

ERG/200601

**Notes on Sable Natural Gas Production
December 1999 to November 2005**

Larry Hughes
Energy Research Group
Department of Electrical and Computer Engineering
Dalhousie University

3 January 2006

1. Background

The Sable Offshore Energy Project consists of a series of six natural gas fields, located about 225 kilometres off the east coast of Nova Scotia in the Atlantic Ocean. The total volume of the fields has undergone considerable revision ever since it began production, ranging from a high of about 3.6 TCF (trillion cubic feet) soon after production began to 1.36 TCF in February 2004 (Myrden, 2004).

The Sable project is divided into two tiers of three fields each (see Table 1).

Table 1: Sable's fields and production dates¹

Tier	Field	Date of initial production
I	Thebaud	December 1999
I	Venture	February 2000
I	North Triumph	February 2000
II	Alma	November 2003
II	South Venture	December 2004
II	Glenelg ²	To start by 2007

The Sable project is owned by ExxonMobil Canada Properties Limited, Shell Canada Limited, Imperial Oil Resources, Pengrowth Energy Trust, and Mosbacher Operating Limited (ExxonMobile, 2005).

2. Total production

The Sable project's six years of production from its five fields is shown in Figure 1. Monthly production peaked in November 2001 at 512,241,110 cubic metres or 18.1 BCF³ (billion cubic feet) from the three Tier I fields. Since then, there has been a steady but gradual decline in production; by November 2005, monthly production had fallen by 29.9 percent from the peak to 363,136,400 cubic metres (12.8 BCF).

Total production from all five fields to date has been 27,333,476,510 cubic metres (965

¹ Unless otherwise indicated, all data referring to Sable production in this report was obtained from the Canada-Nova Scotia Offshore Petroleum Board production data from December 1999 to November 2005 (CNSOPB, 2005).

² It is unclear whether the Glenelg project will proceed, as Shell Canada considers it a "write-off" (Shell, 2004). For the purposes of this report, it will be assumed that Glenelg will proceed.

³ Multiply by 35.31 to convert cubic metres to cubic feet.

BCF or 0.965 TCF).

3. Production by field

Sable's total monthly production is made up of the output from the five individual fields; the output is shown in Figure 2. November 2005 production from the Tier I fields is 91,128,300 cubic meters, about 18 percent of Sable's November 2001 peak. The Tier II fields of Alma and South Venture have not been able to increase production to November 2001 levels, despite record high prices for natural gas in the United States.

Each field has its own production profile, as shown in Figure 3. In the Tier I fields, production peaked within 36 months of the start of production, whereas Tier II fields appear to peak in less than 12 months of the start of production.

Table 2: Peak production by field and months of production to reach peak

Field	Peak month (after start of production)	Peak volume (cubic metres)
Thebaud	32	223,033,130
Venture	22	218,716,180
North Triumph	22	125,400,380
Alma	5	121,613,500
South Venture	9	179,649,800

4. Summary

Unless the SOEP consortium has been shutting in some production, it would appear that all Tier I fields have reached their peaks and are now in decline. Similarly, the two Tier II fields appear to have peaked, although SOEP may be holding back production in order to sell at a higher price to the U.S. market this winter. Unless the Glenelg field is brought on stream and can approach the outputs of Thebaud and Venture, it seems that the Sable project peaked in November 2001 and is in terminal decline.

The rapid decline in Sable's production is clearly the cause of the Nova Scotia government's push for Deep Panuke to come on stream, as well as its embracing of the proposed liquefied natural gas (LNG) facilities at Bear Head and Guysboro. Without the availability of natural gas from LNG, Nova Scotia's "offshore" natural gas industry will come crashing down, with a billion-dollar pipeline unfilled (much like the Nova Scotia

government's promise of natural gas).

References

CNSOPB, 2005, *Total Production*, Canada-Nova Scotia Offshore Petroleum Board, http://www.cnsopb.ns.ca/activityreports/pdf/production_report.pdf, Accessed 23 December 2005.

