

Kunnskapsgenerering som innsatsfaktor i oljeleting

ved

Jan Nagell

First Quarter 2012 Highlights



	First Quarter 2012
Production (boepd)	34,700
Average Brent oil price (USD/boe)	118.60
Cost of operations (USD/boe)	7.98
Net result (MUSD)	47.2
EBITDA (MUSD)	309.2
Operating cash flow (MUSD)	166.6

➤ **Solid production and cash flow**

- ➔ 34,700 boepd production
- ➔ Record EBITDA USD 309.2 Million
- ➔ Gaupe field onstream

➤ **Appraisal success in Norway**

- ➔ Johan Sverdrup
 - Second appraisal well successfully completed. Encountered good quality reservoir on prognosis
 - Pre-Unit agreement signed

➤ **Development**

- ➔ Edvard Grieg
 - Coordinated development agreement with Draupne field.
 - Plan of Development approved by the the Ministry of Petroleum & Energy
 - Major contracts awarded - Kværner, Rowen & Saipem

2012 Production Guidance



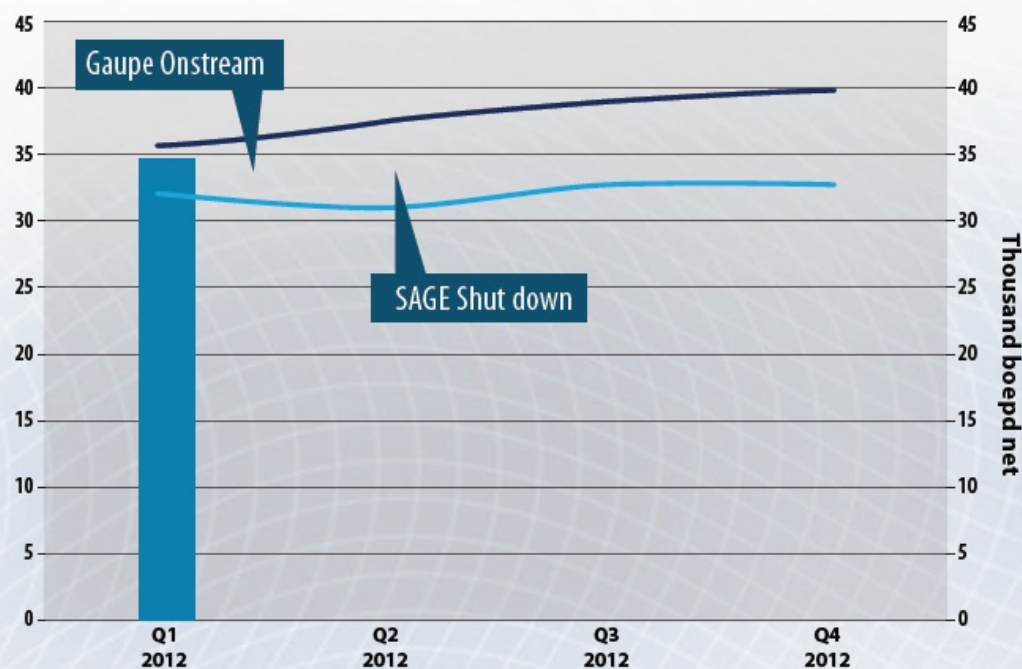
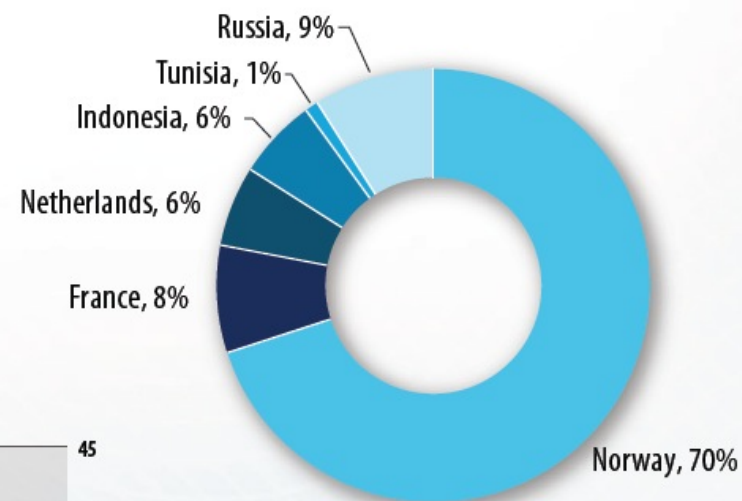
➤ **Q1 production: 34,700 boepd**

➔ Alvheim: 12,300 boepd

➔ Volund: 13,200 boepd

➤ **2012 production guidance maintained:**

➔ 32,000 - 38,000 boepd



2012 Production guidance

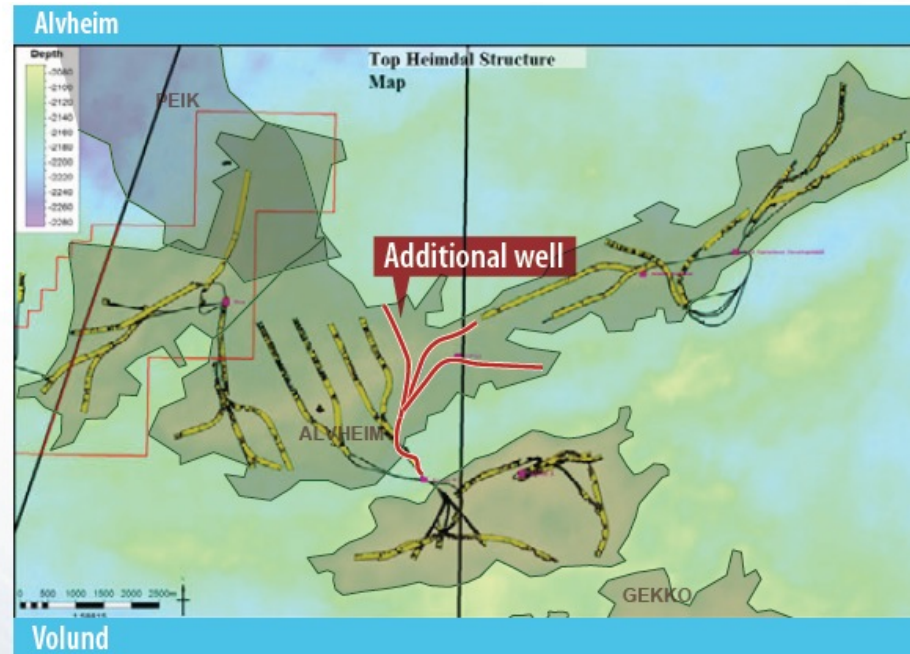
— High
— Low

Greater Alvheim Area



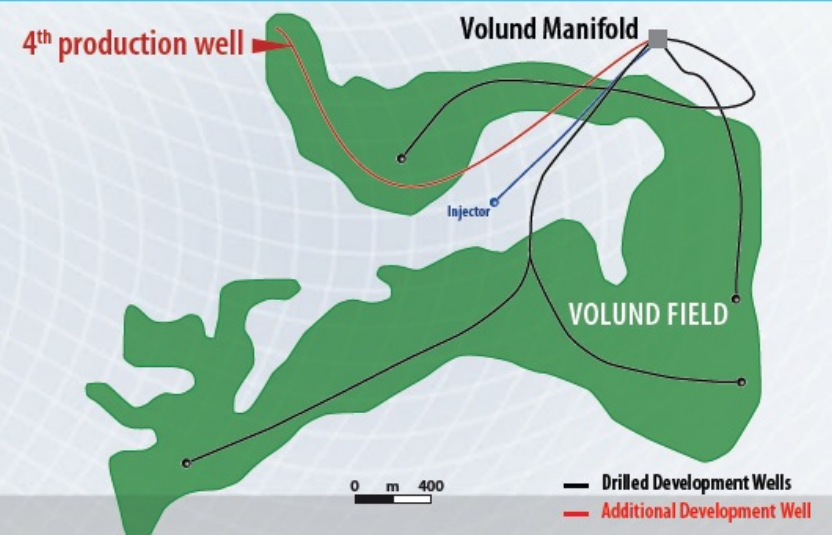
Alvheim Field

- ➔ **Lundin Petroleum 15%**
 - ➔ Marathon 65%, ConocoPhillips 20%
- ➔ **Gross 2P reserves: 174 MMboe**
- ➔ **2011 Production at 11,200 boepd net**
- ➔ **Alvheim cost of operations ~USD 5/boe for 2011**
- ➔ **2012 Kameleon multilateral infill well**



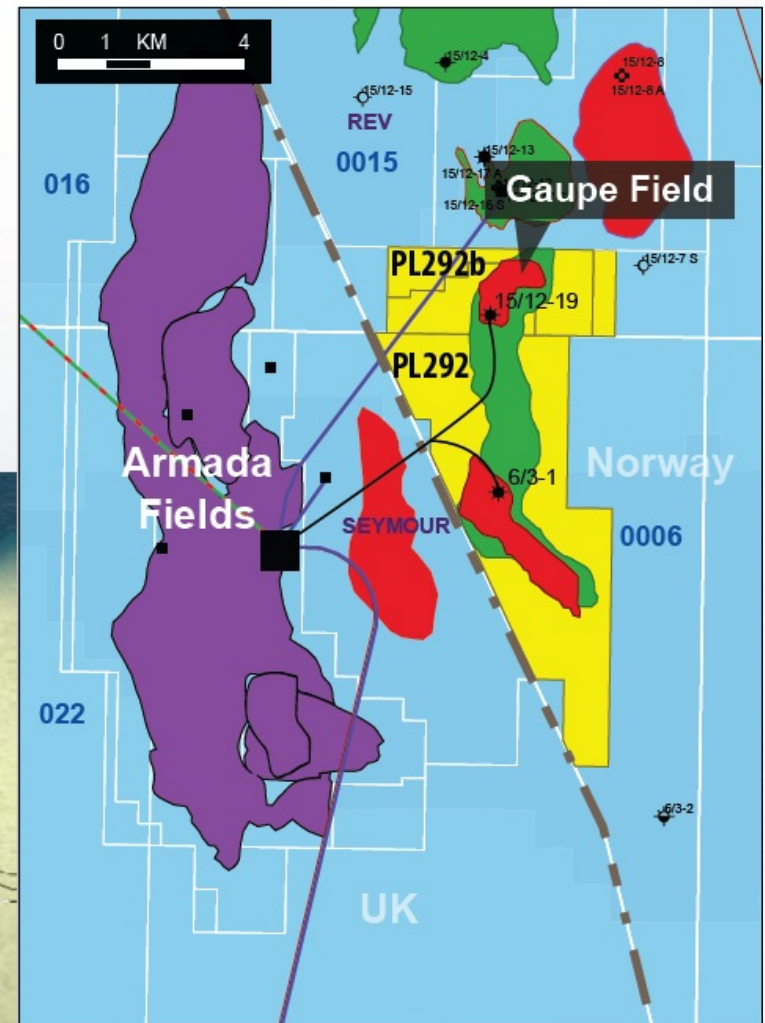
Volund Field

- ➔ **Lundin Petroleum 35%**
 - ➔ Marathon 65% (operator)
- ➔ **Gross 2P reserves: 37 MMboe**
- ➔ **2011 net production of 12,000 boepd**
- ➔ **Operating cost**
 - ➔ Cost of operations 3.2 USD/boe
 - ➔ Tariff to Alvheim 3.2 USD/boe
- ➔ **2012 North-West Volund infill well**



Lundin

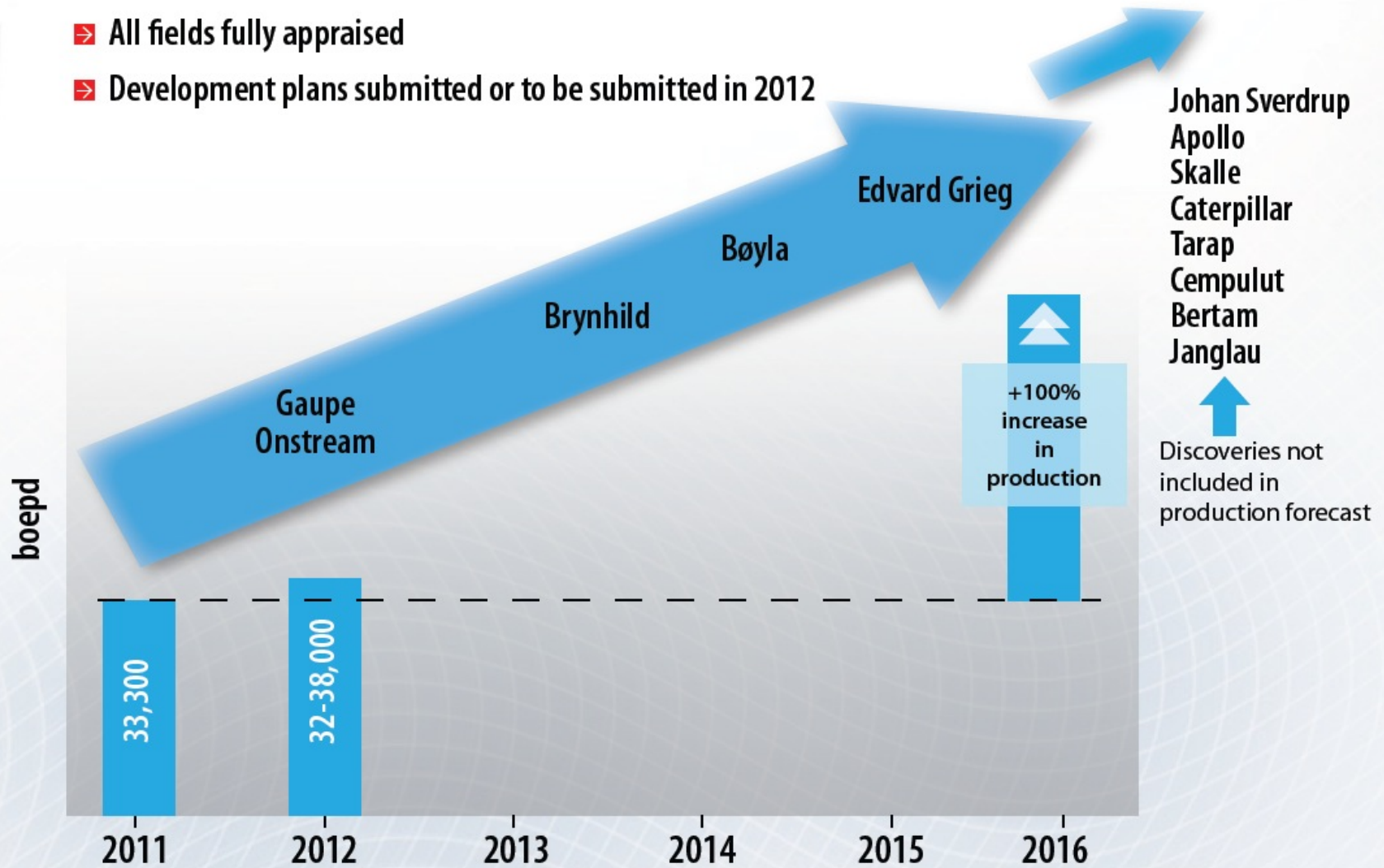
- WF11431 p1 01.12



Production to Double from Ongoing Development Projects



- ➔ All fields fully appraised
- ➔ Development plans submitted or to be submitted in 2012



