

Appendix H-5

Air monitoring report



AGNICO EAGLE

MELIADINE GOLD PROJECT

2018 AIR QUALITY MONITORING REPORT

In Accordance with NIRB Project Certificate No. 006

**Prepared by Agnico-Eagle Mines Limited –
Meliadine Division**

March 2019

EXECUTIVE SUMMARY

In accordance with NIRB Project Certificate No. 006, and as described in the Air Quality Monitoring Plan (November 2015), Agnico Eagle Mines Ltd. (Agnico Eagle) continued ambient air quality monitoring at the Meliadine site, near Rankin Inlet in 2018. Through this program, Agnico Eagle aims to measure airborne particulates, dustfall, and the gaseous compounds (NO_2 and SO_2) using a combination of active and passive sampling methods. In accordance with the Plan, monitoring in 2018 included analysis of dustfall in seven locations, as well as NO_2 and SO_2 in two locations, over one month averaging periods throughout the year. Active sampling of total suspended particulates (TSP), $\text{PM}_{2.5}$, and PM_{10} began in December 2018. Available results for all parameters were compared to regulatory guidelines and Final Environmental Impact Statement (FEIS) predictions, and spatial and temporal trends were assessed.

Dustfall results are compared to Alberta's Ambient Air Quality Guidelines (June, 2016) for recreational and industrial areas, for context. In 2018, 2 of 36 samples exceeded the recreational area guideline (DF-3, 25 m from the All Weather Access Road), but no samples exceeded the industrial area guideline. Results indicate very low rates of dustfall overall, despite elevated traffic compared to FEIS predictions. No quantitative predictions were made for dustfall in the FEIS.

Suspended particulates (TSP, $\text{PM}_{2.5}$, and PM_{10}) were analyzed in two locations using Partisol air samplers beginning in December, 2018. All available results were below regulatory guidelines (Government of Nunavut Ambient Air Quality Standards/CCME Canadian Ambient Air Quality Standards /BC Ambient Air Quality Objectives) and were below maximum concentrations predicted in the FEIS.

Calculated annual average concentrations of NO_2 and SO_2 were well below the Government of Nunavut Ambient Air Quality Standards, and were below FEIS maximum predicted values. This was the second full year of monitoring for gaseous compounds, and no clear spatial or temporal trends were observed.

As described in the Air Quality Monitoring Plan, a permanent weather station was installed at the Meliadine site, and daily averages for wind speed, direction, temperature, solar radiation, and rainfall are provided.

Incinerator stack testing was performed in September, 2018. All conditions for validity of the test were met, and concentrations of criteria contaminants (dioxins and furans, and mercury) were within relevant GN standards (Environmental Guideline for the Burning and Incineration of Solid Waste, 2012).

Agnico Eagle is required by Environment Canada's Greenhouse Gas Emissions Reporting Program (GHGRP) to track greenhouse gas emissions. Estimated emissions for the Meliadine site (including

Rankin Inlet operations) in 2018 were 62,051 tonnes CO₂ equivalent (e), which is lower than the FEIS maximum predicted emission rate of 304,000 tonnes/yr CO₂e.

Since monitoring results in 2018 were within applicable air quality criteria and FEIS predictions, no additional adaptive management measures are planned.

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1 INTRODUCTION

1.1 BACKGROUND AND OBJECTIVES

In February 2015, Agnico Eagle Mines Ltd. (Agnico Eagle) was issued NIRB Project Certificate No. 006 for the Meliadine Gold Project, near Rankin Inlet, NU. In accordance with Conditions 1 and 2 of the Project Certificate, Agnico Eagle has developed the Meliadine Air Quality Monitoring Plan (November, 2015) to describe the program for onsite air quality monitoring.

Through this program, Agnico Eagle aims to measure concentrations of airborne particulate matter and gaseous compounds surrounding the major areas of Project activity, and the deposition of those particles over time, using a combination of active and passive sampling methods. The objective of the Air Quality Monitoring Plan is to compare ambient air quality to regulatory standards, confirm the findings of the air impact assessment in the FEIS (Vol. 5 – Atmospheric Environment and Impact Assessment, April, 2014), and thereby ensure the effectiveness of the planned mitigation measures.

In accordance with the Project Certificate and the Air Quality Monitoring Plan, air quality monitoring for the Meliadine site includes analysis of suspended particulates, dustfall, NO₂ and SO₂. In addition, as meteorological data are a critical input to air dispersion models and emissions estimation, a real time meteorological station has been installed at the site and recorded meteorological data is reported

A summary of the air quality monitoring program is shown in Table 1. Monitoring according to the pre-construction objectives has been ongoing since 2012. In 2017, the project entered the construction phase, which continued in 2018.

Table 1. Air quality monitoring objectives.

Project Phase	Program Objectives	Monitoring Equipment
Pre-construction	To obtain baseline data in order to be able to compare with construction and operation phases	• Three dustfall jars onsite • Three dustfall jars along the AWAR
Construction	To verify compliance with applicable standards. To apply mitigation measures if necessary.	• One continuous TSP/PM₁₀ sampling unit (Partisol model 2025) • One passive NO₂-SO₂ monitor (laboratory-supplied) • Four dustfall jars onsite. • Three dustfall jars along the AWAR
Operations Phase	To verify that the TSP, PM₁₀, and PM_{2.5} emission rates used in the assessment were reasonable. To verify the predicted concentrations of TSP, PM₁₀, and PM_{2.5}. To verify that the mitigation measures considered integral to the Project are being incorporated as planned, and are effective.	• Two continuous TSP/PM₁₀/PM_{2.5} sampling units (Partisol model 2025) • Two passive NO₂-SO₂ monitors (laboratory-supplied) • Four dustfall jars onsite. • Three dustfall jars along the AWAR

1.2 MONITORING LOCATIONS AND DATES

According to the construction-phase monitoring objectives, air quality monitoring in 2018 included dustfall sampling at three locations along the AWAR, and four locations onsite (DF-1 through DF-7, described below; Figure 1). Dustfall monitoring was conducted over approximately 30 day periods for all sampling stations from December 31, 2017 through December 12, 2018 (December 2018 - January 2019 samples will be included in the 2019 monitoring report).

Passive samplers for NO₂ and SO₂ were installed at two locations (DF-5 and DF-7). Passive monitoring of NO₂ and SO₂ was conducted over approximately 30 day periods from December 31, 2017 through December 12, 2018.

Active sampling for suspended particulates occurs at DF-5 (South unit) and DF-7 (North unit). Sampling at the South unit (DF-5) began on December 3, 2018 (TSP only), and sampling at the North unit (DF-7) began on December 21, 2018 (PM_{2.5}/PM₁₀ only). Sampling did not commence until December as a result of delays in shipments of the Partisol units as well as availability of the service personnel to provide onsite set up and training. It is anticipated that both TSP and PM_{2.5}/PM₁₀ units will be active at both locations in 2019.

Details of the monitoring locations in 2018 are summarized in Table 2. As described in the Air Quality Monitoring Plan, sampling locations will be reviewed and may be adapted throughout the construction and/or operations phases of the Project, as necessary.

Table 2. Air quality monitoring locations and parameters monitored in 2018. *Partisol sampler installed but not functioning properly – samples not collected.

Monitoring Station	UTM	Parameters	General Location	Location Description
DF-1	544073E 6970759N	Dustfall	AWAR	AWAR km 4 South of Iqalugaarjuup Nunanga Park 100 m from road (west/upwind side)
DF-2	546621E 6973334N	Dustfall	AWAR	AWAR km 10 East of Iqalugaarjuup Nunanga Park 100 m from road (west/upwind side)
DF-3	544899E 6981387N	Dustfall	AWAR	AWAR km 23 North of Iqalugaarjuup Nunanga Park 25 m from road (west/upwind side)
DF-4	540014E 6987836N	Dustfall	Onsite	Adjacent to freshwater pumphouse on Lake A8 Downwind of main mine site
DF-5	542226E 6988507N	Dustfall NO ₂ , SO ₂ TSP (PM ₁₀ , PM _{2.5})*	Onsite	500 m south-east of the exploration camp Downwind of main mine site
DF-6	537586E 6989096N	Dustfall	Onsite	Adjacent to Lake B5, approx. 600 m southwest of main mine site (direction perpendicular to dominant wind)
DF-7	537143E 6991176N	Dustfall NO ₂ , SO ₂ (TSP)* PM ₁₀ , PM _{2.5}	Onsite	Adjacent to emulsion plant, approx. 2 km northwest (upwind) of the camp complex

Air Quality Monitoring Stations at Meliadine and AWAR

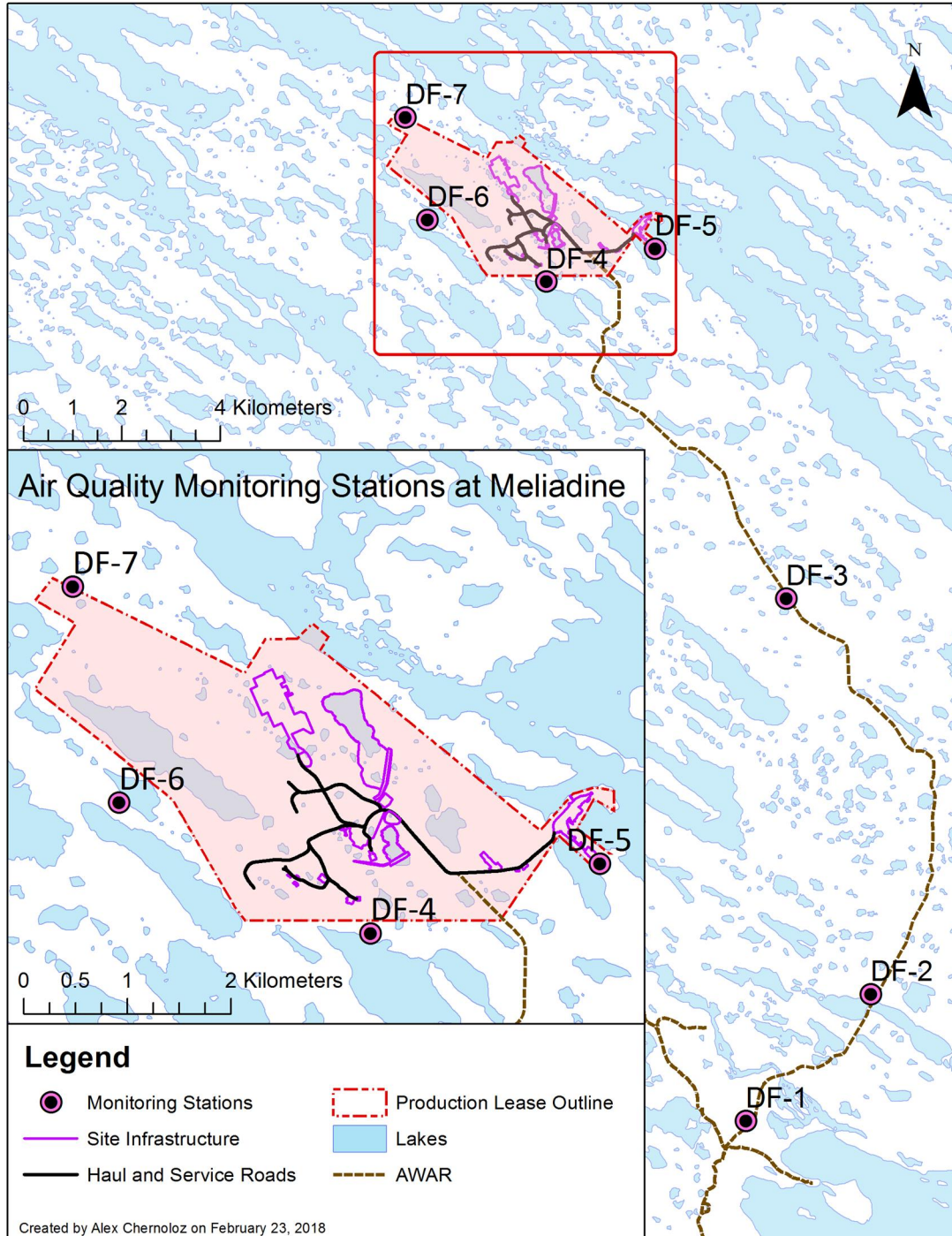


Figure 1. Air quality monitoring locations.

2 METHODS

2.1 SAMPLING METHODOLOGY

2.1.1 DUSTFALL

Dustfall was collected in open vessels containing a purified liquid matrix (de-ionized water and isopropanol), supplied by a commercial analytical laboratory. Particles are deposited and retained in the liquid, which is then analyzed for total and fixed (non-combustible) dustfall by the supplying laboratory. Vessels were deployed according to laboratory specifications for sequential one-month periods at each location, retrieved, re-sealed, and shipped back to the laboratory. Canisters were placed on a 2 m stand with an open bucket-style holder fitted with wires around the rim to deter birds (see Figure 2). Calculated dustfall rates were normalized to 30 days ($\text{mg}/\text{cm}^2/30 \text{ days}$). Dustfall canisters were provided by and analyzed by Maxxam Analytics.

As required by Condition 1 of Project Certificate No. 006, and described in the Air Quality Monitoring Plan, an initial snowpack survey will be conducted in the winter season of 2018-2019 at each of the dustfall stations for analysis of dust content in the snow.



Figure 2. Dustfall sampling stand at the Meliadine site.

2.1.2 *SUSPENDED PARTICULATES*

Suspended particulates (TSP, PM₁₀, PM_{2.5}) are sampled over 24-h periods every six days using a Partisol Plus Model 2025i Sequential Air Sampler (TSP) and a Partisol Plus Model 2025-D Dichotomous Sequential Air Sampler (PM_{2.5} and PM_{coarse}). Partisol samplers draw in a stream of ambient air at a controlled flow rate, and particulates are collected on a pre-weighed filter supplied by an accredited laboratory. The exposed filter is then shipped back to the laboratory and re-weighed to measure the total accumulated particulates. Calculations for TSP, PM₁₀ and PM_{2.5} were performed according to the Partisol operating manual, as follows.

TSP is calculated as:

$$\text{TSP} = M_{\text{TSP}}/V$$

Where: TSP = mass concentration of particulates (µg/m³)

M_{TSP} = final mass of TSP filter – initial mass of filter (µg/filter)

V = volume of air drawn in during the sampling period (~24 m³)

Since the dichotomous unit splits the intake air stream to determine PM_{2.5} and PM_{coarse} (PM_{10-2.5}), the volume of air is different for each filter. Calculations are performed as follows:

PM_{2.5} is calculated as:

$$\text{PM}_{2.5} = M_{2.5}/V_{2.5}$$

Where: PM_{2.5} = mass concentration of particulates (µg/m³)

$M_{2.5}$ = final mass of PM_{2.5} filter – initial mass of filter (µg/filter)

$V_{2.5}$ = volume of air drawn through the PM_{2.5} filter during the sampling period (~21.7 m³)

And PM_{coarse} is calculated as:

$$\text{PM}_{\text{coarse}} = M_{\text{coarse}}/V_{\text{total}} - \text{PM}_{2.5}(V_{\text{coarse}}/V_{\text{total}})$$

Where: PM_{coarse} = mass concentration of particulates (µg/m³)

M_{coarse} = final mass of PM_{coarse} filter – initial mass of filter (µg/filter)

V_{total} = total volume of air drawn into unit during sampling (~24m³)

V_{coarse} = volume of air drawn through the PM_{coarse} filter during the sampling period (~2.4 m³)

Concentration of PM_{10} is then calculated as $PM_{coarse} + PM_{2.5}$.

For comparison to Government of Nunavut Ambient Air Quality Guidelines (2011), concentrations of particulates need to be calculated using air volumes normalized to 25°C and 101.3kPA (standard temperature and pressure; STP). Standardized volumes were either recorded by the Partisol unit, or calculated from average temperature and pressure recorded by the Partisol unit during the sampling period, whenever possible. Estimates of suspended particulate concentrations using non-standardized volumes are expected to be slightly conservative (higher than actual), since air temperatures are almost always colder than 25°C. In addition, the air sampling unit is housed in an insulated container because winter temperatures inhibit operation. This is standard practice in northern climates. Since the unit's ambient temperature sensor is warmer than actual air temperature for much of the year, intake volumes are inflated compared to calculated volumes, resulting in conservative estimates of particulate concentrations.

In 2018, recorded standardized volumes were available for all sampling dates.

2.1.3 NO_2 AND SO_2

Concentrations of NO_2 and SO_2 by volume (ppb) were analyzed over one-month periods using a passive sampling device provided by Maxxam Analytics and deployed by Agnico Eagle technicians according to laboratory-identified procedures. Following each sampling period, the sampling device was retrieved and shipped to the commercial laboratory for analysis.

2.2 DATA ANALYSIS

2.2.1 DUSTFALL

No standards for dustfall are available for Nunavut or the Northwest Territories. Results of the dustfall analysis are therefore compared to the Alberta Ambient Air Quality Guideline for recreational areas for total dustfall (June, 2016) of 0.53 mg/cm²/30d and commercial/industrial guideline of 1.58 mg/cm²/30d, to provide context. These guidelines are based on aesthetic or nuisance concerns, and are to be used for airshed planning and management, as a general performance indicator, and to assess local concerns. Based on predictions for other mine-related roads in Nunavut (Meadowbank site), it is anticipated that guidelines for recreational areas may regularly be exceeded in close proximity to the AWAR or minesite, and that guidelines for industrial areas may occasionally be exceeded.

Dustfall rates were analyzed for indications of spatial and temporal trends (within and between years). Unusual results will trigger investigation, and potentially supplementary monitoring or mitigation measures.

Although modeling was conducted as a component of the Air Quality Impact Assessment (FEIS Volume 5) to determine deposition rates of particulate matter on a 1x1 km grid in the Project area,

quantitative results (isopleths) were not provided in the FEIS documents. Quantitative predictions regarding dustfall (i.e. deposition of TSP) in the FEIS are limited to percent change values based on distance from the centre of the AWAR, in no particular location. According to the Air Quality and Dustfall Monitoring Plan, samples were collected at the 25 m and 100 m distance, but not in the same location. Since deposition rates are strongly influenced by microclimate and topography, no comparisons to FEIS predictions for dustfall are performed. The AWAR dustfall sampling program may be adjusted in future years to facilitate such a comparison, if rates of dustfall appear elevated in comparison to guideline values.

2.2.2 SUSPENDED PARTICULATES

Results of suspended particulate monitoring are compared to Government of Nunavut Environmental Guidelines for Ambient Air Quality (October, 2011). Guidelines for the measured parameters are provided in Table 3.

In 2015, the Canadian Council of Ministers of the Environment adopted new Canadian Ambient Air Quality Standards for PM_{2.5}. Although these have not yet been incorporated into Nunavut's guidelines, the published 24-h value for PM_{2.5} of 28 µg/m³ and annual average of 10 µg/m³ are addressed here for reference. These values represent voluntary objectives.

No GN standard is available for PM₁₀, therefore results are compared to the BC Air Quality Objective (August, 2013) of 50 µg/m³.

Results will additionally be compared to FEIS predictions for maximum ground-level concentrations of particulates, which exceed regulatory guidelines in most cases. According to FEIS Volume 5 (Atmospheric Environment), Table 5.2-15, maximum predicted emissions of TSP, PM₁₀, and PM_{2.5} for the Site Study Area where samplers are located are shown in Table 3. These model results assume no contribution from background concentrations, which were not available for remote sites in the North. However, it should be noted that monitoring results will include background contributions, so comparisons to these FEIS predictions are expected to be conservative. Comparisons to predicted peak concentrations (which include influence of meteorological anomalies) may be conducted if such a situation occurs.

Table 3. Government of Nunavut (GN) Environmental Guidelines for Ambient Air Quality (October, 2011), CCME Canadian Ambient Air Quality Standards, and BC Air Quality Objectives for the parameters of concern at Meliadine. All values are for data normalized to standard conditions of 25°C and 101.3 kPa. *Maximum predicted values according to Table 5.2-15 in Golder (2014).

Parameter	Averaging Time	Regulatory Guidelines		FEIS Predictions*
		Jurisdiction	Guideline (µg/m³)	
Fine Particulate Matter (PM _{2.5})	24-h average	GN	30	55.3
		CCME	28	
	Annual average	CCME	10	-
Coarse Particulate Matter (PM ₁₀)	24-h average	BC	50	104.0
Total Suspended Particulate (TSP)	24-h average	GN	120	213.7
	Annual geometric mean	GN	60	16.8

2.2.3 NO₂ AND SO₂

The analysis of the NO₂ and SO₂ sampling results includes a comparison of results with the GN Environmental Guidelines for Ambient Air Quality (October, 2011), which are equivalent to the Canadian National Ambient Air Quality Objective for these compounds. Concentrations measured on a monthly basis were averaged, and compared to the annual average guidelines for NO₂ (60 µg/m³ or 32 ppb) and SO₂ (30 µg/m³ or 11 ppb).

In order to determine the accuracy of assumptions and predictions made during the Project assessment phase, a comparison to NO₂ and SO₂ concentrations described in the FEIS (Golder, 2014) is also included. For the current construction phase, results were compared to predicted concentrations for “Case 1”, where no open-pit mining is occurring. For the site study area, where the sampling station DF-5 is located, the FEIS predicted a maximum annual average of 43.9 µg/m³ (23.3 ppb) for NO₂, and 0.3 µg/m³ (0.1 ppb) for SO₂ for the Case 1 scenario. For the local study area, where the sampling station DF-7 is located, the FEIS predicted a maximum annual average of 22.8 µg/m³ (12.3 ppb) for NO₂, and 0.0 µg/m³ (0.0 ppb) for SO₂ for the Case 1 scenario. It should be noted that model predictions were for emissions produced by mine site activity, so do not include background values, which are included in monitoring results. The background values assumed in the FEIS (Table 5.2-6) of 0.1 µg/m³ (0.05 ppb) for NO₂ and 0.5 µg/m³ (0.2 ppb) for SO₂, are from the Fortune Minerals NICO project. Therefore, results of the monitoring program at Meliadine are compared to the sum of these assumed background values and the predicted concentrations from site activity, as summarized in Table 4.

Table 4. Summary of GN guidelines and FEIS predictions (plus assumed background concentrations) for annual average concentrations of NO₂ and SO₂.

Compound	GN Guideline (Annual Average)	FEIS Prediction (Annual Average)	
		DF-5	DF-7
NO ₂	32 ppb	23.4 ppb	12.4 ppb
SO ₂	11 ppb	0.3 ppb	0.2 ppb

The measured ambient NO₂ and SO₂ concentrations were also analyzed for spatial and temporal trends.

2.3 QA/QC

According to the Air Quality Monitoring Plan, QA/QC procedures for the monitoring program included the following:

- An accredited laboratory was used for pre-sample preparation and analysis;
- Samples were collected by appropriately trained personnel; and
- An accredited laboratory calculated ambient dustfall deposition rates based on laboratory results;
- Results were interpreted by qualified personnel.

3 MONITORING RESULTS

Laboratory certificates for all analytical results are provided in Appendix A.

3.1 DUSTFALL

Results of the 2018 dustfall sampling program (30-day normalized rates of total dustfall) are provided in Figures 3 and 4. Values below the detection limit (0.001 or 0.002 mg/cm²/30d) are reported as ½ the limit. Samples are plotted by the collection start date. To provide context, the Alberta Ambient Air Quality Guidelines for recreational/residential and industrial/commercial areas of 0.53 mg/cm²/30 days and 1.58 mg/cm²/30 days are indicated for total dustfall. In total, 2 of 36 samples collected in 2018 exceeded the recreational area guideline. These two samples were collected in very close proximity to the AWAR (25 m) at station DF-3. No samples exceeded the industrial area guideline.

Fixed dustfall results since 2012 are provided in Figures 5 (AWAR), 6 and 7 (mine site) for assessment of trends over time, since the non-combustible fraction is more representative of dust generated by mine site activity than total dustfall, which includes organic components (e.g. pollen, plants, animal particles). When results were greater than the detection limit, fixed dustfall accounted for 81% of total dustfall in each sample on average (range of 15 – 100%). In 2018, the greatest dustfall rates were observed at DF-3, which is located only 25 m from the AWAR. Generally, a slight increase

in measured dustfall has occurred since 2012 as site activity has increased, and rates tend to be highest during the summer months when conditions are the driest and traffic rates peak. In 2018, caribou migration in July resulted in road closures as well as decreased application of dust suppressant. However, relatively low dustfall values were measured overall, and no other significant trends are apparent.

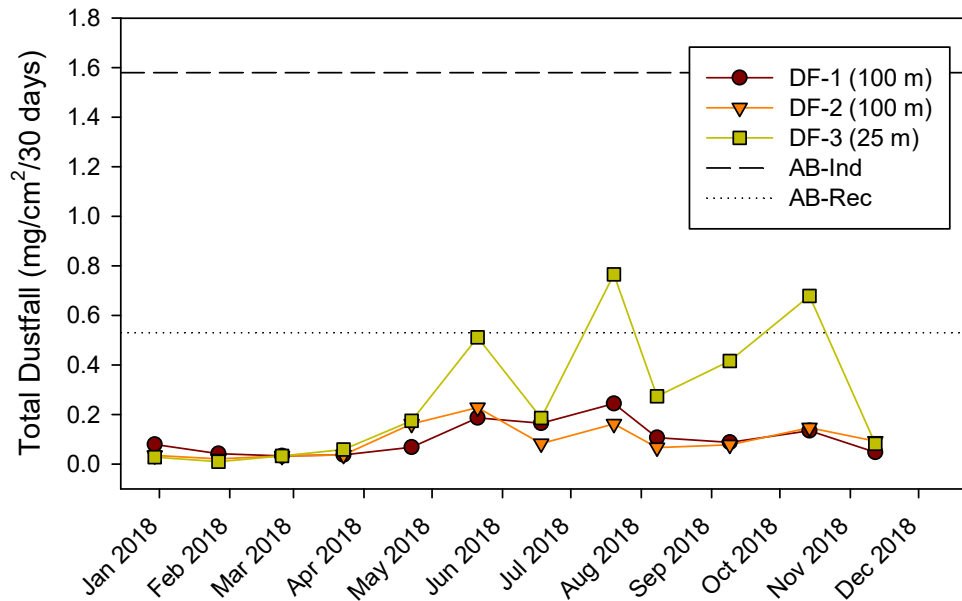


Figure 3. 30-day-normalized rates of total dustfall at AWAR sampling locations (DF-1 – 3) at the Meliadine site in 2018. Symbols represent start date of sample collection. For reference, the dotted line indicates the Alberta Ambient Air Quality Guideline for recreational areas of 0.53 mg/cm²/30d, and the dashed line indicates the industrial area guideline of 1.58 mg/cm²/30d.

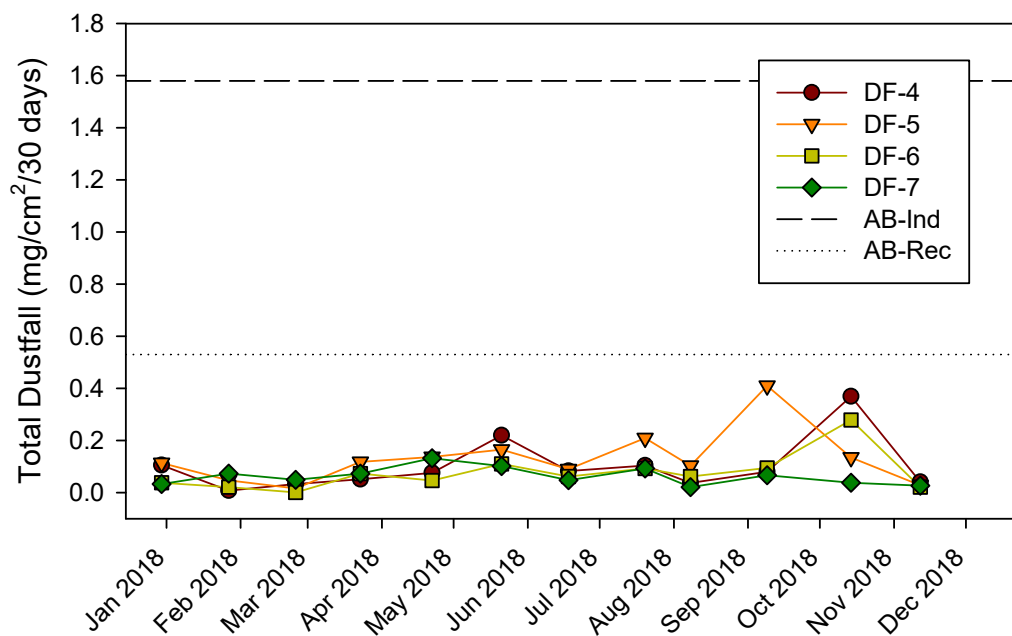


Figure 4. 30-day-normalized rates of fixed dustfall at minesite monitoring locations (DF-4 – 7) at the Meliadine site in 2018. Symbols represent start date of sample collection.

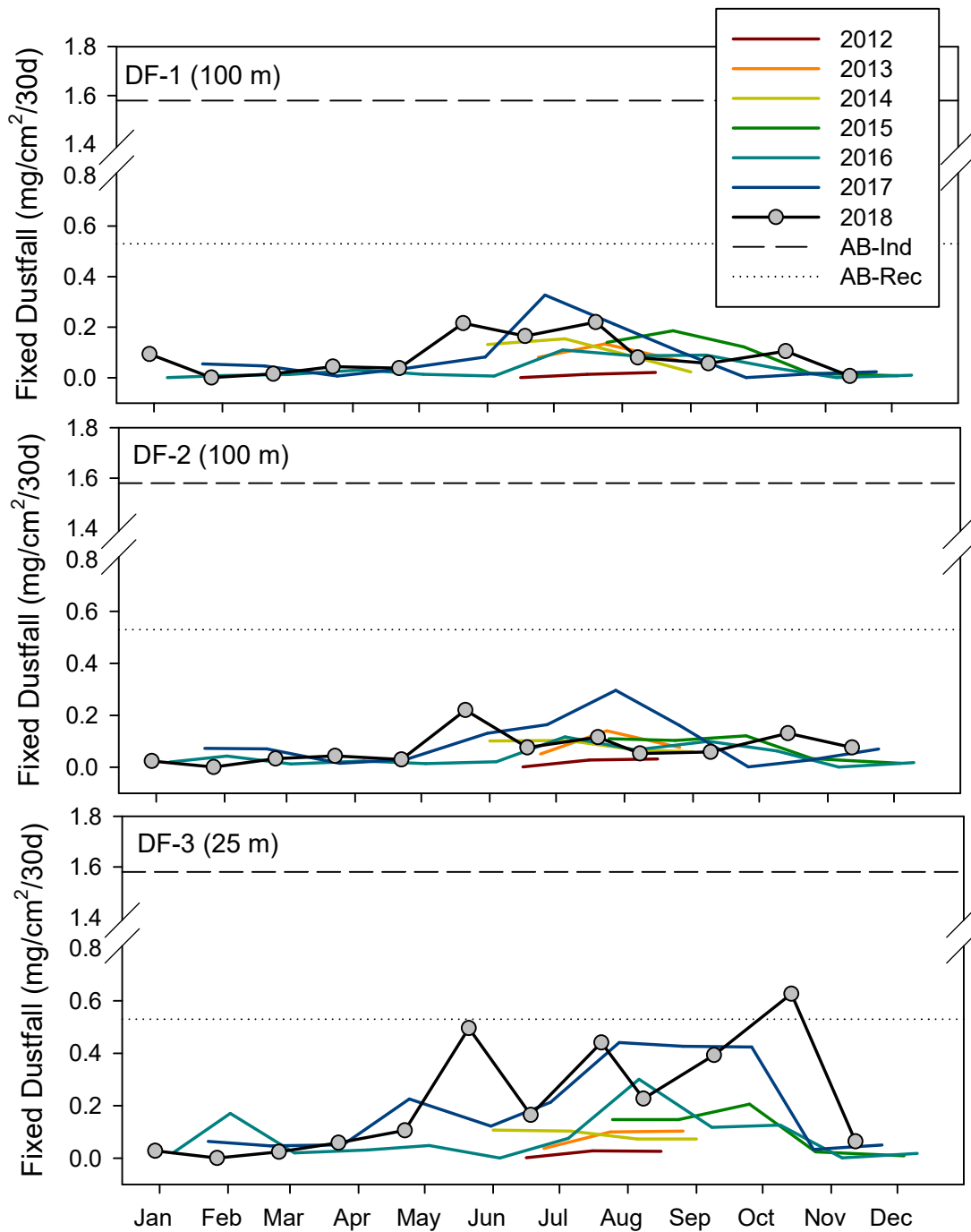


Figure 5. Fixed dustfall measurements for AWAR sampling locations a 25 m and 100 m from the road, since monitoring began in 2012. Alberta Ambient Air Quality Guidelines for total dustfall for recreational areas (AB – Rec.) and industrial areas (AB-Ind.) are indicated for context (fixed dustfall represents 81% of total dustfall, on average).

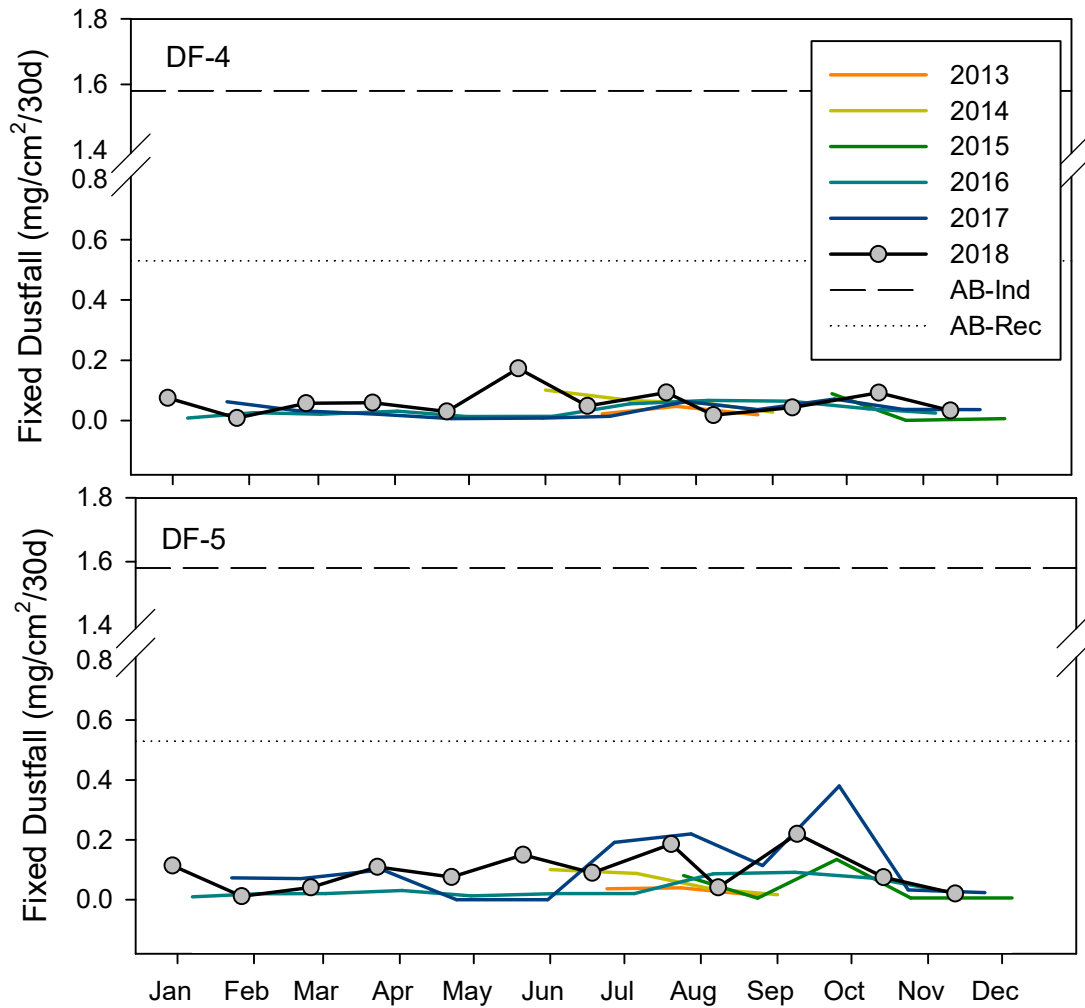


Figure 6. Fixed dustfall measurements for onsite sampling locations DF-4 and DF-5 since monitoring began in 2012. Alberta Ambient Air Quality Guidelines for total dustfall for recreational areas (AB - Rec.) and industrial areas (AB-Ind.) are indicated for context (fixed dustfall represents 81% of total dustfall, on average).

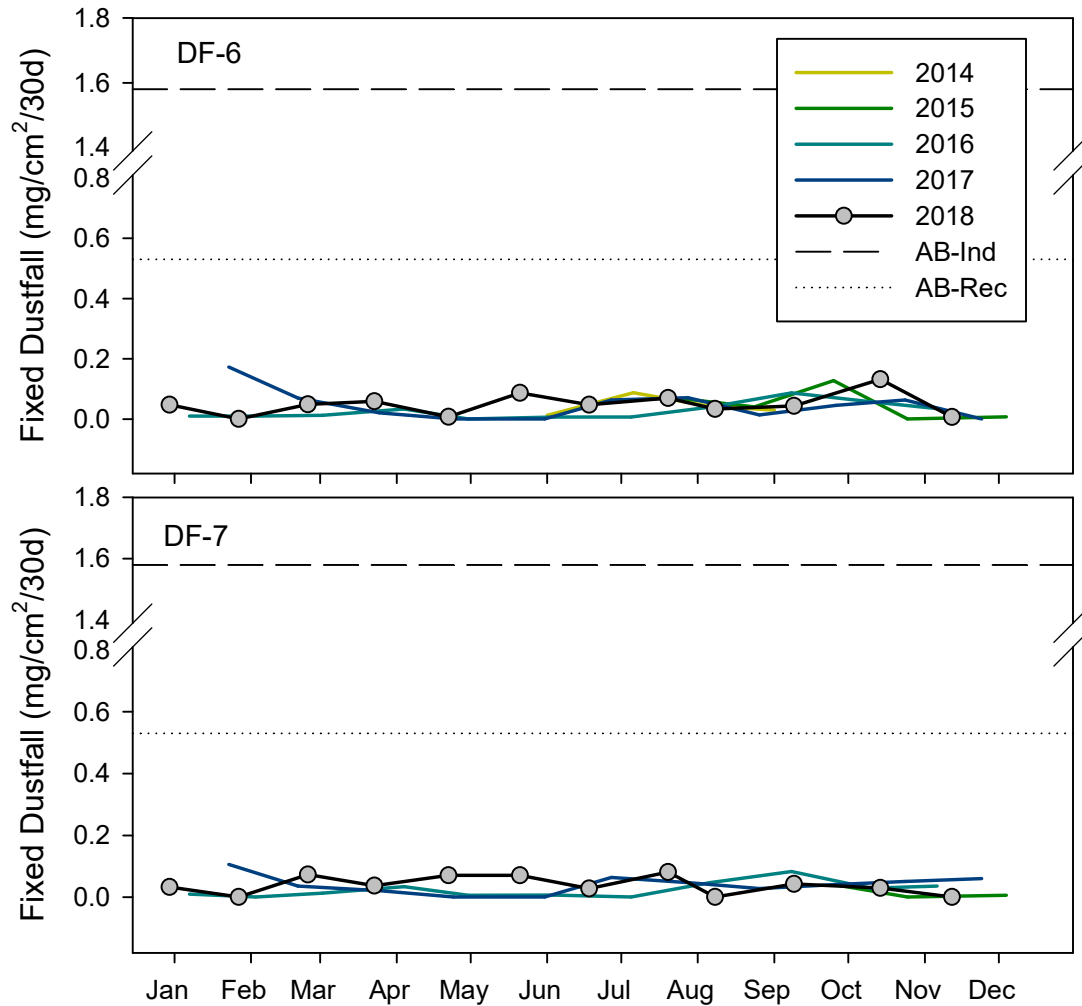


Figure 7. Fixed dustfall measurements for onsite sampling locations DF-6 and DF-7 since monitoring began in 2014. Alberta Ambient Air Quality Guidelines for total dustfall for recreational areas (AB - Rec.) and industrial areas (AB-Ind.) are indicated for context (fixed dustfall represents 81% of total dustfall, on average).

3.2 SUSPENDED PARTICULATES

In 2018, suspended particulate sampling began December 3 at DF-5. Only the TSP unit was functional at this location. Sampling began December 21 at DF-7, and only the PM_{2.5}/PM₁₀ unit was functional. Available results are shown in Table 5. All values are below the lowest available regulatory guideline or FEIS prediction for the 24-h average. Since only a maximum of five datapoints were available, the annual averages were not calculated.

Table 5. Concentrations of suspended particulates measured in 2018 at the Meliadine site. *For 24-h averaging time. See Table 3 for full list of regulatory guidelines and FEIS predictions.

Location	Parameter	Lowest Reference Value* (µg/m³)	Sample Start Date & Time	Result (µg/m³)
DF-5	TSP	120	12/03/18 0:00	24.0
			12/09/18 0:00	1.2
			12/15/18 0:00	6.0
			12/21/18 0:00	6.2
			12/27/18 0:00	1.5
DF-7	PM _{2.5}	28	12/21/18 0:00	1.6
			12/27/18 0:00	1.5
	PM ₁₀	50	12/21/18 0:00	2.1

3.3 NO₂ AND SO₂

Monthly-average NO₂ trends in 2018 are provided in Figure 8. Samples are plotted by the collection start date. Concentrations of NO₂ vary between non-detect (<0.1) and 1.7 ppb.

Annual arithmetic mean concentrations were calculated for each station from the monthly average values. The annual mean concentrations of NO₂ were 0.83 and 0.52 ppb for DF-5 and DF-7, respectively (December 31, 2017 – December 12, 2018). These are both well below the Government of Nunavut Ambient Air Quality Standard of 32 ppb for the annual average. These values are also lower than maximum concentrations predicted in the FEIS, adjusted for assumed background concentrations (23.4 ppb and 12.4 ppb for DF-5 and DF-7, respectively).

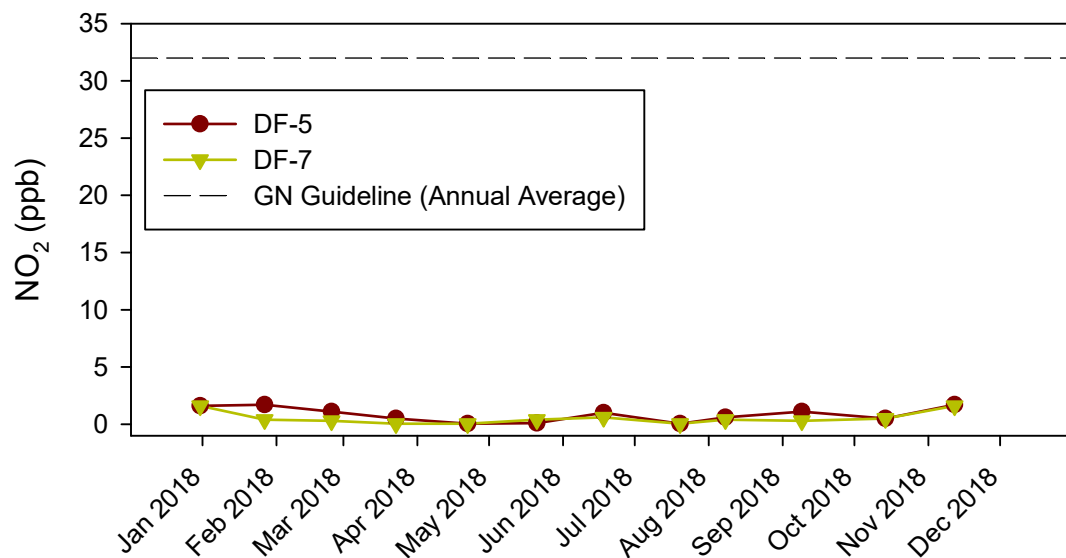


Figure 8. Monthly average concentration of NO₂ at DF-5 and DF-7. Symbols represent the collection start date. Dashed line indicates GN standard for the annual average.

No clear trends between sampling stations or over time are evident. Historical results are presented in Figure 9.

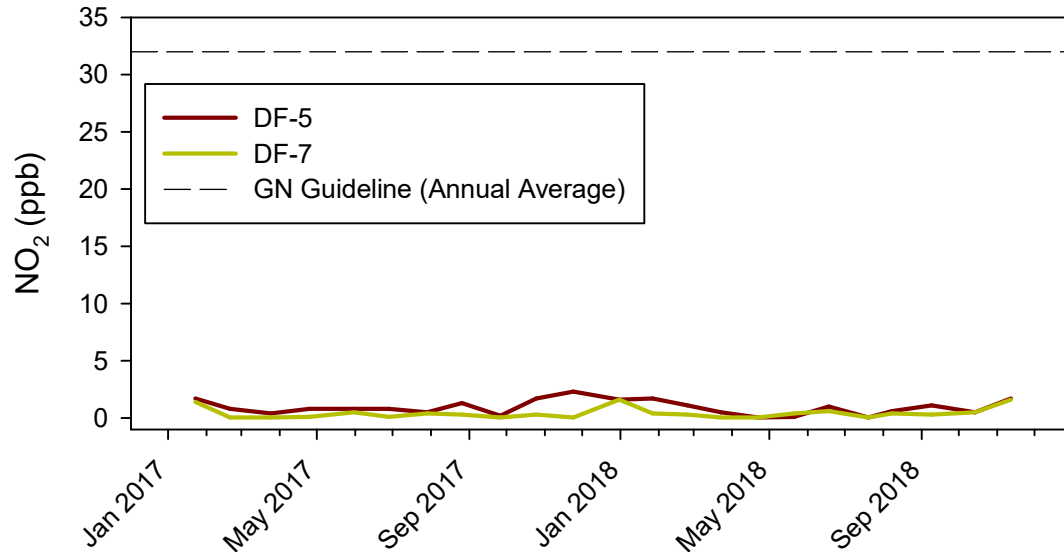


Figure 9. Historical measured monthly average concentration of NO₂ at DF-5 and DF-7. Dashed line indicates GN standard for the annual average, for reference.

Monthly-average SO₂ trends in 2018 are provided in Figure 10. Samples are referred to by the collection start date. Concentrations of SO₂ were non-detect (<0.1 ppb) in 16 of 24 samples, with a maximum of 0.3 ppb.

Annual arithmetic mean concentrations were calculated for each station from the monthly average values. A value of 0.05 ppb was used for samples below the detection limit (0.1 ppb). The annual mean concentrations of SO₂ were 0.07 and 0.10 ppb for DF-5 and DF-7, respectively (December 31, 2017 – December 12, 2018). These are both well below the Government of Nunavut Ambient Air Quality Standard of 11 ppb for the annual average, and FEIS maximum predicted values of 0.3 ppb and 0.2 ppb for DF-5 and DF-7, respectively.

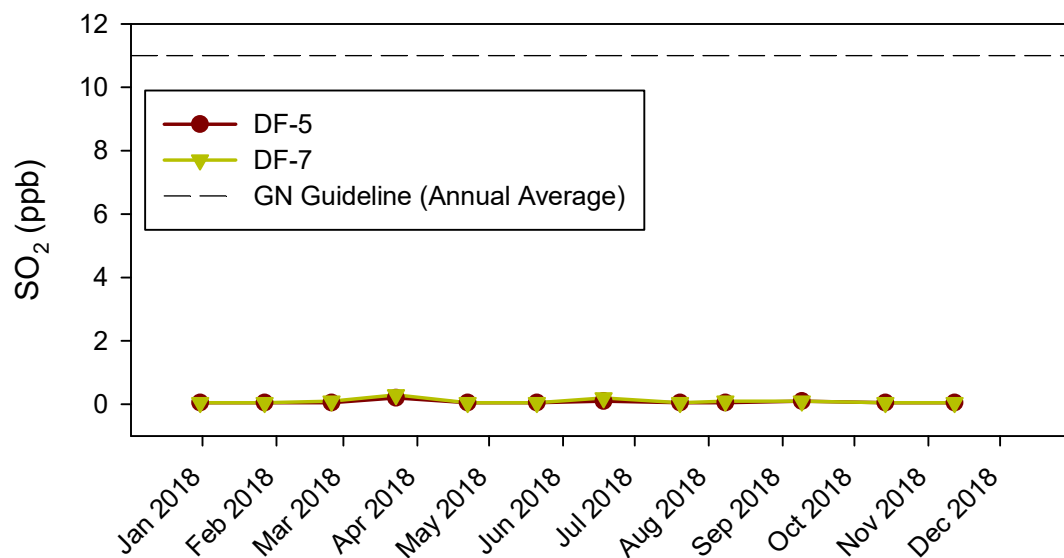


Figure 10. Monthly average concentration of SO₂ at DF-5 and DF-7. Symbols represent the collection start date. Dashed line indicates GN standard for the annual average.

No clear trends between sampling stations or over time are evident. Historical results are presented in Figure 11.

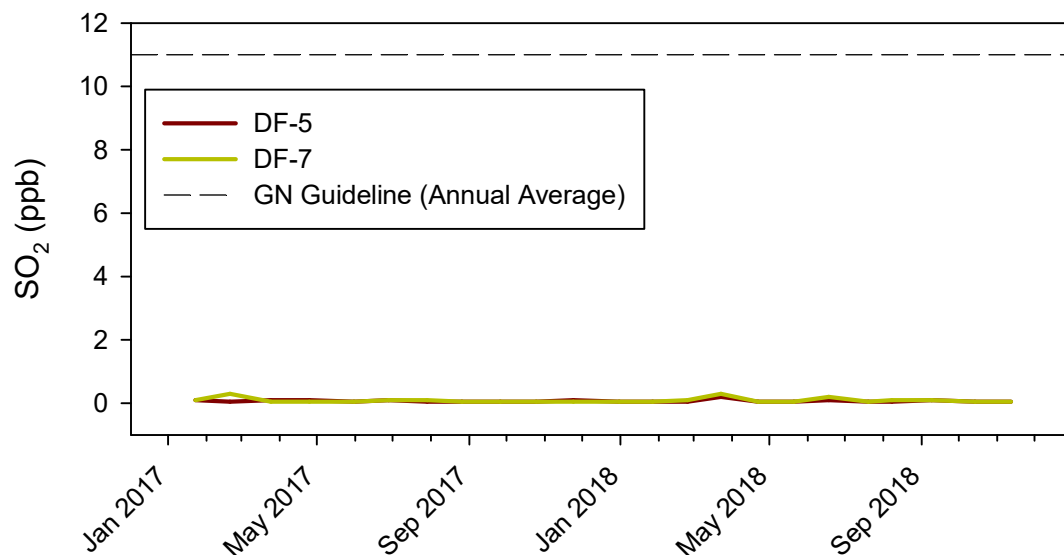


Figure 11. Historical measured monthly average concentration of SO₂ at DF-5 and DF-7. Dashed line indicates GN standard for the annual average, for reference.

4 METEOROLOGICAL MONITORING

As described in the Air Quality Monitoring Plan, a permanent weather station was installed at the Meliadine site, and daily averages for the following parameters in 2018 are provided in Appendix A:

- wind speed;
- wind direction;
- temperature;
- solar radiation;
- rainfall

Total precipitation was also recorded several times per week using two onsite rain gauges (Appendix B).

5 INCINERATOR STACK TESTING

Incinerator stack testing was performed in September, 2018 to ensure standards provided in the GN's Environmental Guideline for the Burning and Incineration of Solid Waste (2012) are not being exceeded. All conditions for validity of the test were met, and concentrations of criteria contaminants

(dioxins and furans, and mercury) were within the guideline values. The full report is provided in Appendix C.

Table 6. Summary of incinerator stack testing results for criteria contaminants (mercury, dioxins and furans).

Contaminant	Test Results	GN Standard
Mercury	0.23 µg/Rm ³ @ 11% v/v O ₂	20 µg/Rm ³ @ 11% v/v O ₂
Dioxins and Furans	0.042 ng /Rm ³ @ 11% v/v O ₂	0.08 ng /Rm ³ @ 11% v/v O ₂

6 GREENHOUSE GAS EMISSIONS

Agnico Eagle is required by Environment Canada's Greenhouse Gas Emissions Reporting Program (GHGRP) to track greenhouse gas emissions based on annual fuel consumption, composition and the US EPA's AP-42 emission factors.

Estimated greenhouse gas emissions for the Meliadine site including Rankin Inlet operations were 62,051 tonnes CO₂ equivalent (e) in 2018.

In the FEIS, total GHG emissions from the mine site were conservatively estimated to be not more than 304,000 tonnes/yr CO₂e. Estimated GHG emissions from the additional marine operations at Rankin Inlet were estimated at approximately 13,000 tonnes/yr CO₂e.

7 MITIGATIVE AND ADAPTIVE STRATEGIES

Fugitive dust abatement measures and pollution prevention strategies were identified in the FEIS for the construction phase as follows, and are being implemented. Since monitoring results in 2018 were within applicable air quality criteria and FEIS predictions, no additional mitigative measures are planned.

- Best management practices to control fugitive particulate emissions onsite and on the AWAR (see Road Management Plan for details).
- Exhaust emissions from non-road vehicles are managed through purchasing equipment that meet Tier 3 emission standards.
- Exhaust emissions from non-road vehicles are managed through regular and routine maintenance of vehicles.
- SO₂ emissions from non-road vehicles and stationary equipment are reduced through the use of diesel fuel with less than 15 ppm of sulfur.

In 2017, the following adjustments to the air quality and dustfall sampling program were planned, with Agnico's actions in 2018 indicated:

- Dustfall monitoring along the AWAR may be adjusted in order to assess declines in rates of deposition with distance. This is proposed to include an additional sampling jar for the DF-3 location at the 125 m distance during the peak dust generation period (July and August). Alternatively, modeled deposition rates will be obtained for the study area, as calculated in the FEIS Air Quality Impact Assessment.
 - Since dustfall samples along the AWAR only occasionally exceed guidelines for recreational areas, even in very close proximity to the road (25 m), Agnico determined that no changes to the sampling program were warranted at this time. However, trends will continue to be monitored to determine whether additional sampling is necessary.
- Adjustments to the monitoring program for metals in dustfall will also be made. Pending further discussion with NIRB and/or the commercial analytical laboratory, this may include analysis of dustfall on filters rather than collection liquid.
 - Through review of the Project Certificate and discussions with the analytical laboratory, Agnico has determined that analysis of metals on TSP filters will be conducted, rather than dustfall liquid. TSP sampling began in December, 2018, and results will be reported in 2020.
- Conduct sampling of dustfall in snowpack, as described in the Air Quality Monitoring Plan.
 - As described in the 2017 Air Quality and Dustfall Monitoring Report, a snowpack survey is planned to be conducted in the winter of 2018/2019.
- Repairs have been planned for to allow the stack testing in the fall of 2018.
 - Completed.

The following monitoring actions are planned for 2019 to improve the program:

- Maintenance and replacement parts will be obtained to ensure all Partisol units are operating, and minimal delays occur due to service requirements.
- Procedures will be developed for the collection of sampled filters, and deployment of new filters to reduce the potential for gaps in the data.
- A schedule of annual calibration of each unit, with bi-annual or quarterly system audits will be implemented.

Outside of these actions monitoring in 2019 will be conducted according to the construction phase schedule, as described in the Air Quality Monitoring Plan.

REFERENCES

Golder (Golder Associates), 2014. Final Environmental Impact Statement – Meliadine Gold Project, Nunavut. Volume 5.0 Atmospheric Environment and Impact Assessment. April, 2014.

APPENDIX A: LABORATORY CERTIFICATES OF ANALYSIS

Your P.O. #: 573774
Your Project #: 2017/12/31 - 2018/01/27
Site#: MELIADINE PROJECT
Site Location: MELIADINE

Attention: Meliadine Environment

AGNICO-EAGLE MINES LTD.
Meliadine
10200, Route de Preissac
Rouyn-Noranda, QC
CANADA J0Y1C0

Report Date: 2018/02/08
Report #: R2511448
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B808212

Received: 2018/02/02, 10:42

Sample Matrix: Air
Samples Received: 2

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
NO2 Passive Analysis (1)	2	2018/02/06	2018/02/08	PTC SOP-00148	Passive NO2 in ATM
SO2 Passive Analysis (1)	2	2018/02/06	2018/02/08	PTC SOP-00149	Passive SO2 in Air

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) The detection limit is based on a 30 day sampling period.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Levi Manchak, Project Manager

Email: LManchak@maxxam.ca

Phone# (780)468-3536

=====

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B808212
Report Date: 2018/02/08

AGNICO-EAGLE MINES LTD.
Client Project #: 2017/12/31 - 2018/01/27
Site Location: MELIADINE
Your P.O. #: 573774
Sampler Initials: JM

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		SX1812	SX1813		
Sampling Date		2017/12/31	2017/12/31		
	UNITS	5	7	RDL	QC Batch
Passive Monitoring					
Calculated NO2	ppb	1.6	1.6	0.1	8904113
Calculated SO2	ppb	<0.1	<0.1	0.1	8903571
RDL = Reportable Detection Limit					

Maxxam Job #: B808212
Report Date: 2018/02/08

AGNICO-EAGLE MINES LTD.
Client Project #: 2017/12/31 - 2018/01/27
Site Location: MELIADINE
Your P.O. #: 573774
Sampler Initials: JM

GENERAL COMMENTS

Results relate only to the items tested.

Maxxam Job #: B808212
Report Date: 2018/02/08

QUALITY ASSURANCE REPORT

AGNICO-EAGLE MINES LTD.
Client Project #: 2017/12/31 - 2018/01/27
Site Location: MELIADINE
Your P.O. #: 573774
Sampler Initials: JM

QC Batch	Parameter	Date	Spiked Blank		Method Blank	
			% Recovery	QC Limits	Value	UNITS
8903571	Calculated SO ₂	2018/02/06	99	90 - 110	<0.1	ppb
8904113	Calculated NO ₂	2018/02/06	107	90 - 110	<0.1	ppb
Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.						
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.						

Maxxam Job #: B808212
Report Date: 2018/02/08

AGNICO-EAGLE MINES LTD.
Client Project #: 2017/12/31 - 2018/01/27
Site Location: MELIADINE
Your P.O. #: 573774
Sampler Initials: JM

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Linda Lin, Supervisor, Centre for Passive Sampling Technology

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Your P.O. #: 664696
Your Project #: 2018/01/27 - 2018/02/24
Site#: MELIADINE PROJECT
Site Location: MELIADINE

Attention: Meliadine Environment

AGNICO-EAGLE MINES LTD.
Meliadine
10200, Route de Preissac
Rouyn-Noranda, QC
CANADA J0Y1C0

Report Date: 2018/03/12
Report #: R2526710
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B816086

Received: 2018/03/05, 13:05

Sample Matrix: Air
Samples Received: 2

Analyses	Date		Date Analyzed	Laboratory Method	Analytical Method
	Quantity	Extracted			
NO2 Passive Analysis (1)	2	2018/03/09	2018/03/12	PTC SOP-00148	Passive NO2 in ATM
SO2 Passive Analysis (1)	2	2018/03/07	2018/03/12	PTC SOP-00149	Passive SO2 in Air

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) The detection limit is based on a 30 day sampling period.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Levi Manchak, Project Manager

Email: LManchak@maxxam.ca

Phone# (780)468-3536

=====

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Maxxam Job #: B816086
Report Date: 2018/03/12

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/01/27 - 2018/02/24
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: JM

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		TB0039	TB0040		
Sampling Date		2018/01/27	2018/01/27		
	UNITS	5	7	RDL	QC Batch
Passive Monitoring					
Calculated NO2	ppb	1.7	0.4	0.1	8930426
Calculated SO2	ppb	<0.1	<0.1	0.1	8927890
RDL = Reportable Detection Limit					

Maxxam Job #: B816086
Report Date: 2018/03/12

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/01/27 - 2018/02/24
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: JM

GENERAL COMMENTS

Travel blank result for SO2 exceeded acceptance criteria of >RDL. Possible contamination may have occurred. Sample results have been blank subtracted.

Results relate only to the items tested.

Maxxam Job #: B816086
Report Date: 2018/03/12

QUALITY ASSURANCE REPORT

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/01/27 - 2018/02/24
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: JM

QC Batch	Parameter	Date	Spiked Blank		Method Blank	
			% Recovery	QC Limits	Value	UNITS
8927890	Calculated SO ₂	2018/03/07	99	90 - 110	<0.1	ppb
8930426	Calculated NO ₂	2018/03/09	99	90 - 110	<0.1	ppb
Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.						
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.						

Maxxam Job #: B816086
Report Date: 2018/03/12

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/01/27 - 2018/02/24
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: JM

VALIDATION SIGNATURE PAGE

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Your P.O. #: 664696
Your Project #: 2018/02/24 - 2018/03/23
Site#: MELIADINE PROJECT
Site Location: MELIADINE

Attention: Meliadine Environment

AGNICO-EAGLE MINES LTD.
Meliadine
10200, Route de Preissac
Rouyn-Noranda, QC
CANADA J0Y1C0

Report Date: 2018/04/13
Report #: R2540883
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B826024

Received: 2018/04/09, 14:31

Sample Matrix: Air
Samples Received: 2

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
NO2 Passive Analysis (1)	2	2018/04/11	2018/04/13	PTC SOP-00148	Passive NO2 in ATM
SO2 Passive Analysis (1)	2	2018/04/12	2018/04/13	PTC SOP-00149	Passive SO2 in Air

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) The detection limit is based on a 30 day sampling period.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Levi Manchak, Project Manager

Email: LManchak@maxxam.ca

Phone# (780)468-3536

=====

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Maxxam Job #: B826024
Report Date: 2018/04/13

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/02/24 - 2018/03/23
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: JM

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		TF9584	TF9585		
Sampling Date		2018/02/24	2018/02/24		
	UNITS	5	7	RDL	QC Batch
Passive Monitoring					
Calculated NO2	ppb	1.1	0.3	0.1	8957253
Calculated SO2	ppb	<0.1	0.1	0.1	8958514
RDL = Reportable Detection Limit					

Maxxam Job #: B826024
Report Date: 2018/04/13

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/02/24 - 2018/03/23
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: JM

GENERAL COMMENTS

Results relate only to the items tested.

