Lundin Petroleum - Norway

Analyst Presentation
2 December 2010

Norway - Oil Industry Overview

NCS Development Trends - Last 10 - 12 Years

- **Changes in company structure**
  - Privatisation of Statoil
  - Statoil/Hydro/Saga merger
  - General "Mega mergers" acquisition
  - Large amount of new companies, 50+ pre qualified

- **Increased exploration activities**
  - Award in APA rounds
  - Tax incentive
  - All time high in 2009
  - Moderate success

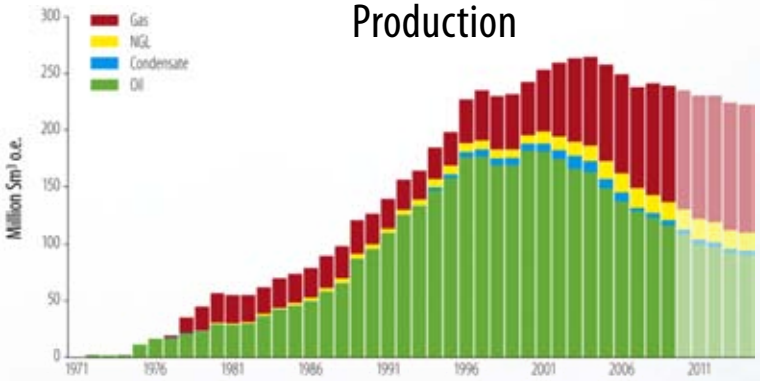
- **Decline in production**
  - Too little focus on IOR (Åm report)

- **High oil prices, lower gas prices**

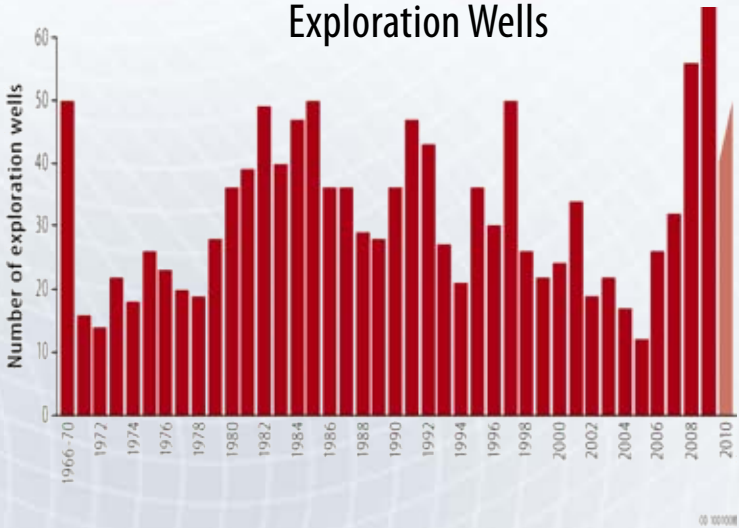
- **Increased cost development**
  - Unit cost doubled the last 4-5 years

- **New companies have the possibility to seek the best in new software**
  - PC based interpretation software from small independent suppliers
  - A revolution in computing power enables in-house processing
  - Web based publishing tools makes report and application work fast and flexible

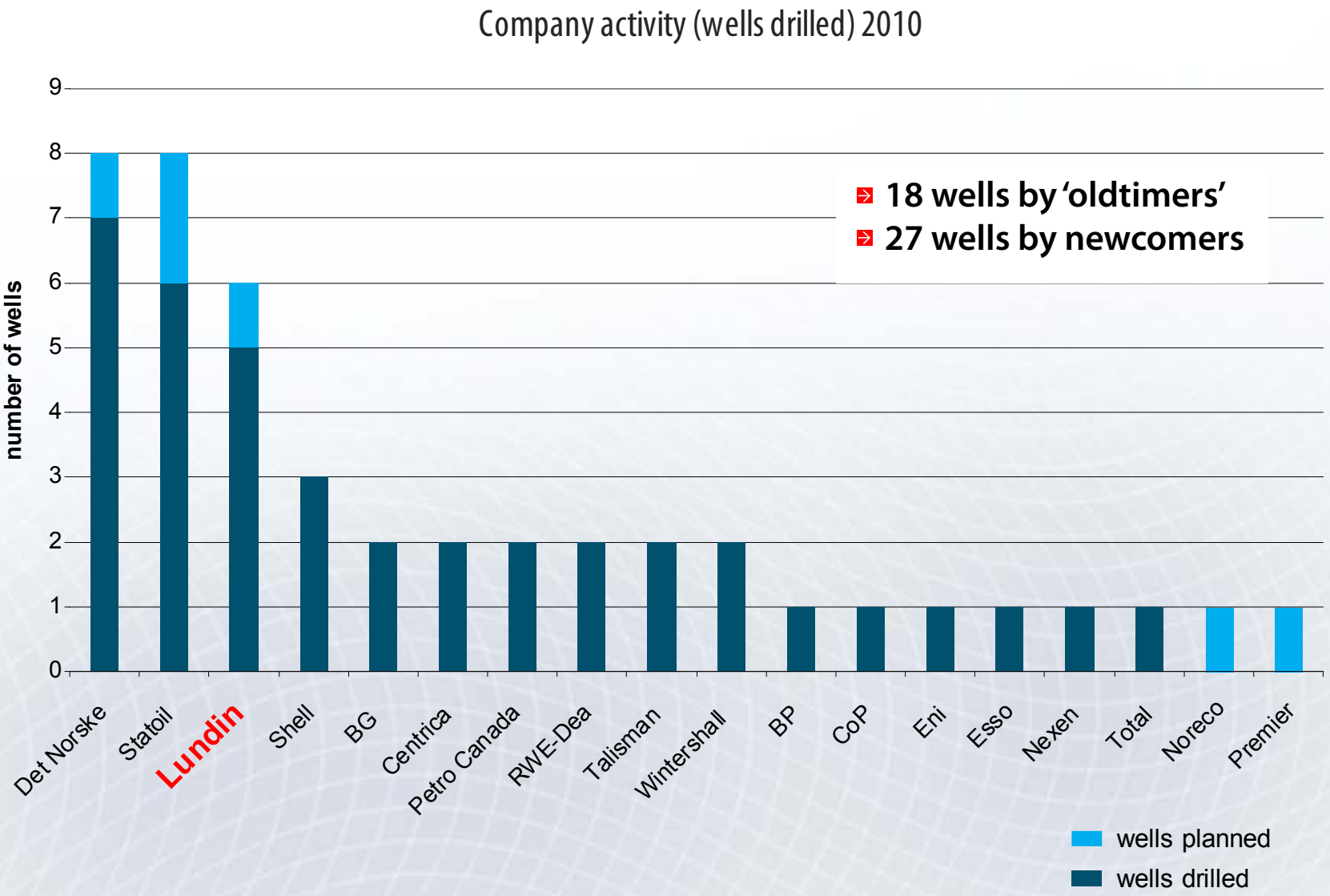
Production



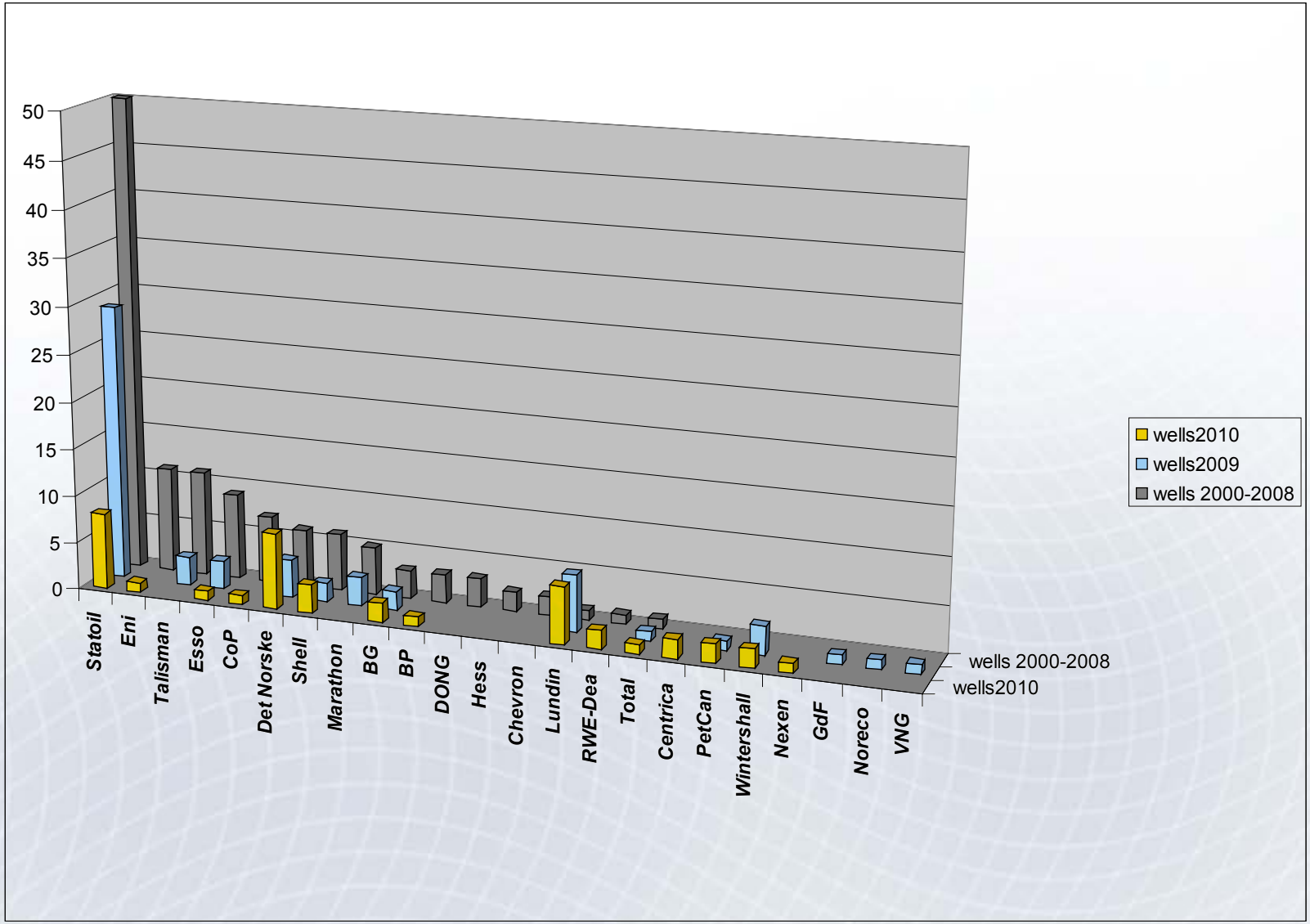
Exploration Wells



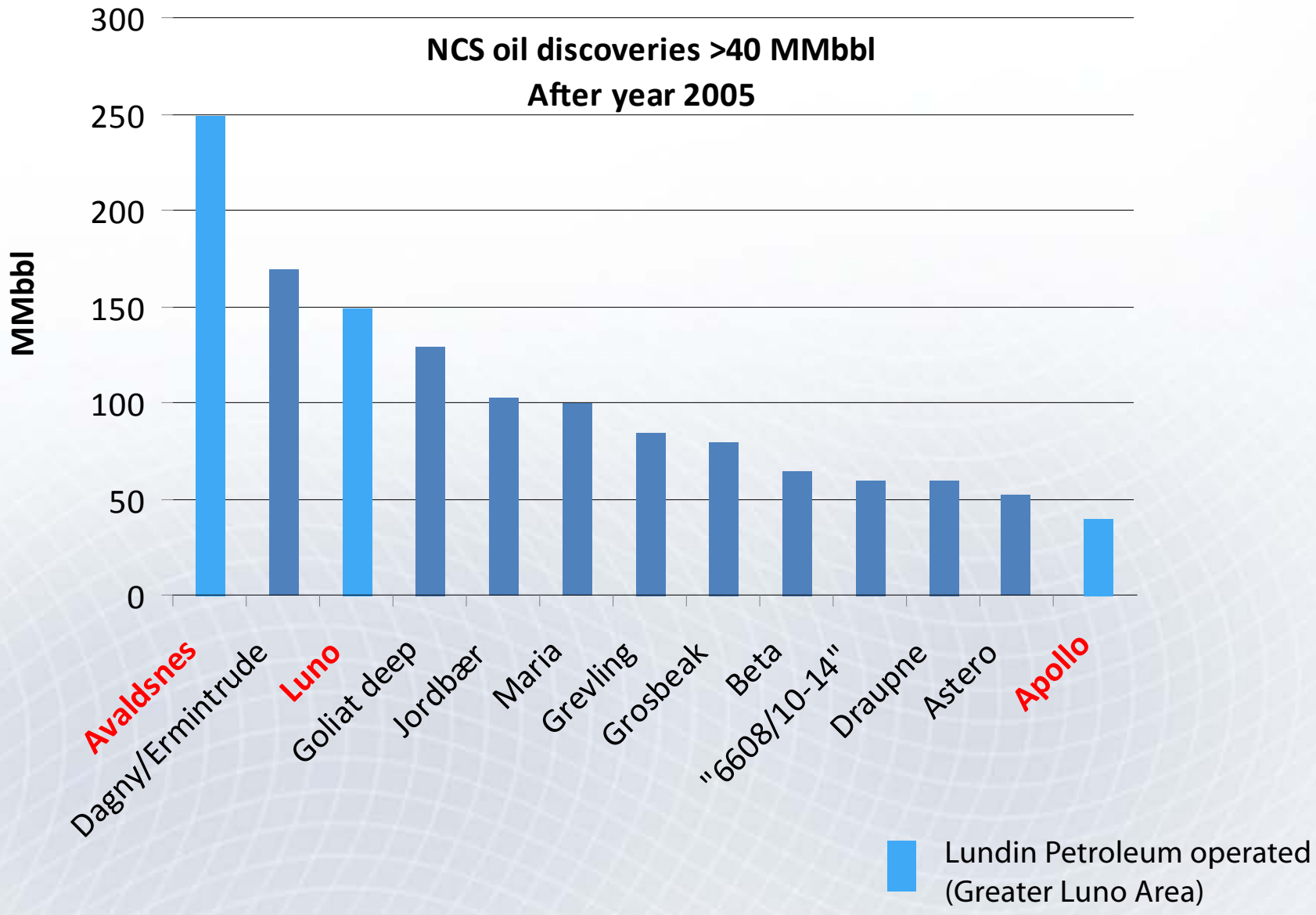
Current Drilling Activities



Development in Exploration and Delineation Drilling



Oil Discoveries above 40 MMbbl in Mature Areas



New Players in the Last 10 Years

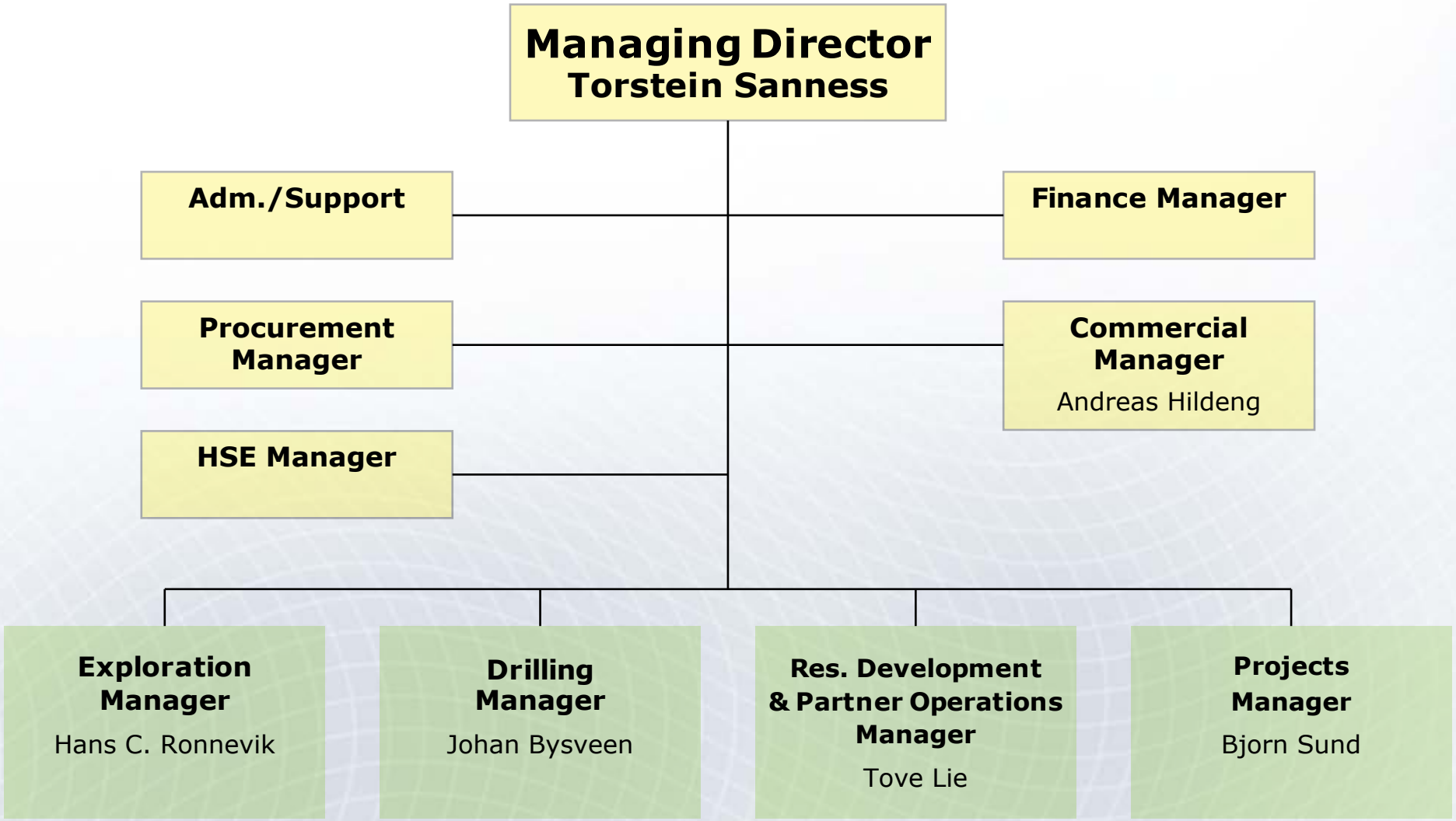
The "Right Tool" to do the "Right Job"

- **A new company will not start with yesterday's "IT toolbox" and it's defenders**
- **A new company will start with a fresh, new, up to date "IT toolbox"**
  - PC based interpretation and data handling software from smaller and independent suppliers (Kingdom, ffA, Headwave, H&R, Petrel)
  - A revolution in storage capacity and computing power makes in-house processing of large 3D multiuser datasets possible (Promax)
- **Lundin Petroleum will stay in front to facilitate the most competitive technical and commercial solutions**

Norwegian Taxation

- **Taxes are profit related:**
  - Corporation Tax : 28%
  - Special Petroleum Tax : 50%
- **No Royalty, no Ring Fence**
- **30% uplift against special tax over four years for new investments**
- **Interest costs can be deducted against tax**
- **New entrants without revenue receive 78% of unsuccessful exploration spend back in December the following year**

Lundin Norway Organisation



- Total (2010) LNAS employees: >75 (excluding consultants)

Lundin Norway

Norway - Introduction

2P Reserves of 121 MMboe GCA + additional latest Luno 2P certified Reserves of 27 MMboe (net Lundin)

- 2 producing fields: Alvheim & Volund
- Current production 20,000 boepd
- 1 field under development (Gaupe) - first oil Q4 2011
- 6 fields fully appraised - undergoing concept selection
  - Nemo first oil 2012/13
  - Krabbe first oil 2013/14
  - Luno first oil 2014/15
  - Marihøne first oil 2013

Contingent resources of 44.6 MMboe

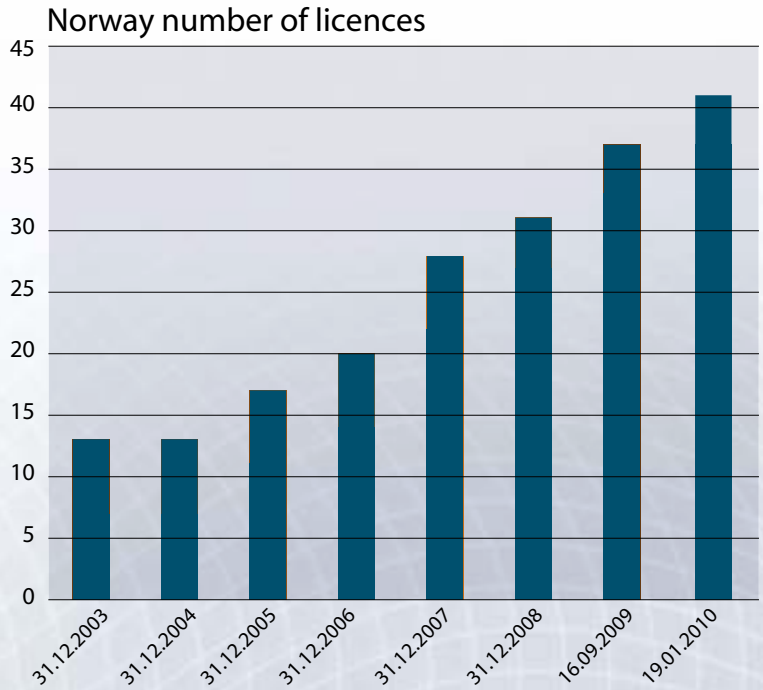
- No resources booked for Ragnarrock, Luno South, Avaldsnes & Apollo
- New discoveries: Avaldsnes & Apollo

