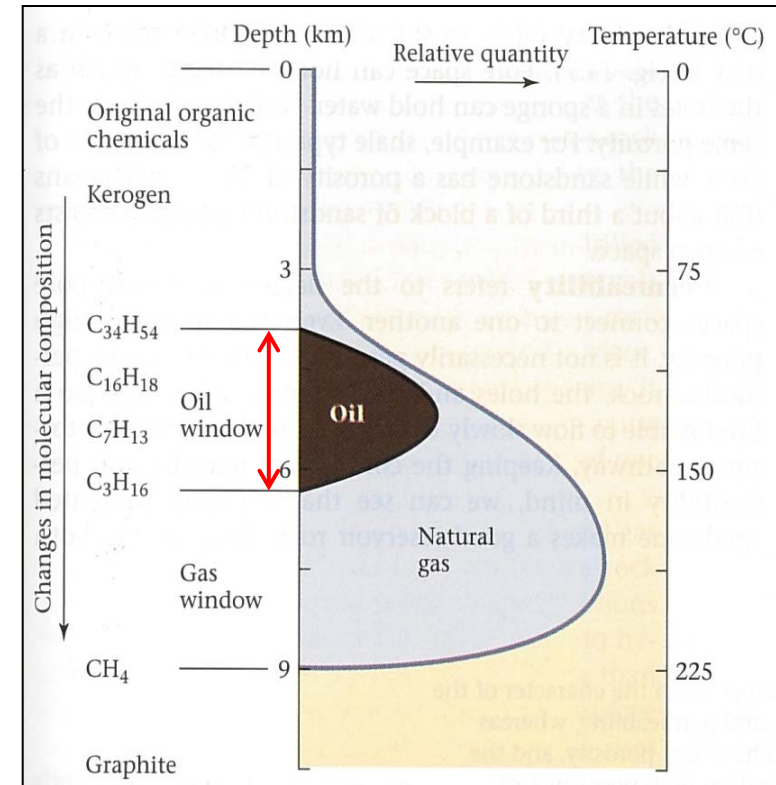
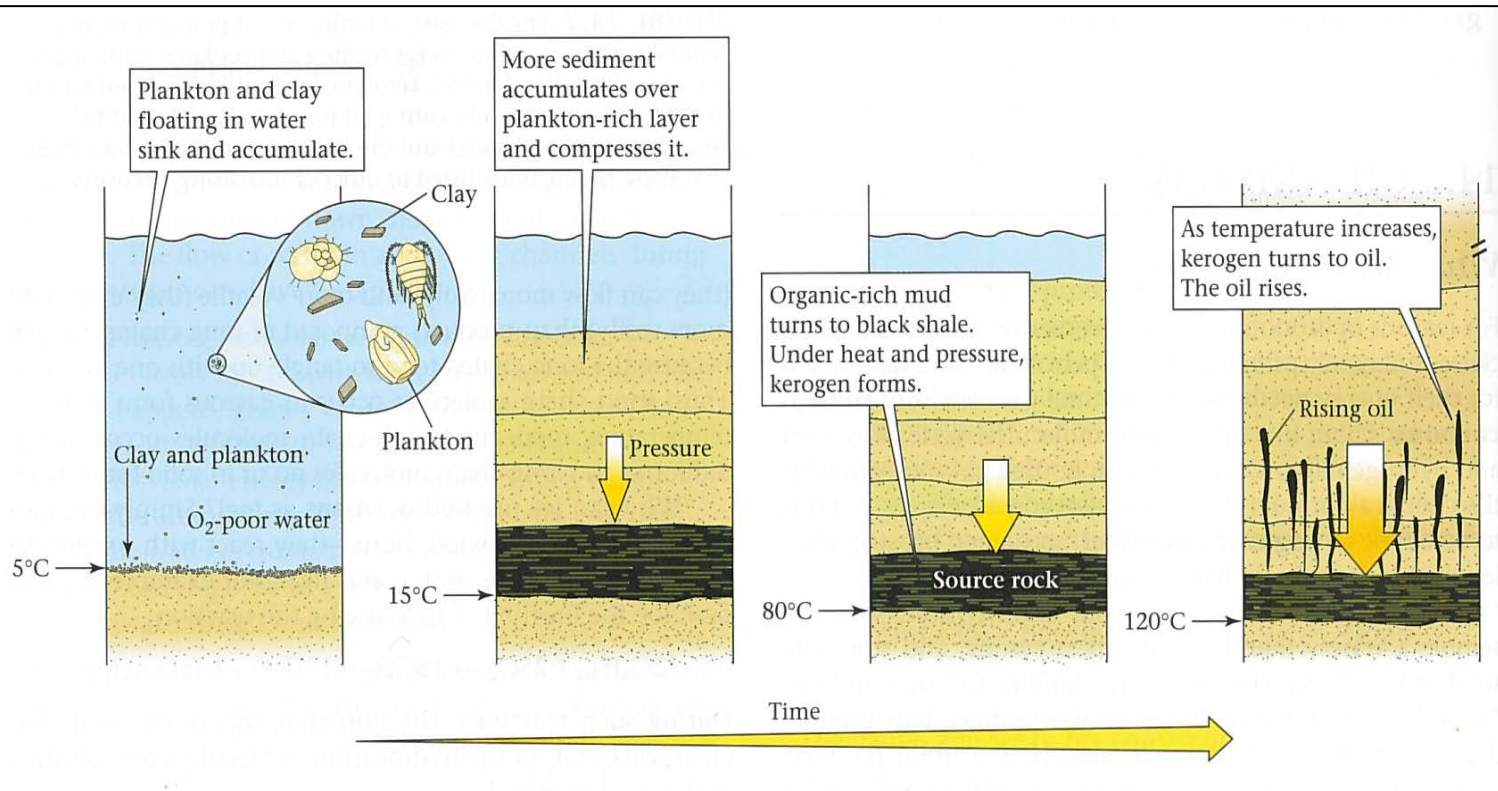


Oil Generation (dannelsen av olje)



A source rock must be heated between 80 – 150°C such that petroleum can be generated.

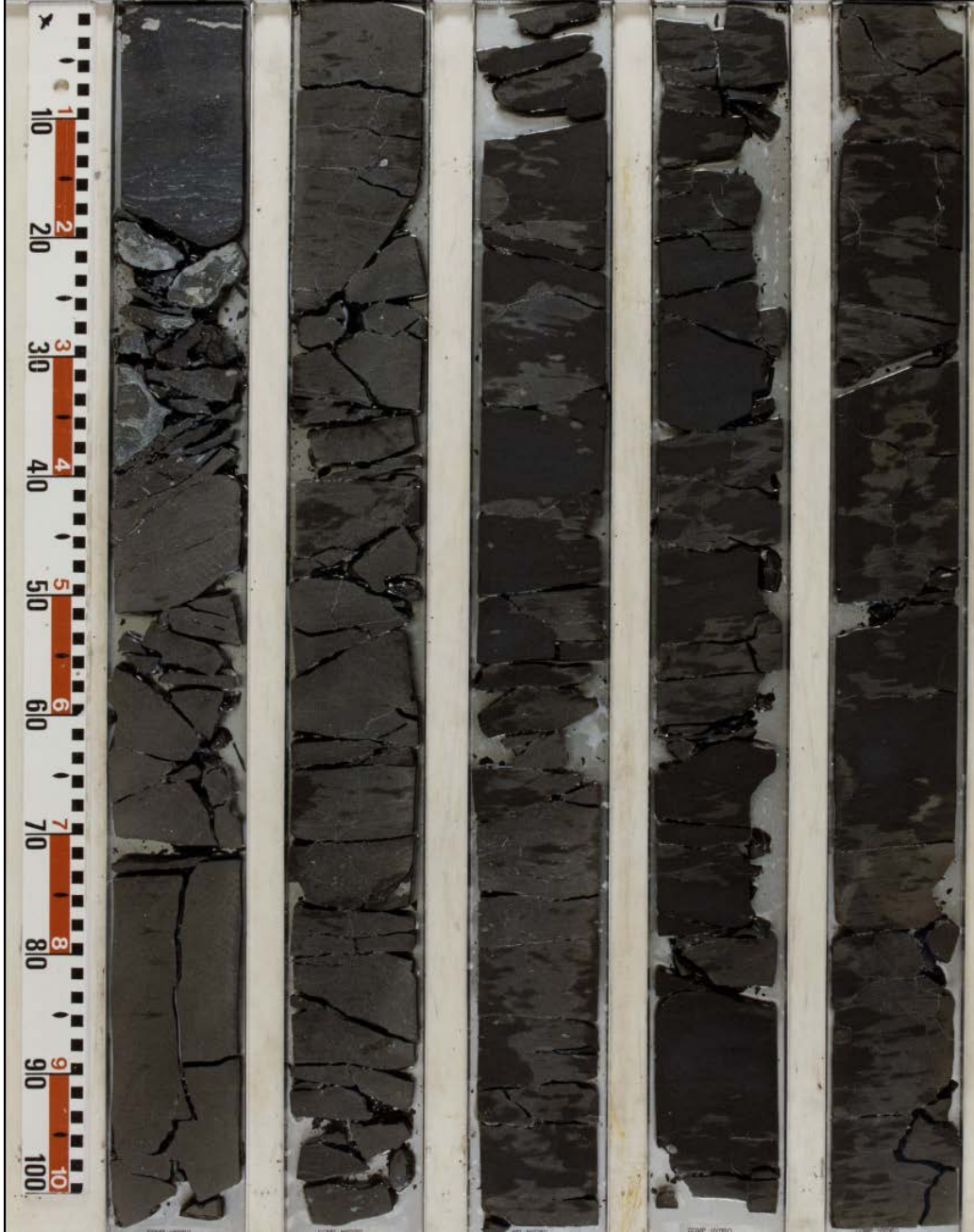
This temperature range is called the **OIL WINDOW**. If a source rock is not in this temperature window then no oil is generated.

The first step in exploration for oil is to determine if a potential source rock has been buried into the oil window.

HYDRO 30/9-14

CORE 1

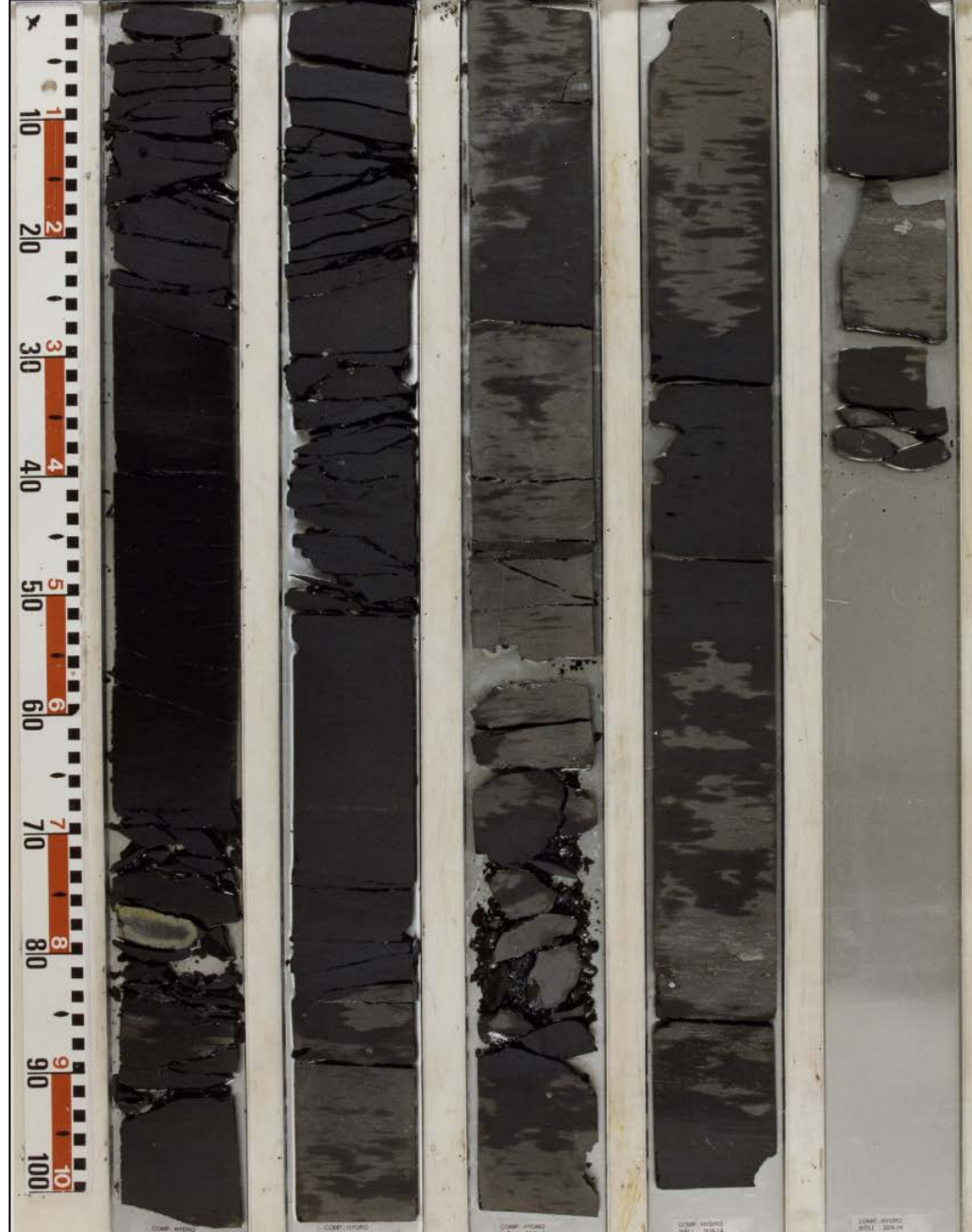
T. 2973.00	T. 2974.00	T. 2975.00	T. 2976.00	T. 2977.00
B. 2974.00	B. 2975.00	B. 2976.00	B. 2977.00	B. 2978.00

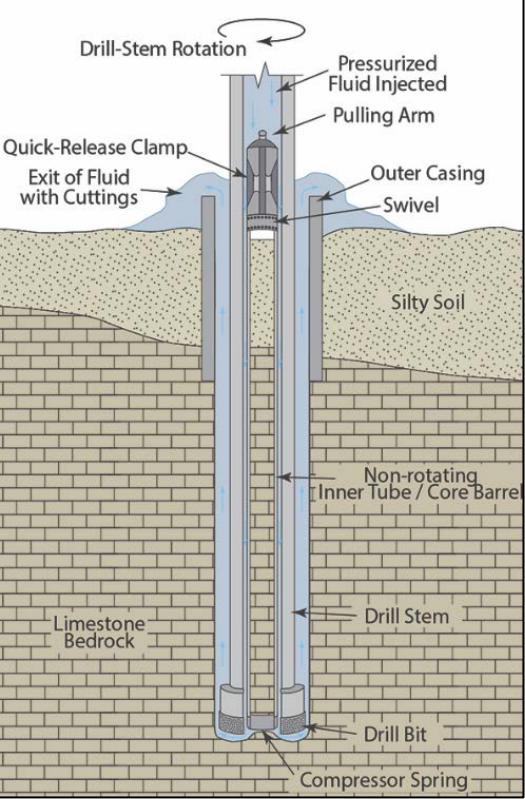


HYDRO 30/9-14

CORE 2

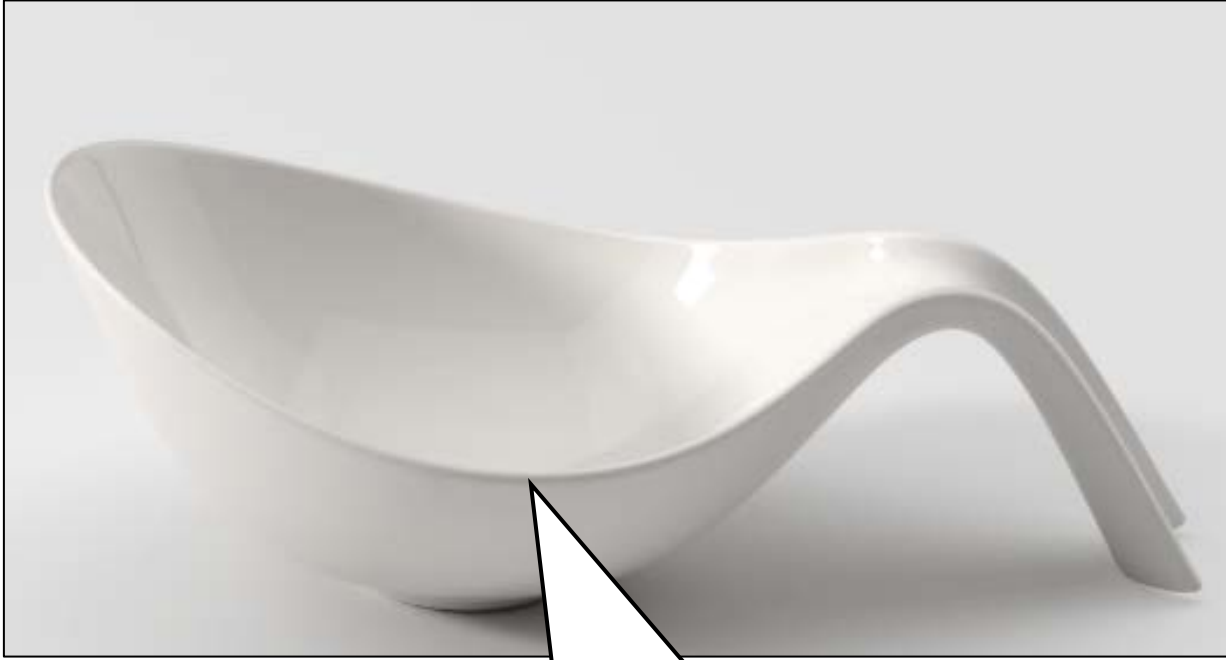
T. 2981.00	T. 2982.00	T. 2983.00	T. 2984.00	T. 2985.00
B. 2982.00	B. 2983.00	B. 2984.00	B. 2985.00	B. 2985.40