Liquidity (MUSD)



→ at 31 March 2012

Debt Outstanding	227
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Cash Balances	138
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Net Debt Position	89
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Availability Under Credit Facility⁽¹⁾	630
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⁽¹⁾ Current loan facility MUSD 850 with reducing availability to 2014

➤ Discussions well advanced for new financing facility to be completed by mid-2012

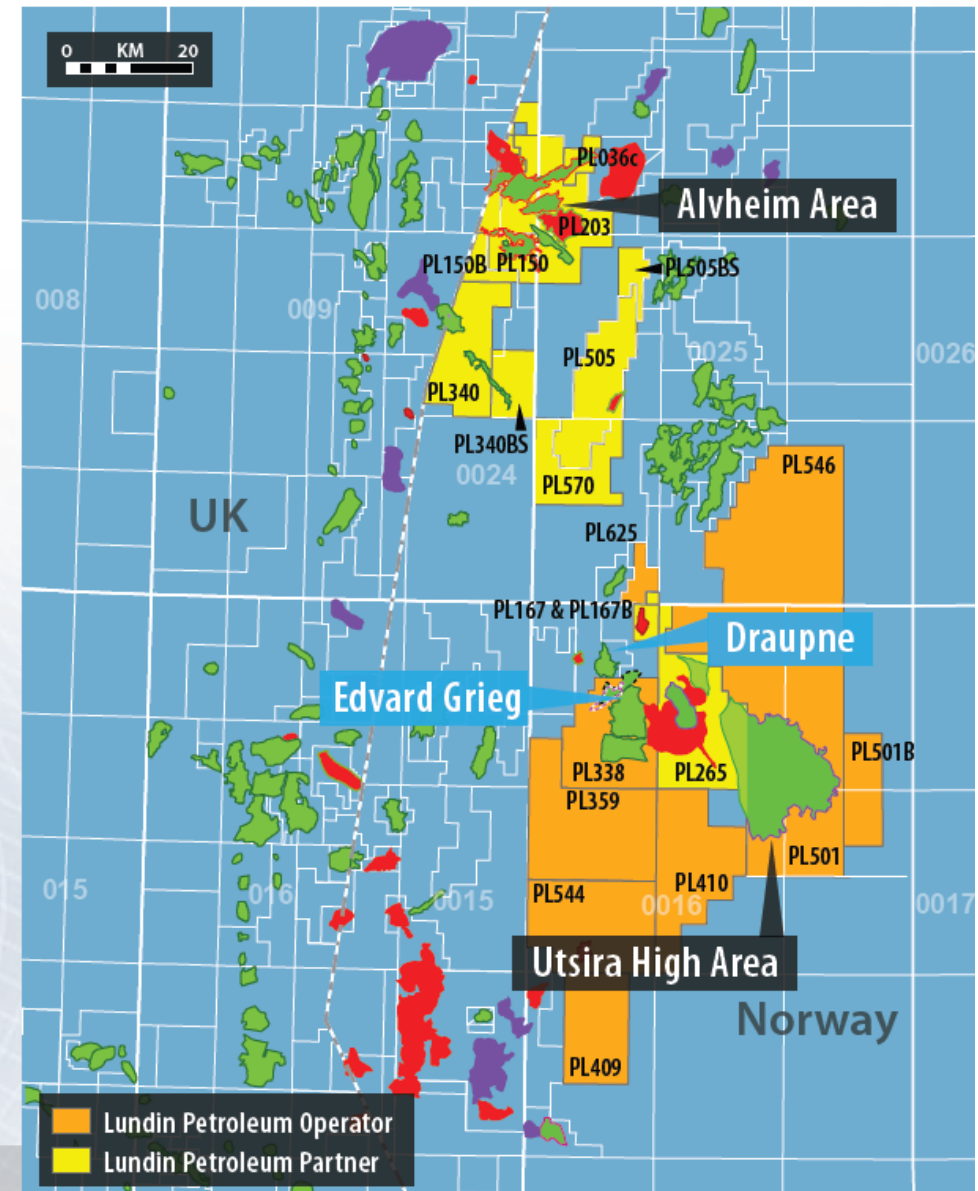
	MUSD	
→ Development cost to be funded ⁽¹⁾	→ 2,500	(over 4 years)
→ Current exploration spend	→ 400	(per annum)
→ Operating cash flow generated 2011	→ 675	
→ Existing asset base ⁽¹⁾ supports borrowings	→ ~ 2,500	

➤ Ongoing development and exploration costs will continue to be funded from cash flow and bank borrowings

Utsira High Area – Edward Grieg Development



- Lundin Petroleum interest: 50% (operator)
 - ➔ Wintershall 30%, RWE Dea 20%
- Development plan approved by the Ministry of Petroleum & Energy
- 2P reserves: 186 MMboe gross
- Plateau production rate: 100,000 boepd gross
- Commercial agreement for coordinated development with Draupne
- Lundin Petroleum to join the club of fixed asset installation operators on the Norwegian North Sea



Edvard Grieg Development Project



- **Production startup Oct 2015**
- **Capital costs: 24 NOK billion**
- **Drilling 15 wells from jack-up rig**
 - ➔ 11 producers and 4 water injectors
 - ➔ Contract award to Rowan companies
- **Platform PdQ**
 - ➔ Jacket and Topsides - contracts awarded to Kvaerner
 - ➔ Marine installations - contract awarded to Saipem
 - ➔ Design capacity
 - Oil: 90 000 bopd (with Draupne: >120 000 bopd)
 - Gas: 2 MSm³/d (with Draupne: 4 MSm³/d)
 - ➔ Prepared for coordinated development with a Draupne platform development
- **Export pipelines**
 - ➔ Oil export pipeline to Grane
 - ➔ Gas export pipeline



Johan Sverdrup – A New Giant in Norway



⇒ PL501 licence operated by Lundin Petroleum (40%)

→ Partners: Statoil 40%, Maersk 20%

➔ **Gross contingent resources end 2011
on block 800 – 1,800 MMbo**

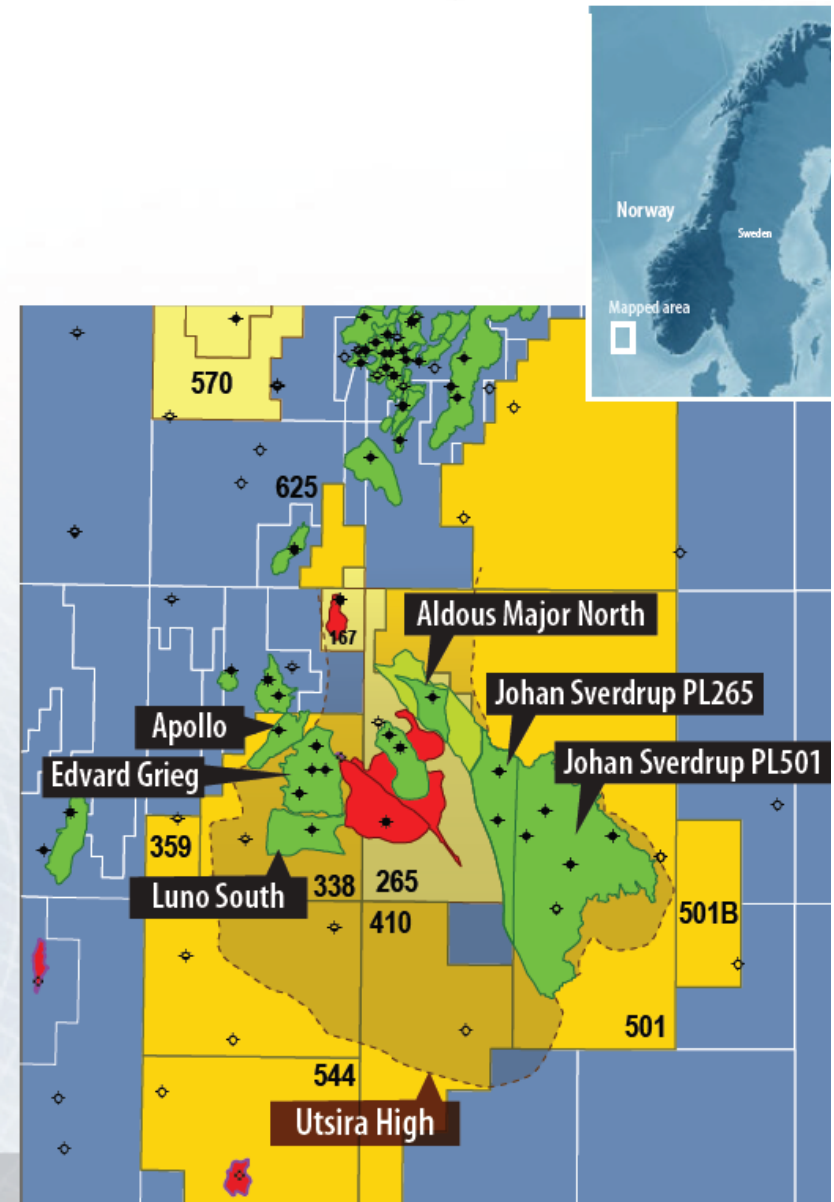
⇒ PL265 licence operated by Statoil (40%)

→ Partners: Petoro 30%,
Det Norske 20%,
Lundin Petroleum 10%

➔ **Gross contingent resources end 2011
on block 900 – 1,500 MMbo⁽¹⁾**

**1,700 - 3,300
MMbo**

⇒ Updated resource estimates after current appraisal
drilling programme



Value creation with knowledging as enabler

Lundin

- *He on whom Gods light does fall sees the great thing in/and the small*
- *To know what thou knowest not is in essence omniscience*



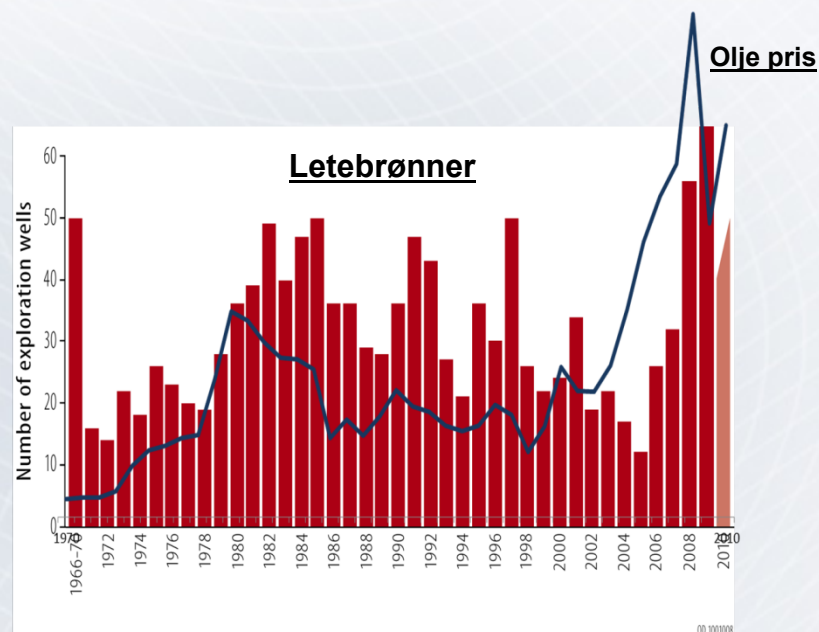
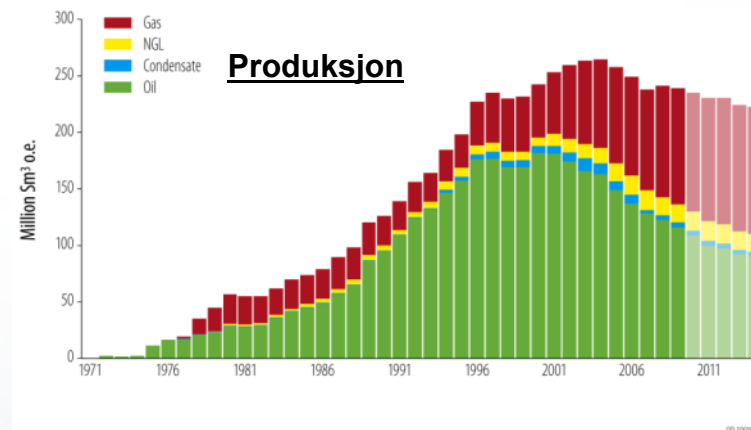
*Includes all external stakeholders to such a degree
that **LNAS** is a wanted supplementary
company*