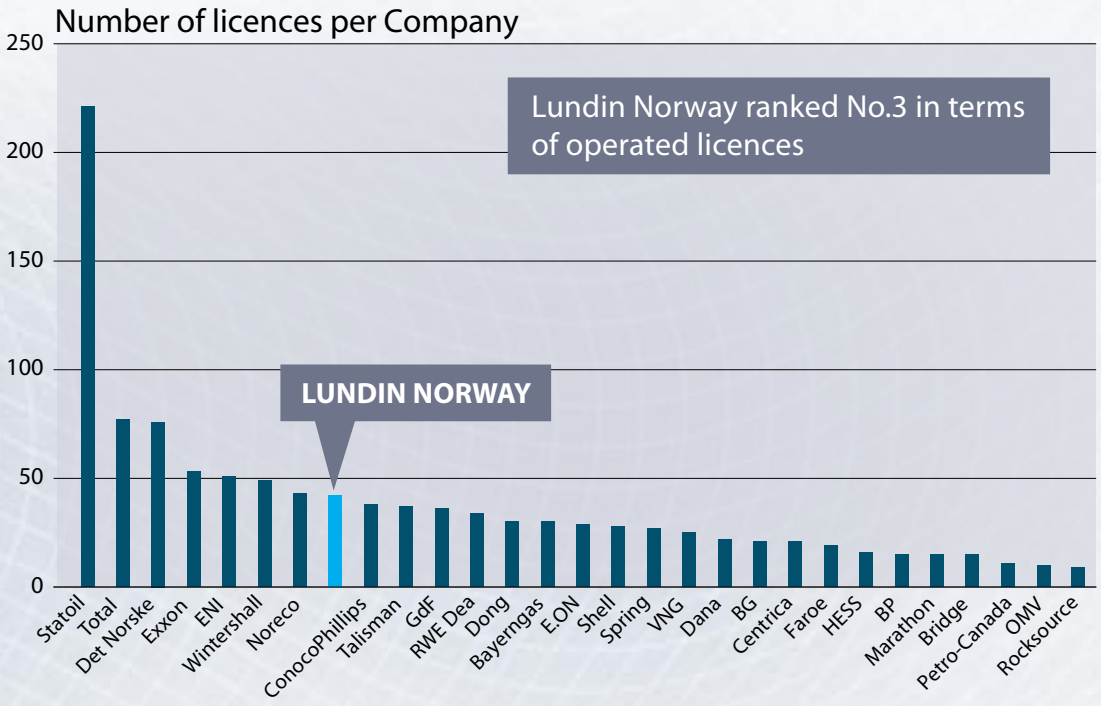
Unrisked prospective resources of ~1.2 billion boe

- 2 wells in 4Q 2010
- 9 wells in 2011

Norway - Licence History

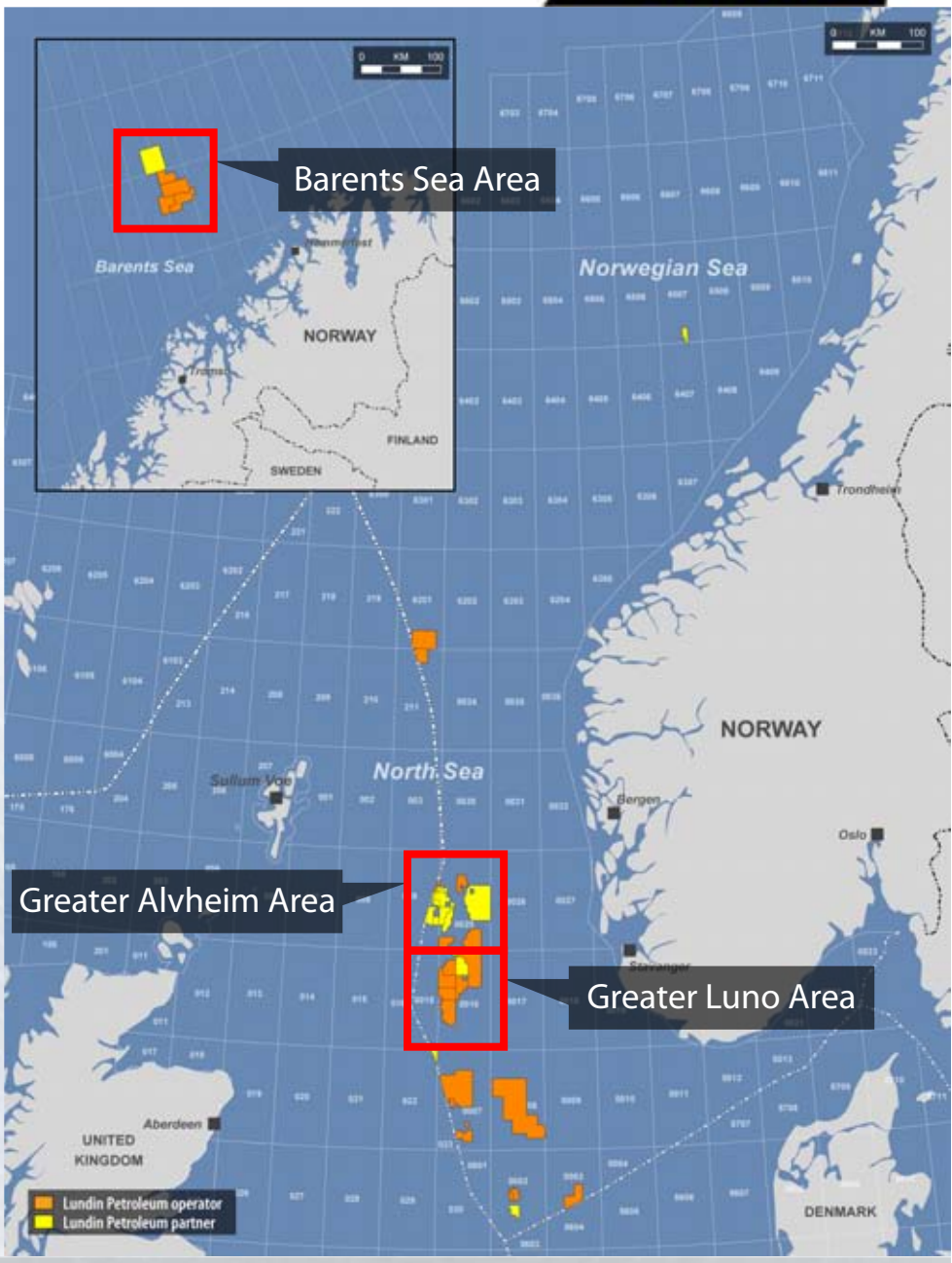
Major position built through organic growth



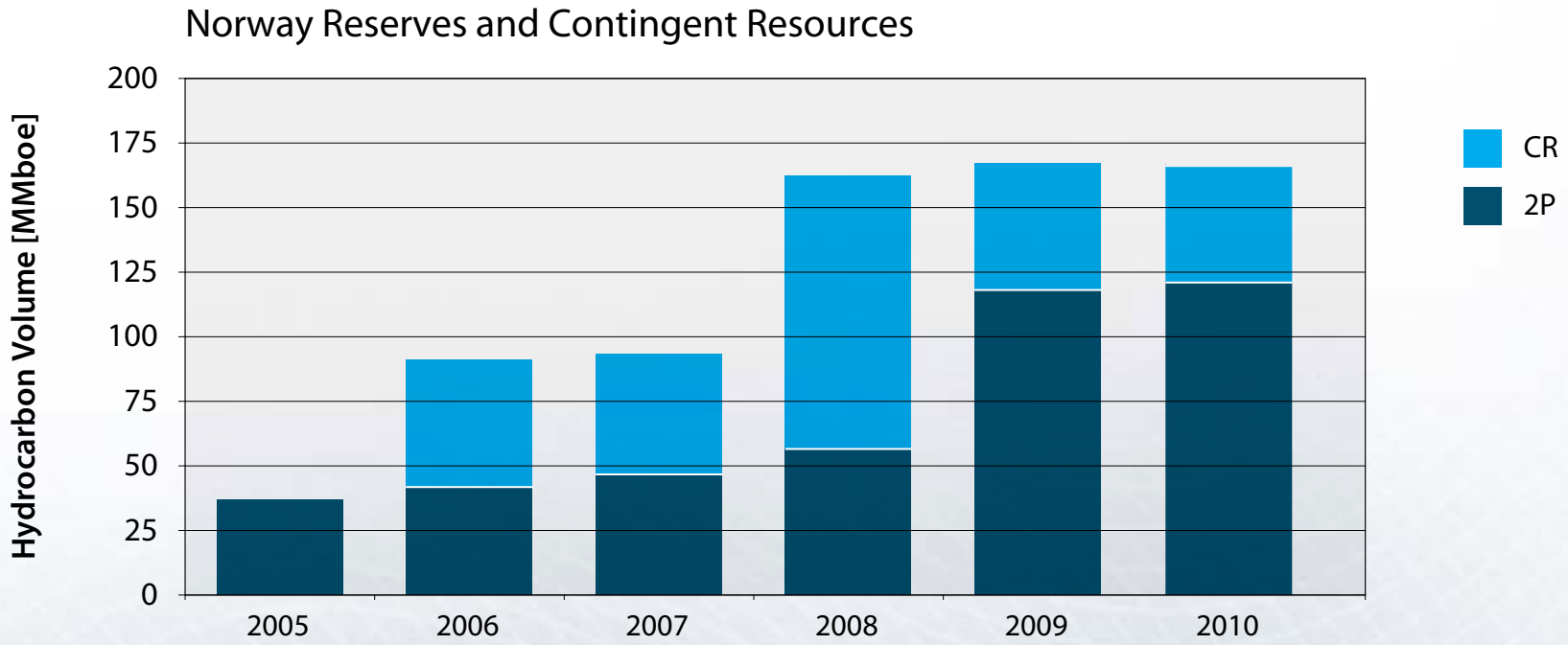


Norway - 3 Key Areas

- Greater Alvheim Area
- Greater Luno Area
- Barents Sea Area



Norway Reserves & Contingent Resources

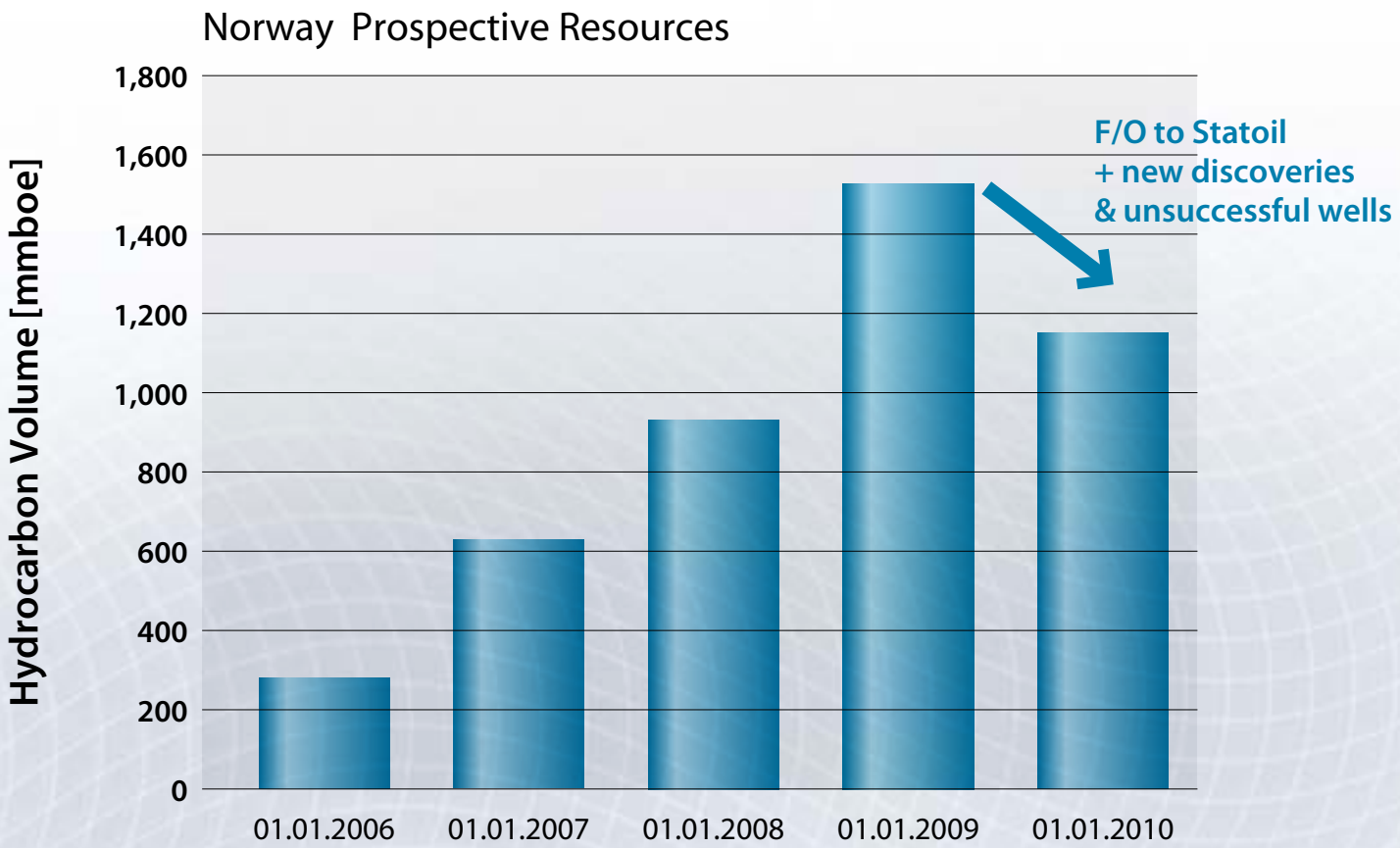


- 2010 CR: Luno South discovery, Ragnarrock, Avaldsnes and Apollo not yet included

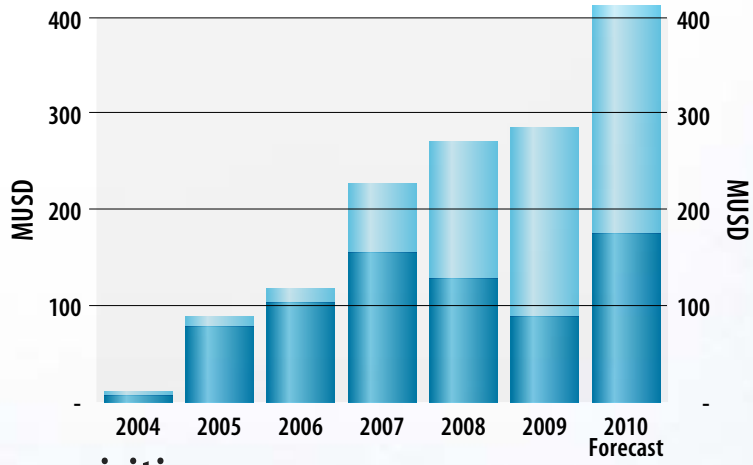
2P reserves increased year by year from 36 MMboe (2005) to 121 MMboe (2010) +336% in 6 years *

* Doesn't include Luno latest additional certified 2P reserve increase from 95MMboe to 149 MMboe gross

Norway Prospective Resources



Norway - Proven Track Record

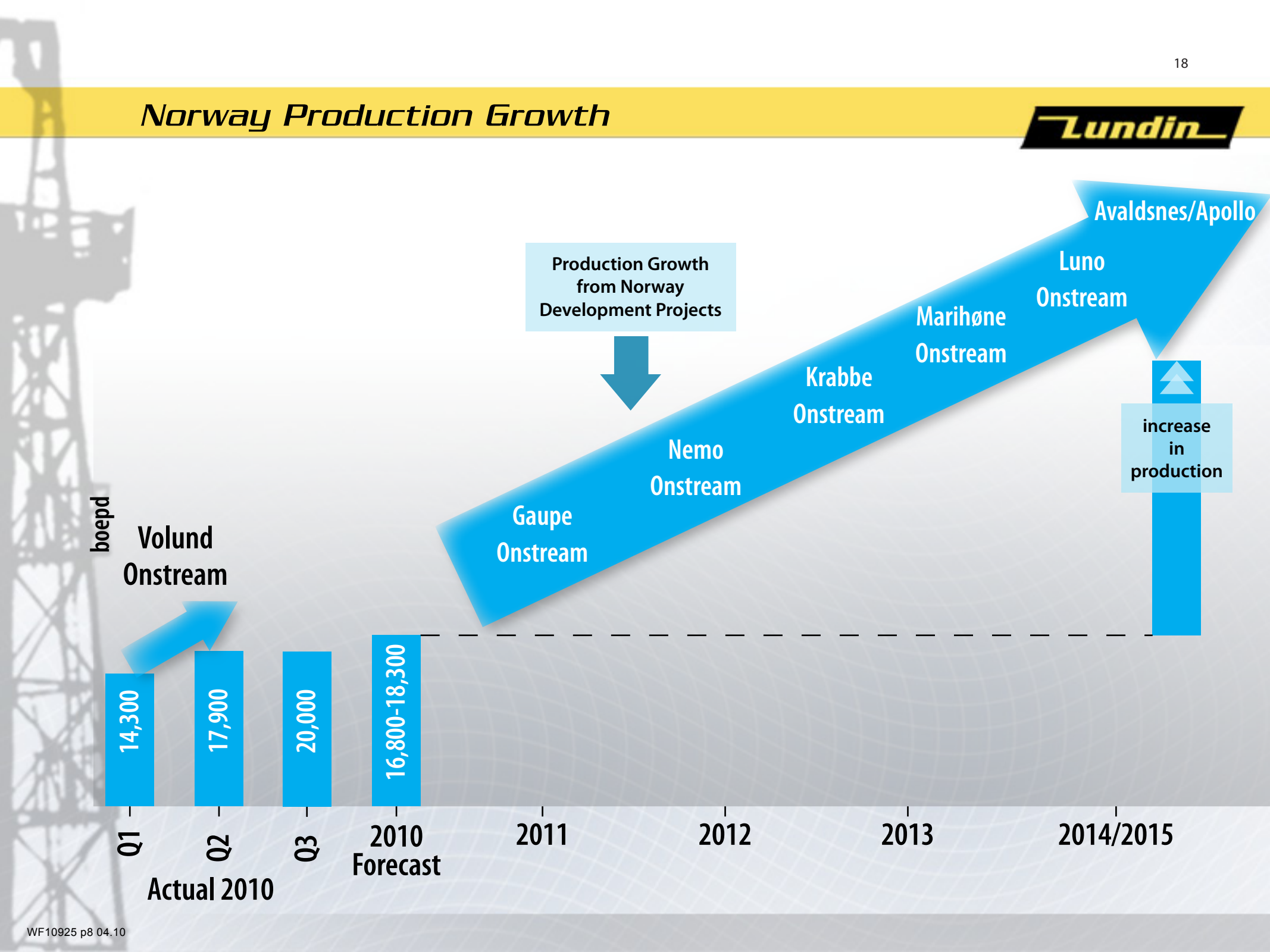


- People = key
- Proven basin & petroleum system
- Close to infrastructure
- Leading edge technology with emphasis on new 3D seismic acquisition
  - Over 7,115 km^2 acquired & 48,135 km^2 of 3D seismic reprocessed since 2004.

