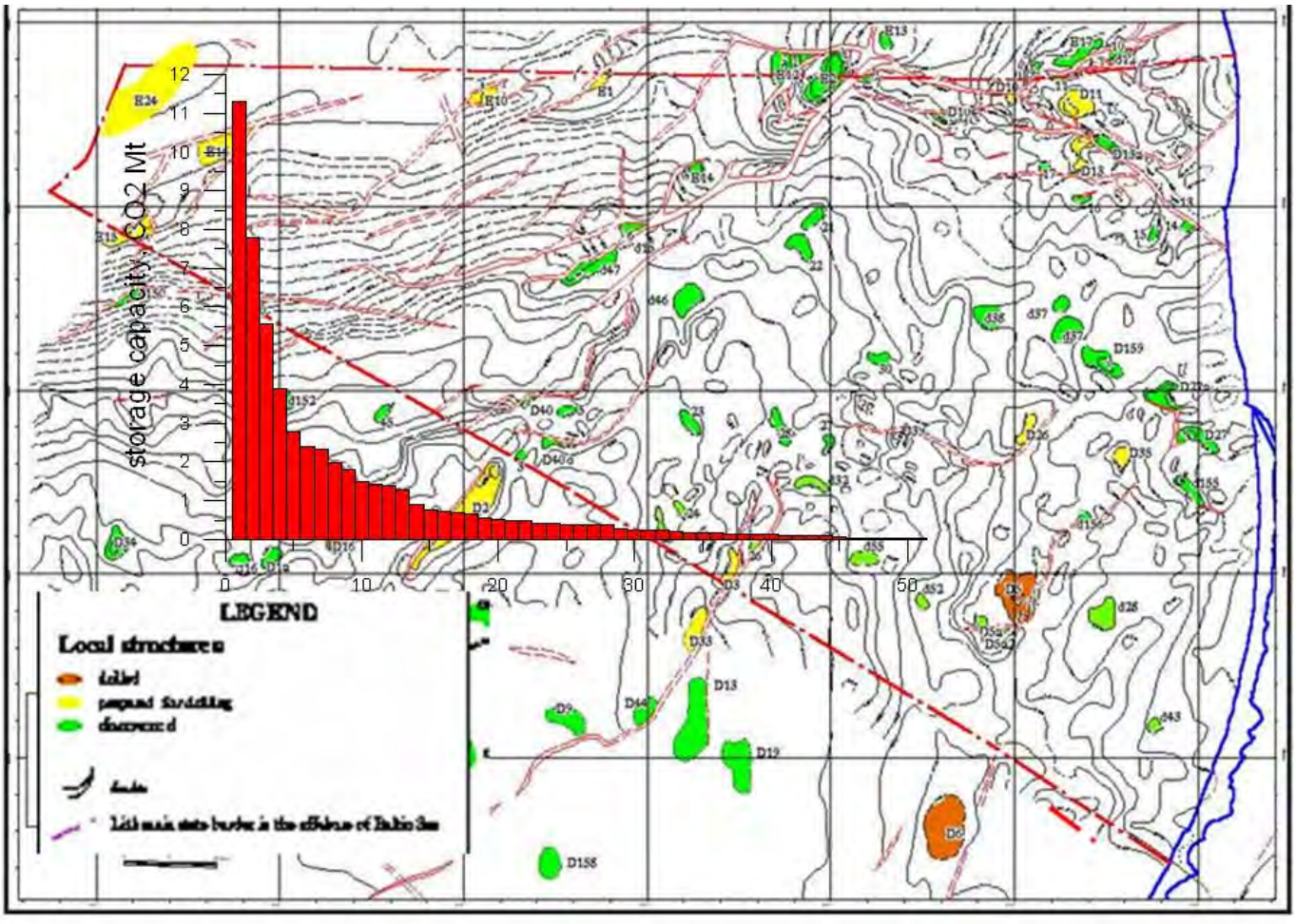
Lithology of Cambrian of well Blidene-5

Identified local uplifts in Cambrian reservoir, Lithuania



More than 100 structures
Only two considered potential
(yet, capacity is rather low)


Identified local uplifts in Cambrian reservoir, Lithuania
storage capacity, CO2 Mt
25
20
15
10
5
0
0
10
20
30
40
50
60
70


storage capacity, CO2 Mt
12
11
10
9
8
7
6
5
4
3
2
1
0
0
10
20
30
40
50
LEGEND
Local structures

Syderiai uplift,
West Lithuania

Storage capacity 22 Mt CO2

Excellent cap rock
Good reservoir properties
Favorable depth