Maxxam Job #: B826024
Report Date: 2018/04/13

QUALITY ASSURANCE REPORT

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/02/24 - 2018/03/23
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: JM

QC Batch	Parameter	Date	Spiked Blank		Method Blank	
			% Recovery	QC Limits	Value	UNITS
8957253	Calculated NO2	2018/04/11	100	90 - 110	<0.1	ppb
8958514	Calculated SO2	2018/04/12	101	90 - 110	<0.1	ppb
Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.						
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.						

Maxxam Job #: B826024
Report Date: 2018/04/13

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/02/24 - 2018/03/23
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: JM

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Your P.O. #: 664696
Your Project #: 2018/03/23 - 2018/04/22
Site#: MELIADINE PROJECT
Site Location: MELIADINE

Attention: Meliadine Environment

AGNICO-EAGLE MINES LTD.
Meliadine
10200, Route de Preissac
Rouyn-Noranda, QC
CANADA J0Y1C0

Report Date: 2018/05/10
Report #: R2552370
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B831994

Received: 2018/04/30, 10:45

Sample Matrix: Air
Samples Received: 2

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
NO2 Passive Analysis	2	2018/05/07	2018/05/10	PTC SOP-00148	Passive NO2 in ATM
SO2 Passive Analysis	2	2018/05/01	2018/05/10	PTC SOP-00149	Passive SO2 in ATM

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Levi Manchak, Project Manager SR

Email: LManchak@maxxam.ca

Phone# (780)468-3536

=====

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Maxxam Job #: B831994
Report Date: 2018/05/10

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/03/23 - 2018/04/22
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: JM

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		TI5767	TI5768		
Sampling Date		2018/03/23	2018/03/23		
	UNITS	5	7	RDL	QC Batch
Passive Monitoring					
Calculated NO2	ppb	0.5	<0.1	0.1	8981012
Calculated SO2	ppb	0.2	0.3	0.1	8974705
RDL = Reportable Detection Limit					

Maxxam Job #: B831994
Report Date: 2018/05/10

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/03/23 - 2018/04/22
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: JM

GENERAL COMMENTS

Results relate only to the items tested.

Maxxam Job #: B831994
Report Date: 2018/05/10

QUALITY ASSURANCE REPORT

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/03/23 - 2018/04/22
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: JM

QC Batch	Parameter	Date	Spiked Blank		Method Blank	
			% Recovery	QC Limits	Value	UNITS
8974705	Calculated SO ₂	2018/05/01	100	90 - 110	<0.1	ppb
8981012	Calculated NO ₂	2018/05/07	99	90 - 110	<0.1	ppb
Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.						
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.						

Maxxam Job #: B831994
Report Date: 2018/05/10

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/03/23 - 2018/04/22
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: JM

VALIDATION SIGNATURE PAGE

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Linda Lin, Supervisor, Centre for Passive Sampling Technology

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Your P.O. #: 664696
Your Project #: 2018/04/22 - 2018/05/21
Site#: MELIADINE PROJECT
Site Location: MELIADINE

Attention: Meliadine Environment

AGNICO-EAGLE MINES LTD.
Meliadine
10200, Route de Preissac
Rouyn-Noranda, QC
CANADA J0Y1C0

Report Date: 2018/06/05
Report #: R2563990
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B840597

Received: 2018/05/28, 12:45

Sample Matrix: Air
Samples Received: 2

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
NO2 Passive Analysis	2	2018/05/31	2018/06/05	PTC SOP-00148	Passive NO2 in ATM
SO2 Passive Analysis	2	2018/06/01	2018/06/05	PTC SOP-00149	Passive SO2 in ATM

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Levi Manchak, Project Manager SR

Email: LManchak@maxxam.ca

Phone# (780)468-3536

=====

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B840597
Report Date: 2018/06/05

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/04/22 - 2018/05/21
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: RS

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		TM8850	TM8851		
Sampling Date		2018/04/22	2018/04/22		
	UNITS	5	7	RDL	QC Batch
Passive Monitoring					
Calculated NO2	ppb	<0.1	<0.1	0.1	9007285
Calculated SO2	ppb	<0.1	<0.1	0.1	9008659
RDL = Reportable Detection Limit					

Maxxam Job #: B840597
Report Date: 2018/06/05

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/04/22 - 2018/05/21
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: RS

GENERAL COMMENTS

Travel blank result for NO2 exceeded acceptance criteria of >RDL. Possible contamination may have occurred. Sample results have been blank subtracted.

Results relate only to the items tested.

Maxxam Job #: B840597
Report Date: 2018/06/05

QUALITY ASSURANCE REPORT

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/04/22 - 2018/05/21
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: RS

QC Batch	Parameter	Date	Spiked Blank		Method Blank	
			% Recovery	QC Limits	Value	UNITS
9007285	Calculated NO2	2018/06/01	100	90 - 110	<0.1	ppb
9008659	Calculated SO2	2018/06/04	102	90 - 110	<0.1	ppb
Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.						
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.						

Maxxam Job #: B840597
Report Date: 2018/06/05

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/04/22 - 2018/05/21
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: RS

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Linda Lin, Supervisor, Centre for Passive Sampling Technology

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Your P.O. #: 664696
Your Project #: 2018/05/21 - 2018/06/18
Site#: MELIADINE PROJECT
Site Location: MELIADINE

Attention: Meliadine Environment

AGNICO-EAGLE MINES LTD.
Meliadine
10200, Route de Preissac
Rouyn-Noranda, QC
CANADA J0Y1C0

Report Date: 2018/06/29
Report #: R2580809
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B850807

Received: 2018/06/25, 10:28

Sample Matrix: Air
Samples Received: 2

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
NO2 Passive Analysis	2	2018/06/28	2018/06/29	PTC SOP-00148	Passive NO2 in ATM
SO2 Passive Analysis	2	2018/06/26	2018/06/29	PTC SOP-00149	Passive SO2 in ATM

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Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Levi Manchak, Project Manager SR
Email: LManchak@maxxam.ca
Phone# (780)468-3536

=====

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Maxxam Job #: B850807
Report Date: 2018/06/29

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/05/21 - 2018/06/18
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: JM

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		TS4085	TS4086		
Sampling Date		2018/05/21	2018/05/21		
	UNITS	5	7	RDL	QC Batch
Passive Monitoring					
Calculated NO2	ppb	0.1	0.4	0.1	9042732
Calculated SO2	ppb	<0.1	<0.1	0.1	9039541
RDL = Reportable Detection Limit					

Maxxam Job #: B850807
Report Date: 2018/06/29

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/05/21 - 2018/06/18
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: JM

GENERAL COMMENTS

Travel blank result for SO2 exceeded acceptance criteria of >RDL. Possible contamination may have occurred. Sample results have been blank subtracted.

Results relate only to the items tested.

Maxxam Job #: B850807
Report Date: 2018/06/29

QUALITY ASSURANCE REPORT

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/05/21 - 2018/06/18
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: JM

QC Batch	Parameter	Date	Spiked Blank		Method Blank	
			% Recovery	QC Limits	Value	UNITS
9039541	Calculated SO ₂	2018/06/27	100	90 - 110	<0.1	ppb
9042732	Calculated NO ₂	2018/06/29	99	90 - 110	<0.1	ppb
Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.						
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.						

Maxxam Job #: B850807
Report Date: 2018/06/29

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/05/21 - 2018/06/18
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: JM

VALIDATION SIGNATURE PAGE

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Linda Lin, Supervisor, Centre for Passive Sampling Technology

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Your P.O. #: 664696
Your Project #: 2018/06/18 - 2018/07/20
Site#: MELIADINE PROJECT
Site Location: MELIADINE

Attention: Meliadine Environment

AGNICO-EAGLE MINES LTD.
Meliadine
10200, Route de Preissac
Rouyn-Noranda, QC
CANADA J0Y1C0

Report Date: 2018/08/15
Report #: R2604114
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B863887

Received: 2018/08/01, 07:49

Sample Matrix: Air
Samples Received: 2

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
NO2 Passive Analysis	2	2018/08/02	2018/08/15	PTC SOP-00148	Passive NO2 in ATM
SO2 Passive Analysis	2	2018/08/01	2018/08/15	PTC SOP-00149	Passive SO2 in ATM

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Encryption Key

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Levi Manchak, Project Manager SR
Email: LManchak@maxxam.ca
Phone# (780)468-3536

=====

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Maxxam Job #: B863887
Report Date: 2018/08/15

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/06/18 - 2018/07/20
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: LH

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		TZ2675	TZ2676		
Sampling Date		2018/06/18	2018/06/18		
	UNITS	5	7	RDL	QC Batch
Passive Monitoring					
Calculated NO2	ppb	1.0	0.6	0.1	9089109
Calculated SO2	ppb	0.1	0.2	0.1	9086691
RDL = Reportable Detection Limit					

Maxxam Job #: B863887
Report Date: 2018/08/15

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/06/18 - 2018/07/20
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: LH

GENERAL COMMENTS

Travel blank result for SO2 exceeded acceptance criteria of >RDL. Possible contamination may have occurred. Sample results have been blank subtracted.

Results relate only to the items tested.

Maxxam Job #: B863887
Report Date: 2018/08/15

QUALITY ASSURANCE REPORT

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/06/18 - 2018/07/20
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: LH

QC Batch	Parameter	Date	Spiked Blank		Method Blank	
			% Recovery	QC Limits	Value	UNITS
9086691	Calculated SO ₂		101	90 - 110	<0.1	ppb
9089109	Calculated NO ₂		100	90 - 110	<0.1	ppb
Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.						
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.						

Maxxam Job #: B863887
Report Date: 2018/08/15

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/06/18 - 2018/07/20
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: LH

VALIDATION SIGNATURE PAGE

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Your P.O. #: 664696
Your Project #: 2018/07/20 - 2018/08/08
Site#: MELIADINE PROJECT
Site Location: MELIADINE

Attention: Meliadine Environment

AGNICO-EAGLE MINES LTD.
Meliadine
10200, Route de Preissac
Rouyn-Noranda, QC
CANADA J0Y1C0

Report Date: 2018/08/27
Report #: R2609579
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B868265

Received: 2018/08/15, 09:53

Sample Matrix: Air
Samples Received: 2

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
NO2 Passive Analysis	2	2018/08/20	2018/08/27	PTC SOP-00148	Passive NO2 in ATM
SO2 Passive Analysis	2	2018/08/20	2018/08/27	PTC SOP-00149	Passive SO2 in ATM

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Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Levi Manchak, Project Manager SR
Email: LManchak@maxxam.ca
Phone# (780)468-3536

=====

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Maxxam Job #: B868265
Report Date: 2018/08/27

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/07/20 - 2018/08/08
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: LH

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		UB6840	UB6841		
Sampling Date		2018/07/20	2018/07/20		
	UNITS	5	7	RDL	QC Batch
Passive Monitoring					
Calculated NO2	ppb	<0.1	<0.1	0.1	9109773
Calculated SO2	ppb	<0.1	<0.1	0.1	9109880
RDL = Reportable Detection Limit					

Maxxam Job #: B868265
Report Date: 2018/08/27

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/07/20 - 2018/08/08
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: LH

GENERAL COMMENTS

Results relate only to the items tested.

Maxxam Job #: B868265
Report Date: 2018/08/27

QUALITY ASSURANCE REPORT

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/07/20 - 2018/08/08
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: LH

QC Batch	Parameter	Date	Spiked Blank		Method Blank	
			% Recovery	QC Limits	Value	UNITS
9109773	Calculated NO2		99	90 - 110	<0.1	ppb
9109880	Calculated SO2		102	90 - 110	<0.1	ppb
Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.						
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.						

Maxxam Job #: B868265
Report Date: 2018/08/27

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/07/20 - 2018/08/08
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: LH

VALIDATION SIGNATURE PAGE

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Your P.O. #: 664696
Your Project #: 2018/08/08 - 2018/09/08
Site#: MELIADINE PROJECT
Site Location: MELIADINE

Attention: Meliadine Environment

AGNICO-EAGLE MINES LTD.
Meliadine
10200, Route de Preissac
Rouyn-Noranda, QC
CANADA J0Y1C0

Report Date: 2018/09/25
Report #: R2624568
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B879862

Received: 2018/09/17, 13:14

Sample Matrix: Air
Samples Received: 2

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
NO2 Passive Analysis	2	2018/09/19	2018/09/25	PTC SOP-00148	Passive NO2 in ATM
SO2 Passive Analysis	2	2018/09/18	2018/09/25	PTC SOP-00149	Passive SO2 in ATM

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Encryption Key

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Levi Manchak, Project Manager SR
Email: LManchak@maxxam.ca
Phone# (780)468-3536

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Maxxam Job #: B879862
Report Date: 2018/09/25

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/08/08 - 2018/09/08
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: LH

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		UI3457	UI3458		
Sampling Date		2018/08/08	2018/08/08		
	UNITS	5	7	RDL	QC Batch
Passive Monitoring					
Calculated NO2	ppb	0.6	0.4	0.1	9148822
Calculated SO2	ppb	<0.1	0.1	0.1	9148107
RDL = Reportable Detection Limit					

Maxxam Job #: B879862
Report Date: 2018/09/25

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/08/08 - 2018/09/08
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: LH

GENERAL COMMENTS

Results relate only to the items tested.

Maxxam Job #: B879862
Report Date: 2018/09/25

QUALITY ASSURANCE REPORT

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/08/08 - 2018/09/08
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: LH

QC Batch	Parameter	Date	Spiked Blank		Method Blank	
			% Recovery	QC Limits	Value	UNITS
9148107	Calculated SO ₂		100	90 - 110	<0.1	ppb
9148822	Calculated NO ₂		100	90 - 110	<0.1	ppb
Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.						
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.						

Maxxam Job #: B879862
Report Date: 2018/09/25

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/08/08 - 2018/09/08
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: LH

VALIDATION SIGNATURE PAGE

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Your P.O. #: 664696
Your Project #: 2018/09/09 - 2018/10/14
Site#: MELIADINE PROJECT
Site Location: MELIADINE

Attention: Meliadine Environment

AGNICO-EAGLE MINES LTD.
Meliadine
10200, Route de Preissac
Rouyn-Noranda, QC
CANADA J0Y1C0

Report Date: 2018/10/26
Report #: R2640980
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B892539

Received: 2018/10/23, 08:17

Sample Matrix: Air
Samples Received: 2

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
NO2 Passive Analysis	2	2018/10/24	2018/10/26	PTC SOP-00148	Passive NO2 in ATM
SO2 Passive Analysis	2	2018/10/23	2018/10/26	PTC SOP-00149	Passive SO2 in ATM

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Encryption Key

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Levi Manchak, Project Manager SR
Email: LManchak@maxxam.ca
Phone# (780)468-3536

=====

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Maxxam Job #: B892539
Report Date: 2018/10/26

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/09/09 - 2018/10/14
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: LH

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		UP5731	UP5732		
Sampling Date		2018/09/09	2018/09/09		
	UNITS	5	7	RDL	QC Batch
Passive Monitoring					
Calculated NO2	ppb	1.1	0.3	0.1	9197720
Calculated SO2	ppb	0.1	0.1	0.1	9196342
RDL = Reportable Detection Limit					

Maxxam Job #: B892539
Report Date: 2018/10/26

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/09/09 - 2018/10/14
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: LH

GENERAL COMMENTS

Results relate only to the items tested.

Maxxam Job #: B892539
Report Date: 2018/10/26

QUALITY ASSURANCE REPORT

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/09/09 - 2018/10/14
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: LH

QC Batch	Parameter	Date	Spiked Blank		Method Blank	
			% Recovery	QC Limits	Value	UNITS
9196342	Calculated SO ₂		98	90 - 110	<0.1	ppb
9197720	Calculated NO ₂		101	90 - 110	<0.1	ppb
Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.						
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.						

Maxxam Job #: B892539
Report Date: 2018/10/26

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/09/09 - 2018/10/14
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: LH

VALIDATION SIGNATURE PAGE

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Your P.O. #: 664696
Your Project #: 2018/10/14 - 2018/11/12
Site#: MELIADINE PROJECT
Site Location: MELIADINE

Attention: Meliadine Environment

AGNICO-EAGLE MINES LTD.
Meliadine
10200, Route de Preissac
Rouyn-Noranda, QC
CANADA J0Y1C0

Report Date: 2018/11/27
Report #: R2656188
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B8A1306

Received: 2018/11/19, 10:57

Sample Matrix: Air
Samples Received: 2

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
NO2 Passive Analysis	2	2018/11/21	2018/11/27	PTC SOP-00148	Passive NO2 in ATM
SO2 Passive Analysis	2	2018/11/19	2018/11/27	PTC SOP-00149	Passive SO2 in ATM

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Encryption Key

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Levi Manchak, Project Manager SR
Email: LManchak@maxxam.ca
Phone# (780)468-3536

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Maxxam Job #: B8A1306
Report Date: 2018/11/27

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/10/14 - 2018/11/12
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: FA

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		UU4796	UU4797		
Sampling Date		2018/10/14	2018/10/14		
	UNITS	5	7	RDL	QC Batch
Passive Monitoring					
Calculated NO2	ppb	0.5	0.5	0.1	9236803
Calculated SO2	ppb	<0.1	<0.1	0.1	9233532
RDL = Reportable Detection Limit					

Maxxam Job #: B8A1306
Report Date: 2018/11/27

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/10/14 - 2018/11/12
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: FA

GENERAL COMMENTS

Results relate only to the items tested.

Maxxam Job #: B8A1306
Report Date: 2018/11/27

QUALITY ASSURANCE REPORT

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/10/14 - 2018/11/12
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: FA

QC Batch	Parameter	Date	Spiked Blank		Method Blank	
			% Recovery	QC Limits	Value	UNITS
9233532	Calculated SO ₂		98	90 - 110	<0.1	ppb
9236803	Calculated NO ₂		100	90 - 110	<0.1	ppb
Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.						
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.						

Maxxam Job #: B8A1306
Report Date: 2018/11/27

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/10/14 - 2018/11/12
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: FA

VALIDATION SIGNATURE PAGE

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Your P.O. #: 664696
Your Project #: 2018/11/12 - 2018/12/13
Site#: MELIADINE PROJECT
Site Location: MELIADINE

Attention: Meliadine Environment

AGNICO-EAGLE MINES LTD.
Meliadine
10200, Route de Preissac
Rouyn-Noranda, QC
CANADA J0Y1C0

Report Date: 2019/01/07
Report #: R2671543
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B8B1539

Received: 2018/12/24, 09:34

Sample Matrix: Air
Samples Received: 2

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
NO2 Passive Analysis	2	2018/12/26	2019/01/04	PTC SOP-00148	Passive NO2 in ATM
SO2 Passive Analysis	2	2018/12/26	2019/01/04	PTC SOP-00149	Passive SO2 in ATM

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Encryption Key

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Levi Manchak, Project Manager SR
Email: LManchak@maxxam.ca
Phone# (780)468-3536

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Maxxam Job #: B8B1539
Report Date: 2019/01/07

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/11/12 - 2018/12/13
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: FA

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		UZ8708	UZ8709		
Sampling Date		2018/11/12	2018/11/12		
	UNITS	5	7	RDL	QC Batch
Passive Monitoring					
Calculated NO2	ppb	1.7	1.6	0.1	9276606
Calculated SO2	ppb	<0.1	<0.1	0.1	9276616
RDL = Reportable Detection Limit					

Maxxam Job #: B8B1539
Report Date: 2019/01/07

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/11/12 - 2018/12/13
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: FA

GENERAL COMMENTS

Results relate only to the items tested.

Maxxam Job #: B8B1539
Report Date: 2019/01/07

QUALITY ASSURANCE REPORT

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/11/12 - 2018/12/13
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: FA

QC Batch	Parameter	Date	Spiked Blank		Method Blank	
			% Recovery	QC Limits	Value	UNITS
9276606	Calculated NO2		100	90 - 110	<0.1	ppb
9276616	Calculated SO2		100	90 - 110	<0.1	ppb
Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.						
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.						

Maxxam Job #: B8B1539
Report Date: 2019/01/07

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/11/12 - 2018/12/13
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: FA

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Linda Lin, Supervisor, Centre for Passive Sampling Technology

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Your P.O. #: 573774
Your Project #: 2017/12/30 - 2018/01/27
Site#: MELIADINE PROJECT
Site Location: MELIADINE

Attention: Meliadine Environment

AGNICO-EAGLE MINES LTD.
Meliadine
10200, Route de Preissac
Rouyn-Noranda, QC
CANADA J0Y1C0

Report Date: 2018/02/12
Report #: R2513063
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B808223

Received: 2018/02/02, 10:46

Sample Matrix: Air
Samples Received: 10

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Determination of Dustfall-mg/cm2/30 days	10	2018/02/12	2018/02/12		PTC SOP-00180
Total & Fixed Dustfall	10	2018/02/12	2018/02/12	PTC SOP-00180	AMD 32020
Exposure (Number of days)	10	2018/02/12	2018/02/12	PTC SOP-00146 PTC SOP-00154 PTC SOP-00180	

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Levi Manchak, Project Manager
Email: LManchak@maxxam.ca
Phone# (780)468-3536

=====

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Maxxam Job #: B808223
Report Date: 2018/02/12

AGNICO-EAGLE MINES LTD.
Client Project #: 2017/12/30 - 2018/01/27
Site Location: MELIADINE
Your P.O. #: 573774
Sampler Initials: JM

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		SX1835	SX1836		SX1837		SX1838	SX1839		
Sampling Date		2017/12/31	2017/12/31		2017/12/31		2017/12/31	2017/12/31		
	UNITS	DUSTFALL 1	DUSTFALL 2	RDL	DUSTFALL 3	RDL	DUSTFALL 4	DUSTFALL 5	RDL	QC Batch
Industrial										
Exposure	days	28	28	1	28	1	27	27	1	8907993
Dustfall Determination										
Total Dustfall	mg	6	3	2	2	1	8	8	2	8907990
Total Dustfall (30 day)	mg/cm2/30day	0.079	0.035	0.002	0.028	0.001	0.105	0.114	0.002	8907991
Total Fixed Dustfall	mg	7	<2	2	2	1	6	8	2	8907990
Total Fixed Dustfall (30 day)	mg/cm2/30day	0.094	0.024	0.002	0.028	0.001	0.075	0.114	0.002	8907991
RDL = Reportable Detection Limit										

Maxxam ID		SX1840	SX1841		SX1842	SX1843		
Sampling Date		2017/12/31	2017/12/31		2017/12/31	2017/12/31		
	UNITS	DUSTFALL 6	DUSTFALL 7	RDL	DUSTFALL OFFICE	DUSTFALL SARLIAQ	RDL	QC Batch
Industrial								
Exposure	days	27	27	1	28	28	1	8907993
Dustfall Determination								
Total Dustfall	mg	3	2	1	12	11	2	8907990
Total Dustfall (30 day)	mg/cm2/30day	0.038	0.033	0.001	0.153	0.142	0.002	8907991
Total Fixed Dustfall	mg	4	2	1	11	6	2	8907990
Total Fixed Dustfall (30 day)	mg/cm2/30day	0.048	0.033	0.001	0.142	0.079	0.002	8907991
RDL = Reportable Detection Limit								

Maxxam ID		SX1844		
Sampling Date		2017/12/31		
	UNITS	DUSTFALL 2018-0005	RDL	QC Batch
Industrial				
Exposure	days	28	1	8907993
Dustfall Determination				
Total Dustfall	mg	3	2	8907990
Total Dustfall (30 day)	mg/cm2/30day	0.039	0.002	8907991
Total Fixed Dustfall	mg	2	2	8907990
Total Fixed Dustfall (30 day)	mg/cm2/30day	0.026	0.002	8907991
RDL = Reportable Detection Limit				

Maxxam Job #: B808223
Report Date: 2018/02/12

AGNICO-EAGLE MINES LTD.
Client Project #: 2017/12/30 - 2018/01/27
Site Location: MELIADINE
Your P.O. #: 573774
Sampler Initials: JM

GENERAL COMMENTS

Results relate only to the items tested.

Maxxam Job #: B808223
Report Date: 2018/02/12

QUALITY ASSURANCE REPORT

AGNICO-EAGLE MINES LTD.
Client Project #: 2017/12/30 - 2018/01/27
Site Location: MELIADINE
Your P.O. #: 573774
Sampler Initials: JM

QC Batch	Parameter	Date	Method Blank	
			Value	UNITS
8907990	Total Dustfall	2018/02/12	<1	mg
8907990	Total Fixed Dustfall	2018/02/12	<1	mg
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.				

Maxxam Job #: B808223
Report Date: 2018/02/12

AGNICO-EAGLE MINES LTD.
Client Project #: 2017/12/30 - 2018/01/27
Site Location: MELIADINE
Your P.O. #: 573774
Sampler Initials: JM

VALIDATION SIGNATURE PAGE

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Linda Lin, Supervisor, Centre for Passive Sampling Technology

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Your P.O. #: 664696
Your Project #: 2018/01/27 - 2018/02/24
Site#: MELIADINE PROJECT
Site Location: MELIADINE

Attention: Meliadine Environment

AGNICO-EAGLE MINES LTD.
Meliadine
10200, Route de Preissac
Rouyn-Noranda, QC
CANADA J0Y1C0

Report Date: 2018/03/27
Report #: R2533209
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B816083
Received: 2018/03/05, 12:53

Sample Matrix: Air
Samples Received: 10

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Determination of Dustfall-mg/cm2/30 days	10	2018/03/16	2018/03/16		PTC SOP-00180
Total & Fixed Dustfall	10	2018/03/16	2018/03/16	PTC SOP-00180	AMD 32020
Exposure (Number of days)	10	2018/03/16	2018/03/16	PTC SOP-00146 PTC SOP-00154 PTC SOP-00180	
Metals via Dustfall	10	2018/03/09	N/A		

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Levi Manchak, Project Manager
Email: LManchak@maxxam.ca
Phone# (780)468-3536

=====

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Maxxam Job #: B816083
Report Date: 2018/03/27

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/01/27 - 2018/02/24
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: JM

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		TB0022	TB0023	TB0024	TB0025		TB0026		
Sampling Date		2018/01/27	2018/01/27	2018/01/27	2018/01/27		2018/01/27		
	UNITS	DUSTFALL 1	DUSTFALL 2	DUSTFALL 3	DUSTFALL 4	RDL	DUSTFALL 5	RDL	QC Batch
Industrial									
Exposure	days	28	28	28	28	1	28	1	8936758
Dustfall Determination									
Total Dustfall	mg	3	2	<1	<1	1	4	2	8936755
Total Dustfall (30 day)	mg/cm2/30day	0.042	0.021	0.010	0.008	0.001	0.047	0.002	8936756
Total Fixed Dustfall	mg	<1	<1	<1	<1	1	<2	2	8936755
Total Fixed Dustfall (30 day)	mg/cm2/30day	<0.001	<0.001	<0.001	0.008	0.001	0.012	0.002	8936756
Internal Sublet Analysis									
See Attachment	N/A	1.0	1.0	1.0	1.0	N/A	1.0	N/A	8935268
RDL = Reportable Detection Limit N/A = Not Applicable									

Maxxam ID		TB0027	TB0028		TB0029	TB0030		
Sampling Date		2018/01/27	2018/01/27		2018/01/27	2018/01/27		
	UNITS	DUSTFALL 6	DUSTFALL 7	RDL	DUSTFALL OFFICE	DUSTFALL SARLIAQ	RDL	QC Batch
Industrial								
Exposure	days	28	28	1	28	28	1	8936758
Dustfall Determination								
Total Dustfall	mg	2	6	1	15	3	2	8936755
Total Dustfall (30 day)	mg/cm2/30day	0.021	0.073	0.001	0.202	0.035	0.002	8936756
Total Fixed Dustfall	mg	<1	<1	1	9	<2	2	8936755
Total Fixed Dustfall (30 day)	mg/cm2/30day	<0.001	<0.001	0.001	0.115	<0.002	0.002	8936756
Internal Sublet Analysis								
See Attachment	N/A	1.0	1.0	N/A	1.0	1.0	N/A	8935268
RDL = Reportable Detection Limit N/A = Not Applicable								

Maxxam Job #: B816083
Report Date: 2018/03/27

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/01/27 - 2018/02/24
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: JM

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		TB0031		
Sampling Date		2018/01/27		
	UNITS	DUSTFALL 2018-0016	RDL	QC Batch
Industrial				
Exposure	days	28	1	8936758
Dustfall Determination				
Total Dustfall	mg	4	1	8936755
Total Dustfall (30 day)	mg/cm2/30day	0.055	0.001	8936756
Total Fixed Dustfall	mg	<1	1	8936755
Total Fixed Dustfall (30 day)	mg/cm2/30day	<0.001	0.001	8936756
Internal Sublet Analysis				
See Attachment	N/A	1.0	N/A	8935268
RDL = Reportable Detection Limit N/A = Not Applicable				

Maxxam Job #: B816083
Report Date: 2018/03/27

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/01/27 - 2018/02/24
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: JM

GENERAL COMMENTS

Results relate only to the items tested.

Maxxam Job #: B816083
Report Date: 2018/03/27

QUALITY ASSURANCE REPORT

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/01/27 - 2018/02/24
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: JM

QC Batch	Parameter	Date	Method Blank	
			Value	UNITS
8936755	Total Dustfall	2018/03/16	<1	mg
8936755	Total Fixed Dustfall	2018/03/16	<1	mg
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.				

Maxxam Job #: B816083
Report Date: 2018/03/27

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/01/27 - 2018/02/24
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: JM

VALIDATION SIGNATURE PAGE

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Your P.O. #: 664696
Your Project #: 2018/02/24 - 2018/03/23
Site#: MELIADINE PROJECT
Site Location: MELIADINE

Attention: Meliadine Environment

AGNICO-EAGLE MINES LTD.
Meliadine
10200, Route de Preissac
Rouyn-Noranda, QC
CANADA J0Y1C0

Report Date: 2018/04/24
Report #: R2545365
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B826016
Received: 2018/04/09, 14:22

Sample Matrix: Air
Samples Received: 10

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
Determination of Dustfall-mg/cm2/30 days	10	2018/04/12	2018/04/12		PTC SOP-00180
Total & Fixed Dustfall	10	2018/04/12	2018/04/12	PTC SOP-00180	AMD 32020
Exposure (Number of days)	10	2018/04/12	2018/04/12	PTC SOP-00146 PTC SOP-00154 PTC SOP-00180	

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Levi Manchak, Project Manager SR
Email: LManchak@maxxam.ca
Phone# (780)468-3536

=====

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Maxxam Job #: B826016
Report Date: 2018/04/24

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/02/24 - 2018/03/23
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: JM

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		TF9542	TF9543	TF9544	TF9545	TF9546	TF9547		
Sampling Date		2018/02/24	2018/02/24	2018/02/24	2018/02/24	2018/02/24	2018/02/24		
	UNITS	DUSTFALL 1	DUSTFALL 2	DUSTFALL 3	DUSTFALL 4	DUSTFALL 5	DUSTFALL 6	RDL	QC Batch
Industrial									
Exposure	days	27	27	27	27	27	27	1	8958526
Dustfall Determination									
Total Dustfall	mg	2	2	2	2	1	<1	1	8958522
Total Dustfall (30 day)	mg/cm2/30day	0.033	0.033	0.033	0.033	0.016	<0.001	0.001	8958524
Total Fixed Dustfall	mg	1	2	2	4	3	4	1	8958522
Total Fixed Dustfall (30 day)	mg/cm2/30day	0.016	0.033	0.024	0.057	0.041	0.049	0.001	8958524
RDL = Reportable Detection Limit									

Maxxam ID		TF9548	TF9549	TF9550		TF9551			
Sampling Date		2018/02/24	2018/02/24	2018/02/24		2018/02/24			
	UNITS	DUSTFALL 7	DUSTFALL OFFICE	DUSTFALL SARLIAQ	RDL	DUSTFALL 2018-0023	RDL	QC Batch	
Industrial									
Exposure	days	27	27	27	1	27	1	8958526	
Dustfall Determination									
Total Dustfall	mg	4	21	5	1	<2	2	8958522	
Total Dustfall (30 day)	mg/cm2/30day	0.049	0.286	0.073	0.001	0.012	0.002	8958524	
Total Fixed Dustfall	mg	5	19	7	1	<2	2	8958522	
Total Fixed Dustfall (30 day)	mg/cm2/30day	0.073	0.253	0.090	0.001	0.024	0.002	8958524	
RDL = Reportable Detection Limit									

Maxxam Job #: B826016
Report Date: 2018/04/24

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/02/24 - 2018/03/23
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: JM

GENERAL COMMENTS

Results relate only to the items tested.

Maxxam Job #: B826016
Report Date: 2018/04/24

QUALITY ASSURANCE REPORT

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/02/24 - 2018/03/23
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: JM

			Method Blank	
QC Batch	Parameter	Date	Value	UNITS
8958522	Total Dustfall	2018/04/12	<1	mg
8958522	Total Fixed Dustfall	2018/04/12	<1	mg
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.				

Maxxam Job #: B826016
Report Date: 2018/04/24

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/02/24 - 2018/03/23
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: JM

VALIDATION SIGNATURE PAGE

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Your P.O. #: 664696
Your Project #: 2018/03/23 - 2018/04/22
Site#: MELIADINE PROJECT
Site Location: MELIADINE

Attention: Meliadine Environment

AGNICO-EAGLE MINES LTD.
Meliadine
10200, Route de Preissac
Rouyn-Noranda, QC
CANADA J0Y1C0

Report Date: 2018/05/14
Report #: R2553578
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B831988

Received: 2018/04/30, 10:33

Sample Matrix: Air
Samples Received: 9

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
Determination of Dustfall	9	2018/05/02	2018/05/02	PTC SOP-00180	AMD 32020
Total & Fixed Dustfall	9	2018/05/02	2018/05/02	PTC SOP-00180	AMD 32020
Exposure (Number of days)	9	2018/05/02	2018/05/02	PTC SOP-00154 PTC SOP-00180	

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Levi Manchak, Project Manager SR

Email: LManchak@maxxam.ca

Phone# (780)468-3536

=====

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Maxxam Job #: B831988
Report Date: 2018/05/14

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/03/23 - 2018/04/22
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: JM

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		TI5733	TI5734	TI5735	TI5736	TI5737	TI5738		
Sampling Date		2018/03/23	2018/03/23	2018/03/23	2018/03/23	2018/03/23	2018/03/23		
	UNITS	DUSTFALL 1	DUSTFALL 2	DUSTFALL 3	DUSTFALL 4	DUSTFALL 5	DUSTFALL 6	RDL	QC Batch
Dustfall Determination									
Total Dustfall	mg	3	5	4	5	10	6	1	8976444
Total Dustfall (30 day)	mg/cm2/30day	0.037	0.059	0.051	0.059	0.118	0.073	0.001	8976449
Total Fixed Dustfall	mg	4	5	5	5	9	5	1	8976444
Total Fixed Dustfall (30 day)	mg/cm2/30day	0.044	0.059	0.059	0.066	0.110	0.059	0.001	8976449
Physical Properties									
Exposure	days	30	30	30	30	30	30	1	8976461
RDL = Reportable Detection Limit									

Maxxam ID		TI5739	TI5740	TI5741		
Sampling Date		2018/03/23	2018/03/23	2018/03/23		
	UNITS	DUSTFALL 7	DUSTFALL OFFICE	DUSTFALL SARLIAQ	RDL	QC Batch
Dustfall Determination						
Total Dustfall	mg	6	50	19	1	8976444
Total Dustfall (30 day)	mg/cm2/30day	0.073	0.607	0.235	0.001	8976449
Total Fixed Dustfall	mg	3	45	17	1	8976444
Total Fixed Dustfall (30 day)	mg/cm2/30day	0.037	0.549	0.213	0.001	8976449
Physical Properties						
Exposure	days	30	30	30	1	8976461
RDL = Reportable Detection Limit						

Maxxam Job #: B831988
Report Date: 2018/05/14

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/03/23 - 2018/04/22
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: JM

GENERAL COMMENTS

Results relate only to the items tested.

Maxxam Job #: B831988
Report Date: 2018/05/14

QUALITY ASSURANCE REPORT

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/03/23 - 2018/04/22
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: JM

			Method Blank	
QC Batch	Parameter	Date	Value	UNITS
8976444	Total Dustfall	2018/05/02	<1	mg
8976444	Total Fixed Dustfall	2018/05/02	<1	mg
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.				

Maxxam Job #: B831988
Report Date: 2018/05/14

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/03/23 - 2018/04/22
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: JM

VALIDATION SIGNATURE PAGE

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Linda Lin, Supervisor, Centre for Passive Sampling Technology

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Your P.O. #: 664696
Your Project #: 2018/04/22 - 2018/05/21
Site#: MELIADINE PROJECT
Site Location: MELIADINE

Attention: Meliadine Environment

AGNICO-EAGLE MINES LTD.
Meliadine
10200, Route de Preissac
Rouyn-Noranda, QC
CANADA J0Y1C0

Report Date: 2018/06/19
Report #: R2574336
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B840598

Received: 2018/05/28, 12:47

Sample Matrix: Air
Samples Received: 10

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
Determination of Dustfall	10	2018/05/31	2018/05/31	PTC SOP-00180	AMD 32020
Total & Fixed Dustfall	10	2018/05/31	2018/05/31	PTC SOP-00180	AMD 32020
Exposure (Number of days)	10	2018/05/31	2018/05/31	PTC SOP-00154 PTC SOP-00180	

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Levi Manchak, Project Manager SR

Email: LManchak@maxxam.ca

Phone# (780)468-3536

=====

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Maxxam Job #: B840598
Report Date: 2018/06/19

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/04/22 - 2018/05/21
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: RS

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		TM8853	TM8854	TM8855	TM8856	TM8857	TM8858		
Sampling Date		2018/04/22	2018/04/22	2018/04/22	2018/04/22	2018/04/22	2018/04/22		
	UNITS	DUSTFALL 1	DUSTFALL 2	DUSTFALL 3	DUSTFALL 4	DUSTFALL 5	DUSTFALL 6	RDL	QC Batch
Dustfall Determination									
Total Dustfall	mg	5	13	14	6	11	4	1	9007176
Total Dustfall (30 day)	mg/cm2/30day	0.068	0.162	0.175	0.076	0.137	0.046	0.001	9007180
Total Fixed Dustfall	mg	3	2	8	2	6	<1	1	9007176
Total Fixed Dustfall (30 day)	mg/cm2/30day	0.038	0.030	0.106	0.030	0.076	0.008	0.001	9007180
Physical Properties									
Exposure	days	29	29	29	29	29	29	1	9007196
RDL = Reportable Detection Limit									

Maxxam ID		TM8859	TM8860	TM8861	TM8862		
Sampling Date		2018/04/22	2018/04/22	2018/04/22	2018/04/22		
	UNITS	DUSTFALL 7	DUSTFALL OFFICE	DUSTFALL SARLIAQ	2018-0042	RDL	QC Batch
Dustfall Determination							
Total Dustfall	mg	10	150	83	8	1	9007176
Total Dustfall (30 day)	mg/cm2/30day	0.132	1.875	1.046	0.101	0.001	9007180
Total Fixed Dustfall	mg	6	140	77	1	1	9007176
Total Fixed Dustfall (30 day)	mg/cm2/30day	0.071	1.761	0.975	0.013	0.001	9007180
Physical Properties							
Exposure	days	29	29	29	29	1	9007196
RDL = Reportable Detection Limit							

Maxxam Job #: B840598
Report Date: 2018/06/19

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/04/22 - 2018/05/21
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: RS

GENERAL COMMENTS

Results relate only to the items tested.

Maxxam Job #: B840598
Report Date: 2018/06/19

QUALITY ASSURANCE REPORT

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/04/22 - 2018/05/21
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: RS

QC Batch	Parameter	Date	Method Blank	
			Value	UNITS
9007176	Total Dustfall	2018/05/31	<1	mg
9007176	Total Fixed Dustfall	2018/05/31	<1	mg
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.				

Maxxam Job #: B840598
Report Date: 2018/06/19

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/04/22 - 2018/05/21
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: RS

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Linda Lin, Supervisor, Centre for Passive Sampling Technology

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Your P.O. #: 664696
Your Project #: 2018/05/21 - 2018/06/18
Site#: MELIADINE PROJECT
Site Location: MELIADINE

Attention: Meliadine Environment

AGNICO-EAGLE MINES LTD.
Meliadine
10200, Route de Preissac
Rouyn-Noranda, QC
CANADA J0Y1C0

Report Date: 2018/07/12
Report #: R2587557
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B850792

Received: 2018/06/25, 10:19

Sample Matrix: Air
Samples Received: 10

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
Determination of Dustfall	10	2018/06/29	2018/06/29	PTC SOP-00180	AMD 32020
Total & Fixed Dustfall	10	2018/06/29	2018/06/29	PTC SOP-00180	AMD 32020
Exposure (Number of days)	10	2018/06/29	2018/06/29	PTC SOP-00154 PTC SOP-00180	

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Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Levi Manchak, Project Manager SR
Email: LManchak@maxxam.ca
Phone# (780)468-3536

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Maxxam Job #: B850792
Report Date: 2018/07/12

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/05/21 - 2018/06/18
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: JM

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		TS4048	TS4049	TS4050	TS4051	TS4052	TS4053		
Sampling Date		2018/05/21	2018/05/21	2018/05/21	2018/05/21	2018/05/21	2018/05/21		
	UNITS	DUSTFALL 1	DUSTFALL 2	DUSTFALL 3	DUSTFALL 4	DUSTFALL 5	DUSTFALL 6	RDL	QC Batch
Dustfall Determination									
Total Dustfall	mg	14	17	39	17	13	8	1	9044573
Total Dustfall (30 day)	mg/cm2/30day	0.187	0.228	0.512	0.220	0.165	0.110	0.001	9044574
Total Fixed Dustfall	mg	17	17	38	13	11	7	1	9044573
Total Fixed Dustfall (30 day)	mg/cm2/30day	0.216	0.220	0.496	0.173	0.150	0.087	0.001	9044574
Physical Properties									
Exposure	days	28	28	28	28	28	28	1	9044576
RDL = Reportable Detection Limit									

Maxxam ID		TS4054	TS4055	TS4056		TS4057		
Sampling Date		2018/05/21	2018/05/21	2018/05/21		2018/05/21		
	UNITS	DUSTFALL 7	DUSTFALL OFFICE	DUSTFALL SARLIAQ	RDL	2018-0047	RDL	QC Batch
Dustfall Determination								
Total Dustfall	mg	8	99	28	1	4	2	9044573
Total Dustfall (30 day)	mg/cm2/30day	0.102	1.294	0.367	0.001	0.052	0.002	9044574
Total Fixed Dustfall	mg	5	95	27	1	<2	2	9044573
Total Fixed Dustfall (30 day)	mg/cm2/30day	0.071	1.249	0.358	0.001	0.013	0.002	9044574
Physical Properties								
Exposure	days	28	28	28	1	28	1	9044576
RDL = Reportable Detection Limit								

Maxxam Job #: B850792
Report Date: 2018/07/12

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/05/21 - 2018/06/18
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: JM

GENERAL COMMENTS

Results relate only to the items tested.

Maxxam Job #: B850792
Report Date: 2018/07/12

QUALITY ASSURANCE REPORT

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/05/21 - 2018/06/18
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: JM

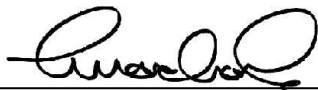
QC Batch	Parameter	Date	Method Blank	
			Value	UNITS
9044573	Total Dustfall	2018/06/29	<1	mg
9044573	Total Fixed Dustfall	2018/06/29	<1	mg
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.				

Maxxam Job #: B850792
Report Date: 2018/07/12

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/05/21 - 2018/06/18
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: JM

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Levi Manchak, Project Manager SR

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Your P.O. #: 664696
Your Project #: 2018/05/21 - 2018/06/18
Site#: MELIADINE PROJECT
Site Location: MELIADINE

Attention: Meliadine Environment

AGNICO-EAGLE MINES LTD.
Meliadine
10200, Route de Preissac
Rouyn-Noranda, QC
CANADA J0Y1C0

Report Date: 2018/09/18
Report #: R2620853
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

MAXXAM JOB #: B850792

Received: 2018/06/25, 10:19

Sample Matrix: Air
Samples Received: 10

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
Determination of Dustfall	10	2018/06/29	2018/06/29	PTC SOP-00180	AMD 32020
Total & Fixed Dustfall	10	2018/06/29	2018/06/29	PTC SOP-00180	AMD 32020
Exposure (Number of days)	10	2018/06/29	2018/06/29	PTC SOP-00154 PTC SOP-00180	

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Results relate only to the items tested.

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Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Levi Manchak, Project Manager SR
Email: LManchak@maxxam.ca
Phone# (780)468-3536

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Maxxam Job #: B850792
Report Date: 2018/09/18

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/05/21 - 2018/06/18
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: JM

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		TS4048	TS4049	TS4050	TS4051	TS4052	TS4053		
Sampling Date		2018/05/21	2018/05/21	2018/05/21	2018/05/21	2018/05/21	2018/05/21		
	UNITS	DUSTFALL 1	DUSTFALL 2	DUSTFALL 3	DUSTFALL 4	DUSTFALL 5	DUSTFALL 6	RDL	QC Batch
Dustfall Determination									
Total Dustfall	mg	14	17	39	17	13	8	1	9044573
Total Dustfall (30 day)	mg/cm2/30day	0.187	0.228	0.512	0.220	0.165	0.110	0.001	9044574
Total Fixed Dustfall	mg	17	17	38	13	11	7	1	9044573
Total Fixed Dustfall (30 day)	mg/cm2/30day	0.216	0.220	0.496	0.173	0.150	0.087	0.001	9044574
Physical Properties									
Exposure	days	28	28	28	28	28	28	1	9044576
RDL = Reportable Detection Limit									

Maxxam ID		TS4054	TS4055	TS4056		TS4057		
Sampling Date		2018/05/21	2018/05/21	2018/05/21		2018/05/21		
	UNITS	DUSTFALL 7	DUSTFALL OFFICE	DUSTFALL SARLIAQ	RDL	2018-0047	RDL	QC Batch
Dustfall Determination								
Total Dustfall	mg	8	99	28	1	4	2	9044573
Total Dustfall (30 day)	mg/cm2/30day	0.102	1.294	0.367	0.001	0.052	0.002	9044574
Total Fixed Dustfall	mg	5	95	27	1	<2	2	9044573
Total Fixed Dustfall (30 day)	mg/cm2/30day	0.071	1.249	0.358	0.001	0.013	0.002	9044574
Physical Properties								
Exposure	days	28	28	28	1	28	1	9044576
RDL = Reportable Detection Limit								

Maxxam Job #: B850792
Report Date: 2018/09/18

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/05/21 - 2018/06/18
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: JM

GENERAL COMMENTS

Results relate only to the items tested.

Maxxam Job #: B850792
Report Date: 2018/09/18

QUALITY ASSURANCE REPORT

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/05/21 - 2018/06/18
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: JM

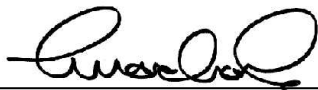
QC Batch	Parameter	Date	Method Blank	
			Value	UNITS
9044573	Total Dustfall	2018/06/29	<1	mg
9044573	Total Fixed Dustfall	2018/06/29	<1	mg
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.				

Maxxam Job #: B850792
Report Date: 2018/09/18

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/05/21 - 2018/06/18
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: JM

VALIDATION SIGNATURE PAGE

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Levi Manchak, Project Manager SR

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Your P.O. #: 664696
Your Project #: 2018/06/18 - 2018/07/20
Site#: MELIADINE PROJECT
Site Location: MELIADINE

Attention: Meliadine Environment

AGNICO-EAGLE MINES LTD.
Meliadine
10200, Route de Preissac
Rouyn-Noranda, QC
CANADA J0Y1C0

Report Date: 2018/08/15
Report #: R2604103
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B863886

Received: 2018/08/01, 07:45

Sample Matrix: Air
Samples Received: 10

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
Determination of Dustfall	10	2018/08/02	2018/08/02	PTC SOP-00180	AMD 32020
Total & Fixed Dustfall	10	2018/08/02	2018/08/02	PTC SOP-00180	AMD 32020
Exposure (Number of days)	10	2018/08/02	2018/08/02	PTC SOP-00154 PTC SOP-00180	

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Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Levi Manchak, Project Manager SR
Email: LManchak@maxxam.ca
Phone# (780)468-3536

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Maxxam Job #: B863886
Report Date: 2018/08/15

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/06/18 - 2018/07/20
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: LH

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		TZ2665	TZ2666	TZ2667	TZ2668	TZ2669	TZ2670		
Sampling Date		2018/06/18	2018/06/18	2018/06/18	2018/06/18	2018/06/18	2018/06/18		
	UNITS	DUSTFALL 1	DUSTFALL 2	DUSTFALL 3	DUSTFALL 4	DUSTFALL 5	DUSTFALL 6	RDL	QC Batch
Dustfall Determination									
Total Dustfall	mg	14	7	16	7	8	5	1	9088537
Total Dustfall (30 day)	mg/cm2/30day	0.165	0.083	0.186	0.083	0.090	0.062	0.001	9088538
Total Fixed Dustfall	mg	14	7	14	4	8	4	1	9088537
Total Fixed Dustfall (30 day)	mg/cm2/30day	0.165	0.076	0.165	0.048	0.090	0.048	0.001	9088538
Physical Properties									
Exposure	days	32	32	32	32	32	32	1	9088540
RDL = Reportable Detection Limit									

Maxxam ID		TZ2671	TZ2672	TZ2673	TZ2674		
Sampling Date		2018/06/18	2018/06/18	2018/06/18	2018/06/18		
	UNITS	DUSTFALL 7	DUSTFALL OFFICE	DUSTFALL SARLIAQ	2018-0060	RDL	QC Batch
Dustfall Determination							
Total Dustfall	mg	4	120	96	<1	1	9088537
Total Dustfall (30 day)	mg/cm2/30day	0.048	1.433	1.102	<0.001	0.001	9088538
Total Fixed Dustfall	mg	2	120	92	<1	1	9088537
Total Fixed Dustfall (30 day)	mg/cm2/30day	0.028	1.377	1.054	<0.001	0.001	9088538
Physical Properties							
Exposure	days	32	32	32	32	1	9088540
RDL = Reportable Detection Limit							

Maxxam Job #: B863886
Report Date: 2018/08/15

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/06/18 - 2018/07/20
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: LH

GENERAL COMMENTS

Results relate only to the items tested.

Maxxam Job #: B863886
Report Date: 2018/08/15

QUALITY ASSURANCE REPORT

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/06/18 - 2018/07/20
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: LH

QC Batch	Parameter	Date	Method Blank	
			Value	UNITS
9088537	Total Dustfall		<1	mg
9088537	Total Fixed Dustfall		<1	mg
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.				

Maxxam Job #: B863886
Report Date: 2018/08/15

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/06/18 - 2018/07/20
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: LH

VALIDATION SIGNATURE PAGE

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Linda Lin, Supervisor, Centre for Passive Sampling Technology

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Your P.O. #: 664696
Your Project #: 2018/07/20 - 2018/08/08
Site#: MELIADINE PROJECT
Site Location: MELIADINE

Attention: Meliadine Environment

AGNICO-EAGLE MINES LTD.
Meliadine
10200, Route de Preissac
Rouyn-Noranda, QC
CANADA J0Y1C0

Report Date: 2018/08/30
Report #: R2611740
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B868269

Received: 2018/08/15, 09:56

Sample Matrix: Air
Samples Received: 10

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
Determination of Dustfall	10	2018/08/23	2018/08/23	PTC SOP-00180	AMD 32020
Total & Fixed Dustfall	10	2018/08/23	2018/08/23	PTC SOP-00180	AMD 32020
Exposure (Number of days)	10	2018/08/23	2018/08/23	PTC SOP-00154 PTC SOP-00180	

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Encryption Key

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Levi Manchak, Project Manager SR
Email: LManchak@maxxam.ca
Phone# (780)468-3536

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Maxxam Job #: B868269
Report Date: 2018/08/30

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/07/20 - 2018/08/08
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: LH

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		UB6846	UB6847	UB6848	UB6849	UB6850	UB6851		
Sampling Date		2018/07/20	2018/07/20	2018/07/20	2018/07/20	2018/07/20	2018/07/20		
	UNITS	DUSTFALL 1	DUSTFALL 2	DUSTFALL 3	DUSTFALL 4	DUSTFALL 5	DUSTFALL 6	RDL	QC Batch
Dustfall Determination									
Total Dustfall	mg	13	8	40	5	11	5	1	9113848
Total Dustfall (30 day)	mg/cm2/30day	0.244	0.162	0.766	0.104	0.209	0.093	0.001	9113853
Total Fixed Dustfall	mg	11	6	23	5	10	4	1	9113848
Total Fixed Dustfall (30 day)	mg/cm2/30day	0.220	0.116	0.441	0.093	0.186	0.070	0.001	9113853
Physical Properties									
Exposure	days	19	19	19	19	19	19	1	9113859
RDL = Reportable Detection Limit									

Maxxam ID		UB6852	UB6853	UB6854	UB6855		
Sampling Date		2018/07/20	2018/07/20	2018/07/20	2018/07/20		
	UNITS	DUSTFALL 7	DUSTFALL OFFICE	DUSTFALL SARLIAQ	DUSTFALL MS	RDL	QC Batch
Dustfall Determination							
Total Dustfall	mg	5	62	95	23	1	9113848
Total Dustfall (30 day)	mg/cm2/30day	0.093	1.206	1.844	0.441	0.001	9113853
Total Fixed Dustfall	mg	4	59	89	20	1	9113848
Total Fixed Dustfall (30 day)	mg/cm2/30day	0.081	1.137	1.717	0.394	0.001	9113853
Physical Properties							
Exposure	days	19	19	19	19	1	9113859
RDL = Reportable Detection Limit							

Maxxam Job #: B868269
Report Date: 2018/08/30

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/07/20 - 2018/08/08
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: LH

GENERAL COMMENTS

Results relate only to the items tested.

Maxxam Job #: B868269
Report Date: 2018/08/30

QUALITY ASSURANCE REPORT

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/07/20 - 2018/08/08
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: LH

QC Batch	Parameter	Date	Method Blank	
			Value	UNITS
9113848	Total Dustfall		<1	mg
9113848	Total Fixed Dustfall		<1	mg
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.				

Maxxam Job #: B868269
Report Date: 2018/08/30

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/07/20 - 2018/08/08
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: LH

VALIDATION SIGNATURE PAGE

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Linda Lin, Supervisor, Centre for Passive Sampling Technology

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Your P.O. #: 664696
Your Project #: 2018/07/20 - 2018/08/08
Site#: MELIADINE PROJECT
Site Location: MELIADINE

Attention: Meliadine Environment

AGNICO-EAGLE MINES LTD.
Meliadine
10200, Route de Preissac
Rouyn-Noranda, QC
CANADA J0Y1C0

Report Date: 2018/09/18
Report #: R2620856
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

MAXXAM JOB #: B868269

Received: 2018/08/15, 09:56

Sample Matrix: Air
Samples Received: 9

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
Determination of Dustfall	9	2018/08/23	2018/08/23	PTC SOP-00180	AMD 32020
Total & Fixed Dustfall	9	2018/08/23	2018/08/23	PTC SOP-00180	AMD 32020
Exposure (Number of days)	9	2018/08/23	2018/08/23	PTC SOP-00154 PTC SOP-00180	

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Encryption Key

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Levi Manchak, Project Manager SR
Email: LManchak@maxxam.ca
Phone# (780)468-3536

=====

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Maxxam Job #: B868269
Report Date: 2018/09/18

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/07/20 - 2018/08/08
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: LH

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		UB6846	UB6847	UB6848	UB6849	UB6850	UB6851		
Sampling Date		2018/07/20	2018/07/20	2018/07/20	2018/07/20	2018/07/20	2018/07/20		
	UNITS	DUSTFALL 1	DUSTFALL 2	DUSTFALL 3	DUSTFALL 4	DUSTFALL 5	DUSTFALL 6	RDL	QC Batch
Dustfall Determination									
Total Dustfall	mg	13	8	40	5	11	5	1	9113848
Total Dustfall (30 day)	mg/cm2/30day	0.244	0.162	0.766	0.104	0.209	0.093	0.001	9113853
Total Fixed Dustfall	mg	11	6	23	5	10	4	1	9113848
Total Fixed Dustfall (30 day)	mg/cm2/30day	0.220	0.116	0.441	0.093	0.186	0.070	0.001	9113853
Physical Properties									
Exposure	days	19	19	19	19	19	19	1	9113859
RDL = Reportable Detection Limit									

Maxxam ID		UB6852	UB6853	UB6854		
Sampling Date		2018/07/20	2018/07/20	2018/07/20		
	UNITS	DUSTFALL 7	DUSTFALL OFFICE	DUSTFALL SARLIAQ	RDL	QC Batch
Dustfall Determination						
Total Dustfall	mg	5	62	95	1	9113848
Total Dustfall (30 day)	mg/cm2/30day	0.093	1.206	1.844	0.001	9113853
Total Fixed Dustfall	mg	4	59	89	1	9113848
Total Fixed Dustfall (30 day)	mg/cm2/30day	0.081	1.137	1.717	0.001	9113853
Physical Properties						
Exposure	days	19	19	19	1	9113859
RDL = Reportable Detection Limit						

Maxxam Job #: B868269
Report Date: 2018/09/18

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/07/20 - 2018/08/08
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: LH

GENERAL COMMENTS

Results relate only to the items tested.

Maxxam Job #: B868269
Report Date: 2018/09/18

QUALITY ASSURANCE REPORT

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/07/20 - 2018/08/08
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: LH

			Method Blank	
QC Batch	Parameter	Date	Value	UNITS
9113848	Total Dustfall		<1	mg
9113848	Total Fixed Dustfall		<1	mg
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.				

Maxxam Job #: B868269
Report Date: 2018/09/18

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/07/20 - 2018/08/08
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: LH

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Linda Lin, Supervisor, Centre for Passive Sampling Technology

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Your P.O. #: 664696
Your Project #: 2018/08/08 - 2018/09/10
Site#: MELIADINE PROJECT
Site Location: MELIADINE

Attention: Meliadine Environment

AGNICO-EAGLE MINES LTD.
Meliadine
10200, Route de Preissac
Rouyn-Noranda, QC
CANADA J0Y1C0

Report Date: 2018/09/27
Report #: R2625860
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B879865

Received: 2018/09/17, 13:17

Sample Matrix: Air
Samples Received: 9

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
Determination of Dustfall	9	2018/09/25	2018/09/25	PTC SOP-00180	AMD 32020
Total & Fixed Dustfall	9	2018/09/25	2018/09/25	PTC SOP-00180	AMD 32020
Exposure (Number of days)	9	2018/09/25	2018/09/25	PTC SOP-00154 PTC SOP-00180	

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* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Levi Manchak, Project Manager SR
Email: LManchak@maxxam.ca
Phone# (780)468-3536

=====

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Maxxam Job #: B879865
Report Date: 2018/09/27

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/08/08 - 2018/09/10
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: LH

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		UI3511	UI3512	UI3513	UI3514	UI3515	UI3516		
Sampling Date		2018/08/08	2018/08/08	2018/08/08	2018/08/08	2018/08/08	2018/08/08		
	UNITS	DUSTFALL 1	DUSTFALL 2	DUSTFALL 3	DUSTFALL 4	DUSTFALL 5	DUSTFALL 6	RDL	QC Batch
Dustfall Determination									
Total Dustfall	mg	10	6	25	3	9	5	1	9157650
Total Dustfall (30 day)	mg/cm2/30day	0.107	0.067	0.274	0.037	0.103	0.062	0.001	9157651
Total Fixed Dustfall	mg	7	5	20	2	4	3	1	9157650
Total Fixed Dustfall (30 day)	mg/cm2/30day	0.080	0.053	0.227	0.018	0.041	0.034	0.001	9157651
Physical Properties									
Exposure	days	33	33	33	32	32	32	1	9157653
RDL = Reportable Detection Limit									

Maxxam ID		UI3517	UI3518	UI3519		
Sampling Date		2018/08/08	2018/08/08	2018/08/08		
	UNITS	DUSTFALL 7	DUSTFALL OFFICE	DUSTFALL SARLIAQ	RDL	QC Batch
Dustfall Determination						
Total Dustfall	mg	2	120	73	1	9157650
Total Dustfall (30 day)	mg/cm2/30day	0.021	1.393	0.833	0.001	9157651
Total Fixed Dustfall	mg	<1	110	65	1	9157650
Total Fixed Dustfall (30 day)	mg/cm2/30day	<0.001	1.317	0.751	0.001	9157651
Physical Properties						
Exposure	days	32	32	32	1	9157653
RDL = Reportable Detection Limit						

Maxxam Job #: B879865
Report Date: 2018/09/27

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/08/08 - 2018/09/10
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: LH

GENERAL COMMENTS

Sampling dates differ on sample label from those listed on COC.
Sampling dates from sample label used in calculation of final results.

Results relate only to the items tested.

Maxxam Job #: B879865
Report Date: 2018/09/27

QUALITY ASSURANCE REPORT

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/08/08 - 2018/09/10
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: LH

QC Batch	Parameter	Date	Method Blank	
			Value	UNITS
9157650	Total Dustfall		<1	mg
9157650	Total Fixed Dustfall		<1	mg
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.				

