PERSPECTIVA CANADIENSE DE EXPLORACIÓN EN MÉXICO

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Canadian Global Exploration Forum, Calgary, AB, Canada
Outline

• What is the Canadian Global Exploration Forum (CGEF)?
• What Canadian oil and gas companies offer
• Canadian International Success Stories
• Mexico and Canada: Some Comparisons
• Capabilities of Canadian Service Companies
• The Canada Advantage
• Concluding Remarks

www.cgef.org
Canadian Global Exploration Forum  www.cgef.org

• CGEF is a unique non-profit organization that promotes cooperation between Canada based, internationally operating energy companies and their international counterparts and governments.

• CGEF supports a vibrant, Canada based, international energy industry through networking events, conferences and workshops

• Our 20-25 members are E&P companies that share Canadian expertise, technology, and opportunities with each other and the world

• CGEF is the primary Canadian contact point for international energy companies, services, and governments

• What can we do for you? A: provide a relevant Canadian audience, establish contact with potential Canadian partners, advertise bid rounds…
Why Would You Want to Do Business with Canadian Companies?

• The Canadian energy industry has a long track record of proven expertise in the development and application of the latest technologies for the full spectrum of oil and gas exploration, development and re-development in all types of reservoirs and reservoir fluids

• With the current Fx [$1 CAD = $0.75 USD] the highest standard of operations and services are available at very competitive prices

• Strong and efficient access to both public and private capital markets

• Canadian operators and service companies are actively searching for collaboration with local partners for entry into the Mexican oil & gas industry
Internationally Operating Canadian Public & Private Oil and Gas Companies

>100 companies
>100 countries

Feb. 2017
The Canadian Petroleum Industry: Overview

Waterton, AB: oldest Alberta well (1897) Turner Valley field since 1914

Maritimes Basin

Western Canada

Turner Valley
Waterton

Offshore Newfoundland

Hibernia

Offshore Nova Scotia

Canada
- Third largest natural gas producer
- Fifth largest energy producer
- Sixth largest crude oil producer
- Third in crude oil reserves

www.maturefieldsmexico.com
Well Activity Western Canada (Feb. 2016 – Feb. 2017): 9010 wells found

650,000 wells drilled to date in Canada (source: PSAC)

www.maturefieldsmexico.com
Today: 119,000 km of underground transmission pipeline
Technical Expertise in Exploration, Development, and Production

Conventional

- 120 years of exploration and development in structurally complex settings (e.g. fold-thrust belts...already applied to South America)
- World-class offshore operational expertise in shallow/deep water and hostile environments e.g. Jeanne’D’Arc Basin (Hibernia), Flemish Pass (Statoil discoveries), Scotian Shelf (Sable Island, Panuke)
- Oil and gas developments in both carbonate and sandstone reservoirs
- Long history of well stimulation and innovative drilling, completion and production technologies
- Deep experience in H₂S-rich gas production and processing
- Wide diversity of wells from 1bbl/d to 1000’s bbl/d, 50,000bbl to multi-billion bbl pool size developments

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Technical Expertise in Exploration, Development, and Production

Unconventional

- Expertise in assessing and exploiting new unconventional plays quickly and efficiently
- Unconventional resource plays (shale gas: Bakken, Montney; shale oil; tight sand oil; naturally fractured reservoirs, CBM)
- Much of the new technologies to develop unconventional reservoirs were invented or enhanced in Canada
- Example: oil sands development:
  - 54,000 mi²
  - 1.7 trillion barrels bitumen in place
  - Ca. 10% recoverable: 178 billion barrels
Technical Expertise in Exploration, Development, and Production

Production and Recovery

- Hydraulic fracturing routinely applied for decades
- Over 75% of wells drilled in Canada (2015) were horizontal
- Secondary and tertiary recovery technologies are routinely applied
  - Waterfloods, immiscible and miscible gas floods with sweet gas, CO$_2$ or H$_2$S rich
  - rich miscible gas flood; alkaline-surfactant-polymer (ASP) flood, SAGD in
  - oilsands, etc.
- Cold Heavy Oil Production with Sand (CHOPS) (Lloydminster)
- Well intervention and wellbore integrity technologies
- Bypassed pay identification through advanced petrophysics
- All forms of artificial lift in use throughout Canadian oilfields and products exported worldwide
The Petroleum Industry in Canada: Technical Expertise

Government Support: Public Access to Databases

• Unrivalled public database of Western Canadian well data, production data, sample cuttings, and core data by the Government of Alberta
• The Alberta government has an advanced model for organizing data and making them available in the public domain; a similar service is provided by the other provincial energy departments
• Geological Survey of Canada and the provincial surveys provide research and data to industry [maps, cross sections, and know how]
• These technologies are available to other regulatory institutions

