



Newfoundland and Labrador

Booth # 31

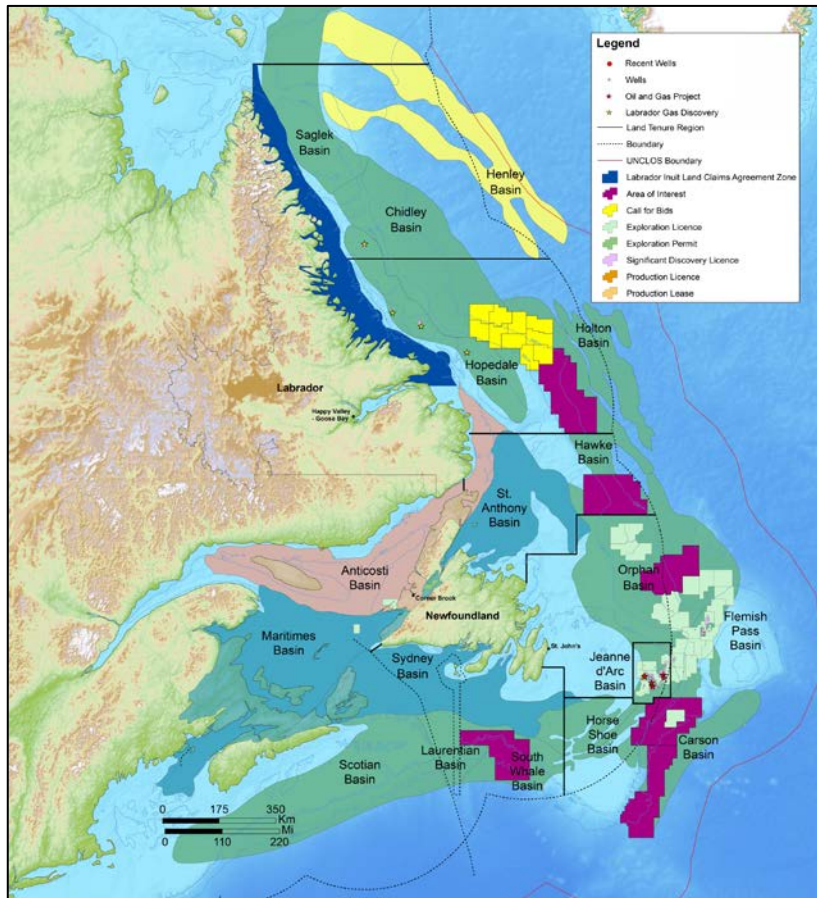
Canada

Strategic Location and Excellent Prospectivity

- Newfoundland and Labrador is one of Canada's premier energy producing areas with annual light crude production of 84 million barrels (or 230,151 bpd) in 2018
- 5 offshore fields produce ~25% of Canada's conventional light crude oil
- Total expenditures from 1966-2017 in NL's offshore area is \$59.4 billion
- Discovered resources: 4.3 Bbbls of oil, 12.6 Tcf of natural gas.
- Total cumulative oil production is 1.83 billion barrels over 20 years

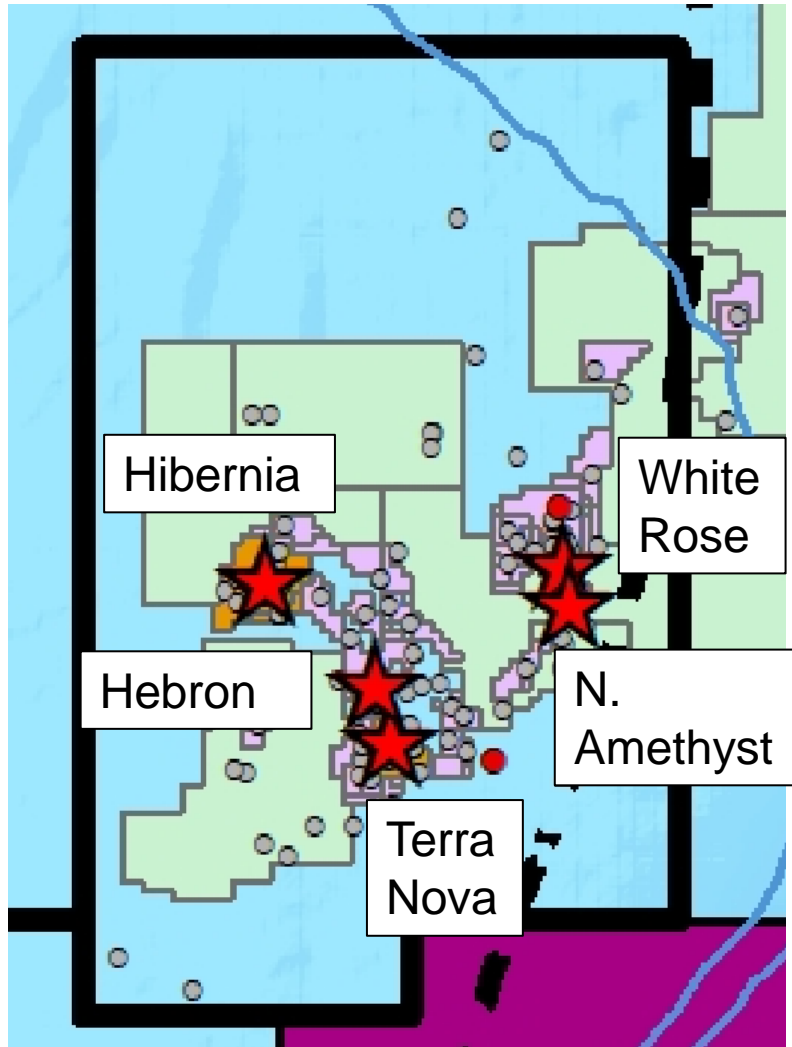
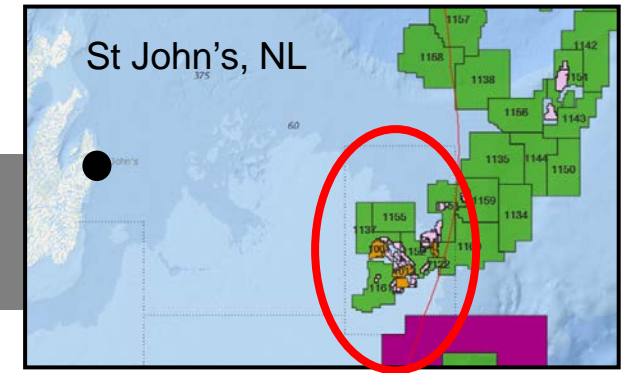


Regional Overview



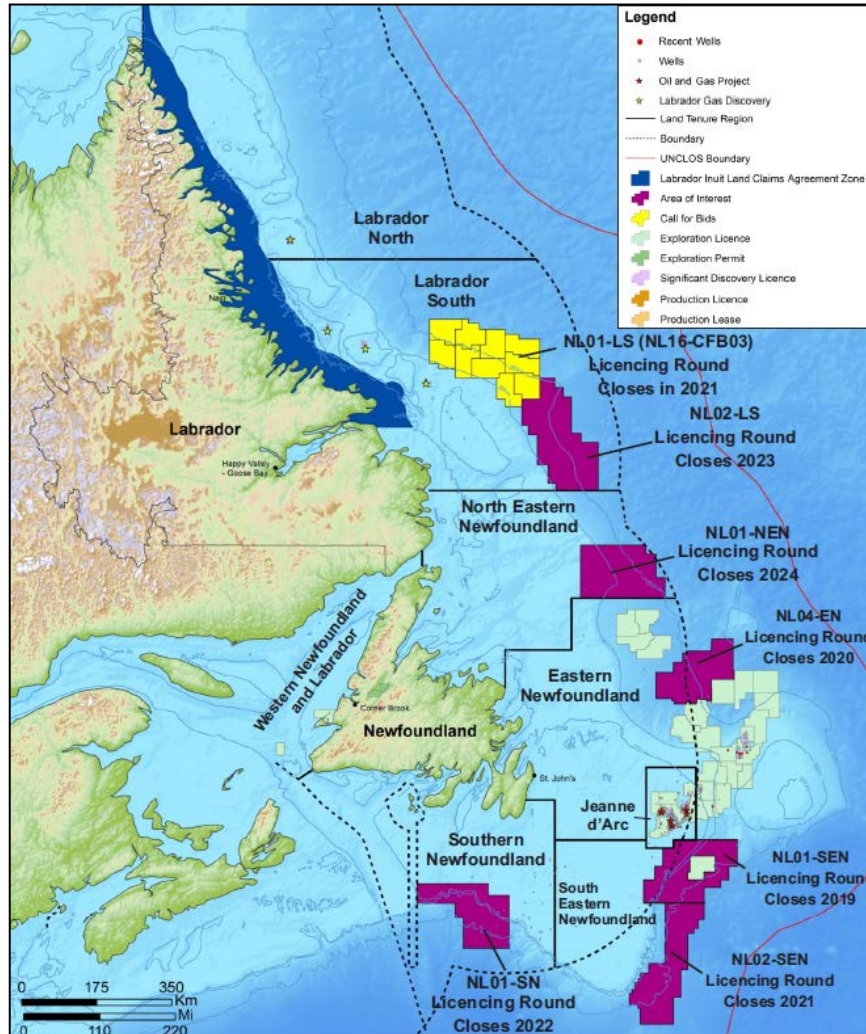
- Offshore area of 1.8 million km² or 445 million acres
- 3% held under license
- Production on the shelf for now and deep-water exploration drilling

Producing Fields



- Hibernia:
 - ExxonMobil (28%), Chevron, Suncor, CHHC, Murphy, Equinor
- Terra Nova:
 - Suncor (38%), ExxonMobil, Equinor, Husky, Murphy, Mosbacher, Chevron
- White Rose:
 - Husky (72.5%), Suncor
- North Amethyst:
 - Husky (69%), Suncor, Nalcor (5%)
- Hebron:
 - ExxonMobil (35%), Chevron, Suncor, Equinor, Nalcor (4.9%)

