August 12, 2004

Mr. Keith Sadler
Alberta Energy and Utilities Board
640 - 5 Avenue SW
Calgary, Alberta
T2P 3G4

Dear Mr. Sadler:

RE: Suncor Energy Firebag SAGD Project – Low Pressure SAGD Pilot Project

The Firebag Project has been designed to provide a cost effective bitumen supply for Suncor's Upgrading facilities. As the major operating cost associated with a SAGD operation is the energy supply for steam generation, Suncor is constantly evaluating options to reduce the amount of steam required for a volume of bitumen produced. Based on computer simulations and field pilots elsewhere, Suncor feels that operation of the SAGD process at low reservoir pressures has the potential to significantly reduce the steam demand per barrel of bitumen produced or steam/oil ratio (SOR). Low Pressure SAGD (LP-SAGD) with subsurface artificial lift will enable the operation of SAGD wells at a decreased pressure and temperature which will reduce the SOR and operating costs. This could extend the operating life of a well pair and increase overall recovery. Suncor is planning a pilot project to evaluate the operation of LP-SAGD with several artificial lift techniques on existing SAGD well pairs at Firebag.

LP-SAGD Pilot

Two wells on Pad 2 have been selected for a pump test (see attached figure). Other wells will be selected for a gas lift test.

The primary objectives of the LP-SAGD pilot are:

- Quantify the SOR reduction potential of LP-SAGD; and,
- Evaluate artificial lift techniques including a multiphase pump and gas lift.

The objective of the pumping lift test is to:

- Evaluate the operability of pump and motor options for artificial lift, and;
- Evaluate the longevity of pump and motor operations.

The objective of the gas lift test is to evaluate the efficiency of using natural gas to aid in the lifting of fluids from a production well.

Pump Lift Test

The LP-SAGD pump lift test will require the following modifications to the existing well pair infrastructure:

- Modification to the well completion;
- Installation of a down-hole pump and motor;
- Modification of the surface electrical supply to power the pump motor;
- Modification of the surface piping to allow production of bitumen from the down-hole pump;
- Elimination of the blanket gas system, and;
- Modification of the casing gas collection system to allow casing gas to vent to the surface vapour collection line.

The pilot is designed to gain enough quality data to determine the optimal pump and motor selection for maximum LP-SAGD production. It will also reveal the production performance of the LP-SAGD process, pump and motor controls that allow consistent operation of the system, the conversion requirements of existing SAGD wells, and the preferred design for future SAGD wells.

As part of this work, Suncor has eliminated the blanket gas from the two pilot wells. Blanket gas is being used intermittently on the remaining SAGD wells. The use of blanket gas in the Firebag SAGD wells will be the subject of a subsequent letter.

Casing Gas Flaring

The LP-SAGD pump lift test has been designed to capture all produced gas from the production wells. The artificial lift pumps are intended to pump both the liquid and vapour production from the wells. If the pumps cannot adequately handle the vapour or the well casing pressure needs to be reduced to increase fluid level in the wellbore, the well casing will be vented to the surface vapour line and transported back to the main plant. There is, however, a low probability that a pressure imbalance between the casing and the vapour line will prevent the flow of the gas to the main plant. In this case, the gas would be collected and piped to a flare for disposal.

An option to compress this gas into the surface vapour line was considered. The maximum volume of produced gas from the 2 well pilot is calculated to be 1,600 m^3/day. At this maximum volume, considering the limited test contemplated, it would be uneconomic to provide compression to inject the gas into the surface vapour line.

Currently, the pilot scope does not include a flare. Should it become apparent that the produced gas cannot be captured adequately, Suncor plans to utilize the existing ETS pilot flare. The flare may be relocated closer to the pilot wells.

Gas Lift Test

The gas lift test will require the installation of small diameter tubing to inject natural gas into the fluids in the producing well. Natural gas will be injected to reduce the density of the produced fluids (bitumen and water) and help lift them to surface. The gas injected into the produced fluids will be recovered on surface in the group separators.

LP-SAGD Schedule

The current schedule for start-up of the LP-SAGD pilot is late August 2004. The pilot will be operated for about 18 months. However, if test results are positive, Suncor may elect to utilize LP-SAGD with artificial lift on additional wells before the 18 month pilot has been completed.

Future Firebag stages will benefit from the successful operation of a low pressure SAGD pilot as it should result in reduced SOR.

If you have any questions about this summary, please call me at 403-205-6862.