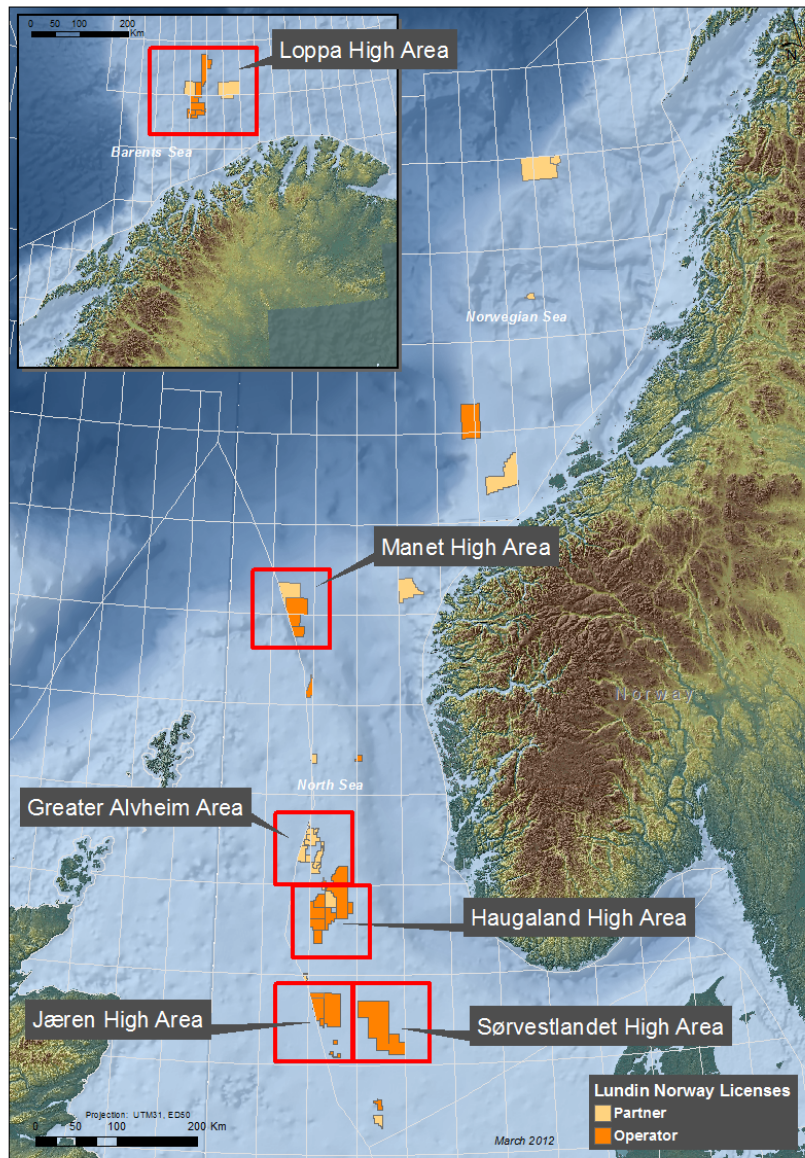
Produksjonsfallet er aktivitetsbetinget



1. Oljeproduksjonsfallet reflekterer ikke undergrunns potensialet, men redusert leteboringsaktivitet.
2. Reduksjon i historisk leteboringsaktivitet:
 1. *Fall og variasjoner i oljepris*
 2. *Redusert arbeidsprogram*
 3. *Redusert mangfold ved sammenslåing*
 4. *Konserverende organisasjonsmodeller*
 5. *Aksjonærfokus på bekostning av langsiktig, organisk vekst verdiskaping*
3. Økt boreaktivitet de siste 5 år har ført til et gigantisk, flere signifikante og mange små kommersielle funn
4. Statlig politikk om økt mangfold av nye aktører har reversert aktivitets fallet
5. Nye funn skyldes:
 1. *Tro på at det mulig å skape nye verdier*
 2. *Ny kunnskap basert på handling og teknologi*
6. Erfaring:
 1. *Forståelse av undergrunns potensialet må være basert på undergrunns kunnskap for å unngå selvpoppfyllende profetier og politiske fiksjoner*



Organic growth exploration activities:



- **Cash flow protected organic growth;**
 - New discoveries; share price upside and value creation for all stakeholders.
 - Lack of performance; share price downside and reduced relations to all stakeholders.

- **Utilise synergy in portfolio to obtain efficient exploration and development for oil;**
 - Clusters in relation to inverted Jurassic highs and other plays
 - Areas with water depth shallower than 5-600 m without HTHP
 - Commercialize gas when found

- **Design yearly balanced drilling portfolios in relation to ;**
 - Maturation of new clusters with potential breakthrough discoveries
 - Harvest and secure upside in clusters
 - Mature tie-in exploration

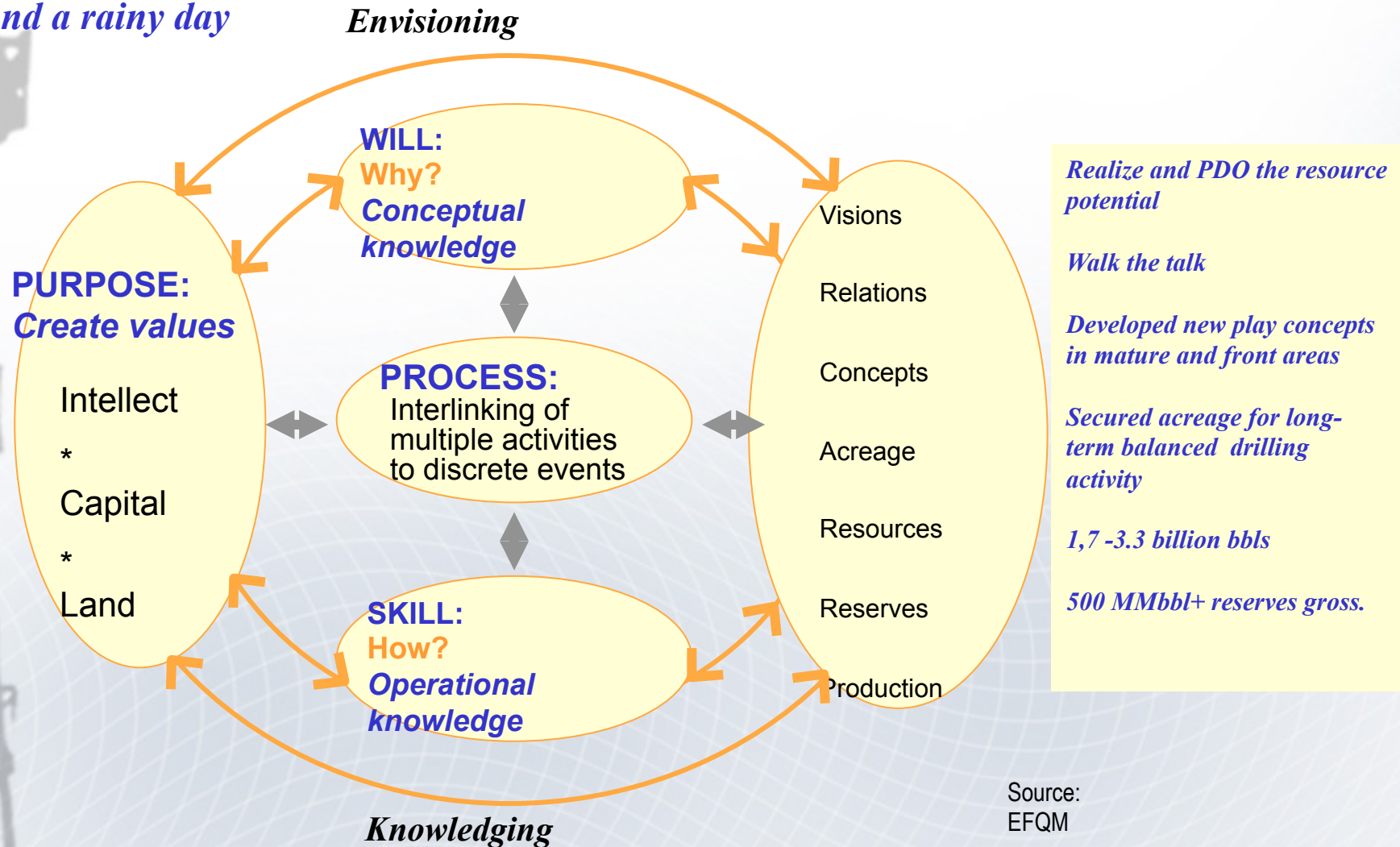
- **Key drivers for maturation of prospects and leads;**
 - Committed wells on breakthrough discoveries
 - Mature commercial discoveries towards PDO
 - Activities to keep all prolific areas to grow value
 - Expire dates of licenses in relation to PDO
 - Necessary geophysical activities to mature prospects
 - Others ; timing in relation to production options

- **Maintain production from existing and emerging developments (Alvheim and Volund)**

A strategy must be real and for all stakeholders



*The strategy has to be affordable
and stand a rainy day*



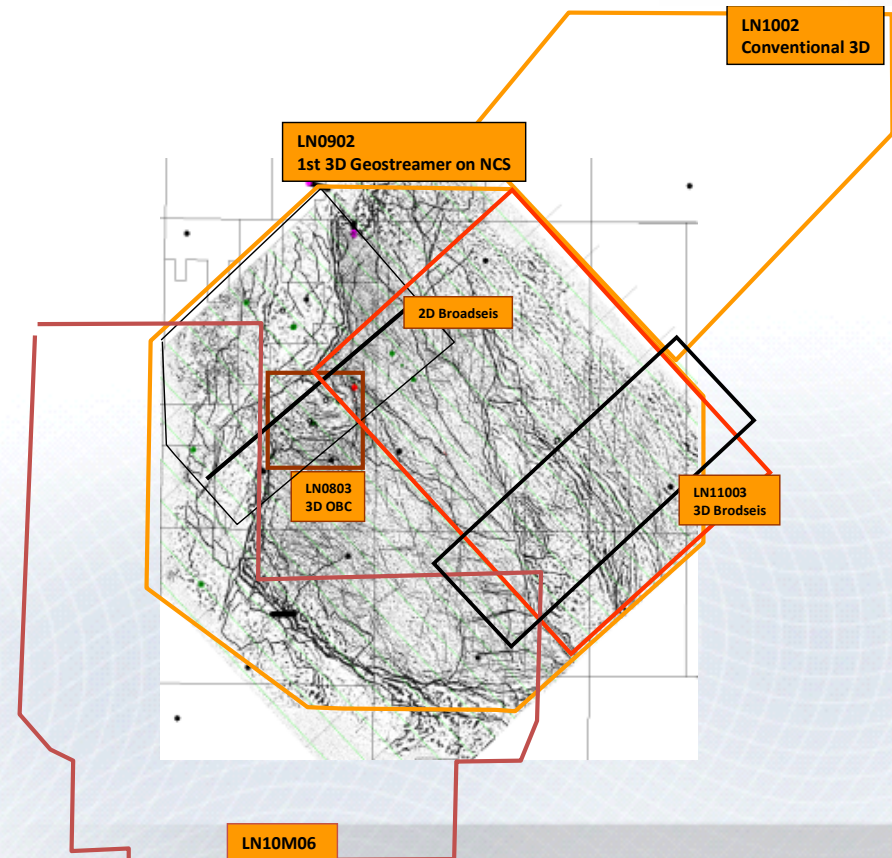
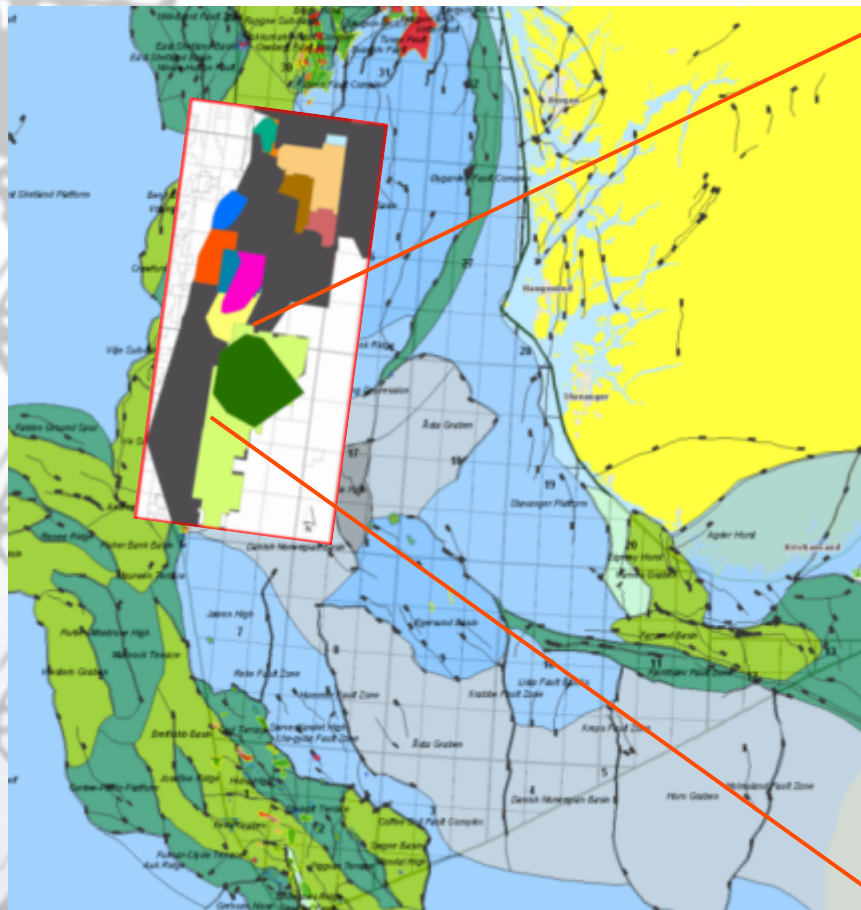
Seismic acquisition