Exploration Wells Drilled up to Nov. 2010	16	
Commercial Discoveries up to Nov. 2010	7	Volund, Luno, Gaupe, Marihøne, Viper, Avaldsnes, Apollo
Cumulative E&A Spend up to Oct 2010, MMUSD	530 (1)	
Finding Cost USD/boe	2.3 (2)	
Finding Cost USD/boe - post tax	0.5 (2)	
Success Rate (commercial successes) (3)	44%	

(1) Includes USD 130 Million investment in 3D Seismic, YTD 2010 spend estimated
(2) Mid range estimate assumed for Avaldsnes & Apollo
(3) Does not include Luno South

Norway Production Growth



Norway - Production

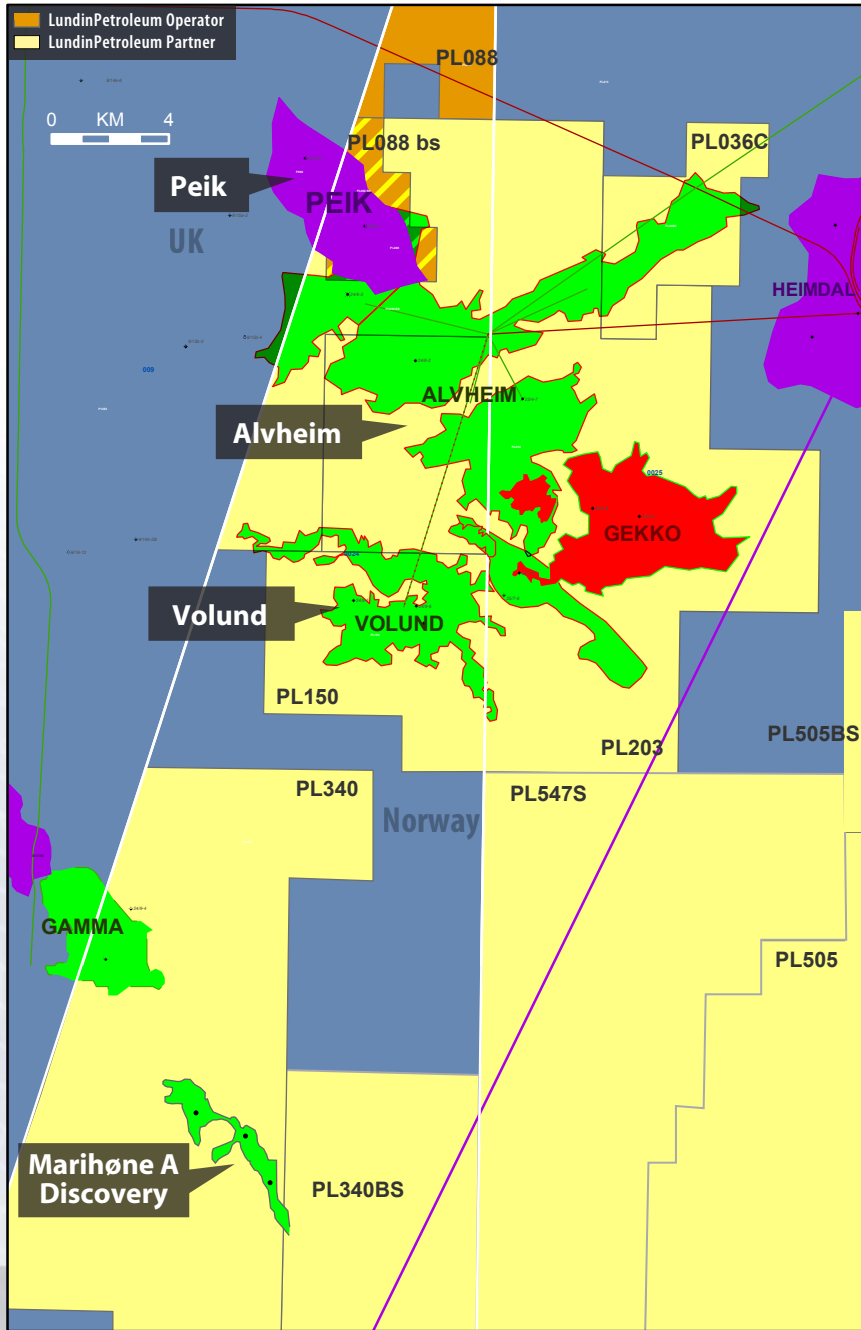
Norway - Greater Alvheim Area

Alvheim Field

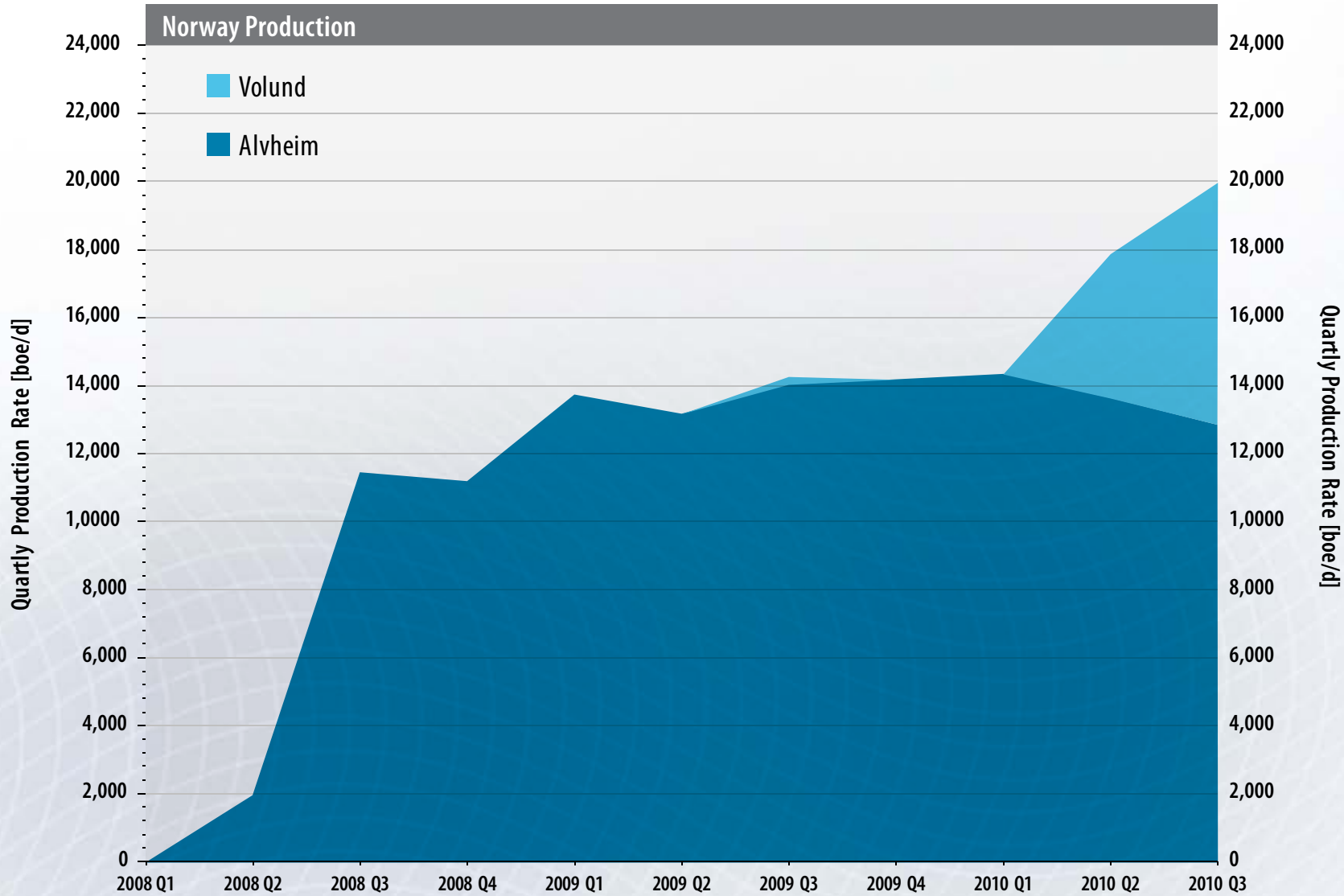
- **Lundin Petroleum 15%**
  - → Marathon 65% (operator), ConocoPhillips 20%
- **Gross ultimate recovery 246 MMboe**

Volund Field

- **Lundin Petroleum 35%**
  - → Marathon 65% (operator)
- **Gross ultimate recovery 49 MMboe**



Norway - 2P Production Alvheim & Volund



Norway - Development

Norway Development Projects - Summary

Field	Net Reserves MMboe	Production[1] boe/day	First Oil date
Nemo	11	6 000	2012/13
Marihone	3	TBA	2013
Krabbe	9	4 800	2013/14
Gaupe (Pi)	11	5 000	2011
Luno	75	>30 000	2014/15
Total	*109*	*45 800*	

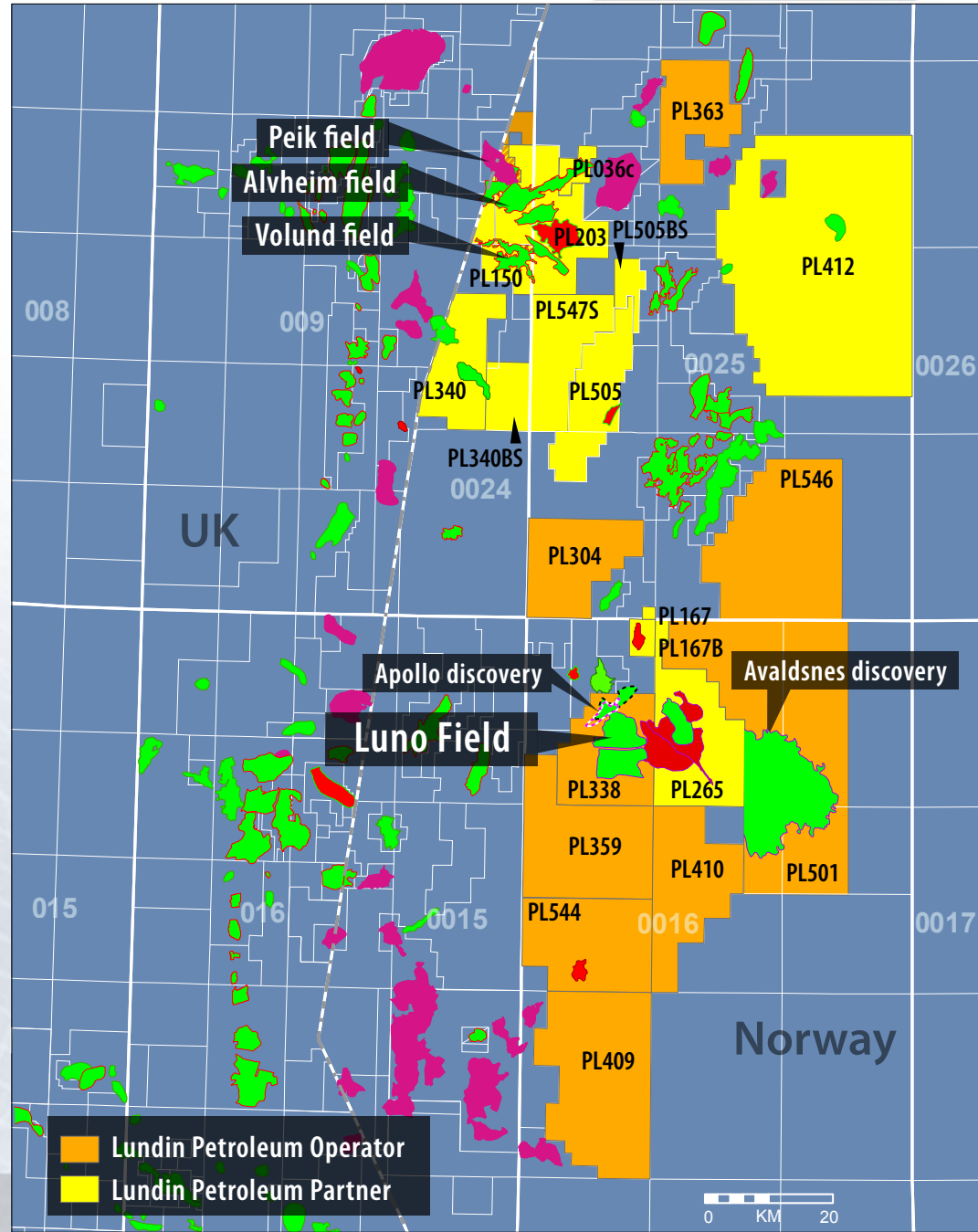
[1] Lundin Initial Production

Norway - Luno Project

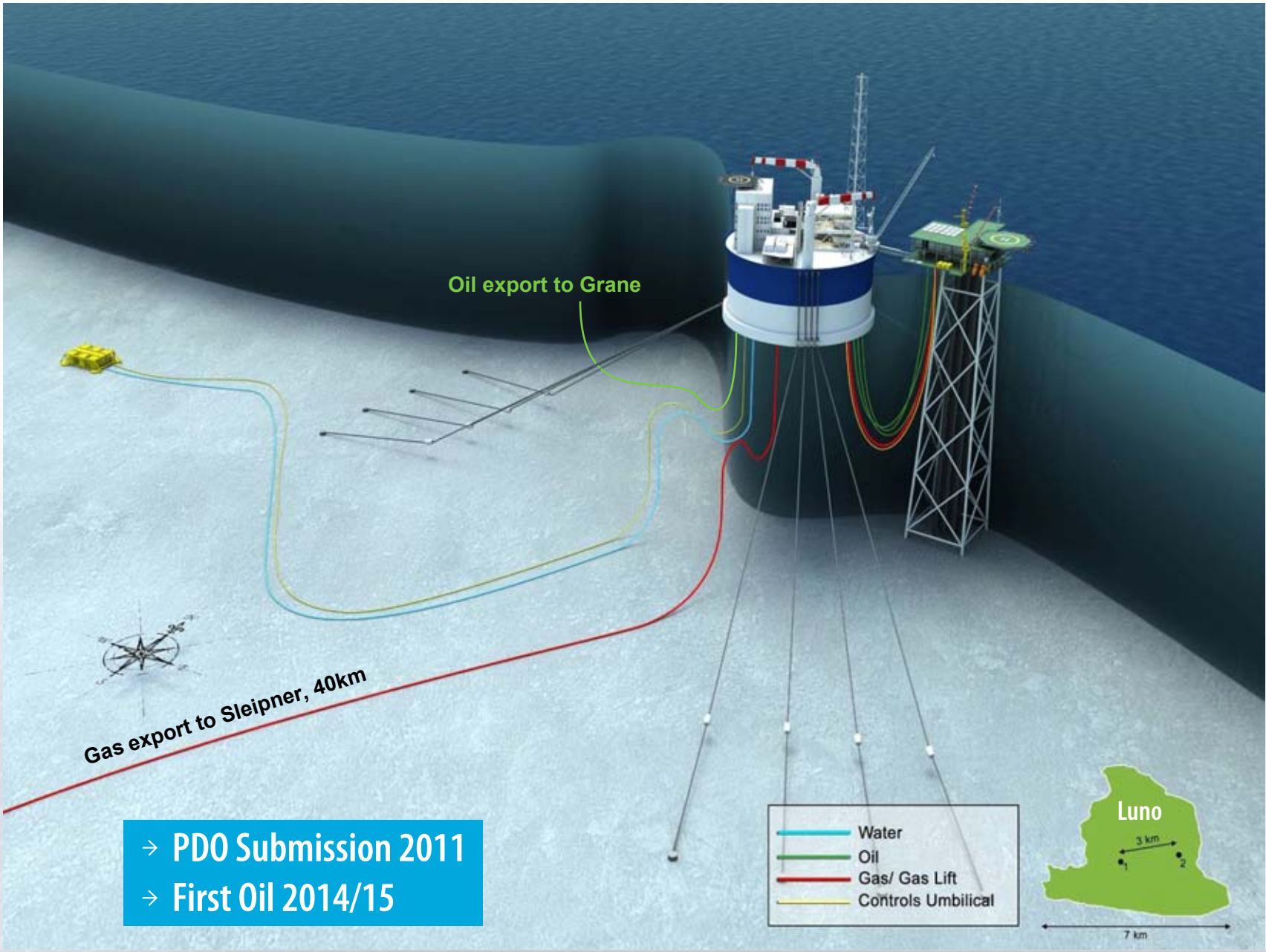
Greater Luno Area - Luno Field Development

2P reserves increase

- **Lundin Petroleum interest: 50% (operator)**
  - Wintershall 30%, RWE 20%
- **Certified 2P reserves increased from 95 MMboe to 149 MMboe gross**
- **Plateau production forecast >60,000 boepd gross**
- **Good progress with development planning**
  - Subsurface work completed
  - Concept selection in late 2010
  - Submission of PDO in 2011
  - First oil 2014/15



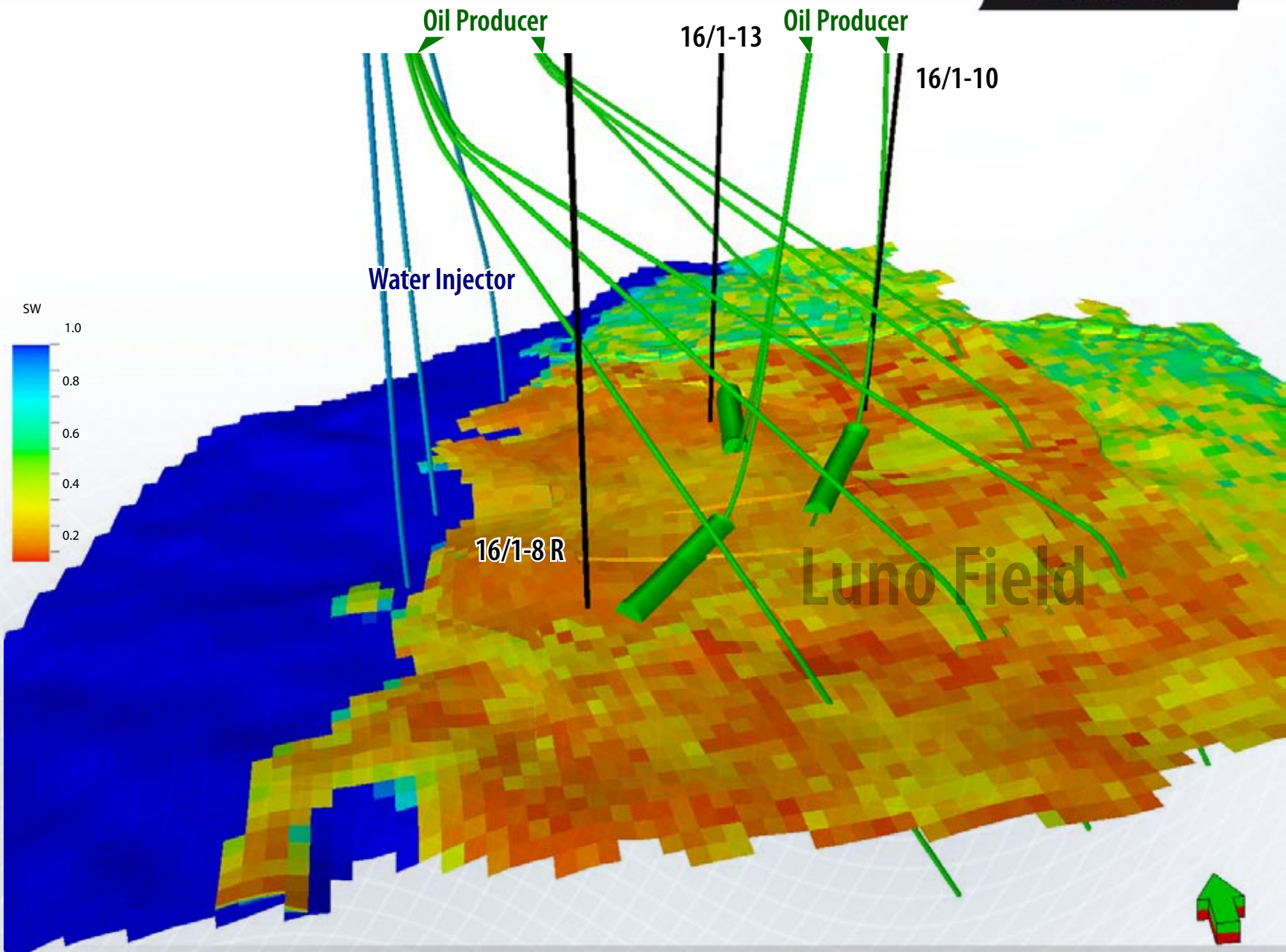
Greater Luno Area - Luno Development Options



- PDO Submission 2011
- First Oil 2014/15

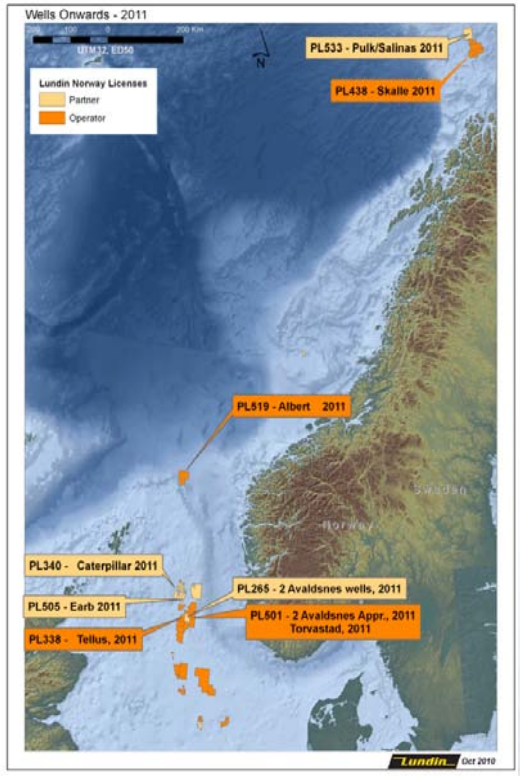
Greater Luno Area

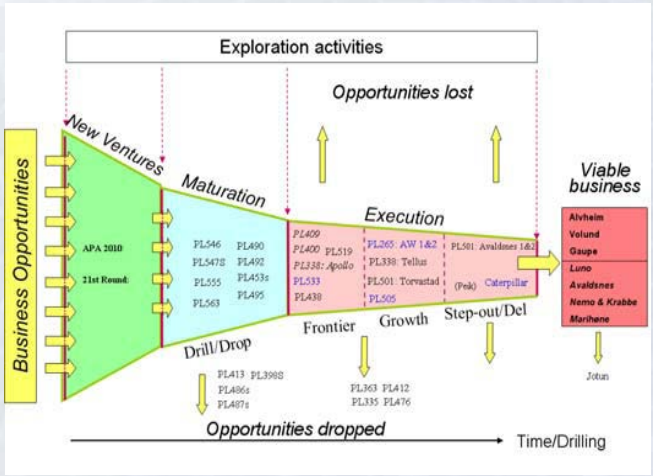
Luno Well Development Outline (90P + 3WI)



Norway - Exploration

Lundin Norway Exploration Strategy





Lundin strategy:

- Cash flow protected organic growth
- Leverage on what we know and develop new concepts
- Utilise synergy in portfolio in relation to improved exploration and development
- Efficient exploration through early drilling decisions and continuous drilling activity
- Tailor yearly balanced drilling portfolio in relation to
  - Standalone Frontier exploration
  - Growth Exploration
  - Mature tie in exploration
- Maintain production from existing and emerging developments (Alvheim and Volund)
- Data driven subsurface understanding, with a clear appreciation of the limitations of Data, Tools, Methods and Theories at any time

