

# BC HYDRO OPERATIONS - ICE OBSERVATION REPORT #7

**Flight: Tuesday January 13, 2009**

**Report: January 14, 2009**

**Report by Kerry Paslawski 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.

On January 10, the thermal ice thickness in excess of 0.4 metres was measured upstream of the Town of Peace River. This ice thickness is deemed sufficient enough to protect the Town from secondary consolidations. This allowed BC Hydro to return to normal operations, and a slow ramp of flow over three days commenced on Sunday, January 11<sup>th</sup>.

## **Flight Observations by Kerry Paslawski**

A flight observation was conducted out of the Beaverlodge Airport on Saturday January 10, 2009. Air temperature at Clayurst Bridge and Dunvegan was -13° C. The weather was cloudy.

## **Ice Observations**

Location of the Ice Front: The ice front had advanced 18.3 km since the last observation on Jan 10 and was located at **km 224.7 on Jan 13, 2009 14:29 MST** at the upstream end of Many Islands. This was approximately 71 km upstream of Dunvegan and about 61 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 5.8 km/day.

## **Detailed Observations:**

km 172	- frazil ice pan surface concentration 5% to 10%
km 186	- frazil ice pan surface concentration 10%
km 202	- frazil ice pan surface concentration 20% - some released anchor ice
km 210	- frazil ice pan surface concentration 15%
km 212	- frazil ice pan surface concentration 20% - extent of backwater at 14:32
km 216	- frazil ice pan surface concentration 30%
km 218	- frazil ice pan surface concentration 40%
km 222	- frazil ice pan surface concentration 50%
km 223	- frazil ice pan surface concentration 80%
km 223.5	- frazil ice pan surface concentration 100% - extruding ice rafts
km 223.5 to 224.7	- rafts with 30 to 50% concentrations
km 224.7	- ice front at 14:29 MST
km 224.7 to 235.5	- ice cover is juxtaposed
km 228	- numerous open leads in shallow areas
km 235.5 to 236.5	- consolidated
km 236.5 to 238.4	- 1.9 km open lead
km 239 to 242	- juxtaposed with open voids
km 242 to 243.5	- slightly consolidated in main channel only, open voids in other channels
km 243.5 to 246	- juxtaposed with rafts
km 247	- small consolidation
km 249	- small consolidation
km 250	- small consolidation
km 252	- ice is the same as the Jan 10 observational flight



Looking upstream at km 223 where surface ice concentration changes from 50 to 80 to 100%.



Ice extruding at km 223. Flow is right to left.



Extruded rafts arriving at ice front at km 224.7 at 14:29 MST on January 13, 2009. Flow is left to right.



Looking upstream at 1.9 km open lead between km 236.5 and 238.4.



Downstream end of open lead km 238.4. Frazil slush from upstream is accumulating.



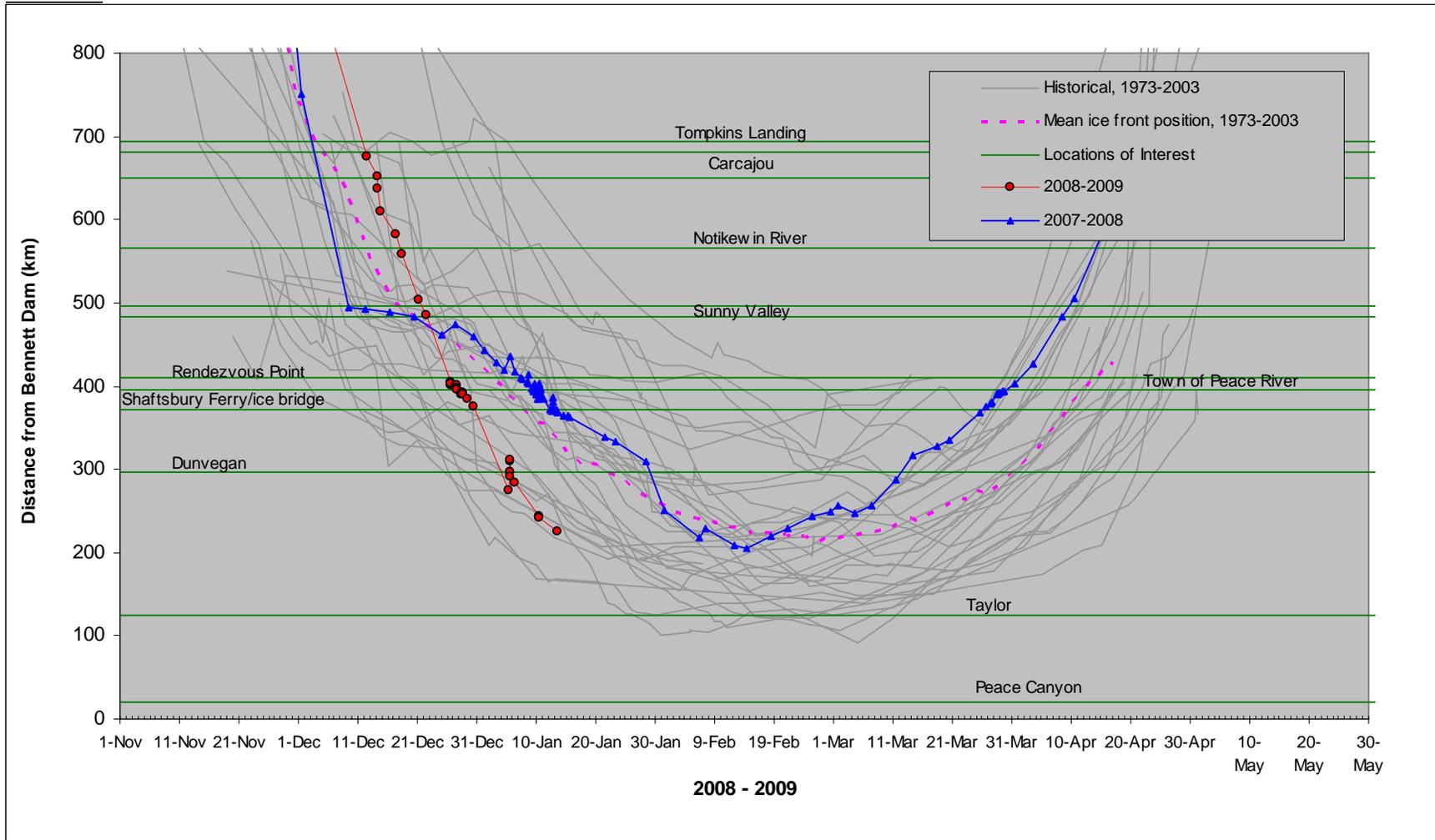
Toe of small consolidation at km 247. Flow direction is left to right

Environment Canada Forecast Temperatures ( °C )			
		Fort St. John	Town of Peace River
		Max/Min	Max/Min
Tue	13-Jan-09	-2.9 / -20.1	-13.4 / -19.7
Wed	14-Jan-09	-6 / -17	-11 / -20
Thr	15-Jan-09	4 / 0	0 / -7
Fri	16-Jan-09	3 / -3	3 / -1
Sat	17-Jan-09	6 / 3	4 / 0
Sun	18-Jan-09	10 / 5	3 / -4
<b>Normal Max/Min</b>		<b>-10 / -19</b>	<b>-10 / -21</b>

Tue = observed values

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# Ice Front



The next ice observation flight is scheduled for Friday, January 16, 2009.