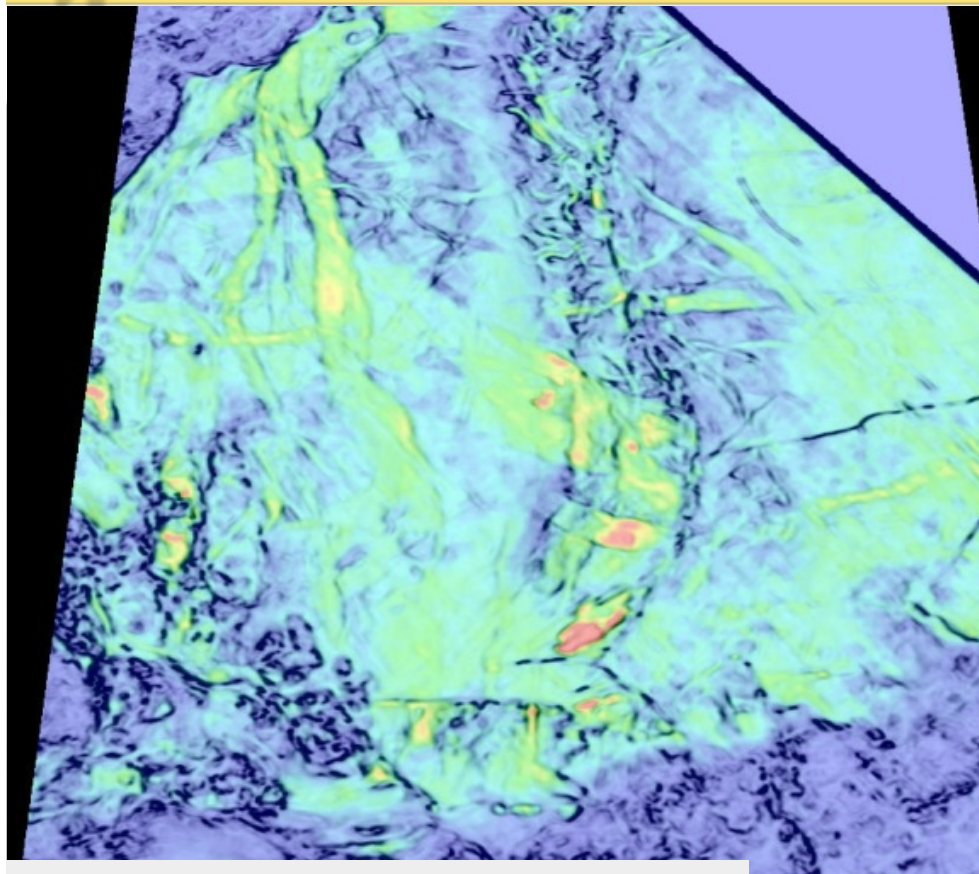
Lundin



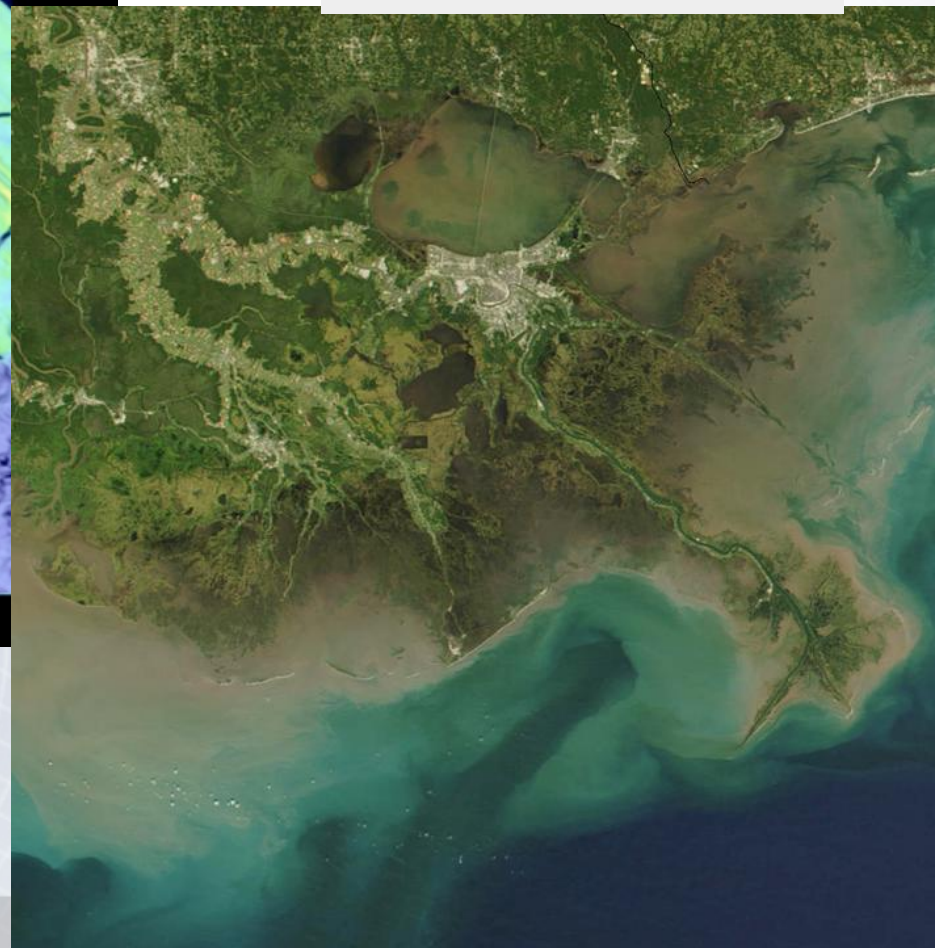
3 nye generasjoner av 3D data innsamlet siden 2008



In the field example ↓
Present day depositional environment from a part of the Mississippi river delta. The geometry resembles the seismic data



↑
Seismic attribute cube
The channel features in green colors is probably a river system. That is good news, since river systems often an environment with sandstone. The rock that can contain oil. Further data analyses also highlights the possibility of oil being present. In this case red colors.

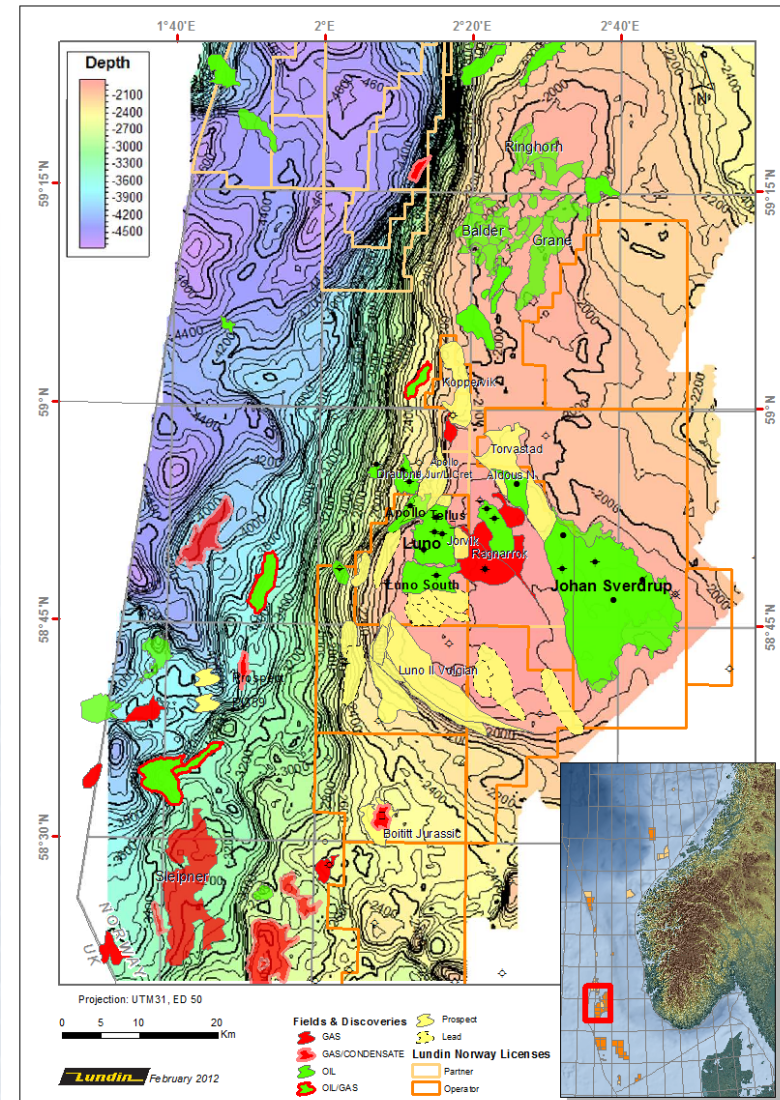


Revitalisering av et modent område

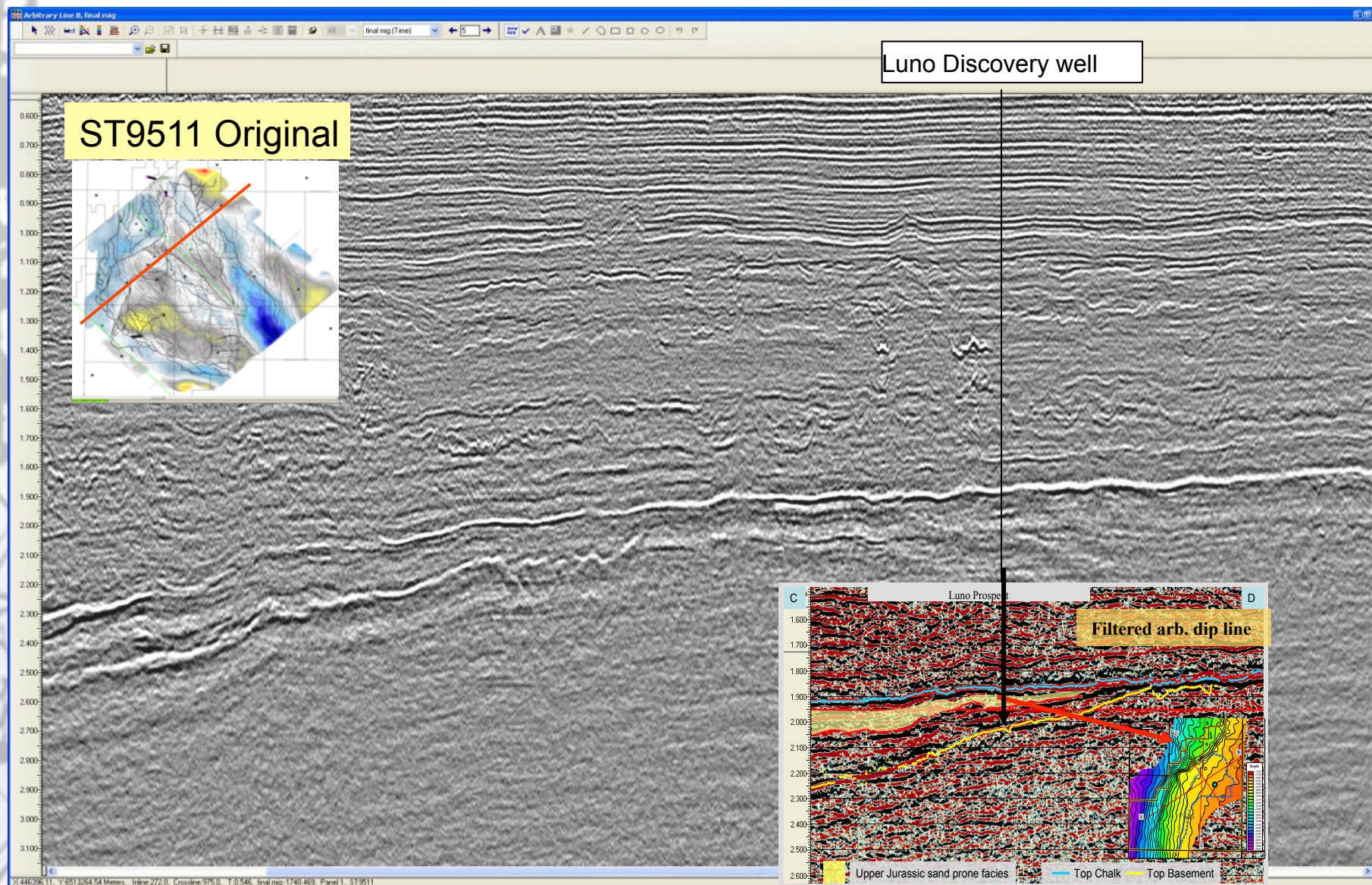


Utforsknings historie:

- **Fase 1 and 2: Pre 1990**
 - *Geologi og 2D seismisk drevet;*
 - *Gass og biodegradert olje.*
 - *Fakta skygget for sanheten og mulighetene;*
Balder, Ragnarrock, Sleipner, Heimdal, Ringhorne
- **Fase 3: 1990-2000 3D and geofysisk analyse drevet:**
 - *Manifestering av ikke biodegradert olje;*
Glitne, Hamsun/Grieg, Jotun, Grane(biodeg) etc.
- **Fase 4: Post 2000**
 - *Multikube 3D and integrert geologi drevet*
Alvheim, Volund, Vilje, Bøyla, Verdandi, Hanz, Luno, Luno South, Draupne, Emitrude, Apollo, Tellus Avaldsnes



