

Progress Report – February March and April 2007
Gas Over Bitumen Technical Solution
Industry & Government Collaboration

General Comments

As directed by the Steering Committee on October 24, 2006, the Artificial Lift and Low Pressure SAGD sub committees continue to meet and make good progress in 5 priority areas; re-pressuring fluid injection types, down hole instrumentation, solvent/co-injection recovery, impact of non-condensable gas, and history matching of field data.

Artificial Lift

Down Hole Instrumentation

A work shop was held on March 15, 2007 with 29 participants from 15 organizations. ConocoPhillips, Devon, EnCana, Husky, North American, and Petro-Canada made presentations. The workshop reviewed the state of the art of current technology within service and operating companies, including what is working and what gaps exist.

Following the March 15 work shop, a task group is developing the scope for an August vendor workshop to present current state of high temperature pressure measurement and what activities are required to advance the temperature application. This is in pursuit of a reliable and cost effective pressure measurement device capable of service at 270 C and higher.

Fluid Injection Technology

NAOSC is sponsoring a JIP for Development of a Guideline for Choosing Injection Fluids for the purpose of Re-pressuring a Gas Over Bitumen Zone. An RFP was finalized and issued March 21, 2007. The technical sub committee is waiting on a recommendation for the successful contractor.

Low Pressure SAGD Performance

Solvent/co-injection Recovery Applications

ConocoPhillips is advancing a JIP to understand solvent compositions, availability, and supply at a cost of \$60,000. With 8 to10 potential participants, the cost is \$7,500 to \$6,000/member. The study would finish within a year (probably 2nd Q 2008) with ongoing results available through update meetings and working drafts.

Impact of non-condensable Gas

The scope of a potential JIP is being advanced.

History Matching of SAGD Field Data

The scope of a potential JIP is being advanced.

Progress Report – May, June, and July 2007
Gas Over Bitumen Technical Solution
Industry & Government Collaboration

General Comments

As directed by the Steering Committee on October 24, 2006, the Artificial Lift and Low Pressure SAGD sub committees continue to meet and make good progress in 5 priority areas; re-pressuring fluid injection types, down hole instrumentation, solvent/co-injection recovery, impact of non-condensable gas, and history matching of field data.

Artificial Lift

Down Hole Instrumentation

A task group is developing the scope for a vendor workshop to present current state of high temperature pressure measurement and what activities are required to advance the temperature application. This is in pursuit of a reliable and cost effective pressure measurement device capable of service at 270 C and higher.

Fluid Injection Technology

NAOSC is sponsoring a JIP for Development of a Guideline for Choosing Injection Fluids for the purpose of Re-pressuring a Gas Over Bitumen Zone. A contractor has been selected to conduct the work. The contract has not been awarded pending JIP participation.

A re-pressuring workshop was held May 17, 2007. EnCana presented its experiences at Christina Lake and EnCAID. Paramount was not able to present GRIPE. Interested parties may go to the AEUB website to obtain a copy of RMR presentations.

Paramount Energy presented its IETP application May 17, 2007 for technical committee recommendation to the steering committee for endorsement as a project which contributes to a technical solution to the gas over bitumen issue. The title of its project is “Experimental GOB Scheme Re-pressuring and Gas Storage over Bitumen”. Paramount Energy revised its IETP application to reflect the technical committee suggestions, was subsequently endorsed by both the technical sub committee and the steering committee, and is currently waiting on endorsement from the executive steering committee.

Low Pressure SAGD Performance

Solvent/co-injection Recovery Applications

ConocoPhillips is the JIP sponsor. To date; 2 parties have declined, 9 parties have agreed, and 4 parties still considering to participate. The project is now initiated having the contract awarded and executed, and initial payment made. First project meeting is planned for September.

Impact of non-condensable Gas

The scope of a potential JIP is being advanced.

History Matching of SAGD Field Data

The scope of a potential JIP is being advanced.

Progress Report – August, September, and October 2007
Gas Over Bitumen Technical Solution
Industry & Government Collaboration

General Comments

As directed by the Steering Committee on October 24, 2006, the Artificial Lift and Low Pressure SAGD sub committees continue to meet and make good progress in 5 priority areas; re-pressuring fluid injection types, down hole instrumentation, solvent/co-injection recovery, impact of non-condensable gas, and history matching of field data.

