B(a)P Monitoring Quarterly Written Summary Report Q4 2022.

Rain Carbon Canada Inc.

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1.0 INTRODUCTION

Rain Carbon Canada Inc. (Rain Carbon) is required to prepare quarterly written summary reports of benzo(a)pyrene [B(a)P] ambient air monitoring measurements for the coal tar and petroleum material processing plant located at 725 Strathearne Avenue N., Hamilton, Ontario (the Facility). This report summarizes the measurements taken at the Facility during the fourth quarter of 2022 (October to December 2022) as part of the Rain Carbon ambient air monitoring program.

For October to December 2022, the ambient air monitoring measurements were taken in accordance with the Monitoring Plan Amendment, which was approved by the MECP on February 12, 2019.

2.0 B(A)P MONITORING

The monitoring program for B(a)P consists of setting up a polyurethane foam (PUF) polyaromatic hydrocarbon (PAH) sampling system at five locations at the Facility. Samples are collected over a 24-hour period. Rotek Environmental Inc. personnel evaluate air quality data acquisition and instrument performance. The laboratory analysis was conducted by Bureau Veritas Laboratories, which is ISO17025 compliant and accredited. Additional details on the locations of the monitoring stations are provided in the monthly Ambient Air Quality Monitoring Reports (AAMRs) prepared for monitoring events during October to December 2022.

The B(a)P measurements from October, November 2022, and December 2022 are summarized in Table **1**. Copies of the laboratory analysis reports may be found in the AAMRs for October, November and December 2022.

Table 1: Summary of the October, November and December 2022 B(a)P Measurements.

Note: 24-hour URT – 0.005 µg/m³ B(a)P | Measured Level Threshold – 0.00430 µg/m³ B(a)P

Date in 2022	Measured B(a)P 24-Hr Concentration [µg/m³]					
	East	North	Old West	New West	South	HAMN STN29164
October 8	0.00086	0.00064	<0.00030	<0.00029	<0.00032	-
October 20	0.00087	0.00347	<0.00030	<0.00031	<0.00032	-
November 1	0.00250	0.00072	0.00084	<0.00031	<0.00032	-
November 13	0.00168	<0.00031	<0.00030	<0.00031	<0.00031	-
November 25	0.00206	0.00049	0.00047	<0.00030	<0.00031	-
December 7	0.00125	0.00088	0.00037	**0.00591**	0.00143	<0.00031
December 19	**0.01530**	0.00038	<0.00029	<0.00030	<0.00030	<0.00031
December 31	0.00114	0.00046	<0.00030	<0.00031	<0.00031	0.00082

*The detection limit ranges from < 0.00030 µg/m^3 to < 0.00032 µg/m^3.

2.1 B(a)P Measurements Comparison to MECP Thresholds.

During the fourth quarter of 2022, there were two monitors that measured B(a)P concentrations above the 24-hour Upper Risk Threshold (URT) of 0.0050 µg/m^3 which occurred during the December 7 and 19, 2022 monitoring events at the **new west and east monitors** respectively.

The MECP also included a Measured Level Threshold in the B(a)P site specific standard to evaluate progress on the B(a)P action plan. This level, set by the MECP, is not directly related to the ESDM report results.

The two measurements at the new west and east monitors during the December 7 and 19, 2022 monitoring events were both above the 0.00430 µg/m^3 Measured Level Threshold.

These two AML measurements triggered the preparation of the December 2022 AMLR. Rain Carbon prepared these reports that included information on the causes of measurement being above the Measured Level threshold and the prevention of future occurrences.

The December 7, 2022, New West Monitor Above Measured Level (AML) B(a)P result of 0.00591 µg/m^3

The New West Monitor Above Measured Level (AML) B(a)P result of **0.00591 µg/m^3** was statistically determined to be a common cause variation event as the **AML result lies below the mean + 2 sigma** (**0.00726 µg/m^3**) new west monitor statistical upper control limit.

Therefore, there was no specific assignable cause for the new west monitor B(a)P AML result.

The December 19, 2022, East Monitor Above Measured Level (AML) B(a)P result of 0.0153 µg/m^3

The East Monitor Above Measured Level (AML) B(a)P result of **0.0153 µg/m^3** was statistically determined with greater than a 99 % confidence level to be a special cause variation event as the **AML result lies significantly above the mean + 3 sigma (0.00805 µg/m^3)** east monitor statistical upper control limit.

The likely assignable cause were small quantities of coal tar pitch dust and coal tar pitch contaminated soil being carried by the westerly wind from the coal tar pitch ground excavation at HSPP to the east monitoring station that was in progress during the day on Monday December 19, 2022.

A new procedure is being developed that covers the abatement of possible fugitive emissions associated with activities such as excavations which will address the root cause of the AML result at the east monitor on December 19, 2022.

3.0 CONCLUSIONS.

This report summarizes the measurements taken at the facility during the fourth quarter of 2022 (October to December 2022) as per the plan and the conditions of the Site-Specific Standard (SSS) approvals for B(a)P (no. 201-17-rv0) issued to the Facility on November 21, 2017.

During the fourth quarter of 2022, there were two monitors that measured B(a)P concentrations above the 24-hour Upper Risk Threshold (URT) of 0.0050 $\mu g/m^3$ which occurred during the December 7 and 19, 2022 monitoring events at the new west and east monitors respectively.

Signature Page

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