

# Oil and Gas



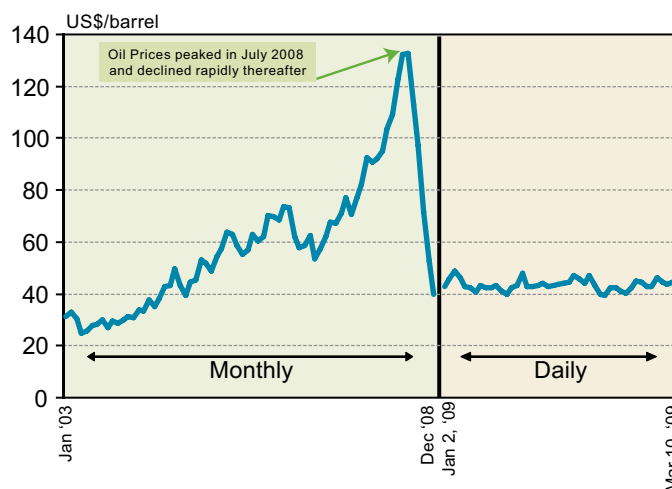
Terra Nova FPSO

Dept. of Natural Resources

**T**he province's three producing offshore fields—Hibernia, Terra Nova and White Rose—reached a major milestone on January 23, 2009, producing the province's one billionth barrel of oil. The oil and gas industry accounts for approximately 36% of the province's nominal GDP and 2% of employment. The province currently produces about 40% of Canada's conventional light crude oil.

Provincial offshore oil production totalled 125.2 million barrels in 2008, a decrease of 9.2 million barrels (or 6.9%) relative to 2007. Crude oil prices were tremendously volatile in 2008—reaching a peak of US\$144 per barrel in early July and steadily declining thereafter to US\$34 per barrel by late December. For the year as a whole, the price of Brent crude oil averaged US\$96.94 per barrel compared to US\$72.44 in 2007, an increase of 34%. As a result of higher crude prices, the gross value of oil production is estimated to have increased by approximately 23% in 2008 to \$12.7 billion.

## Brent Crude Oil Prices



Source: U.S. Energy Information Administration; Department of Finance

## Hibernia

Hibernia produced 50.7 million barrels of oil in 2008, an increase of 1.5 million barrels or 3.1% over 2007. The operation benefitted from a highly successful well work-over program and improved performance from the gas flood area.

## Terra Nova

Terra Nova produced 37.6 million barrels in 2008, a decrease of 4.9 million barrels or 11.5% over 2007. Production was below the previous year's level as a result of natural production declines and ongoing maintenance to the facility.

Temporary repairs to a damaged water injection swivel on *Terra Nova FPSO*, discovered during an inspection in December 2006, have proven to be robust and have allowed normal production to continue. Replacement of the swivel may be required at some point in the future.

## White Rose

The White Rose field produced 37.0 million barrels in 2008, down 5.9 million barrels or 13.7% from 2007. The decrease was the result of natural production declines.

The White Rose project has proposed satellite developments comprised of three distinct areas: North Amethyst, South White Rose Extension and West White Rose. The province, through its energy corporation (Nalcor Energy), has a 5% equity stake in the White Rose satellite fields. North Amethyst is currently being developed and first oil is expected in late 2009 or early 2010. White Rose production is expected to be lower in 2009 due to facility turnaround activities to allow for the tie-in of the 70 million barrel North Amethyst satellite field.



*Semi-submersible drill rig Henry Goodrich*  
Transocean Offshore Deepwater Drilling, Inc.