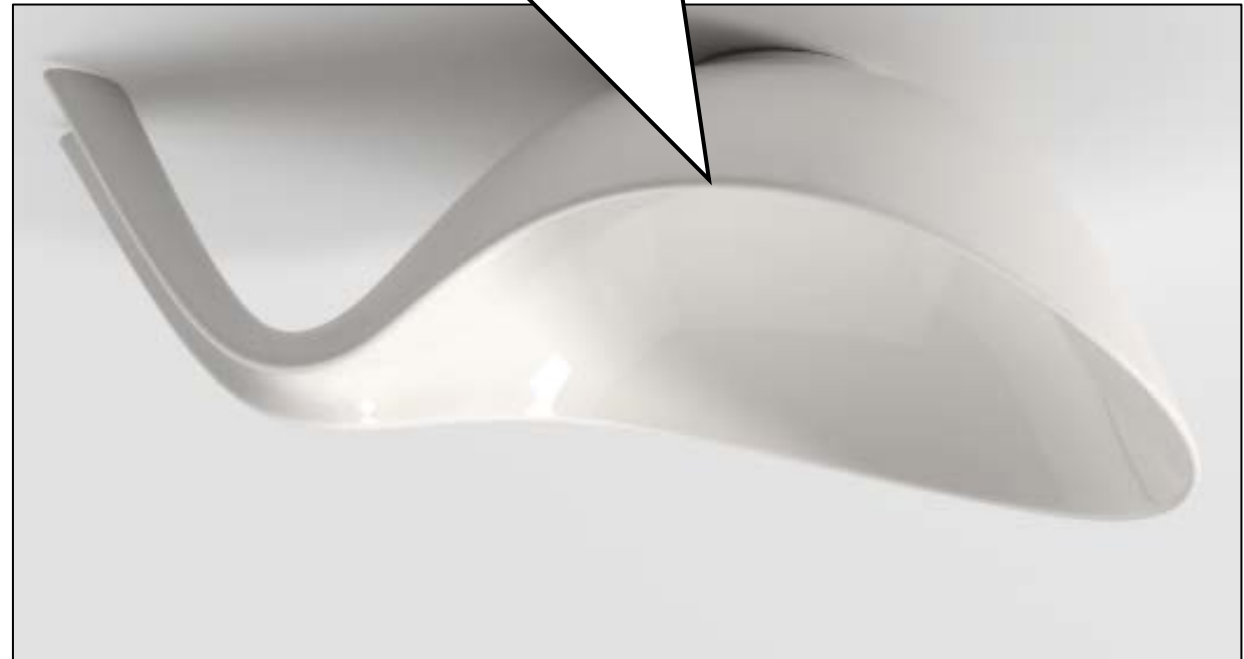


**Hvordan strømmer oljen til en felle?
Og hva er egentlig en "felle"?**

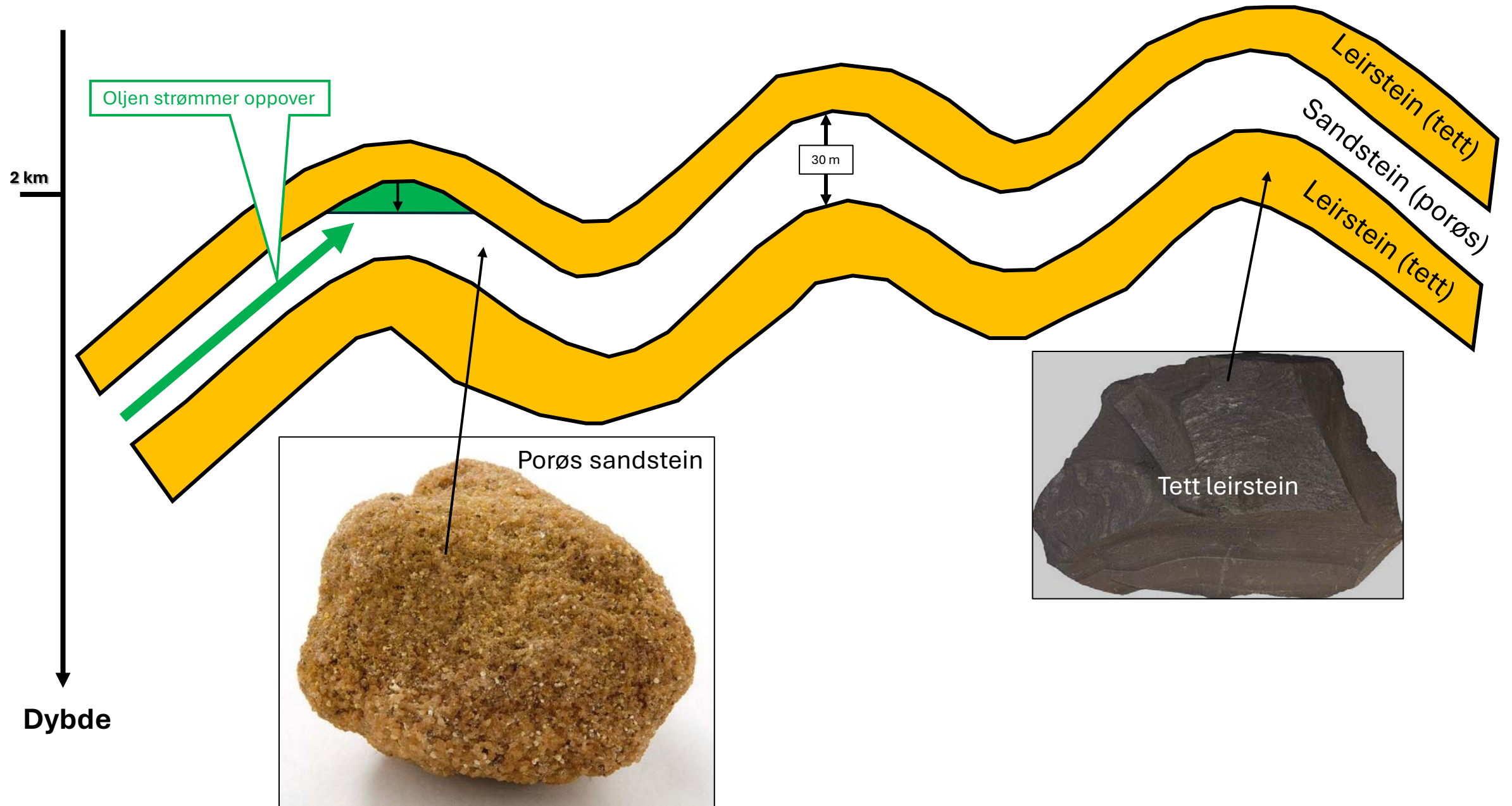
Hva er en spill punkt?

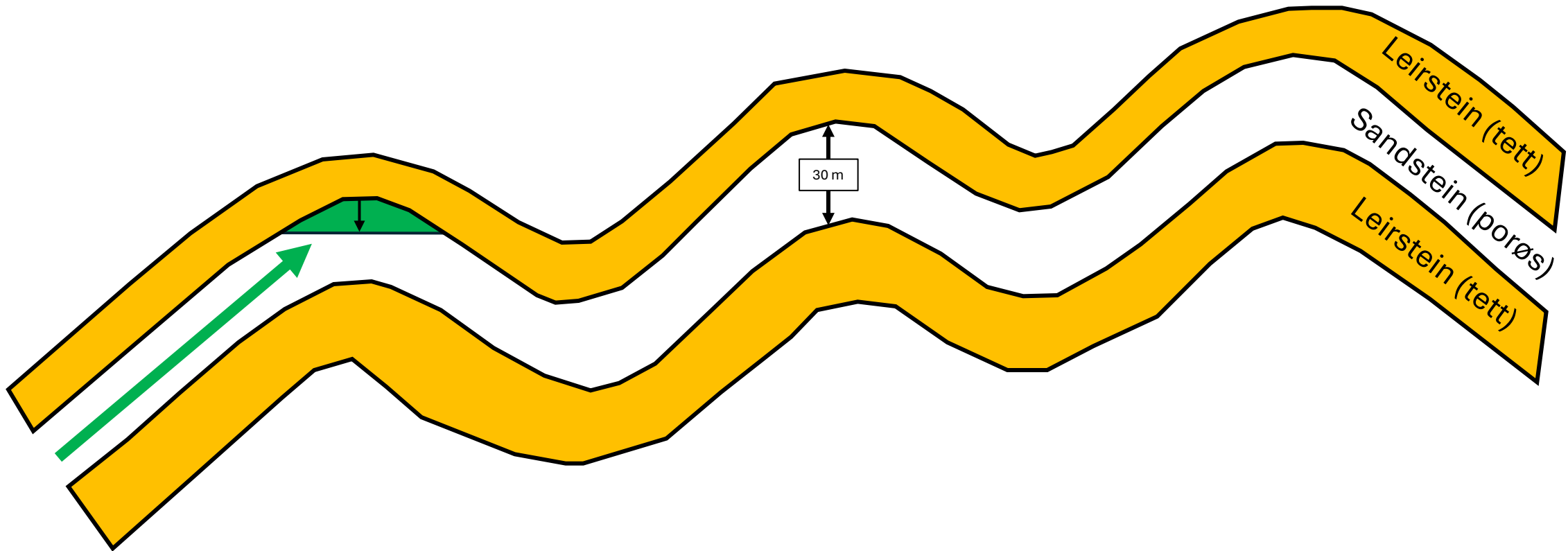


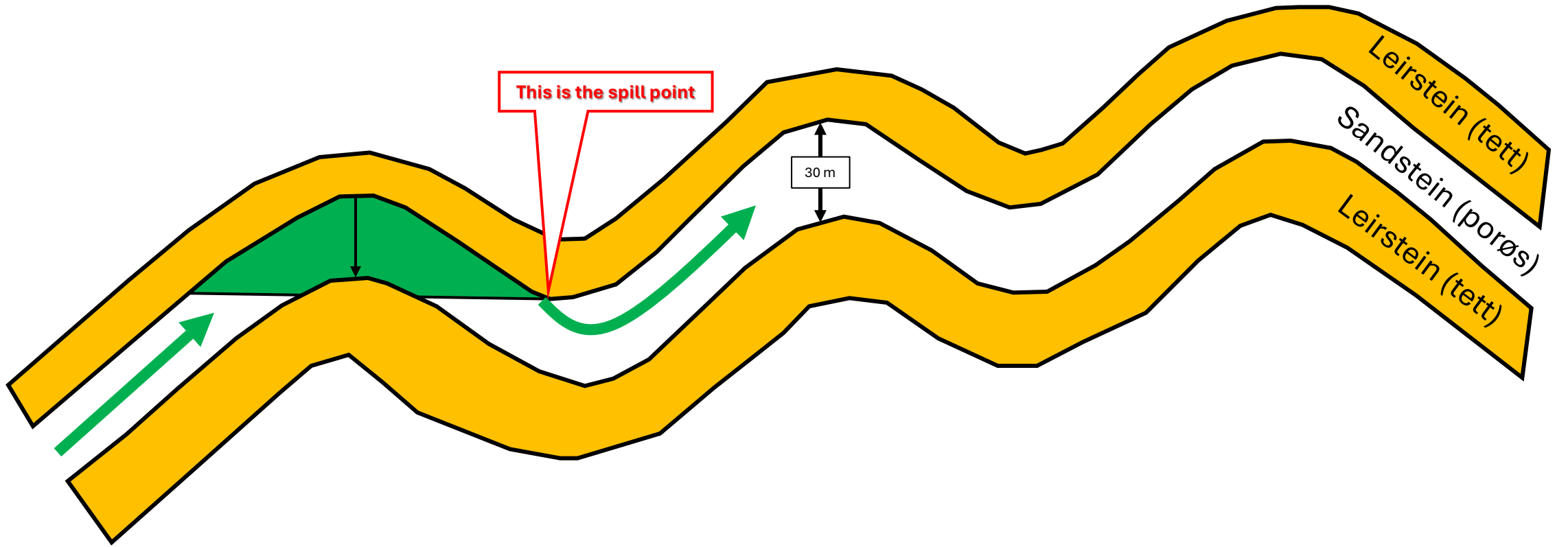
Opp til dette punktet kan bollen fylles med suppe

