

June 29, 2024

Impact Assessment Agency of Canada
525 Superior Street
Victoria, BC
V8V 1T7

Additional January 1 – March 31, 2024 Air Quality Data

Dear Sir or Madam:

In addition to the Blackwater Gold Ltd. (BW Gold) “2023 BW Gold Annual PE-110650 Report” please find results for January 1 to March 31, 2024, monitoring in this memorandum to align with the reporting period defined in the Federal Decision Statement Issued under Section 54 of the *Canadian Environmental Assessment Act, 2012*.

1.38 “Reporting year means April 1 of a calendar year through March 31 of the subsequent calendar year.”

1.0 PARTICULATE MATTER MONITORING

BW Gold personnel collected particulate matter samples in general accordance with ENV’s *British Columbia Field Sampling Manual (2020)* and samples were scheduled following the National Air Pollution Surveillance Program (NAPS).

Particulate matter (PM) was collected for PM <10-microns (PM₁₀) and PM <2.5-micron (PM_{2.5}) mass concentration on a 47 mm filter contained in a single-action filter change mechanism. The filters are prepped by ALS Environmental Laboratory (ALS) and returned to BW Gold for deployment. BW Gold loads the cassette filters into the Thermo Scientific Partisol FRM Model 2025iD PM (Partisol), recording individual filter numbers and routine field notes (date, weather, time). The Partisol is set to collect samples over a 24-hour period at a target flow rate of 1m³/hr. All samples are stored and transported under chain of custody to ALS for analysis.

The particulate matter results were compared against the following air quality standards and objectives:

- British Columbia Ambient Air Quality Objectives (BCAAQO); and
- Canadian Ambient Air Quality Standards (CAAQS);

The PM results are summarized in Table 1 2024 Q1 Particulate Matter Results.

Table 1 2024 Q1 Particulate Matter Results

Client Sample ID	Date Sampled	Particulate, PM _{2.5}	Particulate, PM ₁₀
BCAAQO		25 ^a	50
CAAQS		27 ^b	-
	Units	µg/m³	µg/m³
-	1-Jan-24	M	M
-	7-Jan-24	M	M
-	13-Jan-24	M	M
Partisol1	14-Jan-24	< 2.3	< 3.0
Partisol1	19-Jan-24	2.6	< 3.0
Partisol1	25-Jan-24	< 2.3	< 3.0
Partisol1	31-Jan-24	< 2.3	< 3.0
Partisol1	6-Feb-24	3.2	6.1
Partisol1	12-Feb-24	< 2.3	< 3.0
Partisol1	18-Feb-24	10.2	19.9
Partisol1	24-Feb-24	< 2.3	< 3.0
Partisol1	1-Mar-24	4.0	4.0
Partisol1	7-Mar-24	< 2.3	< 3.0
Partisol1	13-Mar-24	< 2.3	< 3.0
Partisol1	19-Mar-24	2.9	7.7
Partisol1	25-Mar-24	< 2.3	< 3.0
-	31-Mar-24	M	M

Notes:

All units are in µg/m³ unless otherwise specified.

Sources: British Columbia Ministry of Environment and Climate Change Strategy (BCAAQO, 2019) and Canadian Ambient Air Quality Standards (CAAQS, 2020)

a – Achieved based on annual 98th percentile value.

b – Achieved based on 98th percentile of daily average, averaged over three consecutive years.

M – Missed sampling date.

Based on the analytical results no samples exceed any of the applicable provincial or federal objectives or standards. The greatest PM_{2.5} concentration 19.9 µg/m³ and the greatest PM₁₀ concentration was 10.2 µg/m³ were observed on February 18, 2024.

1.1 PE110650 NON-COMPLIANCE EVENT

During the review of Blackwater Gold Ltd. (BW Gold) “2023 BW Gold Annual PE-110650 Report”, it was identified a non-compliance report for the 2023 PM_{2.5} annual average exceeding BCAAQO was not provided to British Columbia Ministry of Environment and Climate Change Strategy (ENV). BW Gold PM_{2.5} annual average for 2023 was 15.4 µg/m³ and the BCAAQ objective was 8 µg/m³. The non-compliance report was submitted to ENV on June 9, 2024.

2.0 NITROGEN DIOXIDE AND SULFUR DIOXIDE MONITORING

BW Gold personnel collected particulate matter samples in general accordance with ENV's *British Columbia Field Sampling Manual (2020)*.

A passive air sampling system (PASS) is used on site to monitor nitrogen dioxide (NO₂) and sulfur dioxide (SO₂). A radiello is deployed weekly capable of sampling gaseous compounds in ambient air. During the radiello's deploy and retrieval, approximately every 7-days, a visual inspection is completed on the structure of the apparatus checking for abnormalities and obstructions to the radiello. The radiello's are a one-time use sorbet tube that is supplied by ALS. Table 2 below provides the analytical results from January 1 to March 31st, 2024.