Subsurface work flow:

- Data integration platform is Petrel, Kingdom, ffA, Easy DC, LNAS NR @risk model
- Multicube 3D data and in-house processing
- In house formation evaluation analysis
- In house core description and paleofacies analysis
- Integrate at highest possible entropy level for a max of parameters

People:

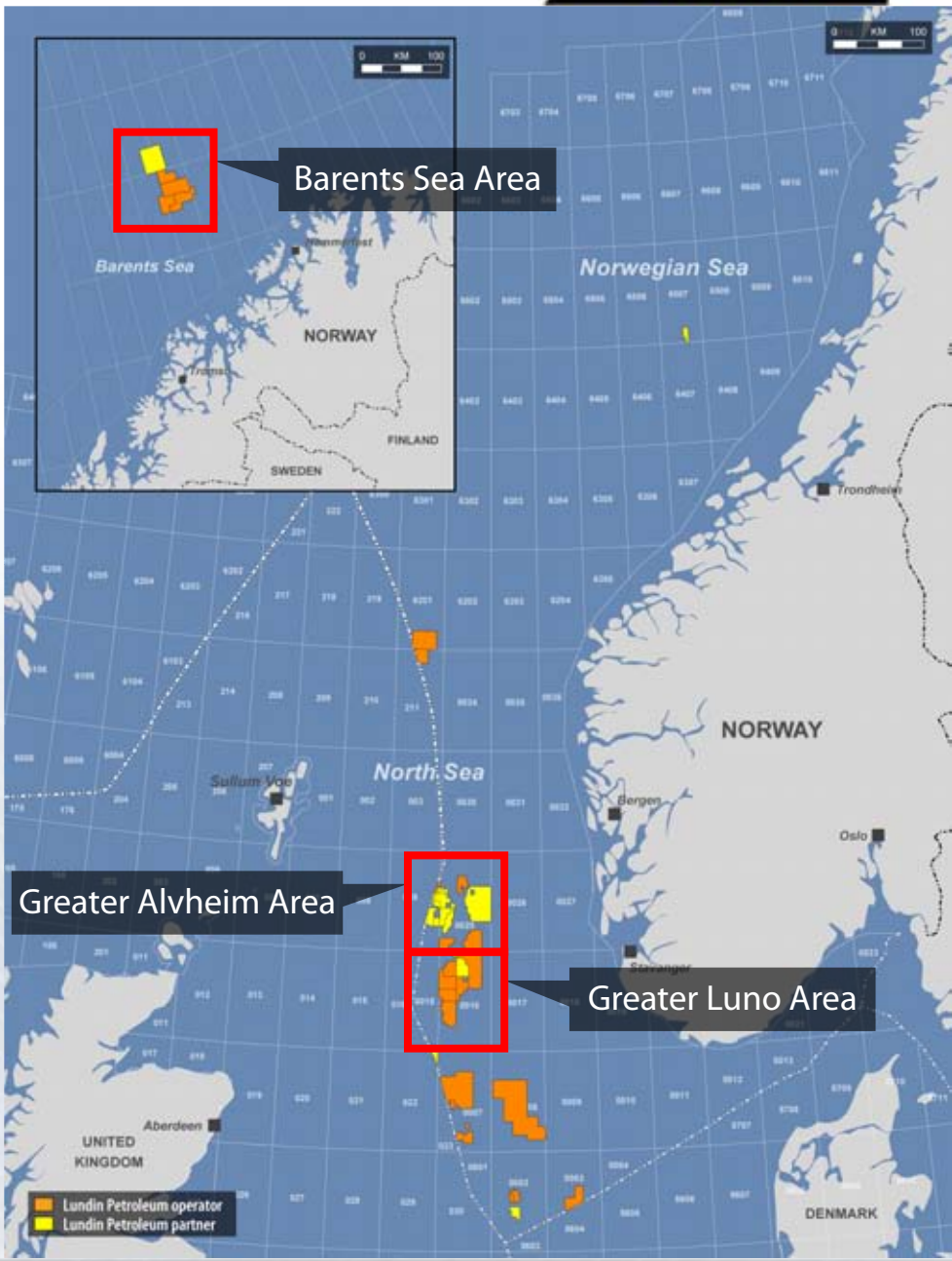
- Skilled specialists and interpreters in an open co-creation mode

Norway - Prospective Resource

- 1.2 billion boe of unrisked prospective resources
- 36 exploration licences
- Seismic new coverage
  - 7,115 km^2 of 3D
- 3 rigs on hire
  - Transocean Winner
  - Songa Dee
  - Bredford Dolphin
- 2 wells remaining to be drilled or ongoing in 2010
- Rig secured for all and targeting >120 MMboe (net Lundin Petroleum)
- 9 wells estimated in 2011

Exploration - Norway - 3 Key Areas

- Greater Alvheim Area
- Greater Luno Area
- Barents Sea Area



Exploration - Greater Luno Area

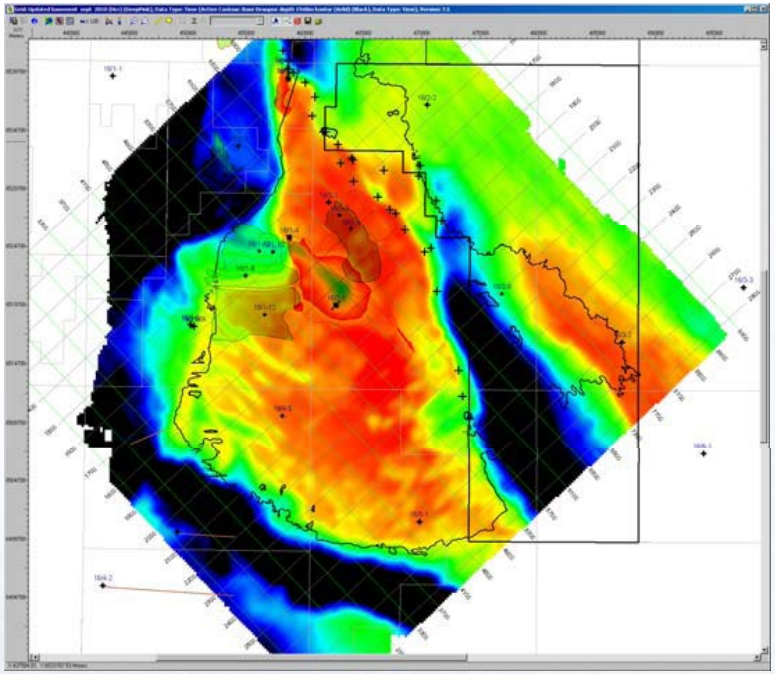
Exploration targets in GLA/GAA:

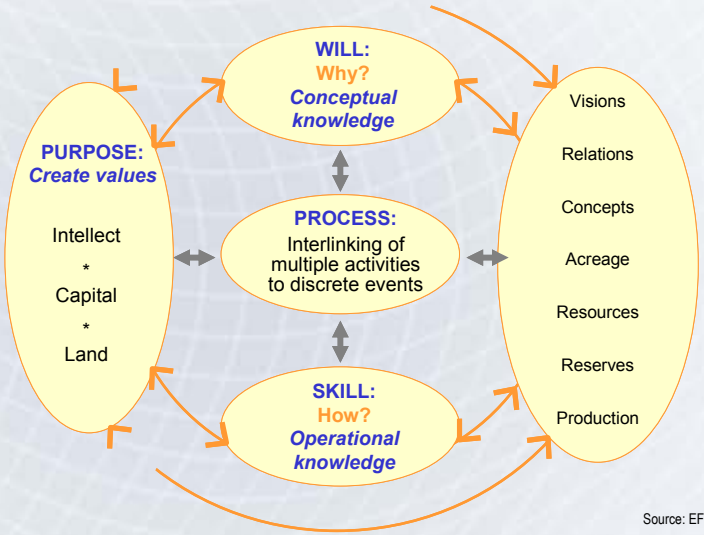
- Explore inlier basins and fractured porous basement shallower than 1940m MSL on the high and all structural and stratigraphic traps fringing the high in the west
- Primarily exploration for light oil

Exploration strategy:

- Have been our own fast follower
- Focus on exploration and delineation of early stand alone prospects within each JV
- Define and then realize prospects with tie in potential that can influence development solutions as in PL 338
- Utilize at any time the impact of new geological and geophysical data on the totality
- Enable parallel exploration and delineation within the various licenses
- Retain all prolific acreage as required in the APA regime

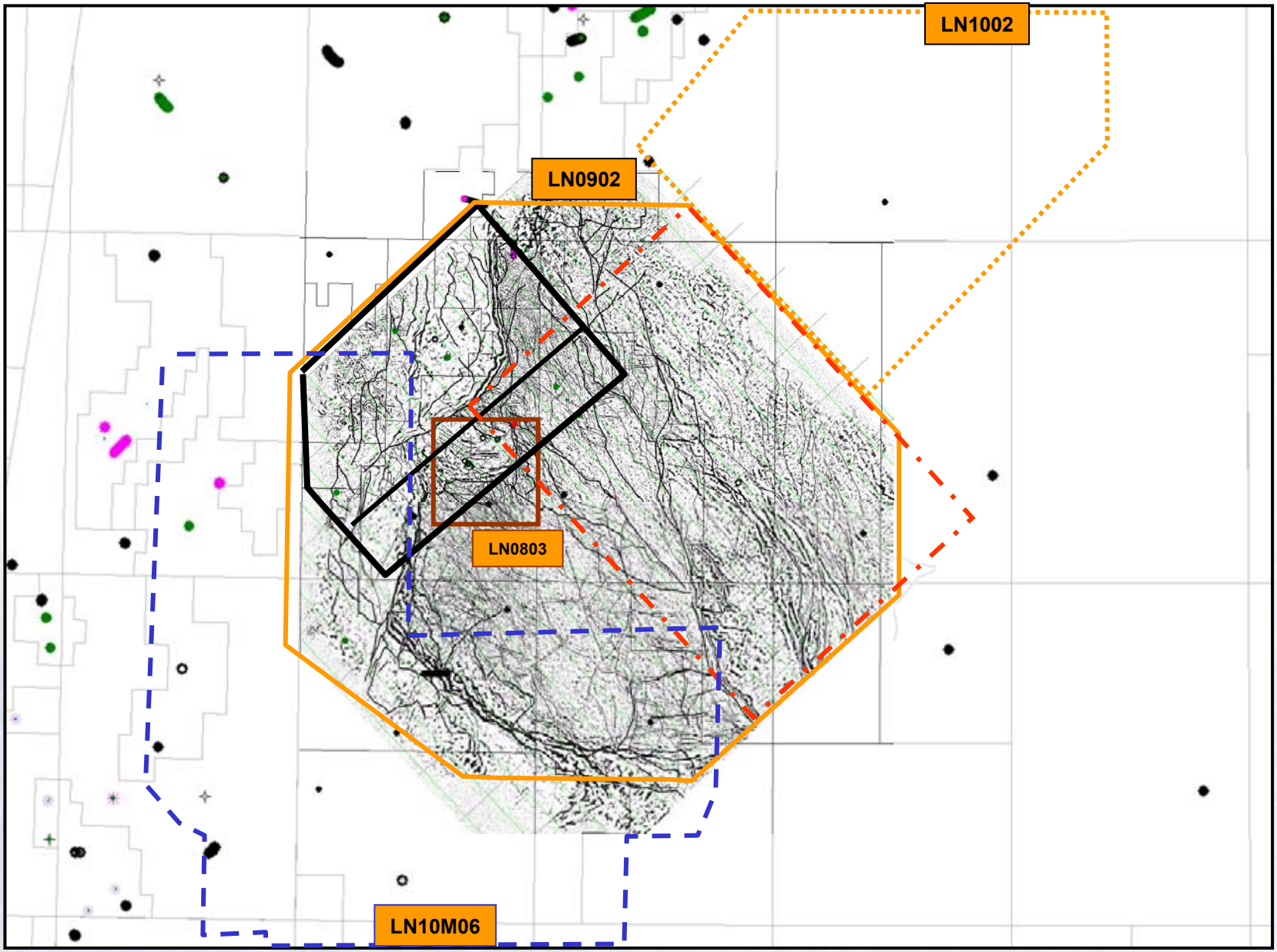
Create a common purpose for all stakeholders