Scheduled Land Tenure Regions



High Activity (2-year cycle)

1. Eastern NL

Low Activity (4-year cycle)

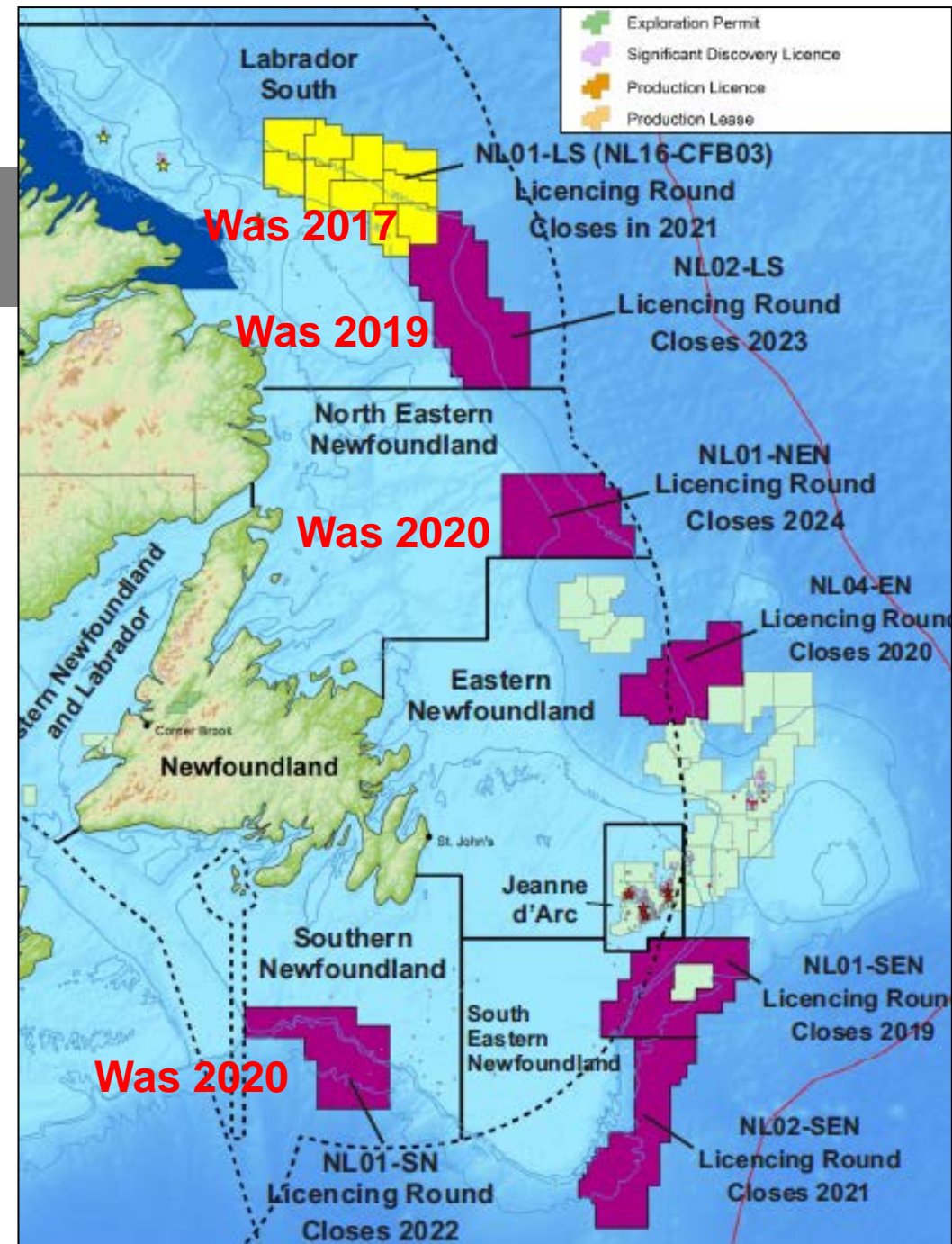
2. Labrador North
3. Labrador South
4. North Eastern NL
5. South Eastern NL
6. Southern NL
7. Western NL

Mature (1-year cycle)

8. Jeanne d'Arc

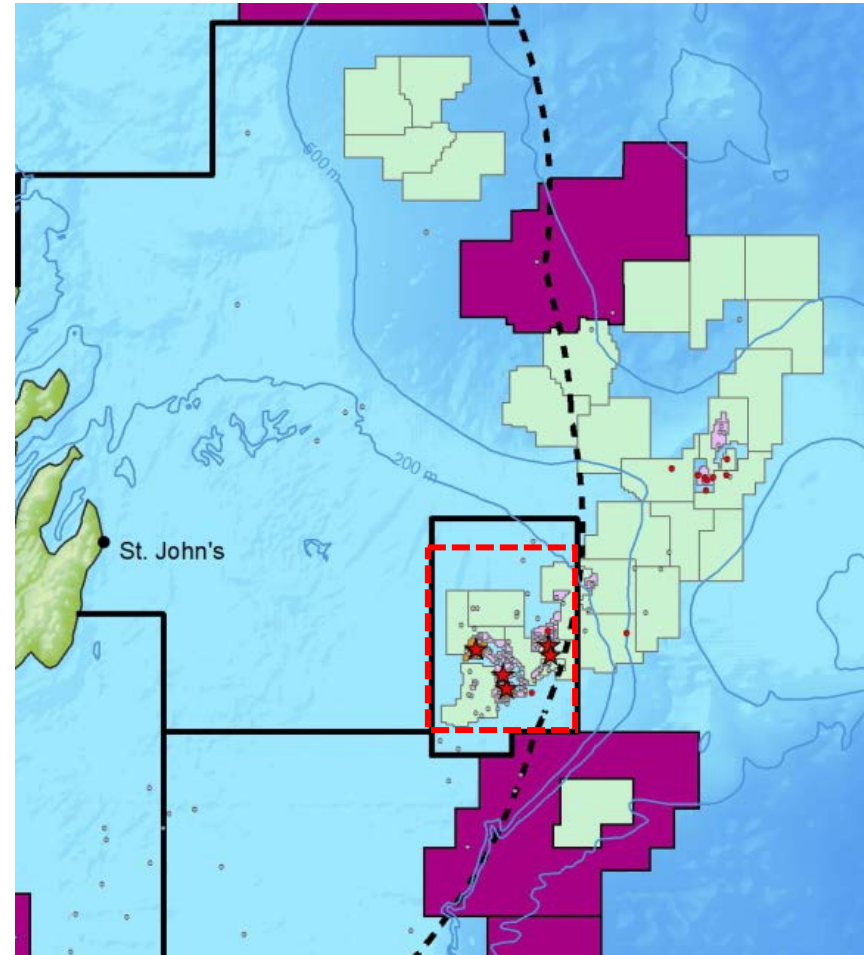
Land Tenure Changes

- Revised timing of the Call for Nominations schedule to accommodate completion of the environmental assessment process
- Rescheduled Call for Bids:
 - 2017 LS > 2021
 - 2019 LS > 2022
 - 2020 S NL > 2022
 - 2020 NE NL > 2024
- JD, EN, & SE NL Call for Bids scheduled for 2019-2021 the same



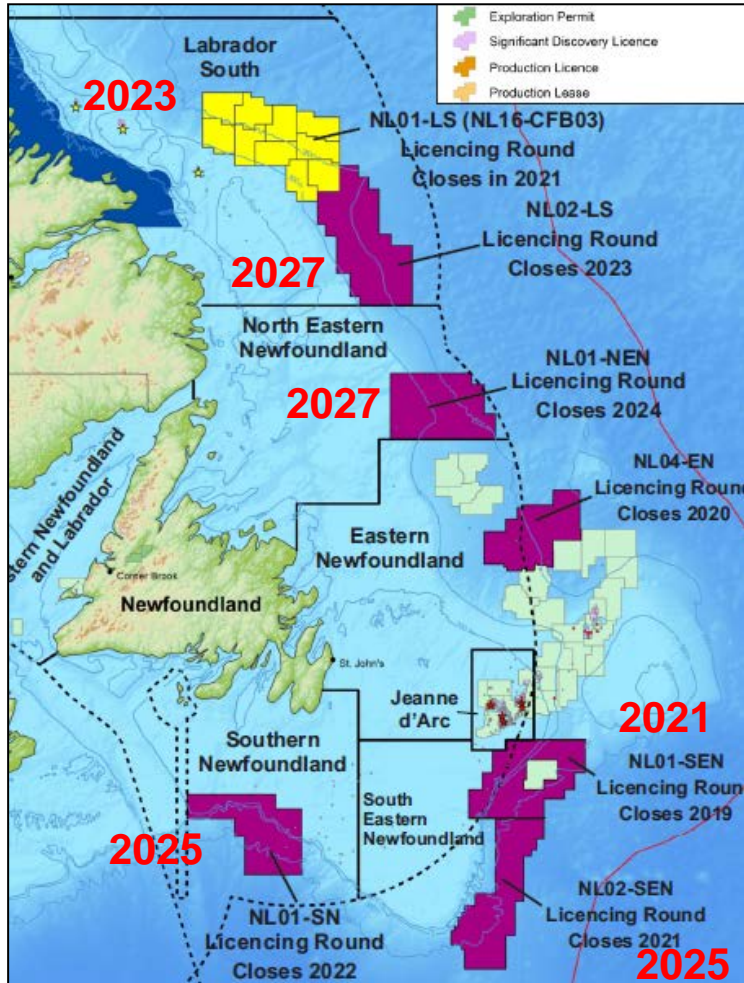
Updates to Land Tenure System

- Boundary for Jeanne d'Arc extended to align with basin geology
- Clarification regarding cross-boundary nominations
- Deadline extension: Call for Nominations for parcels (NL18-CFN03) extended to Jan 23, 2019 (original date Nov 14, 2018)
- Cumulative parcels scheduled for low activity areas



| REGION | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 |
|----------------------------|------|------|------|------|------|------|------|------|------|------|
| Labrador South | | | | | CP | | | | | CP |
| North Eastern Newfoundland | | | | | | | | | | CP |
| South Eastern Newfoundland | | | CP | | | | CP | | | |
| Southern Newfoundland | | | | | | | CP | | | |