3D kvalitet ved søknads tidspunkt August 2004

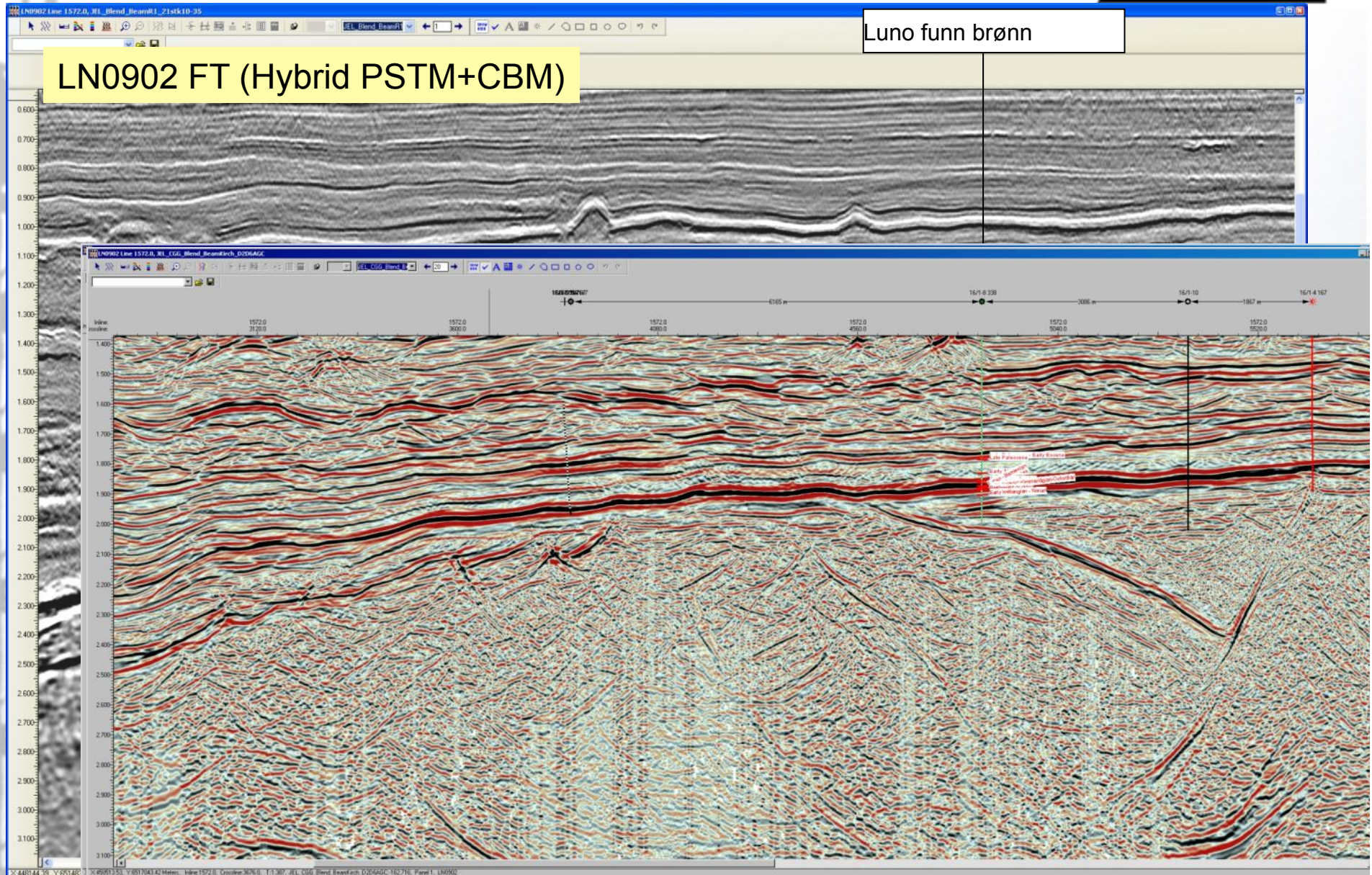


Ny 3D's tillater blanding av ulike spektre

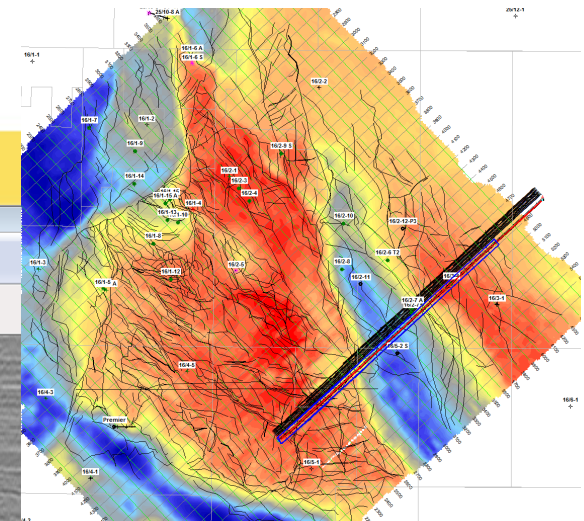
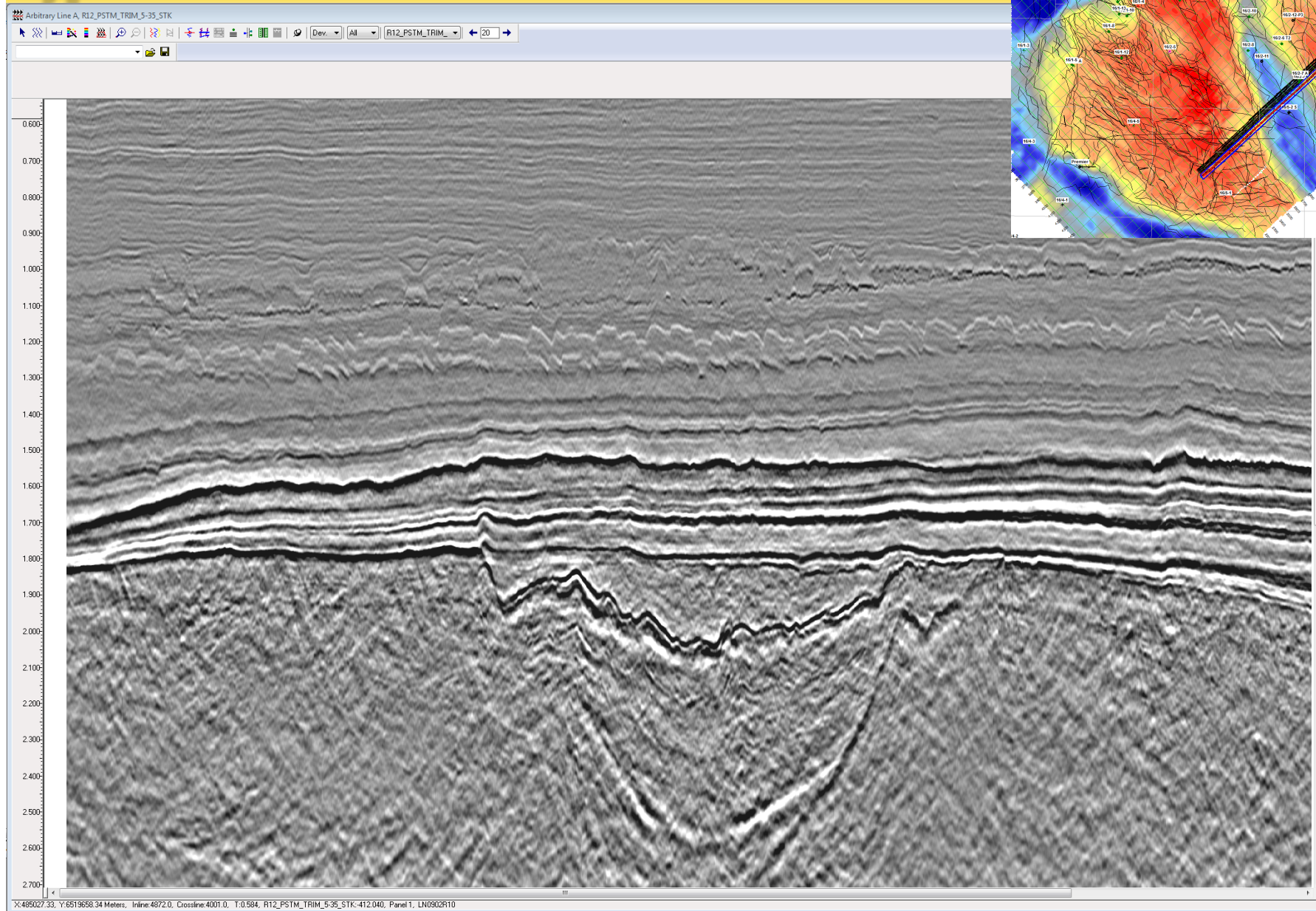


Luno funn brønn

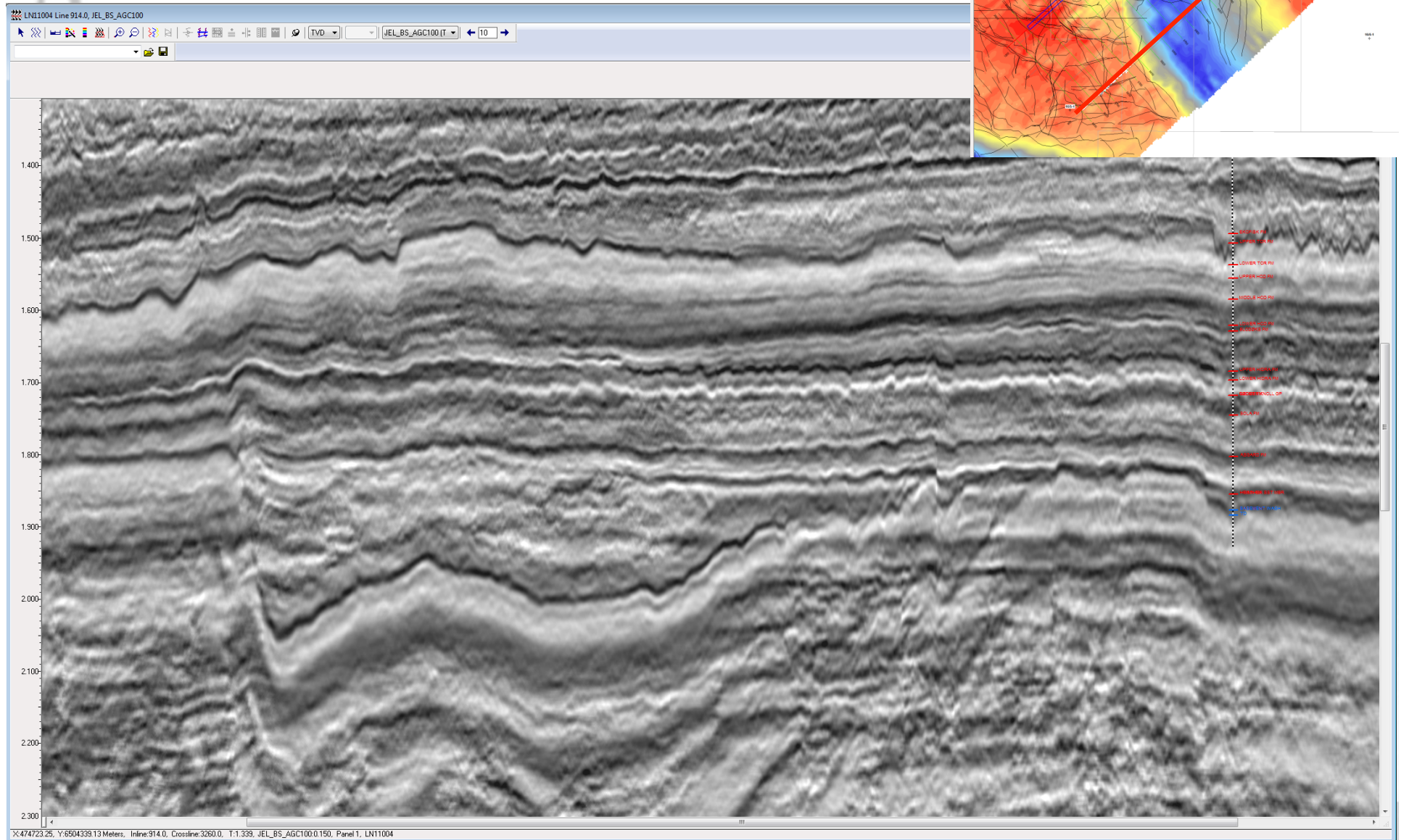
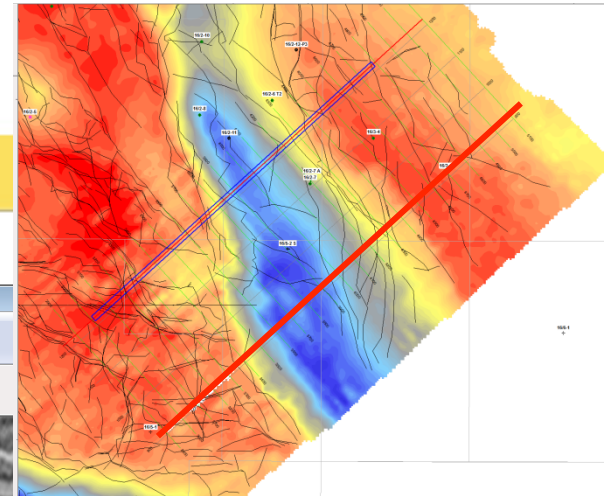
LN0902 FT (Hybrid PSTM+CBM)