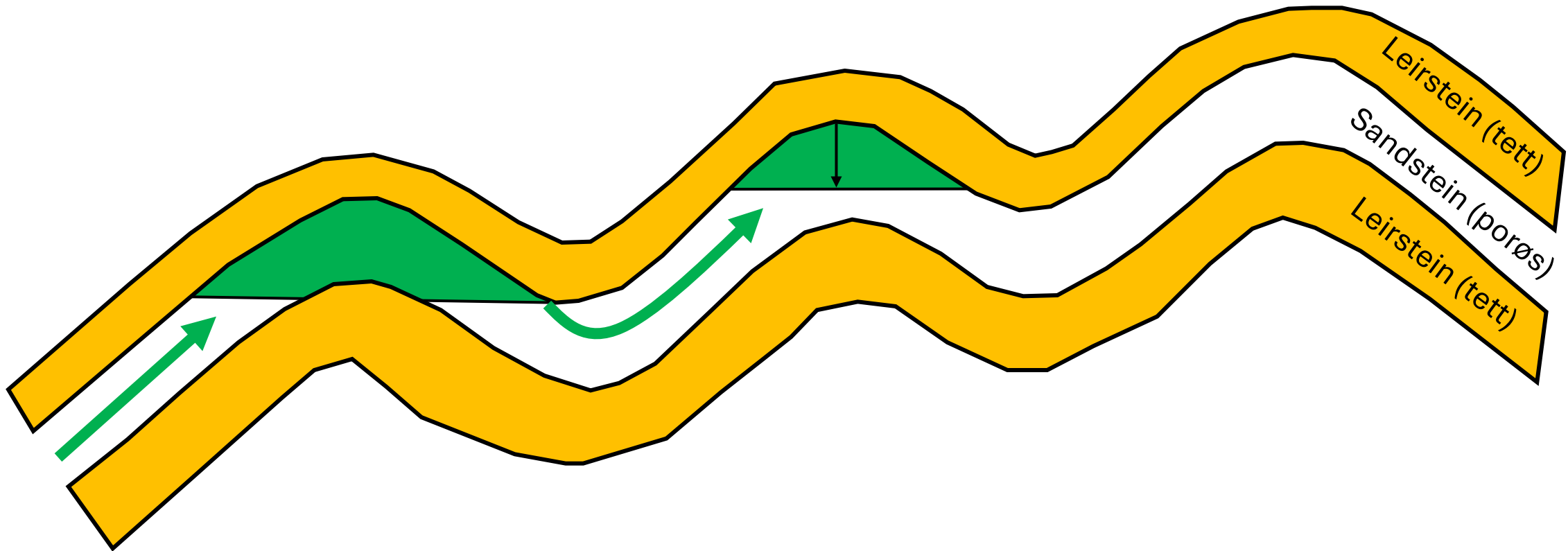


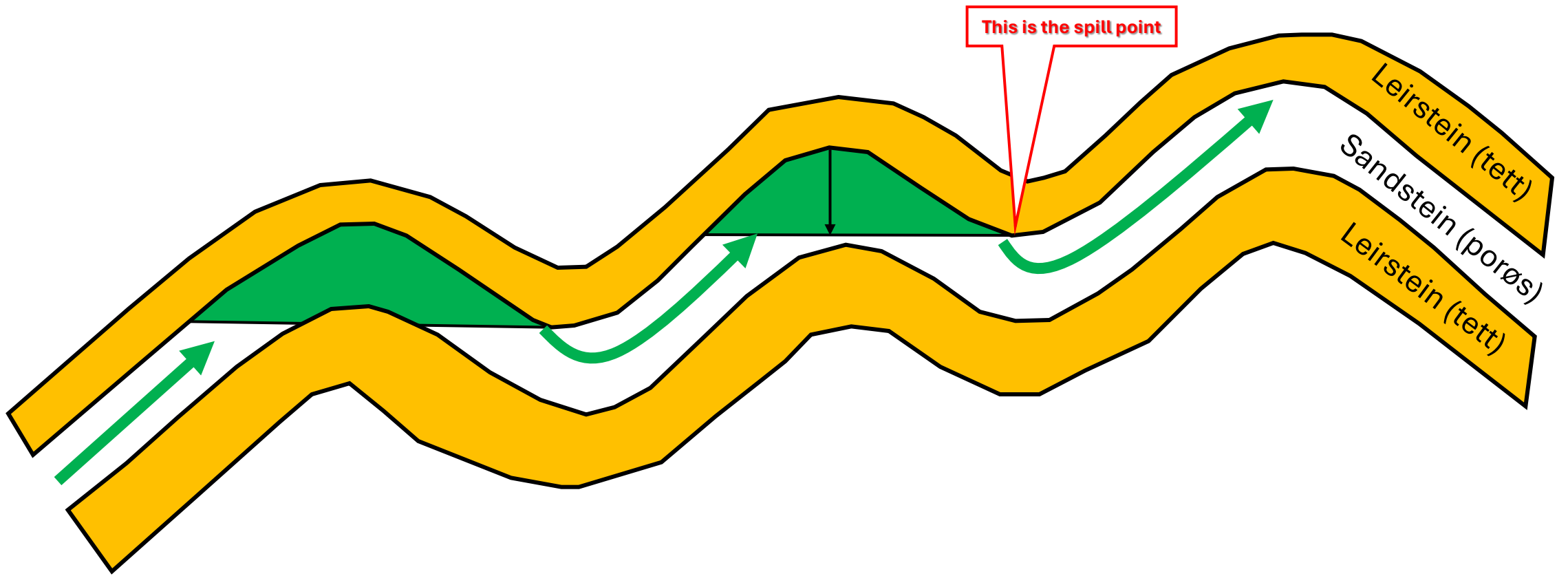
Opp til dette punktet kan en felle fylles med olje eller gass

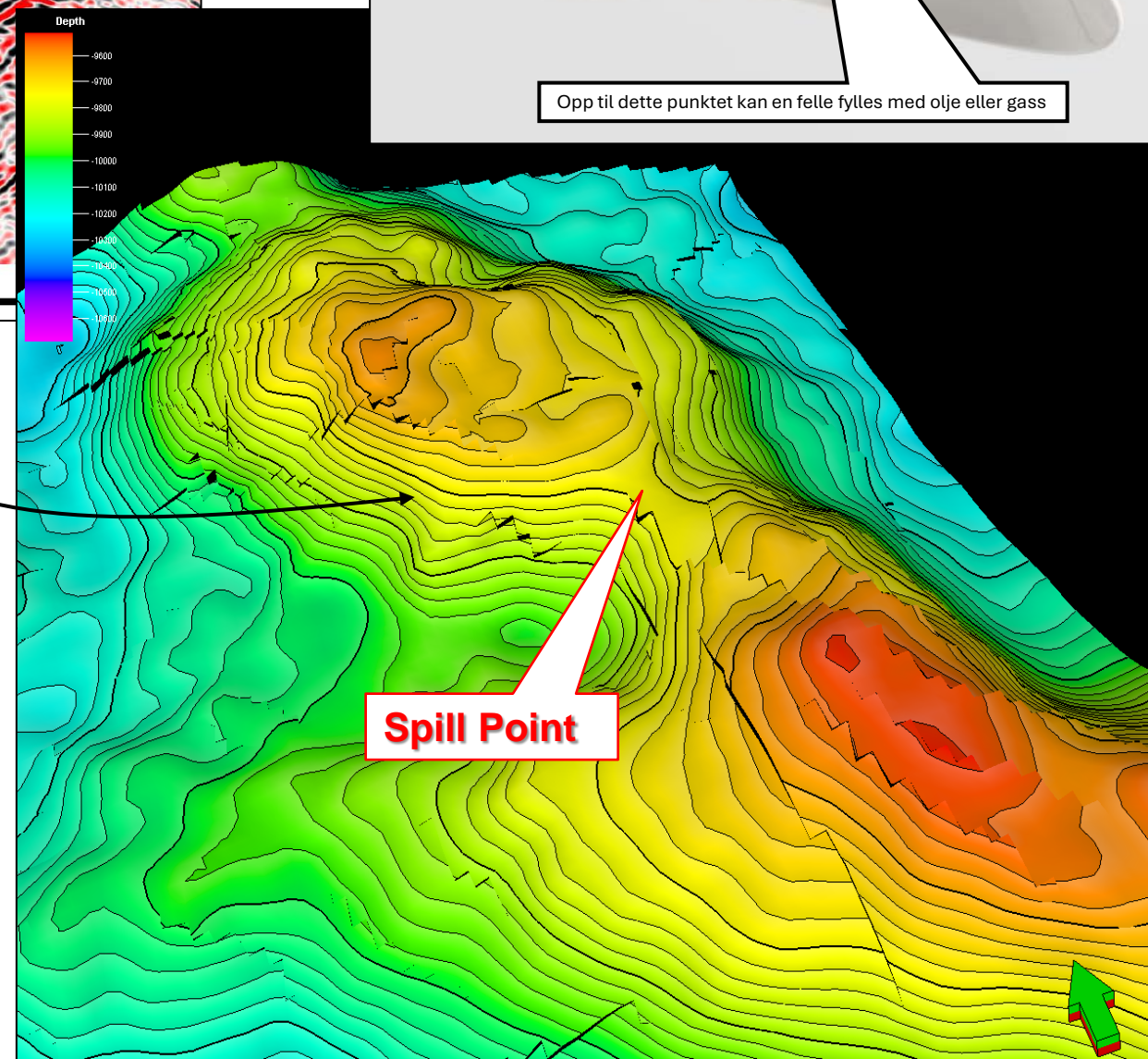
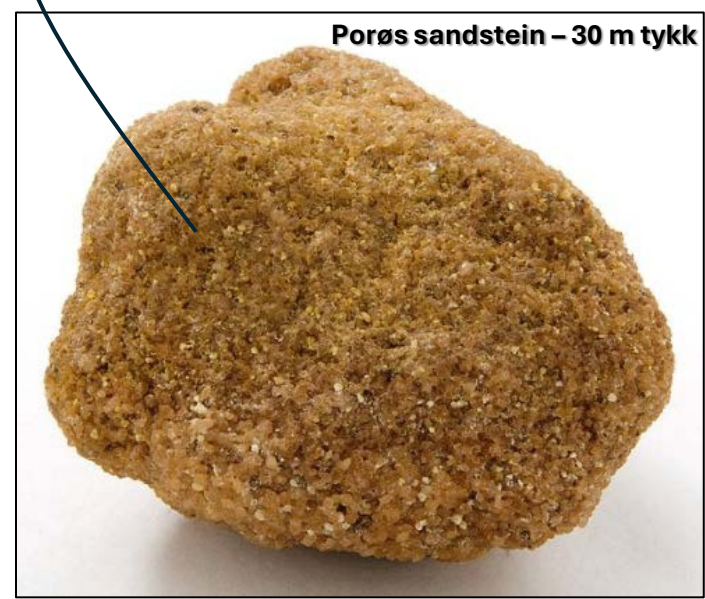
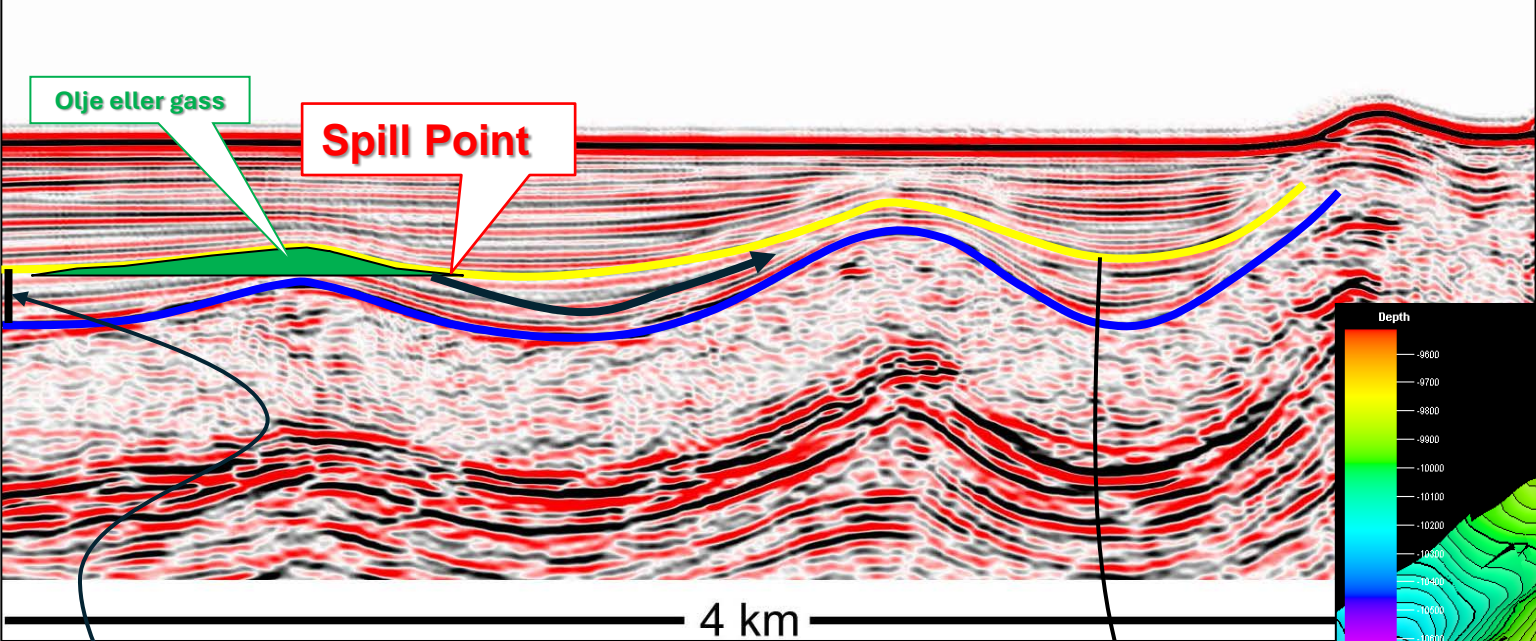




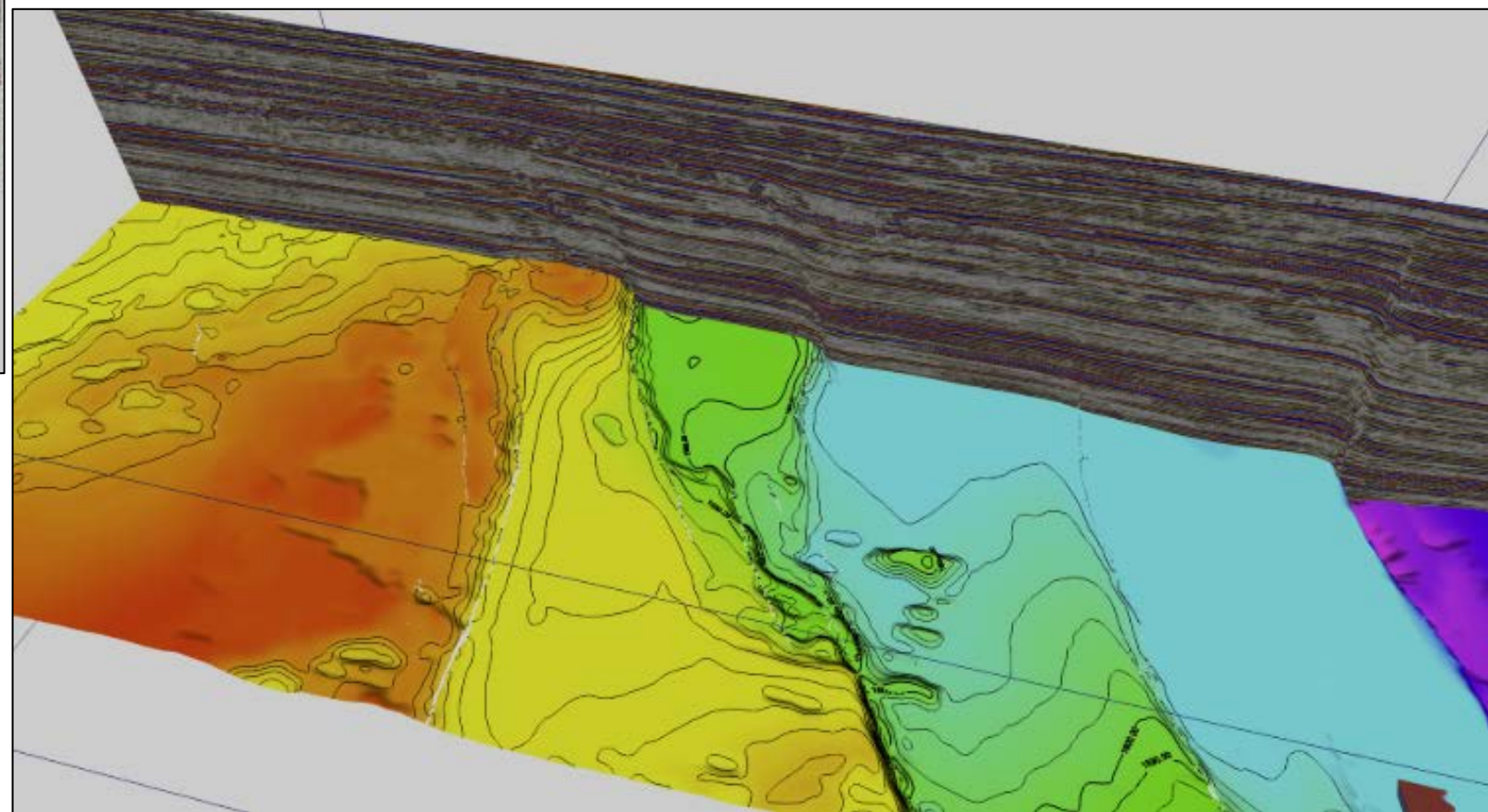
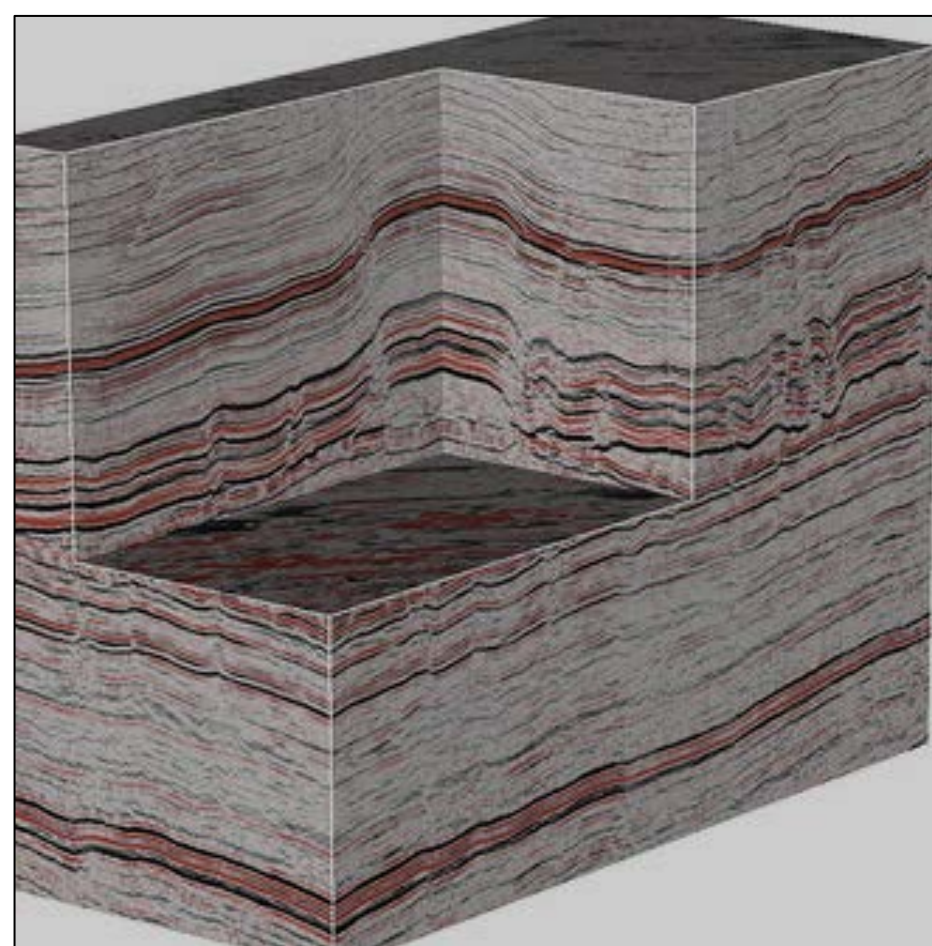


