

BC HYDRO OPERATIONS - ICE OBSERVATION REPORT #21

Flight: Tuesday, March 3, 2009

Report: March 4, 2009

Report by Charlene Anderson and Martin Jasek

The responsibility for ice observations on the Peace River passes to BC Hydro from Alberta Environment (AENV) when the ice front is upstream of Dunvegan. That responsibility was transferred on January 6, 2009. The numbering of reports is a continuation of the Alberta Environment reports.

Flight Observations **by Charlene Anderson**

A flight observation was conducted out of the Beaverlodge Airport on Tuesday, March 3, 2009. Air temperature at the Clayhurst Bridge was -5 °C and at Dunvegan it was -0 °C. Earlier that morning the minimum temperatures at the two locations reached -14 °C and -15 °C respectively.

Ice Observations

Location of the Ice Front: The ice front had advanced 0.7 km upstream from the last observation on Feb 27 and was located at **km 208.5 on Mar 3, 2009 13:21 MST**. This was approximately 88 km upstream of Dunvegan and about 45 km downstream of the Clayhurst Bridge near the BC/AB border. The average advance rate of the ice front between the last two observations was about 0.2 km/day. However, the ice advanced much further upstream and receded since the last observation. From examining the shore ice upstream of the ice front it was estimated that the ice front reached **km 202**. From air and water temperature records the change from advancing to receding for the ice front is estimated to have occurred late on Mar 1 or early on Mar 2. For plotting the ice front location, that date and time of **Mar 2, 2009, 00:00 hrs** was assumed.

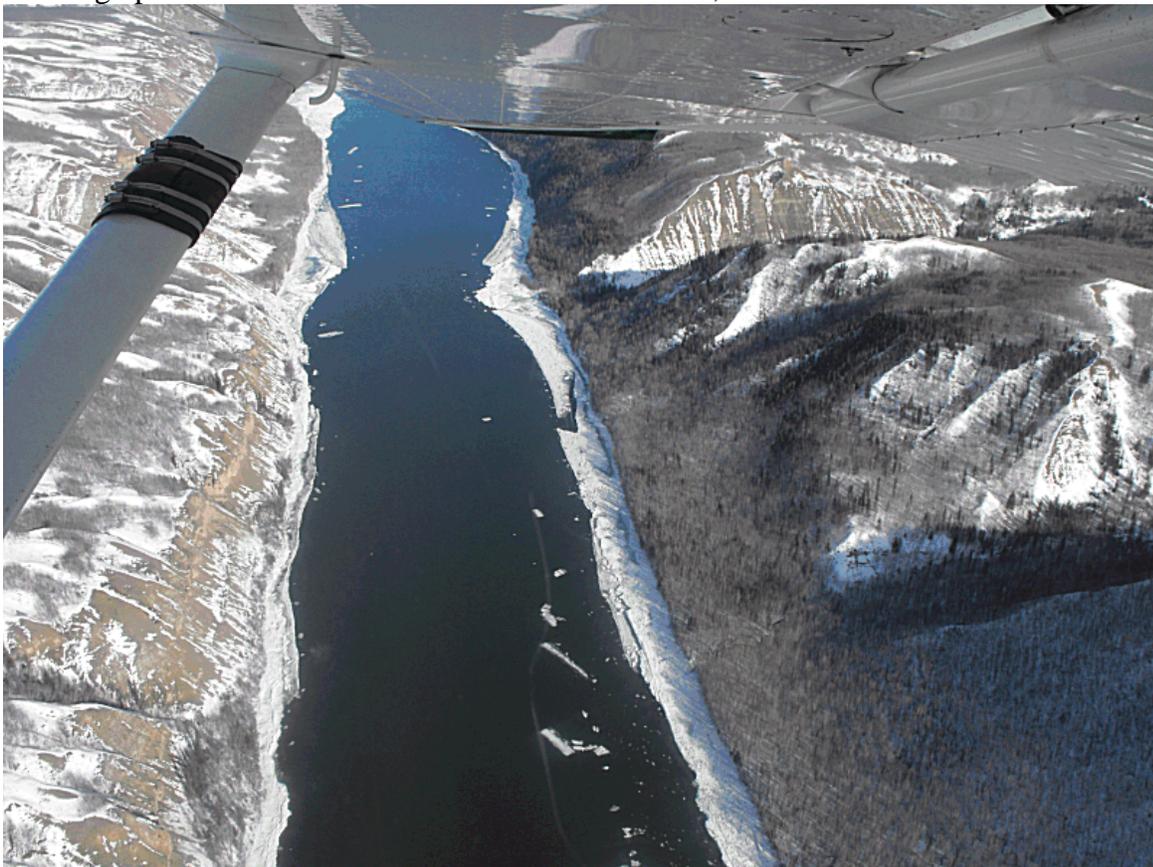
During the flight the ice front was in receding mode but there was no brash ice upstream of the ice front. This was likely because local hydraulic conditions (high water velocities) caused ice floes to be entrained under the leading edge of the ice cover.

Detailed Observations:

km 202	- shore ice characteristics indicate that the ice front may had reached this point since the previous flight on Feb 27.
km 204	- less than 1 % flowing shore ice pieces
km 208.5	- ice front at 13:21 MST (no brash ice upstream of the ice front)
km 208.5 to 209.9	- small open leads and darkened ice cover
km 209.9 to 214	- this reach was slightly more consolidated than on the last flight but the small lead at km 213.5 was still there but of a slightly different shape.
km 214 to 217	- ice was mostly the same as the Feb 27 observational flight in this reach.
km 217 to 219	- a new lead had opened up since the last flight starting at the downstream end of an old consolidation. The ice the cleared out was previously juxtaposed.
km 219	- ice was mostly the same as the Feb 27 observational flight downstream of this point.