Cumulative Parcels

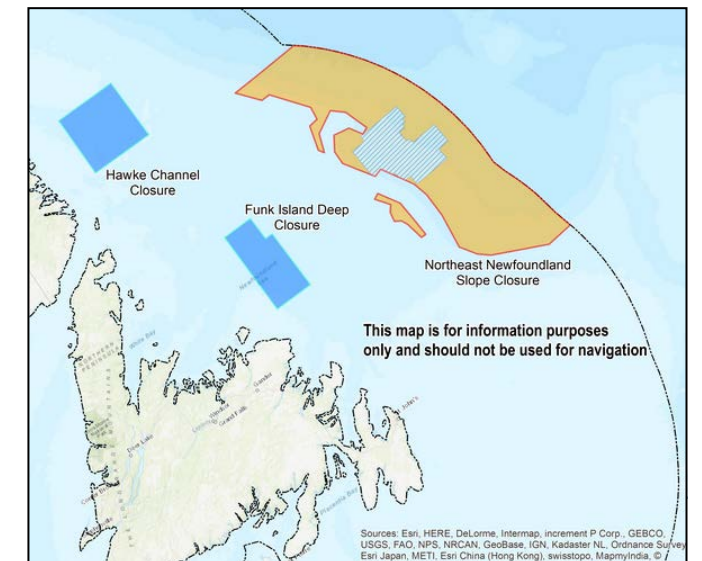
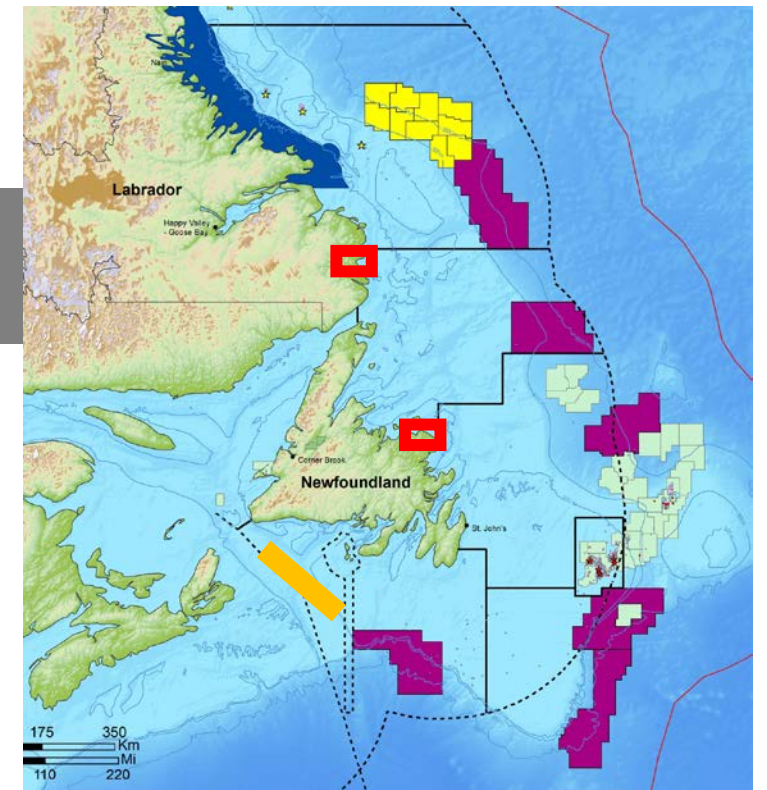


Re-Posting Dates

- Previously, unawarded parcels were offered on next Call for Bids round in land tenure region (every 1, 2, or 4 years, depending on activity level)
 - Meant low-activity areas would only have those reposted parcels every 4 years
- Now, unawarded parcels will be offered in low activity areas every 2 years, alternating between northern and southern areas
 - Jeanne d'Arc and Eastern Newfoundland no change, occur with scheduled Call for Bids

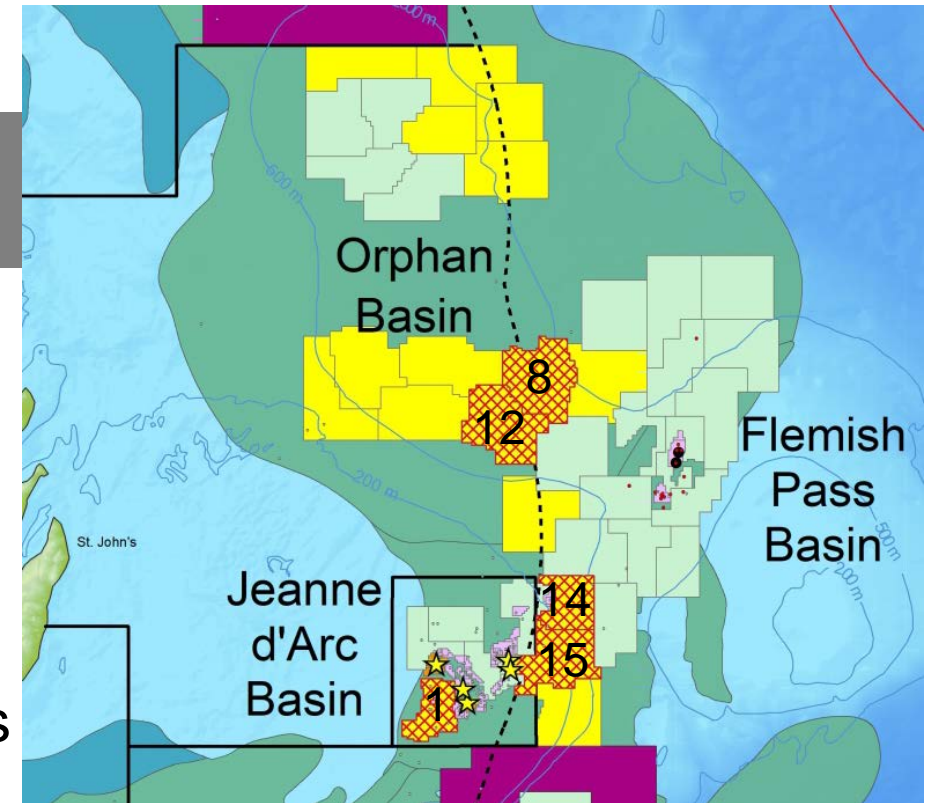
Marine Protected Areas

- Department of Fisheries and Oceans
- Protect marine biodiversity, ecosystems, and special natural features
- Province has input in Federal MPAs
 - Gilbert Bay
 - Eastport
 - Laurentian Channel Area of Interest
- Other marine refuge/conservation areas that prohibit bottom-contact fishing activities, include:
 - Northeast NL Slope Closure
 - Funk Island Deep Closure
 - Hawke Channel Closure



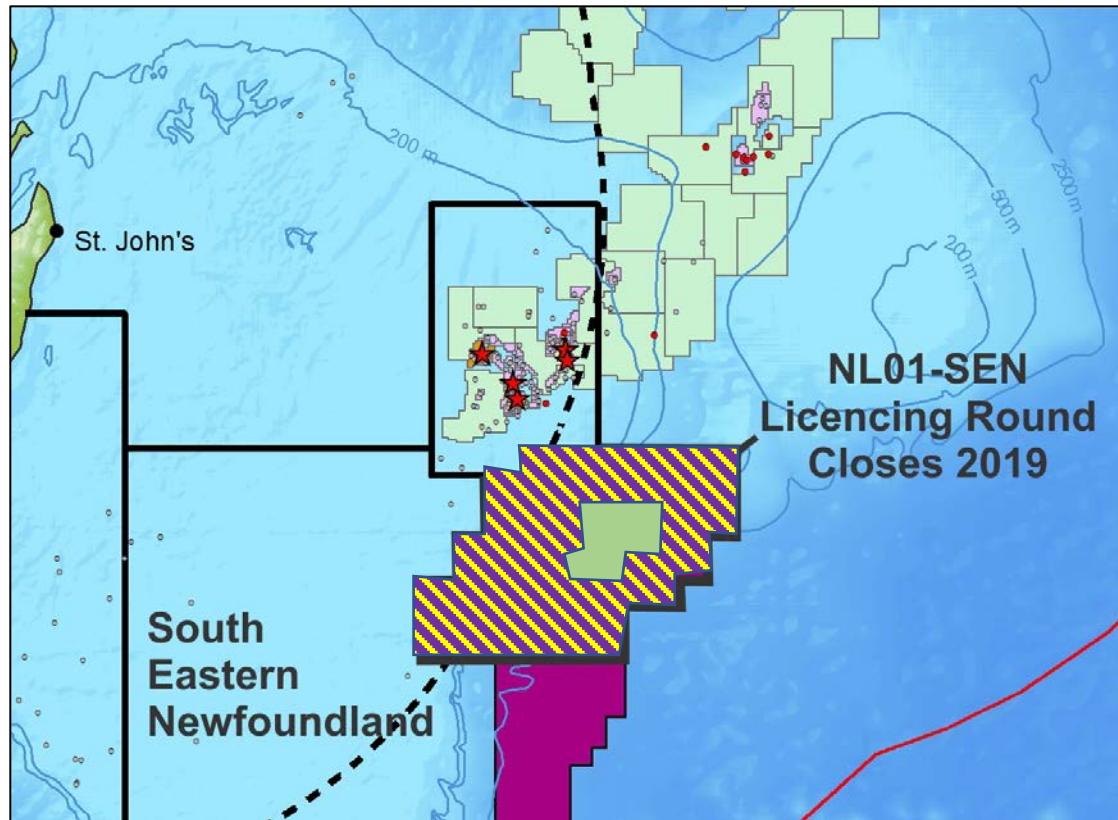
2018 Call for Bids

- EN CFN announced in 2016 by the C-NLOPB
- Largely underexplored area with only 11 wells in the vicinity of the parcels, excellent seismic coverage
- 9 new parcels, 7 reposted
- Call for Bids closed Nov. 2018; 5 successful bids
- Record setting



| Exploration Licence | Hectares | Successful Bidders | Successful Bid |
|------------------------------|----------|---|------------------------|
| 1157 (Parcel 8) | 269,799 | BHP (100%) | \$621,021,200 |
| 1158 (Parcel 12) | 273,579 | BHP (100%) | \$201,021,200 |
| 1159 (Parcel 14) | 159,036 | Equinor (70%) Husky (30%) | \$32,231,981 |
| 1160 (Parcel 15) | 253,608 | Equinor (60%) Suncor (40%) | \$480,000,000 |
| 1161 (Parcel 1 in JD) | 142,448 | Suncor (40%), Husky (30%), Equinor (30%) | \$51,999,555 |
| Total Successful Bids | | | \$1,386,273,936 |