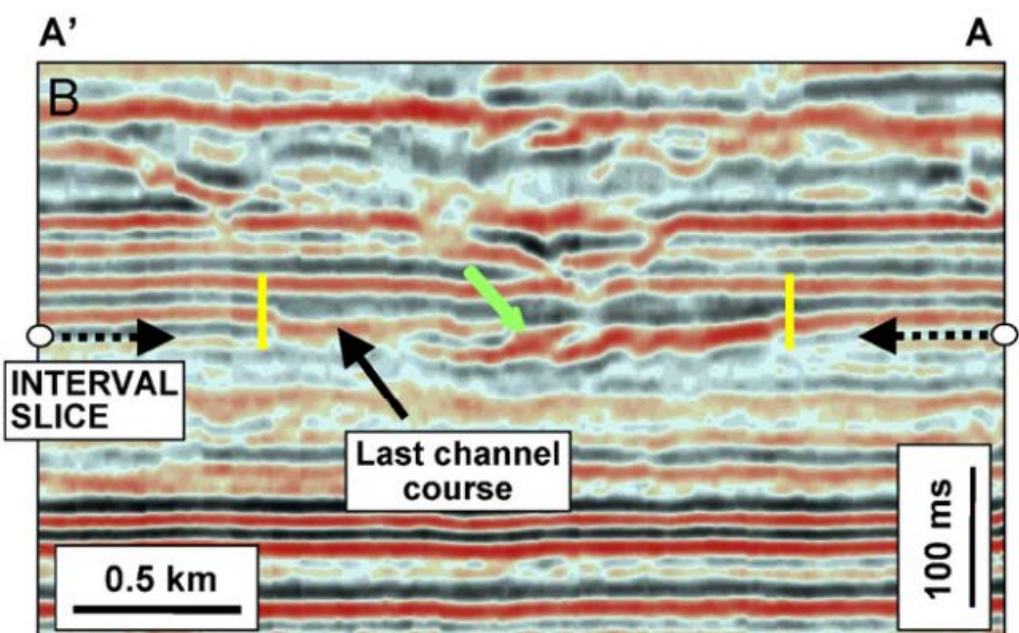
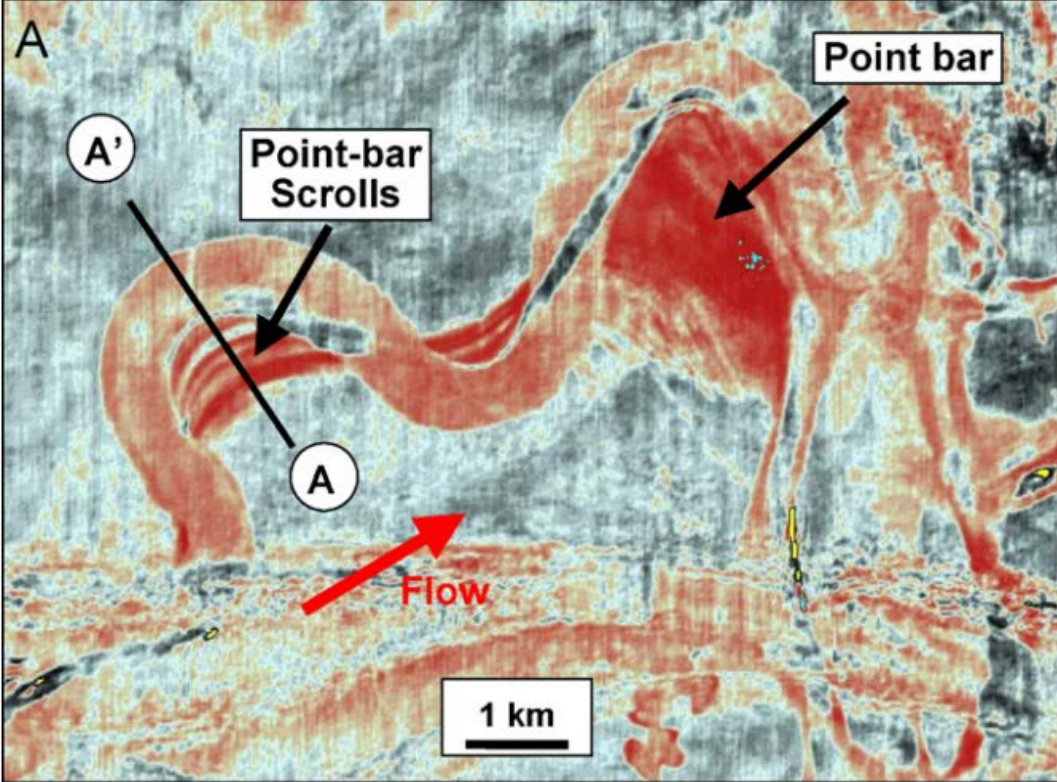




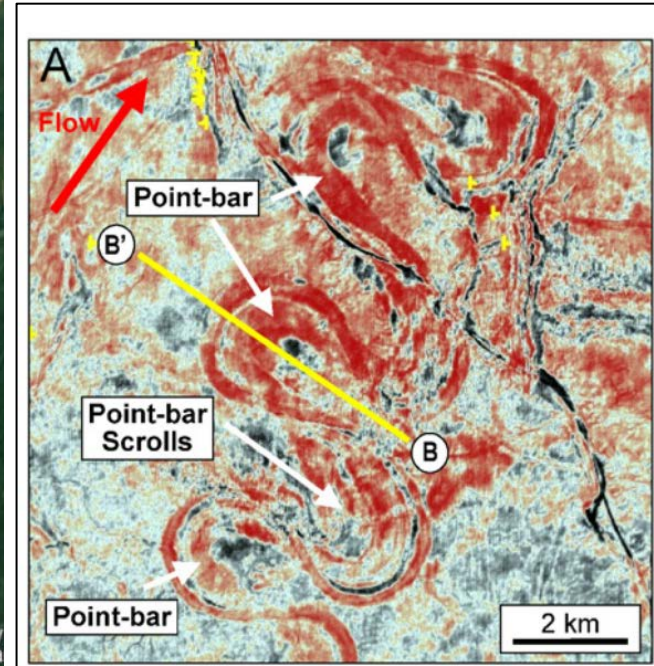
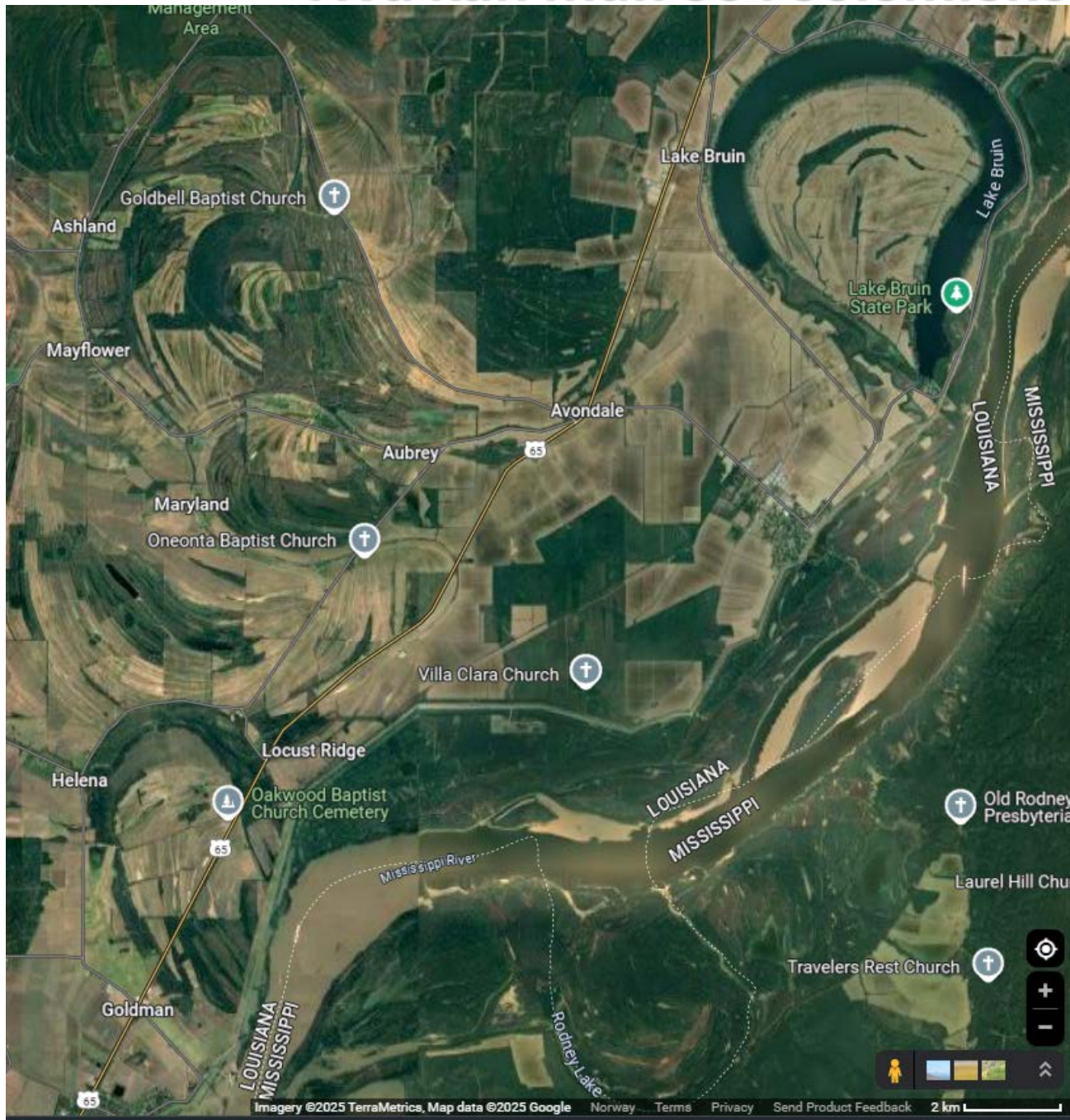


Hva kan man se i seismiske data?





Hva kan man se i seismiske data?

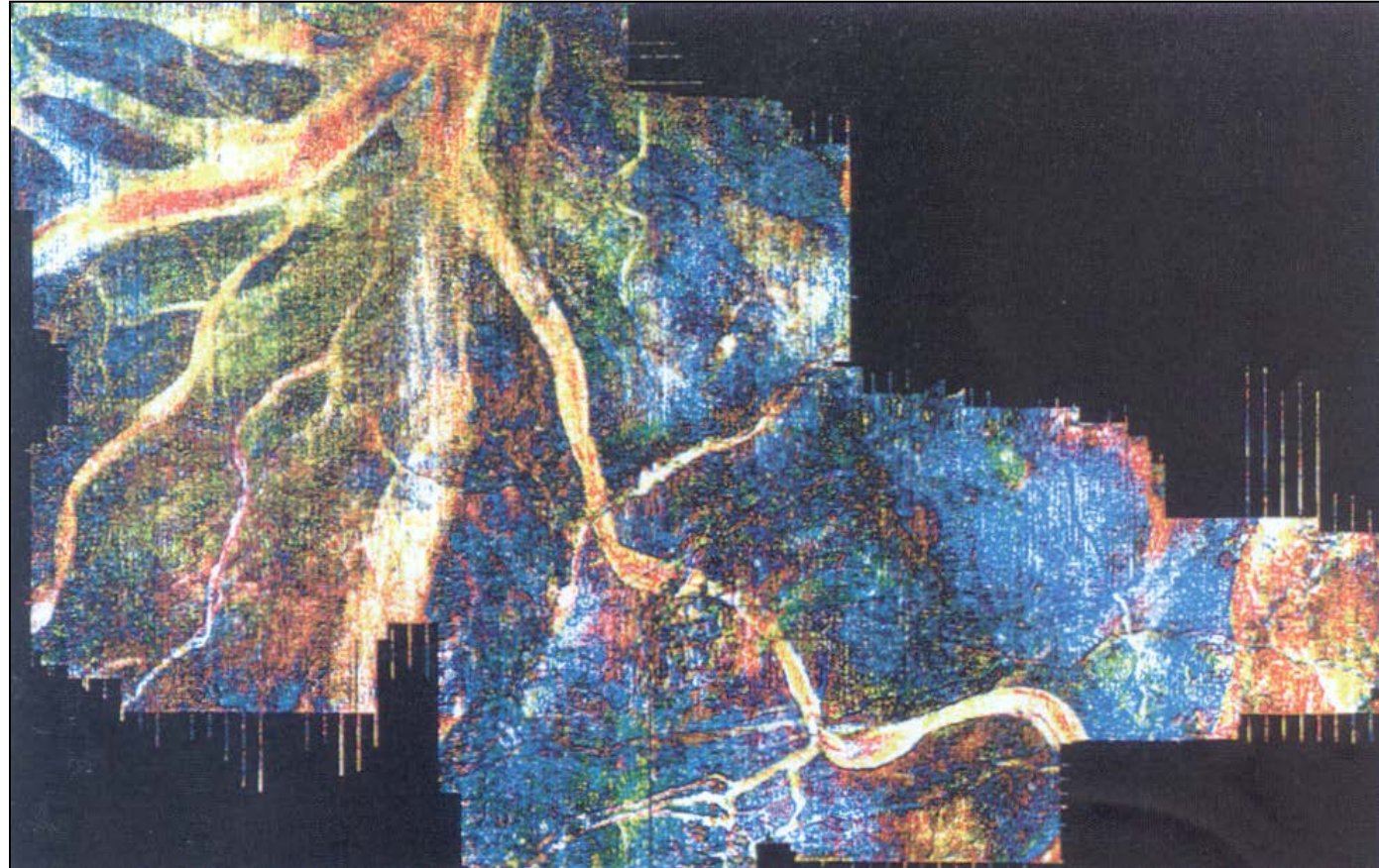


Kan man se et delta i seismiske data?

