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A collaborative venture in  
petroleum research between  
NRCan, Saskatchewan Energy  
and Resources and U of R

## **PTRC ANNOUNCES SUCCESSFUL COMPLETION OF ENHANCED JIVE RESEARCH COMPONENTS SPONSORED BY TEAM**

In 2006, the Petroleum Technology Research Centre established the ongoing field development R&D program called JIVE (Joint Implementation of Vapour Extraction), which involves extensive collaboration between three of the largest heavy oil producing companies in Canada (Nexen Inc., Husky Oil Operations Ltd. and Canadian Natural Resources Ltd.) during field testing of the solvent vapour extraction process (SVX) in three different locations near Lloydminster, along the Saskatchewan/Alberta border.

The Federal Government's Technology Early Action Measures (TEAM) program provided one million dollars to help fund enhanced JIVE research, which was conducted by the Saskatchewan Research Council and completed in March of 2008. This complimentary research, which ran alongside the field testing, focused on the areas of 3-D physical modeling and numerical simulations of the SVX process. These enhanced modeling capabilities were critical in improving the impacts and efficiencies of SVX in the field pilots. A confidential final report, issued in April 2008 by the SRC, highlights the TEAM-sponsored research, which has been instrumental in moving the field pilots closer to commercialization.

The objectives of JIVE include the use of information garnered from the field pilots to improve the understanding, and accelerate the commercial implementation of SVX through the complimentary research co-sponsored by TEAM, along with the Saskatchewan Research Council, Alberta Research Council, Sustainable Development Technology Canada (STDC) and Saskatchewan Energy and Resources.

Compared to current steam extraction methods used in the oil sands and heavy oil formations, SVX technology holds the potential for significant energy savings and environmental improvements, including (per billion barrels of oil produced) the saving of as much as 85 million tonnes of CO<sub>2</sub>, the elimination of most water in the extraction process (400 million barrels less than SAGD operations) and the saving of 1.65 trillion cubic feet of natural gas. Successful implementation of SVX could mean an estimated 5 to 8 billion more barrels of recoverable oil.

A second-phase project (JIVE II) is moving forward and will implement adapted and improved SVX technology in an additional heavy oil field in eastern Saskatchewan.

TEAM – with its mandate to “support environmentally sound technologies with the greatest potential to reduce greenhouse gases (GHGs)” – has successfully supported some 140 technology demonstration projects in its ten years of funding, including 8 in cleaner fossil fuels. The JIVE project is a successful example of advancing a technology that offers the potential for significantly reducing the environmental footprint of heavy oil and oil sands development while enhancing economic opportunities.