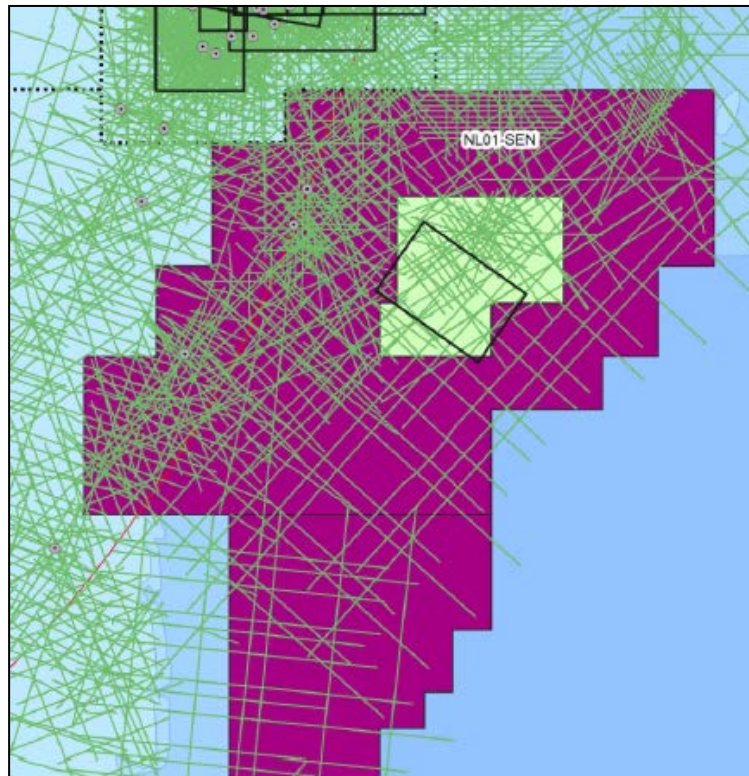
2019 Call for Bids



- Jeanne d'Arc and SE NL regions
- In 2015, the CNLOPB announced a sector in the Carson Basin area in SE NL region.
- Call for Bids to be announced in March 2019; Close November 2019
- 2,155,327 ha (21,553 km²)
- Water depth: 100 – 3,500 m