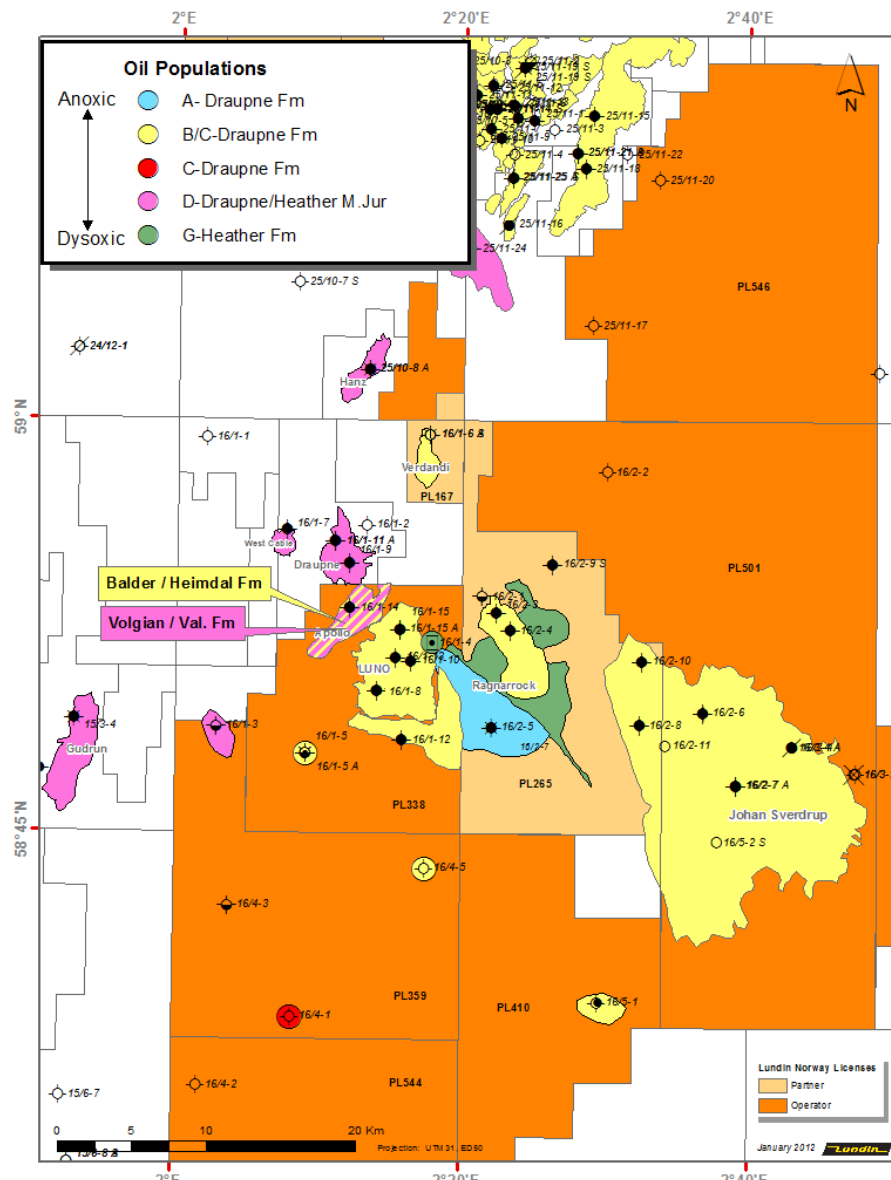
3D PSTM Geostreamer



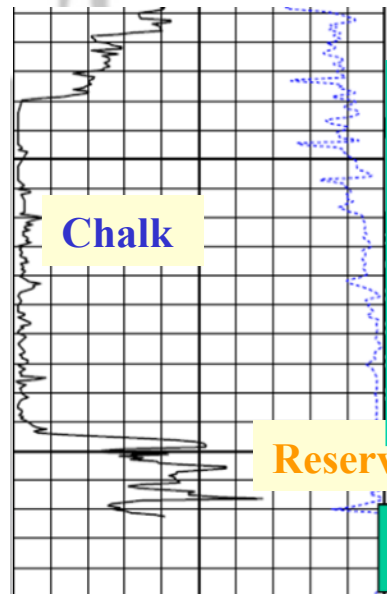
3D – BroadSeis with BroadSource



Variasjon i oljetyper skaper muligheter for alternative modeller

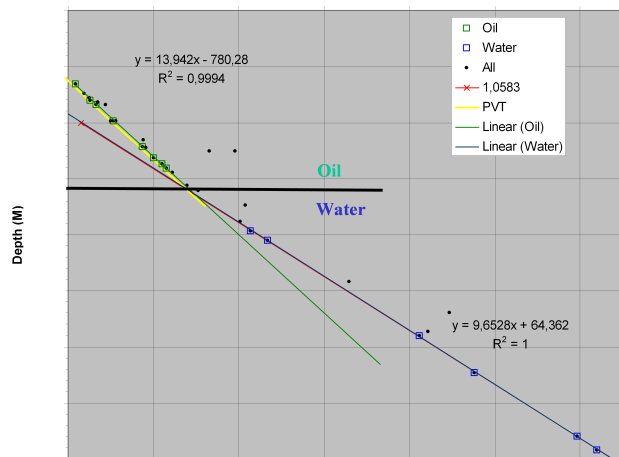


16/1-8 Formasjons evaluering



Reservoir

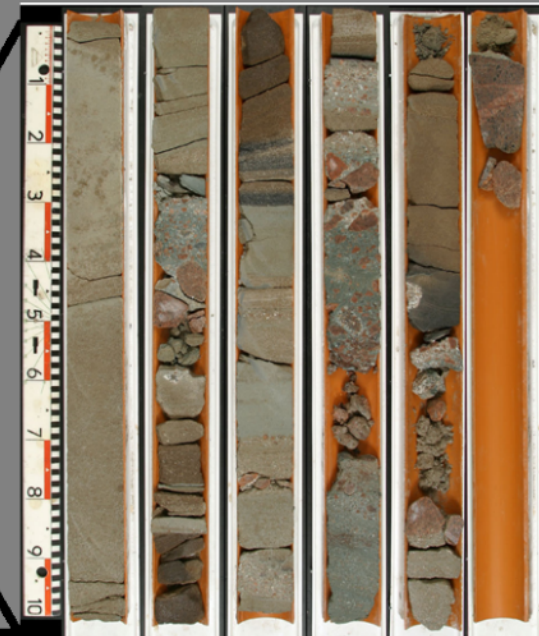
16/1-8
Pressure (bar)



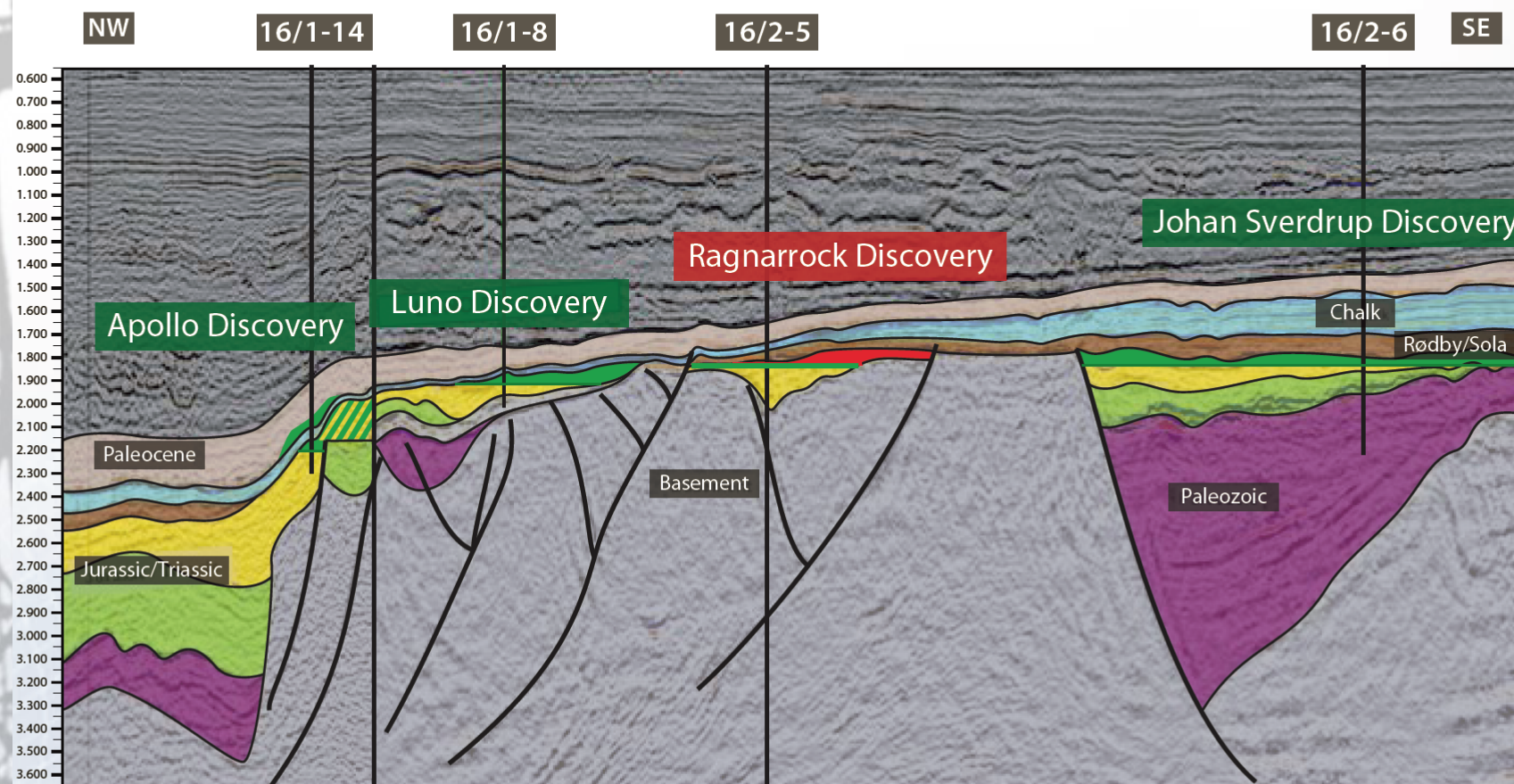
Logs read 40% shale in 100% sand

This is the gamma log from core no 1.