Today's Mississippi Delta



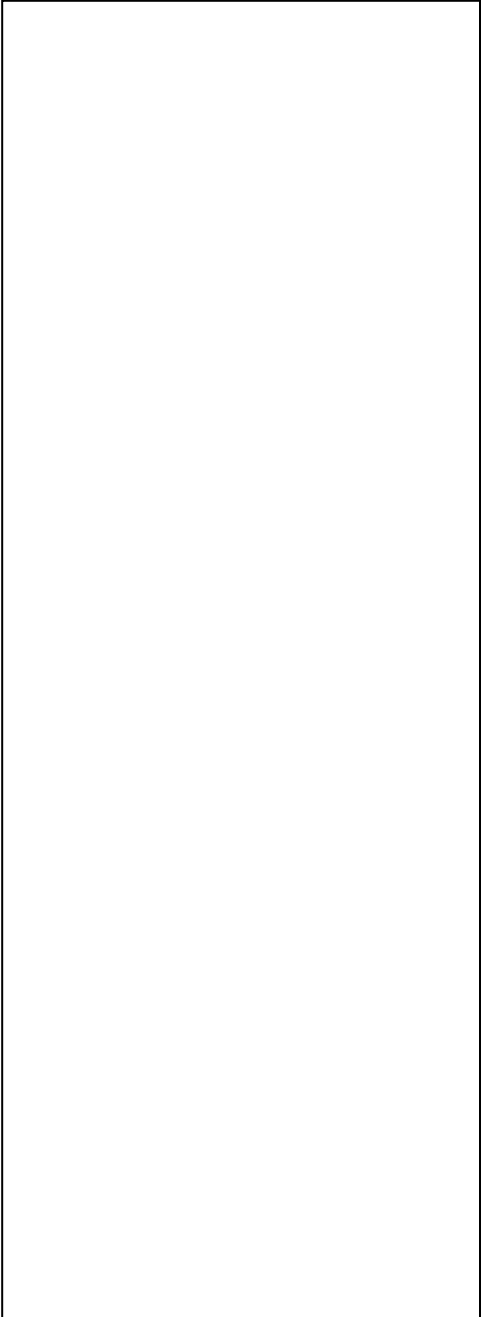
A horizontal section through 3D seismic data shows a delta that is many millions of years old



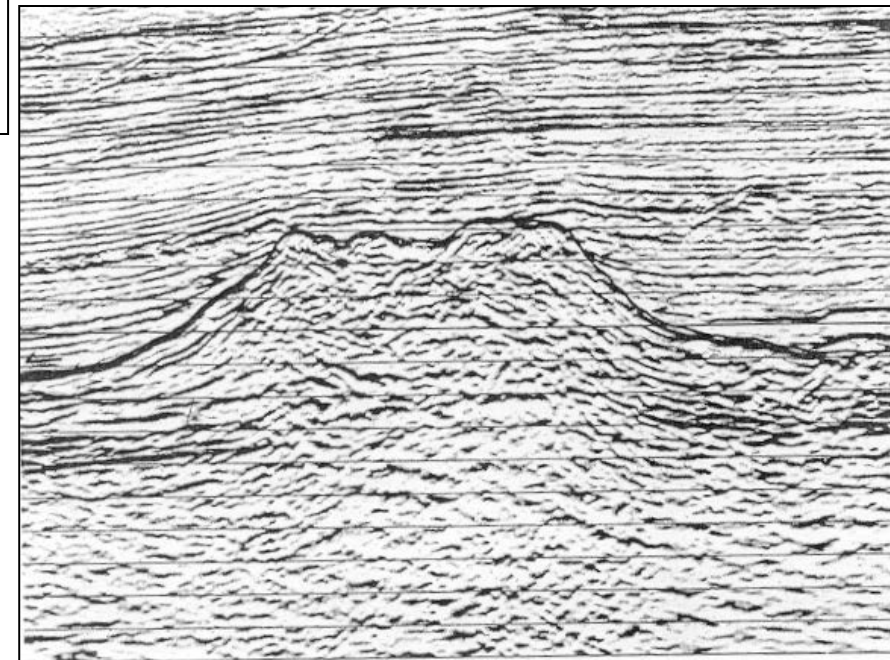
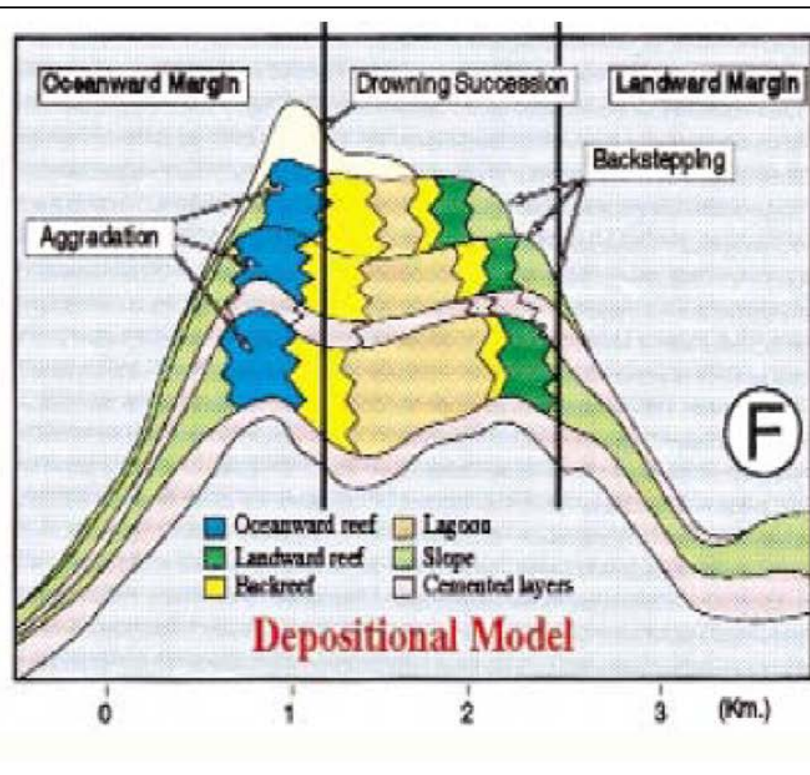
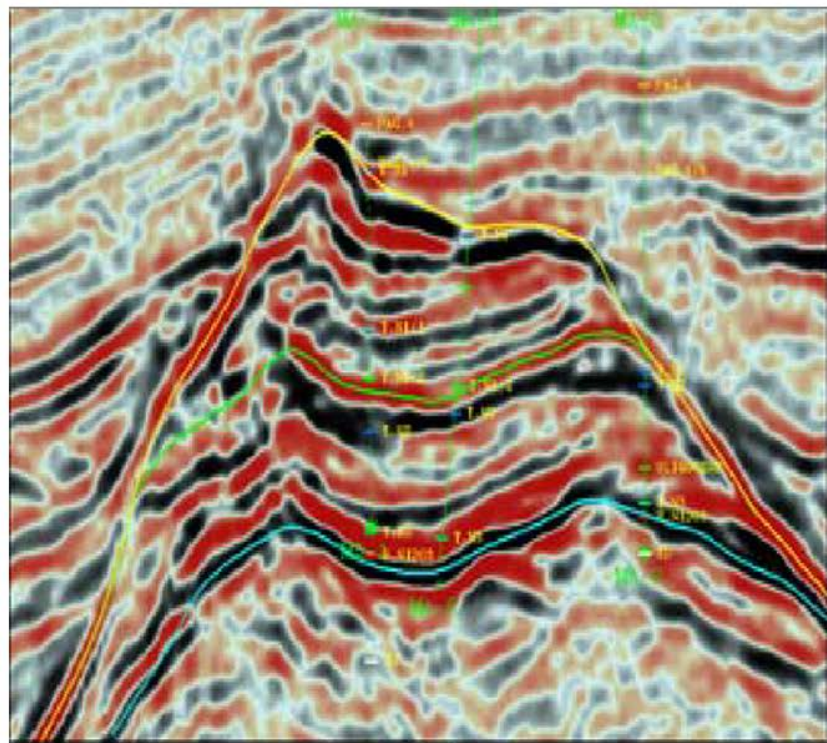
Kan man se et rev i seismiske data?



Lime sand



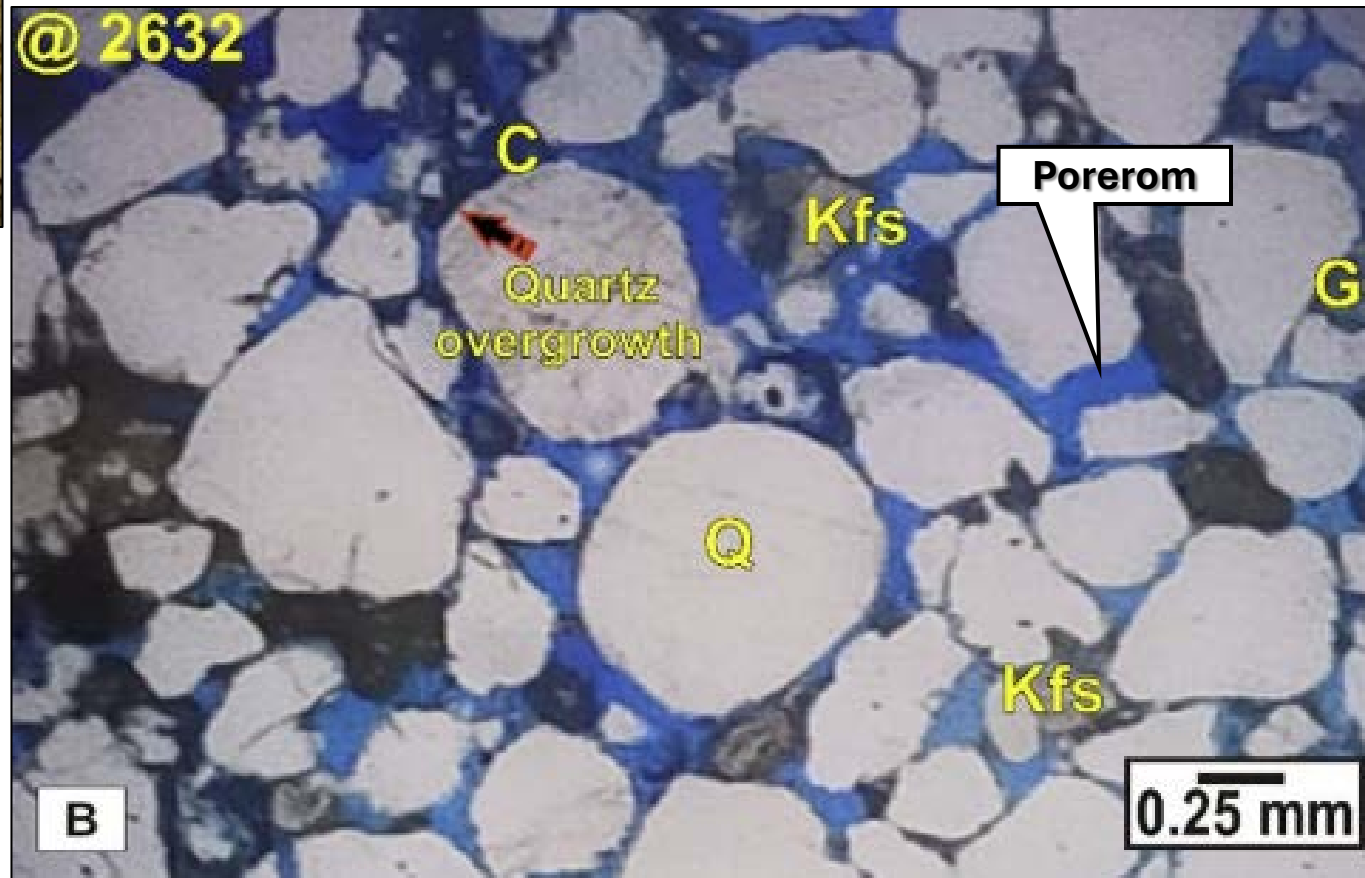
Kan man se et rev i seismiske data?

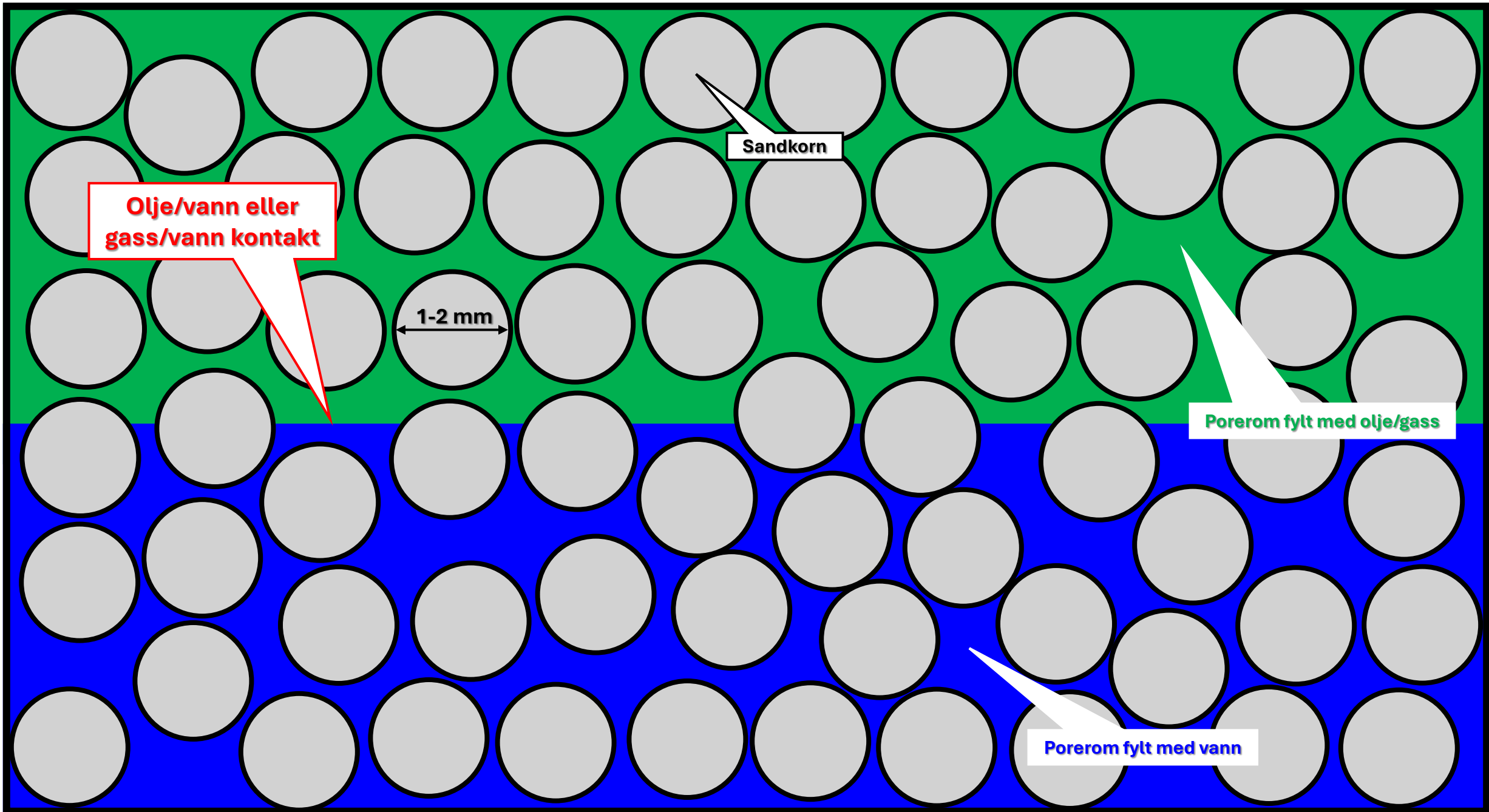


Kan man se olje eller gass?



