

# Memorandum

**To:** Kevin Eppers, Hecla Yukon

**From:** Bryanna Gonari, Ensero Solutions Canada, Inc.

**CC:** Ryan Herbert, Ensero Solutions Canada, Inc.

**Date:** July 14, 2023

**Re:** Dust and Noise Monitoring Results Memo – May 2023

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## 1 INTRODUCTION

This report summarizes noise and dust monitoring levels recorded during May 2023, in accordance with the Variation Notice issued by the Government of Yukon Compliance Monitoring and Inspections (CMI) Branch on May 12, 2023 (YG, 2023). The Variation Notice allows for a temporary variance to QML-0009 to permit the use of a portable crusher in lieu of the permanent crusher, while the permanent crusher is under repairs until September 30, 2023. The following sections outline results of dust and noise monitoring for May 2023 (Section 2 and 3, respectively) and comparison to adaptive management initiative (AMI) triggers.

## 2 DUST MONITORING RESULTS

Air quality monitoring is conducted at three stations within the Keno Hill Silver District (KHSD), with locations of each station summarized below:

- TSP-1: Located on the north side of Keno City, adjacent to the Onek 400 water treatment plant.
- TSP-2: Located near the dry stack tailings facility phase 2 expansion area.
- TSP-3: Located on the west side of Keno City.

Dust monitoring results for May 2023 are summarized in Table 2-1, with no trigger of the AMIs observed in May. Dust monitoring results at all stations remained below the Yukon Ambient Air Quality Standards (YAAQS) for total suspended particulates (TSP), fine particulate matter (PM<sub>2.5</sub>), and coarse particulate matter (PM<sub>10</sub>) and below the Ontario Ambient Air Quality Criteria (OAAQC) for metals outlined in the Variation Notice (i.e., arsenic, cadmium, copper, lead, manganese, and silver; YG, 2023). Additionally, an increasing trend towards YAAQS or OAAQC was not observed at any station.

**Table 2-1: Dust Monitoring Results for May 2023**

Station	Parameter	TSP	PM <sub>10</sub>	PM <sub>2.5</sub>	As	Cd	Cu	Pb	Mn	Ag
	Units (24 hr Concentration)	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>
	Standard <sup>1</sup>	120	50	27	0.3	0.025	50	0.5	0.4	1
TSP-1	18-May-2023	-	-	2.8	-	-	-	-	-	-
	19-May-2023	-	-	2.8	-	-	-	-	-	-
	20-May-2023	-	-	2.8	-	-	-	-	-	-
	26-May-2023	-	8.1	-	-	-	-	-	-	-
	27-May-2023	-	21	-	-	-	-	-	-	-
	28-May-2023	-	2.8	-	-	-	-	-	-	-
	29-May-2023	-	-	-	0.00035	0.00007	0.012	0.00233	0.003	0.00014
	30-May-2023	-	-	-	0.00035	0.00007	0.012	0.00072	0.001	0.00014
	31-May-2023	-	-	-	0.00035	0.00029	0.011	0.00136	0.001	0.00014
TSP-2	18-May-2023	-	20.7	-	-	-	-	-	-	-
	19-May-2023	-	39	-	-	-	-	-	-	-
	20-May-2023	-	20.6	-	-	-	-	-	-	-
	26-May-2023	-	-	2.8	-	-	-	-	-	-
	27-May-2023	-	-	2.8	-	-	-	-	-	-

<sup>1</sup> Standards for total suspended particulates (TSP), fine particulate matter (PM<sub>2.5</sub>), and coarse particulate matter (PM<sub>10</sub>) are Yukon Ambient Air Quality Standards. Standards for metals are Ontario Ambient Air Quality Criteria.

### 3 NOISE MONITORING RESULTS

Noise monitoring is conducted at five stations within the KHSD, with locations of each station summarized below:

- R01: Located in an east end residence, north side of Lightning Creek Road.
- R02: Located at a residence on the east side of Sign Post Road.
- R03: Located in the town center, north from the Snack Bar.
- R04: Located at a residence on the west side of Wernecke Road.
- R05: Located at a residence approximately 850 m from the District Mill.

Noise monitoring results for May 2023 are summarized in Table 3-1 and were compared to baseline data to determine if an increase in noise from baseline was observed (15%, 20%, or 25% increase for low, moderate, high AMI action level triggers, respectively). The baseline period for noise is defined as the period of time where active mining was not occurring (prior to May 2018, November 2018 to July 2020). In May, noise was measured at stations R01 and R04 with no exceedance of baseline noise levels noted. However, noise at station R04 exceeded the high action level trigger (1 sample exceeding 38 dB) with a reading of 40.4 dB on May 26, 2023. When comparing meteorological data for the same time of year previously (May 14, 2022), temperature was higher in the KHSD in 2023 (9°C in 2023 vs. 5°C in 2022). As noise travels faster through warmer air (warmer air is less dense), the higher temperatures observed in the KHSD may have influenced higher noise measurements at R04 in May. Additionally,

no noise complaints were received in May 2023. Noise at this station will continue to be monitored to determine if noise is consistent or if an increasing trend is observed.

**Table 3-1: Noise Monitoring Results for May 2023**

Station	Date	LAeq (dB)
R01	16-May-23	35.6
R04	26-May-23	40.4

*LAeq – equivalent continuous noise level*

#### **4 REFERENCES**

YG (Yukon Government, Compliance Monitoring & Inspections Branch). (2023). *Variation Notice, QML-0009*. May 12, 2023.