

Writer's direct line: (403) 297-3505
Writer's fax: (403) 297-7031
Email: Gary.Perkins@gov.ab.ca

EMAILED

February 7, 2007

Thackray Burgess
1900, 736 - 6th Avenue SW
Calgary, Alberta T2P 3T7

Attention: Patrick J. McGovern

**RE: EnCana Oil and Gas Partnership (EnCana) Application No. 1394112
Canadian Natural Resources Limited (CNRL) Application No. 1409180
Husky Oil Operations Limited (Husky) Application No. 1481725
Cold Lake Oil Sands Area - Clearwater Deposit**

Attached are the Board staff's Information Requests to CNRL.

Yours truly,

Gary D. Perkins
Board Counsel

cc: List of Parties and Counsel

Thackray Burgess

Attention: Mr. Patrick J. McGovern

Fax: 531-4720

McCarthy Tétrault LLP

Attention: D. G. Davies

Fax: 260-3501

Husky Oil Operations Limited

Attention: Susan Anderson

Fax: 298-6798

Borden Ladner Gervais LLP

Attention: Randall W. Block, Q.C.

Fax: 266-1395

Imperial Oil Resources

Attention: Susan C. Stark

Fax: 237-2031

February 7, 2007 Board Staff information requests to CNRL

1. On page 7 of its January 29, 2007 submission, CNRL states that EnCana's model for CNRL's Primrose area does not have proper input parameters to simulate regional flow and pressures due to gas cap production. CNRL states that Figure 7 shows that the EnCana model predicts the bitumen zone to be close to original pressures of 2500 – 2800 kPa even after the gas cap is produced to about 1000 kPa. It appears that Figure 7 refers to EnCana's edge model. Discuss whether CNRL's concern is also applicable to EnCana's non-edge and flank models.
2. On page 9 of its January 29, 2007 submission CNRL states that it used a 2D model to evaluate the effect of initial solution GOR in bitumen on HWCSS performance. The model was verified by matching the performance from a column "C" well of phase 17 from CNRL's Primrose south area.
 - a) Provide the details of how the model was constructed, including how the porosities and permeabilities (both horizontal and vertical) for the grid blocks were determined. If geostatistical methods were used, provide a detailed discussion of how CNRL completed the five basic steps of a geostatistical reservoir characterization: exploratory-data analysis; spatial modeling; kriging; conditional simulation; and uncertainty analysis (reference: "Practical Geostatistics—An Armchair Overview for Petroleum Reservoir Engineers"; J. M. Yarus, R. L. Chambers; Journal of Petroleum Technology, November 2006).
 - b) The input data files provided by CNRL indicate two wells were included in the model (wells are located at each end of the model). Clarify the statement on page 9 that the model was verified by matching the performance from a column "C" well. (i.e. Was the performance of one or two wells matched?)
 - c) Identify the well or wells whose performance was matched.
 - d) Explain why this well (or these wells) was used for the history match.
 - e) Discuss the adjustments that were made to the model to obtain the history match.
 - f) Discuss whether any pressure and/or temperature data were history matched and if they were, provide the results.
 - g) Discuss the extent to which history matching the performance of one or two wells validates the model.
 - h) Discuss why changing the solution GOR from 8 to 1 m³/m³ would be representative of what would occur in the bitumen zone if the gas zone was depleted to 500 kPa.