High dense	Medium dense	Low dense
Non - porous Non - permeable	Porous but Non - permeable	Porous and permeable





Sandkorn

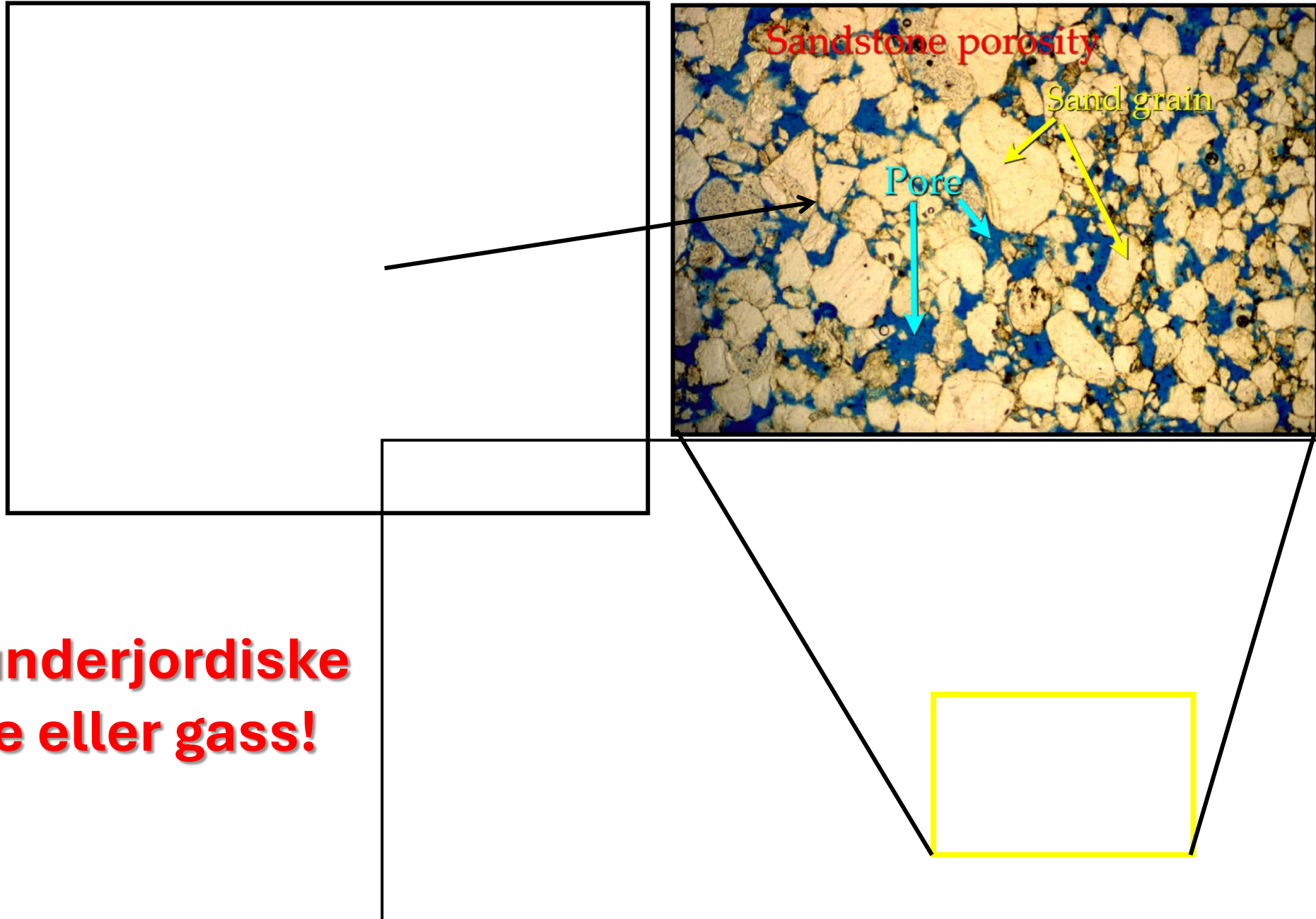
Olje/vann eller
gass/vann kontakt

1-2 mm

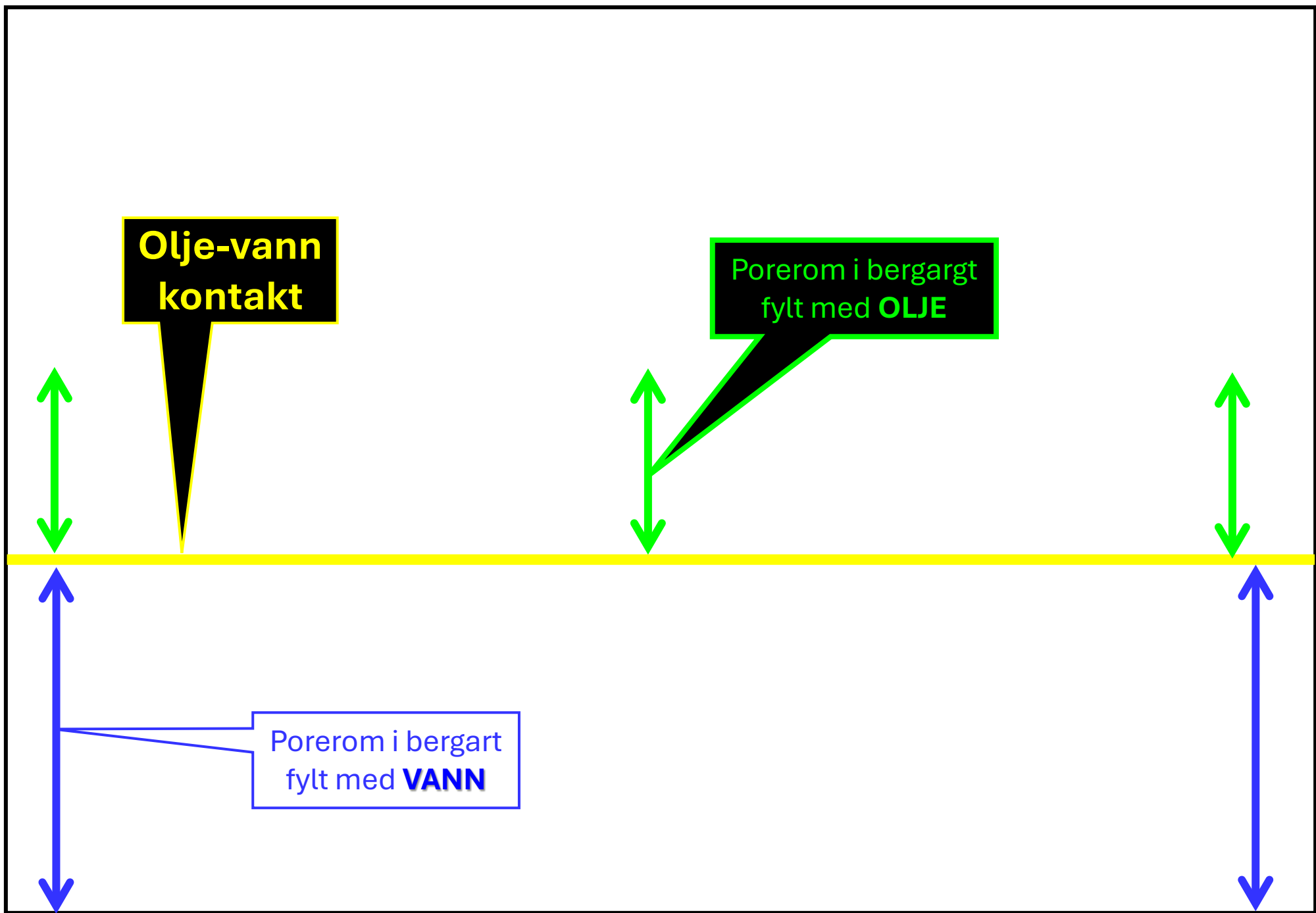
Porerom fylt med olje/gass

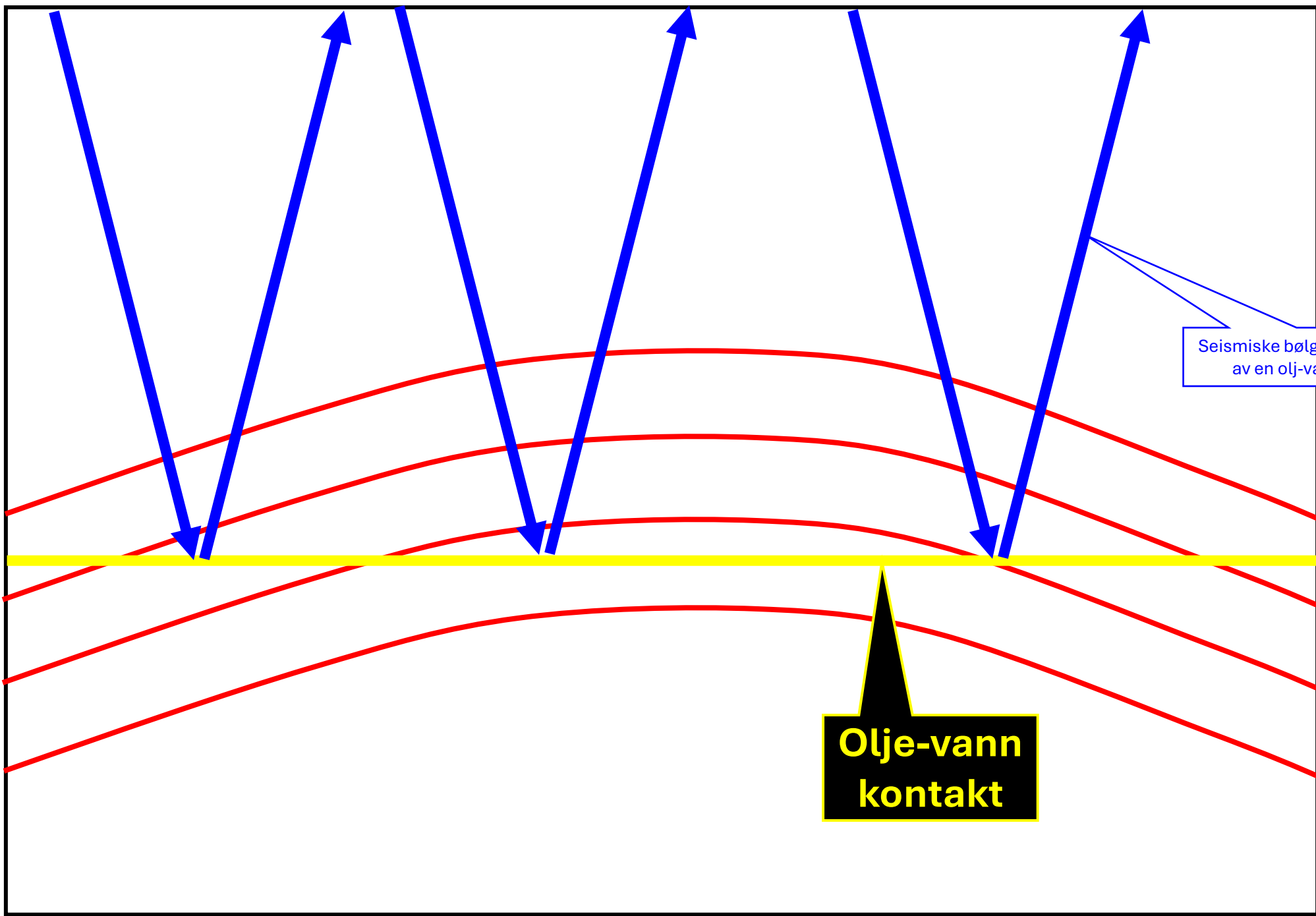
Porerom fylt med vann

Olje eller gass forekommer i små porerom



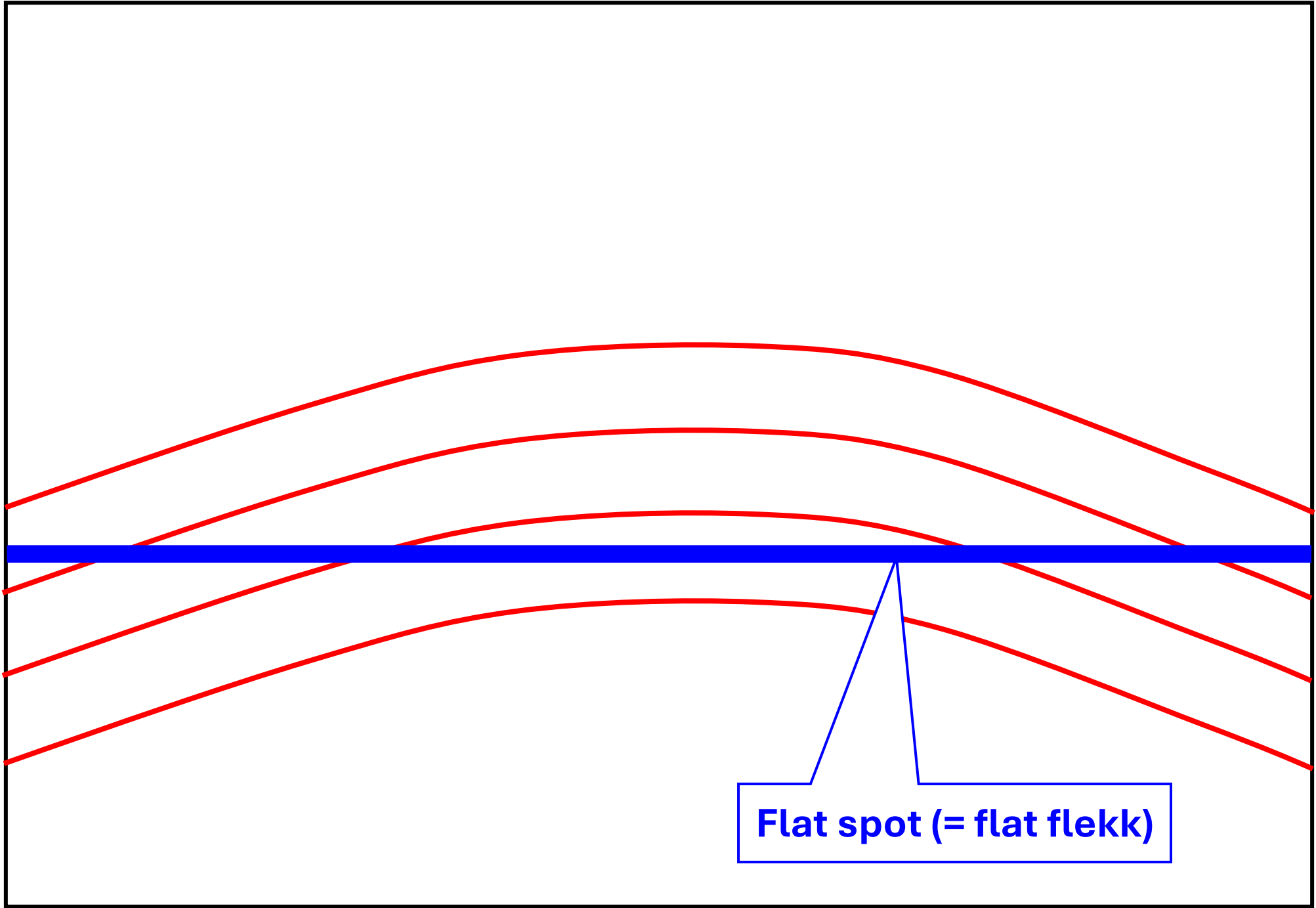
Det finnes ikke underjordiske innsjøer med olje eller gass!