Artificial Lift

Down Hole Instrumentation

A pressure and temperature measurement vendor workshop was conducted October 18, 2007. Six vendors made presentations; WellDynamics/Halliburton, OpSens, Petrospec, Promore, Schlumberger, and Sensornet. The vendor workshop focused on present current state of high temperature pressure and temperature measurement and what activities are required to advance the temperature application. This is in pursuit of a reliable and cost effective pressure measurement device capable of service at 270 C and higher.

Fluid Injection Technology

NAOSC is sponsoring a JIP for Development of a Guideline for Choosing Injection Fluids for the purpose of Re-pressuring a Gas Over Bitumen Zone. A contractor has been selected to conduct the work. The contract has not been awarded pending JIP participation. Positive response received from only four organizations. NAOSC is attempting to see if the JIP will advance with four participants.

Low Pressure SAGD Performance

Solvent/co-injection Recovery Applications

A workshop was held September 27, 2007 regarding advancing solvent/co-injection recovery applications. Presentations were made by EnCana, Laricina, Suncor, NAOSC, Nexen, Petro-Canada, ARC, ConocoPhillips, and N-Solv. ConocoPhillips is the JIP sponsor. The project is proceeding and agreements are executed. 13 organizations are participating.

Impact of non-condensable Gas

Nexen is the JIP sponsor. The JIP work scope is fully developed, presented & approved by the sub-committee in August 2007. Request for proposal issued on September 25, 2007. Deadline for commercial submission is October 31, 2007. Working group will convened in mid November to review submissions. Nexen legal is working on JIP contract. Plan to request for JIP participation for sub-committee participants in late November 2007. Target start date for JIP will be January 15, 2008

This is a three phase JIP which will identify gaps in current industry knowledge regarding the impacts of NCG on the SAGD process. The study will focus on opportunities and strategies to maximize the benefits of naturally generated or injected NCG's during bitumen recovery by SAGD at lower pressures and in the presence of associated gas caps.

History Matching of SAGD Field Data

Project scope definition continues to progress.

Progress Report – November, December 2007, and January 2008
Gas Over Bitumen Technical Solution
Industry & Government Collaboration

General Comments

As directed by the Steering Committee on October 24, 2006, the Artificial Lift and Low Pressure SAGD sub committees continue to meet and make good progress in 5 priority areas; re-pressuring fluid injection types, down hole instrumentation, solvent/co-injection recovery, impact of non-condensable gas, and history matching of field data.

Artificial Lift

Down Hole Instrumentation

A workshop to update operator's experience will be held on June 26, 2008. A vendor workshop is scheduled for September 18, 2008. These activities are in pursuit of a reliable and cost effective pressure measurement device capable of service at 270 C and higher.

Fluid Injection Technology

NAOSC is sponsoring a JIP for Development of a Guideline for Choosing Injection Fluids for the purpose of Re-pressuring a Gas Over Bitumen Zone. ARC will conduct the work. The contract will be awarded once JIP participation in place. Working group will meet January 31, 2008 to finalize next steps.

Low Pressure SAGD Performance

Solvent/co-injection Recovery Applications

ConocoPhillips is the JIP sponsor with 14 participating organizations. A draft literature search report was received December 2007. The working group is currently reviewing and expects the final by February 29, 2008. The JIP is expected to end June 2008. There is potential for a further JIP based on the Phase 1 recommendations.

Impact of non-condensable Gas

Nexen is the JIP sponsor. This is a three phase JIP which will identify gaps in current industry knowledge regarding the impacts of NCG on the SAGD process. The study will focus on opportunities and strategies to maximize the benefits of naturally generated or injected NCG's during bitumen recovery by SAGD at lower pressures and in the presence of associated gas caps. A contract was awarded to THIMM for a cost of \$125,000. Nexen expects to get contracts to the subcommittee members by January 31, 2008

History Matching of SAGD Field Data

Project scope definition continues to progress.

IETP Activities

Dan McFadyen, Deputy Minister and Chair, Gas over Bitumen Technical Solution Executive Steering committee, sent out a notice dated November 5, 2007 indicating the Executive Steering Committee endorsement for the Paramount Energy Trust Corner 'C' pool IETP application. The Executive Steering Committee agrees with the technical committee that this will contribute information to the gas over bitumen issue. A more thorough review by the IETP Technical Evaluation Committee will be done to see if the project fits with IETP requirements.