

## Northern Pulp Effluent Leak NSE test results - samples taken June 11, 2014

The following test data was taken on June 11, 2014, after an effluent leak at Northern Pulp. The wetlands were the most affected by the leak, and the evidence shows that materials likely did not reach Melmerby Beach and other points downstream from where the leak occurred **Definitions:** pg is picogram (one trillionth of a gram); ug is microgram (one millionth of a gram), and mg is milligram. ND = not detected. Dioxins and Furans (below the blue line) were compared to federal pulp and paper effluent regulations (PPER). Exceedances to the operating approval (blue) will be dealt with in accordance with the department's compliance model. It should be noted that despite BOD and TSS exceeding approval limits, results of toxicity testing determined the exceedances were non toxic. Dioxins and Furans were compared to PPER exceedances (red) and fall under the jurisdiction of Environment Canada.

Parameter	SW2 - Wetland at Indian Cross Point	SW3 - East River at point of release	SW1 - Melmerby Beach	Approval Requirement	SW2- Wetland at Indian Cross Point	SW3 - East River at point of release
Biochemical Oxygen Demand (BOD)	88 mg/L	3.1 mg/L	ND	3960 kg/day	7920 kg/day*	279 kg/day*
Total Suspended Solids (TSS)	82 mg/L	65 mg/L	4.4 mg/L	4100 kg/day	7380 kg/day*	5850 kg/day*
pH	7	7.7	7.68	6 to 9		
Acute Toxicity	PASS	Lab error**	Lab error**	PASS		
Dioxins & Furans				PPER***		
2,3,7,8 - TCDD	ND	ND	ND			
1,2,3,7,8 - P <sub>5</sub> CDD	ND	ND	ND			
1,2,3,4,7,8-H <sub>6</sub> CDD	ND	ND	ND			
1,2,3,6,7,8-H <sub>6</sub> CDD	ND	ND	ND			
1,2,3,7,8,9-H <sub>6</sub> CDD	ND	ND	ND			
1,2,3,4,6,7,8-H <sub>7</sub> CDD	17.5 pg/L	1.69 pg/L	ND			
OCDD	304 pg/L	21.0 pg/L	3.93 pg/L			
TCDD	ND	ND	ND			
P <sub>5</sub> CDD	ND	ND	ND			
H <sub>6</sub> CDD	6.37 pg/L	ND	ND			
H <sub>7</sub> CDD	43.8 pg/L	3.32 pg/L	ND			

Parameter	SW2 - Wetland at Indian Cross Point	SW3 - East River at point of release	SW1 - Melmerby Beach	Approval Requirement	SW2- Wetland at Indian Cross Point	SW3 - East River at point of release
2,3,7,8-TCDF	ND	ND	ND			
Dioxins & Furans				PPER		
1,2,3,7,8-P <sub>5</sub> CDF	ND	ND	ND			
1,2,3,4,7,8-H <sub>6</sub> CDF	ND	ND	ND			
1,2,3,6,7,8-H <sub>6</sub> CDF	ND	ND	ND			
2,3,4,6,7,8-H <sub>6</sub> CDF	ND	ND	ND			
1,2,3,7,8,9-H <sub>6</sub> CDF	ND	ND	ND			
1,2,3,4,6,7,8-H <sub>7</sub> CDF	ND	ND	ND			
1,2,3,4,7,8,9-H <sub>7</sub> CDF	ND	ND	ND			
TCDF	ND	ND	ND			
P <sub>5</sub> CDF	ND	ND	ND			
H <sub>6</sub> CDF	ND	ND	ND			
H <sub>7</sub> CDF	3.58 pg/L	ND	ND			

\*Calculated based on 90,000 cubic metres per day flow

\*\*Lab used fresh water rather than marine species for testing. Samples had passed the acceptable hold period by time the lab discovered the error, however based on the fact samples at SW2 have higher concentrations of effluent than those at SW1 or SW3, it can be concluded that the effluent would have a reduced impact once diluted.

\*\*\*PPER - Federal Pulp and Paper Effluent Regulations require dioxins and furans to be non-detectable. This is enforced by Environment Canada.