

Geoscience Day 2017

/ C-NLOPB Exploration Update

Slide 1 – Title Slide

Hi. My name is Karen Smith. I am an Exploration Geophysicist at the C-NLOPB. Today I would like to provide you with an Exploration update from the perspective of the C-NLOPB.

Slide 2 – Introduction to C-NLOPB

See slide for notes.

Slide 3 – Canada-Newfoundland and Labrador Offshore Area

Canada's jurisdiction with respect to petroleum related activity extends to the outer edge of the Continental Shelf.

This is a good time to mention the gist of the disclaimer that all maps in this presentation are subject to:

Basically, the maps you see in this presentation are not intended to reflect the extent of the Continental Shelf beyond 200 nm. Canada has filed a submission representing its interpreted extent of the Continental Shelf to UNCLOS but the review of this is pending.

Disclaimer:

“Any sector, parcel or licence depicted on this map beyond 200 nautical miles off the coast of Newfoundland and Labrador is not represented by the Board to reflect the full extent of Canada's continental shelf beyond 200 nautical miles. Canada has filed a submission regarding the limits of the Outer Continental Shelf in the Atlantic Ocean with the Commission on the Limits of the Continental Shelf, the review of which is pending. Any call for bids based on a sector or parcel identified in this map and any licences issued in those areas will be subject to approval as a Fundamental Decision under applicable legislation. The boundaries of sectors, parcels or licences in areas beyond 200 nautical miles may be revised to reflect the limits of the Outer Continental Shelf established by Canada. All interest holders of production licences containing areas beyond 200 nautical miles may be required, through legislation, regulation, licence terms and conditions, or otherwise, to make payments or contributions in order for Canada to satisfy obligations under Article 82 of the United Nations Convention on the Law of the Sea.”

Slide 4 – Canada-Newfoundland and Labrador Offshore Area

Let's look at the Offshore “By the Numbers...”

Slide 5 – 2016 – Geoscience Programs with Fieldwork

Let's discuss recent Exploration Activity starting with 2016 Geoscience Programs with Fieldwork:

- Six Programs with Fieldwork operated this past field season. The approximate location of each program is represented on the map
- The Fieldwork was completed by three different Operators - all of which are speculative companies
- Three, 2D Seismic Programs:
 - Labrador South, Northeast Newfoundland Slope, South Grand Banks
 - Not since 1983, has this much 2D seismic data been collected in the Newfoundland and Labrador Offshore Area in a season
- Two, 3D Seismic Programs:
 - Both in the Flemish Pass Area
- Acquisition Total ~13000 km²
- New single season 3D record (beating last seasons record)
- Western Geco Program ~10,000km² nearly double the size of the previous largest single survey completed in the Newfoundland and Labrador Offshore Area thus setting a new single survey record
- One Geochemical Survey
- 100 seabed samples over ~1900 km
- Six of eight Land Tenure Regions were explored ensuring that modern data coverage will be available over the recent sectors identified in Southern Newfoundland, North Eastern Newfoundland Low Activity Areas

Slide 6 – Geological Programs without Fieldwork

- Geological Programs without Fieldwork are based on borrowing and sampling of physical well materials like cuttings, core and fluid samples from the C-NLOPB's Core Storage and Research Facility
- 21 Geological Programs without Fieldwork which includes sampling of about 195 wells
- 11 different applicants from industry, government and academia
- Combination of exclusive and speculative programs, with higher speculative program content than in previous years
- Work Completed over a variety of Land Tenure Regions
- Study types include:
 - Geochemistry
 - Biostratigraphy
 - Fluid Inclusion
 - Lithology
 - Petrography

Slide 7 – Recent Exploration/Delineation Drilling

- Statoil’s initial drilling campaign wells can be seen on the map of the Flemish Pass as green dots
- Husky’s delineation well in the Jeanne d’Arc - approximate location given by green star
- Statoil’s exploratory two well program that you likely have heard in the news of late

Slide 8 – Scheduled Land Tenure System

Now I’d like to talk about the Scheduled Land Tenure System...starting with the benefits, followed by a quick review and moving into the opportunities it can provide.

Benefits of the Scheduled Land Tenure System:

- Transparency and Predictability (users know well in advance where and when to expect Call for Bids)
- User input is enhanced through multiple nomination processes
- There is much more additional time for exploration compared to the old model

How it works:

- Offshore divided into eight regions
- Regions are categorized by their activity level
 - Low Activity regions generally have few exploratory wells and less modern seismic data acquisition
 - High Activity regions typically have elevated exploration activity levels, including 2D and 3D seismic data acquisition and exploration drilling
 - Mature regions would have substantial 2D and 3D seismic data coverage and extensive exploration/delineation drilling and production activities
- There are three licencing timing cycles: one, two or four years and is related to the activity level such that the more underexplored areas are given more time in a licencing cycle.