This is how it looks like

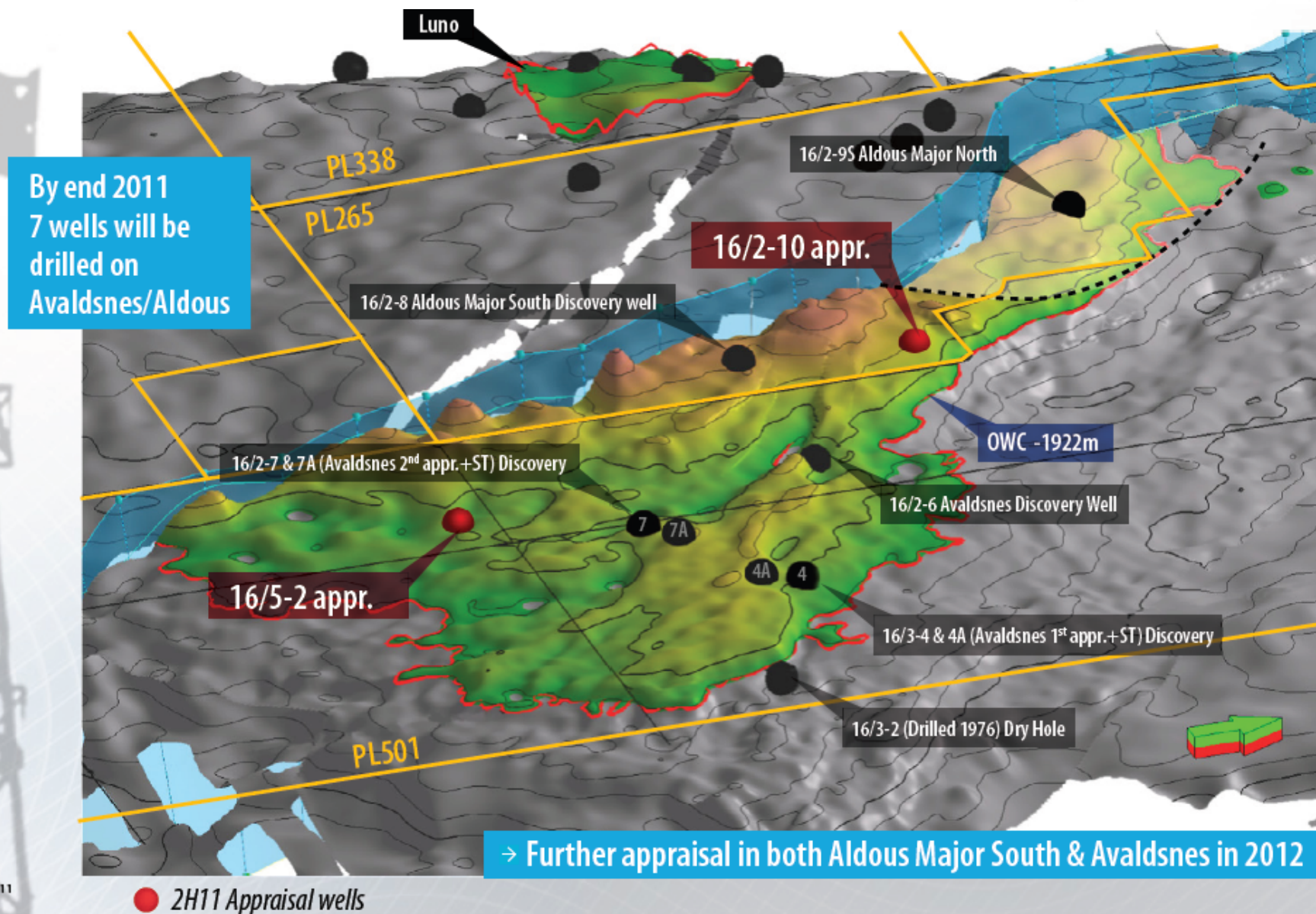


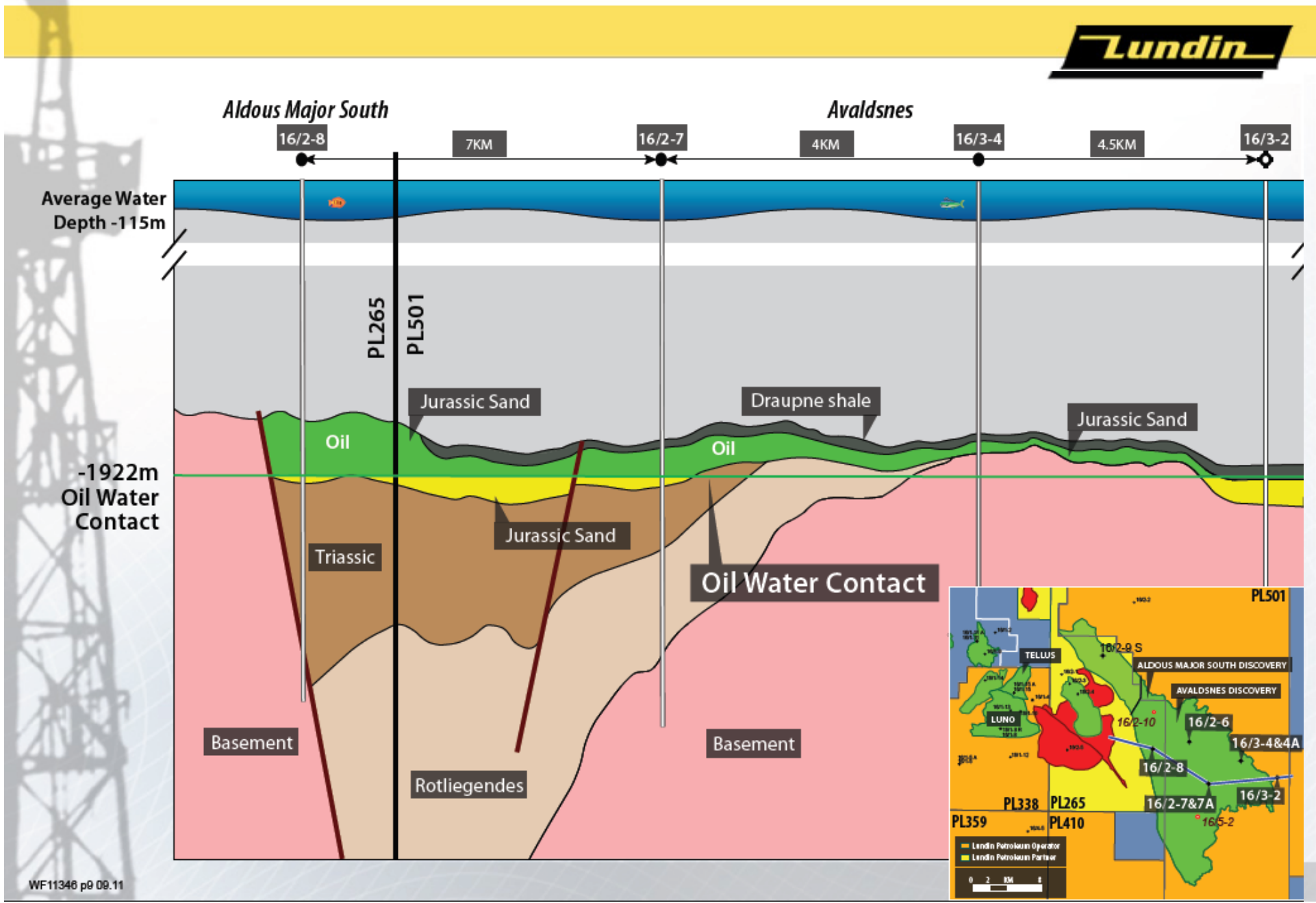
Funn på Haugaland Høyden



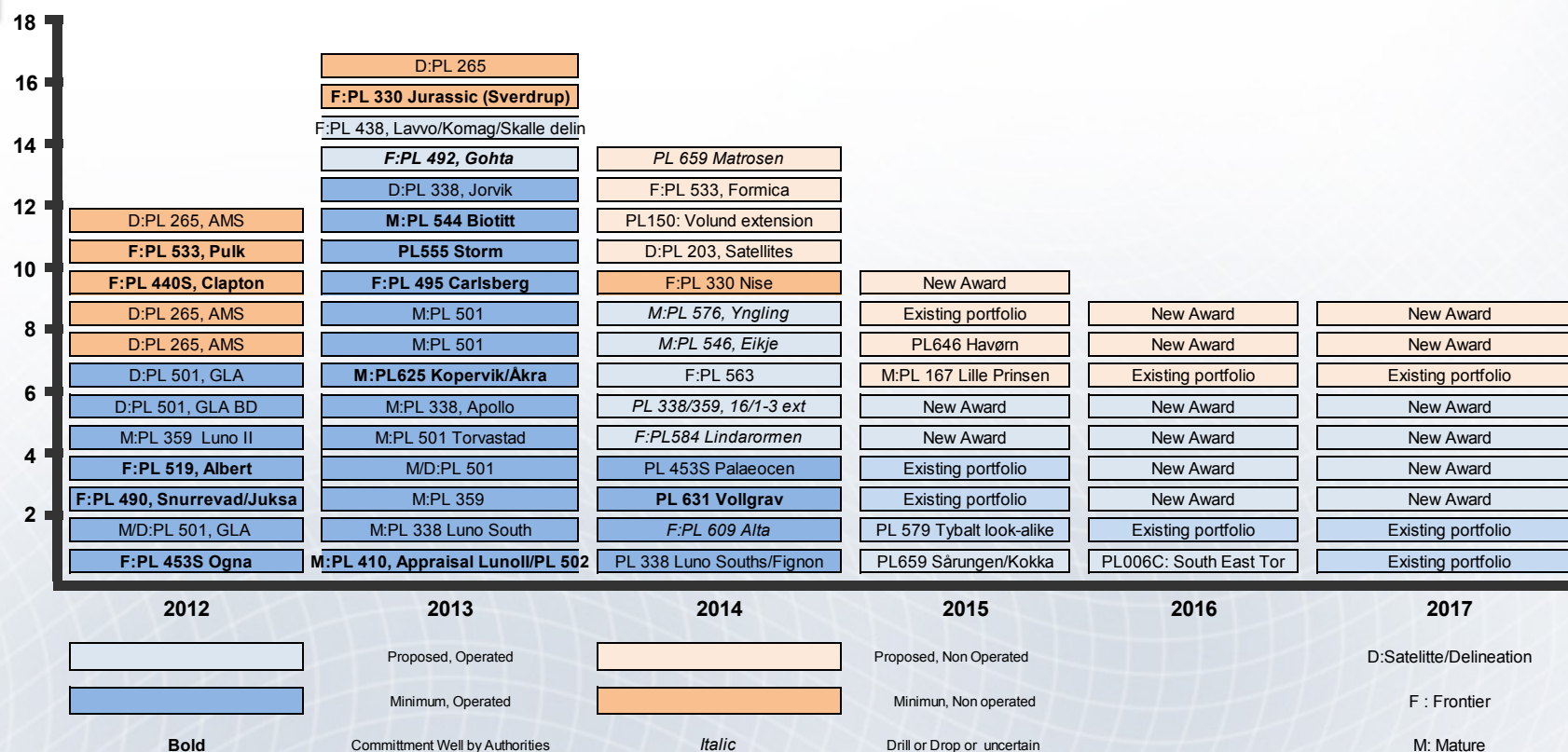
Avaldsnes; Funnet i 2010 avgrensning start i 2011

Lundin





Identified wells to be drilled



Lundin strategi på Haugaland Høyden

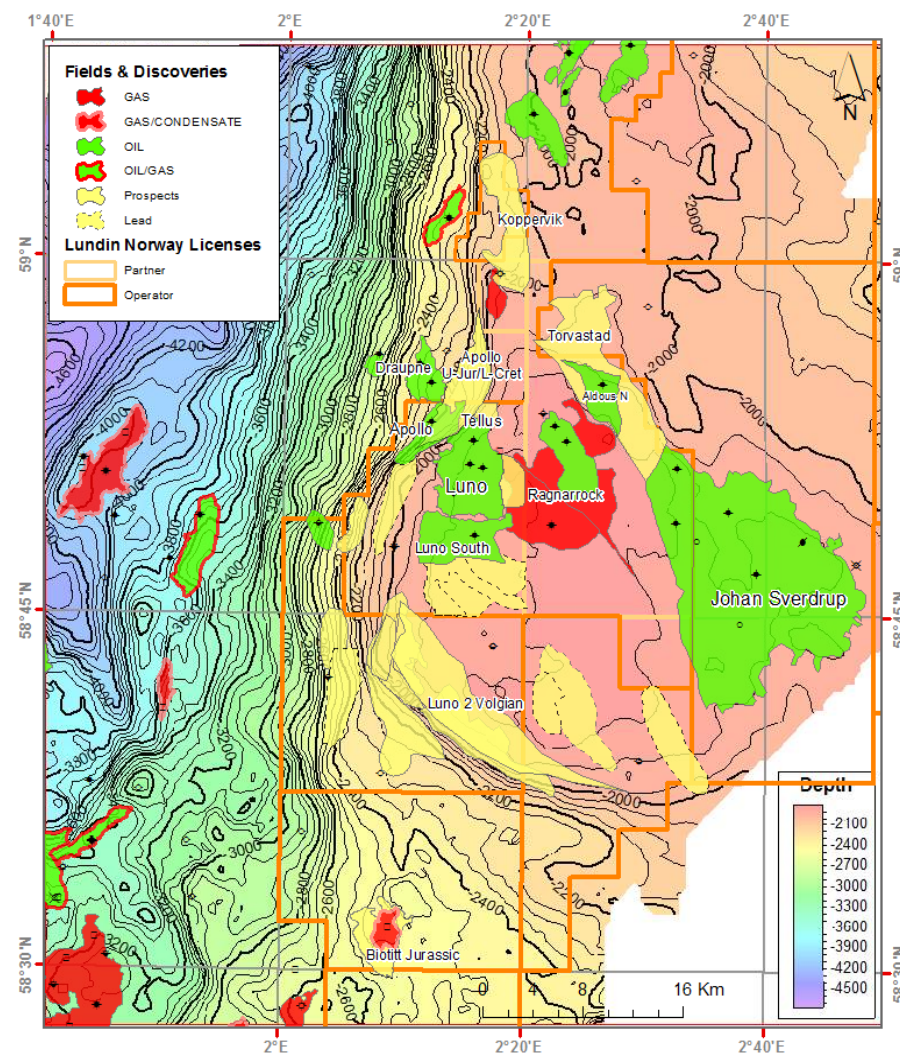


Primær prospekt;

- **Luno 2 (139)**
- **Apollo/Noor incl (250)**
- **Apollo S extension(lead)**
- **Biotitt (112)**
- **Kopervik**