Maxxam Job #: B879865
Report Date: 2018/09/27

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/08/08 - 2018/09/10
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: LH

VALIDATION SIGNATURE PAGE

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Linda Lin, Supervisor, Centre for Passive Sampling Technology

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Your P.O. #: 664696
Your Project #: 2018/09/09 - 2018/10/14
Site#: MELIADINE PROJECT
Site Location: MELIADINE

Attention: Meliadine Environment

AGNICO-EAGLE MINES LTD.
Meliadine
10200, Route de Preissac
Rouyn-Noranda, QC
CANADA J0Y1C0

Report Date: 2018/11/07
Report #: R2647015
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B892532

Received: 2018/10/23, 08:10

Sample Matrix: Air
Samples Received: 10

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
Determination of Dustfall	10	2018/10/29	2018/10/29	PTC SOP-00180	AMD 32020
Total & Fixed Dustfall	10	2018/10/29	2018/10/29	PTC SOP-00180	AMD 32020
Exposure (Number of days)	10	2018/10/29	2018/10/29	PTC SOP-00154 PTC SOP-00180	

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* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Levi Manchak, Project Manager SR

Email: LManchak@maxxam.ca

Phone# (780)468-3536

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Maxxam Job #: B892532
Report Date: 2018/11/07

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/09/09 - 2018/10/14
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: LH

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		UP5712	UP5713	UP5714	UP5715	UP5716	UP5717		
Sampling Date		2018/09/09	2018/09/09	2018/09/09	2018/09/08	2018/09/08	2018/09/08		
	UNITS	DUSTFALL 1	DUSTFALL 2	DUSTFALL 3	DUSTFALL 4	DUSTFALL 5	DUSTFALL 6	RDL	QC Batch
Dustfall Determination									
Total Dustfall	mg	8	7	40	8	40	9	1	9204378
Total Dustfall (30 day)	mg/cm2/30day	0.088	0.078	0.416	0.080	0.410	0.095	0.001	9204379
Total Fixed Dustfall	mg	5	6	37	4	22	4	1	9204378
Total Fixed Dustfall (30 day)	mg/cm2/30day	0.057	0.059	0.393	0.043	0.220	0.044	0.001	9204379
Physical Properties									
Exposure	days	35	35	35	36	36	36	1	9204381
RDL = Reportable Detection Limit									

Maxxam ID		UP5718	UP5719	UP5720	UP5721		
Sampling Date		2018/09/08	2018/09/09	2018/09/09	2018/09/09		
	UNITS	DUSTFALL 7	DUSTFALL OFFICE	DUSTFALL SARLIAQ	2018-0108	RDL	QC Batch
Dustfall Determination							
Total Dustfall	mg	7	220	200	6	1	9204378
Total Dustfall (30 day)	mg/cm2/30day	0.067	2.325	2.065	0.063	0.001	9204379
Total Fixed Dustfall	mg	4	210	170	4	1	9204378
Total Fixed Dustfall (30 day)	mg/cm2/30day	0.043	2.210	1.814	0.042	0.001	9204379
Physical Properties							
Exposure	days	36	35	35	35	1	9204381
RDL = Reportable Detection Limit							

Maxxam Job #: B892532
Report Date: 2018/11/07

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/09/09 - 2018/10/14
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: LH

GENERAL COMMENTS

Samples #4,5,6 & 7 start date listed on sample label as 2018/09/08.
Differs from start date listed on COC.

Results relate only to the items tested.

Maxxam Job #: B892532
Report Date: 2018/11/07

QUALITY ASSURANCE REPORT

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/09/09 - 2018/10/14
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: LH

QC Batch	Parameter	Date	Method Blank	
			Value	UNITS
9204378	Total Dustfall		<1	mg
9204378	Total Fixed Dustfall		<1	mg
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.				

Maxxam Job #: B892532
Report Date: 2018/11/07

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/09/09 - 2018/10/14
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: LH

VALIDATION SIGNATURE PAGE

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Your P.O. #: 664696
Your Project #: 2018/10/14 - 2018/11/10
Site#: MELIADINE PROJECT
Site Location: MELIADINE

Attention: Meliadine Environment

AGNICO-EAGLE MINES LTD.
Meliadine
10200, Route de Preissac
Rouyn-Noranda, QC
CANADA J0Y1C0

Report Date: 2018/12/03
Report #: R2658799
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

MAXXAM JOB #: B8A1300

Received: 2018/11/19, 10:47

Sample Matrix: Air
Samples Received: 10

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
Determination of Dustfall	10	2018/11/27	2018/11/27	PTC SOP-00180	AMD 32020
Total & Fixed Dustfall	10	2018/11/27	2018/11/27	PTC SOP-00180	AMD 32020
Exposure (Number of days)	10	2018/11/27	2018/11/27	PTC SOP-00154 PTC SOP-00180	

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Encryption Key

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Levi Manchak, Project Manager SR
Email: LManchak@maxxam.ca
Phone# (780)468-3536

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Maxxam Job #: B8A1300
Report Date: 2018/12/03

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/10/14 - 2018/11/10
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: LH

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		UU4766	UU4767	UU4768	UU4769	UU4770	UU4771		
Sampling Date		2018/10/14	2018/10/14	2018/10/14	2018/10/14	2018/10/14	2018/10/14		
	UNITS	DUSTFALL 1	DUSTFALL 2	DUSTFALL 3	DUSTFALL 4	DUSTFALL 5	DUSTFALL 6	RDL	QC Batch
Dustfall Determination									
Total Dustfall	mg	10	11	50	29	11	22	1	9243638
Total Dustfall (30 day)	mg/cm2/30day	0.135	0.147	0.679	0.369	0.135	0.279	0.001	9243641
Total Fixed Dustfall	mg	8	10	46	7	6	10	1	9243638
Total Fixed Dustfall (30 day)	mg/cm2/30day	0.105	0.131	0.627	0.092	0.075	0.132	0.001	9243641
Physical Properties									
Exposure	days	27	27	27	29	29	29	1	9243644
RDL = Reportable Detection Limit									

Maxxam ID		UU4772	UU4773	UU4774	UU4775		
Sampling Date		2018/10/14	2018/10/14	2018/10/14	2018/10/14		
	UNITS	DUSTFALL 7	DUSTFALL OFFICE	DUSTFALL SARLIAQ	2018-0114	RDL	QC Batch
Dustfall Determination							
Total Dustfall	mg	3	47	63	2	1	9243638
Total Dustfall (30 day)	mg/cm2/30day	0.038	0.636	0.863	0.023	0.001	9243641
Total Fixed Dustfall	mg	2	44	61	2	1	9243638
Total Fixed Dustfall (30 day)	mg/cm2/30day	0.030	0.596	0.830	0.023	0.001	9243641
Physical Properties							
Exposure	days	29	27	27	27	1	9243644
RDL = Reportable Detection Limit							

Maxxam Job #: B8A1300
Report Date: 2018/12/03

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/10/14 - 2018/11/10
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: LH

GENERAL COMMENTS

Results relate only to the items tested.

Maxxam Job #: B8A1300
Report Date: 2018/12/03

QUALITY ASSURANCE REPORT

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/10/14 - 2018/11/10
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: LH

QC Batch	Parameter	Date	Method Blank	
			Value	UNITS
9243638	Total Dustfall		<1	mg
9243638	Total Fixed Dustfall		<1	mg
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.				

Maxxam Job #: B8A1300
Report Date: 2018/12/03

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/10/14 - 2018/11/10
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: LH

VALIDATION SIGNATURE PAGE

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Your P.O. #: 664696
Your Project #: 2018/11/10 - 2018/12/14
Site#: MELIADINE PROJECT
Site Location: MELIADINE

Attention: Meliadine Environment

AGNICO-EAGLE MINES LTD.
Meliadine
10200, Route de Preissac
Rouyn-Noranda, QC
CANADA J0Y1C0

Report Date: 2019/01/08
Report #: R2671872
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B8B1542
Received: 2018/12/24, 09:37

Sample Matrix: Air
Samples Received: 10

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
Determination of Dustfall	10	2019/01/04	2019/01/04	PTC SOP-00180	AMD 32020
Total & Fixed Dustfall	10	2019/01/04	2019/01/04	PTC SOP-00180	AMD 32020
Exposure (Number of days)	10	2019/01/04	2019/01/04	PTC SOP-00154 PTC SOP-00180	

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Encryption Key

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Levi Manchak, Project Manager SR
Email: LManchak@maxxam.ca
Phone# (780)468-3536

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Maxxam Job #: B8B1542
Report Date: 2019/01/08

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/11/10 - 2018/12/14
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: LH

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		UZ8723	UZ8724	UZ8725	UZ8726	UZ8727	UZ8728		
Sampling Date		2018/11/10	2018/11/10	2018/11/10	2018/11/12	2018/11/12	2018/11/12		
	UNITS	DUSTFALL 1	DUSTFALL 2	DUSTFALL 3	DUSTFALL 4	DUSTFALL 5	DUSTFALL 6	RDL	QC Batch
Dustfall Determination									
Total Dustfall	mg	4	9	8	4	2	2	1	9282667
Total Dustfall (30 day)	mg/cm2/30day	0.048	0.093	0.082	0.041	0.028	0.021	0.001	9282669
Total Fixed Dustfall	mg	<1	7	6	3	2	<1	1	9282667
Total Fixed Dustfall (30 day)	mg/cm2/30day	0.007	0.076	0.064	0.033	0.021	0.007	0.001	9282669
Physical Properties									
Exposure	days	34	34	34	31	31	31	1	9282671
RDL = Reportable Detection Limit									

Maxxam ID		UZ8729	UZ8730	UZ8731	UZ8732		
Sampling Date		2018/11/12	2018/11/10	2018/11/10	2018/11/10		
	UNITS	DUSTFALL 7	DUSTFALL OFFICE	DUSTFALL SARLIAQ	2018-0117	RDL	QC Batch
Dustfall Determination							
Total Dustfall	mg	2	35	22	14	1	9282667
Total Dustfall (30 day)	mg/cm2/30day	0.027	0.376	0.233	0.151	0.001	9282669
Total Fixed Dustfall	mg	<1	33	21	11	1	9282667
Total Fixed Dustfall (30 day)	mg/cm2/30day	<0.001	0.355	0.224	0.119	0.001	9282669
Physical Properties							
Exposure	days	31	34	34	34	1	9282671
RDL = Reportable Detection Limit							

Maxxam Job #: B8B1542
Report Date: 2019/01/08

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/11/10 - 2018/12/14
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: LH

GENERAL COMMENTS

Results relate only to the items tested.

Maxxam Job #: B8B1542
Report Date: 2019/01/08

QUALITY ASSURANCE REPORT

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/11/10 - 2018/12/14
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: LH

QC Batch	Parameter	Date	Method Blank	
			Value	UNITS
9282667	Total Dustfall		<1	mg
9282667	Total Fixed Dustfall		<1	mg
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.				

Maxxam Job #: B8B1542
Report Date: 2019/01/08

AGNICO-EAGLE MINES LTD.
Client Project #: 2018/11/10 - 2018/12/14
Site Location: MELIADINE
Your P.O. #: 664696
Sampler Initials: LH

VALIDATION SIGNATURE PAGE

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Linda Lin, Supervisor, Centre for Passive Sampling Technology

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APPENDIX B: DAILY AVERAGE WEATHER DATA

Appendix B Table 1: Daily average temperature, wind speed, wind direction, solar radiation, and rainfall as measured by the Meliadine onsite weather station.

Date	Temperature (°C)	Wind Speed (km/h)	Wind Direction (deg.)	Solar Radiation (watts/m ²)	Rain (mm)
2018-01-01	-31.8	14.8	299.8	3.7	0.0
2018-01-02	-33.6	15.8	326.8	3.7	0.0
2018-01-03	-33.1	18.3	325.1	3.8	0.0
2018-01-04	-34.4	16.7	325.7	4.7	0.0
2018-01-05	-35.4	11.1	329.3	3.9	0.0
2018-01-06	-34.5	2.8	49.3	3.8	0.0
2018-01-07	-23.8	10.7	126.2	2.8	0.0
2018-01-08	-22.8	5.6	131.6	2.9	0.0
2018-01-09	-21.7	10.4	213.5	3.1	0.0
2018-01-10	-30.6	42.2	311.9	5.6	0.0
2018-01-11	-35.3	35.1	306.2	7.5	0.0
2018-01-12	-31.7	30.9	304.8	6.0	0.0
2018-01-13	-24.5	43.0	321.6	5.2	0.0
2018-01-14	-26.8	26.2	299.4	10.4	0.0
2018-01-15	-32.4	20.9	317.3	9.5	0.0
2018-01-16	-24.7	21.6	296.0	6.5	0.0
2018-01-17	-17.5	10.8	108.6	8.2	0.0
2018-01-18	-23.3	10.8	315.5	16.7	0.0
2018-01-19	-25.7	5.4	49.7	8.0	0.0
2018-01-20	-27.0	9.3	55.8	9.5	0.0
2018-01-21	-33.6	12.1	337.1	15.3	0.0
2018-01-22	-35.7	13.7	325.2	16.5	0.0
2018-01-23	-35.7	14.1	323.0	16.9	0.0
2018-01-24	-34.2	5.7	301.2	16.5	0.0
2018-01-25	-29.4	2.1	276.9	9.6	0.0
2018-01-26	-21.7	9.9	157.7	11.4	0.0
2018-01-27	-26.6	16.9	342.4	11.9	0.0
2018-01-28	-22.7	30.4	319.7	15.4	0.0
2018-01-29	-24.2	34.6	315.9	17.8	0.0
2018-01-30	-28.5	29.7	309.0	17.5	0.0
2018-01-31	-31.1	7.7	283.4	14.7	0.0
2018-02-01	-36.9	18.6	327.8	20.4	0.0
2018-02-02	-38.2	16.3	328.6	20.0	0.0
2018-02-03	-36.8	22.0	313.8	19.8	0.0
2018-02-04	-35.4	14.6	294.9	20.0	0.0
2018-02-05	-36.8	16.4	339.5	24.6	0.0

Date	Temperature (°C)	Wind Speed (km/h)	Wind Direction (deg.)	Solar Radiation (watts/m ²)	Rain (mm)
2018-02-06	-38.2	10.9	326.4	19.2	0.0
2018-02-07	-40.5	21.0	329.0	25.3	0.0
2018-02-08	-39.4	38.0	318.6	19.5	0.0
2018-02-09	-34.3	20.9	288.7	23.5	0.0
2018-02-10	-31.3	13.3	350.7	25.9	0.0
2018-02-11	-38.7	10.1	324.7	26.0	0.0
2018-02-12	-41.0	7.7	320.1	29.6	0.0
2018-02-13	-34.8	4.4	91.7	29.5	0.0
2018-02-14	-29.9	17.6	71.5	30.2	0.0
2018-02-15	-38.2	24.3	306.1	38.2	0.0
2018-02-16	-39.8	18.1	302.2	42.1	0.0
2018-02-17	-43.1	7.3	333.8	37.6	0.0
2018-02-18	-43.9	16.1	330.4	43.3	0.0
2018-02-19	-43.9	19.9	323.3	43.9	0.0
2018-02-20	-36.2	22.9	318.1	44.7	0.0
2018-02-21	-37.7	5.1	315.1	52.7	0.0
2018-02-22	-36.7	1.2	271.8	47.1	0.0
2018-02-23	-26.6	16.7	105.3	34.8	0.0
2018-02-24	-31.8	14.3	253.4	60.4	0.0
2018-02-25	-22.8	14.7	218.4	57.6	0.0
2018-02-26	-28.4	10.4	179.7	64.8	0.0
2018-02-27	-24.7	8.4	151.3	66.2	0.0
2018-02-28	-20.8	17.8	143.9	54.8	0.0
2018-03-01	-16.9	29.6	130.4	49.1	0.0
2018-03-02	-15.1	26.1	123.2	66.4	0.0
2018-03-03	-18.6	7.3	43.3	71.0	0.0
2018-03-04	-23.0	6.5	309.4	89.5	0.0
2018-03-05	-21.7	6.5	139.5	85.8	0.0
2018-03-06	-21.1	8.6	144.1	79.6	0.0
2018-03-07	-17.0	9.2	133.7	64.4	0.0
2018-03-08	-13.7	9.6	133.8	68.1	0.0
2018-03-09	-13.5	5.2	109.1	56.3	0.0
2018-03-10	-19.8	4.1	244.8	82.7	0.0
2018-03-11	-21.8	12.7	127.1	74.0	0.0
2018-03-12	-19.2	16.8	359.1	93.9	0.0
2018-03-13	-26.4	19.3	323.7	115.1	0.0
2018-03-14	-22.8	21.2	79.8	87.0	0.0
2018-03-15	-30.1	13.6	350.4	125.6	0.0
2018-03-16	-23.9	24.5	284.4	105.2	0.0

Date	Temperature (°C)	Wind Speed (km/h)	Wind Direction (deg.)	Solar Radiation (watts/m ²)	Rain (mm)
2018-03-17	-32.1	19.3	5.1	128.5	0.0
2018-03-18	-28.2	10.1	330.2	124.7	0.0
2018-03-19	-28.2	11.5	301.4	134.6	0.0
2018-03-20	-19.8	11.7	158.2	108.5	0.0
2018-03-21	-14.1	10.6	223.1	104.9	0.0
2018-03-22	-25.7	25.6	353.9	147.4	0.0
2018-03-23	-28.9	20.3	334.0	152.5	0.0
2018-03-24	-22.8	16.0	191.7	137.7	0.0
2018-03-25	-12.6	17.1	184.4	87.4	0.0
2018-03-26	-13.8	23.8	231.5	135.7	0.0
2018-03-27	-27.9	29.4	278.9	145.1	0.0
2018-03-28	-23.1	24.3	54.4	99.6	0.0
2018-03-29	-19.5	39.8	331.6	120.5	0.0
2018-03-30	-23.4	41.7	330.5	148.4	0.0
2018-03-31	-26.4	24.7	319.3	169.7	0.0
2018-04-01	-25.5	11.0	50.5	160.5	0.0
2018-04-02	-26.9	13.8	331.6	173.7	0.0
2018-04-03	-26.2	14.9	309.9	188.1	0.0
2018-04-04	-17.5	35.2	61.3	157.1	0.0
2018-04-05	-18.1	20.7	68.2	187.4	0.0
2018-04-06	-14.3	29.4	350.2	144.4	0.0
2018-04-07	-23.4	32.6	333.7	178.6	0.0
2018-04-08	-25.0	25.1	323.2	207.9	0.0
2018-04-09	-23.3	19.0	318.0	206.1	0.0
2018-04-10	-24.1	8.4	283.9	209.8	0.0
2018-04-11	-27.9	15.6	322.1	216.9	0.0
2018-04-12	-28.8	18.1	331.7	216.9	0.0
2018-04-13	-23.0	24.0	347.5	215.3	0.0
2018-04-14	-19.8	12.3	313.2	226.6	0.0
2018-04-15	-16.1	12.0	190.0	228.7	0.0
2018-04-16	-9.3	17.3	165.5	230.8	0.0
2018-04-17	-6.9	14.0	277.3	208.5	0.0
2018-04-18	-10.8	12.8	53.8	162.9	0.0
2018-04-19	-5.9	36.0	142.6	203.6	0.0
2018-04-20	-6.7	19.9	230.1	224.3	0.0
2018-04-21	-5.6	27.3	147.9	210.3	0.0
2018-04-22	-5.4	27.5	256.6	216.3	0.3
2018-04-23	-17.7	22.5	357.0	238.5	0.0
2018-04-24	-17.4	17.6	337.4	249.6	0.0

Date	Temperature (°C)	Wind Speed (km/h)	Wind Direction (deg.)	Solar Radiation (watts/m ²)	Rain (mm)
2018-04-25	-13.5	14.3	295.5	252.1	0.0
2018-04-26	-19.1	23.0	345.3	265.6	0.0
2018-04-27	-18.0	18.0	321.6	265.4	0.0
2018-04-28	-18.5	17.5	290.8	268.3	0.0
2018-04-29	-11.1	12.5	162.1	194.2	0.0
2018-04-30	-14.1	29.8	320.2	276.1	0.0
2018-05-01	-18.4	28.6	298.1	269.4	0.0
2018-05-02	-16.4	14.1	294.8	289.3	0.0
2018-05-03	-14.5	8.3	147.1	279.2	0.0
2018-05-04	-9.3	15.6	281.5	235.9	0.0
2018-05-05	-15.1	23.8	330.8	294.0	0.0
2018-05-06	-18.2	14.7	321.2	300.3	0.0
2018-05-07	-8.5	21.8	178.8	211.8	0.0
2018-05-08	-12.7	46.2	326.8	256.7	0.9
2018-05-09	-14.4	34.0	319.1	297.9	0.0
2018-05-10	-12.3	14.9	337.6	297.8	0.0
2018-05-11	-11.8	21.8	307.1	260.5	0.0
2018-05-12	-9.5	32.6	324.2	276.2	0.0
2018-05-13	-13.8	9.6	343.5	317.0	0.0
2018-05-14	-13.1	10.1	338.2	276.5	0.0
2018-05-15	-13.6	30.3	328.6	304.7	0.0
2018-05-16	-12.4	22.1	321.3	326.3	0.0
2018-05-17	-9.6	38.9	324.4	258.2	0.0
2018-05-18	-10.0	35.0	316.4	303.0	0.0
2018-05-19	-9.0	20.7	305.6	321.5	0.0
2018-05-20	-6.4	16.6	82.7	195.0	0.0
2018-05-21	-9.3	34.8	321.7	311.5	0.0
2018-05-22	-7.9	20.0	329.4	305.8	0.0
2018-05-23	-6.3	7.1	259.4	302.4	0.0
2018-05-24	-3.0	28.4	133.7	225.3	0.1
2018-05-25	-2.5	12.2	18.3	233.3	0.0
2018-05-26	-4.2	11.0	104.0	308.1	0.0
2018-05-27	-2.5	26.9	155.2	138.2	0.0
2018-05-28	-0.2	13.9	349.2	161.0	0.1
2018-05-29	-3.5	23.6	303.3	290.2	0.0
2018-05-30	-0.8	24.5	112.0	146.5	0.1
2018-05-31	-2.4	41.6	301.4	275.9	0.1
2018-06-01	-4.1	43.7	315.8	309.3	0.0
2018-06-02	-2.2	18.1	299.8	298.4	0.0

Date	Temperature (°C)	Wind Speed (km/h)	Wind Direction (deg.)	Solar Radiation (watts/m ²)	Rain (mm)
2018-06-03	-2.9	6.0	80.9	359.5	0.0
2018-06-04	-2.0	10.8	104.1	328.7	0.0
2018-06-05	-0.9	6.7	119.8	309.9	0.0
2018-06-06	0.0	6.2	112.1	329.3	0.0
2018-06-07	-1.5	11.4	83.5	250.5	0.0
2018-06-08	-0.1	18.7	319.0	305.5	0.0
2018-06-09	3.4	9.3	304.0	357.4	0.0
2018-06-10	3.0	18.5	165.0	213.9	0.0
2018-06-11	3.0	17.7	133.8	329.1	0.0
2018-06-12	3.0	22.5	117.7	323.4	0.1
2018-06-13	1.8	44.1	125.2	359.5	0.0
2018-06-14	2.9	16.3	132.8	362.5	0.0
2018-06-15	6.6	4.7	152.1	367.9	0.0
2018-06-16	5.5	7.0	128.9	361.0	0.0
2018-06-17	4.7	12.4	78.3	85.9	0.0
2018-06-18	8.3	12.2	311.1	220.3	0.0
2018-06-19	6.5	17.3	339.1	265.5	0.0
2018-06-20	5.9	18.1	315.3	354.9	0.0
2018-06-21	7.6	15.0	192.8	182.1	0.0
2018-06-22	4.6	32.9	322.2	324.4	0.1
2018-06-23	4.6	24.3	317.7	343.4	0.0
2018-06-24	6.5	12.9	322.6	363.0	0.0
2018-06-25	5.6	21.0	173.2	229.2	0.0
2018-06-26	8.0	25.3	320.7	222.7	0.0
2018-06-27	5.6	18.0	317.2	352.0	0.0
2018-06-28	8.9	7.5	222.7	354.2	0.0
2018-06-29	9.0	13.4	298.4	293.7	0.0
2018-06-30	6.9	6.7	246.7	231.2	0.0
2018-07-01	9.7	16.3	215.6	293.2	0.0
2018-07-02	5.3	11.6	162.1	325.1	0.0
2018-07-03	8.0	8.8	273.1	333.6	0.0
2018-07-04	10.6	16.5	310.9	353.0	0.0
2018-07-05	11.9	12.3	296.2	253.1	0.0
2018-07-06	12.6	11.8	241.8	288.5	0.0
2018-07-07	11.7	12.1	152.7	298.1	0.0
2018-07-08	9.3	25.0	153.7	187.6	0.0
2018-07-09	8.8	25.5	309.7	273.3	0.0
2018-07-10	12.0	21.7	304.8	287.5	0.0
2018-07-11	20.1	14.7	230.7	284.0	0.0

Date	Temperature (°C)	Wind Speed (km/h)	Wind Direction (deg.)	Solar Radiation (watts/m ²)	Rain (mm)
2018-07-12	19.6	14.0	168.8	299.3	0.0
2018-07-13	16.0	14.4	152.3	294.9	0.0
2018-07-14	15.0	15.6	19.6	248.5	0.0
2018-07-15	13.5	17.5	25.8	318.4	0.0
2018-07-16	12.4	11.6	22.7	313.2	0.0
2018-07-17	15.3	13.1	311.1	331.5	0.0
2018-07-18	14.6	16.0	138.5	298.4	0.0
2018-07-19	10.3	22.8	116.3	142.7	0.0
2018-07-20	12.4	11.6	1.9	317.6	0.0
2018-07-21	15.1	11.0	297.4	317.0	0.0
2018-07-22	17.1	9.7	264.3	275.8	0.0
2018-07-23	12.0	12.9	175.0	141.6	0.0
2018-07-24	12.0	11.4	50.4	288.8	0.0
2018-07-25	13.1	12.4	232.3	296.9	0.0
2018-07-26	17.6	16.7	297.5	299.6	0.0
2018-07-27	14.4	13.0	148.9	256.6	0.0
2018-07-28	17.2	12.6	197.2	259.0	0.0
2018-07-29	15.4	19.9	323.4	171.9	0.0
2018-07-30	10.0	23.0	350.8	166.1	0.0
2018-07-31	9.1	27.0	323.1	181.1	0.0
2018-08-01	15.2	26.0	263.5	108.2	0.0
2018-08-02	14.3	27.1	271.3	168.3	0.0
2018-08-03	9.1	26.1	313.2	200.1	0.0
2018-08-04	7.6	24.2	169.8	48.9	0.1
2018-08-05	9.9	39.2	297.7	167.9	0.2
2018-08-06	10.3	34.3	301.2	155.0	0.0
2018-08-07	13.7	14.9	204.6	265.6	0.0
2018-08-08	10.7	13.6	160.1	106.1	0.0
2018-08-09	10.7	10.6	283.7	89.4	0.0
2018-08-10	11.9	9.3	154.9	208.8	0.0
2018-08-11	12.1	11.1	158.3	167.5	0.0
2018-08-12	11.9	30.8	217.3	132.9	0.0
2018-08-13	8.9	53.4	312.9	133.3	1.5
2018-08-14	9.4	23.0	263.4	196.4	0.0
2018-08-15	12.6	16.0	179.7	172.2	0.0
2018-08-16	11.6	20.4	299.9	64.5	0.0
2018-08-17	8.6	33.8	314.4	200.9	0.0
2018-08-18	14.4	16.9	236.9	214.5	0.0
2018-08-19	12.0	13.0	134.5	92.6	0.1

Date	Temperature (°C)	Wind Speed (km/h)	Wind Direction (deg.)	Solar Radiation (watts/m ²)	Rain (mm)
2018-08-20	6.9	42.4	322.3	167.6	0.4
2018-08-21	7.8	20.3	296.0	174.7	0.0
2018-08-22	7.2	23.7	295.5	139.6	0.0
2018-08-23	5.7	20.0	331.2	116.3	0.0
2018-08-24	5.9	48.5	329.8	154.4	0.3
2018-08-25	6.4	46.7	325.4	138.0	0.9
2018-08-26	5.8	18.1	346.2	160.8	0.0
2018-08-27	6.8	13.6	85.1	171.1	0.0
2018-08-28	6.3	10.1	40.4	155.4	0.0
2018-08-29	7.6	11.5	201.3	120.6	0.0
2018-08-30	8.4	16.1	184.8	82.5	0.0
2018-08-31	9.6	8.1	253.8	127.7	0.0
2018-09-01	8.9	12.4	74.0	115.1	0.0
2018-09-02	8.2	8.7	359.3	197.7	0.0
2018-09-03	4.2	16.8	144.1	84.0	0.0
2018-09-04	4.6	11.4	139.8	161.6	0.0
2018-09-05	5.4	20.5	157.1	54.3	0.0
2018-09-06	6.2	7.2	335.9	64.0	0.0
2018-09-07	6.8	24.3	339.1	82.6	0.0
2018-09-08	5.9	23.8	293.7	166.8	0.0
2018-09-09	6.9	16.4	283.8	94.6	0.0
2018-09-10	4.3	21.4	322.1	108.6	0.0
2018-09-11	5.5	19.8	243.2	69.0	0.0
2018-09-12	3.0	16.0	325.9	41.7	0.0
2018-09-13	1.9	24.7	274.6	127.9	0.0
2018-09-14	2.1	7.3	277.6	161.9	0.0
2018-09-15	2.5	8.4	32.5	115.5	0.0
2018-09-16	0.9	23.9	285.4	84.5	0.0
2018-09-17	0.3	26.2	305.2	94.2	0.0
2018-09-18	2.1	17.0	234.5	82.0	0.0
2018-09-19	2.2	25.8	225.5	49.6	0.0
2018-09-20	-2.7	15.9	247.9	117.4	0.0
2018-09-21	-1.5	15.4	189.4	104.5	0.1
2018-09-22	-2.0	27.9	356.3	66.0	0.0
2018-09-23	-2.2	29.7	337.5	96.7	0.1
2018-09-24	0.0	16.1	227.9	117.5	0.0
2018-09-25	2.1	15.7	222.9	124.6	0.0
2018-09-26	-0.4	17.0	345.1	45.2	0.0
2018-09-27	-1.5	13.6	269.8	44.9	0.0

Date	Temperature (°C)	Wind Speed (km/h)	Wind Direction (deg.)	Solar Radiation (watts/m ²)	Rain (mm)
2018-09-28	-2.8	33.7	307.3	61.2	0.0
2018-09-29	-2.3	13.7	282.7	71.9	0.0
2018-09-30	-2.9	15.2	351.4	69.4	0.0
2018-10-01	-5.1	23.2	312.7	70.7	0.0
2018-10-02	-3.2	18.7	265.7	59.2	0.0
2018-10-03	-5.7	5.0	46.4	108.8	0.0
2018-10-04	-6.6	10.7	10.5	90.4	0.0
2018-10-05	-5.6	33.4	329.6	85.6	0.0
2018-10-06	-3.1	23.6	332.8	56.1	0.0
2018-10-07	-5.5	29.8	325.7	69.3	0.0
2018-10-08	-4.8	43.2	296.4	40.9	0.0
2018-10-09	-4.7	34.7	317.1	31.3	0.0
2018-10-10	-5.3	34.5	324.5	40.7	0.0
2018-10-11	-5.3	17.5	315.3	85.1	0.0
2018-10-12	-3.6	4.7	138.9	82.2	0.0
2018-10-13	-1.6	7.8	107.7	38.0	0.0
2018-10-14	-5.8	24.6	340.3	51.0	0.0
2018-10-15	-9.9	16.8	327.2	63.4	0.0
2018-10-16	-9.9	7.8	75.8	51.3	0.0
2018-10-17	-11.5	23.4	334.0	67.4	0.0
2018-10-18	-10.1	18.3	299.8	42.0	0.0
2018-10-19	-7.2	13.5	162.9	49.4	0.0
2018-10-20	-4.2	26.6	67.2	37.6	0.0
2018-10-21	-15.1	16.6	338.2	57.7	0.0
2018-10-22	-5.1	20.4	120.0	47.3	0.0
2018-10-23	-6.9	12.9	29.4	41.8	0.0
2018-10-24	-12.8	4.3	353.1	27.4	0.0
2018-10-25	-22.0	3.9	321.9	64.9	0.0
2018-10-26	-21.7	2.9	317.8	64.0	0.0
2018-10-27	-5.8	26.9	134.1	18.0	0.0
2018-10-28	-2.7	14.4	185.0	17.6	0.0
2018-10-29	-0.6	6.9	200.6	23.9	0.0
2018-10-30	-1.0	7.9	59.2	26.0	0.0
2018-10-31	-1.8	8.5	47.2	24.0	0.0
2018-11-01	-2.8	15.7	45.5	31.3	0.0
2018-11-02	-3.8	18.6	53.7	22.9	0.0
2018-11-03	-8.7	10.0	47.5	24.0	0.0
2018-11-04	-11.4	5.5	95.1	26.2	0.0
2018-11-05	-3.5	24.8	122.4	22.4	0.0

Date	Temperature (°C)	Wind Speed (km/h)	Wind Direction (deg.)	Solar Radiation (watts/m ²)	Rain (mm)
2018-11-06	-7.9	8.0	209.7	25.7	0.0
2018-11-07	-15.8	26.1	334.4	29.8	0.0
2018-11-08	-18.7	28.1	322.4	22.5	0.0
2018-11-09	-18.6	31.9	315.7	21.7	0.0
2018-11-10	-21.6	25.5	307.0	21.5	0.0
2018-11-11	-27.1	4.5	313.2	14.1	0.0
2018-11-12	-23.2	11.7	321.5	11.6	0.0
2018-11-13	-24.2	19.0	329.6	11.4	0.0
2018-11-14	-28.3	20.5	325.5	16.6	0.0
2018-11-15	-29.3	19.0	324.3	15.6	0.0
2018-11-16	-30.9	24.3	322.9	13.2	0.0
2018-11-17	-32.3	12.0	325.1	11.7	0.0
2018-11-18	-33.6	10.3	326.4	9.0	0.0
2018-11-19	-33.5	18.4	322.6	11.9	0.0
2018-11-20	-34.4	15.1	327.6	12.5	0.0
2018-11-21	-34.3	20.3	329.4	7.6	0.0
2018-11-22	-34.7	12.7	310.7	11.7	0.0
2018-11-23	-18.2	28.3	126.6	6.3	0.0
2018-11-24	-20.0	23.1	40.5	16.1	0.0
2018-11-25	-32.0	20.6	346.3	13.2	0.0
2018-11-26	-25.5	12.4	9.8	9.7	0.0
2018-11-27	-28.9	14.7	336.4	11.3	0.0
2018-11-28	-25.8	13.9	334.1	7.7	0.0
2018-11-29	-13.3	5.2	0.7	6.0	0.0
2018-11-30	-12.8	2.6	192.7	5.4	0.0
2018-12-01	-14.9	1.1	140.9	3.3	0.0
2018-12-02	-16.5	22.8	292.0	3.9	0.0
2018-12-03	-22.2	16.5	318.3	5.9	0.0
2018-12-04	-14.8	16.7	228.8	4.7	0.0
2018-12-05	-29.6	35.9	330.5	5.1	0.0
2018-12-06	-32.5	38.3	326.6	3.8	0.0
2018-12-07	-32.1	10.0	339.1	6.4	0.0

Appendix B Table 2: Rain gauge readings, 24 h precipitation, and monthly precipitation for rain gauges on the Meliadine site in 2018.

Date	Time	Rain Gauge 1 (inches)	Rain Gauge 2 (inches)	Total 24-h Precipitation (inches)	Comments
1/01/18	15:00	0.04	0.04	0.04	
1/02/18	8:00	0	0	0	
1/03/18	8:00	0	0	0	
1/04/18	8:15	0	0	0	
1/05/18	8:30	0	0	0	
1/06/18	7:45	0	0	0	
1/07/18	10:00	0	0	0	
1/08/18	9:30	0.09	0.08	0.085	Light snow overnight continuing during day
1/09/18	NA	NA	NA	NA	Blizzard Conditions- not checked
1/10/18	7:00	0.02	0.02	0.02	Some snow from Blizzard conditions previous day.
1/11/18	10:00	0	0	0	
1/12/18	11:15	0	0	0	
1/13/18	14:00	0	0	0	
1/14/18	10:00	0	0	0	
1/15/18	9:00	0	0	0	
1/16/18	13:00	0.02	0.02	0.02	
1/17/18	7:10	0	0	0	
1/18/18	11:45	0	0	0	
1/19/18	11:50	0	0	0	
1/20/18	11	0	0	0	
1/21/18	16	0.001	0.001	0.001	
1/22/18	12:30	0.001	0.001	0.001	
1/23/18	13:00	0.002	0.003	0.0025	
1/24/18	10:30	0	0	0	
1/25/18	8:30	0.001	0.001	0.001	
1/26/18					
1/27/18					
1/28/18	7:30	0.03	0.02	0.025	
1/29/18					
1/30/18					
1/31/18					
2/01/18					
2/02/18	6:30	0.01	0.01	0.01	

Date	Time	Rain Gauge 1 (inches)	Rain Gauge 2 (inches)	Total 24-h Precipitation (inches)	Comments
2/03/18	13:30	0	0	0	
2/04/18	7:30	0	0	0	
2/05/18	9:00	0	0	0	
2/06/18	12:00	0	0	0	
2/07/18				NA	Blizzard Conditions- not checked
2/08/18	7:30	0.1	0.5	0.3	
2/09/18	8:25	0.02	0.02	0.02	Blowing Snow
2/10/18	13:00	0.01	0.01	0.01	
2/11/18	10:30	0	0	0	
2/12/18	14:00	0	0	0	
2/13/18	10:00	0.01	0.01	0.01	
2/14/18	11:20	0.04	0.04	0.04	Blowing Snow Light Snow
2/15/18	7:30	0.01	0.01	0.01	
2/16/18	7:00	0	0	0	
2/17/18	15:00	0	0	0	
2/18/18	7:00	0	0	0	
2/19/18	7:00	0.3	0.3	0.3	Snow
2/20/18	7:00	t	t	0	trace
2/21/18	7:00	0	0	0	
2/22/18	7:00	0.2	0.2	0.2	Snow
2/23/18	8:00	0	0	0	
2/24/18	7:00	0	0	0	
2/25/18	7:00	0	0	0	
2/26/18	7:00	0.2	0.2	0.2	Snow
2/27/18	7:00	0	0	0	
2/28/18	13:30	0.025	0.02	0.0225	
3/01/18	10:00	0	0	0	Trace
3/02/18	8:30	0	0	0	
3/03/18	7:45	0	0	0	
3/04/18	9:00	0	0	0	
3/05/18	8:20	0	0	0	
3/06/18	13:00	0	0	0	
3/07/18	10:00	0.01	0.01	0.01	
3/08/18	14:00	0	0	0	
3/09/18	18:10	0	0	0	
3/10/18	18:20	0.05	0.05	0.05	Light snow
3/11/18	10:30	0	0	0	

Date	Time	Rain Gauge 1 (inches)	Rain Gauge 2 (inches)	Total 24-h Precipitation (inches)	Comments
3/12/18	8:10	0.04	0.04	0.04	Snowing and Wind blown Snow
3/13/18	18:00	0.02	0.02	0.02	Light snow
3/14/18	7:00	0	0	0	
3/15/18	7:00	0	0	0	
3/16/18	7:00	0.02	0.02	0.02	
3/17/18	7:00	0	0	0	
3/18/18	7:00	0	0	0	
3/19/18	7:30	0	0	0	
3/20/18	7:00	0.02	0.02	0.02	Blowing snow from yesterday evening
3/21/18	7:00	0	0	0	
3/22/18	7:00	0	0	0	
3/23/18	7:00	0	0	0	
3/24/18	13:30	0.03	0.03	0.03	Light snow, increasing in volume
3/25/18	-	0	0	0	Blizzard
3/26/18	-	0	0	0	Blizzard
3/27/18	-	0	0	0	Blizzard
3/28/18	-	0	0	0	Blizzard
3/29/18	-	0	0	0	Blizzard
3/30/18	-	0	0	0	Blizzard
3/31/18	7:30	0.32	0.25	0.285	
4/01/18	9:00	0	0	0	
4/02/18	7:45	0	0	0	
4/03/18	11:00	0.015	0.015	0.015	Light snow - Wind Blown Snow
4/04/18	10:00	0	0	0	
4/05/18	8:30	0	0	0	
4/06/18	9:00	0	0	0	
4/07/18	8:30	0	0	0	
4/08/18	10:15	0	0	0	
4/09/18	9:00	0	0	0	
4/10/18	8:45	0	0	0	
4/11/18	7:00	0	0	0	
4/12/18	20:00	0	0	0	
4/13/18	7:00	0.01	0.01	0.01	
4/14/18	7:00	0	0	0	
4/15/18	7:00	0	0	0	

Date	Time	Rain Gauge 1 (inches)	Rain Gauge 2 (inches)	Total 24-h Precipitation (inches)	Comments
4/16/18	7:00	0	0	0	
4/17/18	7:00	0	0	0	
4/18/18	8:00	0.02	0.02	0.02	
4/19/18	8:00	0	0	0	
4/20/18	8:00	0	0	0	
4/21/18	8:00	0	0	0	
4/22/18	8:00	0	0	0	
4/23/18	8:00	0	0	0	
4/24/18	10:00	0	0	0	
4/25/18	9:00	0	0	0	
4/26/18	7:30	0	0	0	
4/27/18	7:45	0	0	0	
4/28/18	13:00	0	0	0	
4/29/18	11:45	0	0	0	
4/30/18	10:00	0	0	0	
5/01/18	9:00	0	0	0	
5/02/18	8:30	0	0	0	
5/03/18	11:00	0	0	0	
5/04/18	14:00	0	0	0	
5/05/18	7:00	0	0	0	
5/06/18	9:15	0	0	0	
5/07/18		0	0	0	snow and heavy wind
5/08/18	11:00	0.02	0.035	0.0275	light wind precipitation from previous day
5/09/18	14:00	0	0	0	
5/10/18	7:00	0	0	0	
5/11/18	11:20	0	0	0	
5/12/18	13:50	0	0	0	
5/13/18	7:00	0	0	0	
5/14/18	7:00	0	0	0	
5/15/18	6:15	0	0	0	
5/16/18	6:15	0	0	0	
5/17/18	6:15	0	0	0	
5/18/18	6:15	0	0	0	
5/19/18	6:15	0	0	0	
5/20/18	6:15	0	0	0	
5/21/18	6:15	0	0	0	
5/22/18	6:00	0	0	0	

Date	Time	Rain Gauge 1 (inches)	Rain Gauge 2 (inches)	Total 24-h Precipitation (inches)	Comments
5/23/18	8:00	0	0	0	
5/24/18	10:00	0	0	0	
5/25/18	14:00	0	0	0	
5/26/18	7:00	0.025	0.015	0.02	Light snow
5/27/18	7:10	0.68	0.72	0.7	
5/28/18	6:45	0.07	0.07	0.07	
5/29/18	7:50	0.015	0.015	0.015	Light over night snow
5/30/18	7:45	0	0	0	
5/31/18	6:00	0	0	0	
6/01/18	6:30	0	0	0	
6/02/18	7:00	0	0	0	
6/03/18	6:00	0	0	0	
6/04/18	6:10	0	0	0	
6/05/18	6:10	0	0	0	
6/06/18	6:10	0	0	0	
6/07/18	6:10	0	0	0	
6/08/18	6:10	0	0	0	
6/09/18	6:10	0	0	0	
6/10/18	6:10	0	0	0	
6/11/18	6:10	0	0	0	
6/12/18	6:10	0	0	0	
6/13/18	6:10	0	0	0	
6/14/18	11:00	0	0	0	
6/15/18	6:10	0	0	0	
6/16/18	6:10	0	0	0	
6/17/18	6:10	0	0	0	
6/18/18	6:10	0	0	0	
6/19/18		NA	NA	NA	Not checked
6/20/18		NA	NA	NA	Not checked
6/21/18		NA	NA	NA	Not checked
6/22/18	7:00	0	0	0	
6/23/18	6:30	0	0	0	
6/24/18	7:30	0	0	0	
6/25/18	6:45	0.51	0.51	0.51	
6/26/18	7:00	0	0	0	
6/27/18	7:00	0	0	0	
6/28/18	7:00	0	0	0	
6/29/18	6:30	0	0	0	

Date	Time	Rain Gauge 1 (inches)	Rain Gauge 2 (inches)	Total 24-h Precipitation (inches)	Comments
6/30/18	7:00	0	0	0	
7/01/18	7:00	0	0	0	
7/02/18	7:30	0	0	0	
7/03/18	7:30	0	0	0	
7/04/18	7:04	0	0	0	
7/05/18	6:30	0	0	0	
7/06/18	13:00	0	0	0	
7/07/18	11:00	0	0	0	
7/08/18	11:00	0	0	0	
7/09/18	11:00	0	0	0	
7/10/18				NA	
7/11/18				NA	
7/12/18				NA	
7/13/18				NA	
7/14/18				NA	
7/15/18				NA	
7/16/18				NA	
7/17/18				NA	
7/18/18				NA	
7/19/18				NA	
7/20/18				NA	
7/21/18				NA	
7/22/18				NA	
7/23/18				NA	
7/24/18				NA	
7/25/18	7:00	0	0	0	
7/26/18	6:15	0	0	0	
7/27/18	7:30	0	0	0	
7/28/18	6:15	0	0	0	
7/29/18	6:00	0	0	0	
7/30/18	6:30	0	0	0	
7/31/18	7:30	0	0	0	
8/01/18	7:30	0	0	0	
8/02/18	6:00	0	0	0	
8/03/18	6:00	0	0	0	
8/04/18	6:00	0.69	0.67	0.68	
8/05/18		0	0	0	

Date	Time	Rain Gauge 1 (inches)	Rain Gauge 2 (inches)	Total 24-h Precipitation (inches)	Comments
8/06/18		0	0	0	
8/07/18		0	0	0	
8/08/18		0	0	0	
8/09/18		0	0	0	
8/10/18		0	0	0	
8/11/18		0	0	0	
8/12/18	6:30	0.86	0.86	0.86	
8/13/18		0	0	0	
8/14/18		0	0	0	
8/15/18		0	0	0	
8/16/18		0	0	0	
8/17/18		0	0	0	
8/18/18		0	0	0	
8/19/18		0	0	0	
8/20/18		0	0	0	
8/21/18		0	0	0	
8/22/18	7:00	0.15	0.1	0.125	
8/23/18	6:40	0	0	0	
8/24/18		0	0	0	
8/25/18		0	0	0	
8/26/18		0	0	0	
8/27/18		0	0	0	
8/28/18		0	0	0	
8/29/18		0	0	0	
8/30/18	6:30	0.09	0.095	0.0925	temporary heavy rain during the nighttime
8/31/18		0	0	0	
9/01/18		0	0	0	
9/02/18		0	0	0	
9/03/18		0	0	0	
9/04/18		0	0	0	
9/05/18		0	0	0	
9/06/18		0	0	0	
9/07/18		0	0	0	
9/08/18		0	0	0	
9/09/18		0	0	0	

Date	Time	Rain Gauge 1 (inches)	Rain Gauge 2 (inches)	Total 24-h Precipitation (inches)	Comments
9/10/18		0	0	0	
9/11/18		0	0	0	Drizzle rain and snow throughout day
9/12/18	6:40	0.16	0.16	0.16	
9/13/18	7:00	0	0	0	
9/14/18	6:10	0	0	0	
9/15/18	6:35	0	0	0	
9/16/18	7:35	0	0	0	
9/17/18	6:20	0	0	0	
9/18/18	6:40	0	0	0	
9/19/18		0	0	0	
9/20/18		0	0	0	
9/21/18	16:00	0.215	0.215	0.215	snow throughout the day
9/22/18	11:00	0.035	0.045	0.04	
9/23/18	7:00	0	0	0	
9/24/18	7:00	0	0	0	
9/25/18	5:10	0	0	0	
9/26/18	7:00	0	0	0	
9/27/18	7:00	0.2	0.2	0.2	
9/28/18	5:00	0.2	0.2	0.2	
9/29/18	7:00	0	0	0	
9/30/18	7:00	0	0	0	
10/01/18	7:00	0	0	0	
10/02/18	7:00	0	0	0	
10/03/18	7:00	0	0	0	
10/04/18	7:00	0	0	0	
10/05/18	7:00	0	0	0	
10/06/18	6:30	0.01	0.005	0.0075	a bit of snow
10/07/18	7:30	0	0	0	
10/08/18	12:00	0	0	0	
10/09/18	7:00	0	0	0	
10/10/18	7:00	0	0	0	
10/11/18	7:00	0	0	0	
10/12/18	7:00	0	0	0	
10/13/18	7:00	0	0	0	
10/14/18	7:00	0	0	0	
10/15/18	7:00	0.03	0.03	0.03	Snow
10/16/18	7:00	0	0	0	

Date	Time	Rain Gauge 1 (inches)	Rain Gauge 2 (inches)	Total 24-h Precipitation (inches)	Comments
10/17/18	7:00	0	0	0	
10/18/18	7:00	0.02	0.02	0.02	
10/19/18	7:00	0.04	0.04	0.04	
10/20/18	7:00	0	0	0	
10/21/18	7:00	0	0	0	
10/22/18	7:00	0.02	0.02	0.02	
10/23/18	7:00	0	0	0	
10/24/18	7:00	0	0	0	
10/25/18	7:00	0	0	0	
10/26/18	7:00	0	0	0	
10/27/18	7:00	0	0	0	
10/28/18	7:00	0	0	0	
10/29/18	10:00	0.21	0.24	0.225	Snow
10/30/18	7:00	0	0	0	
10/31/18	7:00	0	0	0	
11/01/18	7:00	0.05	0.05	0.05	Snow
11/02/18	7:00	0.03	0.03	0.03	snow
11/03/18	7:00	0	0	0	
11/04/18	7:00	0.04	0.035	0.0375	snow
11/05/18	8:00	0.13	0.13	0.13	snow
11/06/18	7:00	0.005	0.005	0.005	Snow
11/07/18	7:00	0	0	0	
11/08/18	7:00	0	0	0	
11/09/18	7:50	0	0	0	
11/10/18	9:00	0.01	0.01	0.01	High winds
11/11/18	7:45	0	0	0	
11/12/18	8:35	0	0	0	
11/13/18	7:00	0	0	0	
11/14/18	7:25	0	0	0	
11/15/18	5:50	0.02	0.02	0.02	
11/16/18	6:00	0	0	0	
11/17/18	6:30	0	0	0	
11/18/18	7:00	0	0	0	
11/19/18	4:30	0	0	0	
11/20/18	7:00	0	0	0	
11/21/18	7:00	0	0	0	
11/22/18	7:00	0	0	0	
11/23/18	12:30	0.12	0.09	0.105	snow

Date	Time	Rain Gauge 1 (inches)	Rain Gauge 2 (inches)	Total 24-h Precipitation (inches)	Comments
11/24/18	7:00	0	0	0	
11/25/18	7:00	0	0	0	
11/26/18	7:00	0	0	0	
11/27/18	7:00	0	0	0	
11/28/18	7:00	0	0	0	
11/29/18	7:00	0.01	0.01	0.01	SNOW
11/30/18	7:00	0	0	0	
12/01/18	8:00	0.04	0.04	0.04	Snow
12/02/18	8:00	0	0	0	
12/03/18	15:00	0.04	0.03	0.035	snow
12/04/18	8:00	0	0	0	
12/05/18	8:00	0	0	0	
12/06/18	8:00	0	0	0	
12/07/18	8:00	0	0	0	
12/08/18	8:00	0.04	0.05	0.045	snow
12/09/18	8:00	0.01	0.01	0.01	overnight snow
12/10/18	7:15	0	0	0	
12/11/18	9:30	0.01	0.01	0.01	
12/12/18	10:00	0	0	0	
12/13/18	7:05	0	0	0	trace
12/14/18	7:30	0	0	0	
12/15/18	9:00	0.02	0.03	0.025	
12/16/18	6:30	0	0	0	
12/17/18	13:30	0	0	0	
12/18/18	6:30	0	0	0	
12/19/18	6:30	0	0	0	
12/20/18	6:00	0.01	0.01	0.01	trace
12/21/18	7:00	0	0	0	
12/22/18	7:00	0	0	0	
12/23/18	7:30	0	0	0	
12/24/18	8:00	0	0	0	
12/25/18	8:00	0	0	0	
12/26/18	8:00	0	0	0	
12/27/18	8:00	0	0	0	
12/28/18	8:00	0	0	0	
12/29/18	8:00	0	0	0	
12/30/18	8:00	0	0	0	
12/31/18	8:00	0	0	0	

APPENDIX C: INCINERATOR STACK TESTING REPORT



**PROFESSIONNAL SERVICES
STACK TESTING PROGRAM
AIR EMISSIONS QUANTIFICATION
DOMESTIC WASTE INCINERATOR**



AGNICO EAGLE

AGNICO EAGLE MINES LTD,
Rankin Inlet (Nunavut)
MELIADINE DIVISION
Kevin Buck
General Supervisor Environment

O/REF: #18-5528

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AGNICO EAGLE

Revision history

Version name	Date	Detail	Reviewed by
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PREPARED BY:

Louis Lawson, project manager

VERIFIED BY:

Cristina Danatoiu, engineer.

Quebec, December 2018

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GLOSSARY

PM: Particulate matter

SVOC (PCDD/F): Dioxins and furans

ME: Metals

O₂: Oxygen

CO₂: Carbon dioxide

CO: Carbone monoxide

NO_x: Nitrogen oxide

ACFM: Actual cubic feet per minute

ECCC: Environment and Climate Change Canada

USEPA: United States Environmental Protection Agency

QA/QC: Quality Assurance / Quality Control

ΔP: Differential pressure read at the stack

ΔH: Differential pressure read at the control unit

DL: Detection Limit

SUMMARY

Consulair was mandated by Agnico Eagle Mines, Meliadine Division, to sample the atmospheric emissions at the outlet of an incinerator of its plant located near Rankin Inlet, Nunavut.

The objectives of the characterization of atmospheric emissions were to:

- Evaluate the physical characteristics of the gas flow in the stack;
- Evaluate the concentration and the emission rate of the particulate matter (P), Metals (ME) and Hydrogen chloride (HCl);
- Demonstrate the performance of the incinerator to meet the standards for mercury (Hg) and dioxins and furans (PCDD/F);
- Ensure that QA/QC of Consulair is respected throughout the stack sampling program.

For this project, the applicable standards are shown below with the tests results. The applicable standards for dioxins and furans (PCDD/F) were met for all tests, as well as the applicable standard for mercury (Hg). The standards come from the “Environmental Guideline for the Burning and Incineration of Solid Waste” emitted by the Department of Environment of the Government of Nunavut base on the Canadian Council of Ministers of the Environment (CCME) Canada - Wide Standards for Dioxins and Furans and Mercury Emissions.

The government of Nunavut presented a guideline document in October 2010, which was revised in January 2012, for the burning and incineration of solid waste. The document presented two criteria for air emissions which are applicable in the current project. A standard for Dioxins and Furans is stated at 80 pg I-TEQ/m³ and another standard for mercury is stated at 20 µg/Rm³. The reference conditions are stated at 101.3 kPa and 25°C and both standards are corrected to 11% O₂.

APPLICABLE STANDARDS		
CONTAMINANTS	TEST RESULTS	STANDARDS
MERCURY (Hg)	0.23 µg / Rm ³ @ 11 % v/v O ₂	20 µg / Rm ³ @ 11 % v/v O ₂
DIOXINS AND FURANS (PCDD/F)	0.042 ng / Rm ³ @ 11 % v/v O ₂	0.08 ng TEQ / Rm ³ @ 11 % v/v O ₂

R: Reference conditions 25 °C and 101.3 kPa on a dry basis.

SUMMARY

INORGANIC SAMPLING TRAIN	
STACK GAS PROPERTIES	
TEMPERATURE (°C)	744
MOISTURE (% v/v)	6.0
VELOCITY (m/s)	11.9
VOLUMETRIC FLOW RATE (m ³ /h)	22,871
VOLUMETRIC FLOW RATE (Rm ³ /h)	6,282
PARTICULATE MATTER	
PARTICULATE MATTER (mg/Rm ³)	26.8
PARTICULATE MATTER (mg/Rm ³) at 7 % O ₂	58.3
PARTICULATE MATTER (mg/Rm ³) at 11 % O ₂	41.5
PARTICULATE MATTER (kg/h)	0.16
PARTICULATE MATTER (g/s)	0.045
METALS (µg/Rm ³) @ 11% O ₂	
CONCENTRATION	7,440
CLASS I (Cu, Pb, V & Zn)	352
CCME GUIDELINE	1,500
CLASS II (As, Cr & Ni)	22
CCME GUIDELINE	500
CLASS III (Cd, Hg & Tl)	2.3
CCME GUIDELINE	150
HCl	
HCl (mg/Rm ³)	25.7
HCl (mg/Rm ³) at 11 % O ₂	37.3
HCl (ppm)	17.2
HCl (kg/h)	0.16
ORGANIC SAMPLING TRAIN	
STACK GAS PROPERTIES	
TEMPERATURE (°C)	743
MOISTURE (% v/v)	6.1
VELOCITY (m/s)	12.1
VOLUMETRIC FLOW RATE (m ³ /h)	23,252
VOLUMETRIC FLOW RATE (Rm ³ /h)	6,386
PCDD/F	
PCDD/F TEQ (ng/Rm ³) at 11 % O ₂	0.042
STANDARD (ng/Rm ³) at 11% O ₂	0.08
PCDD/F TEQ (µg/h)	0.18
R: Reference conditions 25 °C, 101.3 kPa on a dry basis.	

SUMMARY (Cont'd)

GAS	
OXYGEN (O ₂)	
O ₂ (% v/v d) - average	14.3
CARBON DIOXIDE (CO ₂)	
CO ₂ (% v/v d) - average	5.1
CARBON MONOXIDE (CO)	
CO (ppmvd) - average	2.8
CO (mg/Rm ³)	3.3
CO (kg/h)	0.021
NITROGEN OXIDES (NO _x) as NO ₂	
NO _x (ppmvd) - average	53
NO _x as equivalent NO ₂ (mg/Rm ³)	100
NO _x (kg/h)	0.65
SULPHUR DIOXIDE (SO ₂)	
SO ₂ (ppmvd) - average	0.2
SO ₂ (mg/Rm ³)	0.6
SO ₂ (kg/h)	0.004
R: Reference conditions 25 °C, 101.3 kPa on a dry basis.	

The sampling was performed in compliance with the rules of the requirements of the Report No. EPS 3/UP/2, including methods recommended by “Environment and Climate Change Canada” (ECCC) of the Government of Canada inside “Environment Canada, The National Incinerator Testing and Evaluation Program: Air Pollution Control Technology”. Report No. EPS 3/UP/2, Ottawa, 1986.

1 INTRODUCTION

Consulair was mandated by Agnico Eagle Mines, Meliadine Division (Nu), to demonstrate the performance of the incinerator to meet the standards for mercury (Hg) and dioxins and furans (PCDD/F).

1.1 Sampling scope

The objectives of the characterization of atmospheric emissions were to:

- Evaluate the physical characteristics of the gas flow in the stack;
- Evaluate the concentration and the emission rate of particulate matter (P), Metals (ME) and Hydrogen chloride (HCl);
- Demonstrate the performance of the incinerator to meet the standards for mercury (Hg) and dioxins and furans (PCDD/F);
- Ensure that QA/QC of Consulair is respected throughout the stack sampling program.

The study included sources and pollutants referred in the following table.

Table 1-1 – OVERALL TEST MATRIX

SOURCE	POLLUTANTS	SAMPLING METHODS
Incinerator outlet	Particulate matter (PM)	EPS 1/RM/8 EC
	Hydrogen chloride (HCl)	EPS 1/RM/1 EC
	Metals	USEPA 29
	SVOC (PCDD/F)	EPS 1/RM/2 EC

2 SAMPLING TEAM AND PARTICIPANT

The interveners of this testing program are listed in Table 2-1 and 2-2. The analysis laboratory used is defined in Table 2-3.

Table 2-1 – CLIENT CONTACT

CLIENT	CONTACT	FUNCTION
Agnico Eagle Mines Limited Meliadine Division Rankin Inlet, Nunavut, Canada X0C 0G0	Kevin Buck General Supervisor Environment Tel: 819-759-3555 Kevin.buck@agnicoeagle.com	Test program coordination

Table 2-2 – SAMPLING TEAM

STAFF	TITLE	FUNCTION
Louis Lawson	Project Manager	On-site team leader On-site sampling Report writing
Jean-François Guay	Health and Safety Manager	On-site sampling
Cristina Danatoiu	Engineer	Report validation

Table 2-3 – ANALYSIS LABORATORY

LABORATORY	ANALYSIS	FIELD OF ACCREDITATION DR-12-LLA
Consulair	Particulate Matter	400
	Hydrogen chloride (HCl)	---
Maxxam	Metals	404 - 406
Agat	PCDD/F	510

3 **SAMPLING**

3.1 **Process operation**

A representative of the Agnico Eagle mines company had the responsibility to monitor the operating conditions to ensure the representativeness of the sampling. In order to perform the sampling program under representative conditions, a tight liaison was maintained with the operators during testing.

Process operating conditions of the incinerator were under Agnico-Eagle's responsibility. The operating conditions were maintained stable throughout each days of the test program.

3.2 **Source description**

The number of measuring points in the stack was determined in accordance with the requirements of Environment Canada's EPS 1/RM/8 sampling method entitled: "Reference methods for source testing: measurement of releases of particulate from stationary sources".

Stacks characteristics are described in the following table.

Table 3-1 – SAMPLED SITE CHARACTERISTICS

SOURCE	DIMENSION(S) Stack (m)	DIAMETER NUMBER)		NUMBER OF SAMPLING POINTS	
		A _D	B _D	Number of port used and sampling points	Total
Incinerator outlet	0.826	5.0	2.0	2 x 6	12

3.3 Sampling methodology

Sampling methods used in this project are methods approved and recommended by known organisms such as the United States Environmental Protection Agency (US EPA) and Environment Canada (EC).

The following table shows the sampling methods that were used during testing.

Table 3-2 – SAMPLING METHODS

PARAMETERS	METHODS	SAMPLING DURATION (min)
Manual sampling methods		
Temperature	Thermometer or thermocouple	With isokinetic value
Gas flow	SPE 1/RM/8, method B – Environment Canada	With isokinetic value
O ₂ , CO ₂ , CO	SPE 1/RM/8, method C – Environment Canada	With isokinetic value
Moisture content	SPE 1/RM/8, method D – Environment Canada	With isokinetic value
Particulate matter (PM)	SPE 1/RM/8, method E – Environment Canada	120 / 170 / 180
HCl	SPE 1/RM/1 – Environment Canada	
Metals	USEPA, CFR 40, Part 60, Method 29	
SVOC (PCDD/F)	SPE 1/RM/2 – Environment Canada	240 / 150 / 180
Instrumental sampling method		
NO _x	USEPA, CFR 40, Part 60, Method 7E	60
SO ₂	USEPA, CFR 40, Part 60, Method 6C	60

The distribution of parameters within the sampling train is presented in the following table.