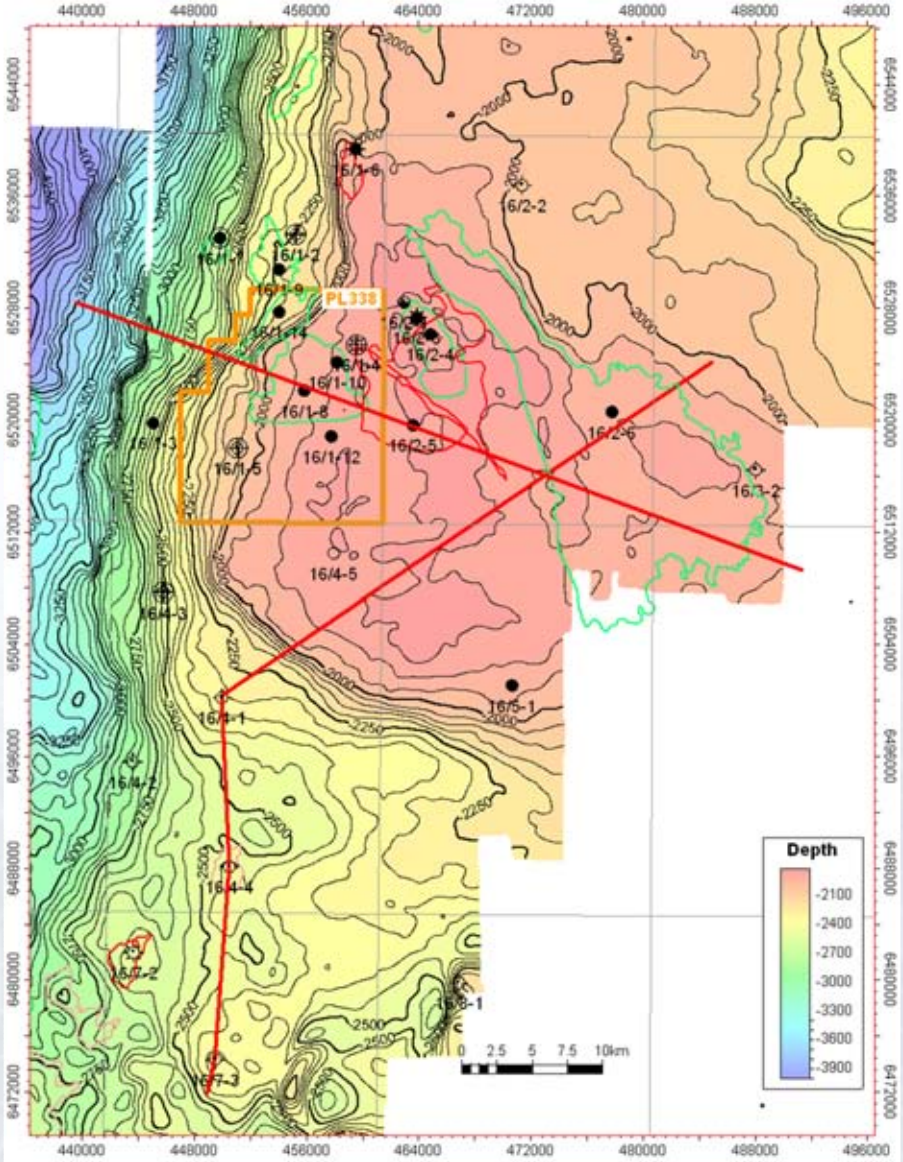


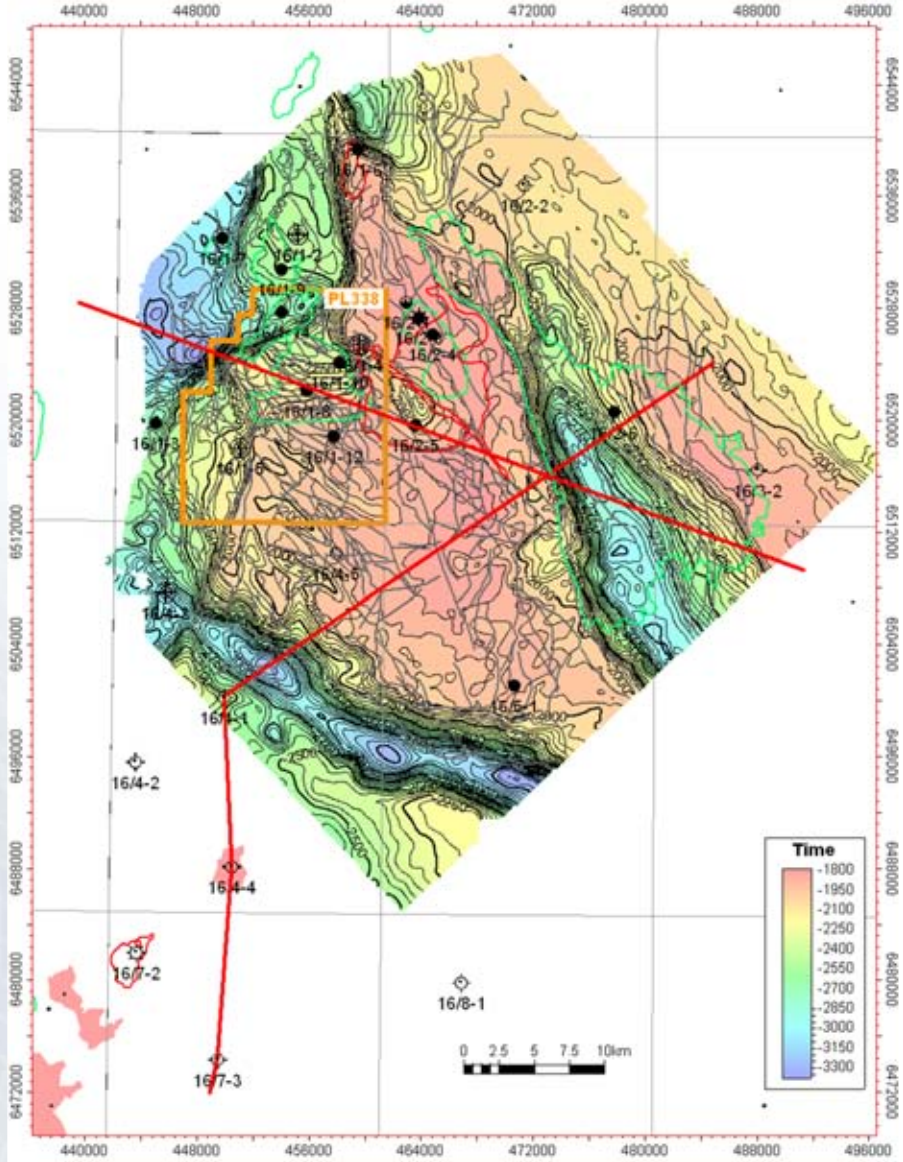
Source: EFQM

New 3D Seismic Techniques Introduced in GLA

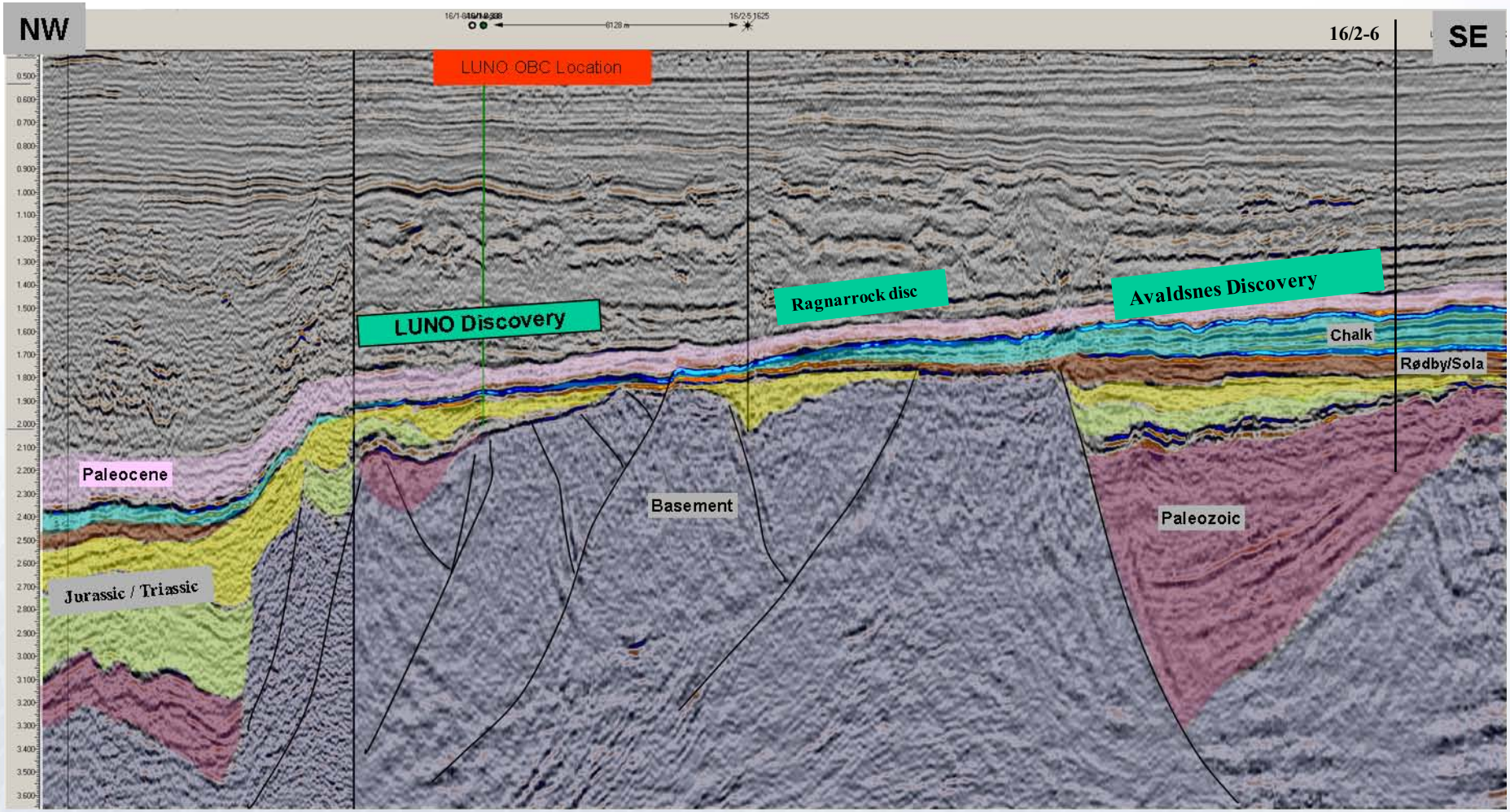


Southern Utsira High at BCU and Basement Levels

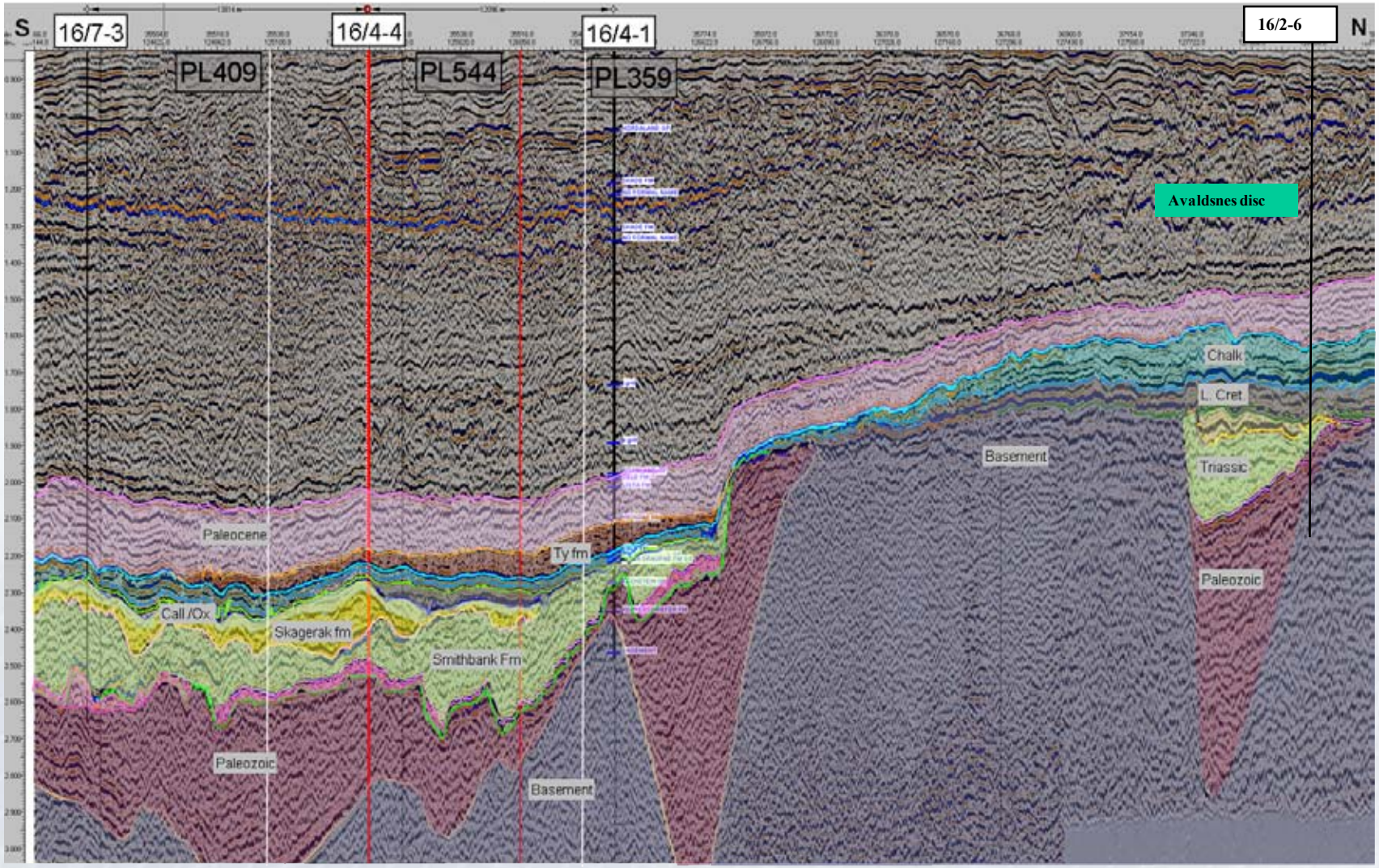




Exploration - Greater Luno Area



Exploration - Greater Luno Area



Greater Luno Area - Further Exploration Potential

PL501 (40%)

- Avaldsnes discovery
  contingent resources estimates 100-400 MMboe gross
- 2 appraisal wells to be drilled in 2011

PL 338 (50%)

- Apollo discovery
  contingent resources estimate 15-65 MMboe gross
- Tellus prospect
  Prospective resources 40 MMboe gross unrisked
- 1 exploration well in 2011

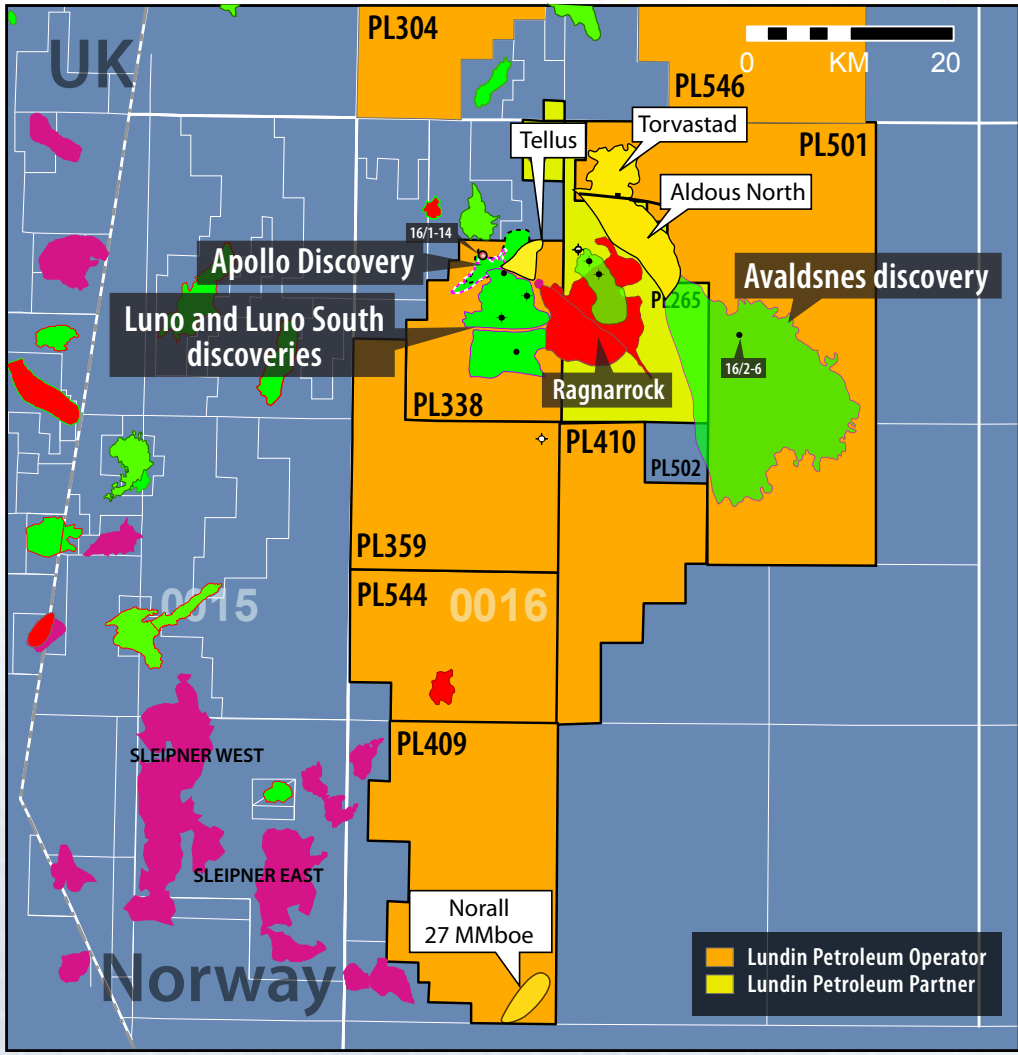
PL 409 (70%)

- Norall exploration well to be drilled end 2010
  prospective resources 27 MMboe gross unrisked

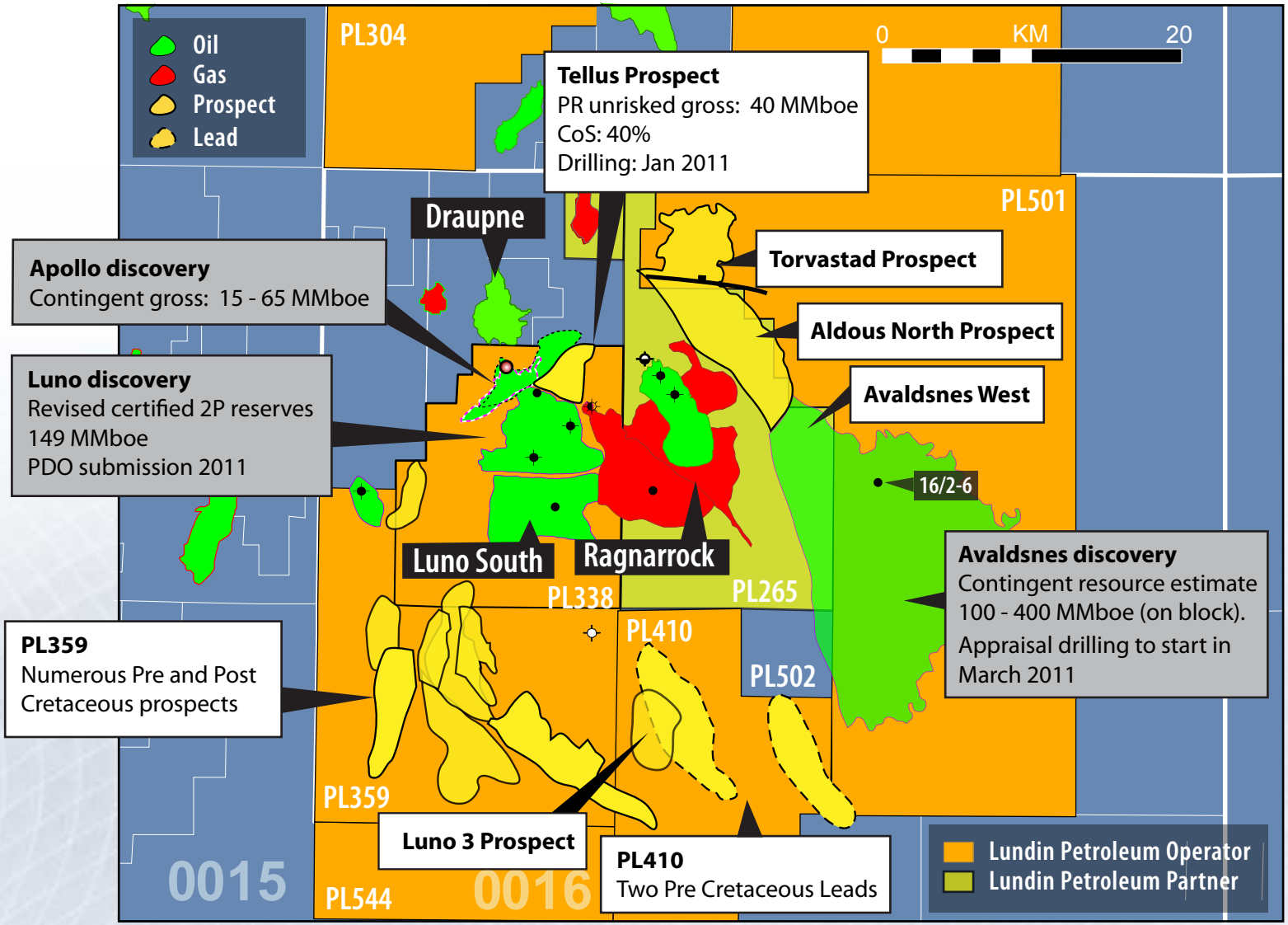
PL 265 (10%)

- 1 appraisal + 1 exploration well to be drilled in 2011 (Statoil)
  - Avaldsnes West and Aldous North prospect

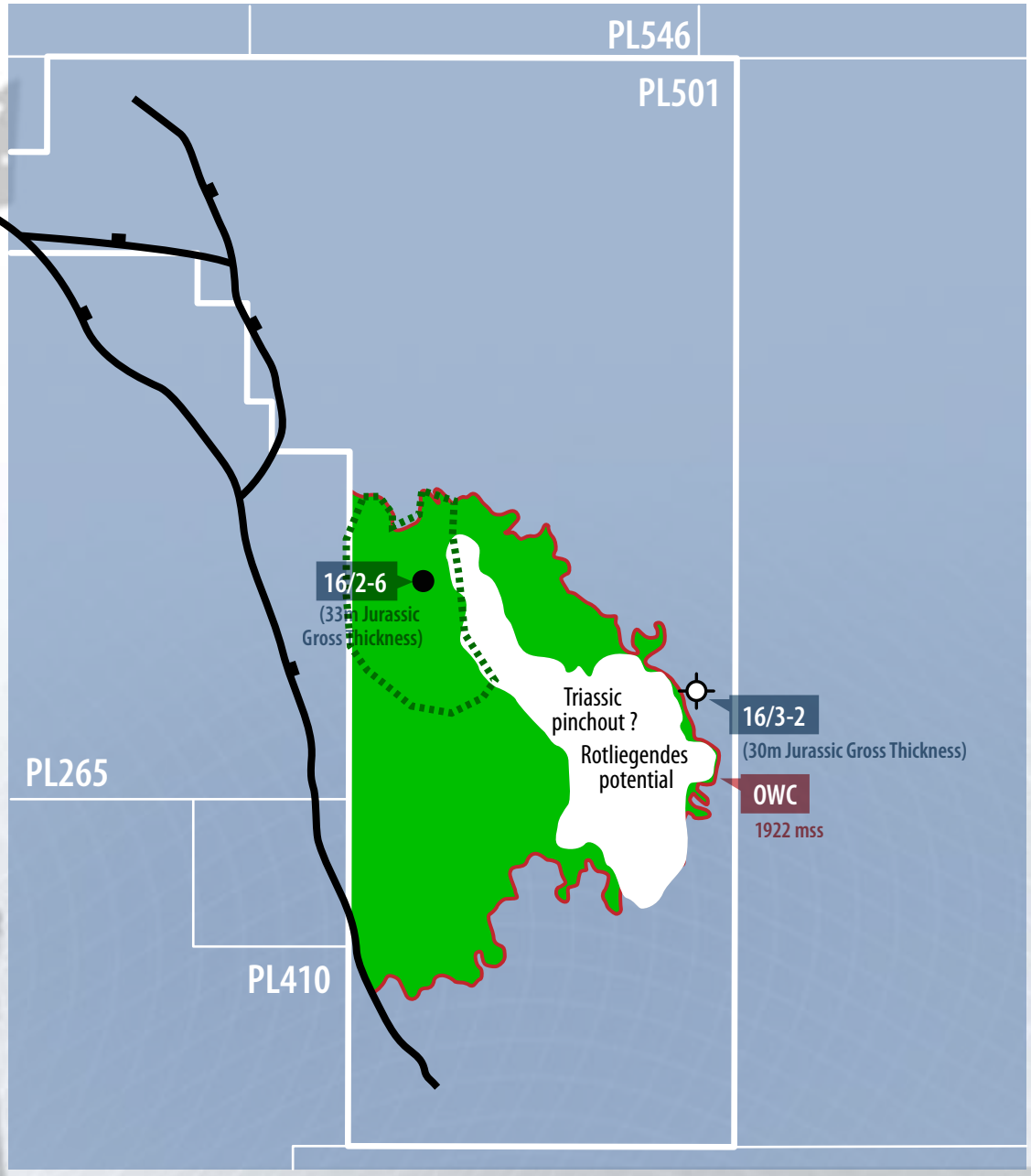
2 exploration wells and 3 appraisal wells to be drilled in 2011



Greater Luno Area - Further Upside - Exploration

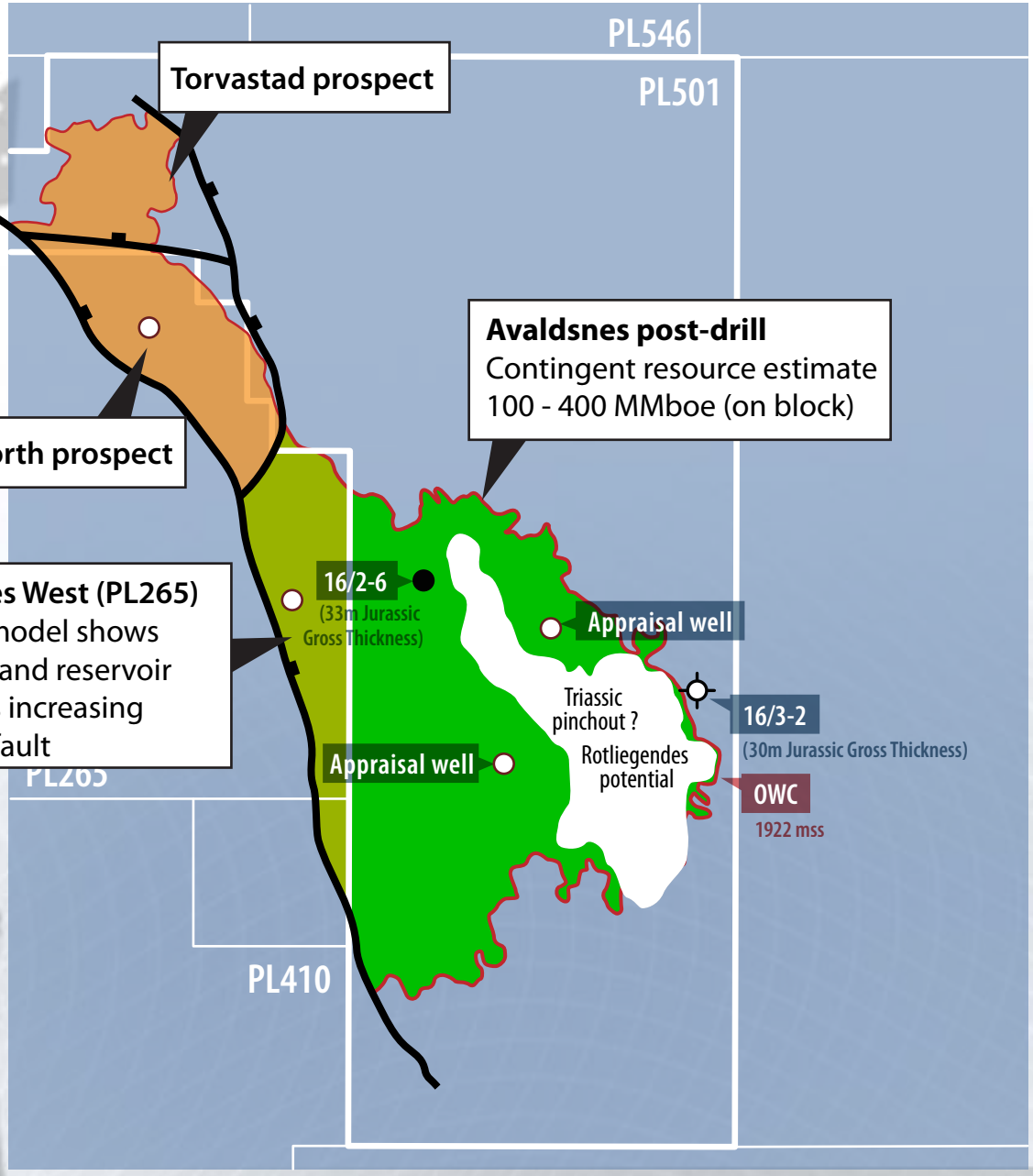


Avaldsnes Discovery



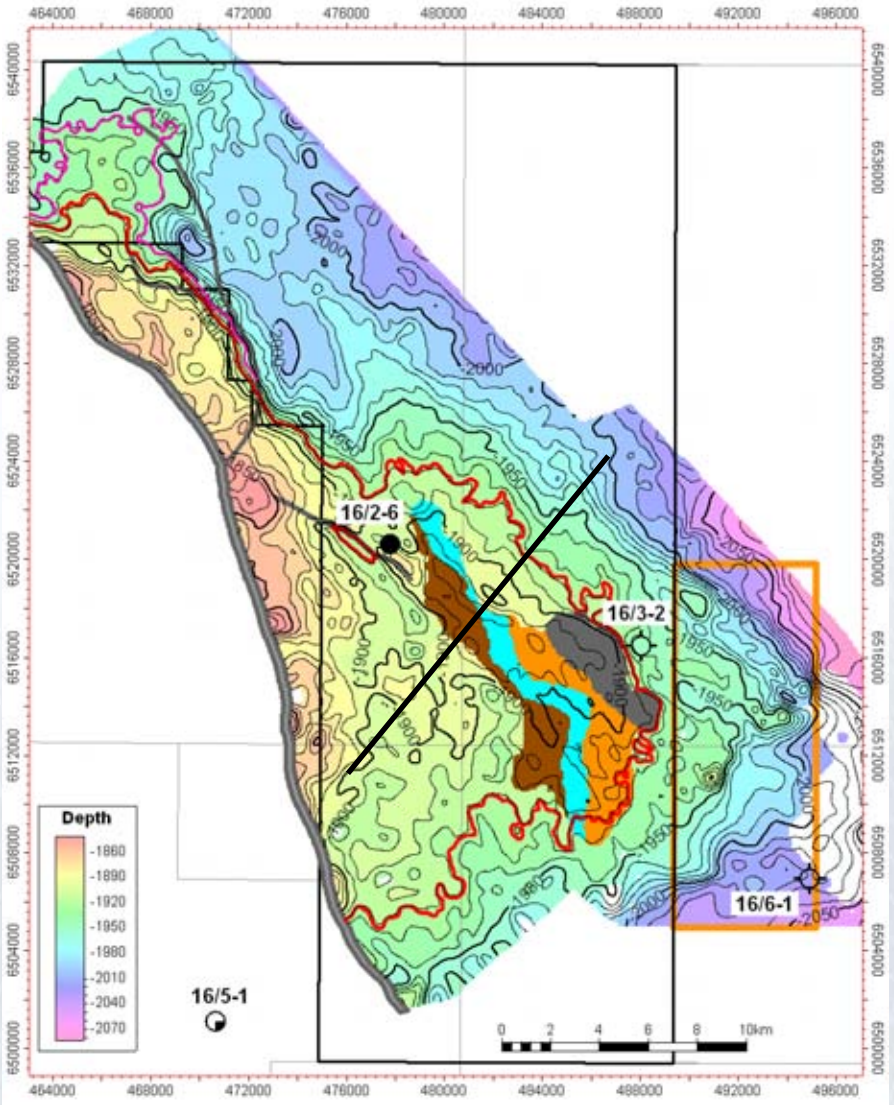
- Resources estimate on block at 100-400 MMboe
- Geological model assumes no Jurassic reservoir in white area