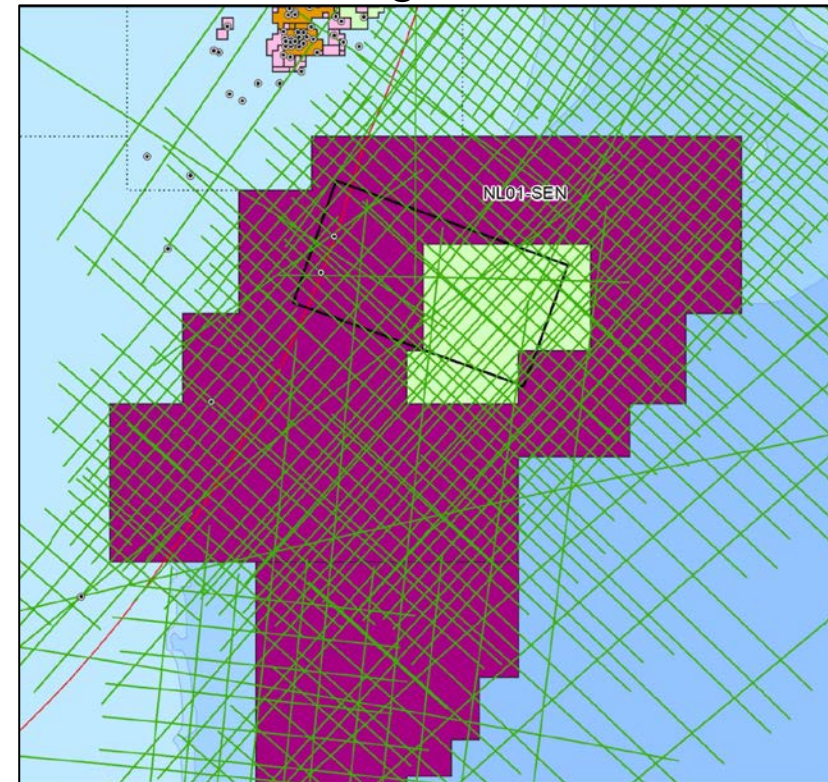
SE NL Sector Seismic Coverage

Public Data



Data courtesy of C-NLOPB.
20,179 km of 2D

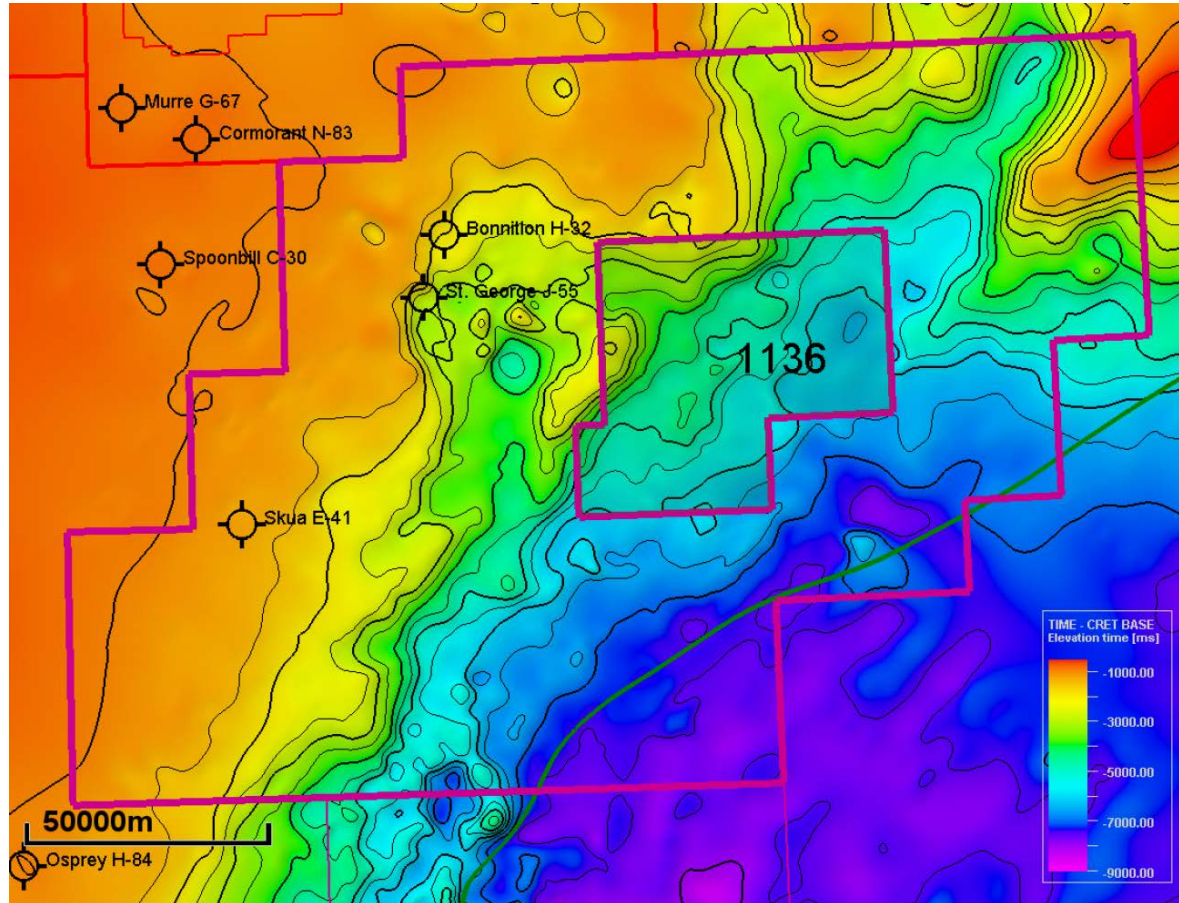
Privileged Data



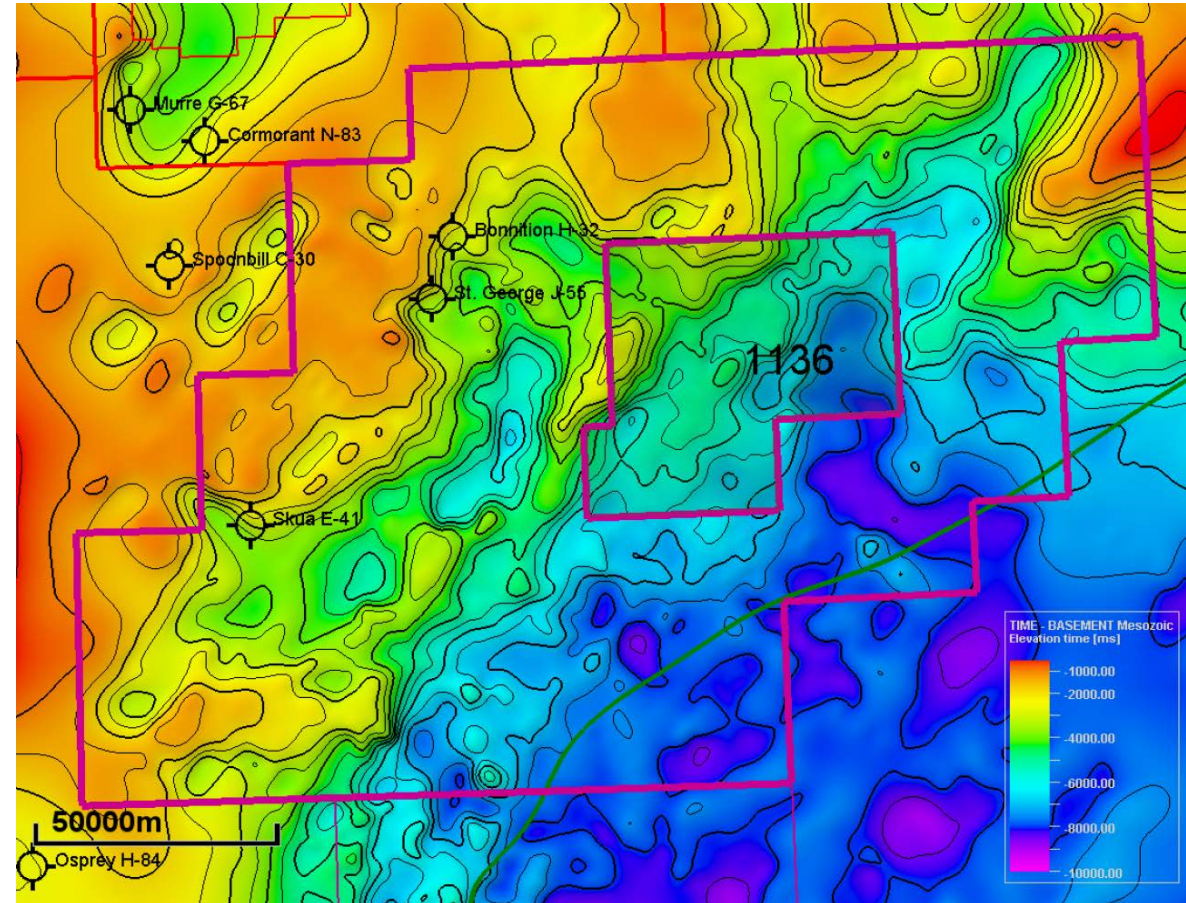
Data courtesy of TGS/PGS.
31,205 km of 2D, 7,850 km² of 3D

Seismic Maps

500 ms c.i.

