

Total E&P Canada

The Athabasca oil sands area has been defined as a core area of investment for Total.

Total E&P Canada Ltd is a wholly owned subsidiary of the global oil and gas company Total SA, ranked number four in terms of market capitalization among the international oil majors. Total currently employs approximately 110,000 people throughout 130 countries worldwide. The company's origins were in the Middle East in 1924 and the activities since then have expanded to all five continents. The Total Group today is the result of the 1998 merger between Total and PetroFina and the 2000 merger between TotalFina and Elf Aquitaine.

Current (SEC) production is 2.6 million boe per day with proven reserves of approximately 11.1 billion boe. Total is Europe's leading refiner-marketer with interests in 28 refineries, a refining capacity of 2.7 million barrels per day and a distribution network consisting of 16,000 service stations. The group is also an industry leader in LNG business with interests in several of the world's largest liquefaction plants, accounting for around 40 per cent of world LNG production capacity. The main chemical activities of Total centre around base chemicals and commodity polymers, intermediates and performance polymers, and specialties.

Total, PetroFina and Elf Aquitaine were all active in exploration and production throughout Canada since the 1950s. The activities covered onshore regions such as Alberta and Saskatchewan, while

frontier exploration was performed along the East Coast and in the Arctic regions. However, the Group was absent from Canada for some years after the divestment of Aquitaine Canada and PetroFina Canada in the early 1980s. Total maintained some activity until it divested its assets in the early 1990s. It was only in 1997 that Total re-opened an office in Calgary, with a focus on the Athabasca oil sands. Total E&P Canada is currently involved in the Canadian oil sands business via the 2002 acquisition of a 43.5 per cent interest in the Surmont project, and is also involved in exploration efforts in the foothills of Alberta and British Columbia

Totals's commitment to heavy oil started in the 1970s. Since that time, as operator and partner, the Group has gained extensive experience in heavy oil recovery techniques. The first commercial involvement in heavy oil started with a 47 per cent share in the Sincor project in Venezuela. With Total as the lead partner, the Sincor project was sanctioned in 1998 and is the largest heavy oil project in Venezuela, with an upstream production of 200,000 barrels of bitumen per day resulting in the order of 180,000 barrels per day of 32° API synthetic oil after upgrading.

The Surmont commercial field development is a joint project between Total, ConocoPhillips and Devon, with ConocoPhillips as the operator. It is currently planned as a "multi stage" project. Phase 1,

currently under construction with a projected production of 27,000 barrels of bitumen per day, is scheduled to start up in 2006. Phase 2, for which EUB and Alberta Environment approval also has been received, will expand plateau production to 100,000 barrels per day by 2010. Further phases are targeted to take the production to a significantly higher level depending on the results of the ongoing appraisal of the lease.

Since the acquisition of Surmont, the Athabasca oil sands area has been defined as a core area of investment for Total. The Calgary office is undergoing a rapid change and expansion in line with the development of Surmont and objectives of expansion into other oil sands projects.

Total is undertaking a major R&D effort through an R&D team based in Calgary and through in-house laboratories in France and a number of industry partnerships in Canada and elsewhere. Access to the oil sands resources demands innovative production techniques — more competitive than those already known and used. Developing such techniques is one of the three main themes of Total's heavy oil research, along with optimizing heavy oil upgrading technologies and mitigating the environmental impact.

The R&D team is exploring several variants to optimize the SAGD process. One of the most promising in terms of energy efficiency and



Where to start first.

Cement. Concrete. Aggregates. Pipe. They're the materials we can provide with just one phone call. Ordering them all from a single, dependable supplier makes things a lot more streamlined and convenient for you. Whatever your project, whatever the challenges, we'll deliver the goods. Every time. Because integrity is what we've built our reputation on.

Working Together To Build Our Communities

HEAD OFFICE



12640 - 166 Street
P.O. Box 1961
Edmonton, Alberta

T. 790(420)2600
F. 790(420)2660
www.h&hconstruction.com



WESTEEL

STORAGE TANKS FOR THE OIL and GAS INDUSTRY

STATIONARY STORAGE (ULC S643)

- ◆ Single wall and double wall vacuum monitored tanks
- ◆ Double wall 110% Contained meets G-55 standard

MOBILE STORAGE TANKS (CAN/CSG-43.146-2002)

- ◆ Single wall TC approved Road Vault[®] slip tanks; various sizes
- ◆ "NEW" Double wall TC approved Road Vault[®] slip tanks; various sizes

DOUBLE WALL VAC



SINGLE WALL TANKS



DOUBLE WALL TANKS - 110% CONTAINED



WESTEEL LTD
5812 48 AVE
OLDS AB T4H 1V1

TEL: (800) 665-2099
FAX: (403) 556-9487
www.westeel.com

economics is to co-inject solvent and steam, in order to limit the amount of required steam.

A key factor to economic success for oil sand projects is the capability to transform the produced bitumen into a light synthetic crude oil (SCO). The technology used to convert heavy crude into lighter SCO, requires substantial input of energy and hydrogen. Various solutions are being studied to reduce costs and improve performance, while at the same time minimizing the production of residues that cannot be upgraded or that would be potentially harmful to the environment. Total's prominent position as one of the world's leading refiners ensures that it has the resources to finance and operate multi-billion projects such as an upgrader. Total has carried out extensive studies of upgrading solutions in Alberta. Based on the results of these studies, Total expects to decide on its preferred downstream solution by end 2005.

The third major area of focus of the heavy oil research is mitigating the environmental impact of future production. Maintaining an edge in the energy industry while respecting the environment, is an exciting challenge. In the Athabasca context, extensive R&D is being applied to the treatment and recycling of the vast amounts of water needed for the SAGD process. The search for the most optimal fuel for steam generation and the reduction of greenhouse gas emissions are also core aspects of Total's research.

Athabasca's oil sands truly represent a challenging opportunity for Total with the potential to provide significant benefits to the stakeholders. The oil industry has performed remarkably well in meeting the challenges and a world-class industry has been created. Total's goal is to become a key player in this industry and will continue to strive for excellence in the development of new technologies and in field operations. ■