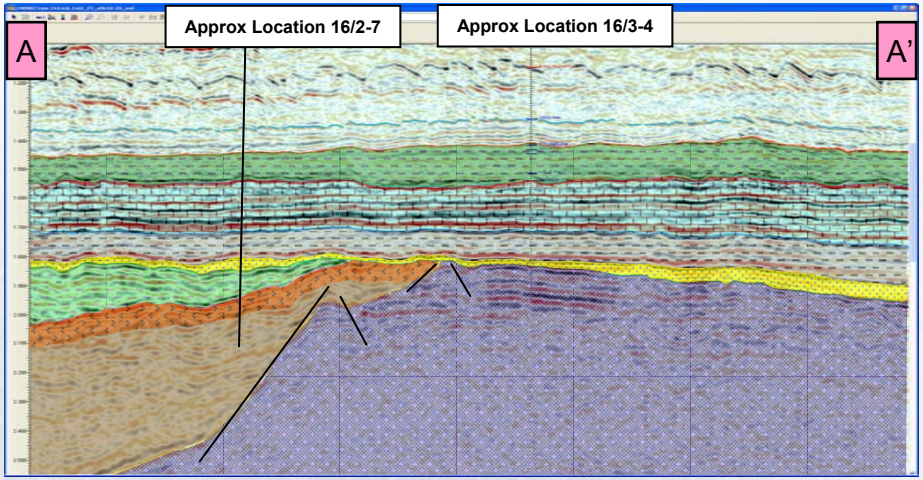
Avaldsnes Discovery - Further Upside



- Additional potential in Avaldsnes West located in PL265
- Avaldsnes drilling to commence in March 2011 with two appraisal wells.
- Avaldsnes West and Aldous North exploration wells in 2011. Located in PL265
- Additional prospectivity in Torvastad prospect in PL501

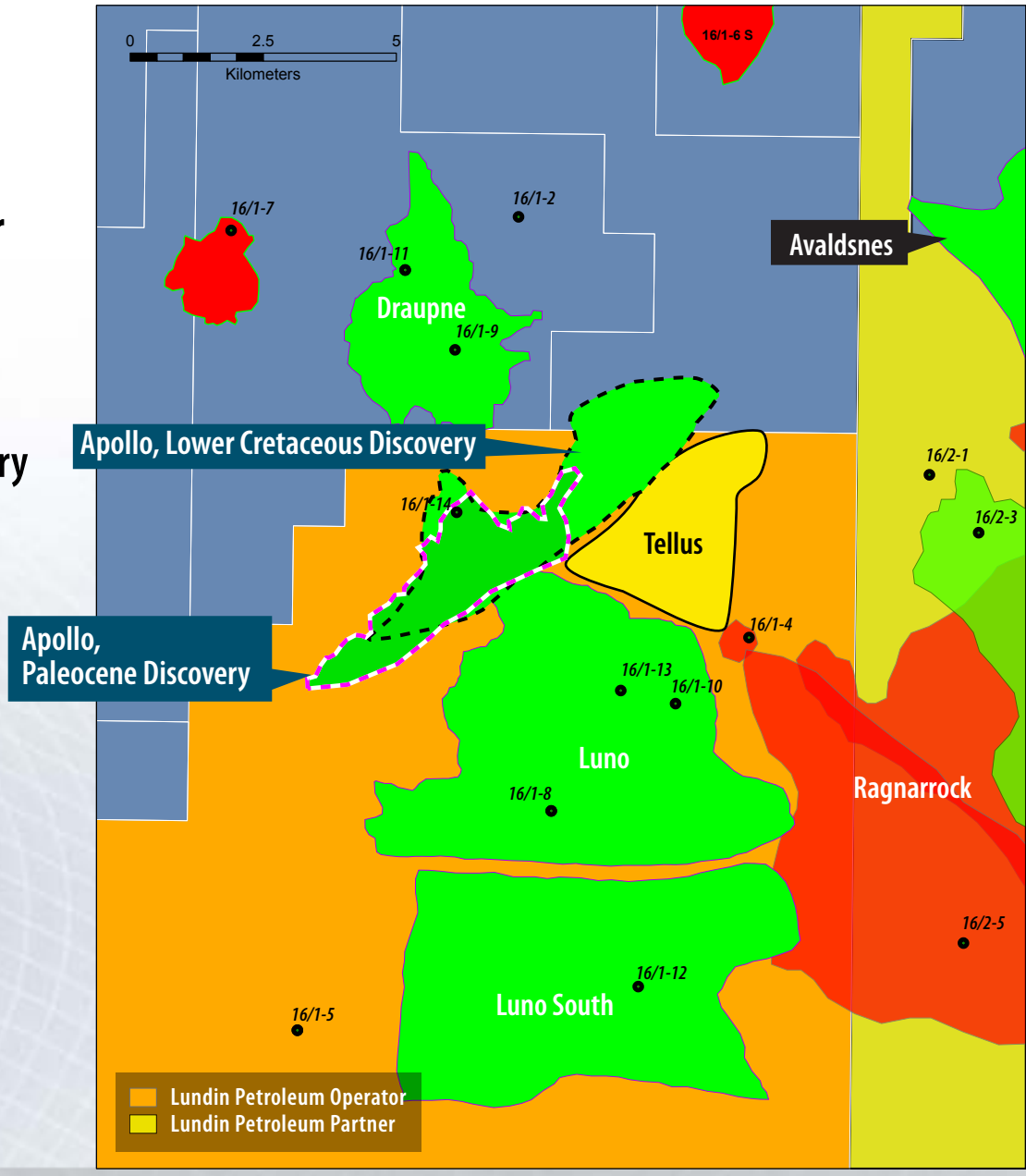
Avaldsnes Top Jurassic sand map (m)





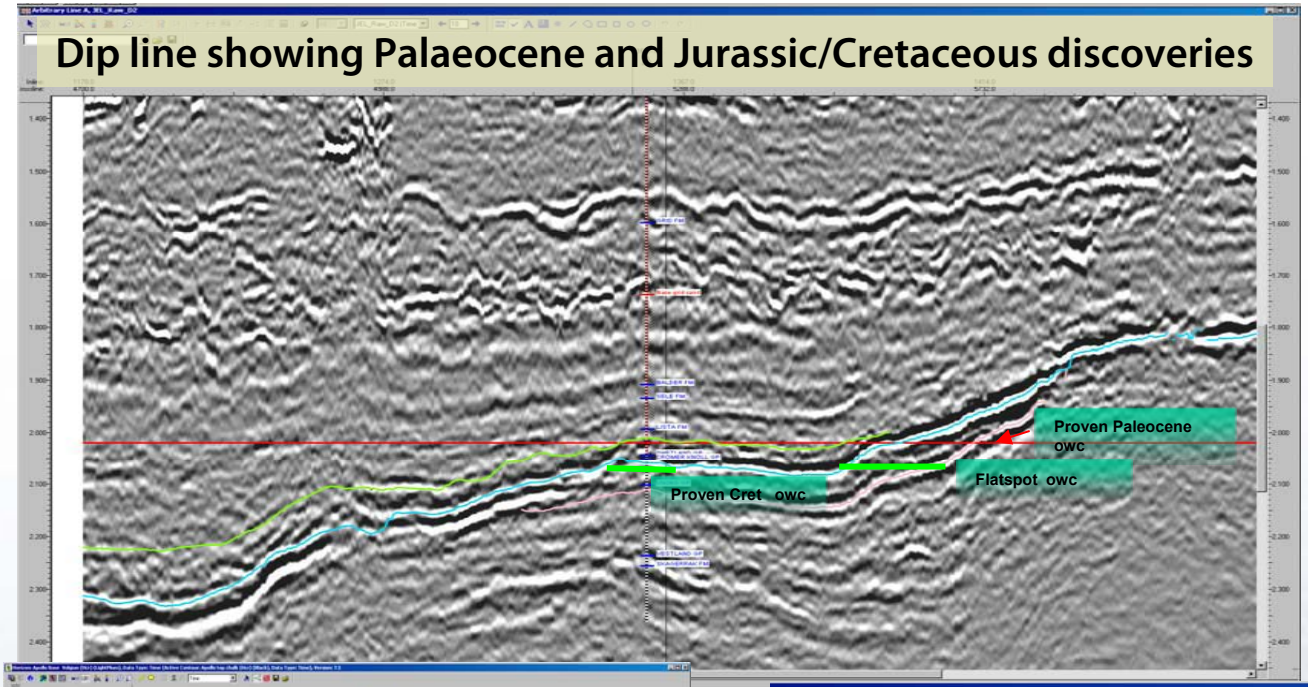
Greater Luno Area - Apollo Discovery

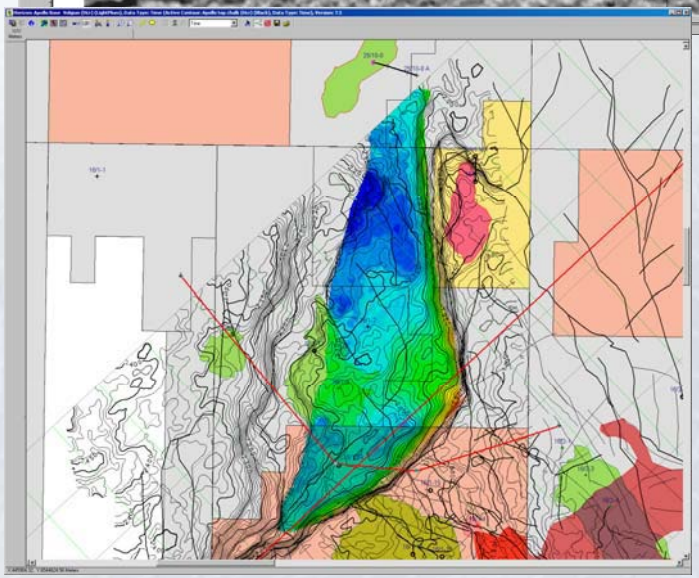
- **PL 338 - Lundin Petroleum 50% operator**
  Wintershall 30%, RWE 20%
- **Apollo discovery**
  - → Lower Cretaceous/Upper Jurassic Discovery
  - → Paleocene Discovery
- **Size 15-65 MMboe gross (PL338)**



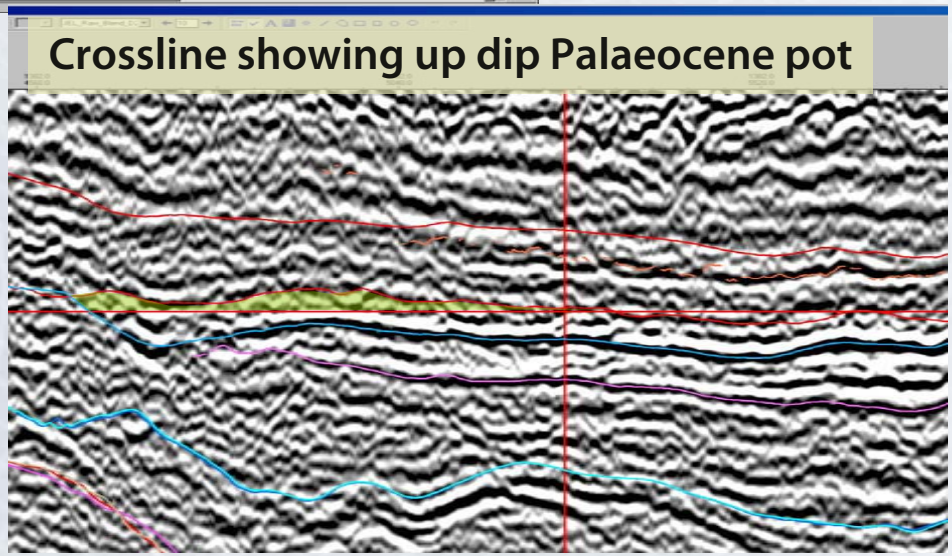
Greater Luno Area - Apollo Discovery

Dip line showing Palaeocene and Jurassic/Cretaceous discoveries





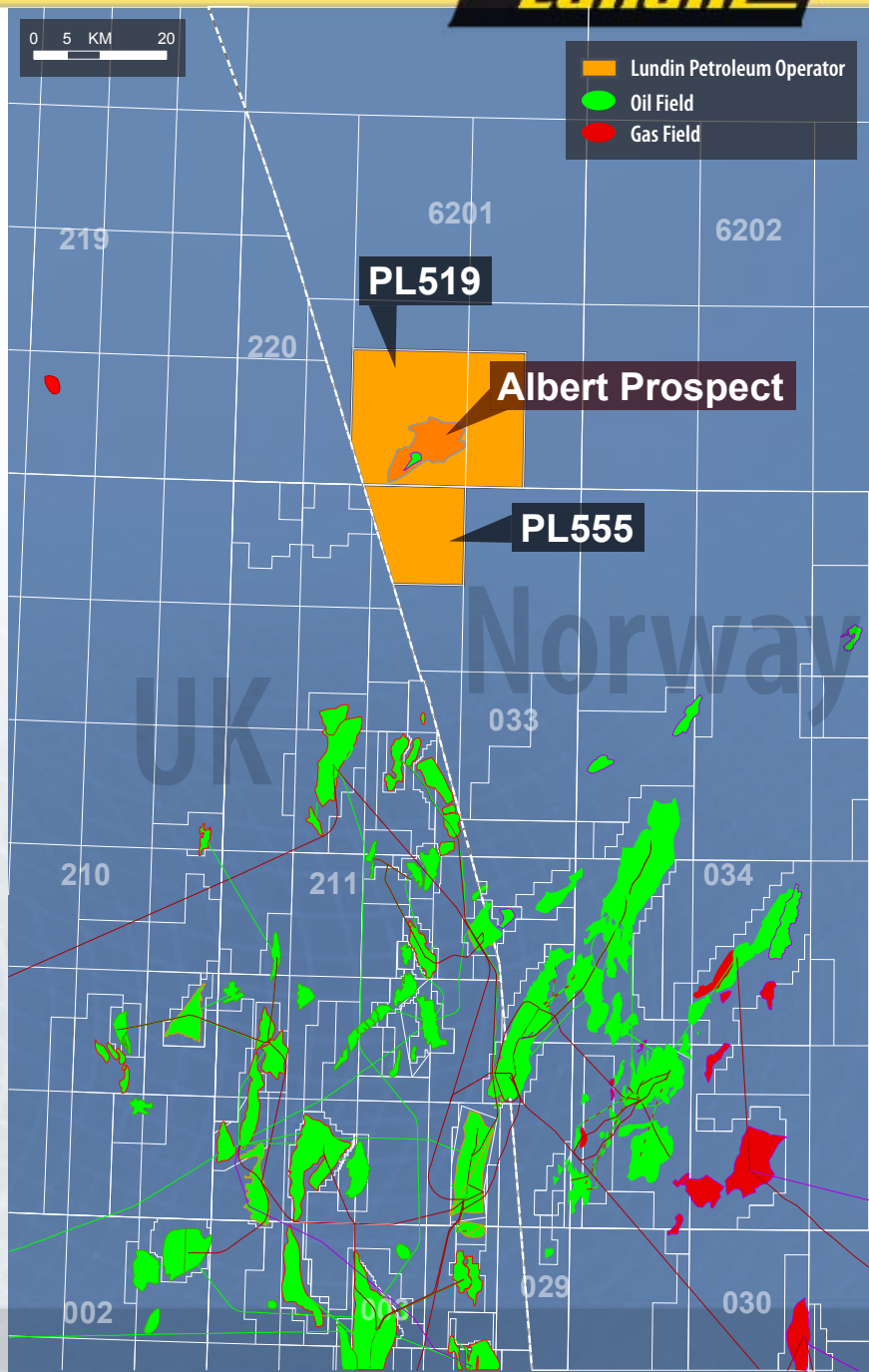
Crossline showing up dip Palaeocene pot



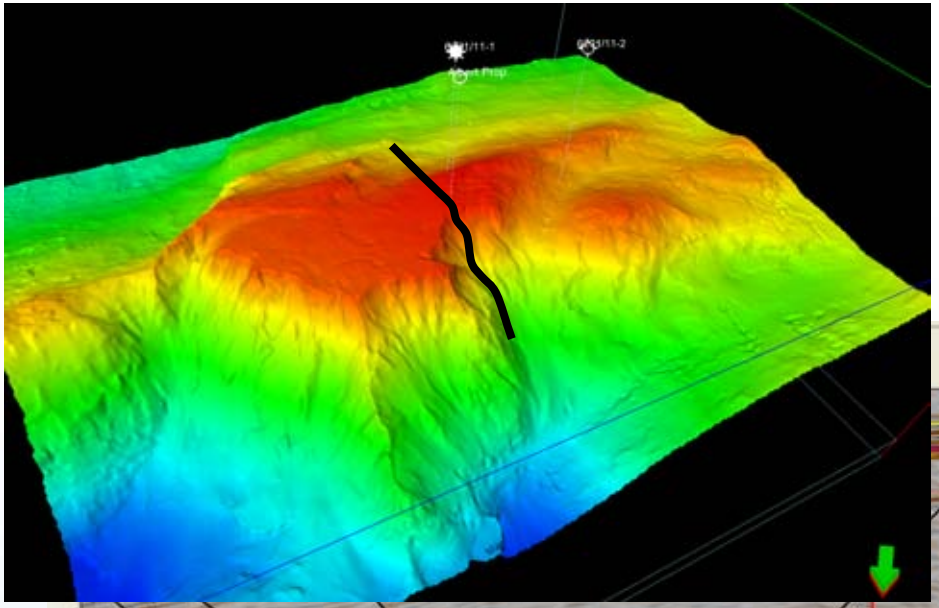
Other Areas - PL519 Area

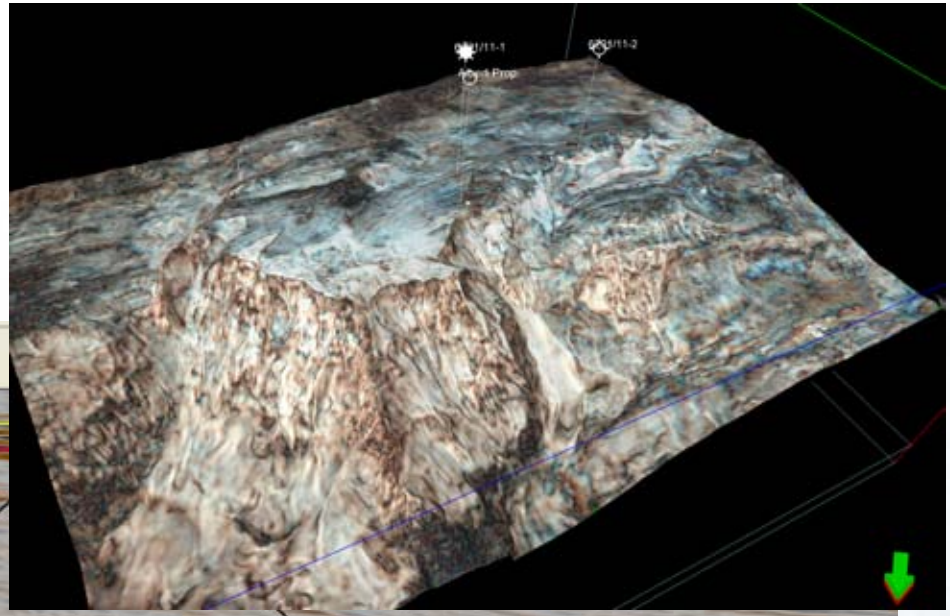
- **PL519**
  - Lundin Petroleum 40% (operator)
    Spring Energy 20%, Bayerngas 20%, Noreco 20%
  - Work commitment:
    - 1 firm well within first 3 years,
      TD 100m into Teist Fm or at 3500m
  - Albert prospect to be drilled in 2011