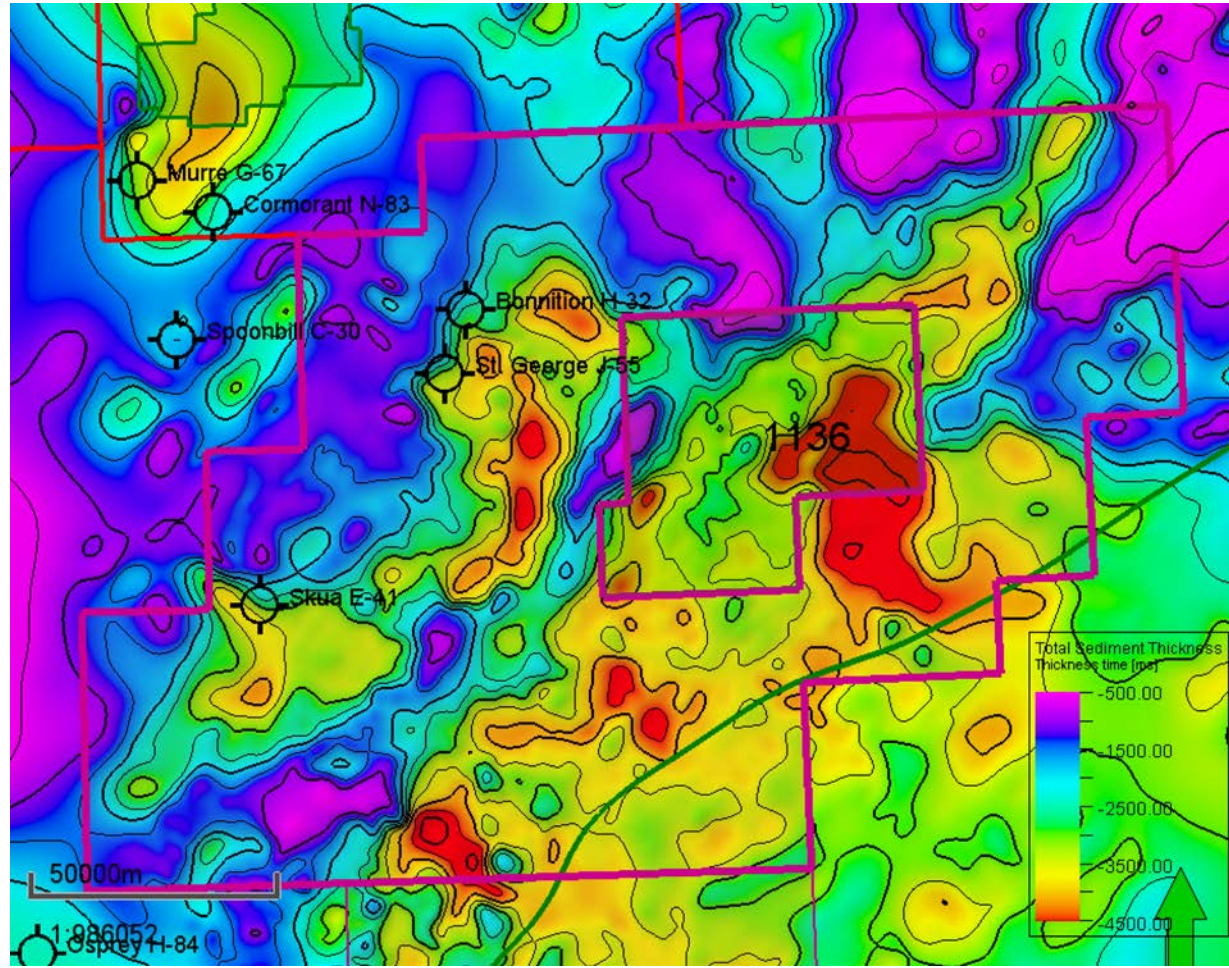


Base Cretaceous Time



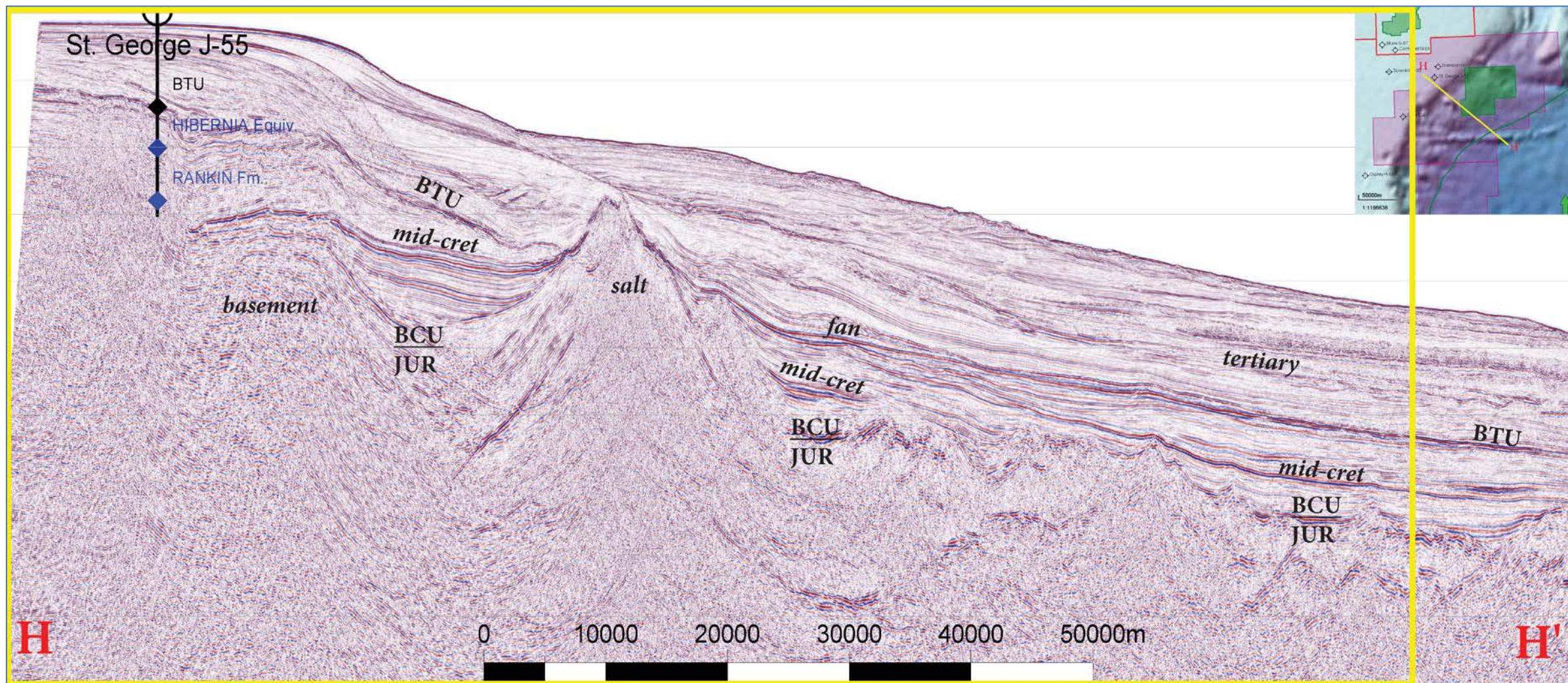
Base Mesozoic Time

Seismic Maps

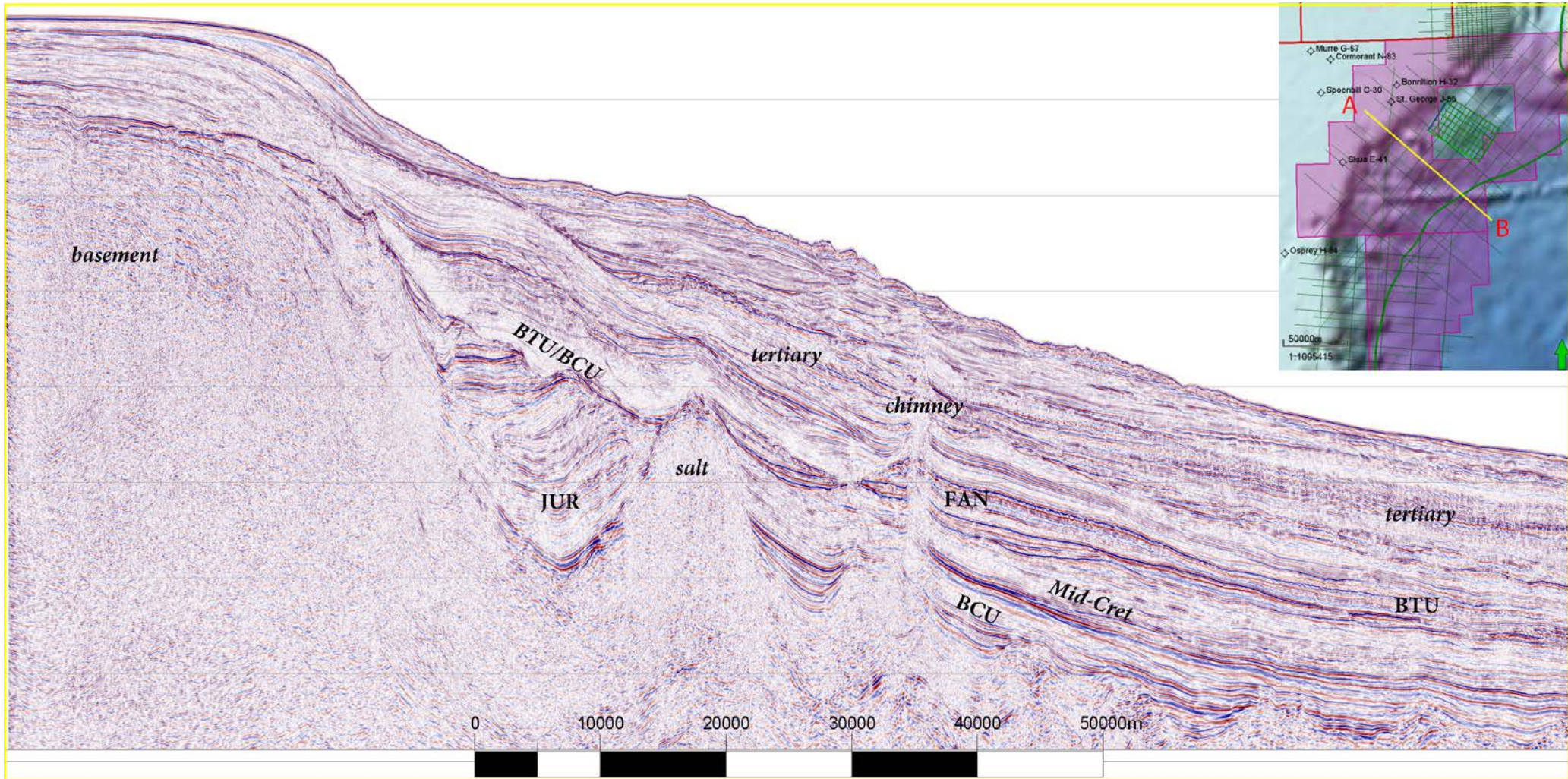


Total Sediment Thickness (time)

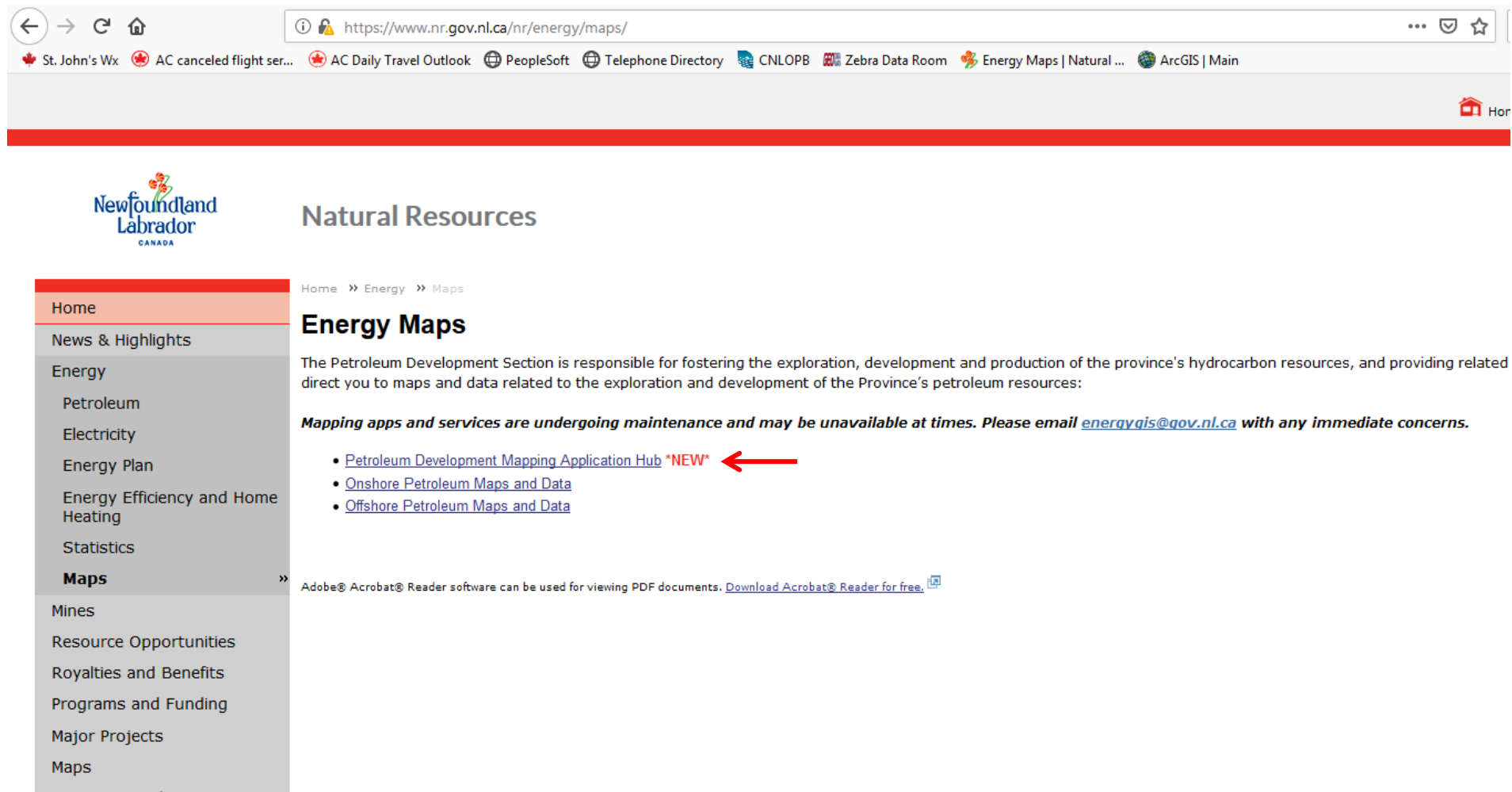
Seismic Data



Seismic Data



Interactive Well and Seismic Tool



The screenshot shows a web browser window with the URL <https://www.nr.gov.nl.ca/nr/energy/maps/>. The browser's address bar and tabs are visible at the top. The page content includes the Newfoundlabrador logo, a navigation menu on the left, and the main content area titled "Natural Resources" and "Energy Maps".

Natural Resources

Home » Energy » Maps

Energy Maps

The Petroleum Development Section is responsible for fostering the exploration, development and production of the province's hydrocarbon resources, and providing related direct you to maps and data related to the exploration and development of the Province's petroleum resources:

Mapping apps and services are undergoing maintenance and may be unavailable at times. Please email energyqis@gov.nl.ca with any immediate concerns.

- [Petroleum Development Mapping Application Hub *NEW*](#) ←
- [Onshore Petroleum Maps and Data](#)
- [Offshore Petroleum Maps and Data](#)

Adobe® Acrobat® Reader software can be used for viewing PDF documents. [Download Acrobat® Reader for free.](#)

Newfoundlabrador

Interactive Well and Seismic Tool

Petroleum Development Mapping Application Hub

Newfoundland Labrador
Natural Resources

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Statist
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Mines
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Royalties
Program
Major Pr
Maps

providing related
concerns.