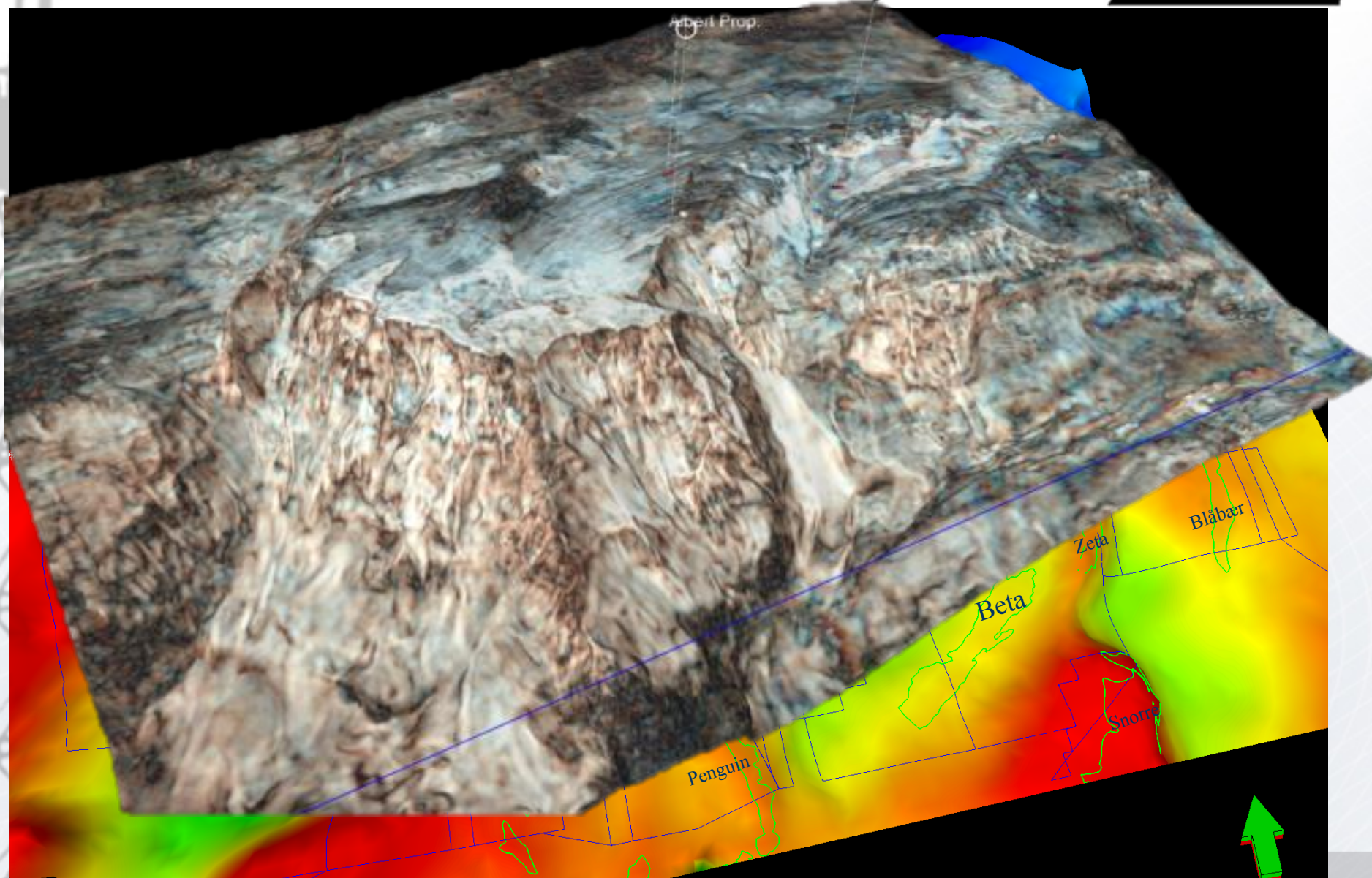
Viktige prospekt

- **Jorvik (45+)**
- **Luno south extension(lead)**
- **Torvestad (36+)**



Greater Albert Area

Lundin

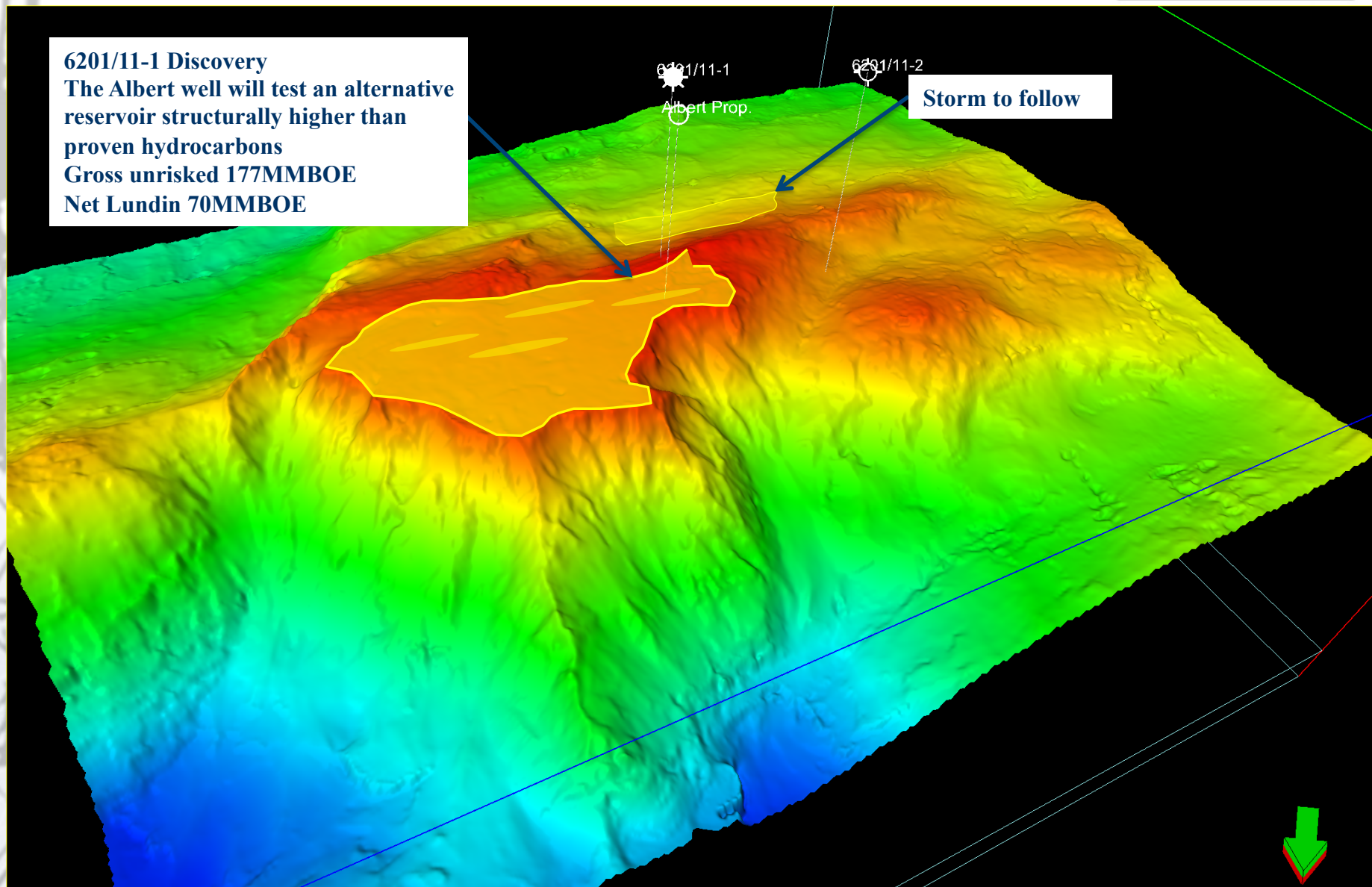


PL 519 – Base Cretaceous 3D view from the North

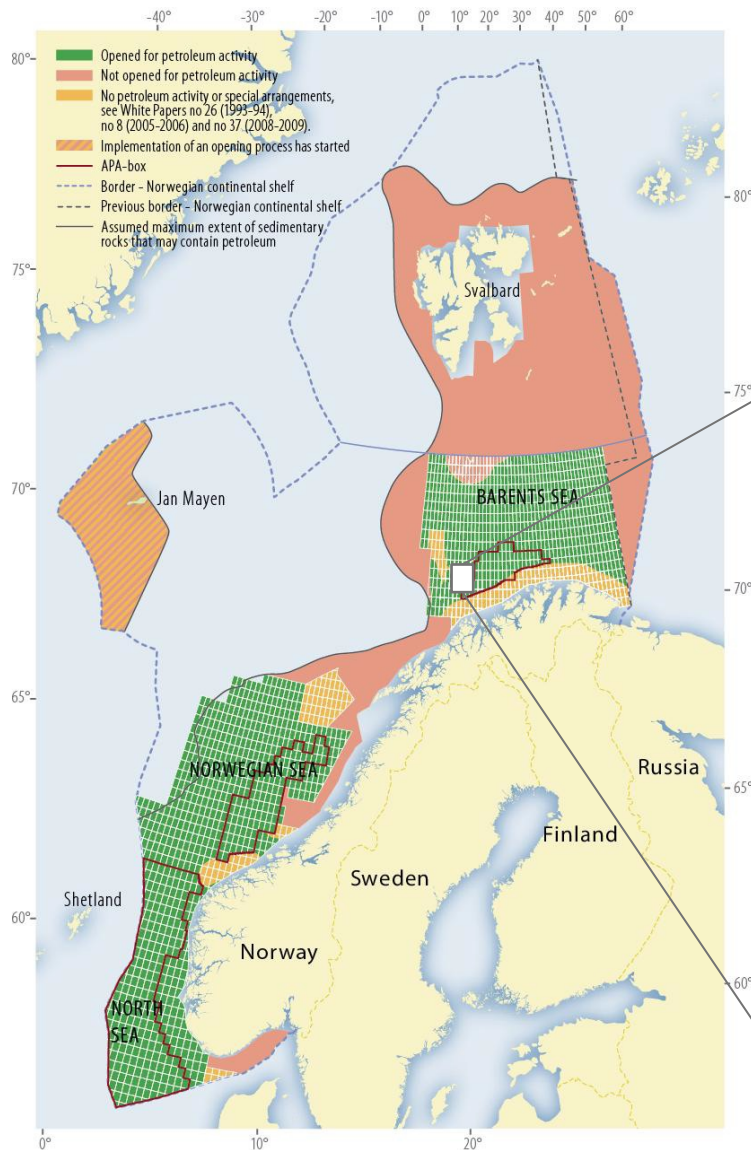


6201/11-1 Discovery

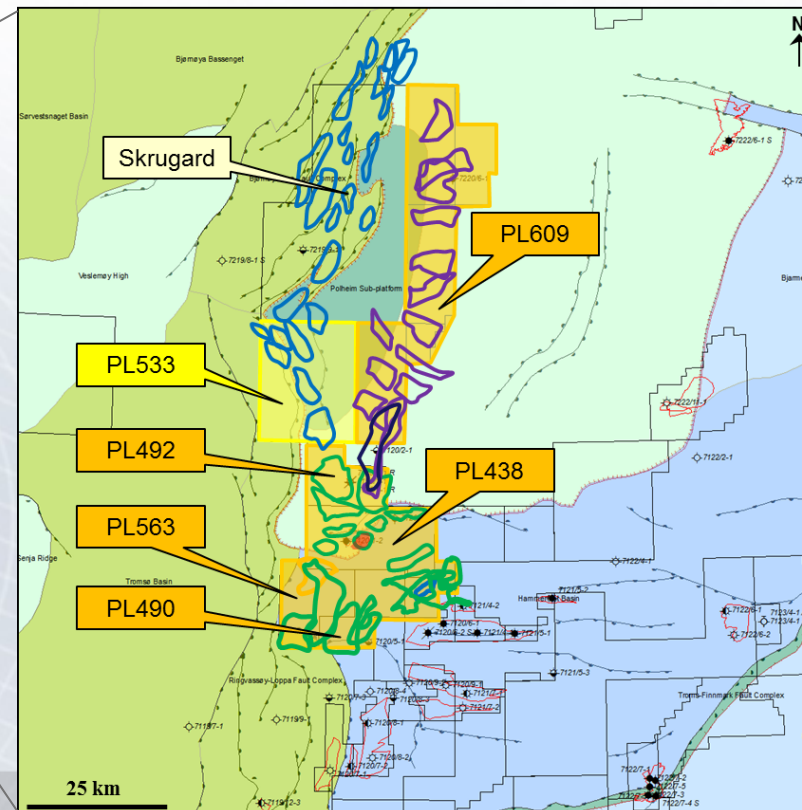
The Albert well will test an alternative reservoir structurally higher than proven hydrocarbons
Gross unrisked 177MMBOE
Net Lundin 70MMBOE



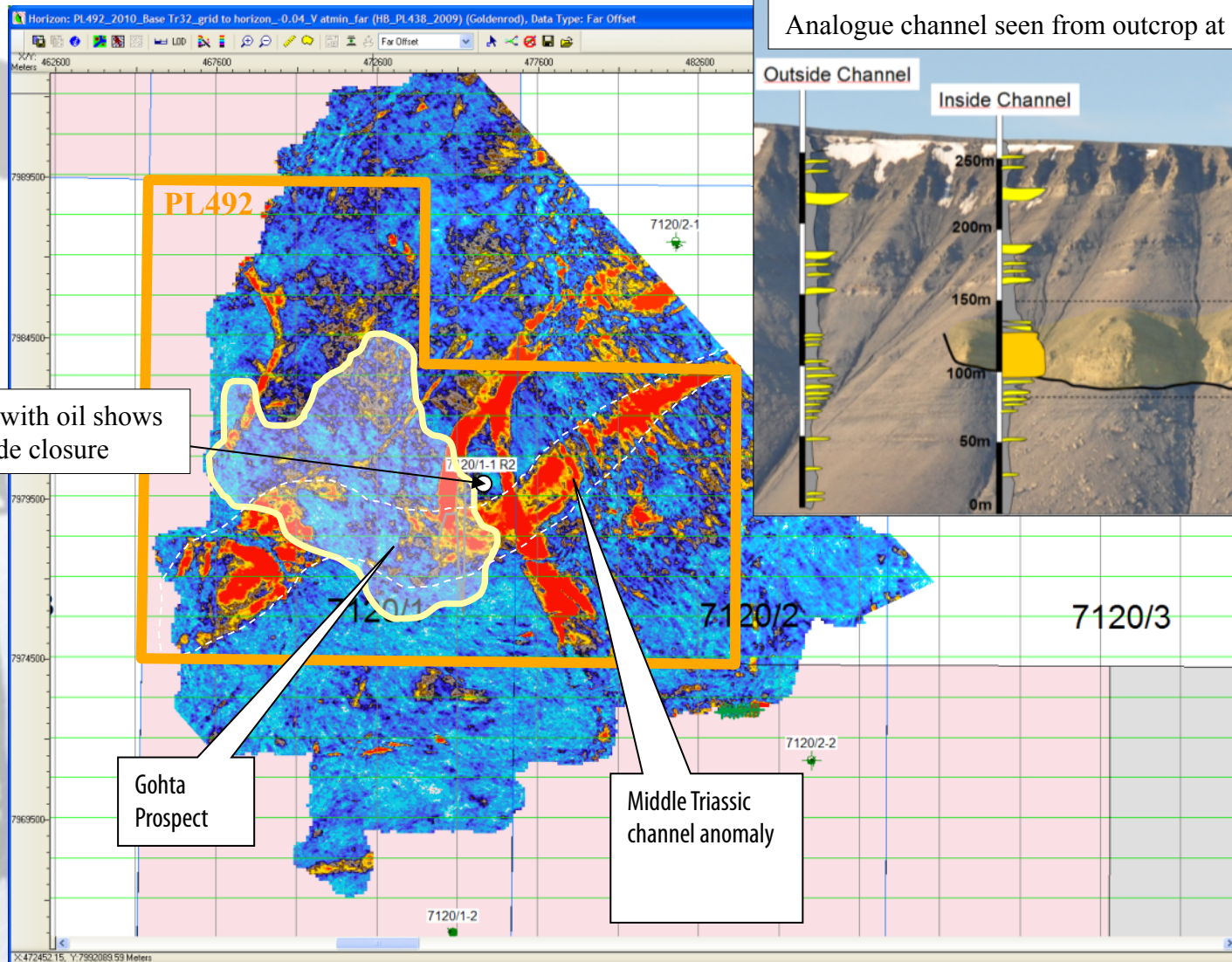
Lundin position in the future Barents Sea



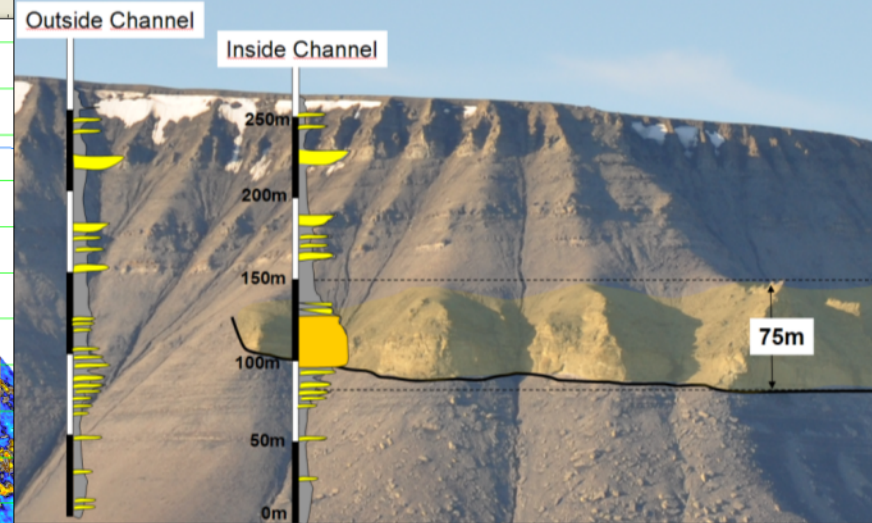
- ➔ Lundin is well prepared to take a major part in present and future activity in the Barents Sea
- ➔ A core area has been build through license applications
- ➔ The area is focusing on the possibility for oil discoveries
- ➔ A number of drillable prospect and leads identified



Triassic channels by 3D and in field



Analogue channel seen from outcrop at Edgeøya, Spitsbergen





Congratulation



➤ The gift:

- ➔ An integrated upstream company on NCS that has set the standard for newcomers
- ➔ Obtained 95% of what has been applied for, obtained operator ship through trust and attracted people
- ➔ Trust by authorities and partnerships
- ➔ Securing long-term workplaces as long as we deliver value growth for all stakeholders
- ➔ Break through credited Lundin's knowledging
- ➔ Delivered following PDO's :
Alvheim, Volund, Gaupe, Brynhild, E. Grieg
and coming Boyla, Sverdrup, Skalle?
- ➔ Production from organic growth
- ➔ Increased value linked to discoveries