

Monthly Progress Report – January 2004
Gas Over Bitumen Technical Solution
Industry & Government Collaboration

Artificial Lift

Bench Scale Testing of Lift Systems

Bench scale testing agreements continue to be advanced. Vendor requests are out to suppliers. Flow loop construction and start up is expected in April 2004.

Facility Capital and Operating Cost Study

Petro-Canada, Suncor, and IMV continue to advance the evaluation of different lift scenarios against gas lift. Process flow diagrams have been prepared. First round of capital and operating costs are now being prepared.

Low Pressure SAGD Wellbore Architecture

Conoco, Petro-Canada, and Husky are the only participants at this time. The scope is being reviewed to see if it can be split into two projects that will allow the others to participate. Another alternative is to approach AERI for funding to allow the project to proceed with four participants.

Fluid Injection Technology

Christina Lake

Nothing new to report.

Flue Gas Injection

The project scope and simulations for two flue gas injection pilots at Surmont are essentially complete. Expect draft EUB application to partners and ADOE by March 1, 2004. Advancing the business model for the pilot. Project start-up is expected in Q2 2005.

Lateral and Vertical Pressure Communication

ETI project is progressing. The JV is not signed; expect signing in February 2004. Work is proceeding regardless of lack of agreement.

Low Pressure SAGD Performance

Deer Creek LP SAGD Field Testing

Petro-Canada, Conoco, Nexen, and AERI are participating. Husky continues to consider participating. Agreements continue to be advanced. Project start up is expected in April 2004.

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Conoco LP SAGD E-Lift Field Testing Proposal

Pre-FEED is progressing and the Dovap agreement is being adapted for this project. Conoco is covering the cost of this work (\$45,000).

Reservoir Lab Testing

Nothing new to report.

Executive Steering Committee

Nothing new to report.

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Artificial Lift

Bench Scale Testing of Lift Systems

Bench scale testing agreements are in place. Flow loop construction is ongoing with commissioning expected in late April. Pump availability is on the critical path. Conoco and EnCana are investigating options to supply the twin screw and ESP systems, respectively, from their inventory.

Facility Capital and Operating Cost Study

Petro-Canada, Suncor, and IMV continue to advance the evaluation of different lift scenarios against gas lift. Final round of capital and operating costs are complete. The group is now preparing presentation materials to first be presented to the technical sub committee in late April and then to the CHOA in late May 2004.

Low Pressure SAGD Wellbore Architecture

Conoco, Petro-Canada, and Husky are the only participants at this time. An application is being prepared for AERI participation. A decision is expected in April 2004.

Fluid Injection Technology

Christina Lake

Nothing new to report.

Flue Gas Injection

Reservoir modeling is being revised to reflect current pool configurations. Expect draft EUB application to partners and ADOE by April 30, 2004.

Lateral and Vertical Pressure Communication

ETI project is progressing. The JV is now signed. The first project review meeting was held on March 24, 2004. The project is on budget and on time.

Low Pressure SAGD Performance

Deer Creek LP SAGD Field Testing

Husky continues to consider participating. Agreements are in place. Two technical meetings have been held. After considerable work, a rig has been secured to complete the well pair. Project start up is expected by April 30, 2004.

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Conoco LP SAGD E-Lift Field Testing Proposal

Pre-FEED continues to progress. The group is waiting for a date to be set for Conoco to present the pre-FEED results. The agreement is substantially complete, with some refinement regarding the wording to describe the scope and the definition of LP SAGD.

Reservoir Lab Testing

ARC proposals are in place. Agreements are being prepared using the ETI contract as a template.

Executive Steering Committee

The committee met on March 9, 2004. Funding considerations continue to advance. Potential funding will likely require a business case test to be passed. With this in mind, the Steering Committee is advancing considerations for a business sub committee.

Artificial Lift

Bench Scale Testing of Lift Systems

Flow loop construction continues with commissioning now expected in May. ConocoPhillips is supplying the twin screw pump from their inventory and will be tested first. EnCana is expected to supply the ESP. Parties have agreed to spend an additional \$20,000 to accommodate the testing of a gear pump.

Facility Capital and Operating Cost Study

Petro-Canada, Suncor, and IMV presented the first draft of the evaluation of different lift scenarios against gas lift to the technical sub committee. Feedback was provided and the group is now preparing final materials to be presented to the CHOA May 25, 2004.

Low Pressure SAGD Wellbore Architecture

Nothing new to report.

Fluid Injection Technology

Flue Gas Injection

Expect draft GRIPE EUB application to partners and ADOE by May 31, 2004.

Lateral and Vertical Pressure Communication

ETI project continues to progress. The next project review meeting is expected in late May, 2004.