Petroleum Geology of Newfoundland's Onshore
Overview of geological basins and stratigraphy
Explore

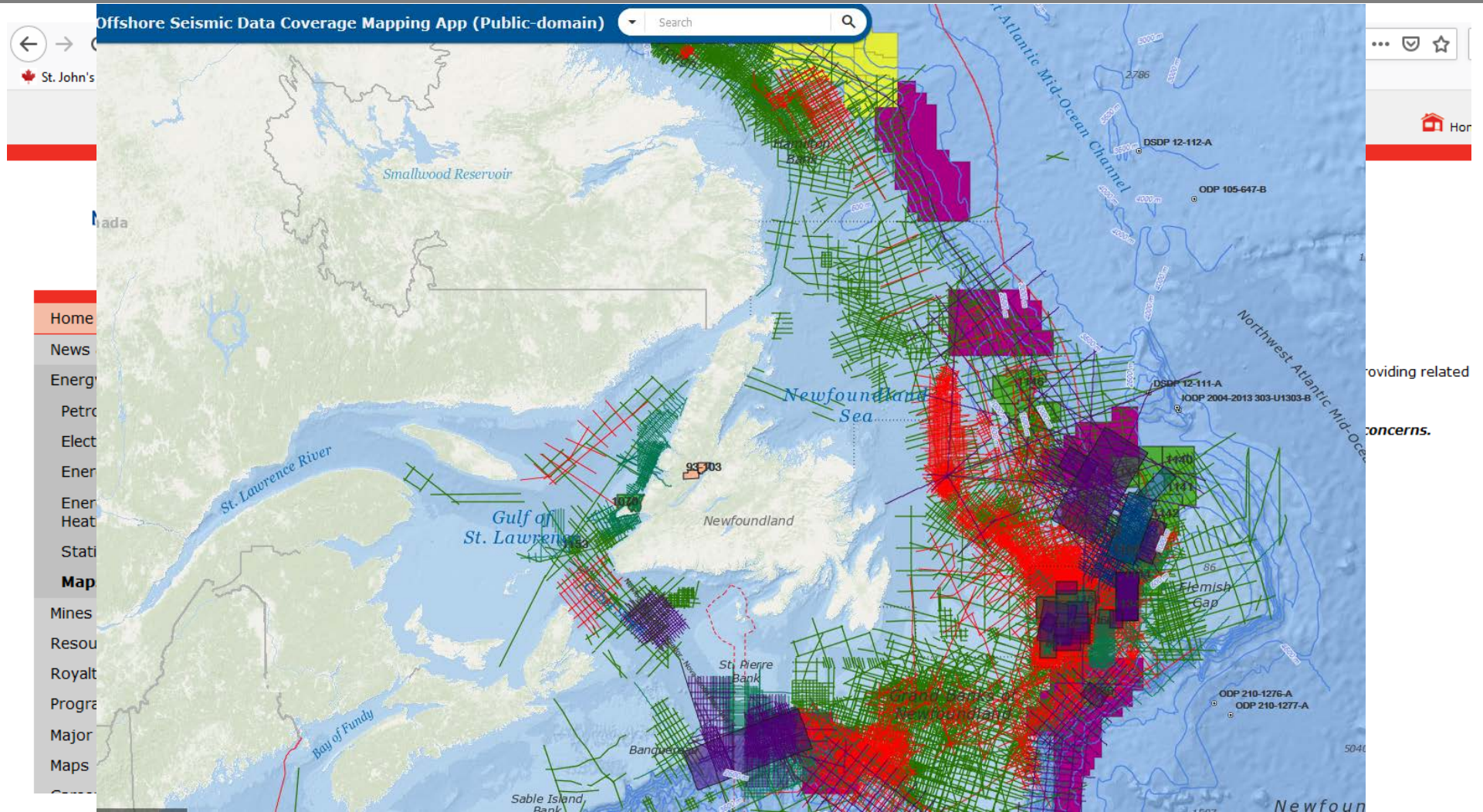
Offshore Petroleum Activity Mapping App
Call for Bids and licence activity, wells, geological basins
Explore

Offshore Seismic Data Coverage Mapping App
Public-domain seismic data available from C-NLOPB
Explore

Onshore Petroleum Activity Mapping App
Land activity, wells, hydrocarbon occurrences
Explore

Newfoundland Labrador

Interactive Well and Seismic Tool



Interactive Well and Seismic Tool

The screenshot displays the 'Offshore Seismic Data Coverage Mapping App (Public-domain)'. The interface includes a search bar at the top, a navigation menu on the left, and a main map area showing seismic data coverage in the Northwest Atlantic Mid-Ocean region. Two data windows are open:

Bonaventure O-96 (1 of 6)

| | |
|-----------------------|-------------------------|
| Well_No | 441 |
| Well_Name | Bonaventure O-96 |
| Operator | Statoil et al |
| UWI | 300O964820046000 |
| UWI (Datum) | NAD 27 |
| Well Termination Date | 6/10/2017, 9:30 PM |
| Classification | Exploration/Delineation |
| Well Status | Suspended |
| TD (m) | 0.00 |
| Water Depth (m) | 1,116.00 |
| Inclination | Vertical |
| Area | NENS |
| Soud Date | 21-Mav-2017 |

[Zoom to](#)

CA-3000650-GOA (1 of 2)

| | |
|------------------|--|
| Program Number | CA-3000650-GOA |
| Year | 2005 |
| Release Date | April 8, 2011 |
| Operator | Chevron Canada Limited |
| Type | 3D Seismic - Gravity |
| Title | 8924-C047-002E - 2005 - Chevron Canada Limited - Exclusive - 3D Seismic - Gravity - Orphan Basin - Northeast Newfoundland Shelf - EN |
| Program Category | Exclusive |
| Years Class | 2000-2010 - 3D Seismic |

[Zoom to](#)

The map background shows seismic data coverage in various colors (red, green, purple) over the Northwest Atlantic Mid-Ocean region, including the Flemish Gap. Labels on the map include 'Atlantic Mid-Ocean Channel', 'Northwest Atlantic Mid-Ocean', 'Flemish Gap', 'Bay of Fundy', 'Sable Island Bank', and 'Newfound'. The interface also features a navigation menu on the left with options like 'Home', 'News', 'Energy', 'Petro', 'Elect', 'Ener', 'Heat', 'Stat', 'Map', 'Mines', 'Resou', 'Royalt', 'Progra', 'Major', and 'Maps'. A search bar at the top contains the text 'Search' and a magnifying glass icon. A home button is visible on the right side of the interface.

Exploration Data Room



Advance 2030 Initiative

Announced October 26, 2018

Newfoundland & Labrador Exploration Data Room

www.hydrocarbonassets.com

GIS

Introduction

Basin Geology

Orphan Basin

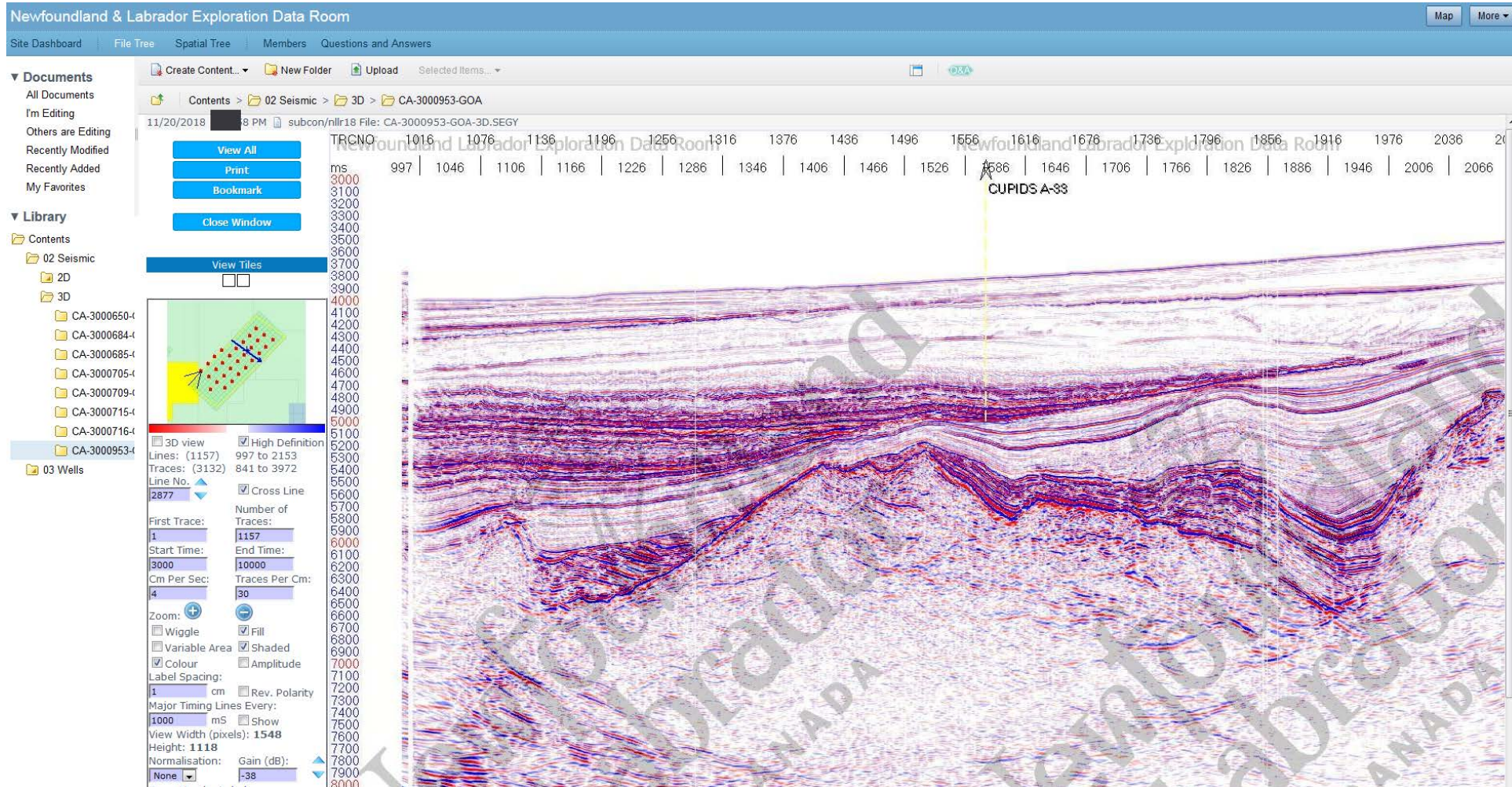
A true frontier basin, the Orphan Basin is the largest sedimentary basin offshore Newfoundland. Only 11 wells have been drilled in or on the margins of the Orphan Basin. Wells drilled pre-1990 targeted basement highs and onlap or drape features. Wells drilled post-1990 tested stratigraphic-structural plays. All wells were abandoned, some with good oil and gas shows. The well results suggest exploring in deeper basinal areas such as the Calls for Bids where source rocks may be mature. As previously shown in other parts of the basin, targeting geophysical anomalies may indicate sand fairways and/or presence of hydrocarbons.