Table 3-3 – DISTRIBUTION OF PARAMETERS FOR EACH SAMPLING SYSTEM

SAMPLING TRAIN	PARAMETERS
Metals & Particulate matter & HCl	PM & Metals & HCl
SVOC	PCDD/F

3.4 Temperature, moisture content and flowrate

Gas temperature, flowrate, velocity and moisture content will be measured at the sampling sites according to "Reference methods for source testing: measurement of releases of particulate from stationary sources". Methods B and D, Environment Canada, December 1993, EPS 1/RM/8.

3.5 Isokinetic sampling

Isokinetic sampling allows to collect particles in the sampling nozzle at the same velocity as the gas stack velocity. In non-isokinetic conditions, if the sampling velocity is inferior than the gas stack velocity, more large particles would be collected resulting in an overestimation of the true mass concentration. On the opposite, if the sampling velocity is superior than the gas stack velocity, less large particles would be collected resulting in underestimation of the true mass concentration. In either case, the sample collected would not be an accurate reflection of the gas stack stream.

The following table presents a test acceptance criteria according to the methods (sampling systems) used.

Table 3-4 – SAMPLING ACCEPTANCE CRITERIA

PARAMETERS	METHOD	ACCEPTANCE CRITERIA
Particulate Matter	SPE 1/RM/8	- Isokinetic rate comprised between 90 % and 110 % - Less than 10% of the sampled points out of the 90 % to 110 % range
Metals	Method 29 from USEPA	
SVOC	SPE 1/RM/2	

3.5.1 Particulate matter (PM), metals & HCl

Particulate matter (PM) and metals (Al, Sb, Ag, As, Ba, Be, Bi, B, Cd, Ca, Cr, Co, Cu, Sn, Fe, Li, Mg, Mn, Mo, Ni, Pb, K, Se, Na, Ti, V, Zn, Sr, Tl, Si (Silicium soluble), Hg) were sampled in accordance with the requirements of Environment Canada EPS 1/RM/8 sampling method entitled: "Reference methods for source testing: measurement of releases of particulate from stationary sources". This method was combined with USEPA method 29 entitled "Metals emissions from stationary sources" in order to allow for metals sampling (including Hg). HCl was analyzed in the first impinger of that sampling train.

Table 3-5 – MAIN COMPONENTS OF THE PM/HCl/METALS SAMPLING SYSTEM

SAMPLING PROBE	SAMPLING TRAIN	CONTROL UNIT
- Quartz nozzle; - Quartz probe; - S type Pitot tube for the gas velocity attached to the sample probe; - Thermocouple for temperature attached to the sample probe.	- A 0.3 µm porosity pre-weighted quartz filter mounted in a Pyrex filter holder and placed in a heated oven to avoid moisture condensation; - Seven impingers placed in series and containing: # 1: 100 mL H₂O; # 2 and # 3: 100 mL HNO₃ (5%) / H₂O₂ (10%) solution; # 4: empty; # 5 and # 6: 100 mL KMnO₄ (4%) / H₂SO₄ (10%) solution; # 7: silica gel; - Impingers placed in an ice bath to condense all the flue gas moisture.	- Sampling cord that connects the train to the sampling console; - Sampling console with oil manometer, a dry gas meter, an orifice, a temperature reader and temperature controllers; - Diaphragm vacuum pump.

3.5.2 Semivolatile organic compounds (SVOC) (PCDD/DF)

Semi Volatile Organic Compounds (SVOC) are defined as organic compounds with boiling points greater than 100 °C. This class of compounds includes PCDD (PolyChlorinated Dibenzo p Dioxins), PCDF (PolyChlorinated DibenzoFurans),

SVOCs (PCDD/F) were sampled in accordance with the requirements of Environment Canada EPS 1/RM/2 sampling method entitled: " Reference Method for Source Testing: Measurement of Releases of Selected Semi-Volatile Organic Compounds from Stationary Sources ". For this project, SVOCs included polychlorinated dibenzo-p-dioxins (PCDD) and polychlorinated dibenzofurans (PCDF). A minimal volume of at least 3.0 Rm³ was sampled during each run.

For one series of three SVOC tests, a blank train was taken to the stack sampling site. A volume of ambient air equal to the sum of all leak check volumes during the SVOC test was pumped through the blank train, according to the requirements of reference method EPS 1/RM/2.

The following table shows the various components of the sampling system for PCDD/F.

Table 3-6 – MAIN COMPONENTS OF A SVOC SAMPLING SYSTEM

SAMPLING PROBE	SAMPLING TRAIN	CONTROL UNIT
- Glass nozzle of a precisely measured diameter to allow isokinetic sampling; - Glass heated probe to avoid moisture condensation; - Probe is fastened to an "S" type Pitot tube for gas velocity measurement and to a thermocouple for temperature measurement.	- A 0.3 µm porosity pre-weighted fiber glass filter mounted on an accurate holder and placed in a heated oven to avoid moisture condensation; - Condenser; - XAD-2 resin cartridge; - Condensate trap; - Three impingers placed in series and containing: # 1: 100 mL ethylene glycol; # 2: empty; # 3: silica gel; - Impingers placed in an ice bath to condense all the flue gas moisture.	- Sampling cord that connects the train to the sampling console; - Sampling console with oil manometer, a dry gas meter, an orifice, a temperature reader and temperature controllers; - Diaphragm vacuum pump.

3.6 Gaseous parameters (O₂, CO₂, CO, SO₂ & NO_x)

One CEM (Continuous Emission Monitoring) systems was used to determine the concentration of O₂, CO₂, CO, SO₂ & NO_x. The CEM system includes a gas extraction system, one analyzer and a data acquisition system. The moisture-free gas was analysed for O₂, CO₂, CO, SO₂ & NO_x with an analyzer as described in the following table.

Graphics of continuous measurements of gas are presented in Appendix 2 of the report.

Table 3-7 – GAS ANALYZER

ANALYZER	O ₂ /CO ₂	CO	SO ₂	NO _x
Method	USEPA 3A	USEPA 10	USEPA 6C	USEPA 7E
Brand	Horiba	Horiba	Horiba	Horiba
Model	PG250	PG 250	PG 250	PG 250
Detector	Galvanic Cell / Infrared	Infrared	Infrared	Chemiluminescence
Zero gas	Nitrogen			
Working Scale	0 - 30 %v	0 – 100 ppmv	0 – 500 ppmv	0 – 1,000 ppmv

3.7 Testing schedule

Table 3-8 – TESTING SCHEDULE

SOURCE	DATE	TIME	TEST
Outlet of incinerator	2018-09-22	13:44-17:44	GAS & SVOC # 1
	2018-09-28	11:32-14:02	GAS & SVOC # 2
	2018-09-29	16:13-19:13	GAS & SVOC # 3
	2018-09-22	14:45-16:45	PM/Metal/HCl # 1
	2018-09-28	11:33-14:23	PM/Metal/HCl # 2
	2018-09-29	16:14-19:14	PM/Metal/HCl # 3

3.8 LAWS AND REGULATIONS

The government of Nunavut presented a guideline document in October 2010, which was revised in January 2012, for the burning and incineration of solid waste. The following emission standards apply to existing, new or expanding solid waste incinerators operating in Nunavut and have been adopted from the Canadian Council of Ministers of the Environment (CCME) Canada - Wide Standards for Dioxins and Furans and Mercury Emissions. The document presented two criteria for air emission which are applicable in the current project. A standard for Dioxins and Furans is stated at 80 pg I-TEQ/m³ and another standard for mercury is stated at 20 µg/Rm³. The R conditions are stated at 101.3 kPa and 25°C. Both standards are corrected to 11% O₂.

4 QUALITY CONTROL PROCEDURES (QA/QC)

The quality insurance program and control at Consulair has several elements to validate the methodologies used during sampling. The main points are detailed within this section.

4.1 QA/QC – PRE-TEST

4.1.1 Equipment, instruments and reagents

The sampling train glassware and sample containers were cleaned and checked according to the applicable reference methods.

The instruments used were subject of regular maintenance and are calibrated for less than a year. The calibration constants of the equipment used are shown in Tables 4-1 to 4-3. Calibration certificates of equipment are presented in Appendix 3 of the report.

The gas standards used for calibration of the analyzer were valid at the time of use considering the retention periods imposed by the supplier. The standard gases are certified to ± 2% by the supplier.

4.1.2 Field forms

The forms that present field data for the target parameters are shown in Appendix 5.

4.2 Sample tracking

A clean room inside the incinerator building was used for the assembly and the different stages of recovery of sampling trains. Recovery of samples was performed according to the procedures recommended by the methods.

The samples were collected in suitable containers as specified by the methods. All samples were kept cool during the sampling period and until the delivery of samples to analytical laboratories. Consulair used an identification system for the samples that allowed tracking the origin easily by a unique code coupled to a lookup table. Each sample number includes the date, test number, the precise location of the sampling, the nature and destination (analysis, archiving). This information is indicated on the chain of custody listing and the information is available on the analysis reports.

4.3 Validation criteria

Consulair ensured that each step of the air emission characterization program (including QA / QC program) will achieve the defined objectives, while respecting the deadline set by the customer.

4.3.1 Analytical laboratory

The particulate samples analysis was done in the laboratory of Consulair. This laboratory is accredited by the *Centre d'Expertise en Analyse Environnementale du Québec* (CEAEQ) for particulate matter (domain 400 of the air chemical section). The metals samples were analysed by Maxxam's laboratory, which is accredited by the *Centre d'Expertise en Analyse Environnementale du Québec* (CEAEQ) for metallic analysis (domain 404 of the air chemical section). The PCDD/F samples were analysed by AGAT's laboratory, which is accredited by the *Centre d'Expertise en Analyse Environnementale du Québec* (CEAEQ) for PCDD/F analysis (domain 510 of the air chemical section).

The analytical reports have been signed by a chemist and are presented in appendix 4. The laboratory also made available, in its report, the QA/QC program specific to the analysed contaminants.

4.3.2 Validation criteria – Particulate matter / Metals / HCl (PM/ME/HCl)

The following tables show the validation criteria of the methodology used.

Table 4-1 – QA/QC METHODOLOGY – PM/METALS/HCl

SPE 1/RM/8 METHODOLOGICAL INFORMATION				
TEST	ME-1	ME-2	ME-3	CRITERIA
CYCLONIC FLOW	0			$\leq 15^\circ$
REVERSE FLOW	NO			NO
STACK DIAMETER (m)	0.826			≥ 0.3
A ₀	2.0			≥ 0.5
B ₀	5.0			≥ 2.0
SAMPLING TIME (min)	120	170	180	≥ 120
VOLUME SAMPLED (Rm ³)	2.76	2.83	3.77	≥ 2.8
ISOKINETICITY AVERAGE (%)	102	101	102	$90 \leq ISO \leq 110$
POURCENTAGE OF ISOKINETIC POINTS	100%	100%	100%	≥ 90
SAMPLING VELOCITY	OK	OK	OK	$3.0 \leq V \leq 30$ m/s
PROBE TEMPERATURE	NOT MEASURED			$223 \leq T \leq 273$ °F
FILTER TEMPERATURE	OK	OK	OK	$223 \leq T \leq 273$ °F
OUTLET TEMPERATURE	OK	OK	OK	$32 \leq T \leq 68$ °F
4% D _{MOY} (pi ³ /min)	0.03	0.02	0.03	---
FLOW LEAK BEFORE at -15in Hg (ft ³ /min)	0.020	0.020	0.020	≤ 0.02 or 4% Dmoy
FLOW LEAK AFTER (ft ³ /min)	0.020	0.020	0.020	≤ 0.02 or 4% Dmoy
EQUIPMENT INFORMATION				
SAMPLING MODULE NO.	25	25	25	
METER FACTOR K _C	0.999	0.999	0.999	$0.95 < K_C < 1.05$
ORIFICE FACTOR K _O	0.733	0.733	0.733	
Δh@	2.529	2.529	2.529	
PITOT ID	05-07 5Q-501	05-07 5Q-501	05-07 5Q-501	
PITOT FACTOR	0.774	0.774	0.774	
NOZZLE ID	5Q-502	5Q-434	5Q-434	
NOZZLE DIAMETER (in)	0.4684	0.4366	0.4366	
R: Reference conditions at 101.3 kPa et 25°C, and dry basis.				

The sampling volume for the first test run is slightly lower than the 2.8 m³ limit of the test method but should not have any impact on the result.

Table 4-2 – QA/QC METHODOLOGY – SVOC

TEST	PCDD/DF-1	PCDD/DF-2	PCDD/DF-3	CRITERIA
EQUIPEMENT INFORMATION				
SAMPLING MODULE NO.	19	19	19	N/A
METER FACTOR K_c	0.997	0.997	0.997	0.95 - 1.05
ORIFICE FACTOR K_o	0.994	0.994	0.994	N/A
PITOT ID	03-06 3Q-371	03-06 3Q-503	03-06 3Q-503	N/A
PITOT FACTOR	0.778	0.781	0.781	N/A
NOZZLE ID	3Q-371	3Q-503	3Q-503	N/A
NOZZLE DIAMETER (in)	0.3741	0.4958	0.4958	N/A
METHODOLOGICAL INFORMATION				
SAMPLING POINTS NUMBER	12	12	12	24
GAS VELOCITY (m/s)	11.7	10.6	13.9	3.0 - 30
SAMPLING TIME (min)	240	150	180	≥ 180
VOLUME SAMPLED (Rm^3)	3.38	3.39	4.99	≥ 3
SAMPLING RATE (pi^3/min)	0.48	0.78	0.95	N/A
ISOKINETICITY AVERAGE (%)	101	101	101	90 - 110
POURCENTAGE OF ISOKINETIC POINTS	100	100	100	≥ 90
PROBE TEMPERATURE ($^{\circ}F$)	NOT MEASURED			223 - 273
FILTER TEMPERATURE ($^{\circ}F$)	240 - 258	246 - 253	246 - 257	223 - 273
OUTLET TEMPERATURE ($^{\circ}F$)	39 - 58	56 - 91	40 - 63	32 - 68
TRAP TEMPERATURE ($^{\circ}F$)	46 - 69	38 - 63	41 - 69	33 - 68
FLOW LEAK BEFORE at -15in Hg (ft^3/min)	< 0.020	< 0.020	< 0.020	< 0.02
FLOW LEAK AFTER (ft^3/min)	< 0.020	< 0.020	< 0.020	< 0.02
R: Reference conditions at 101.3 kPa et 25°C, and dry basis.				

The sampling time for the second run of SVOC is under the 180 minutes limit of the method because of a process malfunction and the sampling had to be stopped. However, since the sampling volume for this test run is higher than the 3.0 m^3 limit of the method, this should have no impact on the result.

5 RESULTS

The reference values are reported at a temperature of 25°C and an atmospheric pressure of 101.3 kPa, on a dry basis.

For the inorganic results, a laboratory analysis value preceded of "<" means that the laboratory result is less than the detection limit reported (LDR) and represents a maximum result. In this case, the detection limit reported (LDR) is the value used.

The PCDD / F result tables include all toxic congeners (17) calculated with TEF (Toxic Equivalency Factor). The term "toxic equivalency (TEQ)" is the sum of the 17 toxic congeners calculated according to the TEF and when a congener was not detected by the laboratory analysis, it was replaced by "zero".

Unless otherwise indicated, the averages indicated in the tables below are the average of all tests carried out to the same source for the same operating condition.

Computer compiled data is presented in Appendix 1.

Table 5-1 – STACK GAS PROPERTIES

TESTS SCHEDULE				
TEST	RUN-1	RUN-2	RUN-3	AVERAGE
DATE	2018-09-22	2018-09-28	2018-09-29	(1 to 3)
START HOUR OF THE FIELD TEST	14:45	11:33	16:14	
END HOUR OF THE FIELD TEST	16:45	14:23	19:14	
STACK GAS PROPERTIES – METAL SAMPLING TRAIN				
TEMPERATURE (°C)	727	724	782	744
MOISTURE (% v/v)	6.2	5.5	6.3	6.0
VELOCITY (m/s)	12.0	10.2	13.5	11.9
STACK GAS FLOW RATE (m ³ /h)	23 080	19 600	25 932	22 871
STACK GAS FLOW RATE (ft ³ /min) (ACFM)	6 498	5 503	6 844	6 282
STACK GAS FLOW RATE (Rm ³ /h)	13 585	11 536	15 263	13 461
STACK GAS FLOW RATE (Rft ³ /min) (SCFM)	3 825	3 239	4 028	3 697
STACK GAS PROPERTIES – SVOC SAMLING TRAIN				
TEMPERATURE (°C)	726	723	780	743
MOISTURE (% v/v)	6.6	5.1	6.6	6.1
VELOCITY (m/s)	11.7	10.6	13.9	12.1
STACK GAS FLOW RATE (m ³ /h)	22 509	20 452	26 796	23 252
STACK GAS FLOW RATE (ft ³ /min) (ACFM)	13 248	12 038	15 771	13 686
STACK GAS FLOW RATE (Rm ³ /h)	6 314	5 774	7 070	6 386
STACK GAS FLOW RATE (Rft ³ /min) (SCFM)	3 717	3 398	4 161	3 759
GAS COMPOSITION				
CO ₂ (% v/v d)	5.2	4.4	5.6	5.1
O ₂ (% v/v d)	14.1	15.1	13.6	14.3
CO (ppmvd)	3	3	3	3
R: Reference conditions at 101.3 kPa and 25°C on a dry basis.				

Table 5-2 – RESULTS PM – HCL

TESTS SCHEDULE				
TEST	MEL-ME-1	MEL-ME-2	MEL-ME-3	AVERAGE
DATE	2018-09-22	2018-09-28	2018-09-29	(1 to 3)
START HOUR OF THE FIELD TEST	14:45	11:33	16:14	
END HOUR OF THE FIELD TEST	16:45	14:23	19:14	
DURATION OF THE TEST (MINUTES)	120	170	180	
PARTICULATE MATTER				
PARTICULATE MATTER (mg/Rm ³)	30.9	35.8	13.6	26.8
PARTICULATE MATTER (mg/Rm ³) at 7 % O ₂	63.4	85.7	25.9	58.3
PARTICULATE MATTER (mg/Rm ³) at 11 % O ₂	45.2	61.0	18.4	41.5
PARTICULATE MATTER (kg/h)	0.20	0.20	0.093	0.16
HCl				
HCl (mg/Rm ³)	32.4	12.0	32.6	25.7
HCl (mg/Rm³) at 11 % O₂	47.4	20.5	44.1	37.3
HCl (ppm)	21.7	8.1	21.8	17.2
HCl (kg/h)	0.210	0.066	0.223	0.167
HCl (g/s)	0.0584	0.0184	0.0619	0.0463
R: Reference conditions at 101.3 kPa and 25°C on a dry basis.				

Table 5-3 – METALS CONCENTRATION

SCHEDULE OF TESTS				
TEST	MEL-ME-1	MEL-ME-1	MEL-ME-1	AVERAGE
DATE	2018-09-22	2018-09-28	2018-09-29	(1 to 3)
START HOUR OF THE FIELD TEST	14:45	11:33	16:14	
END HOUR OF THE FIELD TEST	16:45	14:23	19:14	
DURATION OF THE TEST (MINUTES)	120	170	180	
METALS (µg/Rm ³) @ 11% O ₂				
Aluminium (Al)	307	24	21	118
Antimony (Sb)	129	2.3	78	70
Silver (Ag)	1.5	< 1.6	1.2	1.4
Arsenic (As)	9.2	0.96	11	7.1
Baryum (Ba)	4.1	0.72	0.45	1.7
Beryllium (Be)	< 0.13	< 0.16	< 0.089	< 0.13
Bismuth (Bi)	0.55	0.19	1.8	0.85
Boron (B)	14	8.6	37	20
Cadmium (Cd)	2.0	0.57	3.5	2.0
Calcium (Ca)	1,095	239	142	492
Chromium (Cr)	9.8	3.2	26	13
Cobalt (Co)	0.42	< 0.24	0.18	0.28
Copper (Cu)	48	15	48	37
Tin (Sn)	54	16	68	46
Iron (Fe)	576	331	49	318
Lithium (Li)	5.8	21	13	13
Magnesium (Mg)	167	28	27	74
Manganese (Mn)	36	14	2.1	17
Mercury (Hg)	0.47	0.21	0.018	0.23
Molybdenum (Mo)	3.6	< 1.6	3.9	3.0
Nickel (Ni)	4.6	0.48	0.82	2.0
Lead (Pb)	68	23	160	83
Potassium (K)	5,348	716	3,662	3,242
Selenium (Se)	0.74	0.48	0.36	0.52
Silicium (Si)	409	107	212	243
Sodium (Na)	4,180	520	2,473	2,391
Strontium (Sr)	2.8	0.42	0.25	1.2
Thallium (Tl)	< 0.21	< 0.24	< 0.14	< 0.20
Titanium (Ti)	29	4.2	3.2	12
Vanadium (V)	0.79	< 0.48	0.39	0.55
Zinc (Zn)	274	34	385	231
DETECTED METAL	12,780	2,111	7,430	7,440
TOTAL METALS	12,780	2,115	7,430	7,442
R: Reference conditions at 101.3 kPa and 25°C on a dry basis.				

Table 5-4 – METALS EMISSION RATE

SCHEDULE OF TESTS				
TEST	MEL-ME-2	MEL-ME-1	MEL-ME-3	AVERAGE
DATE	2018-09-22	2018-09-28	2018-09-29	(1 to 3)
START HOUR OF THE FIELD TEST	14:45	11:33	16:14	
END HOUR OF THE FIELD TEST	16:45	14:23	19:14	
DURATION OF THE TEST (MINUTES)	120	170	180	
METALS (g/h)				
Aluminium (Al)	1.4	0.078	0.11	0.52
Antimony(Sb)	0.58	0.0076	0.40	0.33
Silver (Ag)	0.0068	< 0.0051	0.0060	0.0060
Arsenic (As)	0.041	0.0031	0.057	0.034
Baryum (Ba)	0.018	0.0023	0.0023	0.0076
Beryllium (Be)	< 0.00059	< 0.00051	< 0.00045	< 0.00052
Bismuth (Bi)	0.0024	0.00062	0.0091	0.0041
Boron (B)	0.063	0.028	0.19	0.093
Cadmium (Cd)	0.0091	0.0018	0.018	0.0096
Calcium (Ca)	4.9	0.78	0.72	2.1
Chromium (Cr)	0.044	0.010	0.13	0.063
Cobalt (Co)	0.0019	< 0.00078	0.00091	0.0012
Copper (Cu)	0.22	0.050	0.24	0.17
Tin (Sn)	0.24	0.051	0.34	0.21
Iron (Fe)	2.6	1.1	0.25	1.3
Lithium (Li)	0.026	0.070	0.064	0.053
Magnesium (Mg)	0.75	0.091	0.14	0.32
Manganese (Mn)	0.16	0.045	0.011	0.072
Mercury (Hg)	0.0021	0.00070	0.000091	0.00096
Molybdenum (Mo)	0.016	< 0.0051	0.020	0.014
Nickel (Ni)	0.020	0.0016	0.0042	0.0087
Lead (Pb)	0.30	0.074	0.81	0.40
Potassium (K)	24	2.3	19	15
Selenium (Se)	0.0033	0.0016	0.0018	0.0022
Silicium (Si)	1.8	0.35	1.1	1.1
Sodium (Na)	19	1.7	13	11
Strontium (Sr)	0.012	0.0014	0.0013	0.0050
Thallium (Tl)	< 0.00094	< 0.00078	< 0.00073	< 0.00082
Titanium (Ti)	0.13	0.014	0.016	0.053
Vanadium (V)	0.0035	< 0.0016	0.0020	0.0024
Zinc (Zn)	1.2	0.11	2.0	1.1
DETECTED METAL	57	6.9	38	34
TOTAL METALS	57	6.9	38	34
R: Reference conditions at 101.3 kPa and 25°C on a dry basis.				

Table 5-5 – CONCENTRATION - PCDD/F CONGENERS

SCHEDULE OF TESTS				
SERIAL NUMBER TEST	MEL-COSV-1	MEL-COSV-2	MEL-COSV-3	AVERAGE
DATE	2018-09-22	2018-09-28	2018-09-29	(1 to 3)
START OF TEST	13:44	11:32	16:13	
END OF TEST	17:44	14:02	19:13	
DURATION OF THE TEST (MINUTES)	240	150	180	
PCDD/DF CONGENERS (ng/Rm ³)				
2,3,7,8 - Tetra CDD	< 0.00030	0.0015	< 0.0014	0.0011
1,2,3,7,8 - Penta CDD	< 0.00089	0.014	0.0046	0.0065
1,2,3,4,7,8 - Hexa CDD	< 0.00089	0.016	0.0056	0.0074
1,2,3,6,7,8 - Hexa CDD	0.00089	0.021	0.013	0.011
1,2,3,7,8,9 - Hexa CDD	< 0.00089	0.024	0.013	0.013
1,2,3,4,6,7,8 - Hepta CDD	0.0050	0.093	0.061	0.053
1,2,3,4,6,7,8,9 - Octa CDD	0.0098	0.047	0.060	0.039
2, 3, 7, 8 - Tetra CDF	0.0044	0.014	0.043	0.021
1,2,3,7,8 - Penta CDF	< 0.0024	0.0062	0.012	0.0070
2,3,4,7,8 - Penta CDF	0.0027	0.013	0.033	0.016
1,2,3,4,7,8 - Hexa CDF	0.0039	0.018	0.065	0.029
1,2,3,6,7,8 - Hexa CDF	0.0027	0.0074	0.024	0.011
2,3,4,6,7,8 - Hexa CDF	0.0024	0.015	0.055	0.024
1,2,3,7,8,9 - Hexa CDF	< 0.0018	< 0.0059	0.0060	0.0046
1,2,3,4,6,7,8 - Hepta CDF	0.0047	0.019	0.095	0.040
1,2,3,4,7,8,9 - Hepta CDF	< 0.0018	0.0024	0.020	0.0081
1,2,3,4,6,7,8,9 - Octa CDF	0.0059	0.0050	0.045	0.019
Total Tetra CDD	0.0027	0.047	0.043	0.031
Total Penta CDD	0.0033	0.13	0.081	0.072
Total Hexa CDD	0.0074	0.27	0.14	0.14
Total Hepta CDD	0.0059	0.099	0.063	0.056
CDD TOTALS	0.029	0.59	0.39	0.34
Total Tetra CDF	0.030	0.083	0.23	0.11
Total Penta CDF	0.021	0.12	0.31	0.15
Total Hexa CDF	0.0095	0.051	0.19	0.084
Total Hepta CDF	0.0083	0.036	0.18	0.074
CDF TOTALS	0.075	0.30	0.95	0.44
CONGENERS TOTALS TOXIC	0.051	0.32	0.56	0.31
TOTAL HOMOLOGUOUS GROUPS	0.19	1.7	2.6	1.5
R: Reference conditions at 101.3 kPa and 25°C on a dry basis.				

Table 5-6 – CONCENTRATION - PCDD/F TEQ

SCHEDULE OF TESTS				
SERIAL NUMBER TEST	MEL-COSV-1	MEL-COSV-2	MEL-COSV-3	AVERAGE
TEQ - PCDD/F (ng/Rm³) at 11 % O₂				
2,3,7,8 - Tetra CDD	< LD	0.0025	< LD	0.0016
1,2,3,7,8 - Penta CDD	< LD	0.024	0.0062	0.010
1,2,3,4,7,8 - Hexa CDD	< LD	0.0027	0.00076	0.0012
1,2,3,6,7,8 - Hexa CDD	0.00013	0.0036	0.0017	0.0018
1,2,3,7,8,9 - Hexa CDD	< LD	0.0041	0.0018	0.0020
1,2,3,4,6,7,8 - Hepta CDD	0.000074	0.0016	0.00083	0.00083
1,2,3,4,6,7,8,9 - Octa CDD	0.0000014	0.0000080	0.0000081	0.0000059
2, 3, 7, 8 - Tetra CDF	0.00065	0.0024	0.0059	0.0030
1,2,3,7,8 - Penta CDF	< LD	0.00053	0.00084	0.00051
2,3,4,7,8 - Penta CDF	0.0020	0.011	0.022	0.012
1,2,3,4,7,8 - Hexa CDF	0.00056	0.0031	0.0088	0.0042
1,2,3,6,7,8 - Hexa CDF	0.00039	0.0013	0.0033	0.0016
2,3,4,6,7,8 - Hexa CDF	0.00035	0.0025	0.0074	0.0034
1,2,3,7,8,9 - Hexa CDF	< LD	< LD	0.00081	0.00069
1,2,3,4,6,7,8 - Hepta CDF	0.000069	0.00032	0.0013	0.00056
1,2,3,4,7,8,9 - Hepta CDF	< LD	0.000040	0.00027	0.00011
1,2,3,4,6,7,8,9 - Octa CDF	0.00000087	0.00000085	0.0000062	0.0000026
TOXIC EQUIVALENT TOTAL	0.0042	0.059	0.062	0.042
STANDARD (ng/Nm³) at 11% O₂	0.08			
TEQ / % OF THE STANDARD	5.2	73.8	77.8	52.3
TEQ - PCDD/F (µg/h)				
2,3,7,8 - Tetra CDD	< LD	0.0085	< LD	0.0068
1,2,3,7,8 - Penta CDD	< LD	0.080	0.033	0.039
1,2,3,4,7,8 - Hexa CDD	< LD	0.0090	0.0040	0.0045
1,2,3,6,7,8 - Hexa CDD	0.00056	0.012	0.0089	0.0072
1,2,3,7,8,9 - Hexa CDD	< LD	0.014	0.0092	0.0079
1,2,3,4,6,7,8 - Hepta CDD	0.00032	0.0054	0.0043	0.0034
1,2,3,4,6,7,8,9 - Octa CDD	0.0000062	0.000027	0.000042	0.000025
2, 3, 7, 8 - Tetra CDF	0.0028	0.0082	0.031	0.014
1,2,3,7,8 - Penta CDF	< LD	0.0018	0.0044	0.0023
2,3,4,7,8 - Penta CDF	0.0084	0.037	0.12	0.054
1,2,3,4,7,8 - Hexa CDF	0.0024	0.011	0.046	0.020
1,2,3,6,7,8 - Hexa CDF	0.0017	0.0043	0.017	0.0076
2,3,4,6,7,8 - Hexa CDF	0.0015	0.0085	0.039	0.016
1,2,3,7,8,9 - Hexa CDF	< LD	< LD	0.0042	0.0029
1,2,3,4,6,7,8 - Hepta CDF	0.00030	0.0011	0.0067	0.0027
1,2,3,4,7,8,9 - Hepta CDF	< LD	0.00014	0.0014	0.00055
1,2,3,4,6,7,8,9 - Octa CDF	0.0000037	0.0000029	0.000032	0.000013
TOXIC EQUIVALENT	0.018	0.20	0.33	0.18
R: Reference conditions at 101.3 kPa and 25°C, and dry basis.				

Table 5-7 – STACK GAS MEASUREMENTS

SCHEDULE OF TESTS			
SERIAL NUMBER TEST	MEL GAZ E1	MEL GAZ E2	MEL GAZ E3
DATE	2018-09-22	2018-09-28	2018-09-29
START OF TEST	13:50	11:35	16:15
END OF TEST	17:40	14:25	19:05
DURATION OF THE TEST (MINUTES)	230	170	170
OXYGEN (O ₂)			
O ₂ (% v/v d) average	14.1	15.1	13.6
O ₂ (% v/v d) minimum	13.0	14.1	12.6
O ₂ (% v/v d) maximum	15.4	15.8	14.6
CARBON DIOXIDE (CO ₂)			
CO ₂ (% v/v d) average	5.2	4.4	5.6
CO ₂ (% v/v d) minimum	4.4	4.0	4.9
CO ₂ (% v/v d) maximum	6.0	5.0	6.3
CARBON MONOXIDE (CO)			
CO (ppmvd) average	2.6	3.4	2.6
CO (ppmvd) minimum	1.9	2.6	1.3
CO (ppmvd) maximum	3.9	4.4	3.5
CO (mg/Rm ³)	3.0	3.9	3.0
AVERAGE EMISSION (kg/h)	0.019	0.022	0.021
NITROGEN OXIDES (NO _x as NO ₂)			
NO _x (ppmvd) average	44	49	66
NO _x (ppmvd) minimum	28	42	56
NO _x (ppmvd) maximum	59	58	77
NO _x equivalent NO ₂ (mg/Rm ³)	84	93	124
AVERAGE EMISSION (kg/h)	0.53	0.54	0.87
SULPHUR DIOXIDES (SO ₂)			
SO ₂ (ppmvd) average	0	0	0.6
SO ₂ (ppmvd) minimum	0	0	0
SO ₂ (ppmvd) maximum	0	0	3.6
SO ₂ equivalent NO ₂ (mg/Rm ³)	0	0	1.7
AVERAGE EMISSION (kg/h)	0	0	0.012
R: Reference conditions at 101.3 kPa et 25°C, and dry basis.			

6 CONCLUSION

According to the sampling methods and procedures combined with a rigorous quality control, the results of concentrations and / or emission rates presented in this report are valid and representative of the process operation conditions sampled for period test results.

The final results obtained are valid and representative of the operating conditions during the tests.

The sampling was made in compliance with the rules of the requirements of the Report No. EPS 3/UP/2, including methods recommended by “Environment and Climate Change Canada” (ECCC) of the Government of Canada inside “Environment Canada, The National Incinerator Testing and Evaluation Program: Air Pollution Control Technology”. Report No. EPS 3/UP/2, Ottawa, 1986.

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APPENDIX 1

COMPUTED DATA



HORAIRE DES ESSAIS				
ESSAI NUMERO	MEL-ME-1	MEL-ME-2	MEL-ME-3	MOYENNE
DATE DE L'ESSAI	2018-09-22	2018-09-28	2018-09-29	(1 à 3)
DÉBUT DE L'ESSAI	14:45	11:33	16:14	
FIN DE L'ESSAI	16:45	14:23	19:14	
DUREE DE L'ESSAI (minutes)	120	170	180	
NOMBRE DE POINTS	24	34	36	
DONNEES DES EQUIPEMENTS D'ECHANTILLONNAGE				
PRESSIION BAROMETRIQUE ("Hg)	30.10	29.73	29.83	29.89
PRESSIION STATIQUE ("H2O)	-0.08	-0.05	-0.05	-0.06
PRESSIION STATIQUE (kPa)	-0.02	-0.01	-0.01	-0.01
COEFFICIENT DU COMPTEUR (25,25,25,25,	0.999	0.999	0.999	0.999
COEFFICIENT DU PITOT (05-07 5Q-501,05-0	0.774	0.774	0.774	0.774
DIAMÈTRE DE LA BUSE (po) (5Q-502,5Q-43	0.4684	0.4366	0.4366	0.4472
TEMPERATURE COMPTEUR (°F)	91	91	92	91
TEMPERATURE COMPTEUR (°C)	33	33	33	33
HUMIDITE DES GAZ & VOLUME ECHANTILLONNE				
VOLUME D'EAU (g)	133.3	121.6	186.7	147.2
VOLUME D'EAU (pi")	6.40	5.84	8.96	7.07
HUMIDITÉ GAZ (BWO)	0.062	0.055	0.063	0.060
HUMIDITÉ GAZ (%v)	6.2	5.5	6.3	6.0
VOLUME GAZ REFERENCE (pi"R)	97.44	100.04	133.02	110.17
VOLUME GAZ REFERENCE (m"R)	2.759	2.833	3.767	3.120
CARACTERISTIQUES DU CONDUIT				
DIAMÈTRES AVANT LES TROUS D'ÉCHAN	5.0	5.0	5.0	
DIAMÈTRES APRÈS LES TROUS D'ÉCHAN	2.0	2.0	2.0	
DIAMÈTRE DU CONDUIT (pi)	2.71	2.71	2.71	
DIAMÈTRE DU CONDUIT (m)	0.826	0.826	0.826	
ÉPAISSEUR DU PORT D'ÉCHANTILLONNAC	7.5	7.5	7.5	
LONGUEUR DU CONDUIT (pi)	0.0	0.0	0.0	
LARGEUR DU CONDUIT (pi)	0.0	0.0	0.0	
DIAMÈTRE ÉQUIVALENT (pi)	#VALEUR!	#VALEUR!	#VALEUR!	
DIAMÈTRE ÉQUIVALENT (m)	#VALEUR!	#VALEUR!	#VALEUR!	
PRESSIION CONDUIT ("Hg)	30.09	29.73	29.83	29.88
PRESSIION COMPTEUR ("Hg)	30.25	29.81	29.95	30.00
SURFACE DU CONDUIT (pi")	5.8	5.8	5.8	5.8
SURFACE DU CONDUIT (m")	0.54	0.54	0.54	0.54
CARACTERISTIQUES DES GAZ				
TEMPERATURE CHEMINÉE (°F)	1340	1336	1440	1372
TEMPERATURE CHEMINÉE (°C)	727	724	782	744
CO ₂ (%vs)	5.2	4.4	5.6	5.1
O ₂ (%vs)	14.1	15.1	13.6	14.3
O ₂ (%vh)	13.3	14.3	12.7	13.4
CO (ppmvs)	3	3	3	3
SO ₂ (%vs)	0	0	0	0
N ₂ (%vs)	80.6	80.5	80.8	80.6
Ar (%vs)	0.00	0.00	0.00	0.00
POIDS MOLECULAIRE SEC	29.40	29.31	29.44	29.39
POIDS MOLECULAIRE HUMIDE	28.70	28.69	28.72	28.70
VITESSE DES GAZ (pi/s)	39.3	33.4	44.2	38.9
VITESSE DES GAZ (m/s)	12.0	10.2	13.5	11.9
DEBITS GAZ ACTUELS (pi"/h)	815 078	692 166	915 770	807 671
DEBITS GAZ ACTUELS (m"/h)	23 080	19 600	25 932	22 871
DEBITS GAZ ACTUELS (pi"/min)(APCM)	13 585	11 536	15 263	13 461
DEBITS GAZ NORMALISES (pi"R/h)	229 478	194 320	241 695	221 831
DEBITS GAZ NORMALISES (m"R/h)	6 498	5 503	6 844	6 282
DEBITS GAZ NORMALISES (pi R/min) (RPLU)	3 825	3 239	4 028	3 697

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HORAIRE DES ESSAIS				
ESSAI NUMERO	MEL-ME-1	MEL-ME-2	MEL-ME-3	MOYENNE
DATE DE L'ESSAI	<u>2018-09-22</u>	<u>2018-09-28</u>	<u>2018-09-29</u>	(1 à 3)
DÉBUT DE L'ESSAI	<u>14:45</u>	<u>11:33</u>	<u>16:14</u>	
FIN DE L'ESSAI	<u>16:45</u>	<u>14:23</u>	<u>19:14</u>	
DUREE DE L'ESSAI (minutes)	120	170	180	
NOMBRE DE POINTS	24	34	36	
INFORMATIONS D'ECHANTILLONNAGE				
COEFFICIENT DE L'ORIFICE DU COMPTEU	0.733	0.733	0.733	
VITESSE MAXIMALE (m/s)	12.75	11.35	14.34	
VITESSE MINIMALE (m/s)	10.47	9.17	12.30	
10%Vmax (pi/s)	1.28	1.14	1.43	
Pourcentage >10%Vmax	100%	100%	100%	
NOMBRE POINTS ΔP 20% et + de ΔPmoy	2	3	0	
ISOCINETISME MOYEN (%)	102.2	100.8	101.6	
% PTS RESPECT CRITERE ISO	100%	100%	100%	
DEBIT DE POMPAGE MAX (pi³/min)	0.91	0.65	0.82	
PRESSION DE VIDE MAX DURANT ESSAI (-	-2	-9	-4	
TEMPÉRATURE SONDE MAX (°F)	250	252	250	
TEMPÉRATURE SONDE MIN (°F)	250	243	250	
TEMPÉRATURE FILTRE MAX (°F)	260	261	250	
TEMPÉRATURE FILTRE MIN (°F)	260	246	250	
TEMPÉRATURE SORTIE MAX (°F)	67	67	40	
TEMPÉRATURE SORTIE MIN (°F)	40	67	40	
TEMPÉRATURE TRAPPE MAX (°F)	0	0	0	
TEMPÉRATURE TRAPPE MIN (°F)	0	0	0	
TEMPÉRATURE AUX 3 MAX (°F)	0	0	0	
TEMPÉRATURE AUX 3 MIN (°F)	0	0	0	
TEMPÉRATURE MODULE MAX (°F)	0	0	0	
TEMPÉRATURE MODULE MIN (°F)	0	0	0	
DEBIT DE POMPAGE MOYEN (pi³/min)	0.82	0.61	0.76	
4% DEBIT DE POMPAGE MOYEN (pi³/min)	0.033	0.024	0.030	
TEST DE FUITE AVANT LES ESSAIS À 15 "H	< 0.020	< 0.020	< 0.020	
TEST DE FUITE APRÈS LES ESSAIS (pi³/min)	< 0.020	< 0.020	< 0.020	
PARTICULES FILTRABLES SPE 17RM/8				
MASSE FILTRE (mg)	<u>48.2</u>	<u>48.4</u>	<u>46.0</u>	47.5
MASSE SONDE (mg)	<u>37.0</u>	<u>53.1</u>	<u>5.3</u>	31.8
MASSE BLANC ACÉTONE (mg)	<u>≤ 1</u>			
VOLUME BLANC ACÉTONE (mL)	<u>91</u>			
RÉSIDUS ACÉTONE (%)	0.001			
MASSE SONDE (mg)	37.0	53.1	5.30	31.8
MASSE TOTALE (mg)	85.2	101.5	51.3	79.3
CONCENTRATION (ma/m³R)	30.9	35.8	13.6	26.8
CONCENTRATION (ma/m³R) à 7% O₂	63.4	85.7	25.9	58.3
CONCENTRATION (ma/m³R) à 11% O₂	45.2	61.0	18.4	41.5
TAUX D'ÉMISSION (kg/h)	0.20	0.20	0.093	0.16
TAUX D'ÉMISSION (g/s)	0.056	0.055	0.026	0.045
ACIDE CHLORHYDRIQUE (HCl)				
BLANC HCl (mg)	<u>≤ 0.040</u>			
CHLORURES (mg)	<u>86.87</u>	<u>33.16</u>	<u>119.33</u>	
HCl (mg)	89.34	34.10	122.72	82.1
HCl (ma/m³R)	32.4	12.0	32.6	25.67
HCl (ppmvs)	21.7	8.1	21.8	17.21
HCl (ma/m³R) 11% O₂	47.4	20.5	44.1	37.32
HCl (kg/h)	0.21	0.07	0.22	0.167

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DATE DE L'ESSAI	<u>2018-09-22</u>	<u>2018-09-28</u>	<u>2018-09-29</u>	(1 à 3)
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FIN DE L'ESSAI	<u>16:45</u>	<u>14:23</u>	<u>19:14</u>	
DUREE DE L'ESSAI (minutes)	120	170	180	
NOMBRE DE POINTS	24	34	36	
MÉTAUX				
MÉTAUX PARTICULAIRES (µg)				
Aluminium (Al)	570.0	30.0	46.0	215.3
Antimoine (Sb)	245.0	3.60	219.0	155.9
Argent (Ag)	0.90	< 0.60	1.30	0.93
Arsenic (As)	17.2	1.30	30.9	16.5
Baryum (Ba)	7.28	0.65	1.06	3.00
Béryllium (Be)	< 0.050	< 0.060	< 0.050	< 0.053
Bismuth (Bi)	0.84	0.12	4.83	1.93
Bore (B)	4	4	4	4
Cadmium (Cd)	2.47	0.45	9.52	4.15
Calcium (Ca)	1930.0	309.0	243.0	827.3
Chrome (Cr)	18.20	5	73.4	32.2
Cobalt (Co)	0.50	< 0.10	0.20	0.27
Cuivre (Cu)	89.1	24.7	131.0	81.6
Etain (Sn)	77.4	4.00	166.0	82.5
Fer (Fe)	1070.0	33.0	82.0	395.0
Lithium (Li)	8.00	33.0	32.0	24.3
Magnésium (Mg)	216.0	34.0	36.0	95.3
Manganèse (Mn)	16.5	15.7	4.30	12.2
Molybdène (Mo)	4.80	< 0.60	8.90	4.77
Nickel (Ni)	8.10	0.40	2.00	3.50
Phosphore (P)				
Plomb (Pb)	127.0	36.0	444.0	202.3
Potassium (K)	10100.0	1170.0	10200.0	7156.7
Sélénium (Se)	< 0.50	< 0.50	0.50	0.50
Silicium (Si)	717.0	148.0	397.0	420.7
Sodium (Na)	7900.0	851.0	6890.0	5213.7
Strontium (Sr)	5.00	0.40	0.40	1.93
Tellurium (Te)				
Thallium (Tl)	< 0.10	< 0.10	< 0.10	< 0.10
Titane (Ti)	52.0	4.00	6.00	20.7
Uranium (U)				
Vanadium (V)	0.80	< 0.20	0.40	0.47
Zinc (Zn)	509.0	54.0	1070.0	544.3
Mercure (Hg)				
MÉTAUX DÉTECTÉS	23697.2	2762.4	20103.4	15521.0
MÉTAUX TOTAUX	23697.8	2764.6	20103.6	15522.0
Proportion de métaux versus particules (%)	27.8	2.7	39.2	23.2

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HORAIRE DES ESSAIS				
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DATE DE L'ESSAI	<u>2018-09-22</u>	<u>2018-09-28</u>	<u>2018-09-29</u>	(1 à 3)
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FIN DE L'ESSAI	<u>16:45</u>	<u>14:23</u>	<u>19:14</u>	
DUREE DE L'ESSAI (minutes)	120	170	180	
NOMBRE DE POINTS	24	34	36	
MÉTAUX GAZEUX (µg)				
Aluminium (Al)	12.00	10.00	14.0	12.00
Antimoine (Sb)	< 0.30	< 0.30	< 0.30	< 0.30
Argent (Ag)	< 2.00	< 2.00	< 2.00	< 2.00
Arsenic (As)	< 0.30	< 0.30	< 0.30	< 0.30
Baryum (Ba)	0.45	0.55	0.20	0.40
Béryllium (Be)	< 0.20	< 0.20	< 0.20	< 0.20
Bismuth (Bi)	< 0.20	< 0.20	< 0.20	< 0.20
Bore (B)	22.5	10.40	99.3	44.1
Cadmium (Cd)	1.40	0.5	0.3	0.73
Calcium (Ca)	144.0	92.0	154.0	130.0
Chrome (Cr)	< 0.30	< 0.30	< 0.30	< 0.30
Cobalt (Co)	< 0.30	< 0.30	< 0.30	< 0.30
Cuivre (Cu)	2.60	1.10	2.30	2.00
Étain (Sn)	24.0	22.00	23.0	23.00
Fer (Fe)	21.00	521.0	54.0	198.7
Lithium (Li)	< 3.00	< 3.00	< 3.00	< 3.00
Magnésium (Mg)	101.0	13.00	39.0	51.0
Manganèse (Mn)	51.2	7.50	1.50	20.1
Molybdène (Mo)	< 2.00	< 2.00	< 2.00	< 2.00
Nickel (Ni)	0.60	0.40	0.30	0.43
Phosphore (P)				
Plomb (Pb)	< 2.00	< 2.00	< 2.00	< 2.00
Potassium (K)	34.0	< 30.0	< 30.0	< 31.3
Sélénium (Se)	0.90	0.30	0.50	0.57
Silicium (Si)	58.0	32.0	196.0	95.3
Sodium (Na)	< 20.0	< 20.0	< 20.0	< 20.0
Strontium (Sr)	< 0.30	< 0.30	< 0.30	< 0.30
Tellurium (Te)				
Thallium (Tl)	< 0.30	< 0.30	< 0.30	< 0.30
Titane (Ti)	< 3.00	< 3.00	< 3.00	< 3.00
Uranium (U)				
Vanadium (V)	< 0.70	< 0.60	< 0.70	< 0.67
Zinc (Zn)	9.70	2.60	5.10	5.80
Mercure (Hg)				
MÉTAUX DÉTECTÉS	483	745	622	617
MÉTAUX TOTAUX	518	778	654	650

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HORAIRE DES ESSAIS				
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DATE DE L'ESSAI	<u>2018-09-22</u>	<u>2018-09-28</u>	<u>2018-09-29</u>	(1 à 3)
DÉBUT DE L'ESSAI	<u>14:45</u>	<u>11:33</u>	<u>16:14</u>	
FIN DE L'ESSAI	<u>16:45</u>	<u>14:23</u>	<u>19:14</u>	
DUREE DE L'ESSAI (minutes)	120	170	180	
NOMBRE DE POINTS	24	34	36	
MÉTAUX TOTAUX (µg)				
Aluminium (Al)	582.0	40.0	60.0	227.3
Antimoine (Sb)	245.3	3.90	219.3	156.2
Argent (Ag)	2.90	< 2.60	3.30	2.93
Arsenic (As)	17.5	1.60	31.2	16.8
Baryum (Ba)	7.73	1.20	1.26	3.40
Béryllium (Be)	< 0.250	< 0.260	< 0.250	< 0.253
Bismuth (Bi)	1.04	0.32	5.03	2.13
Bore (B)	27	14	103	48
Cadmium (Cd)	3.87	0.95	9.82	4.88
Calcium (Ca)	2074.0	401.0	397.0	957.3
Chrome (Cr)	18.50	5	73.7	32.5
Cobalt (Co)	0.80	< 0.40	0.50	0.57
Cuivre (Cu)	91.7	25.8	133.3	83.6
Etain (Sn)	101.4	26.00	189.0	105.5
Fer (Fe)	1091.0	554.0	136.0	593.7
Lithium (Li)	11.00	36.0	35.0	27.3
Magnésium (Mg)	317.0	47.0	75.0	146.3
Manganèse (Mn)	67.7	23.2	5.80	32.2
Molybdène (Mo)	6.80	< 2.60	10.90	6.77
Nickel (Ni)	8.70	0.80	2.30	3.93
Phosphore (P)				
Plomb (Pb)	129.0	38.0	446.0	204.3
Potassium (K)	10134.0	1200.0	10230.0	7188.0
Sélénium (Se)	1.40	0.80	1.00	1.07
Silicium (Si)	775.0	180.0	593.0	516.0
Sodium (Na)	7920.0	871.0	6910.0	5233.7
Strontium (Sr)	5.30	0.70	0.70	2.23
Tellurium (Te)				
Thallium (Tl)	< 0.40	< 0.40	< 0.40	< 0.40
Titane (Ti)	55.0	7.00	9.00	23.7
Uranium (U)				
Vanadium (V)	1.50	< 0.80	1.10	1.13
Zinc (Zn)	518.7	56.6	1075.1	550.1
Mercure (Hg)	0.89	0.36	0.05	0
MÉTAUX DÉTECTÉS	24 216	3 536	20 757	16 170
MÉTAUX TOTAUX	24 217	3 543	20 758	16 173

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HORAIRE DES ESSAIS				
ESSAI NUMERO	MEL-ME-1	MEL-ME-2	MEL-ME-3	MOYENNE
DATE DE L'ESSAI	<u>2018-09-22</u>	<u>2018-09-28</u>	<u>2018-09-29</u>	(1 à 3)
DÉBUT DE L'ESSAI	<u>14:45</u>	<u>11:33</u>	<u>16:14</u>	
FIN DE L'ESSAI	<u>16:45</u>	<u>14:23</u>	<u>19:14</u>	
DUREE DE L'ESSAI (minutes)	120	170	180	
NOMBRE DE POINTS	24	34	36	
MÉTAUX PARTICULAIRE (µg/m³R)				
Aluminium (Al)	207	11	12	76
Antimoine (Sb)	89	1.3	58	49
Argent (Ag)	0.33	< 0.21	0.35	0.29
Arsenic (As)	6.2	0.46	8.2	5.0
Baryum (Ba)	2.6	0.23	0.28	1.0
Béryllium (Be)	< 0.018	< 0.021	< 0.013	< 0.018
Bismuth (Bi)	0.30	0.042	1.3	0.54
Bore (B)	1.5	1.4	0.98	1.3
Cadmium (Cd)	0.90	0.16	2.5	1.2
Calcium (Ca)	699	109	65	291
Chrome (Cr)	6.6	1.8	19	9.3
Cobalt (Co)	0.18	< 0.035	0.053	0.090
Cuivre (Cu)	32	8.7	35	25
Etain (Sn)	28	1.4	44	25
Fer (Fe)	388	12	22	140
Lithium (Li)	2.9	12	8.5	7.7
Magnésium (Mg)	78	12	9.6	33
Manganèse (Mn)	6.0	5.5	1.1	4.2
Molybdène (Mo)	1.7	< 0.21	2.4	1.4
Nickel (Ni)	2.9	0.14	0.53	1.2
Phosphore (P)				
Plomb (Pb)	46	13	118	59
Potassium (K)	3660	413	2708	2260
Sélénium (Se)	< 0.18	< 0.18	0.13	0.16
Silicium (Si)	260	52	105	139
Sodium (Na)	2863	300	1829	1664
Strontium (Sr)	1.8	0.14	0.11	0.69
Tellurium (Te)				
Thallium (Tl)	< 0.036	< 0.035	< 0.027	< 0.033
Titane (Ti)	19	1.4	1.6	7.3
Uranium (U)				
Vanadium (V)	0.29	< 0.071	0.11	0.16
Zinc (Zn)	184	19	284	163
Mercure (Hg)				
MÉTAUX DÉTECTÉS	8588	975	5337	4967
MÉTAUX TOTAUX	8588	976	5337	4967

AEM Meliadine

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HORAIRE DES ESSAIS				
ESSAI NUMERO	MEL-ME-1	MEL-ME-2	MEL-ME-3	MOYENNE
DATE DE L'ESSAI	<u>2018-09-22</u>	<u>2018-09-28</u>	<u>2018-09-29</u>	(1 à 3)
DÉBUT DE L'ESSAI	<u>14:45</u>	<u>11:33</u>	<u>16:14</u>	
FIN DE L'ESSAI	<u>16:45</u>	<u>14:23</u>	<u>19:14</u>	
DUREE DE L'ESSAI (minutes)	120	170	180	
NOMBRE DE POINTS	24	34	36	
MÉTAUX GAZEUX (µg/m³R)				
Aluminium (Al)	4.3	3.5	3.7	3.9
Antimoine (Sb)	< 0.11	< 0.11	< 0.080	< 0.098
Argent (Ag)	< 0.72	< 0.71	< 0.53	< 0.65
Arsenic (As)	< 0.11	< 0.11	< 0.080	< 0.098
Baryum (Ba)	0.16	0.19	0.053	0.14
Béryllium (Be)	< 0.072	< 0.071	< 0.053	< 0.065
Bismuth (Bi)	< 0.072	< 0.071	< 0.053	< 0.065
Bore (B)	8.2	3.7	26	13
Cadmium (Cd)	0.51	0.18	0.080	0.25
Calcium (Ca)	52	32	41	42
Chrome (Cr)	< 0.11	< 0.11	< 0.080	< 0.098
Cobalt (Co)	< 0.11	< 0.11	< 0.080	< 0.098
Cuivre (Cu)	0.94	0.39	0.61	0.65
Etain (Sn)	8.7	7.8	6.1	7.5
Fer (Fe)	7.6	184	14	69
Lithium (Li)	< 1.1	< 1.1	< 0.80	< 0.98
Magnésium (Mg)	37	4.6	10	17
Manganèse (Mn)	19	2.6	0.40	7.2
Molybdène (Mo)	< 0.72	< 0.71	< 0.53	< 0.65
Nickel (Ni)	0.22	0.14	0.080	0.15
Phosphore (P)				
Plomb (Pb)	< 0.72	< 0.71	< 0.53	< 0.65
Potassium (K)	12	< 11	< 8.0	< 10
Sélénium (Se)	0.33	0.11	0.13	0.19
Silicium (Si)	21	11	52	28
Sodium (Na)	< 7.2	< 7.1	< 5.3	< 6.5
Strontium (Sr)	< 0.11	< 0.11	< 0.080	< 0.098
Tellurium (Te)				
Thallium (Tl)	< 0.11	< 0.11	< 0.080	< 0.098
Titane (Ti)	< 1.1	< 1.1	< 0.80	< 0.98
Uranium (U)				
Vanadium (V)	< 0.25	< 0.21	< 0.19	< 0.22
Zinc (Zn)	3.5	0.92	1.4	1.9
Mercure (Hg)				
MÉTAUX DÉTECTÉS	175	263	165	201
MÉTAUX TOTAUX	188	275	174	212

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HORAIRE DES ESSAIS				
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DATE DE L'ESSAI	<u>2018-09-22</u>	<u>2018-09-28</u>	<u>2018-09-29</u>	(1 à 3)
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FIN DE L'ESSAI	<u>16:45</u>	<u>14:23</u>	<u>19:14</u>	
DUREE DE L'ESSAI (minutes)	120	170	180	
NOMBRE DE POINTS	24	34	36	
MÉTAUX TOTAUX (µg/m³R)				
Aluminium (Al)	211	14	16	80
Antimoine (Sb)	89	1.4	58	49
Argent (Ag)	1.1	< 0.92	0.88	0.95
Arsenic (As)	6.3	0.56	8.3	5.1
Baryum (Ba)	2.8	0.42	0.33	1.2
Béryllium (Be)	< 0.091	< 0.092	< 0.066	< 0.083
Bismuth (Bi)	0.38	0.11	1.3	0.61
Bore (B)	9.6	5.1	27	14
Cadmium (Cd)	1.4	0.34	2.6	1.4
Calcium (Ca)	752	142	105	333
Chrome (Cr)	6.7	1.9	20	9.4
Cobalt (Co)	0.29	< 0.14	0.13	0.19
Cuivre (Cu)	33	9.1	35	26
Etain (Sn)	37	9.2	50	32
Fer (Fe)	395	196	36	209
Lithium (Li)	4.0	13	9.3	8.7
Magnésium (Mg)	115	17	20	50
Manganèse (Mn)	25	8.2	1.5	11
Molybdène (Mo)	2.5	< 0.92	2.9	2.1
Nickel (Ni)	3.2	0.28	0.61	1.3
Phosphore (P)				
Plomb (Pb)	47	13	118	60
Potassium (K)	3673	424	2716	2271
Sélénium (Se)	0.51	0.28	0.27	0.35
Silicium (Si)	281	64	157	167
Sodium (Na)	2870	307	1834	1671
Strontium (Sr)	1.9	0.25	0.19	0.78
Tellurium (Te)				
Thallium (Tl)	< 0.14	< 0.14	< 0.11	< 0.13
Titane (Ti)	20	2.5	2.4	8.3
Uranium (U)				
Vanadium (V)	0.54	< 0.28	0.29	0.37
Zinc (Zn)	188	20	285	164
Mercure (Hg)	0.32	0.13	0.013	0.15
MÉTAUX DÉTECTÉS	8776	1248	5511	5178
MÉTAUX TOTAUX	8777	1251	5511	5179

AEM Meliadine

18-5528

Incinérateur

ME

HORAIRE DES ESSAIS				
ESSAI NUMERO	MEL-ME-1	MEL-ME-2	MEL-ME-3	MOYENNE
DATE DE L'ESSAI	2018-09-22	2018-09-28	2018-09-29	(1 à 3)
DÉBUT DE L'ESSAI	14:45	11:33	16:14	
FIN DE L'ESSAI	16:45	14:23	19:14	
DUREE DE L'ESSAI (minutes)	120	170	180	
NOMBRE DE POINTS	24	34	36	
MÉTAUX TOTAUX (µg/m³ R) À 11 % DE O₂				
Aluminium (Al)	307	24	21	118
Antimoine (Sb)	129	2.3	78	70
Argent (Ag)	1.5	< 1.6	1.2	1.4
Arsenic (As)	9.2	0.96	11	7.1
Baryum (Ba)	4.1	0.72	0.45	1.7
Béryllium (Be)	< 0.13	< 0.16	< 0.089	< 0.13
Bismuth (Bi)	0.55	0.19	1.8	0.85
Bore (B)	14	8.6	37	20
Cadmium (Cd)	2.0	0.57	3.5	2.0
Calcium (Ca)	1095	239	142	492
Chrome (Cr)	9.8	3.2	26	13
Cobalt (Co)	0.42	< 0.24	0.18	0.28
Cuivre (Cu)	48	15	48	37
Etain (Sn)	54	16	68	46
Fer (Fe)	576	331	49	318
Lithium (Li)	5.8	21	13	13
Magnésium (Mg)	167	28	27	74
Manganèse (Mn)	36	14	2.1	17
Molybdène (Mo)	3.6	< 1.6	3.9	3.0
Nickel (Ni)	4.6	0.48	0.82	2.0
Phosphore (P)				
Plomb (Pb)	68	23	160	83
Potassium (K)	5348	716	3662	3242
Sélénium (Se)	0.74	0.48	0.36	0.52
Silicium (Si)	409	107	212	243
Sodium (Na)	4180	520	2473	2391
Strontium (Sr)	2.8	0.42	0.25	1.2
Tellurium (Te)				
Thallium (Tl)	< 0.21	< 0.24	< 0.14	< 0.20
Titane (Ti)	29	4.2	3.2	12
Uranium (U)				
Vanadium (V)	0.79	< 0.48	0.39	0.55
Zinc (Zn)	274	34	385	231
Mercure (Hg)	0.47	0.21	0.018	0.23
MÉTAUX DÉTECTÉS	12780	2111	7430	7440
MÉTAUX TOTAUX	12780	2115	7430	7442
CLASSE I (Cu, Pb, V & Zn)	391	72	593	352
LIGNE DIRECTRICE DU CCME			1500	
CLASSE II (As, Cr & Ni)	24	4.7	38	22
LIGNE DIRECTRICE DU CCME			500	
CLASSE III (Cd, Hg & Tl)	2.5	0.78	3.5	2.3
LIGNE DIRECTRICE DU CCME			150	
AUTRES MÉTAUX (Al, Ag, Ba, Be, B, Sn, Fe,	12363	2033	6795	7064

AEM Meliadine

18-5528

Incinérateur

ME

HORAIRE DES ESSAIS				
ESSAI NUMERO	MEL-ME-1	MEL-ME-2	MEL-ME-3	MOYENNE
DATE DE L'ESSAI	<u>2018-09-22</u>	<u>2018-09-28</u>	<u>2018-09-29</u>	(1 à 3)
DÉBUT DE L'ESSAI	<u>14:45</u>	<u>11:33</u>	<u>16:14</u>	
FIN DE L'ESSAI	<u>16:45</u>	<u>14:23</u>	<u>19:14</u>	
DUREE DE L'ESSAI (minutes)	120	170	180	
NOMBRE DE POINTS	24	34	36	
MÉTAUX TOTAUX (g/h)				
Aluminium (Al)	1.4	0.078	0.11	0.52
Antimoine (Sb)	0.58	0.0076	0.40	0.33
Argent (Ag)	0.0068	< 0.0051	0.0060	0.0060
Arsenic (As)	0.041	0.0031	0.057	0.034
Baryum (Ba)	0.018	0.0023	0.0023	0.0076
Béryllium (Be)	< 0.00059	< 0.00051	< 0.00045	< 0.00052
Bismuth (Bi)	0.0024	0.00062	0.0091	0.0041
Bore (B)	0.063	0.028	0.19	0.093
Cadmium (Cd)	0.0091	0.0018	0.018	0.0096
Calcium (Ca)	4.9	0.78	0.72	2.1
Chrome (Cr)	0.044	0.010	0.13	0.063
Cobalt (Co)	0.0019	< 0.00078	0.00091	0.0012
Cuivre (Cu)	0.22	0.050	0.24	0.17
Etain (Sn)	0.24	0.051	0.34	0.21
Fer (Fe)	2.6	1.1	0.25	1.3
Lithium (Li)	0.026	0.070	0.064	0.053
Magnésium (Mg)	0.75	0.091	0.14	0.32
Manganèse (Mn)	0.16	0.045	0.011	0.072
Molybdène (Mo)	0.016	< 0.0051	0.020	0.014
Nickel (Ni)	0.020	0.0016	0.0042	0.0087
Phosphore (P)				
Plomb (Pb)	0.30	0.074	0.81	0.40
Potassium (K)	24	2.3	19	15
Sélénium (Se)	0.0033	0.0016	0.0018	0.0022
Silicium (Si)	1.8	0.35	1.1	1.1
Sodium (Na)	19	1.7	13	11
Strontium (Sr)	0.012	0.0014	0.0013	0.0050
Tellurium (Te)				
Thallium (Tl)	< 0.00094	< 0.00078	< 0.00073	< 0.00082
Titane (Ti)	0.13	0.014	0.016	0.053
Uranium (U)				
Vanadium (V)	0.0035	< 0.0016	0.0020	0.0024
Zinc (Zn)	1.2	0.11	2.0	1.1
Mercure (Hg)	0.0021	0.00070	0.00091	0.00096
MÉTAUX DÉTECTÉS	57	6.9	38	34
MÉTAUX TOTAUX	57	6.9	38	34
R : Conditions de référence à 101.3 kPa et 25 °C, sur base sèche.				