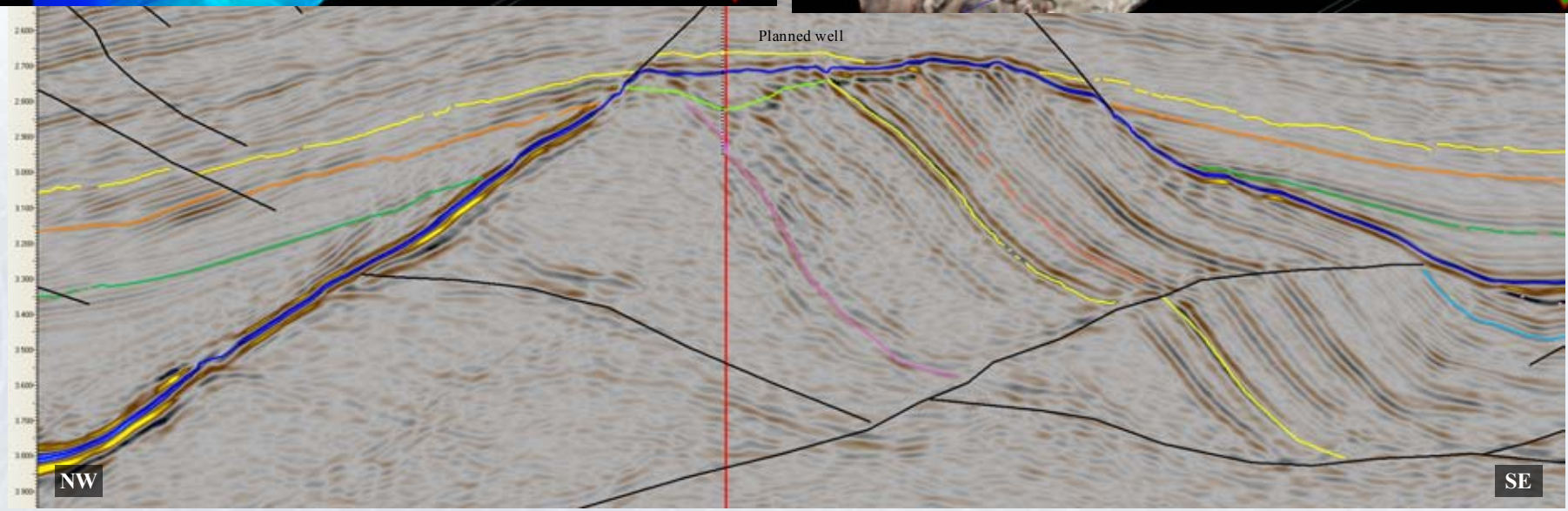
- **PL555**
  - Lundin Petroleum 60% (operator)
    Bayerngas 40%
  - Work commitment:
    - 3D re-processing and G&G studies



PL 519 - Albert Prospect

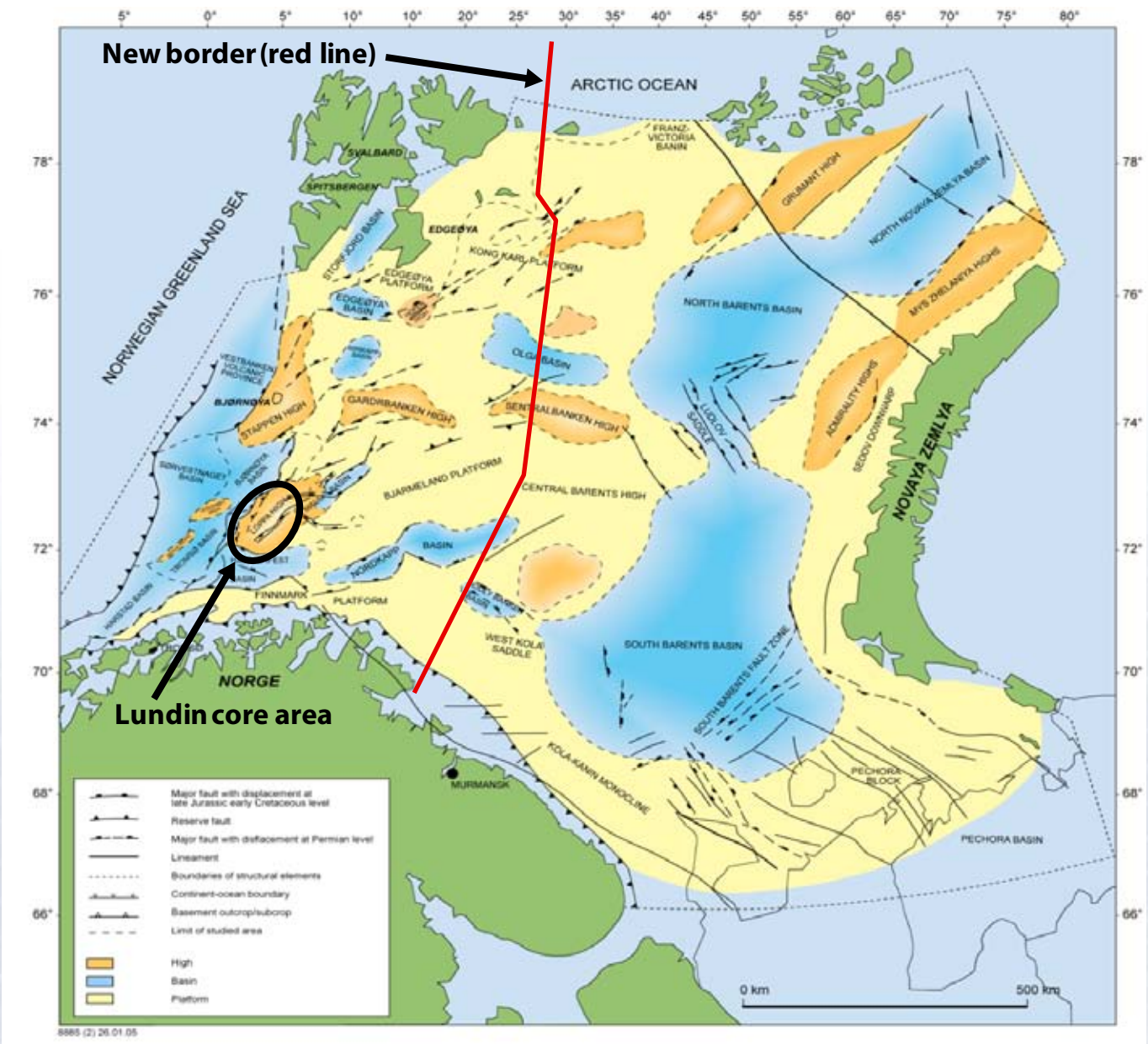




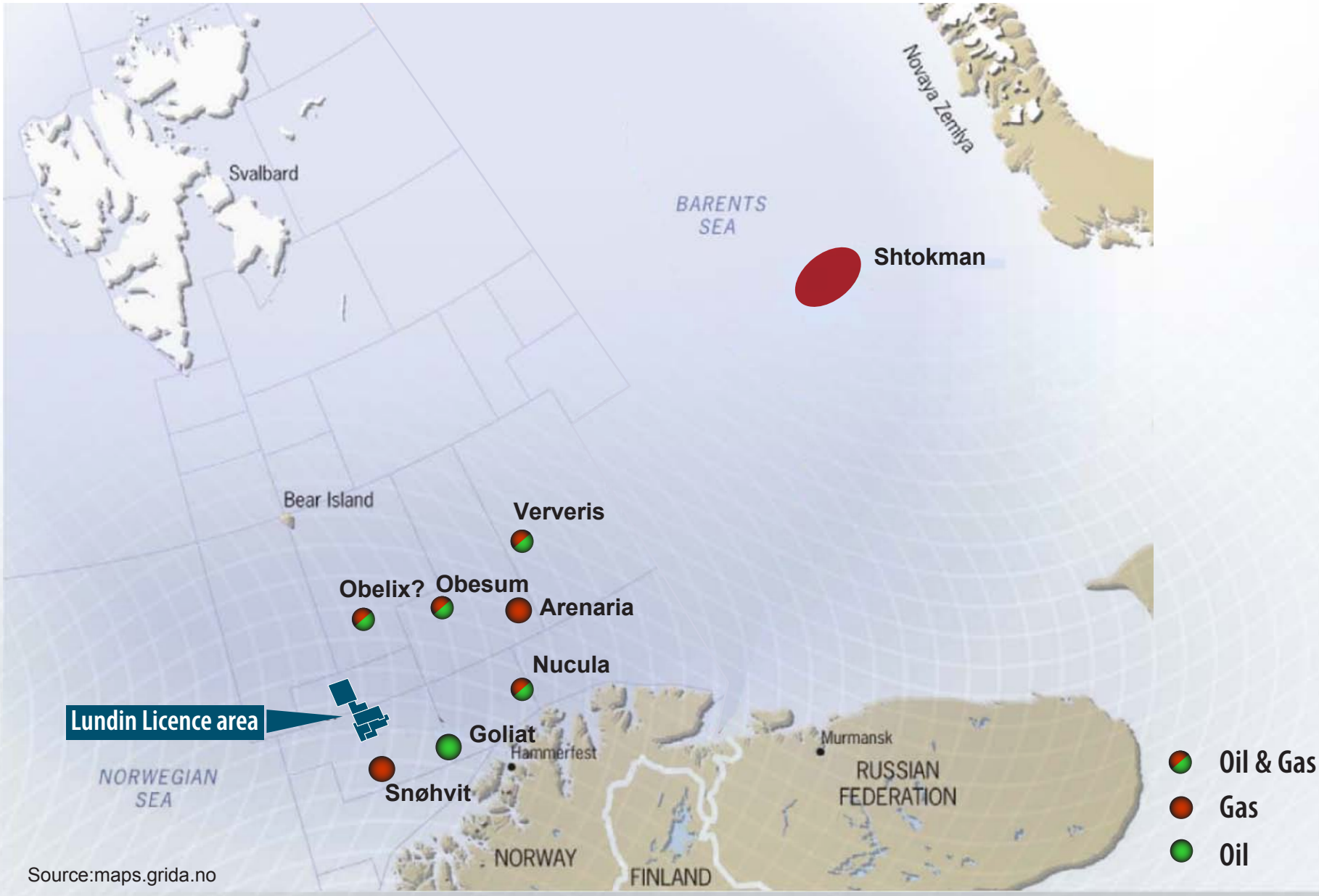


Norway - Barents Sea

Regional Barents Sea with New Border Line

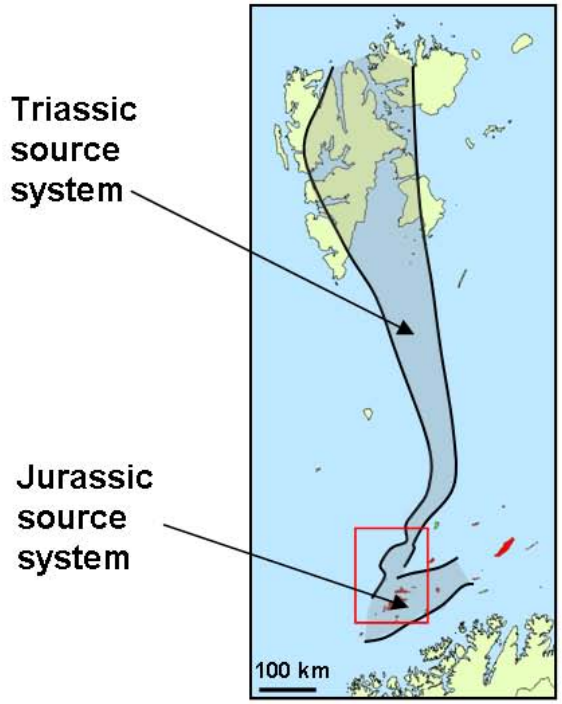


Barents Sea

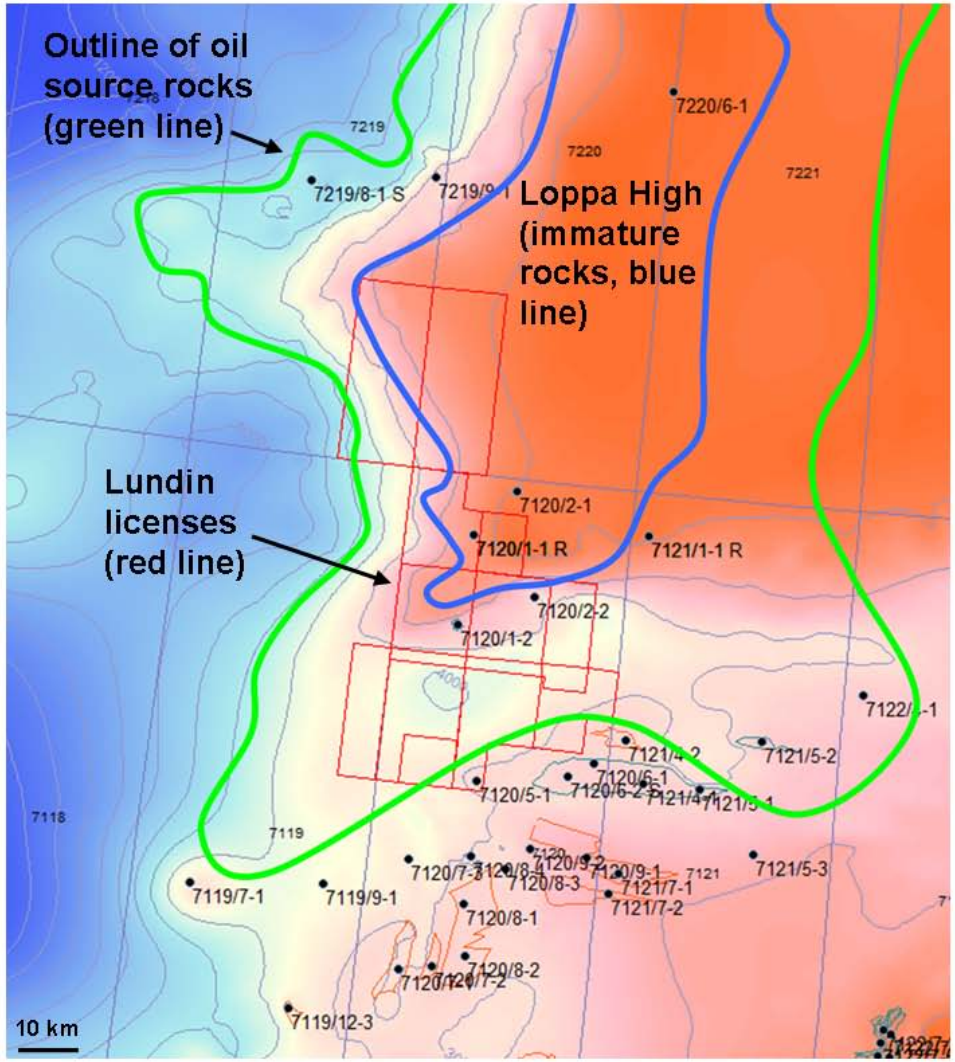


Source:maps.grida.no

Distribution of oil prone source rocks



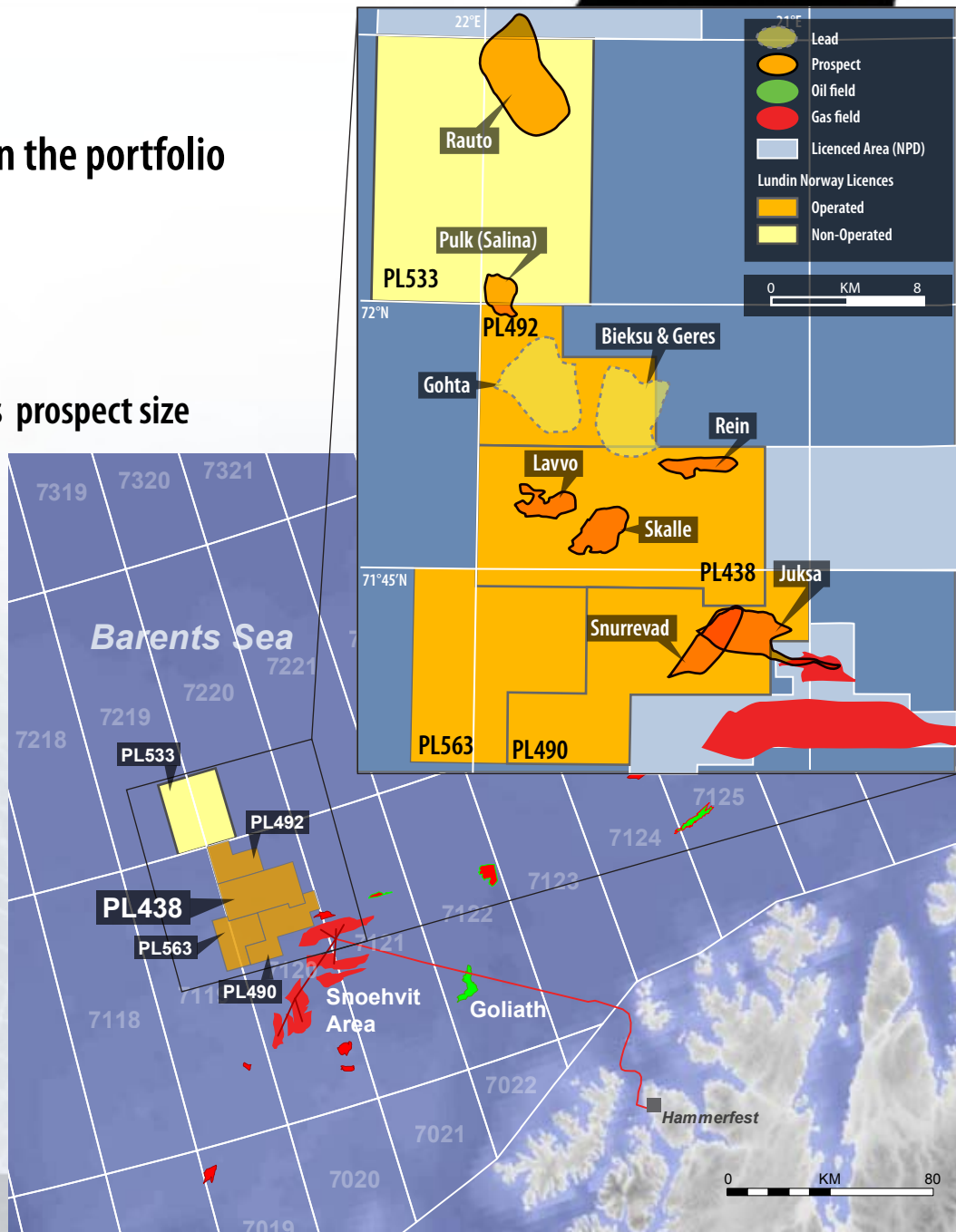
Map showing the distribution of oil prone, oil mature rocks of the Triassic and Upper Jurassic



