UMLE Steam Flood Expansion

A 20-million barrel project, the Upper Morne L'Enfer (UMLE) Steam Flood project is one of the Company's major enhanced oil recovery (EOR) thermal projects within the Exploration and Production Division.

This project involves the conversion of recently drilled wells to injectors, the relocation and retrofit of a 30-year old steam generator from an adjacent oilfield, the construction of a gathering station and the installation of gas, water, steam and crude oil pipe lines with associated tie-ins. It is the Company's first EOR being implemented in Trinidad since the passing of the Certificate of Environmental Clearance (CEC) Rules in 2001.

In April 2004, the UMLE pilot project was conducted on a 23-acres area in Middle Field. The success of this initiative pushed the enhanced oil recovery team to begin the commercial phase of the project and expand over a much wider acreage.

At Forest Reserve, the UMLE Steam flood Expansion project is making good progress with several wells having already been drilled to date. To date, the project comprises 15 wells of which four are injectors at any one time, an onsite tank and generator facility, three 250 barrel and two 100 barrel production tanks, one 30 MMBTU 1600 barrel capacity generator with a 500 barrel water tank, three pumps and one 6' scrubber, one mile of gas line, 1200' of steam line, 6300' of water line and an existing production line.

Currently the pilot project is fully commissioned and has been showing good response to steam injection. Oil production averaged 318 bopd over the last year (2006).

Enhanced Oil Recovery refers to a series of methods applied to a reservoir to recover additional oil that cannot flow to the surface on its own. Electrical pumping, steam, carbon dioxide, microbes and water are sometimes introduced to power the oil to the surface.

Steam Flooding injects steam into reservoirs that are relatively shallow, continuous and permeable and contain high viscosity oil. The dominant mechanism in thermal recovery processes is the reduction of the viscosity (or thickness) of the oil, allowing easier flow to the well bore.

UMLE Project Leader Burt Sinanan said while primary production of heavy oils has a recovery rate of less than 10%, the recovery rate using steam injection is sometimes 50% and more.

Of the UMLE project itself, Sinanan said: "Heavy crude oil and or non-conventional oil will be the sustainable energy source in the future both locally and globally. We at Petrotrin are and must remain leaders in improved and enhanced oil recovery in Trinidad. We can maintain this position through the integration of multidisciplinary teamwork and application of relevant technology."