	RELEVÉ D'ÉCHANTILLONNAGE: Incinérateur - ME - ESSAI# MEL-ME-1																							
Heure	Trav. #	Point #	Durée de pompage (min)	Différence de pression ("H ₂ O)		Températures (°F)			Orifice	Volume de gaz (PI')			Vitesse (m/s)	Iso. (%)	O ₂ (%v)	CO ₂ (%v)	CO (ppmv)	Vacuum (po Hg)	Températures (°F)					
				ΔP	ΔH	Cheminée	Compteur Entrée	Compteur Sortie		Début	Fin	Total							Sonde	Filtre	Sortie F Cond	Trappe	Aux3	Module
14 h 45	1	1	5	0.15	1.75	1300	79	79	79	534.62	538.31	3.69	11.1	98	14.1	5.2	3	-2.0	250	260	40	-	-	-
		1	5	0.15	1.76	1300	82	82	82	538.31	541.93	3.62	11.1	96				-2.0	250	260	40	-	-	-
		2	5	0.15	1.77	1300	83	83	83	541.93	545.49	3.56	11.1	94				-2.0	250	260	40	-	-	-
		2	5	0.14	1.65	1300	84	84	84	545.49	549.01	3.52	10.8	96				-2.0	250	260	40	-	-	-
		3	5	0.18	2.07	1348	84	84	84	549.01	553.11	4.10	12.4	100				-2.0	250	260	40	-	-	-
		3	5	0.18	2.07	1349	85	85	85	553.11	557.22	4.11	12.4	100				-2.0	250	260	40	-	-	-
		4	5	0.18	2.07	1354	86	86	86	557.22	561.31	4.09	12.4	100				-2.0	250	260	40	-	-	-
		4	5	0.18	2.08	1346	88	88	88	561.31	565.42	4.11	12.4	100				-2.0	250	260	40	-	-	-
		5	5	0.18	2.08	1348	88	88	88	565.42	569.51	4.09	12.4	99				-2.0	250	260	40	-	-	-
		5	5	0.18	2.08	1350	89	89	89	569.51	573.61	4.10	12.4	99				-2.0	250	260	40	-	-	-
		6	5	0.18	2.07	1361	89	89	89	573.61	577.68	4.07	12.4	99				-2.0	250	260	40	-	-	-
		6	5	0.18	2.07	1362	89	89	89	577.68	581.77	4.09	12.4	99				-2.0	250	260	40	-	-	-
	2	6	5	0.19	2.19	1364	92	92	92	581.77	586.08	4.31	12.8	102				-2.0	250	260	40	-	-	-
		6	5	0.19	2.21	1352	92	92	92	586.08	590.50	4.42	12.7	104				-2.0	250	260	40	-	-	-
		5	5	0.19	2.21	1356	94	94	94	590.50	595.00	4.50	12.7	105				-2.0	250	260	40	-	-	-
		5	5	0.19	2.22	1348	94	94	94	595.00	599.50	4.50	12.7	105				-2.0	250	260	40	-	-	-
		4	5	0.19	2.22	1352	95	95	95	599.50	604.03	4.53	12.7	106				-2.0	250	260	40	-	-	-
		4	5	0.19	2.22	1352	96	96	96	604.03	608.50	4.47	12.7	104				-2.0	250	260	40	-	-	-
		3	5	0.18	2.11	1355	97	97	97	608.50	613.00	4.50	12.4	108				-2.0	250	260	40	-	-	-
		3	5	0.18	2.11	1355	97	97	97	613.00	617.49	4.49	12.4	107				-2.0	250	260	40	-	-	-
		2	5	0.15	1.78	1337	98	98	98	617.49	621.69	4.20	11.2	109				-2.0	250	260	67	-	-	-
		2	5	0.15	1.82	1295	98	98	98	621.69	625.82	4.13	11.1	106				-2.0	250	260	67	-	-	-
		1	5	0.13	1.54	1337	99	99	99	625.82	629.70	3.88	10.5	108				-2.0	250	260	67	-	-	-
		1	5	0.13	1.54	1345	99	99	99	629.70	633.54	3.84	10.5	107				-2.0	250	260	67	-	-	-

	RELEVÉ D'ÉCHANTILLONNAGE: Incinérateur - ME - ESSAI# MEL-ME-2																							
Heure	Trav. #	Point #	Durée de pompage (min)	Différence de pression ("H ₂ O)		Températures (°F)			Orifice	Volume de gaz (Pi')			Vitesse (m/s)	Iso. (%)	O ₂ (%v)	CO ₂ (%v)	CO (ppmv)	Vacuum (po Hg)	Températures (°F)					
				ΔP	ΔH	Cheminé	Compteur Entrée	Compteur Sortie		Début	Fin	Total							Sonde	Filtre	Sortie F Cond	Trappe	Aux3	Module
11 h 33	1	1	5	0.15	1.31	1290	71	71	71	636.82	640.06	3.24	11.2	99	15.1	4.4	3	-7.0	247	250	67	-	-	-
		1	5	0.15	1.28	1341	72	72	72	640.06	643.25	3.19	11.3	99				-7.5	247	256	67	-	-	-
		1	5	0.15	1.27	1349	73	73	73	643.25	646.52	3.27	11.4	101				-8.5	250	252	67	-	-	-
		2	5	0.14	1.19	1352	74	74	74	646.52	649.71	3.19	11.0	102				-8.0	247	255	67	-	-	-
		2	5	0.14	1.19	1354	76	76	76	649.71	652.87	3.16	11.0	101				-7.5	251	252	67	-	-	-
		2	5	0.14	1.20	1354	78	78	78	652.87	656.06	3.19	11.0	102				-7.5	247	253	67	-	-	-
		3	5	0.13	1.12	1344	80	80	80	656.06	659.14	3.08	10.6	101				-7.0	247	252	67	-	-	-
		3	5	0.13	1.13	1340	82	82	82	659.14	662.29	3.15	10.5	103				-7.0	248	249	67	-	-	-
		3	5	0.13	1.13	1348	83	83	83	662.29	665.39	3.10	10.6	101				-9.0	248	250	67	-	-	-
		4	5	0.13	1.13	1347	85	85	85	665.39	668.50	3.11	10.6	101				-9.0	246	250	67	-	-	-
		4	5	0.13	1.13	1345	86	86	86	668.50	671.62	3.12	10.6	101				-6.5	252	253	67	-	-	-
		4	5	0.13	1.14	1348	88	88	88	671.62	674.77	3.15	10.6	102				-6.5	252	253	67	-	-	-
		5	5	0.13	1.15	1334	89	89	89	674.77	677.84	3.07	10.5	99				-9.0	246	249	67	-	-	-
		5	5	0.13	1.15	1330	91	91	91	677.84	680.96	3.12	10.5	100				-9.0	243	249	67	-	-	-
		5	5	0.13	1.15	1337	92	92	92	680.96	684.09	3.13	10.5	100				-9.0	252	252	67	-	-	-
		6	5	0.12	1.07	1334	93	93	93	684.09	687.13	3.04	10.1	101				-9.0	251	255	67	-	-	-
		6	5	0.12	1.07	1335	94	94	94	687.13	690.18	3.05	10.1	101				-9.0	249	251	67	-	-	-
		6	5	0.12	1.07	1340	95	95	95	690.18	693.21	3.03	10.1	101				-9.0	246	255	67	-	-	-
	2	6	5	0.12	1.07	1338	96	96	96	693.21	696.26	3.05	10.1	101				-9.0	248	259	67	-	-	-
		6	5	0.12	1.07	1338	97	97	97	696.26	699.31	3.05	10.1	101				-9.0	246	246	67	-	-	-
		6	5	0.12	1.08	1328	97	97	97	699.31	702.37	3.06	10.1	101				-9.0	251	250	67	-	-	-
		5	5	0.12	1.07	1344	98	98	98	702.37	705.44	3.07	10.1	101				-9.0	251	261	67	-	-	-
		5	5	0.12	1.07	1344	98	98	98	705.44	708.51	3.07	10.1	101				-9.0	249	252	67	-	-	-
		5	5	0.12	1.07	1345	99	99	99	708.51	711.60	3.09	10.1	102				-9.0	249	252	67	-	-	-
		4	5	0.12	1.07	1342	99	99	99	711.60	714.66	3.06	10.1	101				-9.0	249	252	67	-	-	-
		4	5	0.10	0.90	1329	100	100	100	714.66	717.50	2.84	9.2	102				-9.0	249	252	67	-	-	-
		4	5	0.10	0.91	1326	101	101	101	717.50	720.31	2.81	9.2	101				-9.0	249	252	67	-	-	-
		3	5	0.10	0.91	1326	101	101	101	720.31	723.10	2.79	9.2	100				-9.0	249	252	67	-	-	-
		3	5	0.10	0.90	1330	102	102	102	723.10	725.88	2.78	9.2	99				-9.0	249	252	67	-	-	-
		3	5	0.10	0.90	1330	102	102	102	725.88	728.68	2.80	9.2	100				-9.0	249	252	67	-	-	-
		2	5	0.10	0.91	1326	103	103	103	728.68	731.49	2.81	9.2	100				-9.0	249	252	67	-	-	-
		2	5	0.10	0.92	1316	104	104	104	731.49	734.29	2.80	9.2	99				-9.0	249	252	67	-	-	-
		2	5	0.10	0.91	1317	104	104	104	734.29	737.13	2.84	9.2	101				-9.0	249	252	67	-	-	-
		1	5	0.10	0.92	1311	105	105	105	737.13	740.00	2.87	9.2	102				-9.0	249	252	67	-	-	-

	RELEVÉ D'ECHANTILLONNAGE: Incinérateur - ME - ESSAI# MEL-ME-3																							
Heure	Trav. #	Point #	Durée de pompage (min)	Différence de pression ("H ₂ O)		Températures (°F)			Orifice	Volume de gaz (PI ³)			Vitesse (m/s)	Iso. (%)	O ₂ (%v)	CO ₂ (%v)	CO (ppmv)	Vacuum (po Hg)	Températures (°F)					
				ΔP	ΔH	Chemineé	Compteur Entrée	Compteur Sortie		Début	Fin	Total							Sonde	Filtre	Sortie	Trappe F Cond	Aux3	Module
16:14	1	1	5	0.20	1.74	1327	78	78	78	747.13	750.85	3.72	13.0	99	13.6	5.6	3	-3.0	250	250	40	-	-	-
		1	5	0.20	1.72	1347	79	79	79	750.85	754.60	3.75	13.1	101				-3.0	250	250	40	-	-	-
		1	5	0.20	1.72	1350	80	80	80	754.60	758.43	3.83	13.1	103				-3.0	250	250	40	-	-	-
		2	5	0.20	1.71	1360	81	81	81	758.43	762.18	3.75	13.1	101				-3.0	250	250	40	-	-	-
		2	5	0.20	1.70	1374	81	81	81	762.18	765.96	3.78	13.2	102				-3.0	250	250	40	-	-	-
		2	5	0.20	1.70	1378	82	82	82	765.96	769.75	3.79	13.2	102				-3.0	250	250	40	-	-	-
		3	5	0.22	1.87	1380	83	83	83	769.75	773.68	3.93	13.8	101				-3.0	250	250	40	-	-	-
		3	5	0.23	1.95	1393	84	84	84	773.68	777.76	4.08	14.2	103				-3.0	250	250	40	-	-	-
		3	5	0.23	1.94	1401	85	85	85	777.76	781.76	4.00	14.2	101				-3.0	250	250	40	-	-	-
		4	5	0.23	1.93	1410	85	85	85	781.76	785.75	3.99	14.3	101				-3.0	250	250	40	-	-	-
		4	5	0.23	1.92	1420	86	86	86	785.75	789.77	4.02	14.3	101				-3.0	250	250	40	-	-	-
		4	5	0.23	1.93	1423	87	87	87	789.77	793.77	4.00	14.3	101				-3.0	250	250	40	-	-	-
		5	5	0.23	1.92	1431	88	88	88	793.77	797.79	4.02	14.3	101				-3.0	250	250	40	-	-	-
		5	5	0.20	1.68	1418	89	89	89	797.79	801.59	3.80	13.3	102				-3.0	250	250	40	-	-	-
		5	5	0.20	1.68	1430	90	90	90	801.59	805.38	3.79	13.4	102				-3.0	250	250	40	-	-	-
		6	5	0.20	1.69	1418	90	90	90	805.38	809.19	3.81	13.3	102				-3.0	250	250	40	-	-	-
		6	5	0.20	1.67	1440	90	90	90	809.19	813.00	3.81	13.4	103				-3.0	250	250	40	-	-	-
		6	5	0.20	1.67	1445	91	91	91	813.00	816.78	3.78	13.4	102				-4.0	250	250	40	-	-	-
	2	6	5	0.20	1.66	1451	91	91	91	816.78	820.57	3.79	13.4	102				-4.0	250	250	40	-	-	-
		6	5	0.20	1.66	1460	92	92	92	820.57	824.36	3.79	13.5	102				-4.0	250	250	40	-	-	-
		6	5	0.20	1.65	1467	93	93	93	824.36	828.17	3.81	13.5	103				-4.0	250	250	40	-	-	-
		5	5	0.19	1.57	1476	94	94	94	828.17	831.88	3.71	13.2	103				-4.0	250	250	40	-	-	-
		5	5	0.19	1.57	1479	95	95	95	831.88	835.60	3.72	13.2	103				-4.0	250	250	40	-	-	-
		5	5	0.19	1.57	1481	96	96	96	835.60	839.27	3.67	13.2	101				-4.0	250	250	40	-	-	-
		5	5	0.19	1.55	1502	97	97	97	839.27	842.94	3.67	13.3	102				-4.0	250	250	40	-	-	-
		5	5	0.21	1.71	1518	99	99	99	842.94	846.82	3.88	14.0	103				-4.0	250	250	40	-	-	-
		5	5	0.21	1.71	1518	99	99	99	846.82	850.70	3.88	14.0	103				-4.0	250	250	40	-	-	-
		5	5	0.21	1.71	1520	100	100	100	850.70	854.57	3.87	14.0	102				-4.0	250	250	40	-	-	-
		5	5	0.21	1.72	1518	101	101	101	854.57	858.43	3.86	14.0	102				-4.0	250	250	40	-	-	-
		5	5	0.21	1.71	1525	102	102	102	858.43	862.27	3.84	14.0	101				-4.0	250	250	40	-	-	-
		5	5	0.21	1.72	1522	103	103	103	862.27	866.14	3.87	14.0	102				-4.0	250	250	40	-	-	-
		5	5	0.17	1.39	1522	104	104	104	866.14	869.62	3.48	12.6	101				-4.0	250	250	40	-	-	-
		5	5	0.17	1.44	1460	105	105	105	869.62	873.16	3.54	12.4	101				-4.0	250	250	40	-	-	-
		5	5	0.17	1.46	1436	106	106	106	873.16	876.67	3.51	12.3	100				-4.0	250	250	40	-	-	-
		5	5	0.17	1.47	1429	106	106	106	876.67	880.25	3.58	12.3	101				-4.0	250	250	40	-	-	-
		5	5	0.17	1.48	1421	107	107	107	880.25	883.85	3.60	12.3	102				-4.0	250	250	40	-	-	-

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HORAIRE DES ESSAIS									
ESSAI NUMÉRO	FACTEUR	MEL-COSV-1	QUANTITÉ	MEL-COSV-2	QUANTITÉ	MEL-COSV-3	QUANTITÉ	MOYENNE	MOYENNE
DATE DE L'ESSAI	DE TOXICITÉ	2018-09-22	PRÉLEVÉE,	2018-09-28	PRÉLEVÉE,	2018-09-29	PRÉLEVÉE,	(1 à 3)	(1 à 3)
DÉBUT DE L'ESSAI		13:44	EN	11:32	EN	16:13	EN	EQUIVALENT	AVANT
FIN DE L'ESSAI		17:44	EQUIVALENT	14:02	EQUIVALENT	19:13	EQUIVALENT	TOTAUX	CORRECTION
DURÉE DE L'ESSAI (minutes)		240		150		180			
NOMBRE DE POINTS		48		30		36			
DONNÉES DES ÉQUIPEMENTS D'ÉCHANTILLONNAGE									
PRESSIION BAROMETRIQUE ("Hg)		30.10		29.73		29.83			29.89
PRESSIION STATIQUE ("H2O)		-0.08		-0.05		-0.05			-0.06
PRESSIION STATIQUE (kPa)		-0.02		-0.01		-0.01			-0.01
COEFFICIENT DU COMPTEUR (19)		0.997		0.997		0.997			0.997
COEFFICIENT DU PITOT (03-06 3Q-371,03-06 3Q-503)		0.778		0.781		0.781			0.780
DIAMÈTRE DE LA BUSE (po) (3Q-371,3Q-503)		0.3741		0.4958		0.4958			0.4552
TEMPÉRATURE COMPTEUR (°F)		60		60		60			60
TEMPÉRATURE COMPTEUR (°C)		16		16		16			16
HUMIDITÉ DES GAZ & VOLUME ÉCHANTILLONNÉ									
MASSE D'EAU (g)		174.8		134.8		259.1			189.6
VOLUME D'EAU (pi ³)		8.39		6.47		12.44			9.10
HUMIDITÉ GAZ (BWO)		0.066		0.051		0.066			0.061
HUMIDITÉ GAZ (% v/v)		6.6		5.1		6.6			6.1
VOLUME GAZ REFERENCE (pi ³ R)		119.19		119.67		176.29			138.38
VOLUME GAZ REFERENCE (m³R)		3.375		3.389		4.992			3.919
CARACTERISTIQUES DU CONDUIT									
DIAMÈTRES AVANT LES TROUS D'ÉCHANTILLONNAGE		5.0		5.0		5.00			5.0
DIAMÈTRES APRÈS LES TROUS D'ÉCHANTILLONNAGE		2.0		2.0		2.00			2.0
DIAMÈTRE DU CONDUIT (pi)		2.71		2.71		2.71			2.71
DIAMÈTRE DU CONDUIT (m)		0.826		0.826		0.826			0.83
ÉPAISSEUR DU PORT D'ÉCHANTILLONNAGE (po)		7.5		7.5		7.5			
LONGUEUR DU CONDUIT (pi)		0.0		0.0		0.0			
LARGEUR DU CONDUIT (pi)		0.0		0.0		0.0			
PRESSIION CONDUIT ("Hg)		30.09		29.73		29.83			29.88
PRESSIION COMPTEUR ("Hg)		30.13		29.81		29.95			29.96
SURFACE DU CONDUIT (pi ²)		5.8		5.8		5.8			5.8
SURFACE DU CONDUIT (m ²)		0.54		0.54		0.54			0.54
CARACTERISTIQUES DES GAZ									
TEMPÉRATURE CHEMINÉE (°F)		1339		1333		1435			1369
TEMPÉRATURE CHEMINÉE (°C)		726.0		722.8		779.5			742.7
CO ₂ (%vs)		5.2		4.4		5.6			5.1
O ₂ (%vs)		14.1		15.1		13.6			14.3
O ₂ (%vh)		13.2		14.3		12.7			13.4
CO (ppmvs)		3		3		3			3
SO ₂ (%vs)		0		0		0			
N ₂ (%vs)		80.6		80.5		80.8			81
Ar (%vs)		0.00		0.00		0.00			0.0
POIDS MOLECULAIRE SEC		29.40		29.31		29.44			29.39
POIDS MOLECULAIRE HUMIDE		28.65		28.73		28.69			28.69
VITESSE DES GAZ (pi/s)		38.3		34.8		45.6			39.6
VITESSE DES GAZ (m/s)		11.7		10.6		13.9			12.1
DEBIT GAZ ACTUELS (pi ³ /h)		794 892		722 251		946 277			821 140
DEBIT GAZ ACTUELS (m ³ /h)		22 509		20 452		26 796			23 252
DEBIT GAZ ACTUELS (pi ³ /min)(APCM)		13 248		12 038		15 771			13 686
DEBIT GAZ NORMALISES (pi ³ R/h)		222 994		203 892		249 680			225 522
DEBIT GAZ NORMALISES (m³R/h)		6 314		5 774		7 070			6 386
DEBIT GAZ NORMALISES (pi ³ R/min) (RPCM)		3 717		3 398		4 161			3 759
INFORMATIONS D'ÉCHANTILLONNAGE									
VITESSE MAXIMALE (m/s)		13.55		11.89		15.22			13.6
VITESSE MINIMALE (m/s)		9.45		9.25		12.42			10.4
10%Vmax (m/s)		1.35		1.19		1.52			1.4
Pourcentage >10%Vmax		75%		100%		100%			92%
NOMBRE POINTS ΔP 20% et + de ΔPmoy		12		5		0			
ISOCINÉTISME MOYEN (%)		101.1		100.9		101.2			101
% PTS RESPECT CRITERE ISO		100%		100%		100%			100%
DEBIT DE POMPAGE MAX (pi ³ /min)		≤ 0.54		≤ 0.89		≤ 1.03			0.8
PRESSIION DE VIDE MAX DURANT ESSAI (-"Hg)		-2		-6		-5			-4.00
TEMPÉRATURE SONDE MAX (°F)		250		250		254			251.33
TEMPÉRATURE SONDE MIN (°F)		250		235		238			241
TEMPÉRATURE FILTRE MAX (°F)		250		260		262			257
TEMPÉRATURE FILTRE MIN (°F)		250		244		243			246
TEMPÉRATURE SORTIE MAX (°F)		40		68		68			59
TEMPÉRATURE SORTIE MIN (°F)		40		68		66			58
TEMPÉRATURE TRAPPE MAX (°F)		40		58		56			51
TEMPÉRATURE TRAPPE MIN (°F)		40		43		40			41
DEBIT DE POMPAGE MOYEN (pi ³ /min)		0.48		0.78		0.95			
4% DEBIT DE POMPAGE MOYEN (pi ³ /min)		0.019		0.031		0.038			
TEST DE FUITE AVANT LES ESSAIS À 15 "Ha (oi ³ /min)		< 0.020		< 0.020		< 0.020			
TEST DE FUITE APRÈS LES ESSAIS (oi ³ /min)		< 0.020		< 0.020		< 0.020			0.020

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HORAIRE DES ESSAIS									
ESSAI NUMÉRO	FACTEUR	MEL-COSV-1	QUANTITÉ	MEL-COSV-2	QUANTITÉ	MEL-COSV-3	QUANTITÉ	MOYENNE	MOYENNE
DATE DE L'ESSAI	DE TOXICITÉ	2018-09-22	PRÉLEVÉE,	2018-09-28	PRÉLEVÉE,	2018-09-29	PRÉLEVÉE,	(1 à 3)	(1 à 3)
DÉBUT DE L'ESSAI		13:44	EN	11:32	EN	16:13	EN	EQUIVALENT	AVANT
FIN DE L'ESSAI		17:44	EQUIVALENT	14:02	EQUIVALENT	19:13	EQUIVALENT	TOTAUX	CORRECTION
DURÉE DE L'ESSAI (minutes)		240		150		180			
NOMBRE DE POINTS		48		30		36			
DIOXINES ET FURANNES LIMITES DE DETECTION (pg)									
2,3,7,8 - Tetra CDD		1		2		7			3.3
1,2,3,7,8 - Penta CDD		3		9		10			7.3
1,2,3,4,7,8 - Hexa CDD		3		7		10			6.7
1,2,3,6,7,8 - Hexa CDD		3		6		10			6.3
1,2,3,7,8,9 - Hexa CDD		3		7		10			6.7
1,2,3,4,6,7,8 - Hepta CDD		6		10		10			8.7
1,2,3,4,6,7,8,9 - Octa CDD		20		10		20			16.7
2, 3, 7, 8 - Tetra CDF		4		6		9			6.3
1,2,3,7,8 - Penta CDF		8		9		20			12.3
2,3,4,7,8 - Penta CDF		6		7		10			7.7
1,2,3,4,7,8 - Hexa CDF		4		10		10			8.0
1,2,3,6,7,8 - Hexa CDF		4		10		10			8.0
2,3,4,6,7,8 - Hexa CDF		4		10		10			8.0
1,2,3,7,8,9 - Hexa CDF		6		20		20			15.3
1,2,3,4,6,7,8 - Hepta CDF		3		5		20			9.3
1,2,3,4,7,8,9 - Hepta CDF		6		8		20			11.3
1,2,3,4,6,7,8,9 - Octa CDF		9		7		30			15.3
Total Tetra CDD		1		2		7			3.3
Total Penta CDD		3		9		10			7.3
Total Hexa CDD		3		7		10			6.7
Total Hepta CDD		6		10		10			8.7
Sommation des PCDDs		20		10		20			16.7
Total Tetra CDF		4		6		9			6.3
Total Penta CDF		8		9		20			12.3
Total Hexa CDF		6		20		20			15.3
Total Hepta CDF		6		8		20			11.3
Sommation des PCDFs		9		20		30			19.7
DIOXINES ET FURANNES (pg)									
2,3,7,8 - Tetra CDD	1	< 1.00	< LD	5.00	5.00	< 7.00	< LD	4.3	4.3
1,2,3,7,8 - Penta CDD	1	< 3.00	< LD	47.0	47.0	23.0	23.0	24.3	24.3
1,2,3,4,7,8 - Hexa CDD	0.1	< 3.00	< LD	53.0	5.30	28.0	2.80	2.80	28.0
1,2,3,6,7,8 - Hexa CDD	0.1	3.0	0.3	71.0	7.10	63.0	6.30	4.57	45.7
1,2,3,7,8,9 - Hexa CDD	0.1	< 3.00	< LD	81.0	8.10	65.0	6.50	4.97	49.7
1,2,3,4,6,7,8 - Hepta CDD	0.01	17.0	0.17	316.0	3.16	307.0	3.07	2.13	213.3
1,2,3,4,6,7,8,9 - Octa CDD	0.0001	33.0	0.0033	160.0	0.016	300.0	0.030	0.016	164.3
2, 3, 7, 8 - Tetra CDF	0.1	15.0	1.50	48.0	4.80	216.0	21.6	9.30	93.0
1,2,3,7,8 - Penta CDF	0.05	< 8.00	< LD	21.0	1.05	62.0	3.10	1.52	30.3
2,3,4,7,8 - Penta CDF	0.5	9.00	4.50	43.0	21.5	165.0	82.5	36.2	72.3
1,2,3,4,7,8 - Hexa CDF	0.1	13.0	1.30	62.0	6.20	326.0	32.6	13.4	133.7
1,2,3,6,7,8 - Hexa CDF	0.1	9.00	0.90	25.0	2.50	120.0	12.0	5.13	51.3
2,3,4,6,7,8 - Hexa CDF	0.1	8.00	0.80	50.0	5.00	273.0	27.3	11.0	110.3
1,2,3,7,8,9 - Hexa CDF	0.1	< 6.00	< LD	< 20.0	< LD	30.0	3.00	1.9	18.7
1,2,3,4,6,7,8 - Hepta CDF	0.01	16.0	0.16	64.0	0.64	474.0	4.74	1.85	184.7
1,2,3,4,7,8,9 - Hepta CDF	0.01	< 6.00	< LD	8.0	0.08	100.0	1.00	0.38	38.0
1,2,3,4,6,7,8,9 - Octa CDF	0.0001	20.0	0.0020	17.0	0.0017	227.0	0.023	0.0088	88.0
Total Tetra CDD	MDDEFP	9.00		159.0		214.0			127.3
Total Penta CDD		11.0		446.0		406.0			287.7
Total Hexa CDD		25.0		900.0		718.0			547.7
Total Hepta CDD		20.0		334.0		315.0			223.0
Sommation des PCDDs		99.0		2000.0		1950.0			1349.7
Total Tetra CDF		100.0		282.0		1140.0			507.3
Total Penta CDF		72.0		406.0		1540.0			672.7
Total Hexa CDF		32.0		172.0		963.0			389.0
Total Hepta CDF		28.0		123.0		880.0			343.7
Sommation des PCDFs		253.0		1000.0		4750.0			2001.0
ÉQUIVALENCE TOXIQUE TOTALE			9.64		117.4		229.6	118.9	
CONGÉNÈRES TOXIQUES TOTAUX		173.0		1091.0		2786.0			1350.0
GROUPES HOMOLOGUES TOTAUX		649.0		5822.0		12876.0			6449.0

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ESSAI NUMÉRO	FACTEUR	MEL-COSV-1	QUANTITÉ	MEL-COSV-2	QUANTITÉ	MEL-COSV-3	QUANTITÉ	MOYENNE	MOYENNE
DATE DE L'ESSAI	DE TOXICITÉ	2018-09-22	PRÉLEVÉE,	2018-09-28	PRÉLEVÉE,	2018-09-29	PRÉLEVÉE,	(1 à 3)	(1 à 3)
DÉBUT DE L'ESSAI		13:44	EN	11:32	EN	16:13	EN	EQUIVALENT	AVANT
FIN DE L'ESSAI		17:44	EQUIVALENT	14:02	EQUIVALENT	19:13	EQUIVALENT	TOTAUX	CORRECTION
DURÉE DE L'ESSAI (minutes)		240		150		180			
NOMBRE DE POINTS		48		30		36			

DIOXINES ET FURANNES (ng/m³R)

2,3,7,8 - Tetra CDD	1	< 0.00030	< LD	0.0015	0.0015	< 0.0014	< LD	0.0011	0.0011
1,2,3,7,8 - Penta CDD	1	< 0.00089	< LD	0.014	0.014	0.0046	0.0046	0.0065	0.0065
1,2,3,4,7,8 - Hexa CDD	0.1	< 0.00089	< LD	0.016	0.0016	0.0056	0.00056	0.00074	0.0074
1,2,3,6,7,8 - Hexa CDD	0.1	0.00089	0.000089	0.021	0.0021	0.013	0.0013	0.0011	0.011
1,2,3,7,8,9 - Hexa CDD	0.1	< 0.00089	< LD	0.024	0.0024	0.013	0.0013	0.0013	0.013
1,2,3,4,6,7,8 - Hepta CDD	0.01	0.0050	0.000050	0.093	0.00093	0.061	0.00061	0.00053	0.053
1,2,3,4,6,7,8,9 - Octa CDD	0.0001	0.0098	0.0000010	0.047	0.0000047	0.060	0.0000060	0.0000039	0.039
2, 3, 7, 8 - Tetra CDF	0.1	0.0044	0.00044	0.014	0.0014	0.043	0.0043	0.0021	0.021
1,2,3,7,8 - Penta CDF	0.05	< 0.0024	< LD	0.0062	0.00031	0.012	0.00062	0.00035	0.0070
2,3,4,7,8 - Penta CDF	0.5	0.0027	0.0013	0.013	0.0063	0.033	0.017	0.0081	0.016
1,2,3,4,7,8 - Hexa CDF	0.1	0.0039	0.00039	0.018	0.0018	0.065	0.0065	0.0029	0.029
1,2,3,6,7,8 - Hexa CDF	0.1	0.0027	0.00027	0.0074	0.00074	0.024	0.0024	0.0011	0.011
2,3,4,6,7,8 - Hexa CDF	0.1	0.0024	0.00024	0.015	0.0015	0.055	0.0055	0.0024	0.024
1,2,3,7,8,9 - Hexa CDF	0.1	< 0.0018	< LD	< 0.0059	< LD	0.0060	0.00060	0.00046	0.0046
1,2,3,4,6,7,8 - Hepta CDF	0.01	0.0047	0.000047	0.019	0.00019	0.095	0.00095	0.00040	0.040
1,2,3,4,7,8,9 - Hepta CDF	0.01	< 0.0018	< LD	0.0024	0.000024	0.020	0.00020	0.000081	0.0081
1,2,3,4,6,7,8,9 - Octa CDF	0.0001	0.0059	0.00000059	0.0050	0.00000050	0.045	0.0000045	0.0000019	0.019
Total Tetra CDD	MDDEFP	0.0027		0.047		0.043			0.031
Total Penta CDD		0.0033		0.13		0.081			0.072
Total Hexa CDD		0.0074		0.27		0.14			0.14
Total Hepta CDD		0.0059		0.099		0.063			0.056
Sommation des PCDDs		0.029		0.59		0.39			0.34
Total Tetra CDF		0.030		0.083		0.23			0.11
Total Penta CDF		0.021		0.12		0.31			0.15
Total Hexa CDF		0.0095		0.051		0.19			0.084
Total Hepta CDF		0.0083		0.036		0.18			0.074
Sommation des PCDFs		0.075		0.30		0.95			0.44
ÉQUIVALENCE TOXIQUE TOTALE			0.0029		0.035		0.046	0.028	
CONGÉNÈRES TOXIQUES TOTAUX		0.051		0.32		0.56			0.31
GROUPES HOMOLOGUES TOTAUX		0.19		1.72		2.58			1.50

DIOXINES ET FURANNES (ng/m³R) 11 % D'OXYGÈNE

2,3,7,8 - Tetra CDD	1	< 0.00043	< LD	0.0025	0.0025	< 0.0019	< LD	0.0016	0.0016
1,2,3,7,8 - Penta CDD	1	< 0.0013	< LD	0.024	0.024	0.0062	0.0062	0.010	0.010
1,2,3,4,7,8 - Hexa CDD	0.1	< 0.0013	< LD	0.027	0.0027	0.0076	0.00076	0.0012	0.012
1,2,3,6,7,8 - Hexa CDD	0.1	0.0013	0.00013	0.036	0.0036	0.017	0.0017	0.0018	0.018
1,2,3,7,8,9 - Hexa CDD	0.1	< 0.0013	< LD	0.041	0.0041	0.018	0.0018	0.0020	0.020
1,2,3,4,6,7,8 - Hepta CDD	0.01	0.0074	0.000074	0.16	0.0016	0.083	0.00083	0.00083	0.083
1,2,3,4,6,7,8,9 - Octa CDD	0.0001	0.014	0.0000014	0.080	0.0000080	0.081	0.0000081	0.0000059	0.059
2, 3, 7, 8 - Tetra CDF	0.1	0.0065	0.00065	0.024	0.0024	0.059	0.0059	0.0030	0.030
1,2,3,7,8 - Penta CDF	0.05	< 0.0035	< LD	0.011	0.00053	0.017	0.00084	0.00051	0.010
2,3,4,7,8 - Penta CDF	0.5	0.0039	0.0020	0.022	0.011	0.045	0.022	0.012	0.023
1,2,3,4,7,8 - Hexa CDF	0.1	0.0056	0.00056	0.031	0.0031	0.088	0.0088	0.0042	0.042
1,2,3,6,7,8 - Hexa CDF	0.1	0.0039	0.00039	0.013	0.0013	0.033	0.0033	0.0016	0.016
2,3,4,6,7,8 - Hexa CDF	0.1	0.0035	0.00035	0.025	0.0025	0.074	0.0074	0.0034	0.034
1,2,3,7,8,9 - Hexa CDF	0.1	< 0.0026	< LD	< 0.010	< LD	0.0081	0.00081	0.00069	0.0069
1,2,3,4,6,7,8 - Hepta CDF	0.01	0.0069	0.000069	0.032	0.00032	0.13	0.0013	0.00056	0.056
1,2,3,4,7,8,9 - Hepta CDF	0.01	< 0.0026	< LD	0.0040	0.000040	0.027	0.00027	0.00011	0.011
1,2,3,4,6,7,8,9 - Octa CDF	0.0001	0.0087	0.00000087	0.0085	0.00000085	0.062	0.0000062	0.0000026	0.026
Total Tetra CDD	MDDEFP	0.0039		0.080		0.058			0.047
Total Penta CDD		0.0048		0.22		0.11			0.11
Total Hexa CDD		0.011		0.45		0.19			0.22
Total Hepta CDD		0.0087		0.17		0.085			0.087
Sommation des PCDDs		0.043		1.01		0.53			0.53
Total Tetra CDF		0.043		0.14		0.31			0.16
Total Penta CDF		0.031		0.20		0.42			0.22
Total Hexa CDF		0.014		0.086		0.26			0.12
Total Hepta CDF		0.012		0.062		0.24			0.10
Sommation des PCDFs		0.11		0.50		1.29			0.63
ÉQUIVALENCE TOXIQUE TOTALE			0.0042		0.059		0.062	0.042	
NORME AU PRMRQA	0.08								
CONGÉNÈRES TOXIQUES TOTAUX		0.075		0.55		0.76			0.46
GROUPES HOMOLOGUES TOTAUX		0.28		2.93		3.49			2.23

AEM Meliadine
18-5528
Incinérateur
COSV

HORAIRE DES ESSAIS									
ESSAI NUMÉRO	FACTEUR	MEL-COSV-1	QUANTITÉ	MEL-COSV-2	QUANTITÉ	MEL-COSV-3	QUANTITÉ	MOYENNE	MOYENNE
DATE DE L'ESSAI	DE TOXICITÉ	2018-09-22	PRÉLEVÉE,	2018-09-28	PRÉLEVÉE,	2018-09-29	PRÉLEVÉE,	(1 à 3)	(1 à 3)
DÉBUT DE L'ESSAI		13:44	EN	11:32	EN	16:13	EN	EQUIVALENT	AVANT
FIN DE L'ESSAI		17:44	EQUIVALENT	14:02	EQUIVALENT	19:13	EQUIVALENT	TOTAUX	CORRECTION
DURÉE DE L'ESSAI (minutes)		240		150		180			
NOMBRE DE POINTS		48		30		36			
DIOXINES ET FURANNES (µg/h)									
2,3,7,8 - Tetra CDD	1	< 0.0019	< LD	0.0085	0.0085	< 0.0099	< LD	0.0068	0.0068
1,2,3,7,8 - Penta CDD	1	< 0.0056	< LD	0.080	0.080	0.033	0.033	0.039	0.039
1,2,3,4,7,8 - Hexa CDD	0.1	< 0.0056	< LD	0.090	0.0090	0.040	0.0040	0.0045	0.045
1,2,3,6,7,8 - Hexa CDD	0.1	0.0056	0.00056	0.12	0.012	0.089	0.0089	0.0072	0.072
1,2,3,7,8,9 - Hexa CDD	0.1	< 0.0056	< LD	0.14	0.014	0.092	0.0092	0.0079	0.079
1,2,3,4,6,7,8 - Hepta CDD	0.01	0.032	0.00032	0.54	0.0054	0.43	0.0043	0.0034	0.34
1,2,3,4,6,7,8,9 - Octa CDD	0.0001	0.062	0.0000062	0.27	0.000027	0.42	0.000042	0.000025	0.25
2, 3, 7, 8 - Tetra CDF	0.1	0.028	0.0028	0.082	0.0082	0.31	0.031	0.014	0.14
1,2,3,7,8 - Penta CDF	0.05	< 0.015	< LD	0.036	0.0018	0.088	0.0044	0.0023	0.046
2,3,4,7,8 - Penta CDF	0.5	0.017	0.0084	0.073	0.037	0.23	0.12	0.054	0.11
1,2,3,4,7,8 - Hexa CDF	0.1	0.024	0.0024	0.11	0.011	0.46	0.046	0.020	0.20
1,2,3,6,7,8 - Hexa CDF	0.1	0.017	0.0017	0.043	0.0043	0.17	0.017	0.0076	0.076
2,3,4,6,7,8 - Hexa CDF	0.1	0.015	0.0015	0.085	0.0085	0.39	0.039	0.016	0.16
1,2,3,7,8,9 - Hexa CDF	0.1	< 0.011	< LD	< 0.034	< LD	0.042	0.0042	0.0029	0.029
1,2,3,4,6,7,8 - Hepta CDF	0.01	0.030	0.00030	0.11	0.0011	0.67	0.0067	0.0027	0.27
1,2,3,4,7,8,9 - Hepta CDF	0.01	< 0.011	< LD	0.014	0.00014	0.14	0.0014	0.00055	0.055
1,2,3,4,6,7,8,9 - Octa CDF	0.0001	0.037	0.0000037	0.029	0.0000029	0.32	0.000032	0.000013	0.13
Total Tetra CDD	MDDELCC	0.017		0.27		0.30			0.20
Total Penta CDD		0.021		0.76		0.58			0.45
Total Hexa CDD		0.047		1.5		1.0			0.87
Total Hepta CDD		0.037		0.57		0.45			0.35
Sommation des PCDDs		0.19		3.4		2.8			2.1
Total Tetra CDF		0.19		0.48		1.6			0.76
Total Penta CDF		0.13		0.69		2.2			1.0
Total Hexa CDF		0.060		0.29		1.4			0.57
Total Hepta CDF		0.052		0.21		1.2			0.50
Sommation des PCDFs		0.47		1.7		6.7			3.0
ÉQUIVALENCE TOXIQUE TOTALE			0.018		0.20		0.33	0.18	
CONGÉNÈRES TOXIQUES TOTAUX		0.32		1.86		3.95			2.04
GROUPES HOMOLOGUES TOTAUX		1.21		9.92		18.2			9.79

	RELEVÉ D'ÉCHANTILLONNAGE: Incinérateur - COSV - ESSAI# MEL-COSV-1																							
Heure	Trav. #	Point #	Duree de pompage (min)	Différence de pression ("H ₂ O)		Températures (°F)			Orifice	Volume de gaz (PI ³)			Vitesse (m/s)	Iso. (%)	O ₂ (%v)	CO ₂ (%v)	CO (ppmv)	Vacuum (po Hg)	Températures (°F)					
				ΔP	ΔH	Cheminée	Compteur Entrée	Compteur Sortie		Début	Fin	Total							Sonde	Filtre	Sortie	Trappe	Aux3	Module
13 h 44	1	1	5	0.18	0.45	1330	60	60	76	483.04	485.51	2.47	12.4	98	14.1	5.2	3	-1.0	250	250	40	40	-	-
		1	5	0.17	0.43	1345	60	60	77	485.51	488.00	2.49	12.1	102				-1.0	250	250	40	40	-	-
		1	5	0.17	0.43	1345	60	60	77	488.00	490.46	2.46	12.1	101				-1.0	250	250	40	40	-	-
		1	5	0.17	0.43	1345	60	60	77	490.46	492.97	2.51	12.1	103				-1.0	250	250	40	40	-	-
		2	5	0.17	0.43	1352	60	60	78	492.97	495.48	2.51	12.1	103				-1.0	250	250	40	40	-	-
		2	5	0.17	0.43	1356	60	60	79	495.48	497.85	2.37	12.1	97				-1.0	250	250	40	40	-	-
		2	5	0.18	0.45	1354	60	60	80	497.85	500.35	2.50	12.5	100				-1.0	250	250	40	40	-	-
		2	5	0.18	0.45	1353	60	60	80	500.35	502.87	2.52	12.4	100				-1.0	250	250	40	40	-	-
		3	5	0.18	0.45	1361	60	60	82	502.87	505.38	2.51	12.5	100				-1.0	250	250	40	40	-	-
		3	5	0.21	0.53	1366	60	60	82	505.38	508.08	2.70	13.5	100				-1.0	250	250	40	40	-	-
		3	5	0.21	0.52	1381	60	60	84	508.08	510.79	2.71	13.5	101				-1.0	250	250	40	40	-	-
		3	5	0.21	0.52	1377	60	60	83	510.79	513.50	2.71	13.5	101				-1.5	250	250	40	40	-	-
		4	5	0.21	0.52	1379	60	60	84	513.50	516.20	2.70	13.5	100				-1.5	250	250	40	40	-	-
		4	5	0.21	0.52	1380	60	60	85	516.20	518.88	2.68	13.5	100				-1.5	250	250	40	40	-	-
		4	5	0.21	0.53	1373	60	60	85	518.88	521.61	2.73	13.5	101				-1.5	250	250	40	40	-	-
		4	5	0.21	0.53	1373	60	60	85	521.61	524.28	2.67	13.5	99				-1.5	250	250	40	40	-	-
		5	5	0.18	0.46	1347	60	60	87	524.28	526.84	2.56	12.4	102				-1.5	250	250	40	40	-	-
		5	5	0.18	0.46	1348	60	60	87	526.84	529.27	2.43	12.4	97				-1.5	250	250	40	40	-	-
		5	5	0.18	0.46	1350	60	60	88	529.27	531.82	2.55	12.4	101				-1.5	250	250	40	40	-	-
		5	5	0.18	0.46	1354	60	60	88	531.82	534.26	2.44	12.5	97				-1.5	250	250	40	40	-	-
		6	5	0.18	0.46	1355	60	60	88	534.26	536.79	2.53	12.5	101				-1.5	250	250	40	40	-	-
		6	5	0.18	0.46	1359	60	60	90	536.79	539.34	2.55	12.5	102				-1.5	250	250	40	40	-	-
		6	5	0.18	0.46	1361	60	60	90	539.34	541.87	2.53	12.5	101				-1.5	250	250	40	40	-	-
		6	5	0.17	0.44	1350	60	60	90	541.87	544.36	2.49	12.1	102				-1.5	250	250	40	40	-	-
	2	6	5	0.15	0.38	1357	60	60	93	544.36	546.67	2.31	11.4	101				-1.5	250	250	40	40	-	-
		6	5	0.16	0.41	1350	60	60	93	546.67	549.00	2.33	11.7	98				-1.5	250	250	40	40	-	-
		6	5	0.16	0.41	1355	60	60	94	549.00	551.26	2.26	11.7	96				-1.5	250	250	40	40	-	-
		6	5	0.16	0.41	1352	60	60	96	551.26	553.57	2.31	11.7	98				-1.5	250	250	40	40	-	-
		5	5	0.16	0.42	1348	60	60	97	553.57	555.93	2.36	11.7	100				-1.5	250	250	40	40	-	-
		5	5	0.16	0.41	1350	60	60	97	555.93	558.42	2.49	11.7	105				-1.5	250	250	40	40	-	-
		5	5	0.16	0.42	1345	60	60	97	558.42	560.77	2.35	11.7	99				-1.5	250	250	40	40	-	-
		5	5	0.15	0.39	1340	60	60	98	560.77	563.08	2.31	11.3	100				-1.5	250	250	40	40	-	-
		4	5	0.15	0.39	1332	60	60	99	563.08	565.37	2.29	11.3	99				-1.5	250	250	40	40	-	-
		4	5	0.13	0.35	1280	60	60	100	565.37	567.67	2.30	10.4	106				-1.5	250	250	40	40	-	-
		4	5	0.13	0.35	1300	60	60	100	567.67	569.98	2.31	10.4	107				-1.5	250	250	40	40	-	-
		4	5	0.11	0.29	1306	60	60	101	569.98	572.08	2.10	9.6	106				-1.5	250	250	40	40	-	-
		3	5	0.11	0.29	1304	60	60	101	572.08	574.08	2.00	9.6	100				-0.5	250	250	40	40	-	-
		3	5	0.11	0.30	1280	60	60	102	574.08	576.10	2.02	9.5	101				0.5	250	250	40	40	-	-
		3	5	0.11	0.30	1250	60	60	102	576.10	578.09	1.99	9.5	98				1.5	250	250	40	40	-	-
		3	5	0.11	0.30	1266	60	60	103	578.09	580.17	2.08	9.5	103				2.5	250	250	40	40	-	-
		2	5	0.13	0.35	1318	60	60	103	580.17	582.40	2.23	10.5	103				3.5	250	250	40	40	-	-
		2	5	0.13	0.35	1320	60	60	103	582.40	584.62	2.22	10.5	103				4.5	250	250	40	40	-	-
		2	5	0.13	0.35	1324	60	60	103	584.62	586.87	2.25	10.5	105				5.5	250	250	40	40	-	-
		2	5	0.13	0.35	1310	60	60	102	586.87	589.10	2.23	10.5	103				6.5	250	250	40	40	-	-
		1	5	0.13	0.35	1317	60	60	102	589.10	591.32	2.22	10.5	103				7.5	250	250	40	40	-	-
		1	5	0.13	0.35	1317	60	60	102	591.32	593.56	2.24	10.5	104				8.5	250	250	40	40	-	-
		1	5	0.13	0.35	1318	60	60	102	593.56	595.76	2.20	10.5	102				9.5	250	250	40	40	-	-
		1	5	0.13	0.35	1326	60	60	103	595.76	598.00	2.24	10.5	104				10.5	250	250	40	40	-	-

	RELEVÉ D'ECHANTILLONNAGE: Incinérateur - COSV - ESSAI# MEL-COSV-2																							
Heure	Trav. #	Point #	Durée de pompage (min)	Différence de pression ("H ₂ O)		Températures (°F)			Orifice	Volume de gaz (PI ³)			Vitesse (m/s)	Iso. (%)	O ₂ (%v)	CO ₂ (%v)	CO (ppmv)	Vacuum (po Hg)	Températures (°F)					
				ΔP	ΔH	Cheminée	Compteur Entrée	Compteur Sortie		Début	Fin	Total							Sonde	Filtre	Sortie F Cond	Trappe	Aux3	Module
11 h 32	1	6	5	0.16	1.28	1275	60	60	72	600.12	604.57	4.45	11.6	102	15.1	4.4	3	-5.0	246	253	68	44	-	-
		6	5	0.15	1.15	1353	60	60	73	604.57	608.84	4.27	11.5	104				-5.0	246	247	68	48	-	-
		6	5	0.15	1.15	1360	60	60	73	608.84	612.97	4.13	11.5	101				-5.0	247	253	68	49	-	-
		5	5	0.15	1.15	1362	60	60	74	612.97	617.11	4.14	11.5	101				-5.0	247	246	68	51	-	-
		5	5	0.15	1.15	1369	60	60	75	617.11	621.25	4.14	11.5	101				-5.5	249	251	68	52	-	-
		5	5	0.15	1.16	1362	60	60	77	621.25	625.40	4.15	11.5	101				-5.5	245	253	68	57	-	-
		4	5	0.16	1.23	1369	60	60	77	625.40	629.66	4.26	11.9	101				-5.5	248	250	68	52	-	-
		4	5	0.15	1.16	1371	60	60	79	629.66	633.81	4.15	11.5	101				-5.5	249	256	68	46	-	-
		4	5	0.15	1.16	1372	60	60	80	633.81	637.92	4.11	11.5	100				-5.5	249	255	68	47	-	-
		3	5	0.15	1.16	1369	60	60	81	637.92	642.08	4.16	11.5	102				-5.5	247	254	68	47	-	-
		3	5	0.15	1.17	1370	60	60	83	642.08	646.17	4.09	11.5	100				-5.5	247	247	68	48	-	-
		3	5	0.15	1.17	1373	60	60	84	646.17	650.31	4.14	11.5	101				-5.5	245	251	68	49	-	-
		2	5	0.13	1.05	1315	60	60	86	650.31	654.36	4.05	10.6	105				-5.5	249	249	68	50	-	-
		2	5	0.13	1.04	1320	60	60	86	654.36	658.15	3.79	10.6	98				-5.5	246	250	68	52	-	-
		2	5	0.12	0.97	1316	60	60	88	658.15	661.97	3.82	10.1	103				-5.5	248	251	68	55	-	-
		1	5	0.12	0.97	1314	60	60	89	661.97	665.75	3.78	10.1	102				-5.5	247	246	68	58	-	-
		1	5	0.12	0.97	1318	60	60	90	665.75	669.50	3.75	10.2	101				-5.5	250	251	68	54	-	-
		1	5	0.12	0.97	1318	60	60	91	669.50	673.25	3.75	10.2	101				-5.0	235	253	68	46	-	-
	2	1	5	0.12	0.98	1318	60	60	92	673.25	677.00	3.75	10.2	101				-5.0	250	249	68	43	-	-
		1	5	0.12	0.98	1311	60	60	94	677.00	680.74	3.74	10.1	100				-5.0	249	256	68	43	-	-
		1	5	0.12	0.99	1300	60	60	94	680.74	684.49	3.75	10.1	100				-4.5	249	251	68	44	-	-
		2	5	0.12	0.98	1317	60	60	95	684.49	688.23	3.74	10.1	101				-5.5	250	250	68	46	-	-
		2	5	0.12	0.98	1322	60	60	96	688.23	691.97	3.74	10.2	101				-5.5	246	253	68	48	-	-
		2	5	0.12	0.98	1318	60	60	96	691.97	695.73	3.76	10.2	101				-5.5	247	258	68	50	-	-
		3	5	0.12	0.98	1325	60	60	97	695.73	699.41	3.68	10.2	99				-5.5	250	244	68	52	-	-
		3	5	0.11	0.90	1320	60	60	98	699.41	703.00	3.59	9.7	101				-5.5	249	260	68	56	-	-
		3	5	0.11	0.90	1318	60	60	98	703.00	706.58	3.58	9.7	101				-5.5	249	247	68	58	-	-
		4	5	0.10	0.83	1310	60	60	100	706.58	709.94	3.36	9.2	99				-5.5	248	247	68	52	-	-
		4	5	0.10	0.83	1310	60	60	100	709.94	713.35	3.41	9.2	100				-5.5	249	250	68	45	-	-
		4	5	0.10	0.83	1314	60	60	101	713.35	716.79	3.44	9.3	101				-5.5	248	249	68	44	-	-

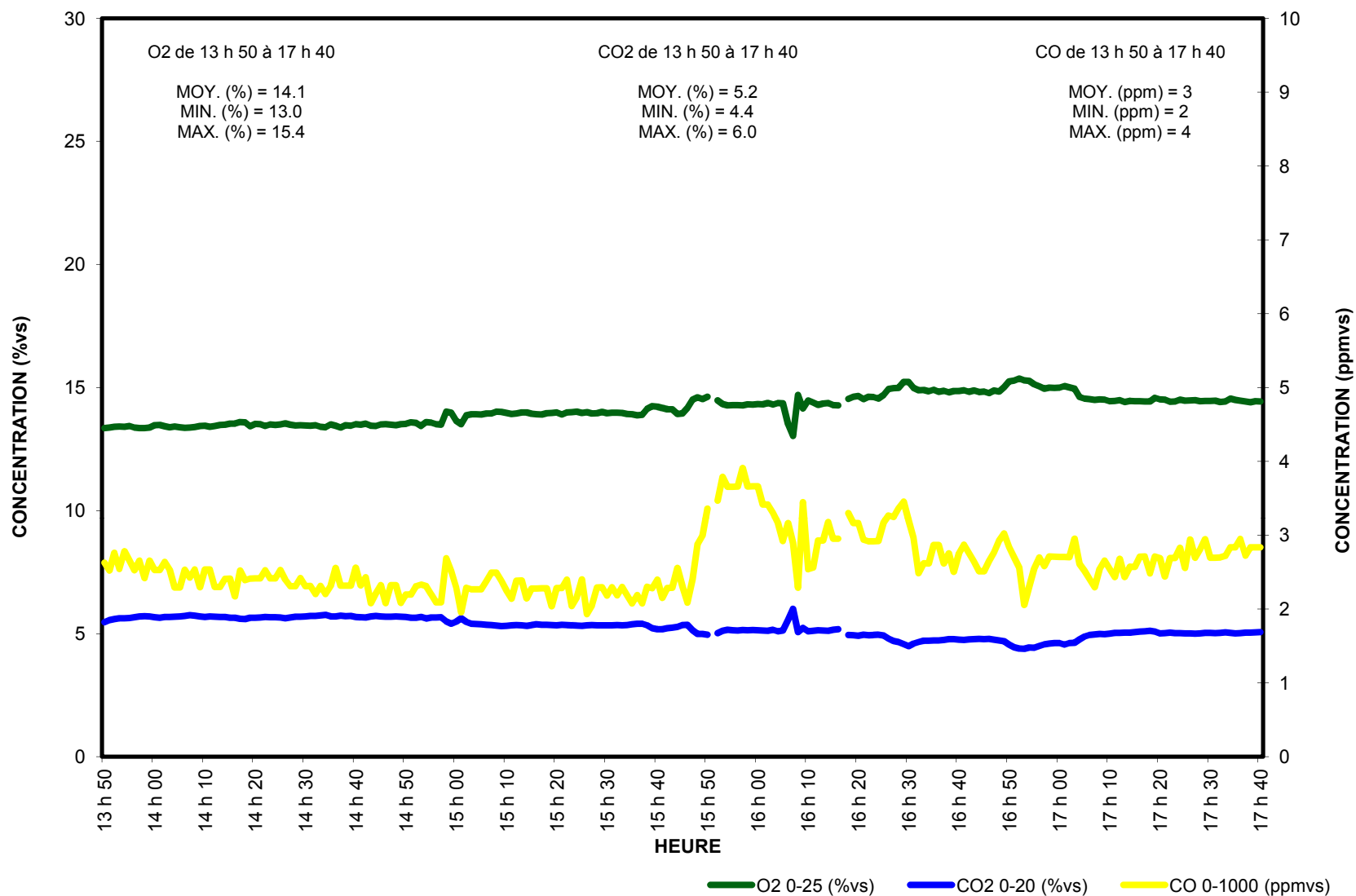
	RELEVÉ D'ÉCHANTILLONNAGE: Incinérateur - COSV - ESSAI# MEL-COSV-3																							
Heure	Trav. #	Point #	Durée de pompage (min)	Différence de pression ("H ₂ O)		Températures (°F)			Orifice	Volume de gaz (PI ³)			Vitesse (m/s)	Iso. (%)	O ₂ (%v)	CO ₂ (%v)	CO (ppmv)	Vacuum (po Hg)	Températures (°F)					
				ΔP	ΔH	Cheminée	Compteur Entrée	Compteur Sortie		Début	Fin	Total							Sonde	Filtre	Sortie F Cond	Trappe	Aux3	Module
16 h 13	1	6	5	0.24	1.85	1356	60	60	75	729.20	734.29	5.09	14.5	100	13.6	5.6	3	-4.5	250	251	68	52	-	-
		6	5	0.24	1.83	1377	60	60	76	734.29	739.45	5.16	14.6	102				-4.5	244	252	68	42	-	-
		6	5	0.24	1.82	1386	60	60	76	739.45	744.61	5.16	14.6	102				-4.5	247	252	68	40	-	-
		5	5	0.24	1.83	1385	60	60	78	744.61	749.76	5.15	14.6	102				-4.5	253	250	68	40	-	-
		5	5	0.24	1.82	1405	60	60	79	749.76	754.91	5.15	14.7	102				-4.5	247	253	68	40	-	-
		5	5	0.24	1.81	1410	60	60	80	754.91	760.08	5.17	14.7	103				-4.5	245	247	68	41	-	-
		4	5	0.21	1.63	1366	60	60	81	760.08	764.98	4.90	13.6	103				-4.5	240	247	67	41	-	-
		4	5	0.23	1.77	1380	60	60	82	764.98	770.00	5.02	14.3	101				-4.5	252	252	66	42	-	-
		4	5	0.23	1.77	1387	60	60	82	770.00	775.00	5.00	14.3	101				-4.0	252	243	66	42	-	-
		3	5	0.23	1.76	1396	60	60	83	775.00	780.01	5.01	14.3	101				-4.0	251	262	66	42	-	-
		3	5	0.23	1.76	1403	60	60	84	780.01	785.00	4.99	14.4	101				-4.0	249	250	66	43	-	-
		3	5	0.23	1.75	1409	60	60	84	785.00	789.95	4.95	14.4	100				-4.5	254	244	66	44	-	-
		2	5	0.18	1.39	1382	60	60	84	789.95	794.45	4.50	12.6	102				-4.5	244	251	66	44	-	-
		2	5	0.19	1.48	1381	60	60	86	794.45	799.04	4.59	13.0	102				-4.5	249	250	67	45	-	-
		2	5	0.18	1.40	1387	60	60	87	799.04	803.50	4.46	12.7	102				-4.5	250	251	67	48	-	-
		1	5	0.18	1.40	1380	60	60	87	803.50	807.95	4.45	12.6	101				-4.0	253	250	68	50	-	-
		1	5	0.18	1.39	1400	60	60	88	807.95	812.39	4.44	12.7	101				-4.0	238	250	66	41	-	-
		1	5	0.18	1.38	1410	60	60	89	812.39	816.86	4.47	12.7	102				-4.5	252	253	66	40	-	-
	2	1	5	0.18	1.38	1413	60	60	90	816.86	821.26	4.40	12.8	101				-4.5	250	252	68	40	-	-
		1	5	0.18	1.38	1417	60	60	90	821.26	825.67	4.41	12.8	101				-4.5	250	252	68	47	-	-
		1	5	0.17	1.30	1423	60	60	91	825.67	829.97	4.30	12.4	102				-4.5	245	248	68	49	-	-
		2	5	0.17	1.30	1440	60	60	94	829.97	834.30	4.33	12.5	103				-4.0	247	251	68	49	-	-
		2	5	0.17	1.29	1438	60	60	92	834.30	838.54	4.24	12.5	101				-4.0	252	247	68	49	-	-
		2	5	0.17	1.30	1443	60	60	94	838.54	842.77	4.23	12.5	101				-4.0	249	251	68	51	-	-
		3	5	0.17	1.29	1450	60	60	95	842.77	847.00	4.23	12.5	101				-4.0	250	250	68	51	-	-
		3	5	0.24	1.75	1529	60	60	95	847.00	851.90	4.90	15.2	100				-4.0	243	251	68	54	-	-
		3	5	0.24	1.75	1535	60	60	97	851.90	856.84	4.94	15.2	101				-4.0	245	251	68	54	-	-
		4	5	0.24	1.76	1533	60	60	97	856.84	861.77	4.93	15.2	101				-4.0	253	255	68	56	-	-
		4	5	0.24	1.76	1533	60	60	98	861.77	866.72	4.95	15.2	102				-4.0	241	250	68	56	-	-
		4	5	0.24	1.75	1542	60	60	98	866.72	871.64	4.92	15.2	101				-4.0	252	249	68	56	-	-
		5	5	0.24	1.76	1541	60	60	99	871.64	876.54	4.90	15.2	101				-5.0	248	249	68	56	-	-
		5	5	0.23	1.68	1548	60	60	101	876.54	881.29	4.75	14.9	100				-5.0	251	248	68	51	-	-
		5	5	0.22	1.65	1500	60	60	101	881.29	886.00	4.71	14.4	100				-4.0	252	252	68	50	-	-
		6	5	0.22	1.68	1463	60	60	102	886.00	890.71	4.71	14.3	99				-4.0	254	251	68	51	-	-
		6	5	0.22	1.69	1457	60	60	103	890.71	895.49	4.78	14.3	100				-5.0	254	251	68	54	-	-
		6	5	0.22	1.69	1460	60	60	103	895.49	900.26	4.77	14.3	100				-5.0	248	255	68	55	-	-