Barents Sea - Drilling to Commence in 2011

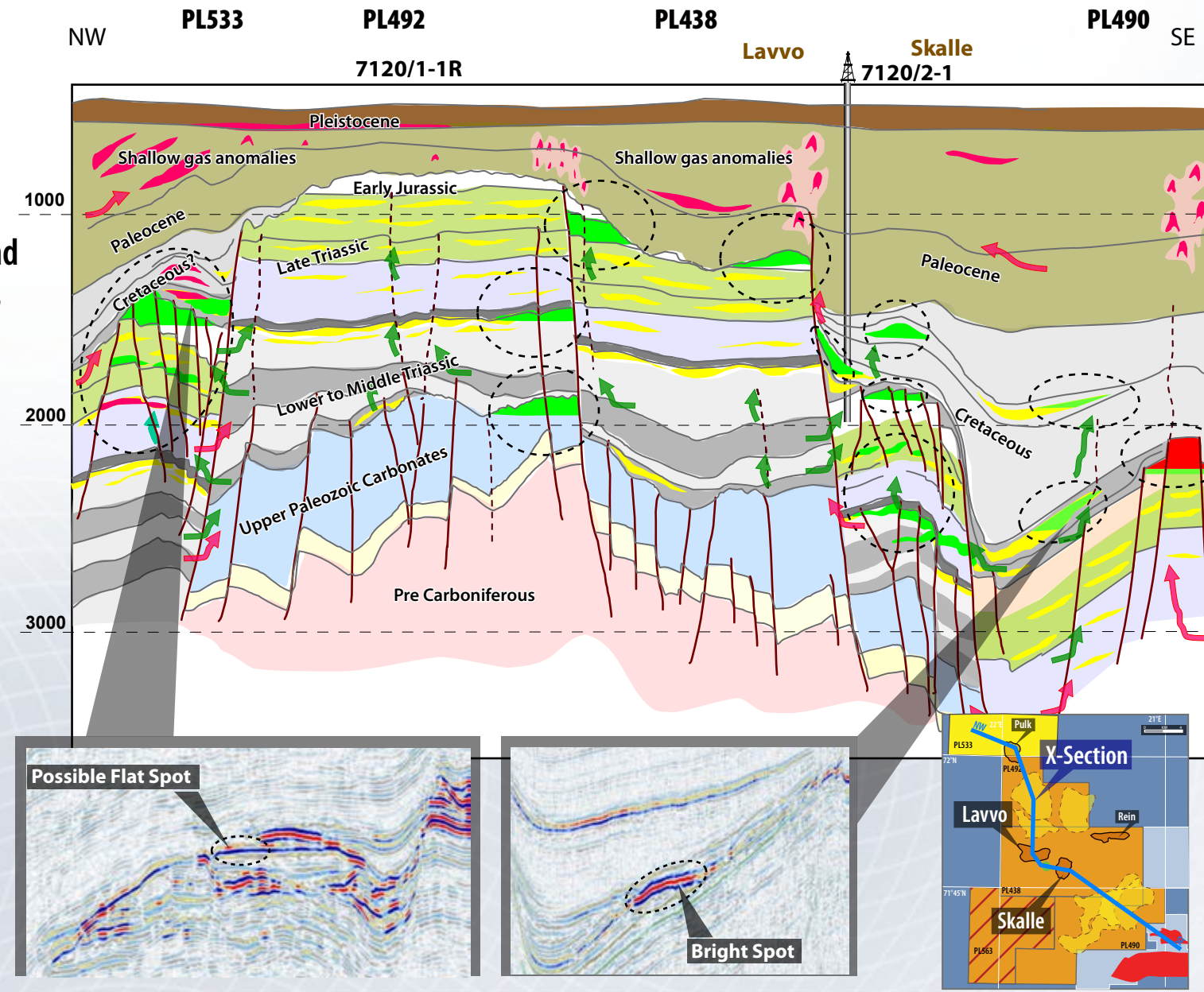
Numerous multi-stacked prospects matured in the portfolio

- **PL438**
  - Lundin Petroleum 25% (operator)
  - 3 prospects
  - Skalle to be drilled in Q1 2011, 250 MMboe gross prospect size in multiple targets
- **PL533**
  - Lundin Petroleum 20%
  - Rauto & Pulk prospects
  - Pulk 500 MMboe gross prospect size in multiple targets
  - likely to be drilled in 2011
- **PL490**
  - Lundin Petroleum 30% (operator)
  - Juksa and Snurrevad prospects
  - likely drilling in 2012
  - 380 MMboe gross prospect size



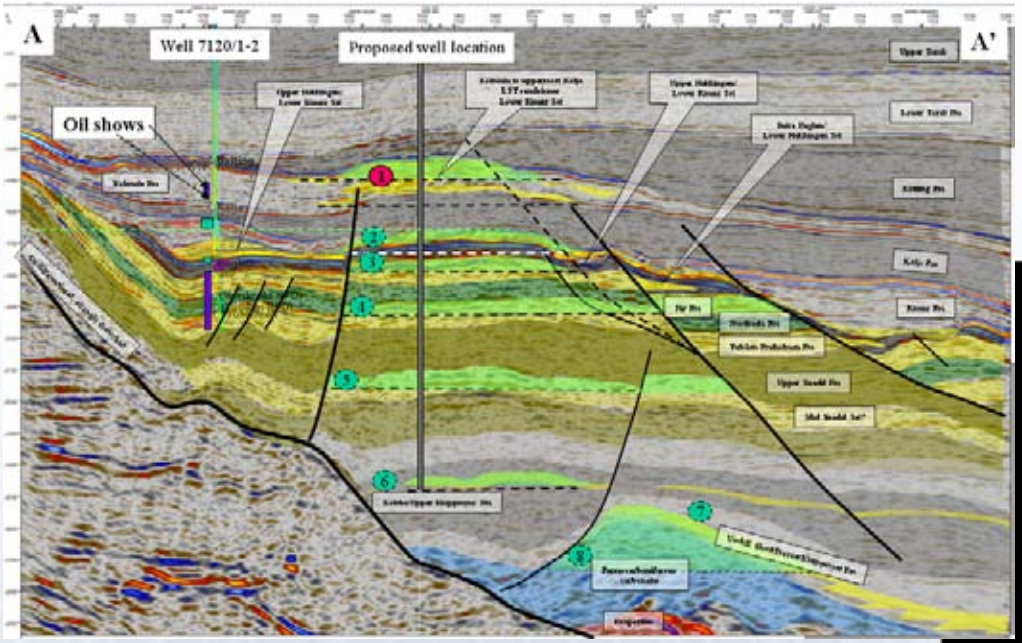
Geological play types

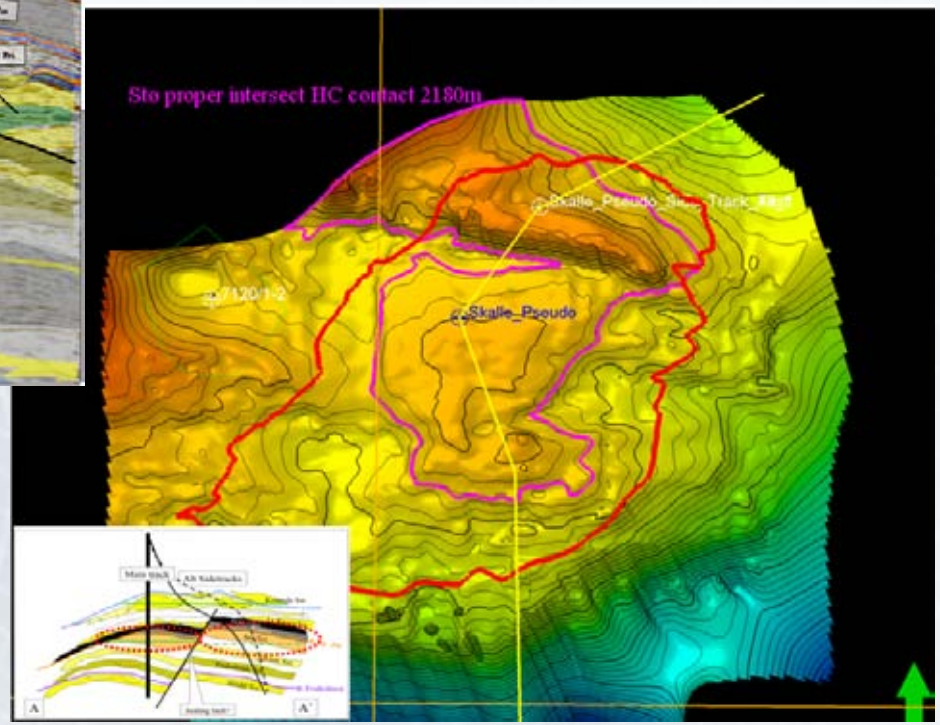
- Numerous structural and stratigraphic play types
- Potential for stacked reservoirs, as seen at other discoveries in the region
- Oil and gas potential in proven good quality reservoirs



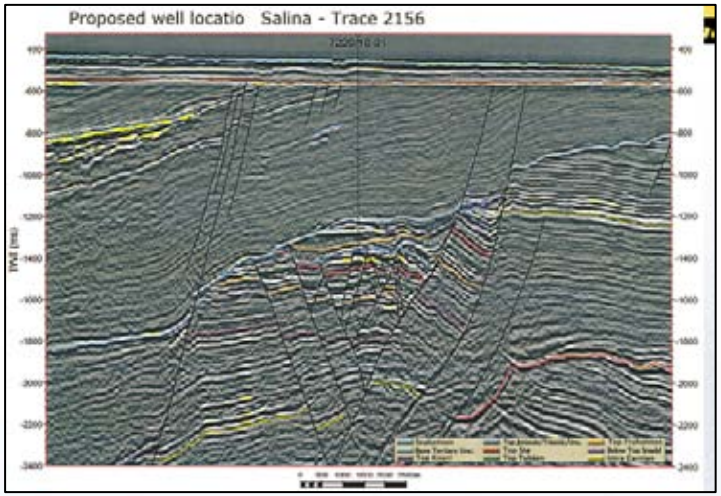
PL438 Skalle

- **Skalle well will be drilled with the Polar Pioneer rig spudded approx. March 2011**





PL533 Pulk/Salinas



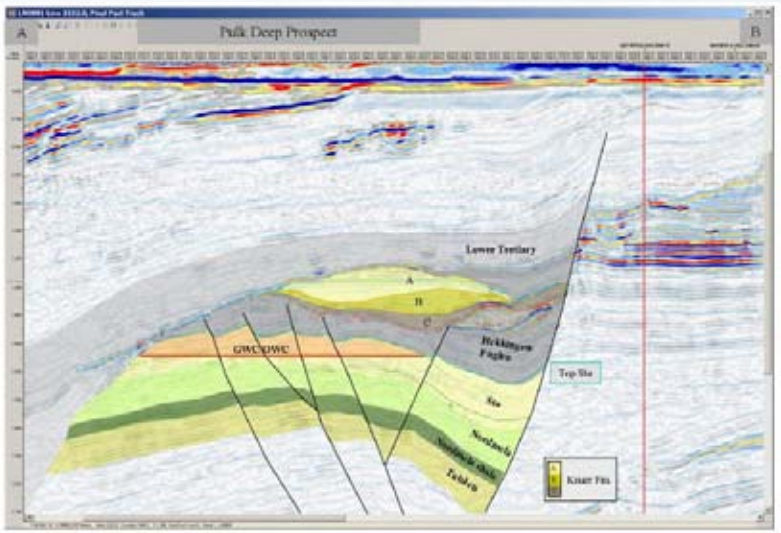


Fig. 2.45 Geo-seismic Inline2222 across Pulk Deep. The top seal consists of Fuglen/Hekkingen shale or, in the southern area, shale in the Knurr Formation. The reservoir section is interpreted as Middle Jurassic Sto and Nordmela Formations.

- **Pulk well will be drilled with Scarabeo 8 tentatively July 2011**

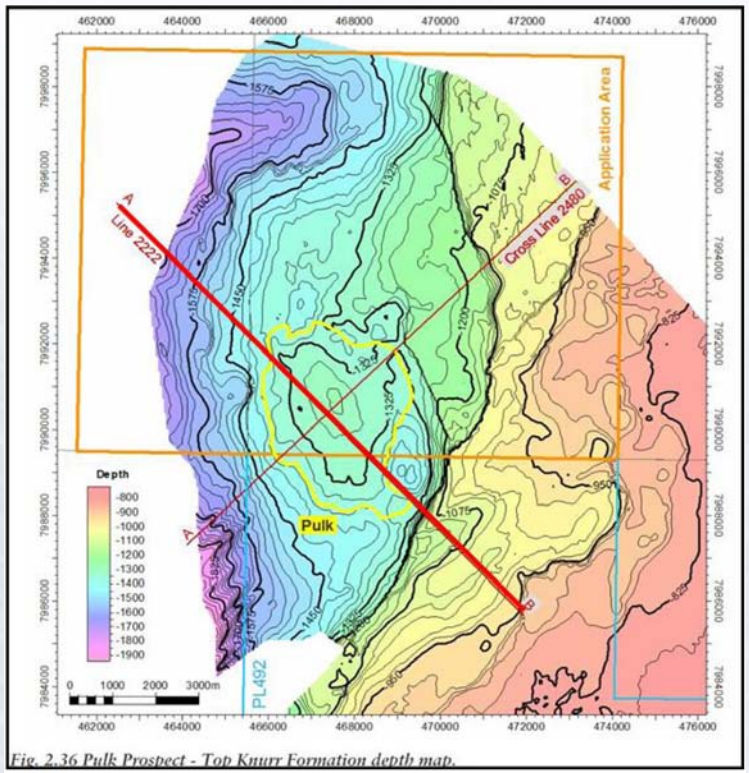
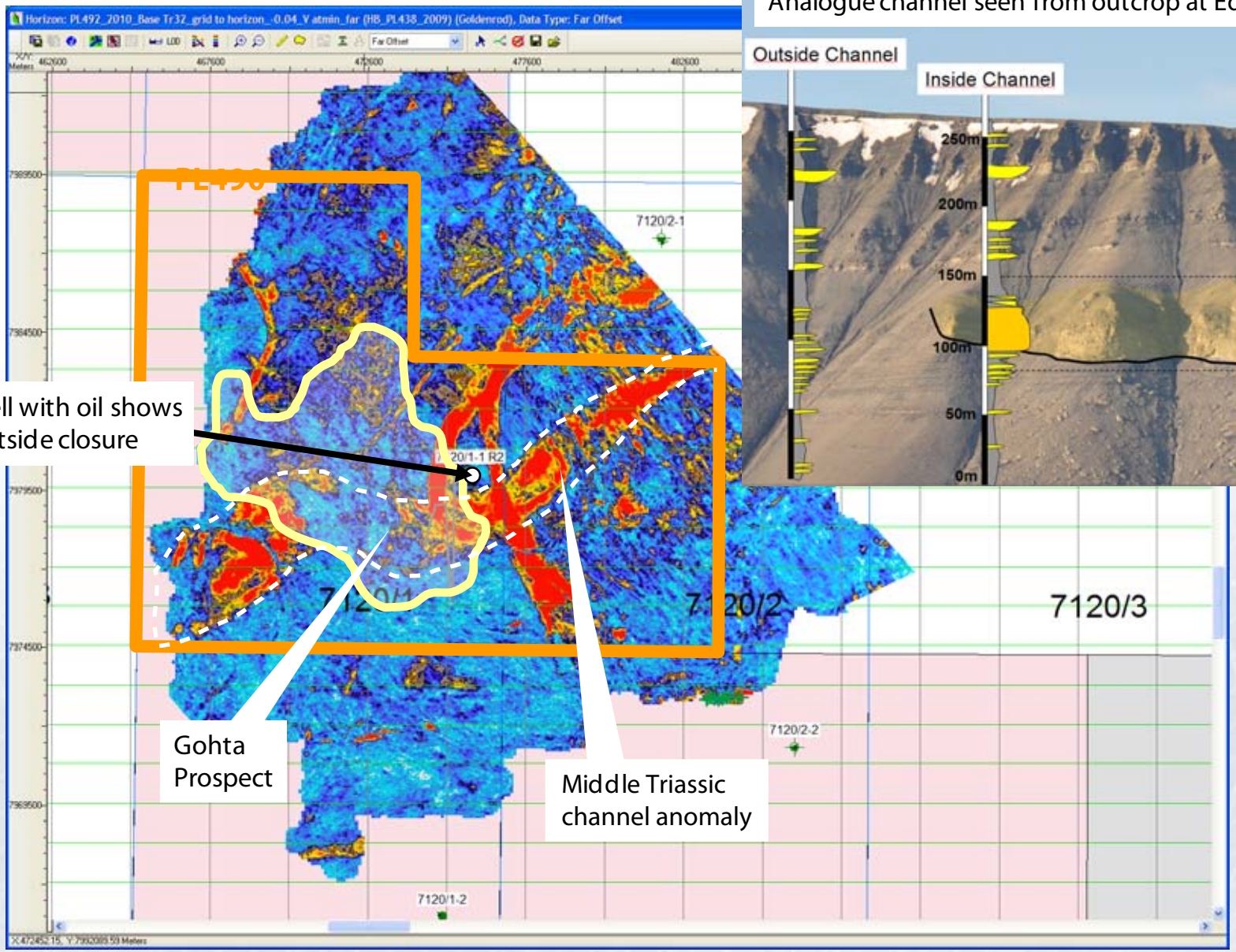
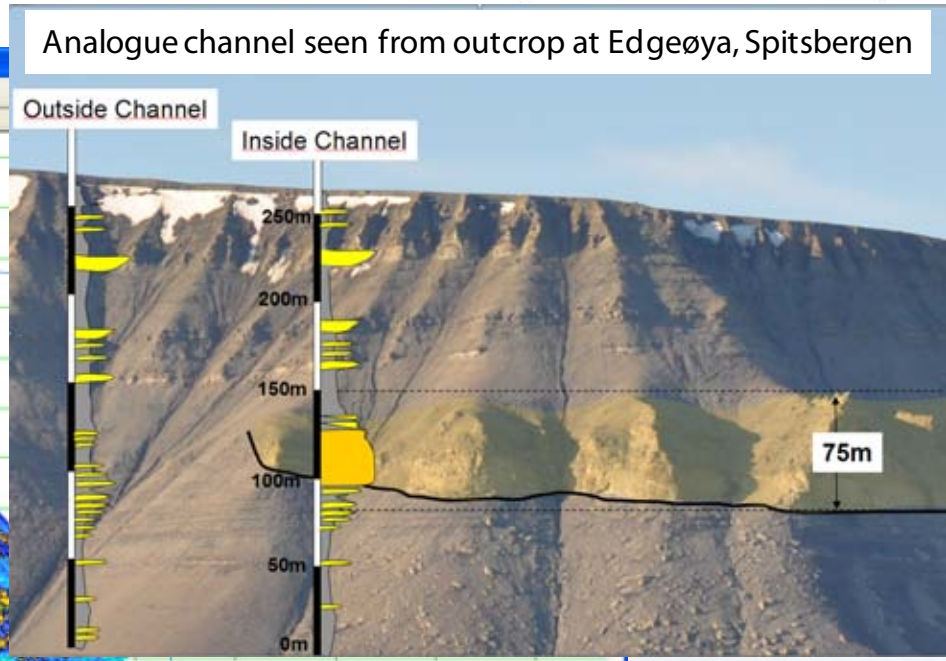


Fig. 2.36 Pulk Prospect - Top Knurr Formation depth map.

Triassic channels mapped in by 3D and observed in field

Lundin



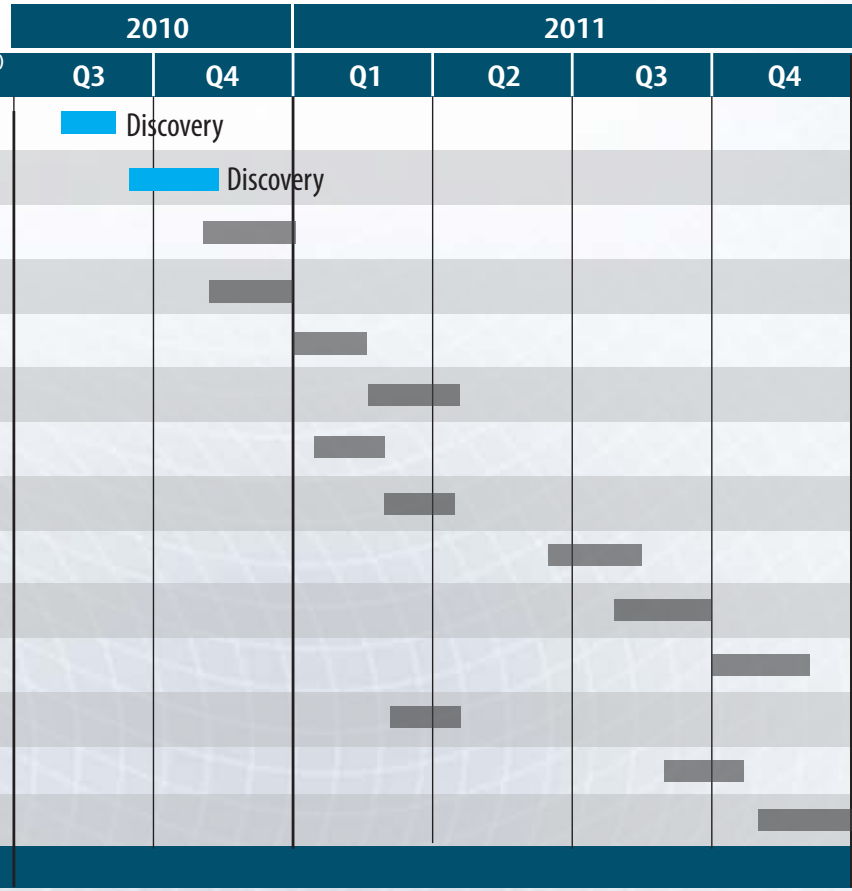


Norway - Drilling Schedule

Norway Targeted Prospective Resources – 2010-11 Drilling Schedule

operated non operated

	Licence - Prospect	Operator	LUPE%	NURPR[1]	CoS%	NRPR[2]
1	PL501 - Avaldsnes	Lundin	40.00	–	–	–
2	PL338 - Apollo	Lundin	50.00	–	–	–
3	PL400 - Barchan	Lundin	50.00	75	18	13
4	PL409 - Norall	Lundin	70.00	19	36	7
5	PL340 - Caterpillar	Marathon	15.00	2	50	1
6	PL505 - Earb South	Marathon	30.00	24	18	4
7	PL338 - Tellus	Lundin	50.00	20	40	8
8	PL501 - Avaldsnes 1st Appraisal	Lundin	40.00	–	–	–
9	PL501 - Avaldsnes 2nd Appraisal	Lundin	40.00	–	–	–
10	PL265 - Avaldsnes West	Statoil	10.00	TBA	–	–
11	PL265 - Aldous North	Statoil	10.00	TBA	–	–
12	PL438 - Skalle	Lundin	25.00	63	19-41	22
13	PL533 - Pulk	ENI	21.30[3]	107	14-19	16
14	PL519 - Albert	Lundin	40.00	84	22	19
				394		**90**



(1) Net Unrisked Prospective Resources (MMboe)

(2) Net Risked Prospective Resources (MMboe)

(3) Propsect split between PL533 (20% equity) and PL 492 (30% equity)