Looking upstream at the ice front at km 208.5 on Mar 3, 2009 13:21 MST.



Looking downstream at the location (km 202) where the ice front advanced between this flight (Mar 3) and the last (Feb 27).



Looking upstream at a small lead at km 213.5.



Looking downstream at a lead at km 217 to 219. The lead was not present on the previous flight.

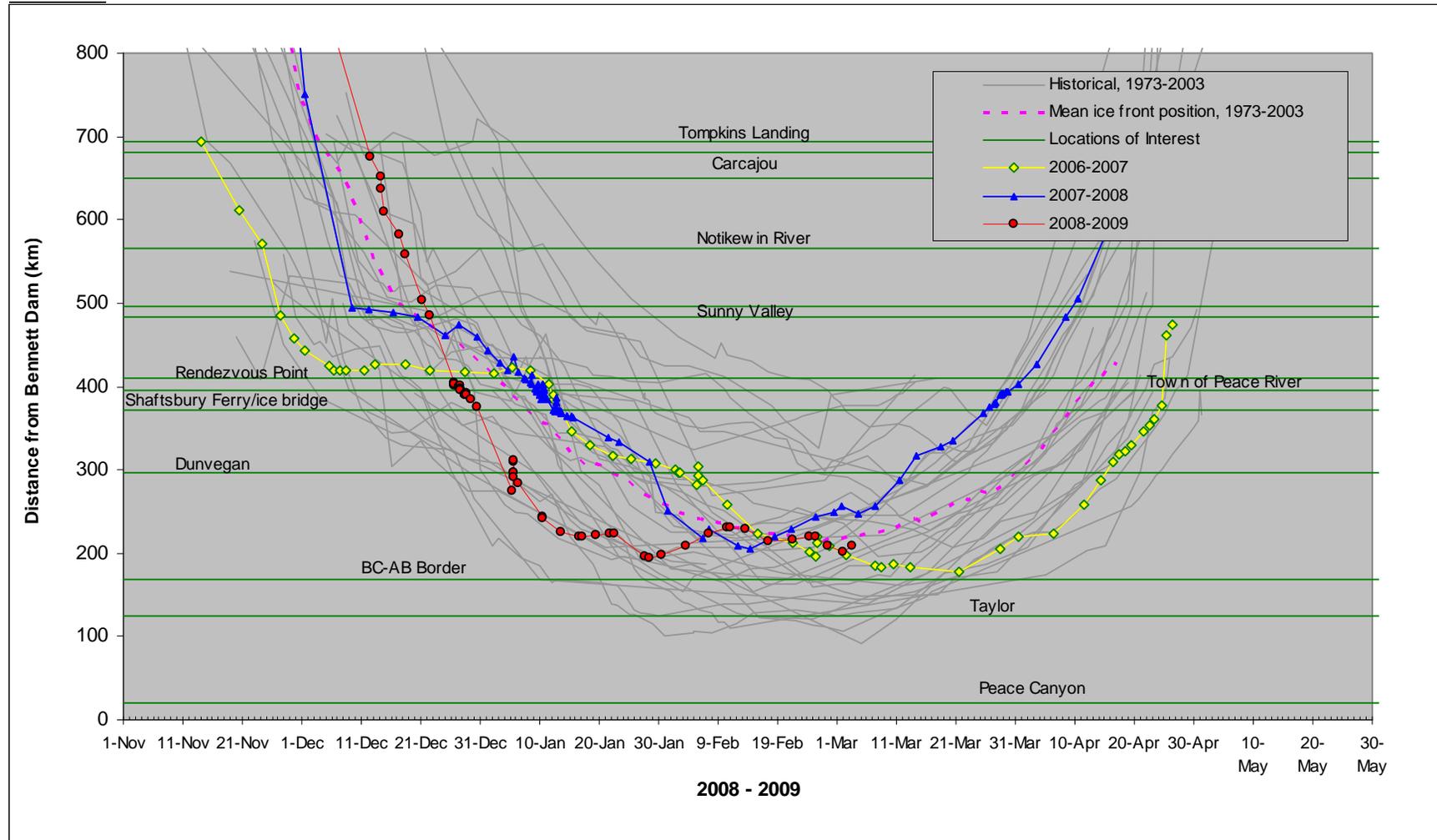


Start of 2 km lead at km 217. The lead was not present on the previous flight.

Environment Canada Temperatures (°C)			
		Fort St. John	Town of Peace River
Observed:		Max/Min	Max/Min
Fri	27-Feb-09	-8.6 / -21.6	-9.1 / -26.5
Sat	28-Feb-09	-12.8 / -19.4	-11.9 / -25.5
Sun	01-Mar-09	-6.6 / -19.6	-3.8 / -21.4
Mon	02-Mar-09	-2.3 / -9.1	-1.8 / -14.4
Tue	03-Mar-09	-4.8 / -15	-3.9 / -14.3
Forecast:			
Wed	04-Mar-09	-8 / -13	-6 / -13
Thr	05-Mar-09	-13 / -20	-13 / -18
Fri	06-Mar-09	-3 / -18	-6 / -24
Sat	07-Mar-09	-4 / -7	-1 / -11
Sun	08-Mar-09	-15 / -19	-14 / -18
Mon	09-Mar-09	-11 / -24	-11 / -22
Tue	10-Mar-09	-6 / -16	-4 / -17
Normal Max/Min		-2 / -11	-2 / -13

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Ice Front



The next ice observation flight is scheduled for Friday, March 6, 2009.