Yours truly,

SUNCOR ENERGY INC. OIL SANDS

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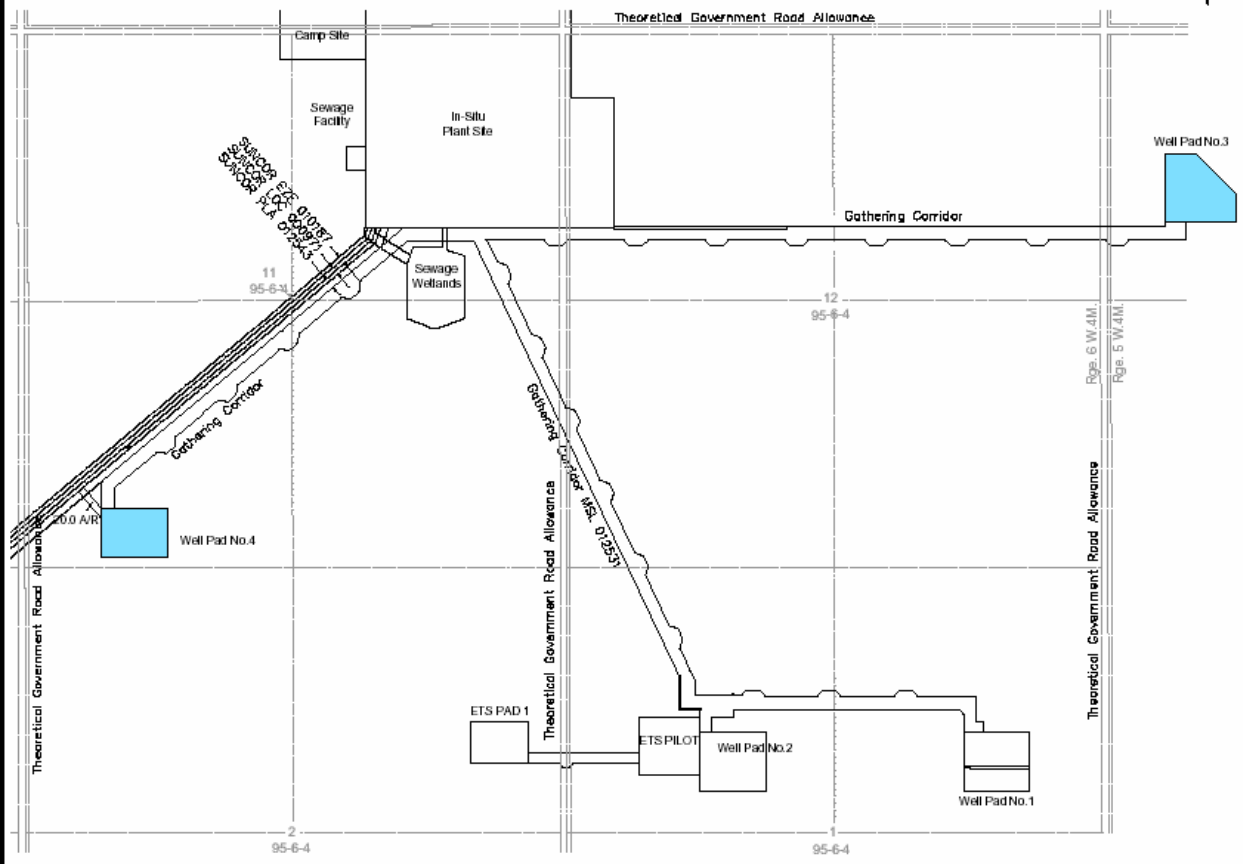
Cc: Kris Geekie, Alberta Energy & Utilities Board
Clement Ng, Alberta Environment



LEGEND

WELLPADS (NOV. 27, 2002)

400 0 400

SCALE METRES

NOTE

1. WELLPADS 3 AND 4 REVISED AS OF 27 NOV. 2002 FROM McELHANNEY

REFERENCE

DRAWING FROM FILE PROVIDED BY McELHANNEY LAND SURVEYS, ORIGINAL DRAWING ir-002-08.dwg PLAN SHOWING PAD SITES, ACCESS ROADS AND GATHERING CORRIDOR (AMENDMENT TO MSL012531)

PROJECT

FIREBAG SAGD PROJECT

TITLE

SITE MAP

SUNCOR ENERGY Firebag Project

PROJECT No. 022-2201.7100			FILE N:\Wellpads-Nov-27-2002
DESIGN	IG	29 Nov. 02	SCALE AS SHOWN REV. 0
CADD	RFW	29 Nov. 02	
CHECK			FIGURE: 1
REVIEW			

Image: Firebag.jpg

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