Slide 9 – Scheduled Land Tenure System

This slide shows a flow chart illustrating the Land Tenure Process:

To describe the Scheduled Land Tenure Process let’s use this chart and the 2013 - Labrador South Round as an example

Slide 10 – Scheduled Land Tenure System - Process

- A region is announced in the Schedule
- Call for Nominations (AOI) opens which provides interested parties the opportunity to recommend a geographic block which they would like to see progress to a Call for Bids
- Design criteria for this block includes:
 - AOIs to be designed for maximum prospectivity – large enough to contain multiple prospects yet small enough to focus exploration efforts
 - Maximum geographic size is two million hectares which roughly equates to nine maximum sized parcels (800 sections in all regions but Jeanne d’Arc)

Slide 11 – Scheduled Land Tenure System – Process

- Industry AOI Nominations and internal assessments used to define the geographic area called a Sector
- Once a Sector is announced, a future Call for Bids will take place pending Board approval and a fundamental decision by governments.
- Call for Nominations (Parcels) allows interested parties the opportunity to provide input into how the parcels should be designed based on their geoscientific mapping
- Design Criteria for Parcels include:
 - Sector boundaries are considered “flexible”. Parcels can extend beyond a Sector to contain geological features interpreted in the subsurface

Slide 12 – Scheduled Land Tenure System – Process

- Nominations from industry and internal assessments are used to design parcels
- Call for Bids process begins
- 2013 Labrador South is currently in this stage of the process
- **Although I will move forward to illustrate the remaining process, everything I show in the following slide is merely a hypothetical representation.**

Slide 13 – Scheduled Land Tenure System – Process

- Eventually Exploration Licences will be issued for parcels that receive successful bids, usually in January the following year after the close of the Call for Bids
- **Note again that this slide is for illustrative purposes only. The Call for Bids here has not yet happened. This is just a random representation of one of many possible future outcomes**

Slide 14 – 2016 Call for Bids Rounds

That was an example of the entire process using the Labrador South low activity region on a four year cycle as an example. Now let's look at the Call for Bids Results from 2016.

General Comments on Calls for Bids:

- Call for Bids in a High Activity Region (Eastern Newfoundland) happens on a two year cycle
- Call for Bids in a Mature Region (Jeanne d'Arc) happens annually
- Parcels not awarded in previous bid rounds can be re-posted

There were two Calls for Bids rounds in 2016:

- Eastern Newfoundland: Total of 13 Parcels over recent sector and parcels that did not go in the previous bid round
- Jeanne d'Arc (Mature): Total of three Parcels

Slide 15 – 2016 Calls for Bids Results

Eastern Newfoundland:

- Seven bids and six parcels awarded (four over sector and two from previous rounds)
- New entrants
- Interest in new play types

Jeanne d'Arc:

- Three bids and two parcels awarded

All to the tune of over \$750 million.

Slide 16 – 2016 Land Tenure Highlights

The land Tenure Highlights to follow include those currently in the Timeline for Active Rounds found on our web page:

- Being a low activity region, operators now have several years to explore the potential of this area
- Call for Bids will close the end of 2020

Slide 17 – 2016 Land Tenure Highlights

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- Call for Bids will close the end of 2020

Slide 18 – 2016 Land Tenure Highlights

- The intention, as per the scheduled Land Tenure process, was for the Call for Bids in Labrador South to close November 2017.
- At this point the Call for Bids close date is up in the air as the Labrador Strategic Environmental Assessment (SEA) is not completed
- A Call for Bids will not close until at least 120 days following the completion of the Labrador SEA

Slide 19 – 2016 Land Tenure Highlights

- Recently received nominations for AOIs were received for Eastern Newfoundland. They are being considered and internal assessments are being carried out
- Sector to be identified in the very near future

Slide 20 – 2016 Land Tenure Highlights

- Recently received nominations for parcels in Jeanne d’Arc are being considered and internal assessments are being carried out
- Call for Bids likely announced early spring of 2017

Slide 21 – 2017 Land Tenure Highlights

NL17-CFN01:

- Jan 2017 Announcement of Call for Nominations (AOI) in South Eastern Newfoundland
- Interested Parties to submit AOI Recommendations – April 2017
- Sector Identification Announcement - June 2017

Slide 22 – 2017 Land Tenure Highlights

Additional Active Sectors:

- NL01-SEN and NL02-LS in exploration stage
- Call for Nominations (Parcels) expected early 2018

Slide 23 – Land Tenure Item Timelines

Recap:

Information on Land Tenure timelines can be found on our webpage in map and chart form

Slide 24 – Exploration Related Initiatives

FORRI:

- Exploration, in addition to C-NLOPB staff are playing a role in the re-write of the existing Regulations
- Multiple Regulations will be replaced by a Framework Regulation
- Movement to include goal based in addition to prescriptive regulations

Information Sharing Mechanism:

- Goal is to ensure that all ocean users communicate effectively and work collaboratively to mitigate negative interactions in the (NAFO) Regulated Area
- Coordinated by C-NLOPB through Department of Fisheries and Oceans (DFO), operators carrying out petroleum related activities beyond 200 nm share proposed data acquisition plans with NAFO contracting parties at the authorization stage
- The plan for this field season is for NAFO Contracting Parties to reciprocate in the information sharing by providing aggregate Vessel Monitoring System (VMS) fishing data
- Communication should proactively reduce negative interactions

Slide 25 – 2017 and Beyond

Our offshore has attracted attention despite the trying times!

Continued Geoscience Activity

- Record Breaking 2016 Field Season with more work expected this season

Slide 26 – Thank you

Thank you for inviting me to speak about the activities of the C-NLOPB today. For further information you can visit our website at cnlopb.ca, follow us on twitter, have a look at our You Tube Channel or email us at information.cnlopb.ca.