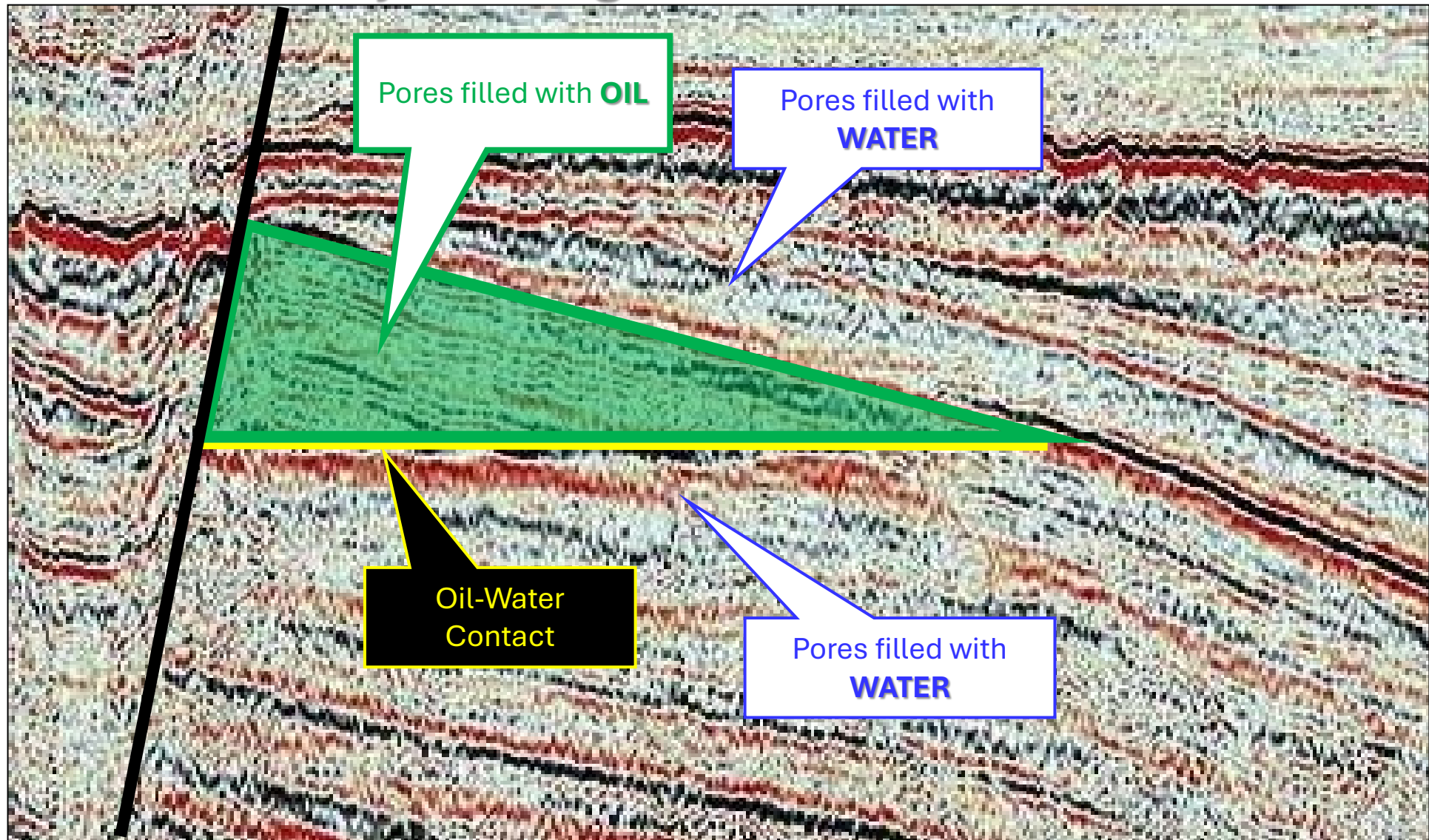


Seismiske bølger blir reflektert av en olje-vann kontakt

Olje-vann kontakt

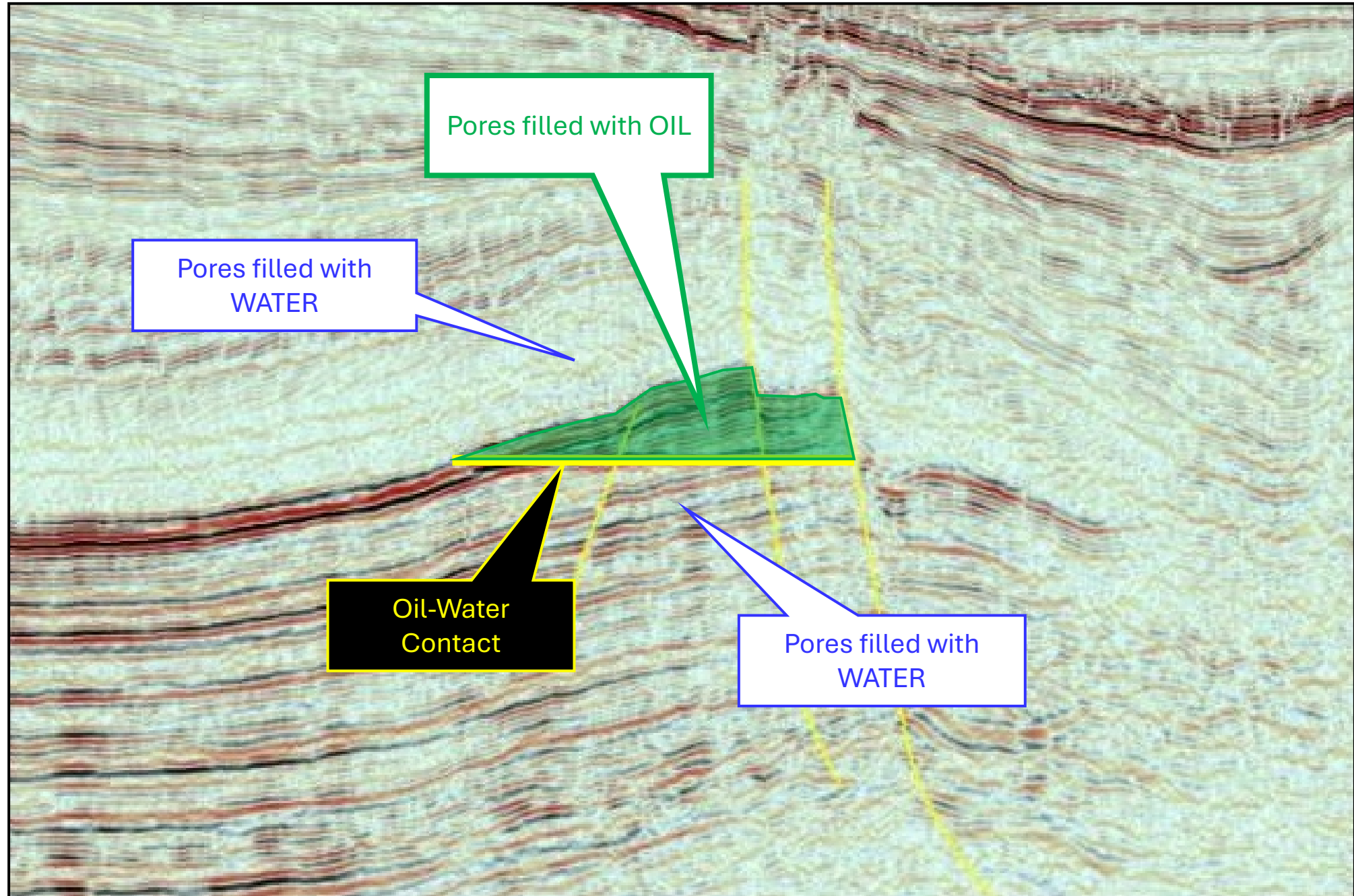


Hvor er oljen eller gass? Kan vi se en flatflekk?



Yes! The money is in the bank!!

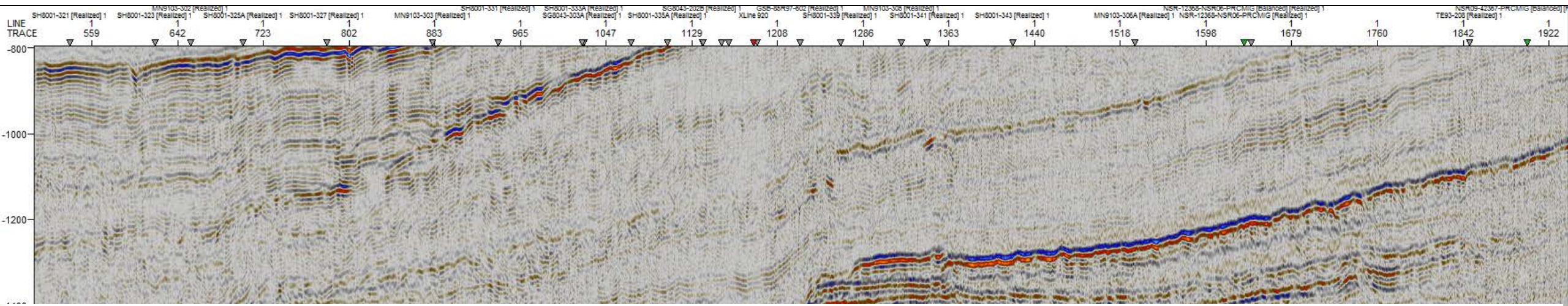
Hvor er oljen eller gass? Kan vi se en flatflekk?



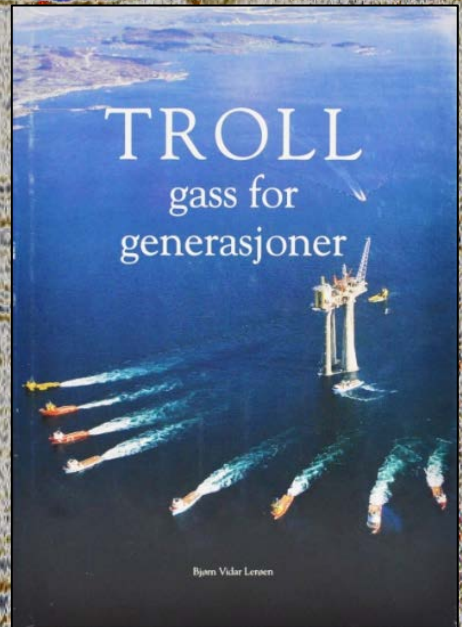
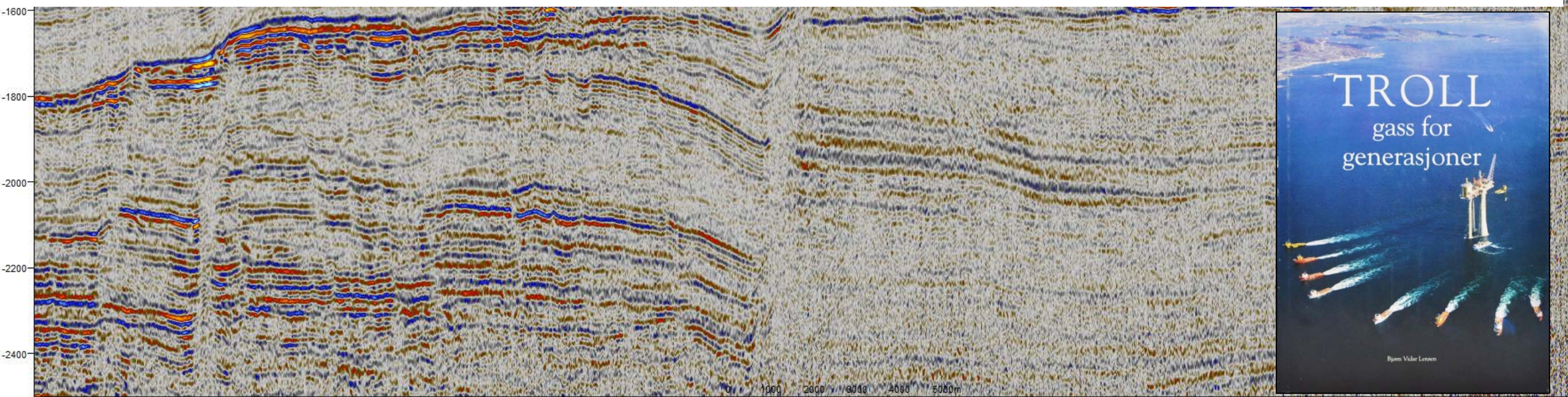
Kan man se indikasjoner for hydrokarboner (olje/gass)?



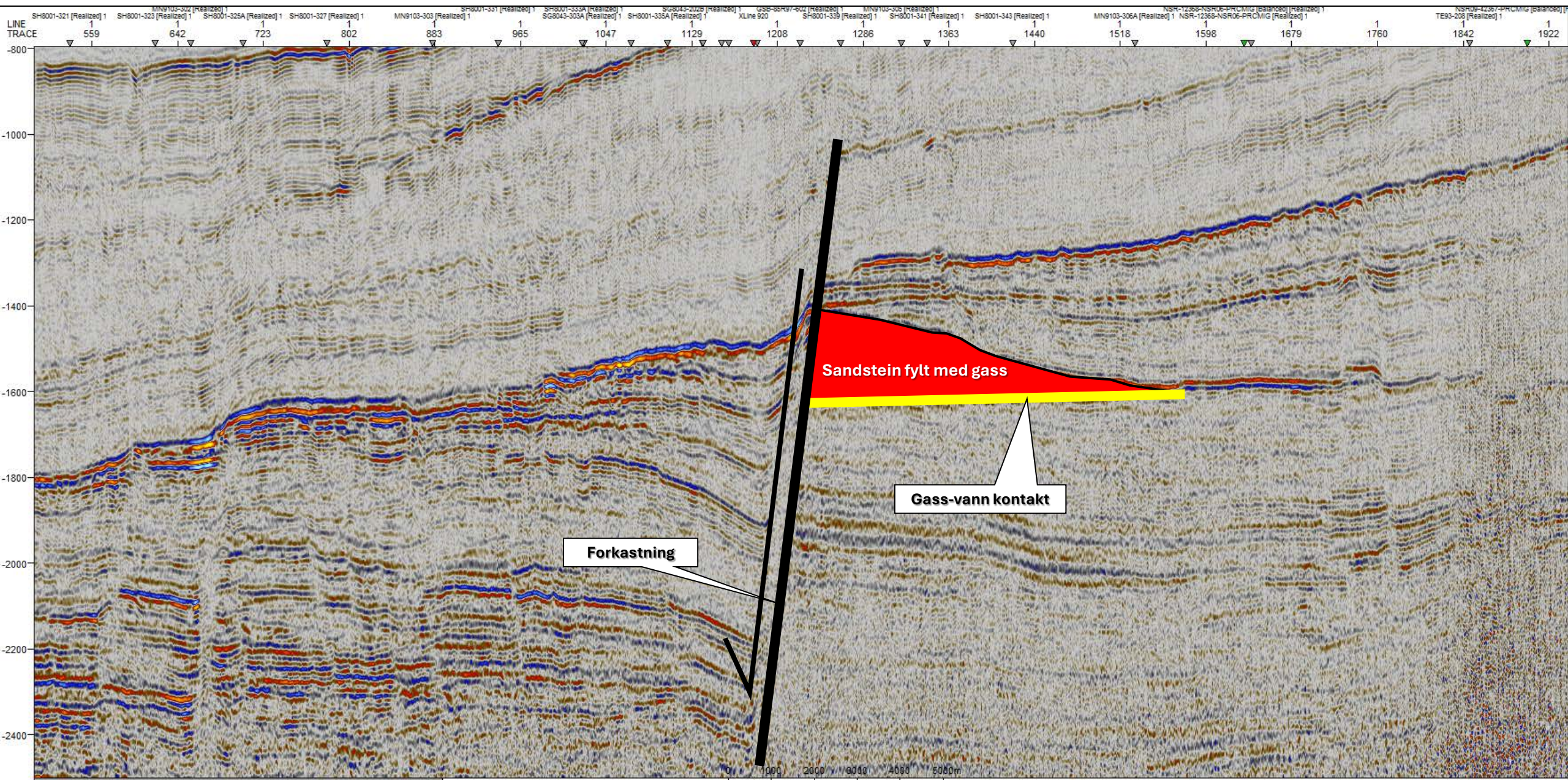
Hvor er oljen eller gass? Kan vi se en flatflekk?



Congratulations! You just found the Giant Troll Gas Field!!



Hvor er oljen eller gass? Kan vi se en flatflekk?



Hvor mye olje produserte hele verden i 2024?

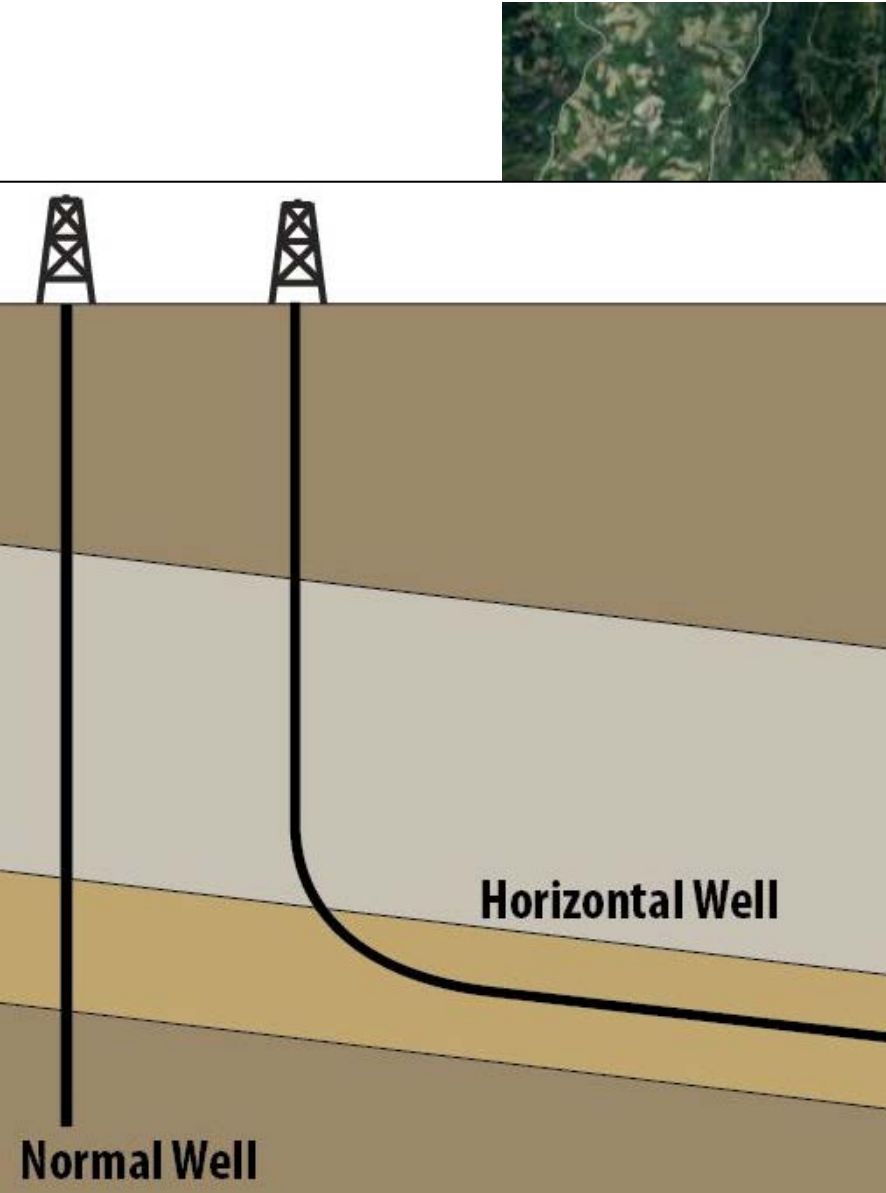
**2024 produserte hele verden:
103.53 million bpd (barrel per day) = 16 459 954 m³ per dag!!**