APPENDIX 2

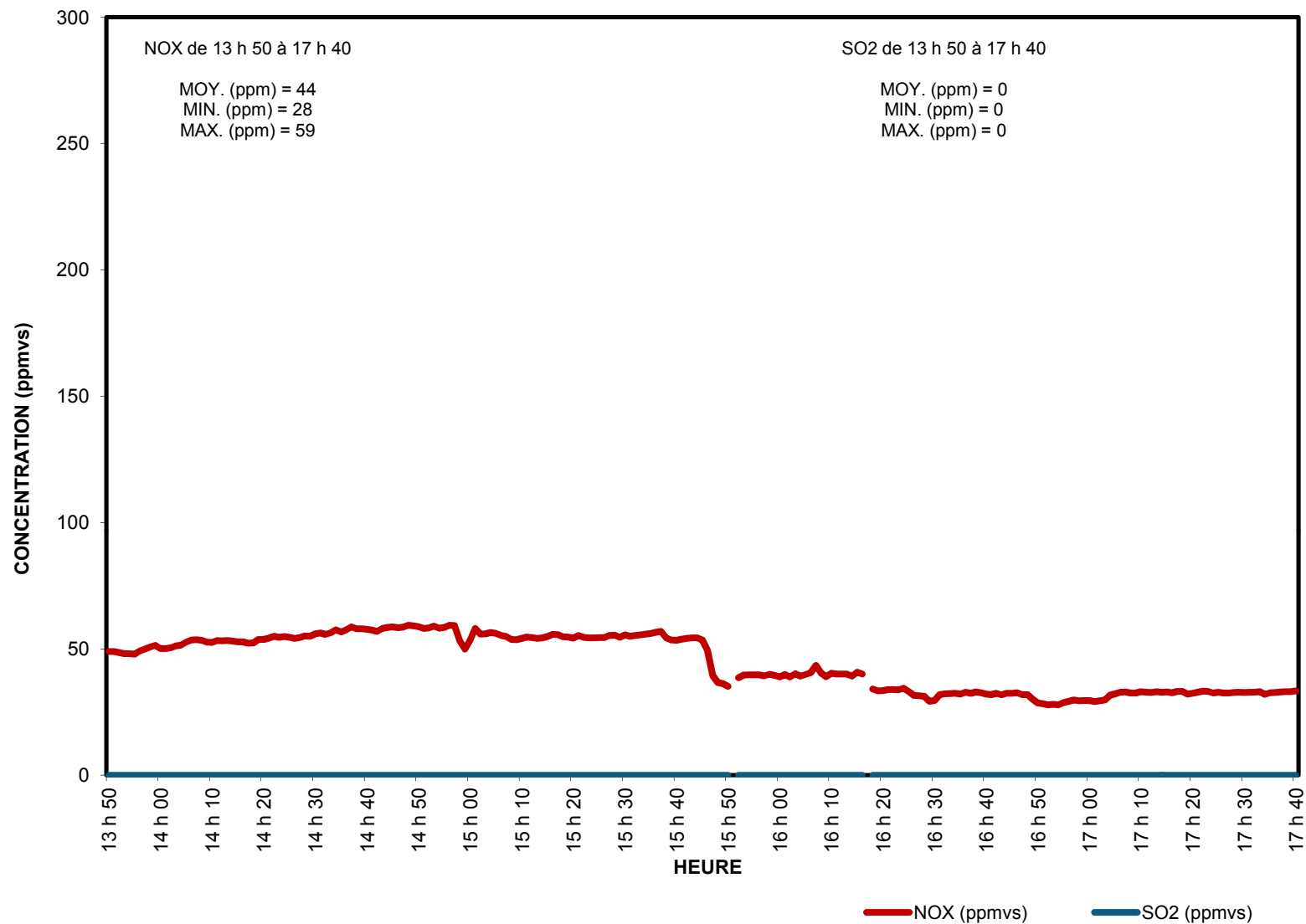
CONTINUOUS MEASUREMENTS OF GAS



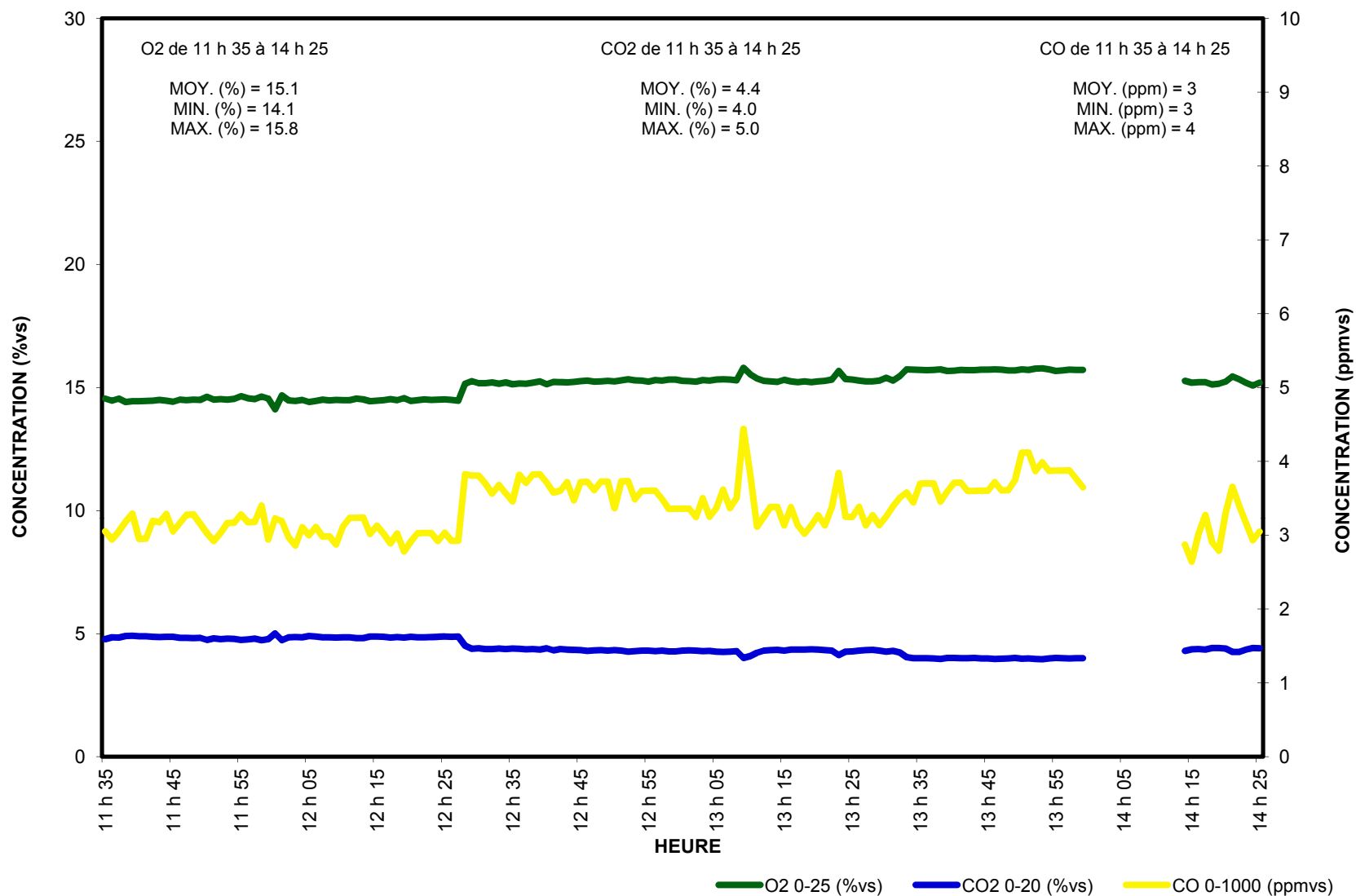
INCINÉRATEUR - MESURES D'OXYGÈNE, DE DIOXYDE DE CARBONE ET DE MONOXYDE DE CARBONE - 22 SEPTEMBRE 2018 - ESSAI MEL GAZ E1



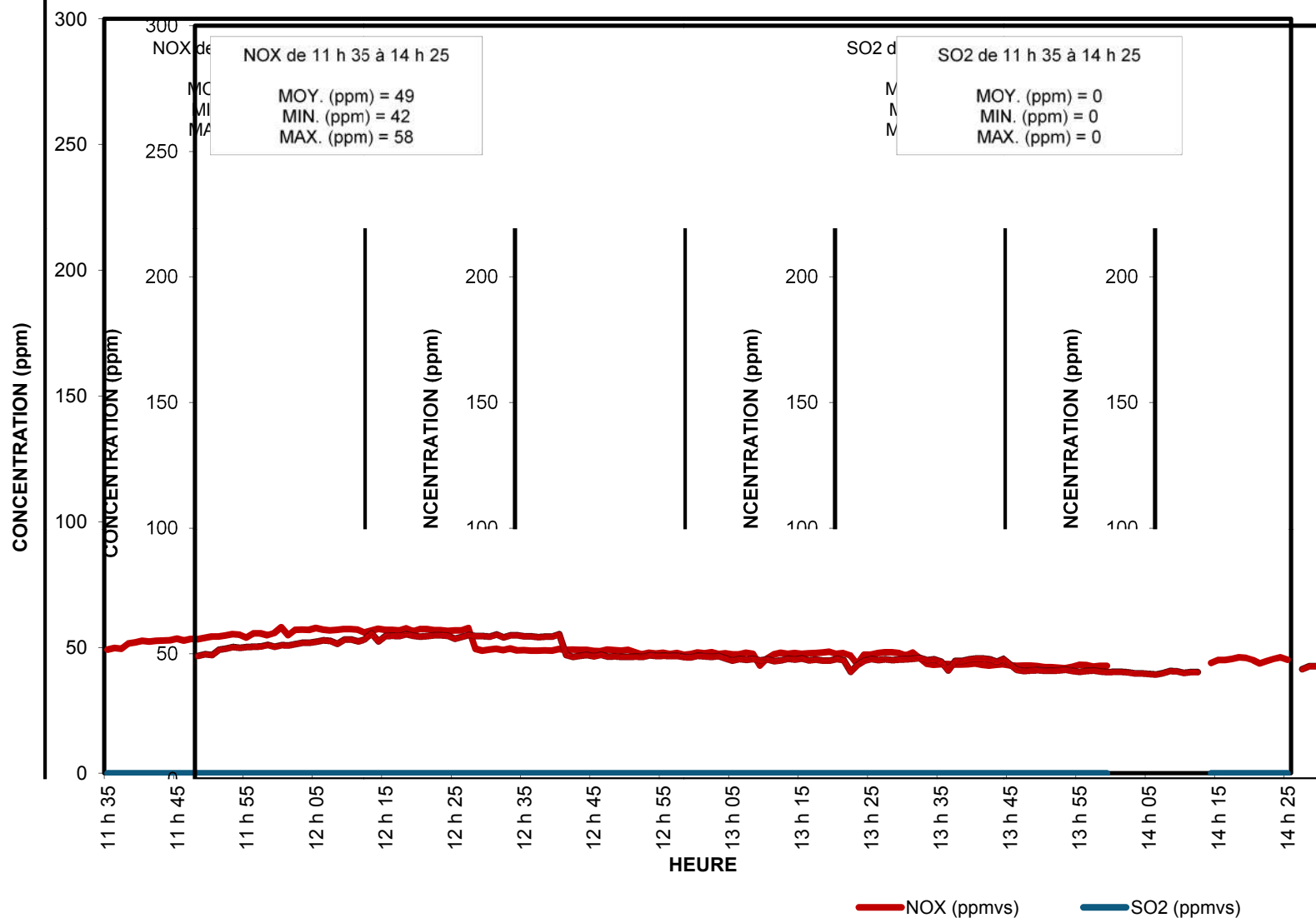
**INCINÉRATEUR - MESURES DES OXYDES D'AZOTE ET DE DIOXYDE DE SOUFRE - 22
SEPTEMBRE 2018 - ESSAI MEL GAZ E1**



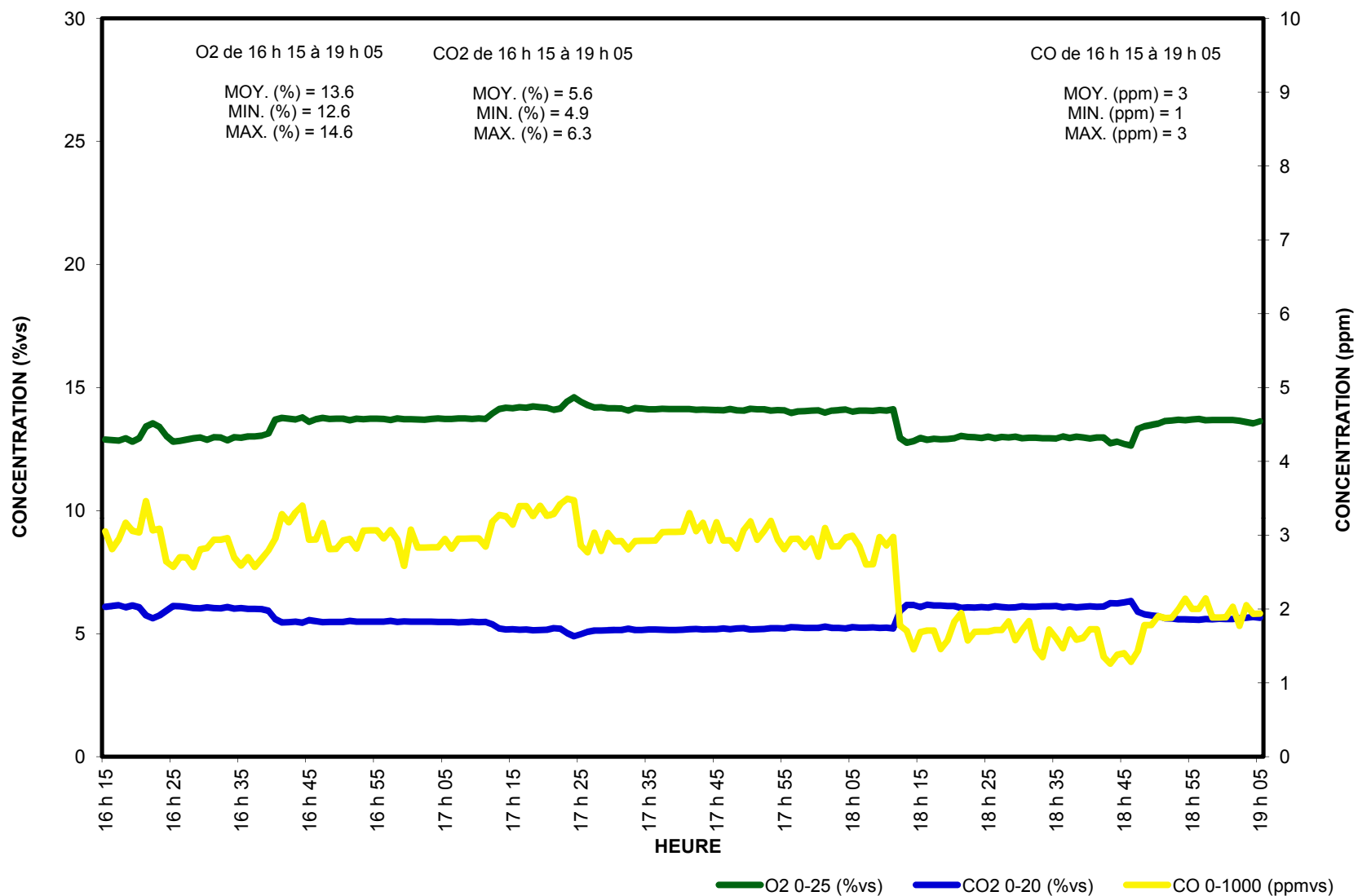
**INCINÉRATEUR - MESURES D'OXYGÈNE, DE DIOXYDE DE CARBONE ET DE MONOXYDE
DE CARBONE - 28 SEPTEMBRE 2018 - ESSAI MEL GAZ E2**



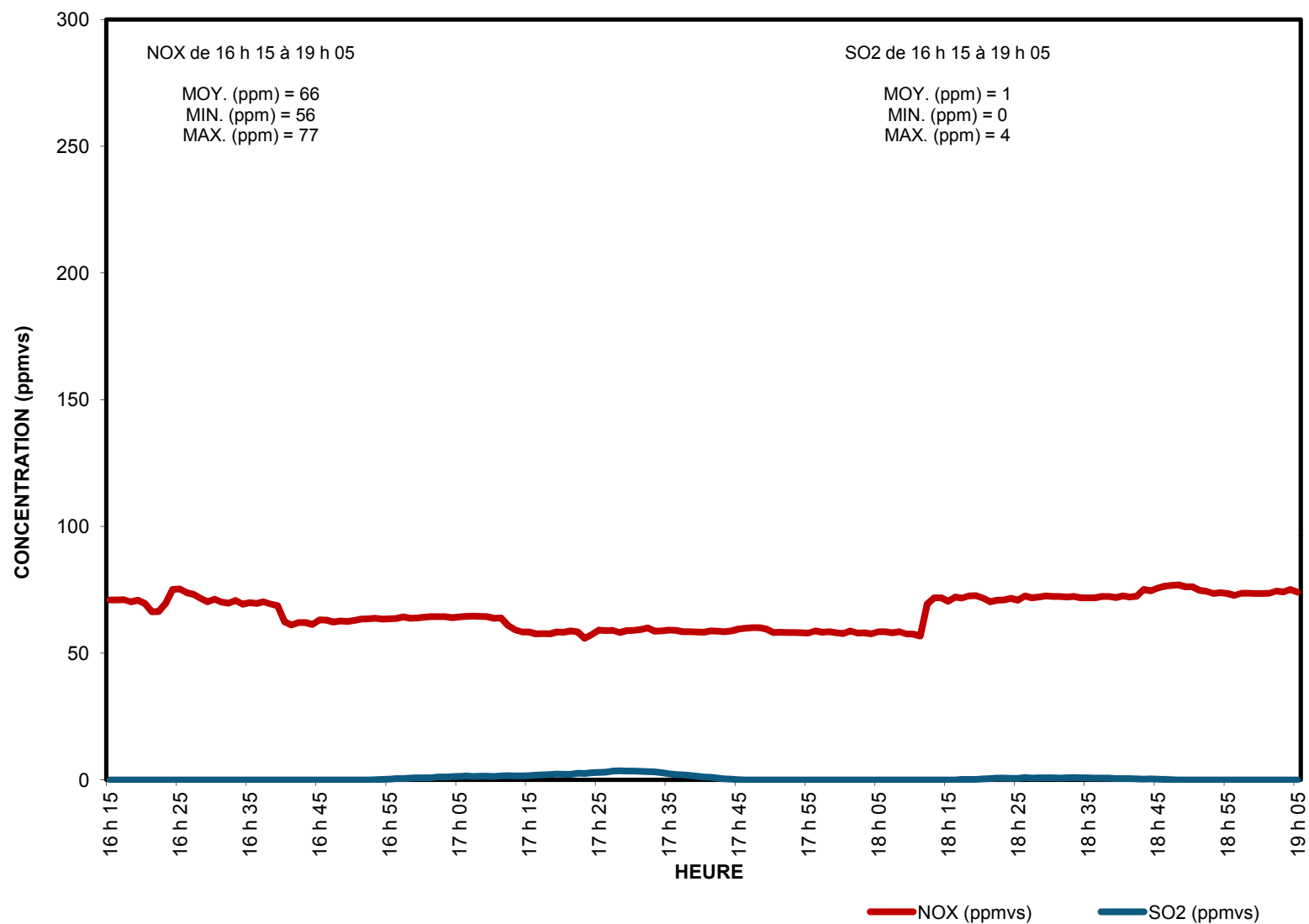
INCINÉRATEUR MESURES DES OXYDES D'AZOTE ET DE DIOXYDE DE SOUFRE - 28 INCINÉRATEUR MESURES DES OXYDES D'AZOTE ET DE DIOXYDE DE SOUFRE - 28 SEPTEMBRE 2018 - ESSAI MEL GAZ E2 SEPTEMBRE 2018 - ESSAI MEL GAZ E2



INCINÉRATEUR - MESURES D'OXYGÈNE, DE DIOXYDE DE CARBONE ET DE MONOXYDE DE CARBONE - 29 SEPTEMBRE 2018 - ESSAI MEL GAZ E3



INCINÉRATEUR - MESURES DES OXYDES D'AZOTE ET DE DIOXYDE DE SOUFRE - 29 SEPTEMBRE 2018 - ESSAI MEL GAZ E3



	AQ	AR	AS	AT
1		Graphique		
2	22 sept. 2018	2018-09-22	2018-09-28	2018-09-29
3	ESSAIS	MEL GAZ E1	MEL GAZ E2	MEL GAZ E3
4	Début	13 h 50	11 h 35	16 h 15
5	Fin	17 h 40	14 h 25	19 h 05
6	O2 0-25 (%vs) corrigé	#1	#2	#3
7	MOY.	14.1	15.1	13.6
8	MIN	13.0	14.1	12.6
9	MAX	15.4	15.8	14.6
10	CO2 0-20 (%vs) corrigé	#1	#2	#3
11	MOY.	5.2	4.4	5.6
12	MIN	4.4	4.0	4.9
13	MAX	6.0	5.0	6.3
14	CO 0-1000 (ppmvs) corrigé	#1	#2	#3
15	MOY.	2.6	3.4	2.6
16	MIN	1.9	2.6	1.3
17	MAX	3.9	4.4	3.5
18	SO2 (ppmvs) corrigé	#1	#2	#3
19	MOY.	0.0	0.0	0.6
20	MIN	0.0	0.0	0.0
21	MAX	0.0	0.0	3.6
22	NOX (ppmvs) corrigé	#1	#2	#3
23	MOY.	44.5	49.3	65.8
24	MIN	27.9	41.8	55.8
25	MAX	59.4	58.1	76.9

	A	B	C	E	G	L	N
6	Date/Heure	Type	O2 0-25 (%vs)	CO2 0-20 (%vs)	CO 0-1000 (ppmvs)	SO2 (ppmvs)	NOX (ppmvs)
7	22-09-2018 13:50:15	13 h 50	13.4	5.5	2.6	0.0	49.0
8	22-09-2018 13:51:15	13 h 51	13.4	5.6	2.5	0.0	49.0
9	22-09-2018 13:52:15	13 h 52	13.4	5.6	2.8	0.0	48.6
10	22-09-2018 13:53:15	13 h 53	13.4	5.6	2.5	0.0	48.1
11	22-09-2018 13:54:15	13 h 54	13.4	5.6	2.8	0.0	48.2
12	22-09-2018 13:55:15	13 h 55	13.4	5.6	2.7	0.0	47.9
13	22-09-2018 13:56:15	13 h 56	13.4	5.7	2.5	0.0	49.2
14	22-09-2018 13:57:15	13 h 57	13.4	5.7	2.7	0.0	49.9
15	22-09-2018 13:58:15	13 h 58	13.4	5.7	2.4	0.0	50.8
16	22-09-2018 13:59:15	13 h 59	13.4	5.7	2.7	0.0	51.4
17	22-09-2018 14:00:15	14 h 00	13.5	5.7	2.5	0.0	50.1
18	22-09-2018 14:01:15	14 h 01	13.5	5.6	2.5	0.0	50.1
19	22-09-2018 14:02:15	14 h 02	13.4	5.7	2.6	0.0	50.4
20	22-09-2018 14:03:15	14 h 03	13.4	5.7	2.5	0.0	51.1
21	22-09-2018 14:04:15	14 h 04	13.4	5.7	2.3	0.0	51.5
22	22-09-2018 14:05:15	14 h 05	13.4	5.7	2.3	0.0	52.6
23	22-09-2018 14:06:15	14 h 06	13.4	5.7	2.5	0.0	53.5
24	22-09-2018 14:07:15	14 h 07	13.4	5.8	2.4	0.0	53.7
25	22-09-2018 14:08:15	14 h 08	13.4	5.7	2.5	0.0	53.4
26	22-09-2018 14:09:15	14 h 09	13.4	5.7	2.3	0.0	52.7
27	22-09-2018 14:10:15	14 h 10	13.4	5.7	2.5	0.0	52.6
28	22-09-2018 14:11:15	14 h 11	13.4	5.7	2.5	0.0	53.3
29	22-09-2018 14:12:15	14 h 12	13.4	5.7	2.3	0.0	53.2
30	22-09-2018 14:13:15	14 h 13	13.5	5.7	2.3	0.0	53.3
31	22-09-2018 14:14:15	14 h 14	13.5	5.7	2.4	0.0	53.0
32	22-09-2018 14:15:15	14 h 15	13.5	5.7	2.4	0.0	52.8
33	22-09-2018 14:16:15	14 h 16	13.5	5.6	2.2	0.0	52.8
34	22-09-2018 14:17:15	14 h 17	13.6	5.6	2.5	0.0	52.2
35	22-09-2018 14:18:15	14 h 18	13.6	5.6	2.4	0.0	52.4
36	22-09-2018 14:19:15	14 h 19	13.4	5.6	2.4	0.0	53.7
37	22-09-2018 14:20:15	14 h 20	13.5	5.7	2.4	0.0	53.7
38	22-09-2018 14:21:15	14 h 21	13.5	5.7	2.4	0.0	54.3
39	22-09-2018 14:22:15	14 h 22	13.4	5.7	2.5	0.0	55.0
40	22-09-2018 14:23:15	14 h 23	13.5	5.7	2.4	0.0	54.6
41	22-09-2018 14:24:15	14 h 24	13.5	5.7	2.4	0.0	54.9
42	22-09-2018 14:25:15	14 h 25	13.5	5.7	2.5	0.0	54.6
43	22-09-2018 14:26:15	14 h 26	13.5	5.6	2.4	0.0	54.2
44	22-09-2018 14:27:15	14 h 27	13.5	5.7	2.3	0.0	54.5
45	22-09-2018 14:28:15	14 h 28	13.5	5.7	2.3	0.0	55.1
46	22-09-2018 14:29:15	14 h 29	13.5	5.7	2.4	0.0	55.0
47	22-09-2018 14:30:15	14 h 30	13.5	5.7	2.3	0.0	56.0
48	22-09-2018 14:31:15	14 h 31	13.4	5.7	2.3	0.0	56.3
49	22-09-2018 14:32:15	14 h 32	13.5	5.7	2.2	0.0	55.7
50	22-09-2018 14:33:15	14 h 33	13.4	5.7	2.3	0.0	56.3
51	22-09-2018 14:34:15	14 h 34	13.4	5.8	2.2	0.0	57.5
52	22-09-2018 14:35:15	14 h 35	13.5	5.7	2.3	0.0	56.6
53	22-09-2018 14:36:15	14 h 36	13.4	5.7	2.6	0.0	57.5
54	22-09-2018 14:37:15	14 h 37	13.4	5.7	2.3	0.0	58.7
55	22-09-2018 14:38:15	14 h 38	13.5	5.7	2.3	0.0	58.0
56	22-09-2018 14:39:15	14 h 39	13.4	5.7	2.3	0.0	58.0
57	22-09-2018 14:40:15	14 h 40	13.5	5.7	2.6	0.0	57.7
58	22-09-2018 14:41:15	14 h 41	13.5	5.7	2.3	0.0	57.5
59	22-09-2018 14:42:15	14 h 42	13.5	5.7	2.4	0.0	56.9
60	22-09-2018 14:43:15	14 h 43	13.5	5.7	2.1	0.0	58.1
61	22-09-2018 14:44:15	14 h 44	13.4	5.7	2.2	0.0	58.5
62	22-09-2018 14:45:15	14 h 45	13.5	5.7	2.3	0.0	58.7
63	22-09-2018 14:46:15	14 h 46	13.5	5.7	2.1	0.0	58.4
64	22-09-2018 14:47:15	14 h 47	13.5	5.7	2.3	0.0	58.6
65	22-09-2018 14:48:15	14 h 48	13.5	5.7	2.3	0.0	59.4
66	22-09-2018 14:49:15	14 h 49	13.5	5.7	2.1	0.0	59.1
67	22-09-2018 14:50:15	14 h 50	13.5	5.7	2.2	0.0	58.8
68	22-09-2018 14:51:15	14 h 51	13.6	5.7	2.2	0.0	58.1
69	22-09-2018 14:52:15	14 h 52	13.6	5.6	2.3	0.0	58.3
70	22-09-2018 14:53:15	14 h 53	13.4	5.7	2.3	0.0	59.0
71	22-09-2018 14:54:15	14 h 54	13.6	5.6	2.3	0.0	58.2
72	22-09-2018 14:55:15	14 h 55	13.6	5.7	2.2	0.0	58.5
73	22-09-2018 14:56:15	14 h 56	13.5	5.7	2.1	0.0	59.4

	A	B	C	E	G	L	N
6	Date/Heure	Type	O2 0-25 (%vs)	CO2 0-20 (%vs)	CO 0-1000 (ppmvs)	SO2 (ppmvs)	NOX (ppmvs)
74	22-09-2018 14:57:15	14 h 57	13.5	5.7	2.1	0.0	59.2
75	22-09-2018 14:58:15	14 h 58	14.0	5.5	2.7	0.0	53.1
76	22-09-2018 14:59:15	14 h 59	14.0	5.4	2.5	0.0	49.9
77	22-09-2018 15:00:15	15 h 00	13.6	5.5	2.3	0.0	53.4
78	22-09-2018 15:01:15	15 h 01	13.5	5.6	2.0	0.0	58.0
79	22-09-2018 15:02:15	15 h 02	13.9	5.5	2.3	0.0	55.8
80	22-09-2018 15:03:15	15 h 03	13.9	5.4	2.3	0.0	56.0
81	22-09-2018 15:04:15	15 h 04	13.9	5.4	2.3	0.0	56.4
82	22-09-2018 15:05:15	15 h 05	13.9	5.4	2.3	0.0	56.2
83	22-09-2018 15:06:15	15 h 06	13.9	5.4	2.4	0.0	55.3
84	22-09-2018 15:07:15	15 h 07	14.0	5.4	2.5	0.0	54.9
85	22-09-2018 15:08:15	15 h 08	14.0	5.3	2.5	0.0	53.8
86	22-09-2018 15:09:15	15 h 09	14.0	5.3	2.4	0.0	53.6
87	22-09-2018 15:10:15	15 h 10	14.0	5.3	2.3	0.0	54.1
88	22-09-2018 15:11:15	15 h 11	13.9	5.3	2.1	0.0	54.7
89	22-09-2018 15:12:15	15 h 12	14.0	5.4	2.4	0.0	54.5
90	22-09-2018 15:13:15	15 h 13	14.0	5.3	2.4	0.0	54.2
91	22-09-2018 15:14:15	15 h 14	14.0	5.3	2.1	0.0	54.4
92	22-09-2018 15:15:15	15 h 15	13.9	5.3	2.3	0.0	54.9
93	22-09-2018 15:16:15	15 h 16	13.9	5.4	2.3	0.0	55.8
94	22-09-2018 15:17:15	15 h 17	13.9	5.4	2.3	0.0	55.6
95	22-09-2018 15:18:15	15 h 18	14.0	5.4	2.3	0.0	54.8
96	22-09-2018 15:19:15	15 h 19	14.0	5.4	2.0	0.0	54.7
97	22-09-2018 15:20:15	15 h 20	14.0	5.3	2.3	0.0	54.2
98	22-09-2018 15:21:15	15 h 21	13.9	5.4	2.3	0.0	55.3
99	22-09-2018 15:22:15	15 h 22	14.0	5.4	2.4	0.0	54.6
100	22-09-2018 15:23:15	15 h 23	14.0	5.3	2.0	0.0	54.3
101	22-09-2018 15:24:15	15 h 24	14.0	5.3	2.2	0.0	54.3
102	22-09-2018 15:25:15	15 h 25	14.0	5.3	2.4	0.0	54.5
103	22-09-2018 15:26:15	15 h 26	14.0	5.3	1.9	0.0	54.5
104	22-09-2018 15:27:15	15 h 27	13.9	5.3	2.0	0.0	55.3
105	22-09-2018 15:28:15	15 h 28	14.0	5.3	2.3	0.0	55.4
106	22-09-2018 15:29:15	15 h 29	14.0	5.3	2.3	0.0	54.6
107	22-09-2018 15:30:15	15 h 30	14.0	5.3	2.2	0.0	55.5
108	22-09-2018 15:31:15	15 h 31	14.0	5.3	2.3	0.0	55.0
109	22-09-2018 15:32:15	15 h 32	14.0	5.3	2.2	0.0	55.3
110	22-09-2018 15:33:15	15 h 33	14.0	5.3	2.3	0.0	55.5
111	22-09-2018 15:34:15	15 h 34	13.9	5.3	2.2	0.0	55.8
112	22-09-2018 15:35:15	15 h 35	13.9	5.4	2.1	0.0	56.1
113	22-09-2018 15:36:15	15 h 36	13.9	5.4	2.2	0.0	56.6
114	22-09-2018 15:37:15	15 h 37	13.9	5.4	2.1	0.0	56.9
115	22-09-2018 15:38:15	15 h 38	14.1	5.3	2.3	0.0	54.4
116	22-09-2018 15:39:15	15 h 39	14.2	5.2	2.3	0.0	53.5
117	22-09-2018 15:40:15	15 h 40	14.2	5.2	2.4	0.0	53.4
118	22-09-2018 15:41:15	15 h 41	14.2	5.2	2.2	0.0	53.9
119	22-09-2018 15:42:15	15 h 42	14.1	5.2	2.3	0.0	54.2
120	22-09-2018 15:43:15	15 h 43	14.1	5.2	2.3	0.0	54.4
121	22-09-2018 15:44:15	15 h 44	13.9	5.3	2.6	0.0	54.4
122	22-09-2018 15:45:15	15 h 45	13.9	5.4	2.3	0.0	53.5
123	22-09-2018 15:46:15	15 h 46	14.2	5.4	2.1	0.0	49.5
124	22-09-2018 15:47:15	15 h 47	14.5	5.1	2.4	0.0	39.5
125	22-09-2018 15:48:15	15 h 48	14.6	5.0	2.9	0.0	36.6
126	22-09-2018 15:49:15	15 h 49	14.5	5.0	3.0	0.0	36.2
127	22-09-2018 15:50:15	15 h 50	14.6	5.0	3.4	0.0	35.2
128	22-09-2018 15:51:15	15 h 51					
129	22-09-2018 15:52:15	15 h 52	14.5	5.0	3.5	0.0	38.6
130	22-09-2018 15:53:15	15 h 53	14.3	5.1	3.8	0.0	39.7
131	22-09-2018 15:54:15	15 h 54	14.3	5.2	3.7	0.0	39.8
132	22-09-2018 15:55:15	15 h 55	14.3	5.1	3.7	0.0	39.8
133	22-09-2018 15:56:15	15 h 56	14.3	5.1	3.7	0.0	39.8
134	22-09-2018 15:57:15	15 h 57	14.3	5.2	3.9	0.0	39.3
135	22-09-2018 15:58:15	15 h 58	14.3	5.1	3.7	0.0	39.9
136	22-09-2018 15:59:15	15 h 59	14.3	5.2	3.7	0.0	39.5
137	22-09-2018 16:00:15	16 h 00	14.3	5.1	3.7	0.0	38.9
138	22-09-2018 16:01:15	16 h 01	14.3	5.1	3.4	0.0	39.8
139	22-09-2018 16:02:15	16 h 02	14.4	5.1	3.4	0.0	38.9
140	22-09-2018 16:03:15	16 h 03	14.3	5.2	3.3	0.0	40.1

	A	B	C	E	G	L	N
6	Date/Heure	Type	O2 0-25 (%vs)	CO2 0-20 (%vs)	CO 0-1000 (ppmvs)	SO2 (ppmvs)	NOX (ppmvs)
141	22-09-2018 16:04:15	16 h 04	14.4	5.1	3.2	0.0	39.2
142	22-09-2018 16:05:15	16 h 05	14.4	5.1	2.9	0.0	39.8
143	22-09-2018 16:06:15	16 h 06	13.5	5.6	3.2	0.0	40.6
144	22-09-2018 16:07:15	16 h 07	13.0	6.0	2.9	0.0	43.4
145	22-09-2018 16:08:15	16 h 08	14.7	5.1	2.3	0.0	40.5
146	22-09-2018 16:09:15	16 h 09	14.1	5.2	3.4	0.0	39.0
147	22-09-2018 16:10:15	16 h 10	14.5	5.1	2.5	0.0	40.3
148	22-09-2018 16:11:15	16 h 11	14.4	5.1	2.6	0.0	40.0
149	22-09-2018 16:12:15	16 h 12	14.3	5.1	2.9	0.0	40.0
150	22-09-2018 16:13:15	16 h 13	14.3	5.1	2.9	0.0	40.1
151	22-09-2018 16:14:15	16 h 14	14.4	5.1	3.2	0.0	39.2
152	22-09-2018 16:15:15	16 h 15	14.3	5.2	3.0	0.0	40.8
153	22-09-2018 16:16:15	16 h 16	14.3	5.2	3.0	0.0	40.1
154	22-09-2018 16:17:15	16 h 17					
155	22-09-2018 16:18:15	16 h 18	14.5	4.9	3.3	0.0	34.2
156	22-09-2018 16:19:15	16 h 19	14.6	4.9	3.2	0.0	33.4
157	22-09-2018 16:20:15	16 h 20	14.7	4.9	3.2	0.0	33.5
158	22-09-2018 16:21:15	16 h 21	14.5	5.0	2.9	0.0	33.9
159	22-09-2018 16:22:15	16 h 22	14.6	4.9	2.9	0.0	33.9
160	22-09-2018 16:23:15	16 h 23	14.6	5.0	2.9	0.0	33.8
161	22-09-2018 16:24:15	16 h 24	14.6	5.0	2.9	0.0	34.4
162	22-09-2018 16:25:15	16 h 25	14.7	4.9	3.2	0.0	33.1
163	22-09-2018 16:26:15	16 h 26	14.9	4.8	3.3	0.0	31.6
164	22-09-2018 16:27:15	16 h 27	15.0	4.7	3.2	0.0	31.5
165	22-09-2018 16:28:15	16 h 28	15.0	4.7	3.4	0.0	31.3
166	22-09-2018 16:29:15	16 h 29	15.2	4.6	3.5	0.0	29.2
167	22-09-2018 16:30:15	16 h 30	15.2	4.5	3.2	0.0	29.6
168	22-09-2018 16:31:15	16 h 31	15.0	4.6	3.0	0.0	31.9
169	22-09-2018 16:32:15	16 h 32	14.9	4.7	2.5	0.0	32.2
170	22-09-2018 16:33:15	16 h 33	14.9	4.7	2.6	0.0	32.3
171	22-09-2018 16:34:15	16 h 34	14.8	4.7	2.6	0.0	32.4
172	22-09-2018 16:35:15	16 h 35	14.9	4.7	2.9	0.0	32.1
173	22-09-2018 16:36:15	16 h 36	14.8	4.7	2.9	0.0	32.9
174	22-09-2018 16:37:15	16 h 37	14.9	4.8	2.6	0.0	32.4
175	22-09-2018 16:38:15	16 h 38	14.8	4.8	2.8	0.0	32.9
176	22-09-2018 16:39:15	16 h 39	14.9	4.8	2.5	0.0	32.6
177	22-09-2018 16:40:15	16 h 40	14.9	4.8	2.8	0.0	32.1
178	22-09-2018 16:41:15	16 h 41	14.9	4.8	2.9	0.0	31.9
179	22-09-2018 16:42:15	16 h 42	14.8	4.8	2.8	0.0	32.4
180	22-09-2018 16:43:15	16 h 43	14.9	4.8	2.6	0.0	31.8
181	22-09-2018 16:44:15	16 h 44	14.8	4.8	2.5	0.0	32.4
182	22-09-2018 16:45:15	16 h 45	14.8	4.8	2.5	0.0	32.4
183	22-09-2018 16:46:15	16 h 46	14.8	4.8	2.7	0.0	32.6
184	22-09-2018 16:47:15	16 h 47	14.9	4.8	2.8	0.0	31.9
185	22-09-2018 16:48:15	16 h 48	14.8	4.7	2.9	0.0	31.9
186	22-09-2018 16:49:15	16 h 49	15.0	4.7	3.0	0.0	30.1
187	22-09-2018 16:50:15	16 h 50	15.2	4.6	2.8	0.0	28.6
188	22-09-2018 16:51:15	16 h 51	15.3	4.5	2.7	0.0	28.3
189	22-09-2018 16:52:15	16 h 52	15.4	4.4	2.6	0.0	27.9
190	22-09-2018 16:53:15	16 h 53	15.3	4.4	2.1	0.0	28.1
191	22-09-2018 16:54:15	16 h 54	15.3	4.4	2.3	0.0	27.9
192	22-09-2018 16:55:15	16 h 55	15.1	4.4	2.5	0.0	28.7
193	22-09-2018 16:56:15	16 h 56	15.1	4.5	2.7	0.0	29.2
194	22-09-2018 16:57:15	16 h 57	14.9	4.6	2.6	0.0	29.8
195	22-09-2018 16:58:15	16 h 58	15.0	4.6	2.7	0.0	29.5
196	22-09-2018 16:59:15	16 h 59	15.0	4.6	2.7	0.0	29.6
197	22-09-2018 17:00:15	17 h 00	15.0	4.6	2.7	0.0	29.6
198	22-09-2018 17:01:15	17 h 01	15.1	4.6	2.7	0.0	29.2
199	22-09-2018 17:02:15	17 h 02	15.0	4.6	2.7	0.0	29.5
200	22-09-2018 17:03:15	17 h 03	15.0	4.6	3.0	0.0	29.8
201	22-09-2018 17:04:15	17 h 04	14.6	4.8	2.6	0.0	31.7
202	22-09-2018 17:05:15	17 h 05	14.5	4.9	2.5	0.0	32.2
203	22-09-2018 17:06:15	17 h 06	14.5	4.9	2.4	0.0	32.8
204	22-09-2018 17:07:15	17 h 07	14.5	5.0	2.3	0.0	33.0
205	22-09-2018 17:08:15	17 h 08	14.5	5.0	2.5	0.0	32.5
206	22-09-2018 17:09:15	17 h 09	14.5	5.0	2.7	0.0	32.6
207	22-09-2018 17:10:15	17 h 10	14.4	5.0	2.5	0.0	33.0

	A	B	C	E	G	L	N
6	Date/Heure	Type	O2 0-25 (%vs)	CO2 0-20 (%vs)	CO 0-1000 (ppmvs)	SO2 (ppmvs)	NOX (ppmvs)
208	22-09-2018 17:11:15	17 h 11	14.5	5.0	2.4	0.0	32.9
209	22-09-2018 17:12:15	17 h 12	14.5	5.0	2.7	0.0	32.8
210	22-09-2018 17:13:15	17 h 13	14.4	5.0	2.4	0.0	33.1
211	22-09-2018 17:14:15	17 h 14	14.5	5.0	2.6	0.0	32.8
212	22-09-2018 17:15:15	17 h 15	14.4	5.1	2.6	0.0	33.0
213	22-09-2018 17:16:15	17 h 16	14.4	5.1	2.7	0.0	32.7
214	22-09-2018 17:17:15	17 h 17	14.4	5.1	2.7	0.0	33.1
215	22-09-2018 17:18:15	17 h 18	14.4	5.1	2.5	0.0	33.2
216	22-09-2018 17:19:15	17 h 19	14.6	5.1	2.7	0.0	32.1
217	22-09-2018 17:20:15	17 h 20	14.5	5.0	2.7	0.0	32.4
218	22-09-2018 17:21:15	17 h 21	14.5	5.0	2.4	0.0	32.9
219	22-09-2018 17:22:15	17 h 22	14.4	5.0	2.7	0.0	33.3
220	22-09-2018 17:23:15	17 h 23	14.4	5.0	2.7	0.0	33.2
221	22-09-2018 17:24:15	17 h 24	14.5	5.0	2.8	0.0	32.6
222	22-09-2018 17:25:15	17 h 25	14.5	5.0	2.6	0.0	32.9
223	22-09-2018 17:26:15	17 h 26	14.5	5.0	2.9	0.0	32.6
224	22-09-2018 17:27:15	17 h 27	14.5	5.0	2.7	0.0	32.6
225	22-09-2018 17:28:15	17 h 28	14.4	5.0	2.8	0.0	32.7
226	22-09-2018 17:29:15	17 h 29	14.5	5.0	2.9	0.0	32.9
227	22-09-2018 17:30:15	17 h 30	14.5	5.0	2.7	0.0	32.7
228	22-09-2018 17:31:15	17 h 31	14.5	5.0	2.7	0.0	32.9
229	22-09-2018 17:32:15	17 h 32	14.4	5.0	2.7	0.0	32.9
230	22-09-2018 17:33:15	17 h 33	14.4	5.1	2.7	0.0	33.0
231	22-09-2018 17:34:15	17 h 34	14.6	5.0	2.8	0.0	32.0
232	22-09-2018 17:35:15	17 h 35	14.5	5.0	2.8	0.0	32.6
233	22-09-2018 17:36:15	17 h 36	14.5	5.0	3.0	0.0	32.8
234	22-09-2018 17:37:15	17 h 37	14.4	5.0	2.7	0.0	32.9
235	22-09-2018 17:38:15	17 h 38	14.4	5.0	2.8	0.0	33.1
236	22-09-2018 17:39:15	17 h 39	14.4	5.1	2.8	0.0	33.1
237	22-09-2018 17:40:15	17 h 40	14.4	5.1	2.8	0.0	33.4
238	28-09-2018 11:35:51	11 h 35	14.6	4.8	3.1	0.0	49.2
239	28-09-2018 11:36:51	11 h 36	14.5	4.9	2.9	0.0	49.8
240	28-09-2018 11:37:51	11 h 37	14.6	4.8	3.1	0.0	49.5
241	28-09-2018 11:38:51	11 h 38	14.4	4.9	3.2	0.0	51.6
242	28-09-2018 11:39:51	11 h 39	14.4	4.9	3.3	0.0	52.1
243	28-09-2018 11:40:51	11 h 40	14.4	4.9	3.0	0.0	52.7
244	28-09-2018 11:41:51	11 h 41	14.5	4.9	3.0	0.0	52.3
245	28-09-2018 11:42:51	11 h 42	14.5	4.9	3.2	0.0	52.7
246	28-09-2018 11:43:51	11 h 43	14.5	4.9	3.2	0.0	52.8
247	28-09-2018 11:44:51	11 h 44	14.5	4.9	3.3	0.0	52.8
248	28-09-2018 11:45:51	11 h 45	14.4	4.9	3.1	0.0	53.5
249	28-09-2018 11:46:51	11 h 46	14.5	4.8	3.2	0.0	52.8
250	28-09-2018 11:47:51	11 h 47	14.5	4.8	3.3	0.0	53.4
251	28-09-2018 11:48:51	11 h 48	14.5	4.8	3.3	0.0	53.3
252	28-09-2018 11:49:51	11 h 49	14.5	4.8	3.2	0.0	53.8
253	28-09-2018 11:50:51	11 h 50	14.6	4.8	3.0	0.0	54.3
254	28-09-2018 11:51:51	11 h 51	14.5	4.8	2.9	0.0	54.4
255	28-09-2018 11:52:51	11 h 52	14.5	4.8	3.0	0.0	54.8
256	28-09-2018 11:53:51	11 h 53	14.5	4.8	3.2	0.0	55.3
257	28-09-2018 11:54:51	11 h 54	14.5	4.8	3.2	0.0	55.1
258	28-09-2018 11:55:51	11 h 55	14.6	4.7	3.3	0.0	54.0
259	28-09-2018 11:56:51	11 h 56	14.6	4.8	3.2	0.0	55.6
260	28-09-2018 11:57:51	11 h 57	14.5	4.8	3.2	0.0	55.6
261	28-09-2018 11:58:51	11 h 58	14.6	4.7	3.4	0.0	54.9
262	28-09-2018 11:59:51	11 h 59	14.6	4.8	2.9	0.0	55.7
263	28-09-2018 12:00:51	12 h 00	14.1	5.0	3.2	0.0	58.1
264	28-09-2018 12:01:51	12 h 01	14.7	4.7	3.2	0.0	54.9
265	28-09-2018 12:02:51	12 h 02	14.5	4.8	3.0	0.0	57.0
266	28-09-2018 12:03:51	12 h 03	14.4	4.9	2.9	0.0	57.1
267	28-09-2018 12:04:51	12 h 04	14.5	4.9	3.1	0.0	57.0
268	28-09-2018 12:05:51	12 h 05	14.4	4.9	3.0	0.0	57.8
269	28-09-2018 12:06:51	12 h 06	14.5	4.9	3.1	0.0	57.1
270	28-09-2018 12:07:51	12 h 07	14.5	4.9	3.0	0.0	56.8
271	28-09-2018 12:08:51	12 h 08	14.5	4.9	3.0	0.0	57.0
272	28-09-2018 12:09:51	12 h 09	14.5	4.8	2.9	0.0	57.3
273	28-09-2018 12:10:51	12 h 10	14.5	4.9	3.1	0.0	57.3
274	28-09-2018 12:11:51	12 h 11	14.5	4.9	3.2	0.0	57.1

	A	B	C	E	G	L	N
6	Date/Heure	Type	O2 0-25 (%vs)	CO2 0-20 (%vs)	CO 0-1000 (ppmvs)	SO2 (ppmvs)	NOX (ppmvs)
275	28-09-2018 12:12:51	12 h 12	14.6	4.8	3.2	0.0	55.9
276	28-09-2018 12:13:51	12 h 13	14.5	4.8	3.2	0.0	56.7
277	28-09-2018 12:14:51	12 h 14	14.4	4.9	3.0	0.0	57.5
278	28-09-2018 12:15:51	12 h 15	14.5	4.9	3.1	0.0	57.0
279	28-09-2018 12:16:51	12 h 16	14.5	4.9	3.0	0.0	57.1
280	28-09-2018 12:17:51	12 h 17	14.5	4.8	2.9	0.0	56.8
281	28-09-2018 12:18:51	12 h 18	14.5	4.9	3.0	0.0	57.7
282	28-09-2018 12:19:51	12 h 19	14.6	4.8	2.8	0.0	56.5
283	28-09-2018 12:20:51	12 h 20	14.5	4.9	2.9	0.0	57.3
284	28-09-2018 12:21:51	12 h 21	14.5	4.9	3.0	0.0	57.3
285	28-09-2018 12:22:51	12 h 22	14.5	4.9	3.0	0.0	56.9
286	28-09-2018 12:23:51	12 h 23	14.5	4.9	3.0	0.0	56.9
287	28-09-2018 12:24:51	12 h 24	14.5	4.9	2.9	0.0	56.6
288	28-09-2018 12:25:51	12 h 25	14.5	4.9	3.0	0.0	56.8
289	28-09-2018 12:26:51	12 h 26	14.5	4.9	2.9	0.0	56.8
290	28-09-2018 12:27:51	12 h 27	14.5	4.9	2.9	0.0	57.7
291	28-09-2018 12:28:51	12 h 28	15.1	4.5	3.8	0.0	49.5
292	28-09-2018 12:29:51	12 h 29	15.3	4.4	3.8	0.0	48.8
293	28-09-2018 12:30:51	12 h 30	15.2	4.4	3.8	0.0	49.2
294	28-09-2018 12:31:51	12 h 31	15.2	4.4	3.7	0.0	49.5
295	28-09-2018 12:32:51	12 h 32	15.2	4.4	3.6	0.0	48.9
296	28-09-2018 12:33:51	12 h 33	15.1	4.4	3.7	0.0	49.5
297	28-09-2018 12:34:51	12 h 34	15.2	4.4	3.6	0.0	48.8
298	28-09-2018 12:35:51	12 h 35	15.1	4.4	3.5	0.0	49.0
299	28-09-2018 12:36:51	12 h 36	15.2	4.4	3.8	0.0	48.7
300	28-09-2018 12:37:51	12 h 37	15.2	4.4	3.7	0.0	48.7
301	28-09-2018 12:38:51	12 h 38	15.2	4.4	3.8	0.0	48.9
302	28-09-2018 12:39:51	12 h 39	15.3	4.4	3.8	0.0	48.7
303	28-09-2018 12:40:51	12 h 40	15.1	4.4	3.7	0.0	49.3
304	28-09-2018 12:41:51	12 h 41	15.2	4.3	3.6	0.0	49.1
305	28-09-2018 12:42:51	12 h 42	15.2	4.4	3.6	0.0	49.2
306	28-09-2018 12:43:51	12 h 43	15.2	4.4	3.7	0.0	49.1
307	28-09-2018 12:44:51	12 h 44	15.2	4.3	3.5	0.0	49.1
308	28-09-2018 12:45:51	12 h 45	15.3	4.3	3.7	0.0	48.7
309	28-09-2018 12:46:51	12 h 46	15.3	4.3	3.7	0.0	48.5
310	28-09-2018 12:47:51	12 h 47	15.2	4.3	3.6	0.0	49.1
311	28-09-2018 12:48:51	12 h 48	15.2	4.3	3.7	0.0	49.0
312	28-09-2018 12:49:51	12 h 49	15.3	4.3	3.7	0.0	48.7
313	28-09-2018 12:50:51	12 h 50	15.2	4.3	3.4	0.0	49.0
314	28-09-2018 12:51:51	12 h 51	15.3	4.3	3.7	0.0	48.2
315	28-09-2018 12:52:51	12 h 52	15.3	4.3	3.7	0.0	47.3
316	28-09-2018 12:53:51	12 h 53	15.3	4.3	3.5	0.0	47.9
317	28-09-2018 12:54:51	12 h 54	15.3	4.3	3.6	0.0	47.6
318	28-09-2018 12:55:51	12 h 55	15.2	4.3	3.6	0.0	47.9
319	28-09-2018 12:56:51	12 h 56	15.3	4.3	3.6	0.0	47.3
320	28-09-2018 12:57:51	12 h 57	15.3	4.3	3.5	0.0	47.8
321	28-09-2018 12:58:51	12 h 58	15.3	4.3	3.4	0.0	47.1
322	28-09-2018 12:59:51	12 h 59	15.3	4.3	3.4	0.0	47.4
323	28-09-2018 13:00:51	13 h 00	15.3	4.3	3.4	0.0	48.0
324	28-09-2018 13:01:51	13 h 01	15.3	4.3	3.4	0.0	47.7
325	28-09-2018 13:02:51	13 h 02	15.2	4.3	3.2	0.0	48.1
326	28-09-2018 13:03:51	13 h 03	15.3	4.3	3.5	0.0	47.4
327	28-09-2018 13:04:51	13 h 04	15.3	4.3	3.3	0.0	47.7
328	28-09-2018 13:05:51	13 h 05	15.3	4.3	3.4	0.0	47.3
329	28-09-2018 13:06:51	13 h 06	15.3	4.3	3.6	0.0	47.3
330	28-09-2018 13:07:51	13 h 07	15.3	4.3	3.4	0.0	47.9
331	28-09-2018 13:08:51	13 h 08	15.3	4.3	3.5	0.0	47.4
332	28-09-2018 13:09:51	13 h 09	15.8	4.0	4.4	0.0	42.8
333	28-09-2018 13:10:51	13 h 10	15.5	4.1	3.8	0.0	45.6
334	28-09-2018 13:11:51	13 h 11	15.4	4.2	3.1	0.0	47.3
335	28-09-2018 13:12:51	13 h 12	15.3	4.3	3.3	0.0	47.9
336	28-09-2018 13:13:51	13 h 13	15.2	4.3	3.4	0.0	47.5
337	28-09-2018 13:14:51	13 h 14	15.2	4.3	3.4	0.0	47.8
338	28-09-2018 13:15:51	13 h 15	15.3	4.3	3.1	0.0	47.5
339	28-09-2018 13:16:51	13 h 16	15.2	4.4	3.4	0.0	47.7
340	28-09-2018 13:17:51	13 h 17	15.2	4.4	3.1	0.0	47.8
341	28-09-2018 13:18:51	13 h 18	15.2	4.4	3.0	0.0	48.0

	A	B	C	E	G	L	N
6	Date/Heure	Type	O2 0-25 (%vs)	CO2 0-20 (%vs)	CO 0-1000 (ppmvs)	SO2 (ppmvs)	NOX (ppmvs)
342	28-09-2018 13:19:51	13 h 19	15.2	4.4	3.1	0.0	48.3
343	28-09-2018 13:20:51	13 h 20	15.3	4.4	3.3	0.0	47.4
344	28-09-2018 13:21:51	13 h 21	15.3	4.3	3.1	0.0	47.7
345	28-09-2018 13:22:51	13 h 22	15.3	4.3	3.4	0.0	46.9
346	28-09-2018 13:23:51	13 h 23	15.7	4.1	3.8	0.0	43.3
347	28-09-2018 13:24:51	13 h 24	15.3	4.3	3.2	0.0	47.2
348	28-09-2018 13:25:51	13 h 25	15.3	4.3	3.2	0.0	47.2
349	28-09-2018 13:26:51	13 h 26	15.3	4.3	3.4	0.0	47.8
350	28-09-2018 13:27:51	13 h 27	15.2	4.3	3.1	0.0	48.1
351	28-09-2018 13:28:51	13 h 28	15.3	4.3	3.3	0.0	48.1
352	28-09-2018 13:29:51	13 h 29	15.3	4.3	3.1	0.0	47.8
353	28-09-2018 13:30:51	13 h 30	15.4	4.3	3.3	0.0	46.8
354	28-09-2018 13:31:51	13 h 31	15.3	4.3	3.4	0.0	48.0
355	28-09-2018 13:32:51	13 h 32	15.5	4.2	3.5	0.0	45.8
356	28-09-2018 13:33:51	13 h 33	15.7	4.0	3.6	0.0	43.6
357	28-09-2018 13:34:51	13 h 34	15.7	4.0	3.4	0.0	43.2
358	28-09-2018 13:35:51	13 h 35	15.7	4.0	3.7	0.0	43.3
359	28-09-2018 13:36:51	13 h 36	15.7	4.0	3.7	0.0	43.5
360	28-09-2018 13:37:51	13 h 37	15.7	4.0	3.7	0.0	43.2
361	28-09-2018 13:38:51	13 h 38	15.7	4.0	3.5	0.0	43.2
362	28-09-2018 13:39:51	13 h 39	15.7	4.0	3.6	0.0	43.4
363	28-09-2018 13:40:51	13 h 40	15.7	4.0	3.7	0.0	43.7
364	28-09-2018 13:41:51	13 h 41	15.7	4.0	3.7	0.0	43.1
365	28-09-2018 13:42:51	13 h 42	15.7	4.0	3.6	0.0	42.8
366	28-09-2018 13:43:51	13 h 43	15.7	4.0	3.6	0.0	43.2
367	28-09-2018 13:44:51	13 h 44	15.7	4.0	3.6	0.0	43.3
368	28-09-2018 13:45:51	13 h 45	15.7	4.0	3.6	0.0	42.9
369	28-09-2018 13:46:51	13 h 46	15.7	4.0	3.7	0.0	42.8
370	28-09-2018 13:47:51	13 h 47	15.7	4.0	3.6	0.0	42.8
371	28-09-2018 13:48:51	13 h 48	15.7	4.0	3.6	0.0	42.8
372	28-09-2018 13:49:51	13 h 49	15.7	4.0	3.7	0.0	42.6
373	28-09-2018 13:50:51	13 h 50	15.7	4.0	4.1	0.0	42.2
374	28-09-2018 13:51:51	13 h 51	15.7	4.0	4.1	0.0	42.2
375	28-09-2018 13:52:51	13 h 52	15.8	4.0	3.9	0.0	41.9
376	28-09-2018 13:53:51	13 h 53	15.8	4.0	4.0	0.0	41.8
377	28-09-2018 13:54:51	13 h 54	15.7	4.0	3.9	0.0	42.3
378	28-09-2018 13:55:51	13 h 55	15.7	4.0	3.9	0.0	43.2
379	28-09-2018 13:56:51	13 h 56	15.7	4.0	3.9	0.0	43.0
380	28-09-2018 13:57:51	13 h 57	15.7	4.0	3.9	0.0	42.4
381	28-09-2018 13:58:51	13 h 58	15.7	4.0	3.8	0.0	42.7
382	28-09-2018 13:59:51	13 h 59	15.7	4.0	3.6	0.0	42.7
383	28-09-2018 14:00:51	14 h 00					
384	28-09-2018 14:01:51	14 h 01					
385	28-09-2018 14:02:51	14 h 02					
386	28-09-2018 14:03:51	14 h 03					
387	28-09-2018 14:04:51	14 h 04					
388	28-09-2018 14:05:51	14 h 05					
389	28-09-2018 14:06:51	14 h 06					
390	28-09-2018 14:07:51	14 h 07					
391	28-09-2018 14:08:51	14 h 08					
392	28-09-2018 14:09:51	14 h 09					
393	28-09-2018 14:10:51	14 h 10					
394	28-09-2018 14:11:51	14 h 11					
395	28-09-2018 14:12:51	14 h 12					
396	28-09-2018 14:13:51	14 h 13					
397	28-09-2018 14:14:51	14 h 14	15.3	4.3	2.9	0.0	43.9
398	28-09-2018 14:15:51	14 h 15	15.2	4.4	2.6	0.0	45.1
399	28-09-2018 14:16:51	14 h 16	15.2	4.4	3.0	0.0	45.1
400	28-09-2018 14:17:51	14 h 17	15.2	4.4	3.3	0.0	45.5
401	28-09-2018 14:18:51	14 h 18	15.1	4.4	2.9	0.0	46.1
402	28-09-2018 14:19:51	14 h 19	15.1	4.4	2.8	0.0	45.9
403	28-09-2018 14:20:51	14 h 20	15.2	4.4	3.3	0.0	45.0
404	28-09-2018 14:21:51	14 h 21	15.5	4.3	3.7	0.0	43.6
405	28-09-2018 14:22:51	14 h 22	15.3	4.3	3.4	0.0	44.6
406	28-09-2018 14:23:51	14 h 23	15.2	4.4	3.2	0.0	45.5
407	28-09-2018 14:24:51	14 h 24	15.1	4.4	2.9	0.0	46.1
408	28-09-2018 14:25:51	14 h 25	15.2	4.4	3.0	0.0	45.1