Low Pressure SAGD Performance

Deer Creek LP SAGD Field Testing

Steam circulation commenced in the injector. Steam circulation to the producer will commence once steam generator operations are reliable. Continue to wait on Husky's participation decision.

ConocoPhillips LP SAGD E-Lift Field Testing Proposal

Pre-FEED is complete. The group continues to wait for a date to be set for ConocoPhillips to present the pre-FEED results.

Reservoir Lab Testing

Agreements are being prepared by ARC.

Executive Steering Committee

Nothing new to report.

Artificial Lift

Bench Scale Testing of Lift Systems

Bench scale facility commissioning is ongoing and working on instrumentation. Commissioning should be complete by week of May 31, 2004. The twin screw pump will be tested first, allowing the pump to be returned to Surmont for the field test by June 14, 2004.

Facility Capital and Operating Cost Study

Petro-Canada, Suncor, and IMV presented the evaluation of different lift scenarios against gas lift to the CHOA May 25, 2004.

Low Pressure SAGD Wellbore Architecture

ConocoPhillips, Petro-Canada, AERI and Husky have signed Phase 2 agreements. Costs are expected to be \$120,000 and expected to be complete by October 31, 2004.

Fluid Injection Technology

Flue Gas Injection

Paramount's draft application was reviewed with the EUB and Surmont partners on May 28, 2004. Expect to file application by June 15, 2004.

Lateral and Vertical Pressure Communication

The ETI project is now conducting history matching of field production and pressures, and tying into the geological model. The project is on schedule and on budget.

Low Pressure SAGD Performance

Deer Creek LP SAGD Field Testing

Circulation is now ongoing in the injector and producer. Pump installation is expected by August 2004.

ConocoPhillips LP SAGD E-Lift Field Testing Proposal

The group continues to wait for a date to be set for ConocoPhillips to present the pre-FEED results.

Reservoir Lab Testing

Contracts are now out to participants for review and signature.

Executive Steering Committee

The next meeting is scheduled for June 7, 2004.

Artificial Lift

Bench Scale Testing of Lift Systems

The C-Fer test loop was commissioned the week of June 14, 2004 with the twin screw pump.

The PCP pump is next to be tested, followed by the gear pump, then the ESP. This study may need an alternative for the PCP as there are problems with building the pump on time.

Low Pressure SAGD Wellbore Architecture

Phase 2 includes generating an economic model to conduct a high level evaluation of one wellbore concept and one completion concept. One-on-one meetings were held with C-FER during the week of June 28, 2004. AERI continues advancing documents for its participation.

Fluid Injection Technology

Flue Gas Injection

Paramount's GRIPE EUB application was filed June 16, 2004.

Paramount has met with the ADOE regarding access to the ITRP funding.

ARC and the Enhanced Gas Recovery Program are considering participating in the field demonstration.

Lateral and Vertical Pressure Communication

Surmont Shut-in Data Analysis

Participants reviewed *an outline of* the ETI draft report. *A final report will be issued the week of July 19, 2004.* The participants believe that the results cannot be broadly applied, and that a significant level of evaluation and data is required to conduct this type of assessment.

The 2 year confidentiality period commences with the issue of the report, July 2004.

Low Pressure SAGD Performance

Deer Creek LP SAGD Field Testing

Steam circulation continues in the injector and producer to preheat the wellbores. Steam generation has been hampered with disposal problems.

Continuous steam injection into the injector is expected to commence in late July.

ConocoPhillips LP SAGD E-Lift Field Testing Proposal

ConocoPhillips is giving priority to the Surmont A and B well pairs to understand the interaction of the steam chamber with the thief zones, and therefore are not

candidates for this test. There is insufficient steam capacity to conduct the test on the C well pair. Additionally, the casing sizes are too small to run E-Lift. As a result, the LP test may be deferred until the project has more wellbores available during commercial operations.

Reservoir Lab Testing

Paramount is the only party to sign the agreement. Waiting on EnCana, Devon, Petro-Canada, and ConocoPhillips. Paramount is prepared to go it alone if the agreement is not signed by July 15, 2004.

Samples from Foster Creek and MacKay will be tested.

The study is expected to be complete by September 30, 2004.

Executive Steering Committee**ITRP Funding**

The Executive Steering Committee met on June 7, 2004.

An ITRP Funding steering committee will be established at the ADM level with industry representation to develop the program design. Other committees will determine the details. New regulation will be required and therefore will determine the timing.

Artificial Lift

Bench Scale Testing of Lift Systems

The twin screw test is on hold. The Progressive Cavity Pump (PCP) test may proceed during this period.