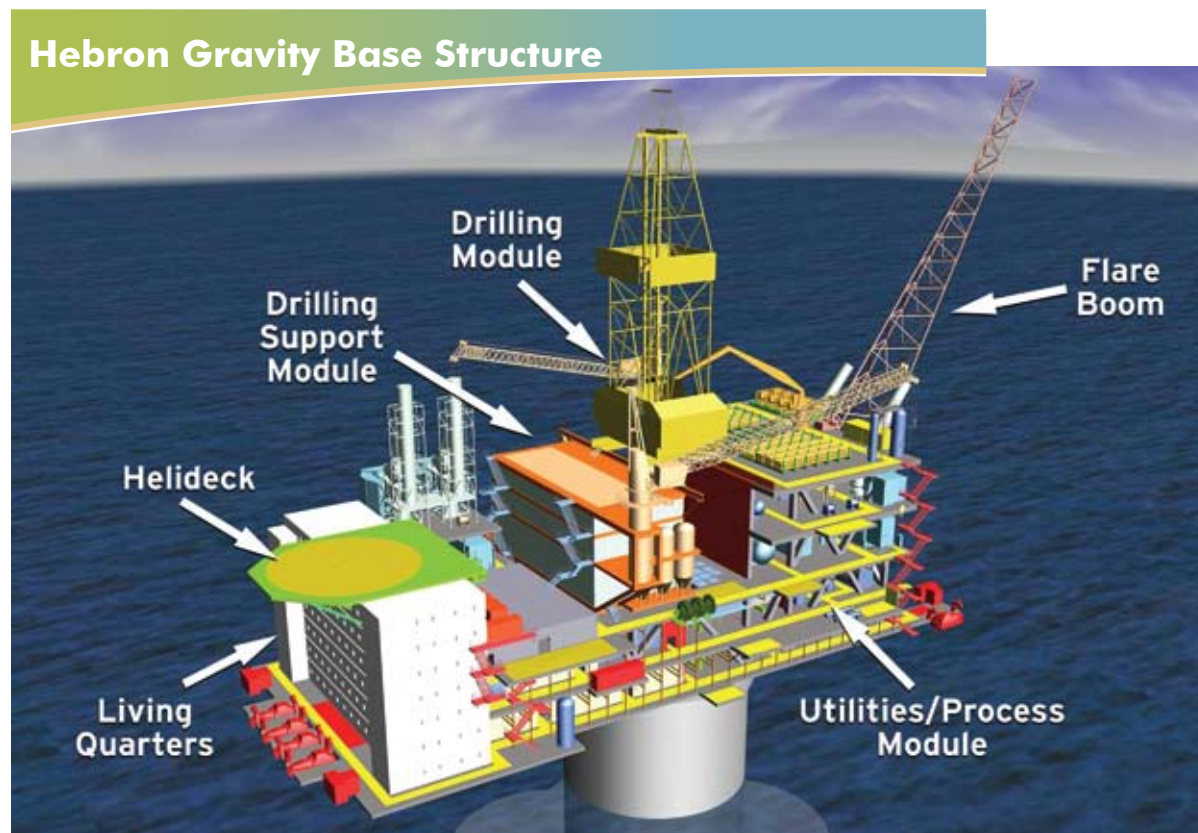
## Hebron

On August 20, 2008, the province signed a formal agreement with the Hebron consortium to develop the Hebron oil field—the province’s fourth offshore oil project. The Hebron field is estimated to contain in excess of 581 million barrels of recoverable reserves. Industry partners in the Hebron development are ExxonMobil Canada, Chevron Canada, Petro Canada and StatoilHydro Canada Ltd.

The province, through Nalcor Energy, has negotiated a 4.9% equity stake in the Hebron project at a cost of \$110 million and will pay a proportional share of project costs and receive entitlement to a proportional share of field production. The province has also negotiated an improved royalty regime including an additional royalty of 6.5% of net revenue, after net royalty payout, when the price of West Texas Intermediate crude is greater than US\$50 per barrel.

In addition, the province has received a commitment from the project proponents for the construction of a Gravity Base Structure (GBS) in Newfoundland and Labrador. Construction of the Hebron GBS will create an estimated 4.1 million person hours of employment in the province. In addition, topsides work will further enhance local employment benefits from the project.

Hebron is currently in the pre-Front End Engineering and Design (pre-FEED) phase with its project management office set to open in April 2009. Construction of the GBS is expected to begin in 2012 and peak in 2015 with an estimated 3,500 employees. First oil is expected between 2016 and 2018.