	A	B	C	E	G	L	N
6	Date/Heure	Type	O2 0-25 (%vs)	CO2 0-20 (%vs)	CO 0-1000 (ppmvs)	SO2 (ppmvs)	NOX (ppmvs)
409	29-09-2018 16:15:41	16 h 15	12.9	6.1	3.1	-2.7	70.9
410	29-09-2018 16:16:41	16 h 16	12.9	6.1	2.8	-2.9	71.0
411	29-09-2018 16:17:41	16 h 17	12.8	6.2	2.9	-2.8	71.1
412	29-09-2018 16:18:41	16 h 18	12.9	6.1	3.2	-2.8	70.3
413	29-09-2018 16:19:41	16 h 19	12.8	6.1	3.1	-2.8	70.9
414	29-09-2018 16:20:41	16 h 20	12.9	6.1	3.0	-2.8	69.6
415	29-09-2018 16:21:41	16 h 21	13.4	5.7	3.5	-2.6	66.3
416	29-09-2018 16:22:41	16 h 22	13.5	5.6	3.1	-2.4	66.4
417	29-09-2018 16:23:41	16 h 23	13.4	5.7	3.1	-2.4	69.6
418	29-09-2018 16:24:41	16 h 24	13.0	5.9	2.6	-2.5	75.1
419	29-09-2018 16:25:41	16 h 25	12.8	6.1	2.6	-2.3	75.4
420	29-09-2018 16:26:41	16 h 26	12.8	6.1	2.7	-2.1	73.8
421	29-09-2018 16:27:41	16 h 27	12.9	6.1	2.7	-2.1	73.2
422	29-09-2018 16:28:41	16 h 28	12.9	6.0	2.6	-2.1	71.6
423	29-09-2018 16:29:41	16 h 29	13.0	6.0	2.8	-1.8	70.2
424	29-09-2018 16:30:41	16 h 30	12.9	6.1	2.8	-1.8	71.3
425	29-09-2018 16:31:41	16 h 31	13.0	6.0	2.9	-1.5	70.1
426	29-09-2018 16:32:41	16 h 32	13.0	6.0	2.9	-1.6	69.8
427	29-09-2018 16:33:41	16 h 33	12.9	6.1	3.0	-1.4	70.8
428	29-09-2018 16:34:41	16 h 34	13.0	6.0	2.7	-1.3	69.3
429	29-09-2018 16:35:41	16 h 35	13.0	6.0	2.6	-1.3	69.9
430	29-09-2018 16:36:41	16 h 36	13.0	6.0	2.7	-1.3	69.6
431	29-09-2018 16:37:41	16 h 37	13.0	6.0	2.6	-1.1	70.3
432	29-09-2018 16:38:41	16 h 38	13.0	6.0	2.7	-1.1	69.4
433	29-09-2018 16:39:41	16 h 39	13.1	5.9	2.8	-1.1	68.7
434	29-09-2018 16:40:41	16 h 40	13.7	5.6	3.0	-1.0	62.4
435	29-09-2018 16:41:41	16 h 41	13.8	5.5	3.3	-1.0	61.1
436	29-09-2018 16:42:41	16 h 42	13.7	5.5	3.2	-1.0	62.0
437	29-09-2018 16:43:41	16 h 43	13.7	5.5	3.3	-1.1	62.0
438	29-09-2018 16:44:41	16 h 44	13.8	5.4	3.4	-0.9	61.3
439	29-09-2018 16:45:41	16 h 45	13.6	5.6	2.9	-0.8	63.1
440	29-09-2018 16:46:41	16 h 46	13.7	5.5	2.9	-0.6	63.0
441	29-09-2018 16:47:41	16 h 47	13.8	5.5	3.2	-0.7	62.3
442	29-09-2018 16:48:41	16 h 48	13.7	5.5	2.8	-0.6	62.7
443	29-09-2018 16:49:41	16 h 49	13.7	5.5	2.8	-0.5	62.5
444	29-09-2018 16:50:41	16 h 50	13.7	5.5	2.9	-0.3	62.9
445	29-09-2018 16:51:41	16 h 51	13.7	5.5	2.9	-0.2	63.4
446	29-09-2018 16:52:41	16 h 52	13.7	5.5	2.8	-0.2	63.6
447	29-09-2018 16:53:41	16 h 53	13.7	5.5	3.1	0.0	63.7
448	29-09-2018 16:54:41	16 h 54	13.7	5.5	3.1	0.2	63.5
449	29-09-2018 16:55:41	16 h 55	13.7	5.5	3.1	0.3	63.5
450	29-09-2018 16:56:41	16 h 56	13.7	5.5	3.0	0.5	63.7
451	29-09-2018 16:57:41	16 h 57	13.7	5.5	3.1	0.5	64.3
452	29-09-2018 16:58:41	16 h 58	13.7	5.5	2.9	0.7	63.7
453	29-09-2018 16:59:41	16 h 59	13.7	5.5	2.6	0.8	63.9
454	29-09-2018 17:00:41	17 h 00	13.7	5.5	3.1	0.8	64.2
455	29-09-2018 17:01:41	17 h 01	13.7	5.5	2.8	0.9	64.4
456	29-09-2018 17:02:41	17 h 02	13.7	5.5	2.8	1.1	64.4
457	29-09-2018 17:03:41	17 h 03	13.7	5.5	2.8	1.2	64.4
458	29-09-2018 17:04:41	17 h 04	13.7	5.5	2.8	1.3	64.0
459	29-09-2018 17:05:41	17 h 05	13.7	5.5	3.0	1.4	64.3
460	29-09-2018 17:06:41	17 h 06	13.7	5.5	2.8	1.6	64.5
461	29-09-2018 17:07:41	17 h 07	13.7	5.5	3.0	1.4	64.6
462	29-09-2018 17:08:41	17 h 08	13.7	5.5	3.0	1.5	64.5
463	29-09-2018 17:09:41	17 h 09	13.7	5.5	3.0	1.5	64.4
464	29-09-2018 17:10:41	17 h 10	13.7	5.5	3.0	1.4	63.8
465	29-09-2018 17:11:41	17 h 11	13.7	5.5	2.8	1.6	63.8
466	29-09-2018 17:12:41	17 h 12	13.9	5.4	3.2	1.7	60.9
467	29-09-2018 17:13:41	17 h 13	14.1	5.2	3.3	1.6	59.2
468	29-09-2018 17:14:41	17 h 14	14.2	5.2	3.3	1.6	58.3
469	29-09-2018 17:15:41	17 h 15	14.2	5.2	3.1	1.7	58.3
470	29-09-2018 17:16:41	17 h 16	14.2	5.2	3.4	1.9	57.6
471	29-09-2018 17:17:41	17 h 17	14.2	5.2	3.4	2.0	57.8
472	29-09-2018 17:18:41	17 h 18	14.2	5.1	3.3	2.1	57.6
473	29-09-2018 17:19:41	17 h 19	14.2	5.2	3.4	2.3	58.4
474	29-09-2018 17:20:41	17 h 20	14.2	5.2	3.3	2.2	58.3
475	29-09-2018 17:21:41	17 h 21	14.1	5.2	3.3	2.2	58.7

	A	B	C	E	G	L	N
6	Date/Heure	Type	O2 0-25 (%vs)	CO2 0-20 (%vs)	CO 0-1000 (ppmvs)	SO2 (ppmvs)	NOX (ppmvs)
476	29-09-2018 17:22:41	17 h 22	14.1	5.2	3.4	2.6	58.3
477	29-09-2018 17:23:41	17 h 23	14.4	5.0	3.5	2.6	55.8
478	29-09-2018 17:24:41	17 h 24	14.6	4.9	3.5	2.8	57.3
479	29-09-2018 17:25:41	17 h 25	14.4	5.0	2.9	3.0	59.1
480	29-09-2018 17:26:41	17 h 26	14.3	5.1	2.8	3.1	58.9
481	29-09-2018 17:27:41	17 h 27	14.2	5.1	3.0	3.4	59.0
482	29-09-2018 17:28:41	17 h 28	14.2	5.1	2.8	3.6	58.1
483	29-09-2018 17:29:41	17 h 29	14.2	5.1	3.0	3.4	58.8
484	29-09-2018 17:30:41	17 h 30	14.2	5.2	2.9	3.4	59.0
485	29-09-2018 17:31:41	17 h 31	14.1	5.1	2.9	3.3	59.3
486	29-09-2018 17:32:41	17 h 32	14.1	5.2	2.8	3.3	60.0
487	29-09-2018 17:33:41	17 h 33	14.2	5.1	2.9	3.1	58.7
488	29-09-2018 17:34:41	17 h 34	14.1	5.1	2.9	2.8	58.7
489	29-09-2018 17:35:41	17 h 35	14.1	5.2	2.9	2.4	59.1
490	29-09-2018 17:36:41	17 h 36	14.1	5.2	2.9	2.1	59.0
491	29-09-2018 17:37:41	17 h 37	14.1	5.2	3.0	1.9	58.4
492	29-09-2018 17:38:41	17 h 38	14.1	5.2	3.0	1.7	58.5
493	29-09-2018 17:39:41	17 h 39	14.1	5.2	3.0	1.4	58.4
494	29-09-2018 17:40:41	17 h 40	14.1	5.2	3.0	1.1	58.3
495	29-09-2018 17:41:41	17 h 41	14.1	5.2	3.3	1.1	58.8
496	29-09-2018 17:42:41	17 h 42	14.1	5.2	3.1	0.7	58.7
497	29-09-2018 17:43:41	17 h 43	14.1	5.2	3.2	0.4	58.4
498	29-09-2018 17:44:41	17 h 44	14.1	5.2	2.9	0.3	58.7
499	29-09-2018 17:45:41	17 h 45	14.1	5.2	3.2	0.1	59.5
500	29-09-2018 17:46:41	17 h 46	14.1	5.2	2.9	-0.1	59.8
501	29-09-2018 17:47:41	17 h 47	14.1	5.2	2.9	-0.3	60.0
502	29-09-2018 17:48:41	17 h 48	14.1	5.2	2.8	-0.3	60.0
503	29-09-2018 17:49:41	17 h 49	14.1	5.2	3.1	-0.4	59.5
504	29-09-2018 17:50:41	17 h 50	14.1	5.2	3.2	-0.5	58.2
505	29-09-2018 17:51:41	17 h 51	14.1	5.2	2.9	-0.5	58.2
506	29-09-2018 17:52:41	17 h 52	14.1	5.2	3.1	-0.6	58.1
507	29-09-2018 17:53:41	17 h 53	14.1	5.2	3.2	-0.7	58.1
508	29-09-2018 17:54:41	17 h 54	14.1	5.2	2.9	-0.7	58.0
509	29-09-2018 17:55:41	17 h 55	14.1	5.2	2.8	-0.6	57.9
510	29-09-2018 17:56:41	17 h 56	14.0	5.3	3.0	-0.7	58.8
511	29-09-2018 17:57:41	17 h 57	14.0	5.3	3.0	-0.8	58.3
512	29-09-2018 17:58:41	17 h 58	14.0	5.2	2.8	-0.8	58.4
513	29-09-2018 17:59:41	17 h 59	14.1	5.2	3.0	-0.7	58.0
514	29-09-2018 18:00:41	18 h 00	14.1	5.2	2.7	-0.8	57.7
515	29-09-2018 18:01:41	18 h 01	14.0	5.3	3.1	-0.7	58.8
516	29-09-2018 18:02:41	18 h 02	14.1	5.2	2.8	-0.7	57.9
517	29-09-2018 18:03:41	18 h 03	14.1	5.2	2.9	-0.8	58.1
518	29-09-2018 18:04:41	18 h 04	14.1	5.2	3.0	-0.6	57.7
519	29-09-2018 18:05:41	18 h 05	14.0	5.3	3.0	-0.6	58.4
520	29-09-2018 18:06:41	18 h 06	14.1	5.2	2.9	-0.6	58.4
521	29-09-2018 18:07:41	18 h 07	14.1	5.3	2.6	-0.7	58.0
522	29-09-2018 18:08:41	18 h 08	14.0	5.3	2.6	-0.8	58.5
523	29-09-2018 18:09:41	18 h 09	14.1	5.2	3.0	-0.8	57.6
524	29-09-2018 18:10:41	18 h 10	14.1	5.2	2.9	-0.6	57.5
525	29-09-2018 18:11:41	18 h 11	14.1	5.2	3.0	-0.5	56.8
526	29-09-2018 18:12:41	18 h 12	13.0	5.9	1.8	-0.4	69.4
527	29-09-2018 18:13:41	18 h 13	12.8	6.2	1.7	-0.3	71.8
528	29-09-2018 18:14:41	18 h 14	12.8	6.2	1.5	-0.3	71.8
529	29-09-2018 18:15:41	18 h 15	12.9	6.1	1.7	-0.3	70.5
530	29-09-2018 18:16:41	18 h 16	12.9	6.2	1.7	-0.1	72.2
531	29-09-2018 18:17:41	18 h 17	12.9	6.1	1.7	0.2	71.7
532	29-09-2018 18:18:41	18 h 18	12.9	6.1	1.5	0.1	72.6
533	29-09-2018 18:19:41	18 h 19	12.9	6.1	1.6	0.2	72.6
534	29-09-2018 18:20:41	18 h 20	12.9	6.1	1.8	0.4	71.7
535	29-09-2018 18:21:41	18 h 21	13.0	6.1	1.9	0.5	70.3
536	29-09-2018 18:22:41	18 h 22	13.0	6.1	1.6	0.7	70.9
537	29-09-2018 18:23:41	18 h 23	13.0	6.1	1.7	0.7	71.0
538	29-09-2018 18:24:41	18 h 24	13.0	6.1	1.7	0.6	71.6
539	29-09-2018 18:25:41	18 h 25	13.0	6.1	1.7	0.7	70.9
540	29-09-2018 18:26:41	18 h 26	12.9	6.1	1.7	0.9	72.6
541	29-09-2018 18:27:41	18 h 27	13.0	6.1	1.7	0.7	71.8
542	29-09-2018 18:28:41	18 h 28	13.0	6.1	1.8	0.8	72.1

	A	B	C	E	G	L	N
6	Date/Heure	Type	O2 0-25 (%vs)	CO2 0-20 (%vs)	CO 0-1000 (ppmvs)	SO2 (ppmvs)	NOX (ppmvs)
543	29-09-2018 18:29:41	18 h 29	13.0	6.1	1.6	0.8	72.6
544	29-09-2018 18:30:41	18 h 30	12.9	6.1	1.7	0.8	72.3
545	29-09-2018 18:31:41	18 h 31	13.0	6.1	1.8	0.7	72.3
546	29-09-2018 18:32:41	18 h 32	13.0	6.1	1.5	0.8	72.2
547	29-09-2018 18:33:41	18 h 33	12.9	6.1	1.4	0.9	72.4
548	29-09-2018 18:34:41	18 h 34	12.9	6.1	1.7	0.8	71.8
549	29-09-2018 18:35:41	18 h 35	12.9	6.1	1.6	0.8	71.8
550	29-09-2018 18:36:41	18 h 36	13.0	6.1	1.5	0.7	71.8
551	29-09-2018 18:37:41	18 h 37	12.9	6.1	1.7	0.7	72.3
552	29-09-2018 18:38:41	18 h 38	13.0	6.1	1.6	0.8	72.3
553	29-09-2018 18:39:41	18 h 39	13.0	6.1	1.6	0.5	71.9
554	29-09-2018 18:40:41	18 h 40	12.9	6.1	1.7	0.5	72.5
555	29-09-2018 18:41:41	18 h 41	13.0	6.1	1.7	0.5	72.1
556	29-09-2018 18:42:41	18 h 42	13.0	6.1	1.4	0.4	72.4
557	29-09-2018 18:43:41	18 h 43	12.7	6.2	1.3	0.3	75.2
558	29-09-2018 18:44:41	18 h 44	12.8	6.2	1.4	0.4	74.6
559	29-09-2018 18:45:41	18 h 45	12.7	6.3	1.4	0.3	75.7
560	29-09-2018 18:46:41	18 h 46	12.6	6.3	1.3	0.2	76.4
561	29-09-2018 18:47:41	18 h 47	13.3	5.9	1.4	0.1	76.8
562	29-09-2018 18:48:41	18 h 48	13.4	5.8	1.8	-0.1	76.9
563	29-09-2018 18:49:41	18 h 49	13.5	5.7	1.8	0.0	76.2
564	29-09-2018 18:50:41	18 h 50	13.5	5.7	1.9	-0.2	76.2
565	29-09-2018 18:51:41	18 h 51	13.6	5.6	1.9	-0.4	74.8
566	29-09-2018 18:52:41	18 h 52	13.7	5.6	1.9	-0.3	74.4
567	29-09-2018 18:53:41	18 h 53	13.7	5.6	2.0	-0.5	73.5
568	29-09-2018 18:54:41	18 h 54	13.7	5.6	2.1	-0.4	73.8
569	29-09-2018 18:55:41	18 h 55	13.7	5.6	2.0	-0.7	73.6
570	29-09-2018 18:56:41	18 h 56	13.7	5.6	2.0	-0.5	72.8
571	29-09-2018 18:57:41	18 h 57	13.7	5.6	2.1	-0.8	73.6
572	29-09-2018 18:58:41	18 h 58	13.7	5.6	1.9	-0.7	73.6
573	29-09-2018 18:59:41	18 h 59	13.7	5.6	1.9	-0.8	73.5
574	29-09-2018 19:00:41	19 h 00	13.7	5.6	1.9	-0.8	73.5
575	29-09-2018 19:01:41	19 h 01	13.7	5.6	2.0	-1.0	73.7
576	29-09-2018 19:02:41	19 h 02	13.6	5.6	1.8	-1.1	74.5
577	29-09-2018 19:03:41	19 h 03	13.6	5.7	2.1	-0.8	74.2
578	29-09-2018 19:04:41	19 h 04	13.5	5.7	1.9	-0.9	75.1
579	29-09-2018 19:05:41	19 h 05	13.6	5.6	1.9	-0.9	74.0

APPENDIX 3

CALIBRATION CERTIFICATES



FEUILLE D'ÉTALONNAGE DES MODULES 2018

MODULE	GAMMA (K _c)	ORIFICE (K _o)	$\Delta H@$ moy	DATE ÉTALONNAGE	COMPENSÉ 60 °F
		K _o			
1	1.009	0.999	0.970	13-mars-18	OUI
2	0.999	0.969	1.001	15-mars-18	OUI
3	0.990	0.950	1.188	05-déc-17	NON
4	1.001	0.946	1.040	15-août-18	NON
5	0.996	0.997	0.923	20-mars-18	NON
6	1.004	0.991	1.027	06-sept-18	OUI
7	0.981	0.994	0.928	27-oct-17	NON
8	1.013	1.037	0.958	06-juil-18	OUI
9	0.998	1.012	0.899	14-sept-17	NON
10	1.011	0.993	1.005	20-mars-18	OUI
11	0.989	0.974	1.054	06-sept-18	OUI
12	0.999	0.911	1.208	24-mai-18	NON
13	1.019	0.974	0.921	19-mars-18	NON
14	1.000	1.004	0.975	21-mars-18	OUI
15	1.000	0.982	1.021	13-nov-17	NON
16	1.017	1.027	0.872	15-sept-17	NON
17	0.987	1.050	0.833	15-sept-17	NON
18	1.002	1.013	0.896	07-sept-18	NON
19	0.997	1.000	1.005	06-sept-18	OUI
20	1.005	0.970	1.072	07-sept-18	OUI
21	0.989	1.011	0.984	13-nov-17	OUI
22	0.993	0.996	0.995	04-déc-17	NON
23	1.013	1.029	0.875	15-sept-17	NON
24	1.007	0.995	1.160	04-déc-17	NON
25	0.999	0.733	2.529	24-mai-18	NON

MODULE	GAMMA (K _c)	DATE ÉTALONNAGE
F-1	0.973	27-oct-17
F-2	0.977	05-juil-18
F-3	1.006	13-nov-17
F-4	1.009	17-juil-17
F-5	1.001	26-oct-17
F-6	1.013	22-mars-18

Version: 4
Date: 07-09-2018

FEUILLE D'ÉTALONNAGE DES MODULES 2018

MODULE	GAMMA (K _c)	ORIFICE (K _o)	$\Delta H@$ moy	DATE ÉTALONNAGE	COMPENSÉ 60 °F
		K _o			
1	1.009	0.999	0.970	13-mars-18	OUI
2	0.999	0.969	1.001	15-mars-18	OUI
3	0.990	0.950	1.188	05-déc-17	NON
4	1.001	0.946	1.040	15-août-18	NON
5	0.996	0.997	0.923	20-mars-18	NON
6	1.004	0.991	1.027	06-sept-18	OUI
7	0.981	0.994	0.928	27-oct-17	NON
8	1.013	1.037	0.958	06-juil-18	OUI
9	0.998	1.012	0.899	14-sept-17	NON
10	1.011	0.993	1.005	20-mars-18	OUI
11	0.989	0.974	1.054	06-sept-18	OUI
12	0.999	0.911	1.208	24-mai-18	NON
13	1.019	0.974	0.921	19-mars-18	NON
14	1.000	1.004	0.975	21-mars-18	OUI
15	1.000	0.982	1.021	13-nov-17	NON
16	1.017	1.027	0.872	15-sept-17	NON
17	0.987	1.050	0.833	15-sept-17	NON
18	1.002	1.013	0.896	07-sept-18	NON
19	0.997	1.000	1.005	06-sept-18	OUI
20	1.005	0.970	1.072	07-sept-18	OUI
21	0.989	1.011	0.984	13-nov-17	OUI
22	0.993	0.996	0.995	04-déc-17	NON
23	1.013	1.029	0.875	15-sept-17	NON
24	1.007	0.995	1.160	04-déc-17	NON
25	0.999	0.733	2.529	24-mai-18	NON

MODULE	GAMMA (K _c)	DATE ÉTALONNAGE
F-1	0.973	27-oct-17
F-2	0.977	05-juil-18
F-3	1.006	13-nov-17
F-4	1.009	17-juil-17
F-5	1.001	26-oct-17
F-6	1.013	22-mars-18

Version: 4
Date: 07-09-2018

#	Année	MDF	LV	#	1	2	3	4	5	6	7	8	9	10	11	12	Moy. V	Thermocouple P-T-B (Validation)	Endroit
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
03-05	2018	O	O	Buse A-312-1													---		
				Ct 0.797													0.797	OK	LE-02-W
				E. Rel 0.6													0.6		
03-06	2018	N	Q	Buse 3Q-371 3Q-431 3Q-503 3Q-682													---		
				Ct 0.778 0.779 0.781 0.773													0.778	OK	Atelier
				E. Rel 0.6 0.4 0.6 0.7													0.6		
03-07	2018	O	O	Buse A-125-1 A-180-1 A-218-5 A-250-7 A-280-5 A-312-3 A-343-2 A-375-2 A-406-3 A-437-1 A-500-1 A-562-1													---		
				Ct 0.779 0.777 0.792 0.790 0.777 0.778 0.782 0.770 0.782 0.781 0.777 0.771 0.780													0.780	OK	LE-02-W
				E. Rel 1.0 0.9 0.8 0.8 1.1 1.1 1.0 1.4 1.3 1.1 1.3 1.4 1.1															
03-09	2018	O	O	Buse A-312-3													---		
				Ct 0.827													0.827	OK	LE-14-B
				E. Rel 0.4													0.4		
03-10	2018	O	O	Buse A-312-3													---		
				Ct 0.778													0.778	OK	LE-11-V
				E. Rel 1.3													1.3		
03-11	2018	O	O	Buse A-125-1 A-180-1 A-218-5 A-250-7 A-280-5 A-312-2 A-343-2 A-375-2 A-406-3 A-437-1 A-500-1 A-562-1													---		
				Ct 0.792 0.795 0.794 0.793 0.796 0.796 0.795 0.798 0.796 0.793 0.793 0.789 0.794													0.794	OK	LE-05-O
				E. Rel 1.1 0.8 1.0 1.1 1.1 1.0 1.0 0.6 1.0 1.2 0.9 1.1 1.0													1.0		
03-12	2018	O	O	Buse A-312-3													---		
				Ct 0.791													0.791	OK	LE-14-B
				E. Rel 1.1													1.1		
03-13	2018	O	O	Buse A-312-3													---		
				Ct 0.772													0.772	OK	LE-11-V
				E. Rel 0.9													0.9		
03-14	2018	O	O	Buse A-125-1 A-180-1 A-218-5 A-250-7 A-280-5 A-312-3 A-343-2 A-375-2 A-406-3 A-437-1 A-500-1 A-562-1													---		
				Ct 0.801 0.799 0.813 0.811 0.810 0.806 0.808 0.796 0.805 0.802 0.792 0.799 0.804													0.804	OK	LE-02-W
				E. Rel 1.2 0.8 1.0 0.7 0.8 1.0 1.1 1.1 1.0 1.0 1.0 1.0 1.0													1.0		
03-15	2018	O	O	Buse A-125-1 A-180-1 A-218-5 A-250-7 A-280-5 A-312-2 A-343-2 A-375-2 A-406-3 A-437-1 A-500-1 A-562-1													---		
				Ct 0.808 0.805 0.816 0.811 0.808 0.804 0.800 0.798 0.802 0.800 0.792 0.784 0.802													0.802	OK	LE-02-W
				E. Rel 1.2 1.2 1.2 1.0 1.2 1.2 1.3 1.2 1.1 1.3 1.3 1.0 1.2													1.2		
03-16	2018	O	O	Buse A-125-1 A-180-1 A-218-5 A-250-7 A-280-5 A-312-3 A-343-2 A-375-2 A-406-3 A-437-1 A-500-1 A-562-1													---		
				Ct 0.790 0.790 0.794 0.796 0.797 0.794 0.794 0.791 0.800 0.802 0.796 0.793 0.795													0.795	OK	LE-02-W
				E. Rel 0.7 1.1 1.3 1.1 1.2 1.3 1.1 1.2 1.4 1.5 1.1 1.1 1.2															
03-18	2018	O	O	Buse A-312-3													---		
				Ct 0.822													0.822	OK	LE-08-Br
				E. Rel 1.0													1.0		
03-19	2018	O	V	Buse A-125-1 A-180-1 A-218-5 A-250-7 A-280-5 A-312-3 A-343-2 A-375-2 A-406-3 A-437-1 A-500-1 A-562-1													---		
				Ct 0.765 0.779 0.780 0.772 0.787 0.767 0.774 0.781 0.779 0.781 0.770 0.761 0.775													0.775	OK	Atelier Qc
				E. Rel 1.0 0.4 1.0 0.7 0.6 0.0 0.0 0.0 0.0 0.9 1.0 1.0 0.6													0.6		
03-20	2018	O	V	Buse A-125-1 A-180-1 A-218-5 A-250-7 A-280-5 A-312-3 A-343-2 A-437-1 A-406-3 A-437-1 A-500-1 A-562-1													---		
				Ct 0.769 0.779 0.787 0.791 0.795 0.776 0.782 0.788 0.791 0.796 0.785 0.788 0.786													0.786	OK	Atelier Qc
				E. Rel 1.3 0.8 1.0 1.1 1.3 1.0 1.1 1.1 1.0 1.1 1.0 1.0 1.1													1.1		
03-21	2018	O	O	Buse A-312-3													---		
				Ct 0.805													0.805	OK	LE-08-Br
				E. Rel 0.4													0.4		
03-22	2018	O	N	Buse A-312-3													---		
				Ct 0.785													0.785	OK	LE-09-G
				E. Rel 1.1													1.1		
03-23	2018	O	O	Buse A-312-3													---		
				Ct 0.785													0.785	OK	LE-09-G
				E. Rel 0.0													0.0		

Effectué par: JM / DR / JFG / SA

Date: Février 2018

Endroit de la calibration: Université Laval

Vérifié par: Eric Trépanier

Signature:

Date: 2 mars 2018

#	Année	MDF	LV	#	1	2	3	4	5	6	7	8	9	10	11	12	Moy. V	Thermocouple	P-T-B	Endroit
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	(Validation)	---	---
05-03	2018	N	O	Buse A-312-3	Ct 0.769												0.769	OK	OK	LE-09-G
				E. Rel 1.5													1.5			
05-05	2018	O	O	Buse A-312-3	Ct 0.800												0.800	OK	OK	LE-14-B
				E. Rel 1.0													1.0			
05-07	2018	N	Q	Buse 5Q-374 5Q-434 5Q-501 5Q-681	Ct 0.783 0.786 0.774 0.792												0.784	OK	OK	Atelier
				E. Rel 1.3 1.3 1.2 1.5													1.3			
05-08	2018	O	O	Buse A-125-1 A-180-1 A-218-5 A-250-7 A-280-5 A-312-3 A-343-2 A-375-2 A-406-3 A-437-1 A-500-1 A-562-1	Ct 0.786 0.786 0.783 0.780 0.783 0.779 0.779 0.781 0.809 0.804 0.798 0.802 0.789												0.789	OK	OK	LE-05-O
				E. Rel 0.4 0.8 0.8 1.3 0.9 1.2 1.3 0.8 1.4 1.2 1.3 1.2 1.1													1.1			
05-09	2018	O	O	Buse A-312-3	Ct 0.796												0.796	OK	OK	LE-14-B
				E. Rel 1.1													1.1			
05-10	2018	O	O	Buse A-125-1 A-180-1 A-218-5 A-250-7 A-280-5 A-312-3 A-343-2 A-375-2 A-406-3 A-437-1 A-500-1 A-562-1	Ct 0.792 0.792 0.795 0.794 0.796 0.791 0.793 0.792 0.795 0.798 0.790 0.794 0.794												0.794	OK	OK	LE-05-O
				E. Rel 0.7 0.7 0.8 0.4 0.9 0.6 0.7 0.6 0.8 0.0 0.6 0.4 0.6													0.6			
05-11	2018	O	O	Buse A-125-1 A-180-1 A-218-5 A-250-7 A-280-5 A-312-3 A-343-2 A-375-2 A-406-3 A-437-1 A-500-1 A-562-1	Ct 0.803 0.798 0.805 0.805 0.802 0.800 0.806 0.801 0.807 0.805 0.803 0.802 0.803												0.803	OK	OK	LE-02-W
				E. Rel 0.6 0.9 1.0 1.0 1.0 1.0 0.8 1.2 1.0 1.0 1.0 1.0 1.0													1.0			
05-12	2018	O	O	Buse A-312-3	Ct 0.783												0.783	OK	OK	LE-15-B
				E. Rel 1.0													1.0			
05-13	2018	O	O	Buse A-312-3	Ct 0.808												0.808	OK	OK	LE-11-V
				E. Rel 0.9													0.9			
05-14	2018	O	O	Buse A-125-1 A-180-1 A-218-5 A-250-7 A-280-5 A-312-3 A-343-2 A-375-2 A-406-3 A-437-1 A-500-1 A-562-1	Ct 0.828 0.824 0.830 0.830 0.830 0.825 0.813 0.816 0.839 0.836 0.832 0.826 0.827												0.827	OK	OK	LE-02-W
				E. Rel 0.7 0.0 0.4 0.0 0.4 0.9 1.0 1.5 1.4 0.8 0.8 0.8 0.7													0.7			
05-15	2018	O	O	Buse A-125-1 A-180-1 A-218-5 A-250-7 A-280-5 A-312-3 A-343-2 A-375-2 A-406-3 A-437-1 A-500-1 A-562-1	Ct 0.774 0.778 0.785 0.787 0.783 0.783 0.782 0.783 0.787 0.791 0.777 0.775 0.782												0.782	OK	OK	LE-02-W
				E. Rel 1.5 1.3 1.0 1.0 1.1 0.7 0.7 0.9 0.7 0.4 0.7 0.9													0.9			
05-16	2018	O	O	Buse A-125-1 A-180-1 A-218-5 A-250-7 A-280-5 A-312-3 A-343-2 A-375-2 A-406-3 A-437-1 A-500-1 A-562-1	Ct 0.823 0.819 0.823 0.824 0.818 0.820 0.823 0.820 0.823 0.821 0.816 0.817 0.821												0.821	OK	OK	LE-02-W
				E. Rel 0.8 0.9 0.7 0.7 0.0 0.4 0.7 0.9 0.7 0.0 0.0 0.0 0.5													0.5			
05-18	2018	O	O	Buse A-312-3	Ct 0.767												0.767	OK	OK	LE-08-Br
				E. Rel 0.7													0.7			
05-19	2018	O	O	Buse A-312-3	Ct 0.830												0.830	OK	OK	LE-08-Br
				E. Rel 0.7													0.7			
05-20	2018	O	O	Buse A-312-3	Ct 0.777												0.777	OK	OK	LE-08-Br
				E. Rel 1.0													1.0			
05-21	2018	O	V	Buse A-125-1 A-180-1 A-218-5 A-250-7 A-280-5 A-312-3 A-343-2 A-375-2 A-406-3 A-437-1 A-500-1 A-562-1	Ct 0.812 0.815 0.812 0.808 0.820 0.811 0.820 0.813 0.815 0.817 0.815 0.809 0.814												0.814	OK	OK	Atelier Qc
				E. Rel 0.4 0.4 1.0 1.0 0.4 0.0 0.7 0.9 1.0 1.0 1.0 1.0													0.7			
05-22	2018	O	O	Buse A-312-3	Ct 0.786												0.786	OK	OK	LE-09-G
				E. Rel 0.7													0.7			

Effectué par: JM / DR / JFG / SA

Date: Février 2018

Endroit de la calibration: Université Laval

Vérifié par: Eric Trépanier

Signature:



Date: 2 mars 2018

APPENDIX 4

LABORATORY ANALYSIS REPORT



NOM DU CLIENT: CONSULAIR GASTON BOULANGER INC
2022 LAVOISIER LOCAL 125
QUEBEC, QC G1N4L5
(418) 650-5960

À L'ATTENTION DE: Eric Trépanier

N° DE PROJET: Agnico Eagle/5528

N° BON DE TRAVAIL: 18M395832

HAUTE RÉOLUTION VÉRIFIÉ PAR: Anastasia Kazakova, chimiste

DATE DU RAPPORT: 2018-11-01

VERSION*: 1

NOMBRE DE PAGES: 7

Si vous désirez de l'information concernant cette analyse, S.V.P. contactez votre chargé de projets au (514) 337-1000.

*NOTES

Nous disposerons des échantillons dans les 30 jours suivants les analyses. S.V.P. Contactez le laboratoire si vous désirez avoir un délai d'entreposage.



AGAT Laboratoires

Certificat d'analyse

N° BON DE TRAVAIL: 18M395832

N° DE PROJET: Agnico Eagle/5528

9770 ROUTE TRANSCANADIENNE
ST. LAURENT, QUEBEC
CANADA H4S 1V9
TEL (514)337-1000
FAX (514)333-3046
<http://www.agatlabs.com>

NOM DU CLIENT: CONSULAIR GASTON BOULANGER INC

PRÉLEVÉ PAR:

À L'ATTENTION DE: Eric Trépanier

LIEU DE PRÉLÈVEMENT:

Dioxines et furanes - Air (train d'échantillonnage - OMS 1998)

DATE DE RÉCEPTION: 2018-10-11

DATE DU RAPPORT: 2018-11-01

IDENTIFICATION DE L'ÉCHANTILLON:				501 à 506 - Inc.		507 à 512-Inc.-2		513 à 518-Inc.-3		519 à 524-Inc.	
MATRICE:				-1		Air		Air		-BL	
DATE D'ÉCHANTILLONNAGE:				2018-09-22		2018-09-22		2018-09-22		2018-09-22	
Paramètre	Unités	C / N	LDR	9616643	LDR	9616650	LDR	9616651	LDR	9616652	
2,3,7,8-TCDD (pg total)	pg		1	<1	2	5	7	<7	0.8	<0.8	
1,2,3,7,8 PeCDD (pg total)	pg		3	<3	9	47	10	23	2	<2	
1,2,3,4,7,8 HxCDD (pg total)	pg		3	<3	7	53	10	28	2	<2	
1,2,3,6,7,8 HxCDD (pg total)	pg		3	3	6	71	10	63	2	<2	
1,2,3,7,8,9 HxCDD (pg total)	pg		3	<3	7	81	10	65	2	<2	
1,2,3,4,6,7,8 HpCDD (pg total)	pg		6	17	10	316	10	307	5	<5	
OCDD (pg total)	pg		20	33	10	160	20	300	20	<20	
2,3,7,8 TCDF (pg total)	pg		4	15	6	48	9	216	2	<2	
1,2,3,7,8 PeCDF (pg total)	pg		8	<8	9	21	20	62	2	<2	
2,3,4,7,8-PeCDF (pg total)	pg		6	9	7	43	10	165	2	<2	
1,2,3,4,7,8 HxCDF (pg total)	pg		4	13	10	62	10	326	2	<2	
1,2,3,6,7,8 HxCDF (pg total)	pg		4	9	10	25	10	120	2	<2	
2,3,4,6,7,8-HxCDF (pg total)	pg		4	8	10	50	10	273	2	<2	
1,2,3,7,8,9 HxCDF (pg total)	pg		6	<6	20	<20	20	30	3	<3	
1,2,3,4,6,7,8 HpCDF (pg total)	pg		3	16	5	64	20	474	2	<2	
1,2,3,4,7,8,9 HpCDF (pg total)	pg		6	<6	8	8	20	100	3	<3	
OCDF (pg total)	pg		9	20	7	17	30	227	7	<7	
Somation des Tétrachlorodibenzodioxines	pg		1	9	2	159	7	214	0.8	3.3	
Somation des Pentachlorodibenzodioxines	pg		3	11	9	446	10	406	2	8	
Somation des Hexachlorodibenzodioxines	pg		3	25	7	900	10	718	2	5	
Somation des Heptachlorodibenzodioxines	pg		6	20	10	334	10	315	5	<5	
Somation des PCDDs	pg		20	99	10	2000	20	1950	20	<20	
Somation des Tétrachlorodibenzofuranes	pg		4	100	6	282	9	1140	2	20	

Certifié par:



La procédure des Laboratoires AGAT concernant les signatures et les signataires se conforme strictement aux exigences d'accréditation ISO 17025:2005 comme le requiert, lorsque applicable, CALA, CCN et MDDELCC. Toutes les signatures sur les certificats d'AGAT sont protégées par des mots de passe et les signataires rencontrent les exigences des domaines d'accréditation ainsi que les exigences régionales approuvées par CALA, CCN et MDDELCC.



AGAT Laboratoires

Certificat d'analyse

N° BON DE TRAVAIL: 18M395832

N° DE PROJET: Agnico Eagle/5528

9770 ROUTE TRANSCANADIENNE
ST. LAURENT, QUEBEC
CANADA H4S 1V9
TEL (514)337-1000
FAX (514)333-3046
<http://www.agatlabs.com>

NOM DU CLIENT: CONSULAIR GASTON BOULANGER INC

PRÉLEVÉ PAR:

À L'ATTENTION DE: Eric Trépanier

LIEU DE PRÉLÈVEMENT:

Dioxines et furanes - Air (train d'échantillonnage - OMS 1998)

DATE DE RÉCEPTION: 2018-10-11

DATE DU RAPPORT: 2018-11-01

IDENTIFICATION DE L'ÉCHANTILLON:				501 à 506 - Inc.		507 à 512-Inc.-2		513 à 518-Inc.-3		519 à 524-Inc.	
MATRICE:				-1		Air		Air		-BL	
DATE D'ÉCHANTILLONNAGE:				2018-09-22		2018-09-22		2018-09-22		2018-09-22	
Paramètre	Unités	C / N	LDR	9616643	LDR	9616650	LDR	9616651	LDR	9616652	
Somation des Pentachlorodibenzofuranes	pg		8	72	9	406	20	1540	2	15	
Somation des Hexachlorodibenzofuranes	pg		6	32	20	172	20	963	3	3	
Somation des Heptachlorodibenzofuranes	pg		6	28	8	123	20	880	3	5	
Somation des PCDFs	pg		9	253	20	1000	30	4750	7	43	
2,3,7,8-Tetra CDD (TEF 1.0)	TEQ			0		5.30		0		0	
1,2,3,7,8-Penta CDD (TEF 1.0)	TEQ			0		47.2		23.4		0	
1,2,3,4,7,8-Hexa CDD (TEF 0.1)	TEQ			0		5.31		2.83		0	
1,2,3,6,7,8-Hexa CDD (TEF 0.1)	TEQ			0.296		7.05		6.32		0	
1,2,3,7,8,9-Hexa CDD (TEF 0.1)	TEQ			0		8.11		6.46		0	
1,2,3,4,6,7,8-Hepta CDD (TEF 0.01)	TEQ			0.171		3.16		3.07		0	
Octa CDD (TEF 0.0001)	TEQ			0.00335		0.0160		0.0300		0	
2,3,7,8-Tetra CDF (TEF 0.1)	TEQ			1.48		4.84		21.6		0	
1,2,3,7,8-Penta CDF (TEF 0.05)	TEQ			0		1.03		3.12		0	
2,3,4,7,8-Penta CDF (TEF 0.5)	TEQ			4.36		21.6		82.5		0	
1,2,3,4,7,8-Hexa CDF (TEF 0.1)	TEQ			1.30		6.24		32.6		0	
1,2,3,6,7,8-Hexa CDF (TEF 0.1)	TEQ			0.926		2.48		12.0		0	
2,3,4,6,7,8-Hexa CDF (TEF 0.1)	TEQ			0.818		4.96		27.3		0	
1,2,3,7,8,9-Hexa CDF (TEF 0.1)	TEQ			0		0		3.04		0	
1,2,3,4,6,7,8-Hepta CDF (TEF 0.01)	TEQ			0.162		0.636		4.74		0	
1,2,3,4,7,8,9-Hepta CDF (TEF 0.01)	TEQ			0		0.0830		0.998		0	
Octa CDF (TEF 0.0001)	TEQ			0.00201		0.00173		0.0227		0	
Somation des PCDDs et PCDFs (TEQ)				9.51		118		230		0	

Certifié par:



La procédure des Laboratoires AGAT concernant les signatures et les signataires se conforme strictement aux exigences d'accréditation ISO 17025:2005 comme le requiert, lorsque applicable, CALA, CCN et MDDELCC. Toutes les signatures sur les certificats d'AGAT sont protégées par des mots de passe et les signataires rencontrent les exigences des domaines d'accréditation ainsi que les exigences régionales approuvées par CALA, CCN et MDDELCC.



Certificat d'analyse

N° BON DE TRAVAIL: 18M395832

N° DE PROJET: Agnico Eagle/5528

9770 ROUTE TRANSCANADIENNE
ST. LAURENT, QUEBEC
CANADA H4S 1V9
TEL (514)337-1000
FAX (514)333-3046
<http://www.agatlabs.com>

NOM DU CLIENT: CONSULAIR GASTON BOULANGER INC

À L'ATTENTION DE: Eric Trépanier

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

Dioxines et furanes - Air (train d'échantillonnage - OMS 1998)

DATE DE RÉCEPTION: 2018-10-11

DATE DU RAPPORT: 2018-11-01

IDENTIFICATION DE L'ÉCHANTILLON:			501 à 506 - Inc.	507 à 512-Inc.-2	513 à 518-Inc.-3	519 à 524-Inc.
MATRICE:			-1	Air	Air	-BL
DATE D'ÉCHANTILLONNAGE:			2018-09-22	2018-09-22	2018-09-22	2018-09-22
Étalon de recouvrement	Unités	Limites	9616643	9616650	9616651	9616652
13C-2378-TCDF	%	30-140	56	60	45	54
13C-12378-PeCDF	%	30-140	48	48	38	52
13C-23478-PeCDF	%	30-140	71	60	56	55
13C-123478-HxCDF	%	30-140	84	89	72	73
13C-123678-HxCDF	%	30-140	94	95	68	88
13C-234678-HxCDF	%	30-140	104	109	68	86
13C-123789-HxCDF	%	30-140	94	101	60	72
13C-1234678-HpCDF	%	30-140	70	72	49	64
13C-1234789-HpCDF	%	30-140	57	61	51	55
13C-2378-TCDD	%	30-140	75	73	54	74
13C-12378-PeCDD	%	30-140	65	61	50	60
13C-123478-HxCDD	%	30-140	99	103	72	77
13C-123678-HxCDD	%	30-140	103	117	67	98
13C-1234678-HxCDD	%	30-140	58	62	50	57
13C-OCDD	%	30-140	31	37	33	30

Commentaires: LDR - Limite de détection rapportée; C / N - Critères Normes

9616643-9616652 Le résultat en pg total correspond au composite de chacune des parties du train d'échantillonnage.

Certifié par:




La procédure des Laboratoires AGAT concernant les signatures et les signataires se conforme strictement aux exigences d'accréditation ISO 17025:2005 comme le requiert, lorsque applicable, CALA, CCN et MDDELCC. Toutes les signatures sur les certificats d'AGAT sont protégées par des mots de passe et les signataires rencontrent les exigences des domaines d'accréditation ainsi que les exigences régionales approuvées par CALA, CCN et MDDELCC.

Contrôle de qualité

NOM DU CLIENT: CONSULAIR GASTON BOULANGER INC

N° BON DE TRAVAIL: 18M395832

N° DE PROJET: Agnico Eagle/5528

À L'ATTENTION DE: Eric Trépanier

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

Analyse haute résolution

Date du rapport: 2018-11-01

Date du rapport: 2018-11-01			DUPLICATA			MATÉRIAU DE RÉFÉRENCE			BLANC FORTIFIÉ			ÉCH. FORTIFIÉ			
PARAMÈTRE	Lot	N° éch.	Dup #1	Dup #2	% d'écart	Blanc de méthode	% Récup.	Limites		% Récup.	Limites		% Récup.	Limites	
								Inf.	Sup.		Inf.	Sup.		Inf.	Sup.

Dioxines et furanes - Air (train d'échantillonnage - OMS 1998)

2,3,7,8-TCDD (pg total)	1	MR	32	30	0.0	< 0.7	80%	70%	130%	NA	70%	130%	74%	70%	130%
1,2,3,7,8 PeCDD (pg total)	1	MR	165	178	0.0	< 2	82%	70%	130%	NA	70%	130%	89%	70%	130%
1,2,3,4,7,8 HxCDD (pg total)	1	MR	179	180	0.0	< 2	89%	70%	130%	NA	70%	130%	90%	70%	130%
1,2,3,6,7,8 HxCDD (pg total)	1	MR	197	183	0.0	< 2	99%	70%	130%	NA	70%	130%	92%	70%	130%
1,2,3,7,8,9 HxCDD (pg total)	1	MR	201	183	0.0	< 2	100%	70%	130%	NA	70%	130%	91%	70%	130%
1,2,3,4,6,7,8 HpCDD (pg total)	1	MR	184	179	0.0	< 2	92%	70%	130%	NA	70%	130%	89%	70%	130%
OCDD (pg total)	1	MR	376	341	0.0	< 4	94%	70%	130%	NA	70%	130%	85%	70%	130%
2,3,7,8 TCDF (pg total)	1	MR	37	39	0.0	< 2	92%	70%	130%	NA	70%	130%	97%	70%	130%
1,2,3,7,8 PeCDF (pg total)	1	MR	208	214	0.0	< 2	104%	70%	130%	NA	70%	130%	107%	70%	130%
2,3,4,7,8-PeCDF (pg total)	1	MR	204	215	0.0	< 1	102%	70%	130%	NA	70%	130%	107%	70%	130%
1,2,3,4,7,8 HxCDF (pg total)	1	MR	197	194	0.0	< 2	98%	70%	130%	NA	70%	130%	97%	70%	130%
1,2,3,6,7,8 HxCDF (pg total)	1	MR	209	209	0.0	< 2	105%	70%	130%	NA	70%	130%	105%	70%	130%
2,3,4,6,7,8-HxCDF (pg total)	1	MR	209	203	0.0	< 2	105%	70%	130%	NA	70%	130%	102%	70%	130%
1,2,3,7,8,9 HxCDF (pg total)	1	MR	196	197	0.0	< 3	98%	70%	130%	NA	70%	130%	98%	70%	130%
1,2,3,4,6,7,8 HpCDF (pg total)	1	MR	195	187	0.0	< 2	97%	70%	130%	NA	70%	130%	94%	70%	130%
1,2,3,4,7,8,9 HpCDF (pg total)	1	MR	197	190	0.0	< 3	99%	70%	130%	NA	70%	130%	95%	70%	130%
OCDF (pg total)	1	MR	427	401	0.0	< 3	107%	70%	130%	NA	70%	130%	100%	70%	130%

Certifié par:




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Sommaire de méthode

NOM DU CLIENT: CONSULAIR GASTON BOULANGER INC

N° BON DE TRAVAIL: 18M395832

N° DE PROJET: Agnico Eagle/5528

À L'ATTENTION DE: Eric Trépanier

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

PARAMÈTRE	PRÉPARÉ LE	ANALYSÉ LE	AGAT P.O.N.	RÉFÉRENCE DE LITTÉRATURE	TECHNIQUE ANALYTIQUE
Analyse haute résolution					
2,3,7,8-TCDD (pg total)	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS
1,2,3,7,8 PeCDD (pg total)	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS
1,2,3,4,7,8 HxCDD (pg total)	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS
1,2,3,6,7,8 HxCDD (pg total)	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS
1,2,3,7,8,9 HxCDD (pg total)	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS
1,2,3,4,6,7,8 HpCDD (pg total)	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS
OCDD (pg total)	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS
2,3,7,8 TCDF (pg total)	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS
1,2,3,7,8 PeCDF (pg total)	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS
2,3,4,7,8-PeCDF (pg total)	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS
1,2,3,4,7,8 HxCDF (pg total)	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS
1,2,3,6,7,8 HxCDF (pg total)	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS
2,3,4,6,7,8-HxCDF (pg total)	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS
1,2,3,7,8,9 HxCDF (pg total)	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS
1,2,3,4,6,7,8 HpCDF (pg total)	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS
1,2,3,4,7,8,9 HpCDF (pg total)	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS
OCDF (pg total)	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS
Sommation des Tétrachlorodibenzodioxines	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS
Sommation des Pentachlorodibenzodioxines	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS
Sommation des Hexachlorodibenzodioxines	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS
Sommation des Heptachlorodibenzodioxines	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS
Sommation des PCDDs	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS
Sommation des Tétrachlorodibenzofuranes	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS
Sommation des Pentachlorodibenzofuranes	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS
Sommation des Hexachlorodibenzofuranes	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS
Sommation des Heptachlorodibenzofuranes	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS
Sommation des PCDFs	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS
2,3,7,8-Tetra CDD (TEF 1.0)	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS
1,2,3,7,8-Penta CDD (TEF 1.0)	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS
1,2,3,4,7,8-Hexa CDD (TEF 0.1)	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS
1,2,3,6,7,8-Hexa CDD (TEF 0.1)	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS
1,2,3,7,8,9-Hexa CDD (TEF 0.1)	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS
1,2,3,4,6,7,8-Hepta CDD (TEF 0.01)	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS
Octa CDD (TEF 0.0001)	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS
2,3,7,8-Tetra CDF (TEF 0.1)	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS
1,2,3,7,8-Penta CDF (TEF 0.05)	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS
2,3,4,7,8-Penta CDF (TEF 0.5)	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS
1,2,3,4,7,8-Hexa CDF (TEF 0.1)	2018-10-25	2018-10-31	HR_151-5400	EPA 1613/EPA Method 23	HRMS
1,2,3,6,7,8-Hexa CDF (TEF 0.1)	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS
2,3,4,6,7,8-Hexa CDF (TEF 0.1)	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS
1,2,3,7,8,9-Hexa CDF (TEF 0.1)	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS
1,2,3,4,6,7,8-Hepta CDF (TEF 0.01)	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS
1,2,3,4,7,8,9-Hepta CDF (TEF 0.01)	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS

Sommaire de méthode

NOM DU CLIENT: CONSULAIR GASTON BOULANGER INC

N° BON DE TRAVAIL: 18M395832

N° DE PROJET: Agnico Eagle/5528

À L'ATTENTION DE: Eric Trépanier

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

PARAMÈTRE	PRÉPARÉ LE	ANALYSÉ LE	AGAT P.O.N.	RÉFÉRENCE DE LITTÉRATURE	TECHNIQUE ANALYTIQUE
Octa CDF (TEF 0.0001)	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS
Sommation des PCDDs et PCDFs (TEQ)	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS
13C-2378-TCDF	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS
13C-12378-PeCDF	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS
13C-23478-PeCDF	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS
13C-123478-HxCDF	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS
13C-123678-HxCDF	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS
13C-234678-HxCDF	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS
13C-123789-HxCDF	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS
13C-1234678-HpCDF	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS
13C-1234789-HpCDF	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS
13C-2378-TCDD	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS
13C-12378-PeCDD	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS
13C-123478-HxCDD	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS
13C-123678-HxCDD	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS
13C-1234678-HxCDD	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS
13C-OCDD	2018-10-25	2018-10-31	HR-151-5400	EPA 1613/EPA Method 23	HRMS



RAPPORT D'ESSAI

Date : 21 novembre 2018

Réf : P2334-1

Client

Client : C8

Nom : Trépanier Éric

Téléphone : (418) 650-5960 # 2208

Courriel : eric.trepanier@consul-air.com

Adresse :

CONSULAIR Québec

125-2022, rue Lavoisier

Québec QC

G1N 4L5 Canada

Résumé du projet

Nb. d'objets : 4

Projet lab. : P2334

Votre # projet : 18-5528

Chantier : Agnico-Eagle

Résumé des essais

Paramètre(s) non accrédités

ST	Paramètre	Q.	Principe (Méthode)	Matrice
	Chlorures (Cl)	4	Spectrophotométrie	Eau

ST : Paramètre Sous-Traité

Résultats d'essai(s)

ST	Param.	Échantillon (s)		Dates			Résultat(s)		LDR
		# Lab	# Client	Échantillon.	Récep.	Essai	Valeur	Unité	
	CI	171018-8	304 - Inc - B1 - 1	22-09-18	17-10-18	30-10-18	86.87	mg	1.76
		171018-9	312 - Inc - B1 - 2	28-09-18	17-10-18	30-10-18	33.16	mg	0.73
		171018-10	320 - Inc - B1 - 3	29-09-18	17-10-18	30-10-18	119.33	mg	1.87
		171018-11	328 - BI - Eau - BI	23-09-18	17-10-18	30-10-18	< LDR	mg	0.04

ST : Essai Sous-Traité
LDR : Limite de Détection Rapportée

Commentaire(s)

1.

Contrôle de qualité

ST	Param.	Date	# Réf	Type	Résultat(s)		LDR
					Valeur	Unité	
	CI	30-10-18	BL3010	BL	< LDR	mg/l	0.39
			MR3010	MR	103.4	% Récup.	-
			AD171018-9	AD	103.1	% Récup.	-
			AD171018-11	AD	101.8	% Récup.	-

ST : Contrôle qualité Sous-Traité
Réf : Référence du contrôle qualité dans le système de suivi du laboratoire
BL : Blanc
MR : Matériau de Référence
DP : Duplicata
RP : Réplicata
AD : Ajout Dosé
EA : Étalon Analogue
TM: Témoin de l'extraction
LDR : Limite de Détection Rapportée

Signature

Les résultats ne se rapportent qu'aux objets soumis à l'essai
Tout ou partie de ce document ne peut être reproduit sans l'autorisation du laboratoire de CONSULAIR.
Ce rapport d'essai est certifié par la (les) personne(s) mentionnée(s) ci-après.
Pour toute question concernant ce certificat d'analyse, veuillez vous adresser directement à :



Malha Kirèche



Votre # du projet: 18-5528
Adresse du site: AGNICO EAGLE MELIADINE
Votre # Bordereau: N/A

Attention: Éric Trépanier

CONSULAIR INC.
2022 Lavoisier
Local 125
Québec, QC
Canada G1N 4L5

Date du rapport: 2018/11/21
Rapport: R2413187
Version: 1 - Finale

CERTIFICAT D'ANALYSES

DE DOSSIER MAXXAM: B847715

Reçu: 2018/10/19, 12:30

Matrice: FILTRE
Nombre d'échantillons reçus: 4

Analyses	Quantité	Date de l' extraction	Date Analysé	Méthode de laboratoire	Référence Primaire
Métaux extractibles totaux par ICP-MS	4	2018/11/06	2018/11/06	STL SOP-00075	MA.200-Mét. 1.2 R5 m

Matrice: Solution barboteur
Nombre d'échantillons reçus: 16

Analyses	Quantité	Date de l' extraction	Date Analysé	Méthode de laboratoire	Référence Primaire
Mercure par AAVF	2	2018/10/30	2018/10/31	STL SOP-00042	MA.200-Hg 1.1 R1 m
Mercure par AAVF	2	2018/11/01	2018/11/05	STL SOP-00042	MA.200-Hg 1.1 R1 m
Métaux extractibles	5	2018/11/01	2018/11/05	STL SOP-00075	MA.200-Mét. 1.2 R5 m
Métaux extractibles	3	2018/11/06	2018/11/07	STL SOP-00075	MA.200-Mét. 1.2 R5 m
Métaux extractibles	4	2018/11/14	2018/11/17	STL SOP-00075	MA.200-Mét. 1.2 R5 m
Volume d'échantillon	3	2018/11/02	2018/11/02		

Matrice: SOLVANT
Nombre d'échantillons reçus: 4

Analyses	Quantité	Date de l' extraction	Date Analysé	Méthode de laboratoire	Référence Primaire
Métaux extractibles	4	2018/11/06	2018/11/07	STL SOP-00075	MA.200-Mét. 1.2 R5 m

Matrice: TRAIN
Nombre d'échantillons reçus: 4

Analyses	Quantité	Date de l' extraction	Date Analysé	Méthode de laboratoire	Référence Primaire
Métaux extractibles	4	2018/11/01	2018/11/08	STL SOP-00075	MA.200-Mét. 1.2 R5 m

Remarques:

Les laboratoires Maxxam sont certifiés ISO/IEC 17025:2005 pour certains paramètres précis des portées d'accréditation. Sauf indication contraire, les méthodes d'analyses utilisées par Maxxam s'inspirent des méthodes de référence d'organismes provinciaux, fédéraux et américains, tels que le CCME, le MDDELCC, l'EPA et l'APHA.

Votre # du projet: 18-5528
Adresse du site: AGNICO EAGLE MELIADINE
Votre # Bordereau: N/A

Attention: Éric Trépanier

CONSULAIR INC.
2022 Lavoisier
Local 125
Québec, QC
Canada G1N 4L5

Date du rapport: 2018/11/21
Rapport: R2413187
Version: 1 - Finale

CERTIFICAT D'ANALYSES

DE DOSSIER MAXXAM: B847715

Reçu: 2018/10/19, 12:30

Toutes les analyses présentées ont été réalisées conformément aux procédures et aux pratiques relatives à la méthodologie, à l'assurance qualité et au contrôle de la qualité généralement appliqués par les employés de Maxxam (sauf s'il en a été convenu autrement par écrit entre le client et Maxxam). Toutes les données de laboratoire rencontrent les contrôles statistiques et respectent tous les critères de CQ et les critères de performance des méthodes, sauf s'il en a été signalé autrement. Tous les blancs de méthode sont rapportés, toutefois, les données des échantillons correspondants ne sont pas corrigées pour la valeur du blanc, sauf indication contraire. Le cas échéant, sauf indication contraire, l'incertitude de mesure n'a pas été prise en considération lors de la déclaration de la conformité à la norme de référence.

Les responsabilités de Maxxam sont restreintes au coût réel de l'analyse, sauf s'il en a été convenu autrement par écrit. Il n'existe aucune autre garantie, explicite ou implicite. Le client a fait appel à Maxxam pour l'analyse de ses échantillons conformément aux méthodes de référence mentionnées dans ce rapport. L'interprétation et l'utilisation des résultats sont sous l'entière responsabilité du client et ne font pas partie des services offerts par Maxxam, sauf si convenu autrement par écrit. Maxxam ne peut pas garantir l'exactitude des résultats qui dépendent des renseignements fournis par le client ou son représentant.

