



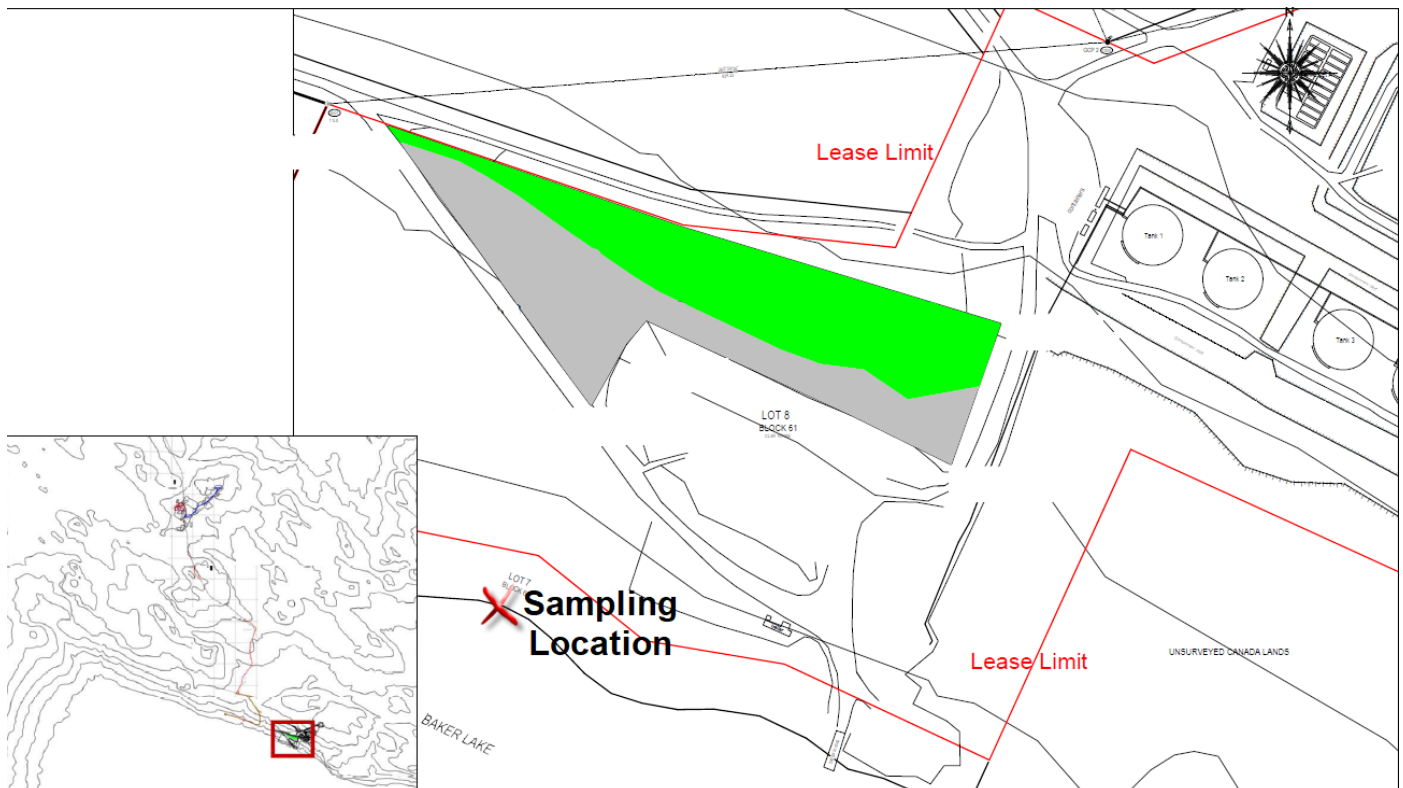
## 2021-06-25 MBK Baker Lake TSS

GN reference #: 2021-264

Please find the following information as a follow up to the spill report, #2021-264, submitted June 25, 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.