## Exploration

### **Seismic data**

- Seismic acquisition programs conducted in 2008 included:
  - Husky's 76,626 cmp km 3-D program in the eastern Jeanne d'Arc Basin
  - StatoilHydro's 52,778 cmp km 3-D program in the Jeanne d'Arc Basin
  - Geophysical Services Incorporated's 4,121 line km 2-D program in the Labrador Offshore Area and 2,555 line km 2-D program offshore Western Newfoundland

### **Orphan Basin/deep water drilling**

- Drilling of the Great Barasway (F-66) exploratory well in the Orphan Basin was completed in April 2007—results are subject to a two-year confidentiality period. Orphan Basin partners (Chevron, Exxon-Mobil, Imperial Oil, and Shell Canada) remain committed to the area and plan to drill another exploration well in the deep water basin subject to rig availability and regulatory approval.

### **Current drilling campaign**

- A rig sharing agreement between StatoilHydro, Husky and Petro-Canada has brought the semi-submersible rig, *Henry Goodrich*, back to Newfoundland and Labrador waters for a 24-30 month drilling campaign:
  - Husky et al spudded the North Amethyst E-17 well in August 2008 and finished in October 2008.
  - Husky et al then spudded the White Rose E-28 well in October 2008 and finished drilling in December 2008.
  - Husky and StatoilHydro partnered on the Mizzen exploration well in the Flemish Pass Basin. The Mizzen O-16 well was spudded in December 2008.
  - After the Mizzen well is completed, Petro-Canada plans to drill two development wells (one oil producer and one water injector) at Terra Nova and an exploration well at the Ballicaters prospect (in EL-1092).
  - Following Petro-Canada's work, the rig will be handed back to Husky for the duration of the contract. Husky has several drill ready prospects including the Wild Rose (EL-1067) and the Primrose (EL-1089) in the Jeanne D'Arc Basin.

### **Potential drilling 2009**

- ConocoPhillips and partners have identified potential drilling targets in the Laurentian Basin. Exploratory drilling could occur in 2009 subject to deep-water rig availability and regulatory and owner approvals.

### **Resource potential**

- To date, approximately 2.84 billion barrels of oil and 10.85 trillion cubic feet of natural gas have been discovered off the province's shores and the resource potential is considerably higher. Geoscientific data indicates that another six billion barrels of oil and 60 trillion cubic feet of natural gas remain undiscovered.

## Offshore Land Sales

- The Canada - Newfoundland and Labrador Offshore Petroleum Board (C-NLOPB) announced Calls for Bids in June 2008 consisting of 10 parcels of land—five off the province's east coast and five off the west coast.
- The east coast land sale included three parcels in the Central Ridge/Flemish Pass Basin and two in the Jeanne d'Arc Basin. Successful bids were received on all five parcels totalling \$129,892,000.
- The west coast land sale included two parcels near the Port au Port Peninsula and three more in the Sydney Basin off the southwest coast. Successful bids totalling \$2,400,000 were received on two of the five parcels: one in the Sydney Basin and one in the Western Newfoundland Offshore Region.
- The Strategic Environmental Assessment (SEA) for the Labrador Offshore Region was released in July 2008. The SEA concluded that petroleum exploration activity can proceed in the area subject to standard mitigation measures.
- Bids on four land parcels in the Labrador Offshore Region (totalling 939,678 hectares) closed on September 10, 2008. Successful bids totalling \$186.4 million were received on four parcels (green blocks on following map indicate parcel locations). It is notable that these parcels are adjacent to areas where significant natural gas discoveries have already been identified.

### Outlook 2009

Oil production is expected to decrease by about 21% to 98.5 million barrels as declines are anticipated at all three fields.

Crude oil prices are expected to decline substantially on average compared to 2008.

Combined capital expenditures on Hibernia, Terra Nova, White Rose (including White Rose expansion) and Hebron are expected to be in the vicinity of \$1.2 billion, an increase of around 50% over 2008.

Hebron is currently in the pre-Front End Engineering and Design (pre-FEED) phase with its project management office set to open in April.

# Labrador Offshore Licences

