

Southwest Region

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July 9, 2021

Erica Carabott
Senior Compliance Manager
Clean Harbors Environmental Services Inc.
4090 Tefler Rd.
Corunna, Ontario
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To: Ms. Carabott

RE: Clean Harbors Lambton Facility Annual Ambient Air Monitoring 2020

The attached memorandum documents the Ministry's review of the 2020 Annual Report - Appendix H Ambient Air Monitoring 2020 Report prepared by ORTECH Consulting Inc. on behalf of Clean Harbors Canada Inc.

The Ministry is requesting that Clean Harbors/ORTECH review and acknowledge the Ministry's comments in the attached memo and will reflect changes in the 2020 Annual Report - Ambient Air Monitoring 2020 Report and subsequent Annual Ambient Air Monitoring Reports.

If you have any questions or require further information, please contact the undersigned officer.

Regards,



Heather Mitchell
Sr. Environmental Officer

July 9, 2021

To: Heather Mitchell, Senior Environmental Officer

From: Amanda Graham, Air Quality Analyst

Subject: Clean Harbors Environmental Services Inc. Lambton Facility Ambient Air Monitoring 2020

Regarding the Clean Harbors Annual Report, I have reviewed Appendix H "Ambient Air Monitoring 2020" prepared by Ortech. This report includes air monitoring results for TSP and metals, mercury, carbonyl and VOC samples submissions between May and September 2020. Overall, the data appears to be valid. Please see the following additional comments.

1. Section 4 of the report states that "a result of 'non-detect' was considered to have a value of zero as was done in previous reporting years". Section 2.2 of the ministry's Operations Manual for Air Quality Monitoring in Ontario (2018) states that non-detects should be reported at a concentration of half the method detection limit. The report should be revised to replace the non-detect zeros with a value of half the method detection limit. The statistics provided in Tables 11-14 should be revised accordingly.
2. Section 4 of the report states that "laboratory duplicates were considered as additional samples when calculating statistics (e.g. included in mean calculations). If a laboratory duplicate had the highest value for a component, that value was presented as the overall maximum for comparison against applicable AAQCs, standards, and limits in order to be conservative". Typically, laboratory duplicates are used to assess the precision of the sampling and analysis methods, but are not used as additional samples as this inflates the number of samples and affects statistical results including averages and percent valid data. The report has not clarified why this approach was used, and this approach is not recommended in the ministry's Operations Manual. Therefore, the reported statistics should be revised to only account for the original sample result.
3. The report notes that as a result of Moore Line station being out of service on August 19th, the Sarnia climate station near Chris Hadfield airport was used. If this occurs in the future, the ministry can provide assistance with selecting an appropriate meteorological station for data analysis.
4. The Operations Manual indicates that TSP averages should be calculated using a geometric mean rather than an arithmetic mean. Please revise these averages in Table 12 of the report.
5. Please note that the O. Reg. 419/05 24-hour standard for metallic iron is 4 µg/m³ rather than 10 µg/m³. Please revise the report accordingly.

6. The VOC mean and minimum values provided in Table 11 appear to be incorrect. Please revisit these calculations.
7. The Operations Manual states that Hi-Vol sample flow should be maintained at 40 cfm, +/- 4 cfm. This criteria was not met for the North samples on August 19th (33.31 cfm) and September 12th (33.36 cfm) and for the South sample on July 26th (44.08 cfm). As a result, these sample concentrations may be over or underestimated and results should be interpreted with caution.
8. The report should follow the requirements of an annual report as provided in the Operations Manual. Please revise the report accordingly and include the number of valid hours/sampling periods and percent valid data calculations.
9. It is recommended that pictures of the north and south stations be added to the report to demonstrate adherence to station siting criteria outlined in the ministry's Operations Manual for Air Quality Monitoring in Ontario (2018) (Operations Manual, <https://www.ontario.ca/document/operations-manual-air-quality-monitoring-ontario-0>). In particular, the images should demonstrate that there are not any nearby obstacles such as trees that would impact the sampling results.
10. The Chain of Custody form was not provided for the August 19th VOC samples.
11. Please confirm if the August 31st -September 12th dates provided in the "2020 hi vol calc parameter" spreadsheet should be changed to September 9th -24th.
12. Please note that the 24-hr Limits in Table 13 are also listed under the column heading "CAS No.".

Thanks,

Amanda Graham
Air Quality Analyst
Southwest Region, Technical Support
Ministry of the Environment, Conservation and Parks