Innovation through Research (8 Independent Institutions in AB)

• University of Calgary & University of Alberta received $150MM federal government funding for research in heavy oil and mature fields
• University of Calgary / UNAM conduct research into Mexican heavy oil, US$20MM, five years; U of C School of Public policy works with foreign regulators
• Haskayne School of Business works with foreign NOC’s
• CanMet division of National Research Council (NRC); Alberta Research Council (ARC)
Past & Present Canadian International Success Stories: Examples

- Canadian Oxy
- Transglobe
- Talisman
- Pacific Rubiales
- Gran Tierra
- Parex
- Suroco
- Petromerica
- Petrominerales
- Vermilion
- Verenex
- Arakis
- Talisman
- CNRL
- Encana
- Talisman
- Suncor
- Talisman
- Suncor
- Ivanhoe
- Talisman
- Bengali
- Petrolifera
- Petroandina
- Americas Petrogas
- Alvopetro
- Brasoil
-谁是下一个？

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Canadian E&P Companies with Latin America Experience

- Rio Alto – Argentina
- Azabache – Argentina
- Petro Andina – Argentina
- Petrolífera – Argentina
- Madalena – Argentina
- Antrim – Argentina
- Crown Point – Argentina
- ArPetrol – Argentina
- Canacol – Colombia, Brazil, Ecuador
- Talisman Energy – Peru, Colombia, Trinidad
- Petominerales – Colombia
- Americas Petrogas – Argentina
- Parex – Colombia
- P1 Energy – Colombia
- Petro American Exploration – Colombia
- Gran Tierra – Colombia, Brazil, Peru
- Pacific Rubiales – Colombia
- Nexen – Colombia
- PetroDorado – Colombia
- CGX Energy – Guyana, Suriname
- PacAlta – Ecuador
- Encana – Ecuador
- Suroco Energy – Colombia
- Santa Maria Petroleum – Colombia
- Platino Energy Corp – Colombia
- C&C Energia – Colombia

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Canadian Experience in Shale Plays will Have Application in Mexico

Both maps are approx. of the same scale
Mexico and Canada: Both Have Oil & Gas in Ancient Reefs

CERRO AZUL eg. – Golden Lane trend Mexico
- Rudist Cretaceous reef build-up in an atoll environment
- Discovered 1916
- Strong water drive, high porosity and permeability zones
- Karsting is a localized feature
- 1257 MMB OOIP
- Current recovery is ~30%

ANALOG– REDWATER (Leduc reef trend), ALBERTA
- Stomatoporid Devonian reef build-up in an atoll environment
- Discovered 1948
- Strong water drive, high porosity and permeability zones
- 1300 MMB OOIP
- Primary recovery was 60%
- ARC Resources currently implementing immiscible CO2 flood and anticipate 88% ultimate recovery
Canadian Service Companies: Offering the Full Spectrum of Services from Exploration through Re-development to Production

- Geology and Play Development Capabilities
- Exploration Geophysics
- Drilling, Well Completion & Stimulation, Pumping services
- Reservoir Engineering
- Field Development and Infrastructure
- Enhanced Oil Recovery (EOR)
- Oil and Gas Pipeline and Processing Facilities
- Environmental Management
- Health and Safety
- Training
- Offshore Development

Leading seismic (re-)processing capabilities

Brochure available here
The Canada Advantage

• Canada is politically and economically stable; banks are regulated. This stability translates into a stable environment for Canadian companies operating abroad.
• Reduced immigration hurdles between Canada and Mexico – no US transit visa required! (direct flights from MEX to CDA via AeroMexico, Air Canada and Westjet)
• Canadian E&P companies have open access to capital markets through TSX
• Canadian dollar provides great value: $1 CAD = $0.75 USD
• Strict corporate governance laws and strong anti-corruption laws apply to companies operating abroad; clean reserves reports [NI 5101]
• Excellent overseas record of Corporate Social Responsibility (CSR)
Concluding Remarks:
That’s Why You Want to Do Business with Canada!

• Canada offers a mature, highly regulated oil & gas industry that is well respected around the world

• The Canadian oil & gas industry offers the full spectrum of services at competitive prices

• Canadian operators and service companies are open for collaboration and the sharing of expertise with the Mexican oil & gas industry
The End – Por favor, charla con nosotros!

You are invited to our annual CGEF conference in Calgary (18-19 Oct. 2017): www.cgef.org

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Please take a brochure