



2021-10-12 MBK Baker Lake Sheen

GN reference #: 2021-438

Please find the following information as a follow up to the Spill report submitted October 12, 2021 by Agnico Eagle Meadowbank division. This detailed report is submitted to the Inspector in compliance with the conditions under the Nunavut Water Board License 2AM-MEA1530, Part H, Item 8c and subsection 38(7) of the Fisheries Act.

Spill Description

This spill was declared by Agnico Eagle by due diligence, as cause and ownership of the spill remains undetermined. On October 12th, during a ship-to-shore fuel transfer, a visible sheen was observed in Baker Lake in proximity to the MT Kivalliq W. vessel. Due to winds and current, the patch was being transported South-West. Within 3 hours of the spill being detected, the patch had thinned-out, and was being carried far away. On October 13th, boats and a helicopter were deployed to try and locate the sheen patch and were unsuccessful. During the clean-up operations on the 12th, no fuel could be smelled. Following water samples and petroleum test strips, no fuel or petroleum product were detected in Baker Lake. Despite various analysis, the product remains unknown, and as a result, quantity of spilled material is undetermined.

Spill location: 64 18'05"N 95 57'10"W on IOL. The impacted waterbody is Baker Lake.



Figure 1. Sheen observed near Kivalliq W. vessel (October 12th)

Cause of Spill

Despite thorough investigation, no cause could be identified. All fuel transfer lines were inspected, as well as the surrounding of the boat and the shoreline, none of which appeared to be the source.

Remediation Actions

Following the detection of the spill, the Emergency Response Plan was initiated. The ship-to-shore fuel transfer was stopped, and thorough inspection of all lines and areas surrounding the boat was performed. A clean-up operation was launched, by using U-shape petroleum absorbent booms pulled by boats. None of the used material absorbed the apparent sheen. Environmental water quality samples were taken for various parameters directly in the sheen, through an external accredited laboratory as well as an acute lethality of effluent to *Daphnia magna* and *Rainbow Trout* sample. Results of the acute lethality testing demonstrated no toxicity to *Daphnia magna* nor *Rainbow Trout*. Results of the water analysis are available in Table 1. Ship-to-shore fuel transfers resumed following thorough start-up procedure in daylight on October 13th, once the ship was determined not to have been leaking fuel.

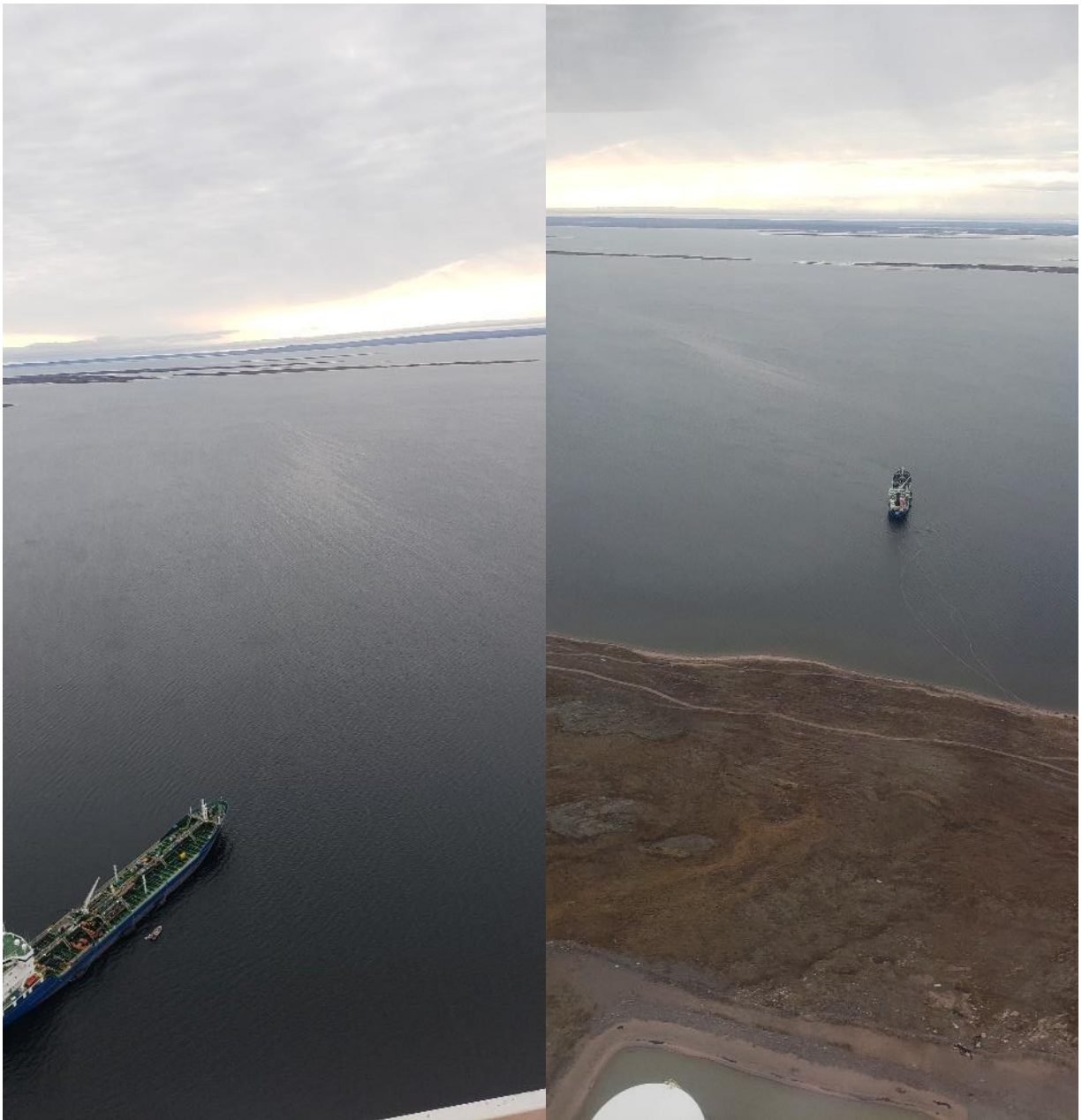


Figure 2. Visible sheen patch, 3 hours after being observed (October 12th)

Table 1. Water Quality Results

Sample date		10/12/2021
Sample name		BL-Sheen
Parameter	Unit	
WQ01- Field Measured		
Temperature	°C	4.7
pH	pH units	7.75
Conductivity	uS/cm	22.7
Turbidity	NTU	1.31
WQ02- Conventional Parameters		
TSS	mg/L	2
WQ04- Nutrients and Chlorophyll a		
Ammonia (NH3)	mg/L	< 0.061
Ammonia Nitrogen	mg/L	< 0.050
WQ05- General Organics		
Total oil and grease	mg/L	< 0.50
WQ06- Total Metals		
Arsenic	mg/L	0.00011
Copper	mg/L	< 0.00050
Lead	mg/L	< 0.00020
Nickel	mg/L	< 0.0010
Zinc	mg/L	< 0.0050
WQ10- Volatile Organics		
Benzene	mg/L	< 0.00020
Ethylbenzene	mg/L	< 0.00020
Toluene	mg/L	< 0.00020
Xylenes	mg/L	< 0.00040
m,p-Xylenes	mg/L	< 0.00040
o-Xylene	mg/L	< 0.00020

Closure

We trust that the above details described appropriately the spill incident that occurred near the MT Kivalliq W. vessel on October 12, 2021 and associated activities. Please contact the undersigned should you have any questions.



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