### Description of the event

As approved by the Baker Lake Hamlet under permit No. 603-001, earthworks were underway at the Agnico Eagle spud barge to increase the shipping container storage area. This construction was contracted to Arctic Fuel Services, with minimal Agnico Eagle supervision due to the COVID pandemic regulations. The overburden material being excavating was fully saturated due to the rain of the previous days, in addition to surface water runoff from snow melt. This caused an apparent plume of TSS into Baker Lake. The plume was first noticed by Agnico's environmental technician during a routine weekly inspection of the Baker Lake Tank farm and Marshalling Area. The following layout present the location of construction.



Construction Layout of Planned Excavation highlighted in green. Grey area represents the cut line.

The pad extension works were immediately stopped and sampling was performed. Internal TSS sampling results, taken at the time of the event about 1 meter into the lake where visible plume was noted, indicated 335 mg/L of TSS. Upon return to Baker Lake with the appropriate sampling material the following day (June 26<sup>th</sup>), various parameters were sampled, at the same location as the internal sample, through an external accredited laboratory (TSS, metals, oil & grease, C10-C50 hydrocarbons) as well as an acute lethality of effluent to *Daphnia magna* and *Rainbow Trout* sample. The result of these analysis showed no result of concern, as all tested parameters, with the exception of TSS values of 3 mg/L, are within the water quality baseline range of Baker Lake, and no toxicity to *Daphnia Magna* nor *Rainbow Trout*.



View of the shore of Baker Lake – June 25, 2021

Spill location: 64° 18'20.37" 95° 57'22.55". The impacted waterbody is Baker Lake.

### Cause of the event

Fully saturated overburden excavation, combined with surface runoff from rain and snowmelt, caused turbid water runoff into Baker Lake. This TSS event was caused by the lack of temporary mitigation measures to minimize the migration of TSS during the construction works.

### Remediation Actions

Even though the plume of TSS was no longer visible in the lake on June 26<sup>th</sup>, construction activities were put on hold until July 1<sup>st</sup>, at which point mitigation measures were put in place and combined with reduced runoff. These measures were deemed sufficient to resume construction activities. Amongst the mitigation measures



that were put in place, wood-chip socks and silt fence were deployed on June 26<sup>th</sup> to control sediment transportation, as well as a small trench to divert water towards these control measures.

Besides, internal samples were immediately collected on June 25<sup>th</sup>, and external sample were collected the morning of June 26<sup>th</sup>. Water quality monitoring was performed on a weekly basis thereafter to ensure sustained normal water quality, and stopped as no lasting water quality impacts on the shoreline could be identified. As part of the Core Receiving Environmental Monitoring Program, water chemistry and phytoplankton community sampling will occur in Baker Lake over the course of the summer. Following resumption of construction activities, environmental inspections of the area were increased until July 16<sup>th</sup>.



Implemented Mitigation Measures – June 26, 2021



Baker Lake Shore – July 2, 2021

## Corrective Measures

Following this event, awareness to put in place better TSS control measures has been reinforced. This increased awareness will now be integrated under Meadowbank's Management of Change (MOC) process for all new construction. This will help ensure new projects and additions performed at the Meadowbank Complex implement preventive actions to control water runoff and sediment transportation.

Lessons learned from this event will be shared with Agnico's other Nunavut division (Meliadine & Hope Bay).

## Closure

We trust that the above details described appropriately the event that occurred at the Baker Lake Marshalling Area on June 25<sup>th</sup>, 2021 and the remediation activities. Please contact the undersigned should you have any questions.

**Tom Thomson** | Environment Coordinator

[tom.thomson@agnicoeagle.com](mailto:tom.thomson@agnicoeagle.com) | Direct 819.759.3555 x4606744 |

Agnico Eagle Mines Limited - Meadowbank Division, Suite 540 - Baker Lake, Nunavut, Canada X0C 0A0

[agnicoeagle.com](http://agnicoeagle.com)    