Low Pressure SAGD Wellbore Architecture

C-FER has built an economic model based on 4 cases: 'high-pressure' SAGD Base Case at 2000 kPa and three LP-SAGD cases at 500 kPa including one wellbore concept and two completion concepts. C-FER is now incorporating input data from participants.

Fluid Injection Technology

Paramount GRIPE Pilot

The EUB has no information requests or deficiencies on the Paramount GRIPE application at this time. Paramount expects further questions or approval by the end of August. Verbal support for the pilot from offsetting interests has been received.

Paramount project implementation is proceeding with detailed design currently underway. Long lead equipment is being procured. AFE approval and ADOE royalty relief arrangements are expected by September 30, 2004. Construction should commence in November 2004, well completions in January 2005, and commissioning April 2005.

Devon/EnCana Flue Gas Re-pressuring Pilot

Devon submitted a progress report to the EUB in May 2004. The pilot did accomplish re-pressuring the gas pool, but was unfortunately uneconomic. A copy of the Devon report will be distributed to the Steering Committee.

Lateral and Vertical Pressure Communication

Surmont Shut-in Data Analysis

The ETI report is complete. A meeting to review the deliverables and clarify explanations of results was held July 29, 2004. ETI will be preparing an addendum to the report.

Low Pressure SAGD Performance

Deer Creek LP SAGD Field Testing

Steam circulation continues in the injector and producer to preheat the wellbores. Continuous steam injection into the injector is now expected to commence in August.

ConocoPhillips LP SAGD E-Lift Field Testing Proposal

ConocoPhillips made an interesting and informative presentation on July 22, 2004, comparing the test objectives and scope of the 2003 proposal and today's needs. The FEED summary report estimates that the capital costs are more that 3 times higher than anticipated in the original proposal. As a result, the September joint Artificial Lift and Low Pressure SAGD sub committee meeting will conduct a review and update of the scope, deliverables, and timelines of this possible field pilot.

Reservoir Lab Testing

The testing apparatus is built and testing will proceed shortly. The test is expected to be complete by year end 2004.

Executive Steering Committee

Nothing new to report.

Artificial Lift

Bench Scale Testing of Lift Systems

The twin screw pump test will be deferred. The other ESP, PCP, and gear pumps will be tested next. Cost per participant has increased from \$65000 to \$102000. Suncor is installing a twin screw pump with electric drive at Firebag. Ability to disclose data is part of their decision to disclose low pressure SAGD test data.

Low Pressure SAGD Wellbore Architecture

Nothing new to report.

Fluid Injection Technology

Paramount GRIPE Pilot

The GRIPE application requires approval to vary the Surmont shut in order. If there are objections, a hearing may be required. If this were to happen, there is a chance that the project would miss the winter access period, and delay the project startup by one year.

Devon/EnCana Flue Gas Re-pressuring Pilot

Devon discussed the results of the flue gas injection project at the September 23, 2004 steering committee meeting. The project was plagued with mechanical problems associated with overheating of motors while running on a fuel rich system.

EnCana is now the operator and has amended the application to include air injection and confidentiality to September 2005.

Lateral and Vertical Pressure Communication

Surmont Shut-in Data Analysis

Participants to the ETI study are preparing questions to determine if there is a need for another geological realization for reservoir/pressure simulation, clarifications on conclusions and statements, and additional comments. The intent is to ensure that the technical procedures are correct and that all deliverables are met.

Low Pressure SAGD Performance

Deer Creek LP SAGD Field Testing

The Joslyn project start up phase is now complete. The well pair is now on continuous steam injection and production.

ConocoPhillips LP SAGD E-Lift Field Testing Proposal

A workshop was held September 30, 2004. The group is considering methods to monitor the liquid level in a SAGD steam chamber, additional simulation work,

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common definitions for sub cool, fluid properties at steam pressures below 2000 kPa, understanding the impacts of vapor refluxing in the production wellbore, lower cost pilot alternatives, and contributing data from existing projects to advance these understandings.

Reservoir Lab Testing

EnCana, Paramount, and Petro-Canada have signed the agreement. AERI will participate when a fourth party signs.

Executive Steering Committee

There are two Innovative Technology Royalty Program meetings scheduled for October 7th and 8th. The October 7th meeting will be held at PTAC and will focus on oil and gas applications. The October 8th meeting will be held at McDougal and will focus on oil sands applications.

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Artificial Lift

Bench Scale Testing of Lift Systems

Currently testing progressive cavity pump. Oil and gas test is complete.

Low Pressure SAGD Wellbore Architecture

Final report is being prepared and will be reviewed prior to the end of October.

Fluid Injection Technology

Paramount GRIPE Pilot

Responding to EUB questions.