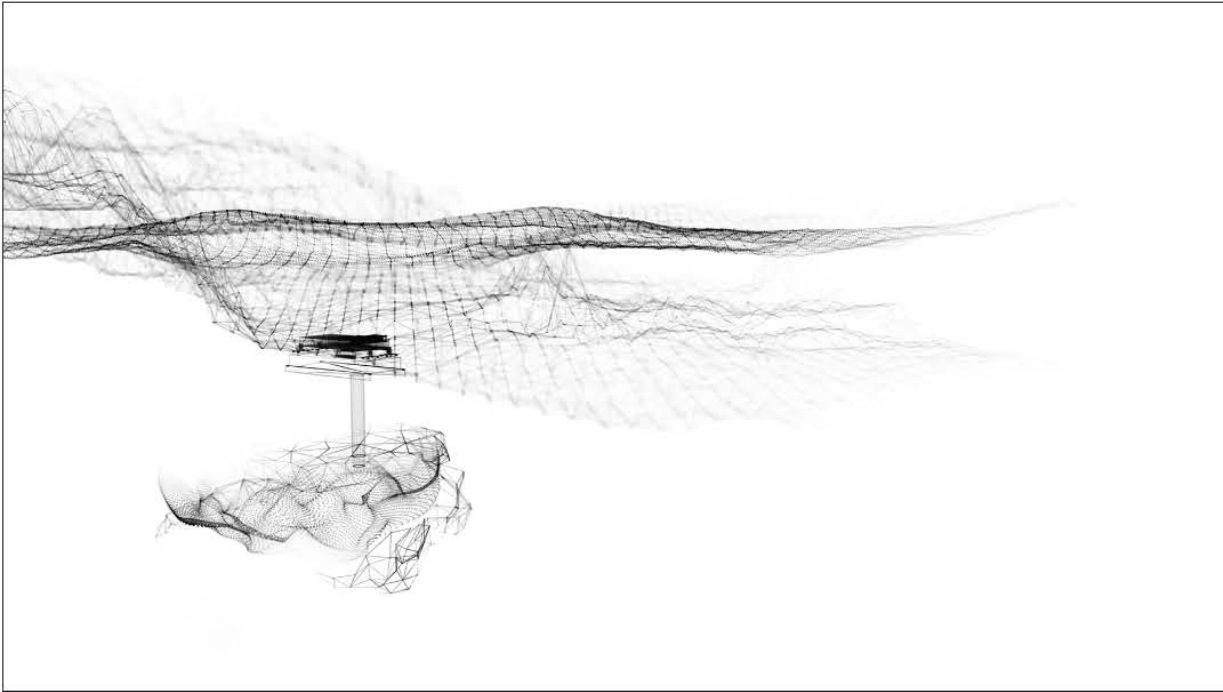
Verdens lengste horisontal brønn

The longest horizontal well ever drilled: 15 km!!

Sakhalin-1, drilled by Rosneft (Russian oil company)



Hvordan får man en borelisens?



Revised dataset can facilitate CO₂ storage planning

The Norwegian Offshore Directorate has reviewed around 800 wells and revised the top and bottom for the Utsira Group and the Skade Formation, to ensure consistency. [Click here and read more.](#)



Dry wells in the North Sea (35/10-14 S and A)

23/12/2024 Equinor and its partners have drilled two dry wells ("Kvernbit/Mimung") in the North Sea.

Drilling permit for wellbore 7/1-3

23/12/2024 The Norwegian Offshore Directorate has granted Vår Energi ASA drilling permit for wellbore 7/1-3 in production licence 1090, cf. Section 13 of the Resource Management Regulations.

[More news](#)



Attribute	Value
Wellbore name ⓘ	2/4-2
Type ⓘ	EXPLORATION
Purpose ⓘ	WILDCAT
Status ⓘ	P&A
Factmaps in new window	link to map
Main area ⓘ	NORTH SEA
Field ⓘ	EKOFISK
Discovery ⓘ	2/4-2 Ekofisk
Well name ⓘ	2/4-2
Seismic location ⓘ	LINE PG-0312 SP: 698.
Production licence ⓘ	018
Drilling operator ⓘ	Phillips Petroleum Company Norway
Drill permit ⓘ	34-L
Drilling facility ⓘ	OCEAN VIKING
Drilling days ⓘ	98
Entered date ⓘ	18.09.1969
Completed date ⓘ	24.12.1969
Release date ⓘ	24.12.1971
Publication date ⓘ	18.01.2007
Purpose - planned ⓘ	WILDCAT
Reentry ⓘ	NO
Content ⓘ	OIL
Discovery wellbore ⓘ	YES

General

Wildcat well 2/4-2 (originally termed 2/4-1AX by the License) was drilled by Phillips as a replacement for well 2/4-1, which was junked at 1662 m in Miocene sediments due to an oil kick and severe circulation problems. The objective was to test the hydrocarbon potential of the Tertiary and top Cretaceous.

Operations and results

Wildcat well 2/4-2 was spudded with the semi-submersible installation Ocean Viking on 18 September 1969 and drilled to TD at 3305 m in the Late Cretaceous Tor Formation. No significant problems occurred in the operations. The well was drilled with seawater and hi-vis pills down to 619 m, and with lignosulphonate mud from 619 m to TD.

The well discovered oil in Danian and Late Cretaceous chalk (Ekofisk and Tor Formations). The oil was found in two reservoirs separated by a hard, grey and tight lime mudstone in the base of the Ekofisk Formation. The upper, Ekofisk Formation reservoir was encountered at 3033 m and continued down to the tight lime mudstone at 3183 m. The lower, Tor Formation reservoir extended from 3203 m to 3257 m. Comparison between DST oil from the Ekofisk Formation in well 2/4-2 and the Miocene "kick-oil" encountered in well 2/4-1 showed that the 2/4-1 Miocene oil is a heavier oil with a higher asphaltene content and lower paraffin content than the 2/4-2 oil.

Eight conventional cores were cut with a total of 48.5 m recovered. Core 1 was cut in Early Miocene from 1664 to 1679.4 m, while cores 2 - 8 were cut in the Ekofisk and Tor Formations in the interval 3051 m to 3280 m. No wire line fluid samples were taken

The well was suspended on 24 December 1969 as the Ekofisk Discovery well, the first economic petroleum discovery on the Norwegian Continental Shelf.

Testing

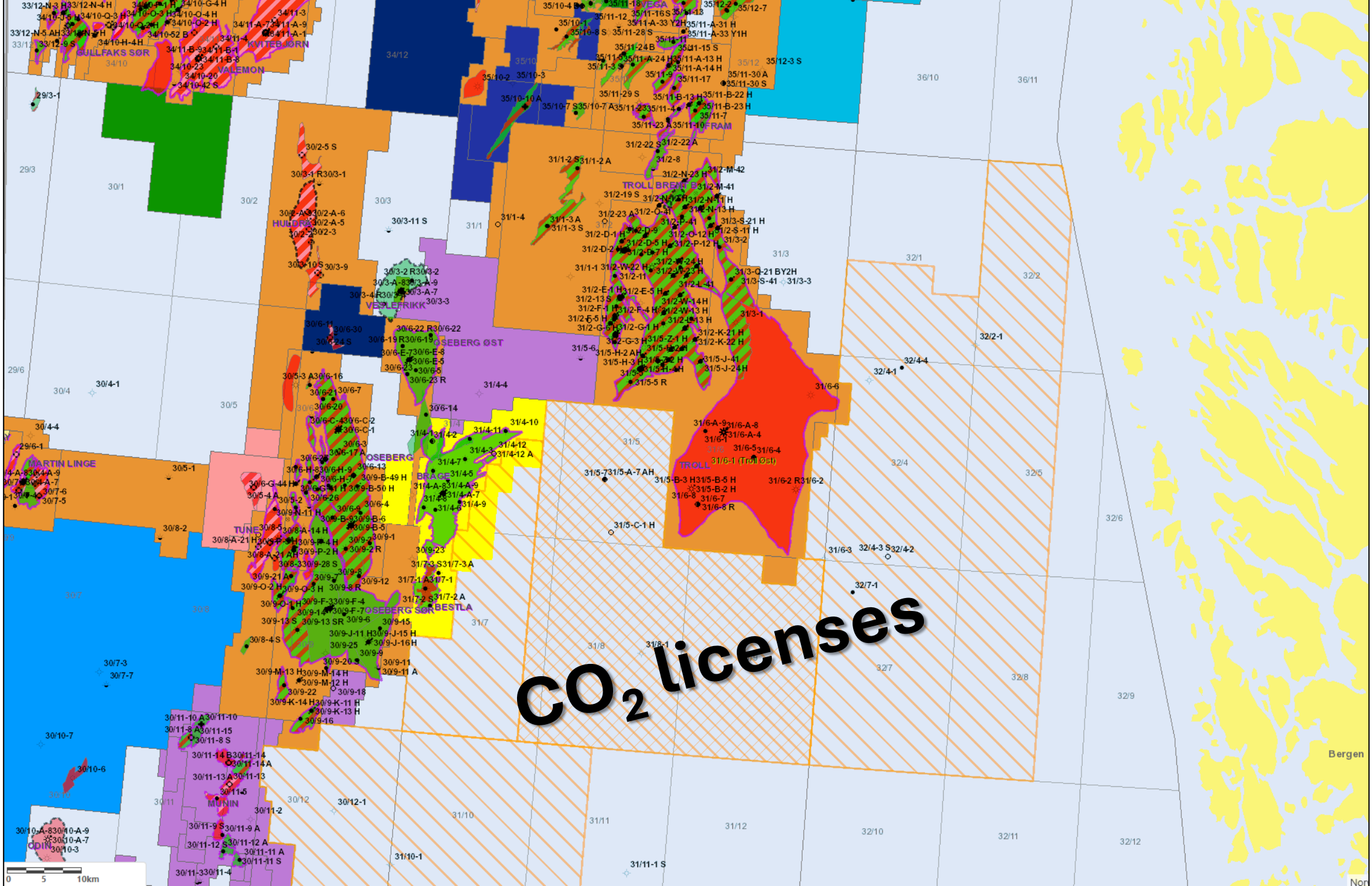
One successful drill stem tests (DST 4) was conducted in open hole in the interval 3159 to 3195.5 m at the base of the Ekofisk Formation. It flowed 5.9 MMCFD (167069 Sm³) gas and 1071 BPD (170 Sm³) oil on a 34/64" choke. The GOR was reported as 5500 cu.ft./STB (980 Sm³/Sm³). The oil had an API gravity of 37.2 deg. The reservoir temperature was reported to be 265 deg F (129.4 deg C).

– Documents – reported by the production licence (period for duty of secrecy expired)

Document name	Document format	Document size [MB]
172_01_2_4_2 Completion Report and Completion log_2	pdf	11.04
172_02_2_4_2 Well Recompletion Report	pdf	3.43
172_2_4_2 Additional Core Description Sheets	pdf	11.08
172_2_4_2 Completion report	pdf	6.02
172_2_4_2 Drilling Fluid Summary	pdf	3.29
172_2_4_2 Drilling Mud Reports	pdf	0.17
172_2_4_2 Individual Well Completion Report	pdf	43.44
172_2_4_2 Individual well Record	pdf	30.92
172_2_4_2 Lithological and Sedimentological Eval	pdf	2.55
172_2_4_2 Petrography of Selected Samples	pdf	25.72
172_2_4_2 Quantitative Log Analysis_1	pdf	8.81
172_2_4_2 Quantitative Log Analysis_2	pdf	5.15
172_2_4_2 The Micropalaeontology and Stratigraphy	pdf	4.25
172_2_4_2 Well Log Study	pdf	7.28

1st level with HC, age ⓘ	PALEOCENE	Oldest penetrated age ⓘ	LATE CRETACEOUS
1st level with HC, formation ⓘ	EKOFISK FM	Oldest penetrated formation ⓘ	TOR FM
2nd level with HC, age ⓘ	LATE CRETACEOUS	Geodetic datum ⓘ	ED50
2nd level with HC, formation ⓘ	TOR FM	NS degrees ⓘ	56° 32' 8.65" N
Kelly bushing elevation [m] ⓘ	27.0	EW degrees ⓘ	3° 11' 54.57" E
Water depth [m] ⓘ	70.0	NS UTM [m] ⓘ	6265865.23
Total depth (MD) [m RKB] ⓘ	3305.0	EW UTM [m] ⓘ	512208.29
Maximum inclination [°] ⓘ	6.75	UTM zone ⓘ	31
Bottom hole temperature [°C] ⓘ	133	NPDID wellbore ⓘ	172





CO₂ licenses

Bergen

Nor

- 1151
- 1152
- 1153
- 1154
- 1155
- 1155 B
- 1156
- 1157
- 1158
- 1159
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- 1168**
- 1169
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- 1183 S
- 1184 S

1168

HIDE DETAILS Export: PDF

— General information

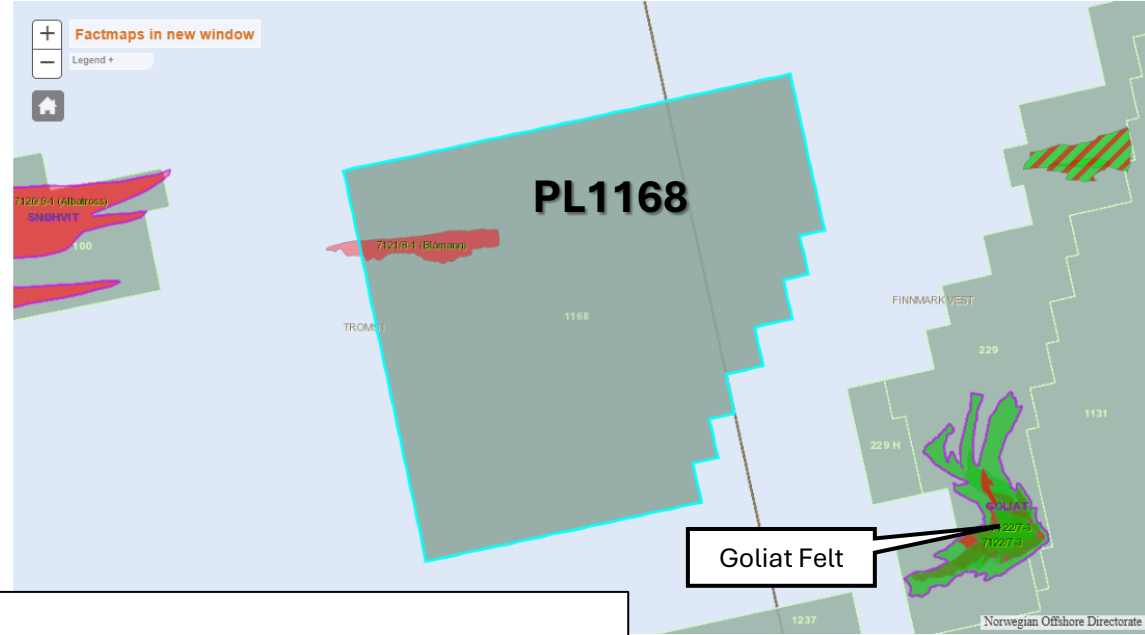
Attribute	Value
Production licence ⓘ	1168
NPDID production licence ⓘ	38723932
Factmaps in new window	link to map
Status ⓘ	ACTIVE
Main area ⓘ	Barents sea
Licensing activity ⓘ	TFO2021
Date granted ⓘ	11.03.2022
Date valid to ⓘ	11.03.2030
Stratigraphical ⓘ	NO
Original area [km2] ⓘ	343
Current area [km2] ⓘ	343

— Phases

Date phase valid from	Date phase valid to	Phase
11.03.2022	11.03.2028	INITIAL
12.03.2028	11.03.2030	INITIAL EXTENDED

— Licensees — current

Date valid from	Company longname	Interest [%]
11.03.2022	Vår Energi ASA	50.000000
-	Concedo AS	50.000000



— Work program (initial phase)

Work obligation	Decision	Task status	Expiry date	Wellbore if drilled
Study of geology and geophysics		In process		
	Decision to drill	In process	11.03.2025	
Drill exploration well		In process		
	(BoK) Decision to concretize	In process	11.03.2027	
Conceptual studies		In process		
	(BoV) Decision to continue	In process	11.03.2029	
(PDO) Prepare plan for development		In process		
	(PDO) Decision to submit plan for development	In process	11.03.2030	
	Decision to enter extension period	In process	11.03.2030	

TUSEN TAKK!!