Table 2 2024 Q1 Radiello Results

Client Sample ID	Date Sampled	NO ₂	SO ₂
BCAAQO – Annual		17	5
CAAQS – Annual		17	-
Units		ppbv	ppbv
Rad1	2-Jan-24	2.0	< 1
Rad1	9-Jan-24	2.6	< 1
Rad1	16-Jan-24	3.2	< 1
Rad1	23-Jan-24	4.2	< 1
Rad1	30-Jan-24	1.8	< 1
Rad1	7-Feb-24	3.4	< 1
Rad1	13-Feb-24	3.1	< 1
Rad1	19-Feb-24	1.6	< 1
Rad1	5-Mar-24	6.0	0.37
Rad1	12-Mar-24	3.9	< 1
Rad1	19-Mar-24	5.8	< 1
Rad1	26-Mar-24	< 1	< 1

Notes:

All units are in ppbv.

Sources: British Columbia Ministry of Environment and Climate Change Strategy (BCAAQO 2021), Canadian Ambient Air Quality Standards (CAAQS, 2020)

The greatest SO₂ and NO₂ concentration 0.37ppbv and 6.0ppbv, respectively, were observed on March 5, 2024. As radiello samples are collected over a 7-day period, comparison to the CAAQS hourly NO₂ and SO₂ concentrations is not comparable, and the annual average is used for comparison.

2.1 RADIELLO QUALITY ASSURANCE AND QUALITY CONTROL

The quality assurance and quality control (QA/QC) program continues to follow the Air Quality Fugitive Dust Management Plan to confirm representative samples are collected and representative analytical data are reported by the laboratory. BWG personnel implement the following QAQC measures:

- Recording field notes during the retrieval and deployment of the radiello;
- Submitting one field duplicate for laboratory analysis for 10% of samples collected.

Samples submitted to ALS are subjected to laboratory QA/QC procedures (i.e., method blanks, laboratory control samples, lab duplicates, surrogate recoveries, and reference materials), which are documented in the laboratory Certificate of Analysis (COA).

Table 3 below provides the Radiello QA/QC results table.

Table 3 2024 Q1 Radiello QA/QC Results

Sample ID	Lowest Detection Limit	RAD1	RAD1- DUP1	Relative Percent Difference
Sample Date		February 19, 2024		
Nitrogen Dioxide (ppb)	1	1.6	3.3	NA
Sulphur Dioxide (ppb)	1	<0.23	<0.23	NC

Notes:

NC – Not calculable (due to concentrations less than five times the detection limit)

NA – Not Applicable

3.0 CARBON MONOXIDE MONITORING

BW Gold personnel conduct Carbon Monoxide (CO) monitoring using an MSA Altair 4XR gas monitor, which undergoes auto calibration before each use. BW Gold monitors at least 3 locations susceptible to high CO emissions, waiting 45-60 seconds for readings to stabilize before recording measurements. Locations are chosen away from running trucks or gas exhausts to ensure accuracy. Table 4 below presents the Q1 CO Monitoring Results.

Table 4 2024 Q1 CO Monitoring Results

Monitoring Locations	Date Monitored	CO Monitoring Result
BCAAQO (1-hour)		13
BCAAQO (8-hour)		5
Units		PPM
Maintenance Laydown	January 6, 2024	0
HEAP Pad		0
Plant Site Fuel Station		0
Warehouse Tent	January 13, 2024	0

Monitoring Locations	Date Monitored	CO Monitoring Result
BCAAQO (1-hour)		13
BCAAQO (8-hour)		5
	Units	PPM
KODE Pad	January 13, 2024	0
Exploration Camp		0
Plant Site	January 19, 2024	0
Maintenance Laydown		0
KODE Pad		0
HEAP PAD		0
Main Camp by Old Fueling Station		1
A-Trail Laydown Fuel Station Area	January 28, 2024	0
Sedgman Construction Area and Warehouse		0
Bird Norseman Tent/ Plant Site		0
Plant Site		0
Plant Site Warehouse		0
Main Camp Entrance		0
Behind A-dorm / Waste Stream		0
Construction Camp		0
KODE Pad		0
Site Service Shop		0
Security Gate		0
HEAP Pad		0
Mobile Maintenance		0
Davidson Creek Drop Structure		0
Maintenance Laydown		February 3, 2024
Sedgman Laydown	0	
Earthworks Head Quarters	0	
Plant Site	February 10, 2024	0
HEAP Pad		0
13 km Earthworks		0
Maintenance Laydown	March 2, 2024	0
Site Service Shop		0
HEAP Pad		0



Blackwater Mine

Notes:

All units are in ppm unless otherwise specified.

Sources: British Columbia Ministry of Environment and Climate Change Strategy (BCAAQO, 2019).

Although not directly comparable to the BCAAQO which require either 1-hour or 8-hour averages, none of the CO monitoring events exceeded the value of the 1-hour BCAAQO in 2024. The greatest CO concentration was 1 ppm observed at Main Camp by Old Fueling Station on January 19, 2024.

4.0 DUSTFALL MONITORING

No dustfall monitoring occurred between January 1 and March 31, 2024. Per the Country Foods Monitoring Plan (CFMP), this monitoring occurs during the summer months.

5.0 SUMMARY AND CONCLUSIONS

Based on the sampling and analytical findings described above no exceedances of BCAAQO and CAAQS occurred between January 1 and March 31, 2024.