ExxonMobil, 2005, *Sable Project – Operations*, <http://www.soep.com/cgi-bin/getpage?pageid=1/0/0>, Accessed 23 December 2005.

Myrden, J., 2004, *Offshore outlook turns sour*, Halifax Herald, 10 September 2004.

Shell, 2004, *Shell Canada Q4 earnings down on one-time costs, weak refining margins*, <http://www.sharewatch.com/story.php?storynumber=61911>, Accessed 3 January 2006.

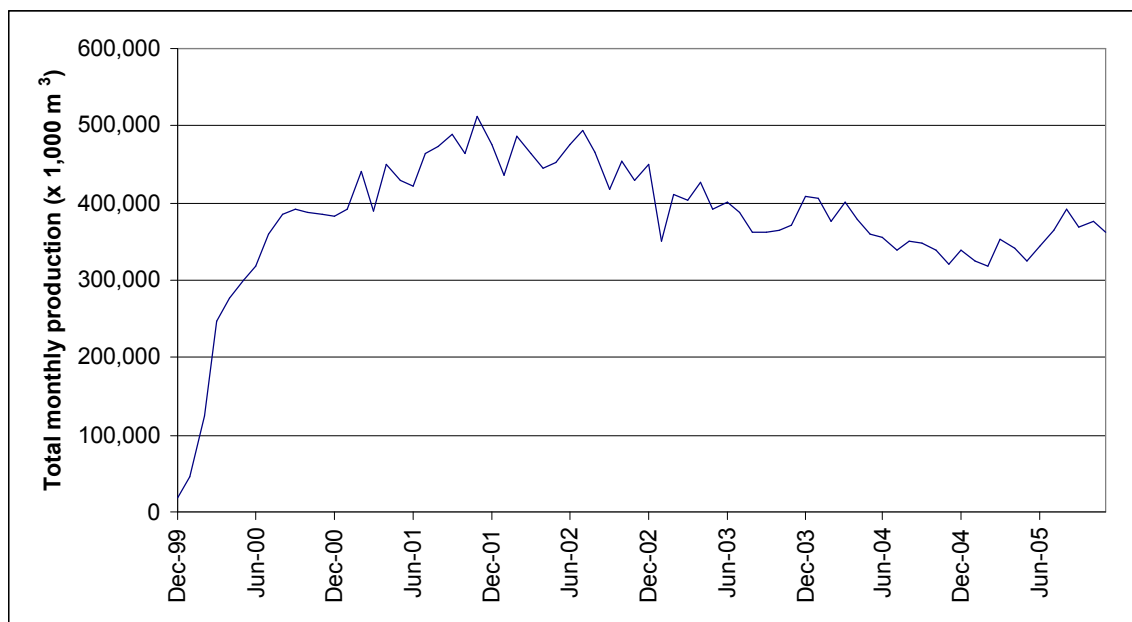


Figure 1: Sable's monthly production output

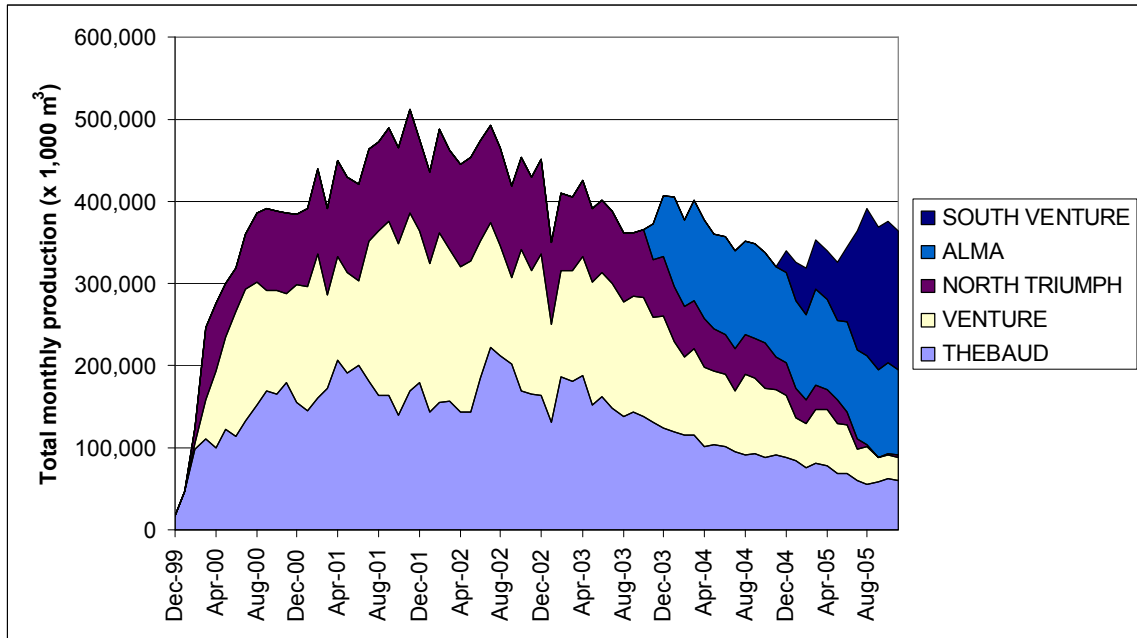


Figure 2: Total monthly production by field

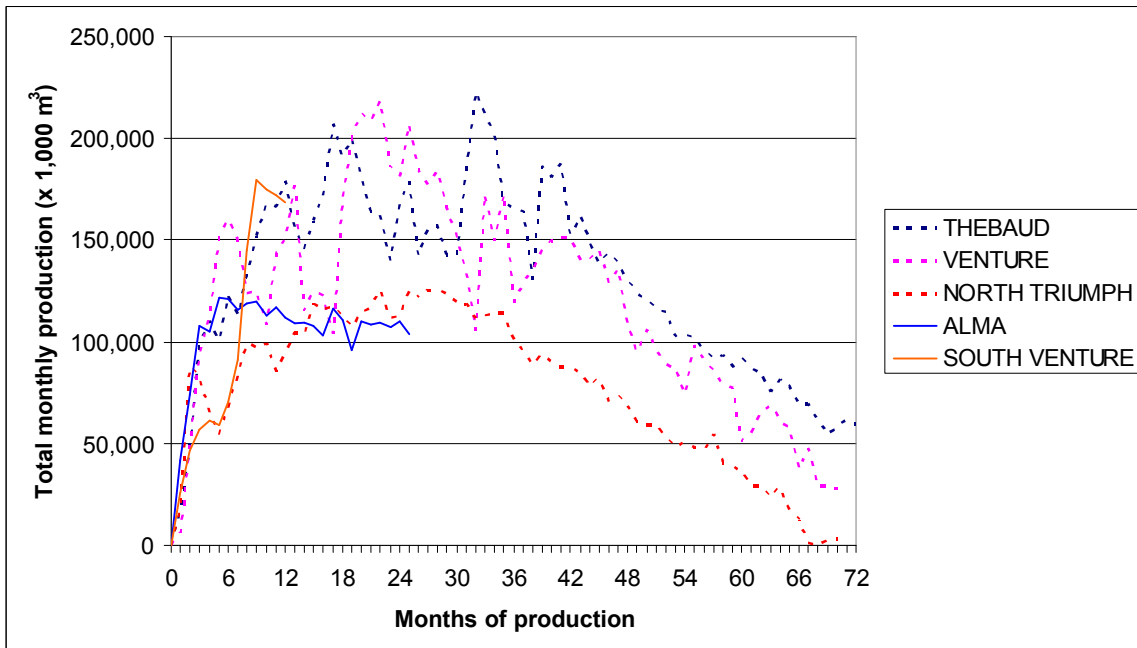


Figure 3: Production profile of each Sable field