Central Ridge/South Flemish Pass

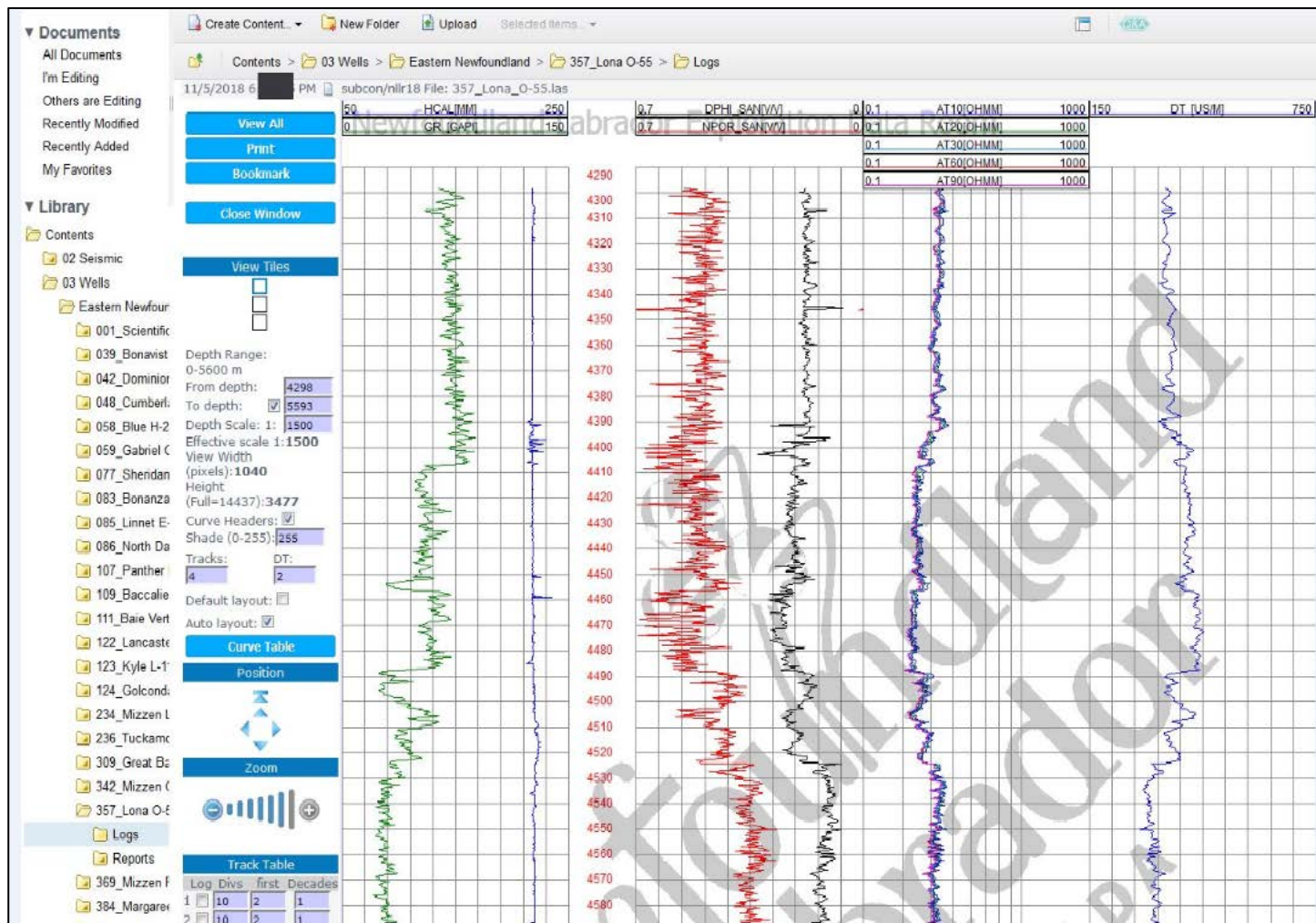
With only 4 wells drilled within the Calls for Bids and several in the vicinity, the CR/SFP Calls for Bids can be considered a frontier exploration area despite its proximity to the producing Jeanne d'Arc Basin and proven Flemish Pass Basin. Several wells in the CR/SFP Calls for Bids area had significant oil and gas shows including South Tempest G-68 that tested 1,250 bopd of 42° API oil from Late Jurassic sandstones. Several wells also provide source rock information including Panther P-52, with 600 m of source rock drilled and Lancaster G-70 that drilled high quality Late Jurassic Type II-III source rocks.

| Stratigraphic Unit | Lithostratigraphy | Seismic Markers | Seismic Sequences |
|--------------------|-------------------|-----------------|-------------------|
| Upper Devonian | | | |
| Lower Devonian | | | |
| Carboniferous | | | |
| Permian | | | |
| Triassic | | | |
| Jurassic | | | |
| Cretaceous | | | |
| Tertiary | | | |
| Quaternary | | | |

Data Room Seismic



Data Room Wells



Cupids A-33 - End of Well Report.pdf

Document in site Newfoundland & Labrador Exploration Data Room

File Tree location: /03 Wells/Eastern Newfoundland/414_Cupids A-33/Reports/EOW Report



Cupids A-33 - End of Well Report - Top Holes.PDF

Document in site Newfoundland & Labrador Exploration Data Room

File Tree location: /03 Wells/Eastern Newfoundland/414_Cupids A-33/Reports/EOW Report



Cupids A-33 - Mudloggers Report.PDF

Document in site Newfoundland & Labrador Exploration Data Room

File Tree location: /03 Wells/Eastern Newfoundland/414_Cupids A-33/Reports/Well Site Geologist Report



Lona O_55_Nannofossil_Distribution_Chart.tif

Document in site Newfoundland & Labrador Exploration Data Room

File Tree location: /03 Wells/Eastern Newfoundland/357_Lona O-55/Reports/Other Reports



Lona O-55 - Biostratigraphic Summary Chart.pdf

Document in site Newfoundland & Labrador Exploration Data Room

File Tree location: /03 Wells/Eastern Newfoundland/357_Lona O-55/Reports/BioStrat



Lona O-55 - Check Shot Survey - Velocity Cross Plot.pdf

Document in site Newfoundland & Labrador Exploration Data Room

File Tree location: /03 Wells/Eastern Newfoundland/357_Lona O-55/Reports/Checkshot



Lona O-55 Deviation Survey.xlsx

Document in site Newfoundland & Labrador Exploration Data Room

File Tree location: /03 Wells/Eastern Newfoundland/357_Lona O-55/Reports/Deviation Survey



Lona O-55 - End of Well Report.pdf

Document in site Newfoundland & Labrador Exploration Data Room

File Tree location: /03 Wells/Eastern Newfoundland/357_Lona O-55/Reports/EOW Report



Lona O-55 - Fluid Inclusion Petrography and Microthermometry.pdf

Document in site Newfoundland & Labrador Exploration Data Room

File Tree location: /03 Wells/Eastern Newfoundland/357_Lona O-55/Reports/Other Reports



Lona O-55 - Geological Evaluation - Reservoir Rotary Sidewall Core Samples.pdf

Document in site Newfoundland & Labrador Exploration Data Room

File Tree location: /03 Wells/Eastern Newfoundland/357_Lona O-55/Reports/Petrography



Lona O-55 - Lithology Log.pdf

Document in site Newfoundland & Labrador Exploration Data Room

File Tree location: /03 Wells/Eastern Newfoundland/357_Lona O-55/Reports/Lithology Log



Lona O-55 - Masterlog - 1-240.pdf

Document in site Newfoundland & Labrador Exploration Data Room

File Tree location: /03 Wells/Eastern Newfoundland/357_Lona O-55/Reports/Well Site Geologist Report

Virtual Exploration Data Room

The screenshot shows the website for the Department of Natural Resources in Newfoundland and Labrador. The page title is "Natural Resources". A navigation menu on the left includes "Home", "News & Highlights", "Energy", "Mines", "Resource Opportunities", "Royalties and Benefits", "Programs and Funding", "Major Projects", "Maps", "Careers in Industry", and "Other Resource Departments". Below this are sections for "Frequently Asked Questions", "Publications", "Forms and Applications", "News Releases", "About the Department", and "Links". A "Quick Links" section lists various resources like "Lower Churchill Hydroelectricity" and "Explore Newfoundland and Labrador". The main content area features a "Features" section with three items: "Mining the Future", "Petroleum Exploration Data Room" (circled in red), and "Advanced". Below this is a "General Public..." section with links to "Major Projects", "Major Projects (Mines)", "GeoScience OnLine", "Minerals Strategy", and "Mitigating Muskrat". An "Investor..." section includes "Resource Opportunities" and a link to "Find more items relating to Investors...". An "Industry..." section has a link to "Major Projects Mining in Newfoundland and Labrador: Overview". A "Petroleum GeoScience Searchable Database..." section includes a "Searchable Publications Database" and a link to "Find more items relating to industry...". A footer note mentions Adobe Acrobat Reader software. The page footer includes "Disclaimer/Privacy", "Home", "Contact", "Government Home", and "Last Updated: December 14, 2018". A large red URL "https://www.nr.gov.nl.ca/nr/" is overlaid at the bottom right. The Newfoundland Labrador logo is in the bottom right corner.

Newfoundland Labrador
CANADA

Natural Resources

The Department of Natural Resources, through the Mines and Energy Branches, delivers a variety of supports and services. Take some time and explore our energy and mining initiatives, programs and services offered to industry and the public.

Minister
Hon. Siobhan Coady

Home

- News & Highlights
- Energy
- Mines
- Resource Opportunities
- Royalties and Benefits
- Programs and Funding
- Major Projects
- Maps
- Careers in Industry
- Other Resource Departments

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- » GeoScience OnLine
- » Industry Facilitators
- » Nalcor Energy
- » Online Claim Staking
- » Prospector's Resource Room

Features

- Mining the Future
- Petroleum Exploration Data Room
- Advanced

Note some feature links may take you away from this page.

» [Features Archive](#)

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Last Updated: December 14, 2018

Petroleum Exploration Data Room

newfoundland
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<https://www.nr.gov.nl.ca/nr/>

Newfoundland and Labrador

Booth # 31

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