Parties to D2000-22 received notice from EUB to vary shut-in order to exclude the GRIPE wells. Project approval will be signed.

EnCana Flue Gas Re-pressuring Pilot

Nothing new to report.

Lateral and Vertical Pressure Communication

Surmont Shut-in Data Analysis

Nothing new to report.

Low Pressure SAGD Performance

Deer Creek LP SAGD Field Testing

Continuous injection and production continues with steam chamber pressures between 1250 and 1300 kPag. Production response is near expectations.

ConocoPhillips LP SAGD E-Lift Field Testing Proposal

2D and 3D simulations are being conducted to develop a matrix of issues to address. Other members are investigating ways to share field data that may allow advancing the understanding of LP SAGD.

Suncor has proposed a JIP to develop artificial lift for low pressure SAGD on two well pairs. The test will operate for up to 2 years with a step down pressure profile of 3500, 2000, 1500, and 1200 to 1000 kPa. The production well performance data will be shared. The cost is estimated at \$8 to \$9 million. Suncor has proposed to cover 50% of the costs and JIP participants covering the remaining to a maximum of \$1 million per participant. Expression of interest is due October 31, 2004. A meeting to refine the scope and test details will be held during the first week of November.

Reservoir Lab Testing

Nexen is now participating. AERI will likely now participate. ConocoPhillips is reconsidering its participation.

Artificial Lift

Bench Scale Testing of Lift Systems

Gear pump is next in the loop.

Low Pressure SAGD Wellbore Architecture

Still waiting on C-Fer to call final meeting.

Suncor Low Pressure Artificial Lift Proposal

Suncor met with interested parties on November 19, 2004. Parties included CNRL, Suncor, Jacos, Devon, ConocoPhillips, Total, Husky, Nexen, and Petro-Canada. Interested parties are to indicate a cost for the data sale that they can live with by November 26, 2004.

Suncor will request a sample of Firebag bitumen to be tested in the de-methanization lab study. This work will be important for determining solution gas production during its field test.

Fluid Injection Technology

Paramount GRIPE Pilot

EUB approval and conditions have been received. D2000-22 shut-in order variance has been approved. G51 application has been submitted. G56 is being prepared.

Skid fabrication is underway. Workover programs are prepared. Costs have increased by 10% and will likely end near \$6 million. Project start up is scheduled for Q1 2005. ConocoPhillips observation well locations have been submitted to the EUB.

Paramount Energy Trust is considering a similar field test at Hangingstone.

EnCana Flue Gas Re-pressuring Pilot

Construction is complete. Startup expected with air injection at 11-16 in the next couple of weeks.

Lateral and Vertical Pressure Communication

Surmont Shut-in Data Analysis

All issues have been identified and reviewed with ETI. A draft addendum will be prepared for review by December 15, 2004. The scope of the addendum has been agreed to by all funding parties. Final addendum is expected in the new year.

January 1, 2005 will be deemed the study completion date.

Low Pressure SAGD Performance

Deer Creek LP SAGD Field Testing

The following are quotes taken directly from Deer Creek's third quarter report.

“The average field production during the month of October was approximately 125 barrels of bitumen per day...” “The steam-oil-ratio in the first six weeks of production has consistently declined over the period to reach 3.5 at the end of October and averaged 3.7 for the month.”

ConocoPhillips LP SAGD E-Lift Field Testing Proposal

The task group made a very interesting presentation on November 15, 2004, regarding the **draft** results of simulations. The task group will meet again to draw final conclusions and discuss any future steps to wrap up their work.

Reservoir Lab Testing

Nothing new to report.

Executive Steering Committee

Natural Gas Royalty Changes

After consultation with 6 industry representatives, a royalty adjustment has been announced and natural gas royalty regulations were changed October 5, 2004 by OC 476/2004.

Royalty Adjustments to the parties affected (excluding Surmont wells) are initiated through a monthly Ministerial order, are retroactive to the date of shut-in.

Repayment of royalty Adjustments provided are through an escalating GORR when the pool is back on production to a maximum of the benefits received. Capex to return the well to production are recovered before the GORR kicks in.

Temporary assistance ceases and is deducted from the retroactive payment.

ITRP

Steering Committee members agreed that the GOB projects will be reviewed by the technical subcommittees. Successful projects will be presented to the Steering Committee for approval. All projects will be reviewed using the ITRP application criteria and will be ranked and prioritized before going to the Executive Steering Committee and the ITRP review. A December IL will indicate the need for GOB projects to go through this Technical Solutions Steering Committee.

The application package is ready for release in December. A workshop will be held to review the application process and IP issues and objectives in January 2005. There is one application date per year.

The Executive Steering Committee may meet in the new year if new or revised projects require review.