Les résultats des échantillons solides, sauf les biotes, sont rapportés en fonction de la masse sèche, sauf indication contraire. Les analyses organiques ne sont pas corrigées en fonction de la récupération, sauf pour les méthodes de dilution isotopique.

Les résultats s'appliquent seulement aux échantillons analysés. Si l'échantillonnage n'est pas effectué par Maxxam, les résultats se rapportent aux échantillons fournis pour analyse.

Le présent rapport ne doit pas être reproduit, sinon dans son intégralité, sans le consentement écrit du laboratoire.

Lorsque la méthode de référence comprend un suffixe « m », cela signifie que la méthode d'analyse du laboratoire contient des modifications validées et appliquées afin d'améliorer la performance de la méthode de référence.

Notez: Les données brutes sont utilisées pour le calcul du RPD (% d'écart relatif). L'arrondissement des résultats finaux peut expliquer la variation apparente.

Note : Les paramètres inclus dans le présent certificat sont accrédités par le MDDELCC, à moins d'indication contraire.

clé de cryptage

Veuillez adresser toute question concernant ce certificat d'analyse à votre chargé(e) de projets

Argyro Frangoulis, Chargée de projets

Courriel: afrangoulis@maxxam.ca

Téléphone (514)448-9001 Ext:7066229

=====

Maxxam a mis en place des procédures qui protègent contre l'utilisation non autorisée de la signature électronique et emploie les «signataires» requis, conformément à la section 5.10.2 de la norme ISO/CEI 17025:2005(E). Veuillez vous référer à la page des signatures de validation pour obtenir les détails des validations pour chaque division.

Dossier Maxxam: B847715
Date du rapport: 2018/11/21

CONSULAIR INC.
Votre # du projet: 18-5528
Adresse du site: AGNICO EAGLE MELIADINE

MÉTAUX (SOLUTION BARBOTEUR)

ID Maxxam		FX5271	FX5271			FX5389		
Date d'échantillonnage		2018/09/22	2018/09/22			2018/09/22		
# Bordereau		N/A	N/A			N/A		
	Unités	305-INC-B2345-1 VT:334ML	305-INC-B2345-1 VT:334ML Dup. de Lab.	LDR	Lot CQ	307+308-INC-B67-1 VT:615ML	LDR	Lot CQ

MÉTAUX								
Aluminium (Al) †	ug	9	8	3	1949070			
Antimoine (Sb) †	ug	<0.3	<0.3	0.3	1949070			
Argent (Ag) †	ug	<2	<2	2	1949070			
Arsenic (As) †	ug	<0.3	<0.3	0.3	1949070			
Baryum (Ba) †	ug	0.2	0.2	0.2	1949070			
Béryllium (Be) †	ug	<0.2	<0.2	0.2	1949070			
Bismuth (Bi) †	ug	<0.2	<0.2	0.2	1949070			
Bore (B) †	ug	2.6	3.6	0.7	1949070			
Cadmium (Cd) †	ug	1.4	1.4	0.2	1949070			
Calcium (Ca) †	ug	126	123	20	1949070			
Chrome (Cr) †	ug	<0.3	<0.3	0.3	1949070			
Cobalt (Co) †	ug	<0.3	<0.3	0.3	1949070			
Cuivre (Cu) †	ug	2.1	1.9	0.3	1949070			
Etain (Sn) †	ug	24	23	2	1949070			
Fer (Fe) †	ug	21	20	20	1949070			
Lithium (Li) †	ug	<3	<3	3	1949070			
Magnésium (Mg) †	ug	96	93	7	1949070			
Manganèse (Mn) †	ug	49.3	49.4	0.3	1949070			
Mercure (Hg)	ug					0.85	0.31	1949380
Mercure (Hg) †	ug	0.4	<0.2	0.2	1949070			
Molybdène (Mo) †	ug	<2	<2	2	1949070			
Nickel (Ni) †	ug	0.4	0.4	0.3	1949070			
Plomb (Pb) †	ug	<2	<2	2	1949070			
Potassium (K) †	ug	34	41	30	1949070			
Sélénium (Se) †	ug	<0.3	<0.3	0.3	1949070			
Silicium (Si) †	ug	46	49	20	1949070			
Sodium (Na) †	ug	<20	<20	20	1949070			
Strontium (Sr) †	ug	<0.3	<0.3	0.3	1949070			
Thallium (Tl) †	ug	<0.3	<0.3	0.3	1949070			
Titane (Ti) †	ug	<3	<3	3	1949070			
Vanadium (V) †	ug	<0.7	<0.7	0.7	1949070			
Zinc (Zn) †	ug	7.5	7.1	0.3	1949070			

LDR = Limite de détection rapportée

Lot CQ = Lot contrôle qualité

Duplicata de laboratoire

† Accréditation non existante pour ce paramètre

Dossier Maxxam: B847715
Date du rapport: 2018/11/21

CONSULAIR INC.
Votre # du projet: 18-5528
Adresse du site: AGNICO EAGLE MELIADINE

MÉTAUX (SOLUTION BARBOTEUR)

ID Maxxam		FX5496			FX5497		
Date d'échantillonnage		2018/09/28			2018/09/28		
# Bordereau		N/A			N/A		
	Unités	313-INC-B2345-2 VT:323ML	LDR	Lot CQ	315+316-INC-B67-2 VT:625ML	LDR	Lot CQ

MÉTAUX							
Aluminium (Al) †	ug	7	3	1949070			
Antimoine (Sb) †	ug	<0.3	0.3	1949070			
Argent (Ag) †	ug	<2	2	1949070			
Arsenic (As) †	ug	<0.3	0.3	1949070			
Baryum (Ba) †	ug	0.4	0.2	1949070			
Béryllium (Be) †	ug	<0.2	0.2	1949070			
Bismuth (Bi) †	ug	<0.2	0.2	1949070			
Bore (B) †	ug	0.9	0.6	1949070			
Cadmium (Cd) †	ug	0.5	0.2	1949070			
Calcium (Ca) †	ug	60	20	1949070			
Chrome (Cr) †	ug	<0.3	0.3	1949070			
Cobalt (Co) †	ug	<0.3	0.3	1949070			
Cuivre (Cu) †	ug	0.4	0.3	1949070			
Etain (Sn) †	ug	22	2	1949070			
Fer (Fe) †	ug	<20	20	1949070			
Lithium (Li) †	ug	<3	3	1949070			
Magnésium (Mg) †	ug	13	6	1949070			
Manganèse (Mn) †	ug	3.1	0.3	1949070			
Mercure (Hg)	ug				0.60	0.31	1949380
Mercure (Hg) †	ug	<0.2	0.2	1949070			
Molybdène (Mo) †	ug	<2	2	1949070			
Nickel (Ni) †	ug	<0.3	0.3	1949070			
Plomb (Pb) †	ug	<2	2	1949070			
Potassium (K) †	ug	<30	30	1949070			
Sélénium (Se) †	ug	<0.3	0.3	1949070			
Silicium (Si) †	ug	21	20	1949070			
Sodium (Na) †	ug	<20	20	1949070			
Strontium (Sr) †	ug	<0.3	0.3	1949070			
Thallium (Tl) †	ug	<0.3	0.3	1949070			
Titane (Ti) †	ug	<3	3	1949070			
Vanadium (V) †	ug	<0.6	0.6	1949070			
Zinc (Zn) †	ug	1.3	0.3	1949070			
LDR = Limite de détection rapportée							
Lot CQ = Lot contrôle qualité							
† Accréditation non existante pour ce paramètre							

Dossier Maxxam: B847715
Date du rapport: 2018/11/21

CONSULAIR INC.
Votre # du projet: 18-5528
Adresse du site: AGNICO EAGLE MELIADINE

MÉTAUX (SOLUTION BARBOTEUR)

ID Maxxam		FX5498			FX5499		
Date d'échantillonnage		2018/09/29			2018/09/29		
# Bordereau		N/A			N/A		
	Unités	321-INC-B2345-3 VT:330ML	LDR	Lot CQ	323+324-INC-B67-3 VT:625ML	LDR	Lot CQ

MÉTAUX							
Aluminium (Al) †	ug	9	3	1949070			
Antimoine (Sb) †	ug	<0.3	0.3	1949070			
Argent (Ag) †	ug	<2	2	1949070			
Arsenic (As) †	ug	<0.3	0.3	1949070			
Baryum (Ba) †	ug	<0.2	0.2	1949070			
Béryllium (Be) †	ug	<0.2	0.2	1949070			
Bismuth (Bi) †	ug	<0.2	0.2	1949070			
Bore (B) †	ug	6.7	0.7	1949070			
Cadmium (Cd) †	ug	0.3	0.2	1949070			
Calcium (Ca) †	ug	137	20	1949070			
Chrome (Cr) †	ug	<0.3	0.3	1949070			
Cobalt (Co) †	ug	<0.3	0.3	1949070			
Cuivre (Cu) †	ug	2.3	0.3	1949070			
Etain (Sn) †	ug	23	2	1949070			
Fer (Fe) †	ug	54	20	1949070			
Lithium (Li) †	ug	<3	3	1949070			
Magnésium (Mg) †	ug	39	7	1949070			
Manganèse (Mn) †	ug	1.2	0.3	1949070			
Mercure (Hg)	ug				<0.31	0.31	1948181
Mercure (Hg) †	ug	<0.2	0.2	1949070			
Molybdène (Mo) †	ug	<2	2	1949070			
Nickel (Ni) †	ug	0.3	0.3	1949070			
Plomb (Pb) †	ug	<2	2	1949070			
Potassium (K) †	ug	<30	30	1949070			
Sélénium (Se) †	ug	<0.3	0.3	1949070			
Silicium (Si) †	ug	48	20	1949070			
Sodium (Na) †	ug	<20	20	1949070			
Strontium (Sr) †	ug	<0.3	0.3	1949070			
Thallium (Tl) †	ug	<0.3	0.3	1949070			
Titane (Ti) †	ug	<3	3	1949070			
Vanadium (V) †	ug	<0.7	0.7	1949070			
Zinc (Zn) †	ug	4.4	0.3	1949070			
LDR = Limite de détection rapportée							
Lot CQ = Lot contrôle qualité							
† Accréditation non existante pour ce paramètre							

Dossier Maxxam: B847715
Date du rapport: 2018/11/21

CONSULAIR INC.
Votre # du projet: 18-5528
Adresse du site: AGNICO EAGLE MELIADINE

MÉTAUX (SOLUTION BARBOTEUR)

ID Maxxam		FX5500			FX5502		
Date d'échantillonnage		2018/09/23			2018/09/23		
# Bordereau		N/A			N/A		
	Unités	329-BL-B123-BL VT:200ML	LDR	Lot CQ	330+331-BL-B56-BL VT:325ML	LDR	Lot CQ

MÉTAUX							
Aluminium (Al) †	ug	4	2	1949070			
Antimoine (Sb) †	ug	<0.2	0.2	1949070			
Argent (Ag) †	ug	<1	1	1949070			
Arsenic (As) †	ug	<0.2	0.2	1949070			
Baryum (Ba) †	ug	<0.1	0.1	1949070			
Béryllium (Be) †	ug	<0.1	0.1	1949070			
Bismuth (Bi) †	ug	<0.1	0.1	1949070			
Bore (B) †	ug	0.9	0.4	1949070			
Cadmium (Cd) †	ug	0.8	0.1	1949070			
Calcium (Ca) †	ug	43	10	1949070			
Chrome (Cr) †	ug	0.2	0.2	1949070			
Cobalt (Co) †	ug	<0.2	0.2	1949070			
Cuivre (Cu) †	ug	<0.2	0.2	1949070			
Etain (Sn) †	ug	22	1	1949070			
Fer (Fe) †	ug	19	10	1949070			
Lithium (Li) †	ug	<2	2	1949070			
Magnésium (Mg) †	ug	10	4	1949070			
Manganèse (Mn) †	ug	0.5	0.2	1949070			
Mercure (Hg)	ug				<0.16	0.16	1948181
Mercure (Hg) †	ug	<0.1	0.1	1949070			
Molybdène (Mo) †	ug	<1	1	1949070			
Nickel (Ni) †	ug	<0.2	0.2	1949070			
Plomb (Pb) †	ug	<1	1	1949070			
Potassium (K) †	ug	<20	20	1949070			
Sélénium (Se) †	ug	<0.2	0.2	1949070			
Silicium (Si) †	ug	23	10	1949070			
Sodium (Na) †	ug	<10	10	1949070			
Strontium (Sr) †	ug	<0.2	0.2	1949070			
Thallium (Tl) †	ug	<0.2	0.2	1949070			
Titane (Ti) †	ug	<2	2	1949070			
Vanadium (V) †	ug	<0.4	0.4	1949070			
Zinc (Zn) †	ug	0.5	0.2	1949070			

LDR = Limite de détection rapportée

Lot CQ = Lot contrôle qualité

† Accréditation non existante pour ce paramètre

Dossier Maxxam: B847715
Date du rapport: 2018/11/21

CONSULAIR INC.
Votre # du projet: 18-5528
Adresse du site: AGNICO EAGLE MELIADINE

MÉTAUX (SOLUTION BARBOTEUR)

ID Maxxam		FZ0589	FZ0590		FZ0591		
Date d'échantillonnage		2018/09/22	2018/09/28		2018/09/29		
# Bordereau		N/A	N/A		N/A		
	Unités	304-INC-B1-1 VT:180ML	312-INC-B1-2 VT:188ML	LDR	320-INC-B1-3 VT:240ML	LDR	Lot CQ

MÉTAUX							
Aluminium (Al) †	ug	3	3	2	5	2	1952598
Antimoine (Sb) †	ug	<0.2	<0.2	0.2	<0.2	0.2	1952598
Argent (Ag) †	ug	<0.9	<0.9	0.9	<1	1	1952598
Arsenic (As) †	ug	<0.2	<0.2	0.2	<0.2	0.2	1952598
Baryum (Ba) †	ug	0.25	0.15	0.09	0.2	0.1	1952598
Béryllium (Be) †	ug	<0.09	<0.09	0.09	<0.1	0.1	1952598
Bismuth (Bi) †	ug	<0.09	<0.09	0.09	<0.1	0.1	1952598
Bore (B) †	ug	19.9	9.5	0.4	92.6	0.5	1952598
Cadmium (Cd) †	ug	<0.09	<0.09	0.09	<0.1	0.1	1952598
Calcium (Ca) †	ug	18	32	9	17	10	1952598
Chrome (Cr) †	ug	<0.2	<0.2	0.2	<0.2	0.2	1952598
Cobalt (Co) †	ug	<0.2	<0.2	0.2	<0.2	0.2	1952598
Cuivre (Cu) †	ug	0.5	0.7	0.2	<0.2	0.2	1952598
Etain (Sn) †	ug	<0.9	<0.9	0.9	<1	1	1952598
Fer (Fe) †	ug	<9	521	9	<10	10	1952598
Lithium (Li) †	ug	<2	<2	2	<2	2	1952598
Magnésium (Mg) †	ug	5	<4	4	<5	5	1952598
Manganèse (Mn) †	ug	1.9	4.4	0.2	0.3	0.2	1952598
Mercure (Hg) †	ug	<0.09	0.12	0.09	0.1	0.1	1952598
Molybdène (Mo) †	ug	<0.9	<0.9	0.9	<1	1	1952598
Nickel (Ni) †	ug	0.2	0.4	0.2	<0.2	0.2	1952598
Plomb (Pb) †	ug	<0.9	<0.9	0.9	<1	1	1952598
Potassium (K) †	ug	<20	<20	20	<20	20	1952598
Sélénium (Se) †	ug	0.9	0.3	0.2	0.5	0.2	1952598
Silicium (Si) †	ug	12	11	9	148	10	1952598
Sodium (Na) †	ug	<9	<9	9	<10	10	1952598
Strontium (Sr) †	ug	<0.2	<0.2	0.2	<0.2	0.2	1952598
Thallium (Tl) †	ug	<0.2	<0.2	0.2	<0.2	0.2	1952598
Titane (Ti) †	ug	<2	<2	2	<2	2	1952598
Vanadium (V) †	ug	<0.4	<0.4	0.4	<0.5	0.5	1952598
Zinc (Zn) †	ug	2.2	1.3	0.2	0.7	0.2	1952598

LDR = Limite de détection rapportée

Lot CQ = Lot contrôle qualité

† Accréditation non existante pour ce paramètre

Dossier Maxxam: B847715
Date du rapport: 2018/11/21

CONSULAIR INC.
Votre # du projet: 18-5528
Adresse du site: AGNICO EAGLE MELIADINE

MÉTAUX (SOLUTION BARBOTEUR)

ID Maxxam		FZ0592		
Date d'échantillonnage		2018/09/23		
# Bordereau		N/A		
	Unités	328-BL-EAU-BL VT:100ML	LDR	Lot CQ
MÉTAUX				
Aluminium (Al) †	ug	<1	1	1952598
Antimoine (Sb) †	ug	<0.1	0.1	1952598
Argent (Ag) †	ug	<0.5	0.5	1952598
Arsenic (As) †	ug	<0.1	0.1	1952598
Baryum (Ba) †	ug	0.07	0.05	1952598
Béryllium (Be) †	ug	<0.05	0.05	1952598
Bismuth (Bi) †	ug	<0.05	0.05	1952598
Bore (B) †	ug	0.6	0.2	1952598
Cadmium (Cd) †	ug	<0.05	0.05	1952598
Calcium (Ca) †	ug	<5	5	1952598
Chrome (Cr) †	ug	<0.1	0.1	1952598
Cobalt (Co) †	ug	<0.1	0.1	1952598
Cuivre (Cu) †	ug	<0.1	0.1	1952598
Etain (Sn) †	ug	<0.5	0.5	1952598
Fer (Fe) †	ug	<5	5	1952598
Lithium (Li) †	ug	<1	1	1952598
Magnésium (Mg) †	ug	<2	2	1952598
Manganèse (Mn) †	ug	0.2	0.1	1952598
Mercure (Hg) †	ug	<0.05	0.05	1952598
Molybdène (Mo) †	ug	<0.5	0.5	1952598
Nickel (Ni) †	ug	<0.1	0.1	1952598
Plomb (Pb) †	ug	<0.5	0.5	1952598
Potassium (K) †	ug	<10	10	1952598
Sélénium (Se) †	ug	<0.1	0.1	1952598
Silicium (Si) †	ug	<5	5	1952598
Sodium (Na) †	ug	<5	5	1952598
Strontium (Sr) †	ug	<0.1	0.1	1952598
Thallium (Tl) †	ug	<0.1	0.1	1952598
Titane (Ti) †	ug	<1	1	1952598
Vanadium (V) †	ug	<0.2	0.2	1952598
Zinc (Zn) †	ug	0.3	0.1	1952598
LDR = Limite de détection rapportée				
Lot CQ = Lot contrôle qualité				
† Accréditation non existante pour ce paramètre				

Dossier Maxxam: B847715
Date du rapport: 2018/11/21

CONSULAIR INC.
Votre # du projet: 18-5528
Adresse du site: AGNICO EAGLE MELIADINE

PARAMÈTRES CONVENTIONNELS (SOLUTION BARBOTEUR)

ID Maxxam		FY0848	FY0856	FY0857	
Date d'échantillonnage		2018/09/22	2018/09/28	2018/09/29	
# Bordereau		N/A	N/A	N/A	
	Unités	302-INC-BS-HNO3-1	310-INC-BS-HNO3-2	318-INC-BS-HNO3-3	Lot CQ
CONVENTIONNELS					
Volume final †	ml	88	110	66	1949618
Lot CQ = Lot contrôle qualité					
† Accréditation non existante pour ce paramètre					

Dossier Maxxam: B847715
Date du rapport: 2018/11/21

CONSULAIR INC.
Votre # du projet: 18-5528
Adresse du site: AGNICO EAGLE MELIADINE

MÉTAUX (TRAIN)

ID Maxxam		FY0848		FY0856		FY0857		
Date d'échantillonnage		2018/09/22		2018/09/28		2018/09/29		
# Bordereau		N/A		N/A		N/A		
	Unités	301+302+303-INC-1	LDR	309+310+311-INC-2	LDR	317+318+319-INC-3	LDR	Lot CQ

MÉTAUX								
Aluminium (Al) †	ug	570	2	30	2	46	2	1949322
Antimoine (Sb) †	ug	245	0.1	3.6	0.1	219	0.1	1949322
Argent (Ag) †	ug	0.9	0.5	<0.6	0.6	1.3	0.5	1949322
Arsenic (As) †	ug	17.2	0.1	1.3	0.1	30.9	0.1	1949322
Baryum (Ba) †	ug	7.28	0.05	0.65	0.06	1.06	0.05	1949322
Béryllium (Be) †	ug	<0.05	0.05	<0.06	0.06	<0.05	0.05	1949322
Bismuth (Bi) †	ug	0.84	0.05	0.12	0.06	4.83	0.05	1949322
Bore (B) †	ug	4.1	0.5	4.0	0.5	3.7	0.5	1949322
Cadmium (Cd) †	ug	2.47	0.05	0.45	0.06	9.52	0.05	1949322
Calcium (Ca) †	ug	1930	50	309	50	243	50	1949322
Chrome (Cr) †	ug	18.2	0.1	5.1	0.1	73.4	0.1	1949322
Cobalt (Co) †	ug	0.5	0.1	<0.1	0.1	0.2	0.1	1949322
Cuivre (Cu) †	ug	89.1	0.1	24.7	0.1	131	0.1	1949322
Etain (Sn) †	ug	77.4	0.5	4.0	0.6	166	0.5	1949322
Fer (Fe) †	ug	1070	5	33	6	82	5	1949322
Lithium (Li) †	ug	8	1	33	1	32	1	1949322
Magnésium (Mg) †	ug	216	2	34	2	36	2	1949322
Manganèse (Mn) †	ug	16.5	0.1	15.7	0.1	4.3	0.1	1949322
Mercure (Hg)	ug	<0.1	0.1	<0.1	0.1	<0.1	0.1	1949322
Molybdène (Mo) †	ug	4.8	0.5	<0.6	0.6	8.9	0.5	1949322
Nickel (Ni) †	ug	8.1	0.3	0.4	0.3	2.0	0.3	1949322
Plomb (Pb) †	ug	127	0.5	36.0	0.6	444	0.5	1949322
Potassium (K) †	ug	10100	10	1170	10	10200	10	1949322
Sélénium (Se) †	ug	<0.5	0.5	<0.5	0.5	0.5	0.5	1949322
Silicium (Si) †	ug	717	5	148	6	397	5	1949322
Sodium (Na) †	ug	7900	10	851	10	6890	10	1949322
Strontium (Sr) †	ug	5.0	0.1	0.4	0.1	0.4	0.1	1949322
Thallium (Tl) †	ug	<0.1	0.1	<0.1	0.1	<0.1	0.1	1949322
Titane (Ti) †	ug	52	1	4	1	6	1	1949322
Vanadium (V) †	ug	0.8	0.2	<0.2	0.2	0.4	0.2	1949322
Zinc (Zn) †	ug	509	1	54	1	1070	1	1949322

LDR = Limite de détection rapportée

Lot CQ = Lot contrôle qualité

† Accréditation non existante pour ce paramètre

Dossier Maxxam: B847715
Date du rapport: 2018/11/21

CONSULAIR INC.
Votre # du projet: 18-5528
Adresse du site: AGNICO EAGLE MELIADINE

MÉTAUX (TRAIN)

ID Maxxam		FY0858		
Date d'échantillonnage		2018/09/23		
# Bordereau		N/A		
	Unités	325+326+327-BL-BL	LDR	Lot CQ
MÉTAUX				
Aluminium (Al) †	ug	4	3	1949322
Antimoine (Sb) †	ug	<0.3	0.3	1949322
Argent (Ag) †	ug	<2	2	1949322
Arsenic (As) †	ug	<0.3	0.3	1949322
Baryum (Ba) †	ug	0.2	0.2	1949322
Béryllium (Be) †	ug	<0.2	0.2	1949322
Bismuth (Bi) †	ug	<0.2	0.2	1949322
Bore (B) †	ug	4.4	0.6	1949322
Cadmium (Cd) †	ug	<0.2	0.2	1949322
Calcium (Ca) †	ug	<50	50	1949322
Chrome (Cr) †	ug	11.0	0.3	1949322
Cobalt (Co) †	ug	<0.3	0.3	1949322
Cuivre (Cu) †	ug	0.3	0.3	1949322
Etain (Sn) †	ug	<2	2	1949322
Fer (Fe) †	ug	<20	20	1949322
Lithium (Li) †	ug	<3	3	1949322
Magnésium (Mg) †	ug	8	6	1949322
Manganèse (Mn) †	ug	<0.3	0.3	1949322
Mercure (Hg)	ug	<0.2	0.2	1949322
Molybdène (Mo) †	ug	<2	2	1949322
Nickel (Ni) †	ug	<0.3	0.3	1949322
Plomb (Pb) †	ug	<2	2	1949322
Potassium (K) †	ug	<30	30	1949322
Sélénium (Se) †	ug	<0.5	0.5	1949322
Silicium (Si) †	ug	63	20	1949322
Sodium (Na) †	ug	143	20	1949322
Strontium (Sr) †	ug	<0.3	0.3	1949322
Thallium (Tl) †	ug	<0.3	0.3	1949322
Titane (Ti) †	ug	<3	3	1949322
Vanadium (V) †	ug	<0.6	0.6	1949322
Zinc (Zn) †	ug	<1	1	1949322
LDR = Limite de détection rapportée				
Lot CQ = Lot contrôle qualité				
† Accréditation non existante pour ce paramètre				

Dossier Maxxam: B847715
Date du rapport: 2018/11/21

CONSULAIR INC.
Votre # du projet: 18-5528
Adresse du site: AGNICO EAGLE MELIADINE

REMARQUES GÉNÉRALES

MÉTAUX (SOLUTION BARBOTEUR)

Les limites de détection indiquées sont modifiées en fonction du volume d'échantillon reçu.

MÉTAUX (TRAIN)

Les limites de détections indiquées sont multipliées par les facteurs de dilution utilisés pour l'analyse des échantillons.

Les limites de détection indiquées sont modifiées en fonction du volume d'échantillon reçu.

Les résultats ne se rapportent qu'aux échantillons soumis pour analyse

Dossier Maxxam: B847715
Date du rapport: 2018/11/21

CONSULAIR INC.
Votre # du projet: 18-5528
Adresse du site: AGNICO EAGLE MELIADINE

RAPPORT ASSURANCE QUALITÉ

Lot AQ/CQ	Init	Type CQ	Groupe	Date Analysé	Valeur	Réc	Unités
1948181	EHA	Blanc fortifié	Mercure (Hg)	2018/10/31		160 (1)	%
1948181	EHA	Blanc de méthode	Mercure (Hg)	2018/10/31	<0.050		ug
1949070	EHA	Blanc fortifié	Aluminium (Al)	2018/11/05		105	%
			Antimoine (Sb)	2018/11/05		110	%
			Argent (Ag)	2018/11/05		102	%
			Arsenic (As)	2018/11/05		110	%
			Baryum (Ba)	2018/11/05		106	%
			Béryllium (Be)	2018/11/05		104	%
			Bismuth (Bi)	2018/11/05		108	%
			Bore (B)	2018/11/05		112	%
			Cadmium (Cd)	2018/11/05		105	%
			Calcium (Ca)	2018/11/05		107	%
			Chrome (Cr)	2018/11/05		105	%
			Cobalt (Co)	2018/11/05		105	%
			Cuivre (Cu)	2018/11/05		106	%
			Etain (Sn)	2018/11/05		112	%
			Fer (Fe)	2018/11/05		107	%
			Lithium (Li)	2018/11/05		106	%
			Magnésium (Mg)	2018/11/05		105	%
			Manganèse (Mn)	2018/11/05		107	%
			Mercure (Hg)	2018/11/05		119	%
			Molybdène (Mo)	2018/11/05		110	%
			Nickel (Ni)	2018/11/05		104	%
			Plomb (Pb)	2018/11/05		109	%
			Potassium (K)	2018/11/05		101	%
			Sélénium (Se)	2018/11/05		109	%
			Silicium (Si)	2018/11/05		99	%
			Sodium (Na)	2018/11/05		107	%
			Strontium (Sr)	2018/11/05		118	%
			Thallium (Tl)	2018/11/05		107	%
			Titane (Ti)	2018/11/05		102	%
			Vanadium (V)	2018/11/05		107	%
			Zinc (Zn)	2018/11/05		103	%
1949070	EHA	Blanc de méthode	Aluminium (Al)	2018/11/05	<1		ug
			Antimoine (Sb)	2018/11/05	<0.1		ug
			Argent (Ag)	2018/11/05	<0.5		ug
			Arsenic (As)	2018/11/05	<0.1		ug
			Baryum (Ba)	2018/11/05	<0.05		ug
			Béryllium (Be)	2018/11/05	<0.05		ug
			Bismuth (Bi)	2018/11/05	<0.05		ug
			Bore (B)	2018/11/05	<0.2		ug
			Cadmium (Cd)	2018/11/05	<0.05		ug
			Calcium (Ca)	2018/11/05	<5		ug
			Chrome (Cr)	2018/11/05	<0.1		ug
			Cobalt (Co)	2018/11/05	<0.1		ug
			Cuivre (Cu)	2018/11/05	<0.1		ug
			Etain (Sn)	2018/11/05	<0.5		ug
			Fer (Fe)	2018/11/05	<5		ug
			Lithium (Li)	2018/11/05	<1		ug
			Magnésium (Mg)	2018/11/05	<2		ug
			Manganèse (Mn)	2018/11/05	<0.1		ug
			Mercure (Hg)	2018/11/05	<0.05		ug

Dossier Maxxam: B847715
Date du rapport: 2018/11/21

CONSULAIR INC.
Votre # du projet: 18-5528
Adresse du site: AGNICO EAGLE MELIADINE

RAPPORT ASSURANCE QUALITÉ (SUITE)

Lot AQ/CQ	Init	Type CQ	Groupe	Date Analysé	Valeur	Réc	Unités
			Molybdène (Mo)	2018/11/05	<0.5		ug
			Nickel (Ni)	2018/11/05	<0.1		ug
			Plomb (Pb)	2018/11/05	<0.5		ug
			Potassium (K)	2018/11/05	<10		ug
			Sélénium (Se)	2018/11/05	<0.1		ug
			Silicium (Si)	2018/11/05	<5		ug
			Sodium (Na)	2018/11/05	<5		ug
			Strontium (Sr)	2018/11/05	<0.1		ug
			Thallium (Tl)	2018/11/05	<0.1		ug
			Titane (Ti)	2018/11/05	<1		ug
			Vanadium (V)	2018/11/05	<0.2		ug
			Zinc (Zn)	2018/11/05	<0.1		ug
1949380	SD2	MRC	Mercure (Hg)	2018/11/05		110	%
1949380	SD2	Blanc fortifié	Mercure (Hg)	2018/11/05		125 (1)	%
1949380	SD2	Blanc de méthode	Mercure (Hg)	2018/11/05	<0.050		ug
1952598	EHA	Blanc fortifié	Aluminium (Al)	2018/11/17		102	%
			Antimoine (Sb)	2018/11/17		100	%
			Argent (Ag)	2018/11/17		115	%
			Arsenic (As)	2018/11/17		104	%
			Baryum (Ba)	2018/11/17		113	%
			Béryllium (Be)	2018/11/17		101	%
			Bismuth (Bi)	2018/11/17		98	%
			Bore (B)	2018/11/17		105	%
			Cadmium (Cd)	2018/11/17		96	%
			Calcium (Ca)	2018/11/17		98	%
			Chrome (Cr)	2018/11/17		102	%
			Cobalt (Co)	2018/11/17		98	%
			Cuivre (Cu)	2018/11/17		100	%
			Etain (Sn)	2018/11/17		106	%
			Fer (Fe)	2018/11/17		98	%
			Lithium (Li)	2018/11/17		100	%
			Magnésium (Mg)	2018/11/17		98	%
			Manganèse (Mn)	2018/11/17		105	%
			Mercure (Hg)	2018/11/17		108	%
			Molybdène (Mo)	2018/11/17		102	%
			Nickel (Ni)	2018/11/17		98	%
			Plomb (Pb)	2018/11/17		101	%
			Potassium (K)	2018/11/17		98	%
			Sélénium (Se)	2018/11/17		103	%
			Silicium (Si)	2018/11/17		98	%
			Sodium (Na)	2018/11/17		104	%
			Strontium (Sr)	2018/11/17		109	%
			Thallium (Tl)	2018/11/17		97	%
			Titane (Ti)	2018/11/17		105	%
			Vanadium (V)	2018/11/17		102	%
			Zinc (Zn)	2018/11/17		111	%
1952598	EHA	Blanc de méthode	Aluminium (Al)	2018/11/17	<1		ug
			Antimoine (Sb)	2018/11/17	<0.1		ug
			Argent (Ag)	2018/11/17	<0.5		ug
			Arsenic (As)	2018/11/17	<0.1		ug
			Baryum (Ba)	2018/11/17	<0.05		ug
			Béryllium (Be)	2018/11/17	<0.05		ug

Dossier Maxxam: B847715
Date du rapport: 2018/11/21

CONSULAIR INC.
Votre # du projet: 18-5528
Adresse du site: AGNICO EAGLE MELIADINE

RAPPORT ASSURANCE QUALITÉ (SUITE)

Lot AQ/CQ	Init	Type CQ	Groupe	Date Analysé	Valeur	Réc	Unités
			Bismuth (Bi)	2018/11/17	<0.05		ug
			Bore (B)	2018/11/17	0.2,		ug
					LDR=0.2		
			Cadmium (Cd)	2018/11/17	<0.05		ug
			Calcium (Ca)	2018/11/17	<5		ug
			Chrome (Cr)	2018/11/17	<0.1		ug
			Cobalt (Co)	2018/11/17	<0.1		ug
			Cuivre (Cu)	2018/11/17	<0.1		ug
			Etain (Sn)	2018/11/17	<0.5		ug
			Fer (Fe)	2018/11/17	<5		ug
			Lithium (Li)	2018/11/17	<1		ug
			Magnésium (Mg)	2018/11/17	<2		ug
			Manganèse (Mn)	2018/11/17	<0.1		ug
			Mercure (Hg)	2018/11/17	<0.05		ug
			Molybdène (Mo)	2018/11/17	<0.5		ug
			Nickel (Ni)	2018/11/17	<0.1		ug
			Plomb (Pb)	2018/11/17	<0.5		ug
			Potassium (K)	2018/11/17	<10		ug
			Sélénium (Se)	2018/11/17	<0.1		ug
			Silicium (Si)	2018/11/17	<5		ug
			Sodium (Na)	2018/11/17	<5		ug
			Strontium (Sr)	2018/11/17	<0.1		ug
			Thallium (Tl)	2018/11/17	<0.1		ug
			Titane (Ti)	2018/11/17	<1		ug
			Vanadium (V)	2018/11/17	<0.2		ug
			Zinc (Zn)	2018/11/17	<0.1		ug

LDR = Limite de détection rapportée

MRC: Un échantillon de concentration connue préparé dans des conditions rigoureuses par un organisme externe. Utilisé pour vérifier la justesse de la méthode.

Blanc fortifié: Un blanc, d'une matrice exempte de contaminants, auquel a été ajouté une quantité connue d'analyte provenant généralement d'une deuxième source. Utilisé pour évaluer la précision de la méthode.

Blanc de méthode: Une partie aliquote de matrice pure soumise au même processus analytique que les échantillons, du prétraitement au dosage. Sert à évaluer toutes contaminations du laboratoire.

Réc = Récupération

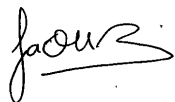
(1) La récupération ou l'écart relatif (RPD) pour ce composé est en dehors des limites de contrôle, mais l'ensemble du contrôle qualité rencontre les critères d'acceptabilité pour cette analyse

Dossier Maxxam: B847715
Date du rapport: 2018/11/21

CONSULAIR INC.
Votre # du projet: 18-5528
Adresse du site: AGNICO EAGLE MELIADINE

PAGE DES SIGNATURES DE VALIDATION

Les résultats analytiques ainsi que les données de contrôle-qualité contenus dans ce rapport furent vérifiés et validés par les personnes suivantes:



Faouzi Sarsi, B. Sc. Chimiste



Miryam Assayag, B.Sc. Chimiste

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Travaux effectués à : Agnico Eagle Meliadine

LABORATOIRE RESPONSABLE DES ANALYSES :

Maxxam
 889 Montée de Liesse
 Ville St-Laurent (Qc) H4T 1P5
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Projet #: 18-5528

Chargé de Projet : Eric Trépanier

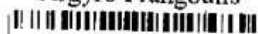
ÉCHANTILLON	Matrice	Fraction	Qte	Date	Paramètres	Unité	Remarque
301 - Inc - BS-Acétone - 1	Acétone	BS-Acétone	1	2018-09-22	Métaux, Hg	mg	Combiner les échantillons 301 à 303 pour les métaux particuliers de la source Inc - Essai #1
302 - Inc - BS-HNO3 - 1	HNO3	BS-HNO3	1	2018-09-22	Métaux, Hg	mg	Combiner avec les échantillons 301 et 303 pour les métaux particuliers de la source Inc - Essai #1
303 - Inc - Filtre - 1	Filtre	Poids avant : 0.5266 gr	1	2018-09-22	Métaux, Hg	mg	Combiner les échantillons 301 à 303 pour les métaux particuliers de la source Inc - Essai #1
304 - Inc - B1 - 1	Eau	B1 - Vt: 180 mL	1	2018-09-22	Métaux, Hg	mg	
305 - Inc - B2345 - 1	H2O2 10% / HNO3 5%	B2345 - Vt: 334 mL	1	2018-09-22	Métaux, Hg	mg	
307 - Inc - B67 - 1	KMNO4 4%/H2SO4 10%	B67 - Vt: 390 mL	1	2018-09-22	Hg	mg	Combiner les échantillons 307 et 308 pour le Hg de la source Inc - Essai #1



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19-Oct-18 12:30

Argyro Frangoulis



B847715

AM1

REMISS PAR:

REÇU PAR:

Argyro Frangoulis

DATE:

HEURE:

DATE:

HEURE:

2018/10/19

12:30

Page 1 de 5

DLIVRZ

7,7,6

ICE: YES
 SEAL: NO

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Travaux effectués à : Agnico Eagle Meliadine
 Projet # : _____
 Chargé de Projet : _____

LABORATOIRE RESPONSABLE DES ANALYSES :
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 Téléphone : (514) 448-9001
 Télécopieur : (514) 448-5922

ÉCHANTILLON	Matrice	Fraction	Qte	Date	Paramètres	Unité	Remarque
308 - Inc - B67-HCl - 1	HCl	B67-HCl - Vt: 225 mL	1	2018-09-22	Hg	mg	Combiner les échantillons 307 et 308 pour le Hg de la source Inc - Essai #1
309 - Inc - BS-Acétone - 2	Acétone	BS-Acétone	1	2018-09-28	Métaux, Hg	mg	Combiner les échantillons 309 à 311 pour les métaux particuliers de la source Inc - Essai #2
310 - Inc - BS-HNO3 - 2	HNO3	BS-HNO3	1	2018-09-28	Métaux, Hg	mg	Combiner avec les échantillons 309 et 311 pour les métaux particuliers de la source Inc - Essai #2
311 - Inc - Filtre - 2	Filtre	Poids avant : 0.5248 gr	1	2018-09-28	Métaux, Hg	mg	Combiner les échantillons 309 à 311 pour les métaux particuliers de la source Inc - Essai #2
312 - Inc - B1 - 2	Eau	B1 - Vt: 188 mL	1	2018-09-28	Métaux, Hg	mg	
313 - Inc - B2345 - 2	H2O2 10% / HNO3 5%	B2345 - Vt: 323 mL	1	2018-09-28	Métaux, Hg	mg	

REMIS PAR:	DATE: 10/10/19	HEURE: 12:30
REÇU PAR: VIVIAN DAVIES	DATE:	HEURE:

WT: 533.

DRIVER

Page 2 de 5
 ICE: Y-5
 SSAC: 10

2022-125, rue Lavqiser
 Québec (Qc) G1N 4L5
 Tél.: (418) 650-5960
 Fax : (418) 704-2221
 www.consul-air.com

Travaux effectués à : Agnico Eagle Meliadine
 Projet # : _____
 Chargé de Projet : _____

LABORATOIRE RESPONSABLE DES ANALYSES :
 Maxxam
 889 Montée de Liesse
 Ville St-Laurent (Qc) H4T 1P5
 Téléphone : (514) 448-9001
 Télécopieur : (514) 448-5922

ÉCHANTILLON	Matrice	Fraction	Qte	Date	Paramètres	Unité	Remarque
315 - Inc - B67 - 2	KMNO4 4%/H2SO4 10%	B67 - Vt: 400 mL	1	2018-09-28	Hg	mg	Combiner les échantillons 315 et 316 pour le Hg de la source Inc - Essai #2
316 - Inc - B67-HCl - 2	HCl	B67-HCl - Vt: 225 mL	1	2018-09-28	Hg	mg	Combiner les échantillons 315 et 316 pour le Hg de la source Inc - Essai #2
317 - Inc - BS-Acétone - 3	Acétone	BS-Acétone	1	2018-09-29	Métaux, Hg	mg	Combiner les échantillons 317 à 319 pour les métaux particuliers de la source Inc - Essai #3
318 - Inc - BS-HNO3 - 3	HNO3	BS-HNO3	1	2018-09-29	Métaux, Hg	mg	Combiner avec les échantillons 317 et 319 pour les métaux particuliers de la source Inc - Essai #3
319 - Inc - Filtre - 3	Filtre	Poids avant : 0.5182 gr	1	2018-09-29	Métaux, Hg	mg	Combiner les échantillons 317 à 319 pour les métaux particuliers de la source Inc - Essai #3
320 - Inc - B1 - 3	Eau	B1 - Vt: 240 mL	1	2018-09-29	Métaux, Hg	mg	

REMIS PAR:

REÇU PAR:

Vicente Davila

DATE:

DATE:

HEURE:

HEURE:

2018/10/19 12:30

*ICG: YES
 SEAL: NO*

Page 3 de 5

DRIVER 7,7,6

2022-125, rue Lavoisier
 Québec (Qc) G1N 4L5
 Tél.: (418) 650-5960
 Fax : (418) 704-2221
 www.consul-air.com

Travaux effectués à : Agnico Eagle Meliadine
 Projet # : _____
 Chargé de Projet : _____

LABORATOIRE RESPONSABLE DES ANALYSES :
 Maxxam
 889 Montée de Liesse
 Ville St-Laurent (Qc) H4T 1P5
 Téléphone : (514) 448-9001
 Télécopieur : (514) 448-5922

ÉCHANTILLON	Matrice	Fraction	Qte	Date	Paramètres	Unité	Remarque
321 - Inc - B2345 - 3	H2O2 10% / HNO3 5%	B2345 - Vt: 330 mL	1	2018-09-29	Métaux, Hg	mg	
323 - Inc - B67 - 3	KMNO4 4%/H2SO4 10%	B67 - Vt: 400 mL	1	2018-09-29	Hg	mg	Combiner les échantillons 323 et 324 pour le Hg de la source Inc - Essai #3
324 - Inc - B67-HCl - 3	HCl	B67-HCl - Vt: 225 mL	1	2018-09-29	Hg	mg	Combiner les échantillons 323 et 324 pour le Hg de la source Inc - Essai #3
325 - BI - BS-Acétone - BI	Acétone	BS-Acétone - Vt: 100 mL	1	2018-09-23	Métaux, Hg	mg	Combiner les échantillons 325 à 327 pour les métaux particulières de la source Blanc - Essai #BI
326 - BI - BS-HNO3 - BI	HNO3	BS-HNO3 - Vt: 300 mL	1	2018-09-23	Métaux, Hg	mg	Combiner avec les échantillons 325 et 327 pour les métaux particulières de la source Blanc - Essai #BI
327 - BI - Filtre - BI	Filtre	Poids avant : 0.5176 gr	1	2018-09-23	Métaux, Hg	mg	Combiner les échantillons 325 à 327 pour les métaux particulières de la source Blanc - Essai #BI

REMIS PAR:

REÇU PAR:

Julien DAVIES

DATE:

DATE:

HEURE:

HEURE:

2018/10/19
12:30

ICE: YES
SEAC: NO

Page 4 de 5

DRIVE

7,7,6

2022-125, rue Lavqiser
 Québec (Qc) G1N 4L5
 Tél.: (418) 650-5960
 Fax : (418) 704-2221
 www.consul-air.com

Travaux effectués à : Agnico Eagle - Meliadine
 Projet # : _____
 Chargé de Projet : _____

LABORATOIRE RESPONSABLE DES ANALYSES :
 Maxxam
 889 Montée de Liesse
 Ville St-Laurent (Qc) H4T 1P5
 Téléphone : (514) 448-9001
 Télécopieur : (514) 448-5922

<u>ECHANTILLON</u>	<u>Matrice</u>	<u>Fraction</u>	<u>Qty</u>	<u>Date</u>	<u>Paramètres</u>	<u>Unité</u>	<u>Remarque</u>
328 - BI - Eau - BI	Eau	Eau - Vt: 100 mL	1	2018-09-23	Métaux, Hg	mg	
329 - BI - B123 - BI	H2O2 10% / HNO3 5%	B123 - Vt: 200 mL	1	2018-09-23	Métaux, Hg	mg	
330 - BI - B56 - BI	KMNO4 4%/H2SO4 10%	B56 - Vt: 100 mL	1	2018-09-23	Hg	mg	Combiner les échantillons 330 et 331 pour le Hg de la source Blanc - Essai #BI
331 - BI - B56-HCl - BI	HCl	B56-HCl - Vt: 225 mL	1	2018-09-23	Hg	mg	Combiner les échantillons 330 et 331 pour le Hg de la source Blanc - Essai #BI

REMIS PAR:	DATE: 2018/10/19	HEURE: 12:30
REÇU PAR: J. A. DAVIES	DATE:	HEURE:

DRIVER

4.7, 6

ICE YES
 SEAL NO

Québec, le lundi 15 octobre 2018

Argyro Frangoulis

Maxxam

Ligne Directe: 514.448.9001 #6229

Courriel: AFrangoulis@maxxam.ca

**Objet : Explications de la demande d'analyses pour le projet de Agnico Eagle
(Meliadine).**

Notre no de projet : #18-5528

Bonjour Argyro,

Voici la demande d'analyse concernant le dossier mentionné précédemment. Les mesures ont été effectuées du 22 au 29 septembre 2018. Les échantillons se retrouvent dans une glacière. À cela suivra plus tard les échantillons des métaux particuliers et les échantillons d'eau (# 304, 312, 320 et 328).

DEMANDE D'ANALYSES / MÉTAUX

Les fractions filtres et buse-sonde acétone vous seront envoyées un peu plus tard afin de faire l'analyse pour les métaux particuliers. Pour chacun des essais, nous voulons un résultat combiné des 2 fractions Buse-Sonde (Acétone et HNO₃) et le Filtre (donc 3 échantillons à combiner ex. éch.# 301, 302 et 303 – 309, 310 et 311 etc. Aussi, pour le Mercure d'un même essai, les fractions de KmnO₄ (BB56) et de HCl 8N (BB56-HCL) doivent être combinées (ex. éch.# 307 et 308). Il est important de respecter ces combinaisons exigées.

Il y a aussi les échantillons d'eau, # 304, 312, 320 et 328 qui vont arriver plus tard. L'analyse des métaux et du Hg sera également à faire.

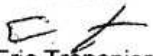
Les métaux à analyser sont les suivants : Al, Sb, Ag, As, Ba, Be, Bi, B, Cd, Ca, Cr, Co, Cu, Sn, Fe, Li, Mg, Mn, Mo, Ni, Pb, K, Se, Na, Ti, V, Zn, Sr, Tl, Si (Silicium soluble), Hg

Il est important de ne pas jeter les échantillons et de nous les retourner après l'analyse.

Pour des renseignements supplémentaires n'hésitez pas à communiquer avec nous.

Envoyer les résultats à eric.trepanier@consul-air.com.

Salutations.


Eric Trépanier

www.consul-air.com

Siège Social : 2022, Lavoisier, bureau 125, Québec (Québec) G1N 4L5 Téléphone : (418) 650-5960 1-866-6969-AIR Télécopieur : (418) 704-2221

Bureau de Montréal : 600, Leclerc, Repentigny (Québec) J6A 2E5 Téléphone : (450) 654-8000 Télécopieur : (450) 654-6730

Envoi pour analyse à Maxxam
Date: 24/10/2018
Chantier: Agnico Eagle(Meliadine)
Projet: 18-5528
Projet Lab: P2333

# du Labo	# de l'échantillon	# Bêcher	Date d'envoi	Retour
171018-1	301 - Inc - BS-Acétone - 1	368	24-10-2018	
171018-2	309 - Inc - BS-Acétone - 2	716	24-10-2018	
171018-3	317 - Inc - BS-Acétone - 3	735	24-10-2018	
171018-4	325 - Bi - BS-Acétone - Bi	#453	24-10-2018	

Note: Nous retourner SVP les béciers après analyse dans leurs boîtes à:

Consulair
Bureau de Repentigny
101-800 Rue Leclerc
Repentigny (Qc), J6A 2E5
Tél: (450) 654-8000 poste 2304
Fax: (450) 654-6730
Courriel: laboratoire@consul-air.com



B847715_COC

to Jamie Dowley

2018/10/24

13:00.

ice-me

deal to

driver.



RAPPORT D'ESSAI

Date : 25 octobre 2018

Réf : P2338-1

Client

Client : C8

Nom : Trépanier Éric

Téléphone : (418) 650-5960 # 2208

Courriel : eric.trepanier@consul-air.com

Adresse :

CONSULAIR Québec
125-2022, rue Lavoisier
Québec QC
G1N 4L5 Canada

Résumé du projet

Nb. d'objets : 7

Projet lab. : P2338

Votre # projet : 18-5517

Chantier : Agnico-Eagle

Résumé des essais

Paramètre(s) accrédités

ST	Paramètre	Q.	Principe (Méthode)	Matrice
	Matières particulaires (MP-A)	4	Gravimétrie (LPT1)	Acétone
	Matières particulaires (MP-F)	3	Gravimétrie (LPT2)	Filtre

ST : paramètre Sous-Traité

Résultats d'essai(s)

ST	Param.	Échantillon (s)		Dates			Résultat(s)		LDR
		# Lab	# Client	Échantillon.	Récep.	Essai	Valeur	Unité	
	MP-A	191018-1	301 - Inc - BS-Acétone - 1	05-10-18	19-10-18	19-10-18	37.0	mg	1.0
		191018-2	309 - Inc - BS-Acétone - 2	06-10-18	19-10-18	19-10-18	53.1	mg	1.0
		191018-3	317 - Inc - BS-Acétone - 3	07-10-18	19-10-18	19-10-18	5.3	mg	1.0
		191018-4	325 - BI - BS-Acétone - BI	06-10-18	19-10-18	19-10-18	< LDR	mg	1.0
	MP-F	191018-5	303 - Inc - Filtre - 1	05-10-18	19-10-18	24-10-18	48.2	mg	0.1
		191018-6	311 - Inc - Filtre - 2	06-10-18	19-10-18	24-10-18	48.4	mg	0.1
		191018-7	319 - Inc - Filtre - 3	07-10-18	19-10-18	24-10-18	46.0	mg	0.1

ST : Essai Sous-Traité

LDR : Limite de Détection Rapportée

Commentaire(s)

1. LPT1 & LPT2: Méthode MA.100-Part 1.0 (Domaine 400 de Chimie de l'air)
2. Le volume de l'échantillon 191018-4 ; V= 110 ml.

Contrôle de qualité

ST	Param.	Date	# Réf	Type	Résultat(s)		LDR
					Valeur	Unité	
	MP-A	19-10-18	BL1910	BL	< LDR	mg	1.0
			MR1910	MR	100.7	% Récup.	-
	MP-F	24-10-18	AP- 02 Conforme	-	-	mg	0.1

ST : Contrôle qualité Sous-Traité

Réf : Référence du contrôle qualité dans le système de suivi du laboratoire

BL : Blanc

MR : Matériau de Référence

DP : Duplicata

RP : Réplicata

AD : Ajout Dosé

EA : Étalon Analogue

TM: Témoin de l'extraction

LDR : Limite de Détection Rapportée

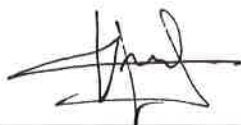
Signature

Les résultats ne se rapportent qu'aux objets soumis à l'essai

Tout ou partie de ce document ne peut être reproduit sans l'autorisation du laboratoire de CONSULAIR.

Ce rapport d'essai est certifié par la (les) personne(s) mentionnée(s) ci-après.

Pour toute question concernant ce certificat d'analyse, veuillez vous adresser directement à :



Malha Kirèche



APPENDIX 5

RAW FIELD DATA



Usine: ME. Meladiine	Date: 22.05.2018	P. Bar (po Hg):	# Cold box: ME-1
Ville: Hawke's Bay	Sonde N°: 05-07	P. Stat. (po H ₂ O):	
ID point d'émission: Incinérateur	Cp: 0.774	Module N°: H25 A/C	K: 38.14
Diamètre: 32.5	Buse N°: 50-502	Ko: 0.999	Niveau du manomètre: ✓
Distance avant: 50	Coef: 0.4684	Distance P-T-B: ✓	Zéro du manomètre: ✓

Heure	Trav.	Point	Temps prélév. (min)	ΔP (po H ₂ O)	ΔH (po H ₂ O)	Températures (°F)		Orifice	Volume Prélevé (pi ³)	Masse molaire				Vaccum po. Hg	Température			
						Cheminée	Compteur			O ₂ (%v)	CO ₂ (%v)	CO (ppmv)	Sonde (°F)		Filtre (°F)	Sortie (°F)	Trappe/Filtre (°F)	
14h45	1	1	5	0.15	1300	79	79	79	534.62	13.4	5.7	2	-2.0			270		
	2	2		0.15	1300	83	83	83	545.49							270		
	3	3		0.15	1348	84	84	84	549.01	14.0	5.4	2						
	3	3		0.15	1348	84	84	84	553.11									
	3	3		0.15	1349	85	85	85	557.22	14.0	5.4	2	-2.0			270		
	4	4		0.15	1354	86	86	86	561.31	14.0	5.3	2						
	4	4		0.15	1346	88	88	88	565.42									
	4	4		0.15	1348	88	88	88	569.51	13.9	5.4							
	5	5		0.15	1350	89	89	89	573.61									
	6	6		0.15	1361	89	89	89	577.68									
	6	6		0.18	1362	92	92	92	581.77									
	6	6		0.19	1354	92	92	92	586.08									
	6	6		0.19	1356	94	94	94	590.10	14.5	5.1					270		
	5	5		0.19	1356	95	95	95	595.00									
	5	5		0.19	1348	95	95	95	599.10	14.3	5.1							
	4	4		0.19	1352	96	96	96	604.03									
	4	4		0.19	1352	96	96	96	608.10									
	3	3		0.18	1355	97	97	97	613.00									
	3	3		0.18	1355	97	97	97	617.49	14.3	5.1							
	3	3		0.15	1357	98	98	98	621.69									
	3	3		0.15	1295	98	98	98	625.82									
	3	3		0.13	1337	99	99	99	629.20									
	3	3		0.13	1345	99	99	99	633.54				-2.0					

TDF Initial Débit (pi³/min): < 0.01	Pression (inHg): -15" Hg	Volume fin (pi³):	Volume fin (pi³):	Fuite Pitot (ΔP):
TDF Final Débit (pi³/min): < 0.01	Pression (inHg): -12" Hg	Volume fin (pi³):	Volume fin (pi³):	

REMARQUES: O₂/CO₂ - Utiliser le formulaire de gaz en continu pour calibration des appareils.

ΔP → 0.17
 ΔR → 0.19
 ΔR → 0.13

TECHNICIEN :

Décontamination avant essai et détermination de l'humidité recueillie - USEPA 29

Compagnie:	AE - MRADINE	Projet:	5528
Source:	Incinerateur	Essai:	MEI
Échantillonnée le:	22.09.2018	Date de l'assemblage:	27.09.2018
		Heure:	

DÉCONTAMINATION AVANT ESSAI DE LA BUSE ET DE LA SONDE

Item	Remarques	Brosser acétone	Rincer 3x HNO ₃ 10%	Rincer 3x H ₂ O démin.	Rincer 3x Acétone
Buse et liner de verre		✓	✓	✓	✓

Vérification de la buse et sondes d'échantillonnage à conserver :	OUI	NON
---	-----	------------

DÉCONTAMINATION AVANT ESSAI DU TRAIN

Item	Remarques	Brosser acétone (si nécessaire)	Rincer 3x HNO ₃ 10%	Rincer 3x H ₂ O démin.	Rincer 3x Acétone
du by-pass au barboteur 6			✓	✓	✓

Vérification du train d'échantillonnage à conserver :	OUI	NON
---	-----	------------

Remarques :
VOLUME D'EAU RECUEILLI (g)

ITEM #	PIÈCES	CONTENU	POIDS		
			APRÈS	AVANT	TOTAL
1	Barboteur 1 - GS mod	VIDE (optionnel) OU CMM H ₂ O déminéralisée (100 ml)	682.1	599.7	
2	Barboteur 2 - GS mod	HNO ₃ 5% / H ₂ O ₂ 10% (100 ml)	722.2	693.0	
3	Barboteur 3 - GS	HNO ₃ 5% / H ₂ O ₂ 10% (100 ml)	567.3	562.3	
4	Barboteur 4 - GS mod	VIDE ✓	517.1	517.7	
5	Barboteur 5 - GS mod	KMnO ₄ 4% / H ₂ SO ₄ 10% (100 ml) recouvert d'aluminium	613.0	613.4	
6	Barboteur 6 - GS mod	KMnO ₄ 4% / H ₂ SO ₄ 10% (100 ml) recouvert d'aluminium	791.5	792.2	
7	Contenant de dessicant	GEL DE SILICE	1766.2	1747.8	133.3
TOTAL			5659.4	5526.1	

PARTICULES TOTALES (g)

# FILTRE QUARTZ	POIDS (g)	REMARQUES
182R-4223		

LOTS DES PRODUITS UTILISÉS

Produits	# LOT
Acétone AOS OPTIMA	153394
Solution d'acide nitrique (HNO ₃) 10%	A. 148
Solution d'acide nitrique (HNO ₃) 0.1 N	A. 148
Solution d'acide sulfurique (H ₂ SO ₄) 10%	A. 136
Solution d'acide chlorhydrique (HCl) 8N	A. 095
Permanganate de potassium (KMnO ₄)	A. 101.7
Solution H ₂ O ₂ 10% / HNO ₃ 5%	A. 148 / R-387

Remarques:
Technicien :

Récupération finale du dispositif de prélèvement MÉTAUX USEPA 29

Date de récupération :	23.09.2018	Heure de récupération :	8h00
Pesée des barboteurs pour l'humidité :		Nettoyage de l'extérieur des différentes pièces :	
Conditionnement des contenants de récupération :			

Contenant 1 - Récupération du filtre (Séparateur principal)

Mettre le filtre dans un pétri propre et scellé (pince en polyéthylène ou teflon)	
---	--

Contenants 2 et 3 - Récupération de la buse et de la sonde

Items	Remarques	Brosser 100 ml Acétone	Rincer 100 ml HNO ₃ 0.1N	Niveau
de la buse à la partie avant du porte-filtre				

Contenant 4 - Récupération de la partie arrière du porte-filtre aux barboteurs métaux (Barb. 1-2 & 3)

Items	Remarques	Rincer 100 mL HNO ₃ 0.1N	Niveau	Volume (mL)
de la partie arrière du porte-filtre aux barboteurs métaux (Barb. 1-2 & 3)	BB 1234			334

Contenant 5 - Récupération barboteurs 4 seul

Items	Remarques	Rincer 100 ml HNO ₃ 0.1N	Niveau	Volume (mL)
barboteur 4	Avec 123			

Contenant 6 - Récupération barboteurs 5 et 6 (KMnO₄)

Items	Remarques	Rincer 100 ml KMnO ₄ /H ₂ SO ₄	Rincer 100 ml eau	Niveau	Volume (mL)
du barboteur 5 au barboteur 6 (pot de verre ambré)					390

Contenant 7 - Récupération barboteurs 5 et 6 (KMnO₄) avec HCl 8N

Items	Remarques	200 mL H ₂ O dans bouteille récup. Rincer 25 mL HCl 8N	Niveau	Volume (mL)
du barboteur 5 au barboteur 6				225

Remarques:

BB 1-3 HCl 180 cc

BB 4 → Rincer avec BB 123 parce qu'il était vide après les tests

Blancs :

100 mL Acétone	
300 mL 0.1 N HNO ₃	
100 mL H ₂ O	
200 mL Solution H ₂ O ₂ 10% / HNO ₃ 5%	
100 mL KMnO ₄ 4% / H ₂ SO ₄ 10%	
200 mL H ₂ O + 25 mL HCL 8N	
Filtre Quartz (x3)	

Pour la demande d'analyse, voici les échantillons:

- 1a- Métaux sur contenants 1 + 2 + 3
- 1b- Hg sur contenants 1 + 2 + 3
- 2a- Métaux sur contenant 4
- 2b- Hg sur contenant 4
- 3a- Hg sur contenant 5
- 3b- Hg sur contenant 6
- 3c- Hg sur contenant 7

Technicien :

Laboratoire - Décontamination initiale des ensembles de verrerie - MÉTAUX USEPA 29

Compagnie: _____

Source: _____

Échantillonnée le: _____

Projet: _____

Essai: _____

Date décontamination: _____

du Cold box: 115-1

du filtre: _____

Heure: _____

Décontamination		Remarques	Rinçage Eau	Eau + Savon	Eau	Rincer H ₂ O démin.	Tremper HNO ₃ 10%	Rincer H ₂ O démin.	Rincer Acétone
Item (dans l'ordre)			1 x	1 x	3 x	3 x	4 hrs	3 x	3 x
By pass			✓	✓	✓	✓	✓	✓	✓
Cyclone (si applicable)									
Erlenmeyer (si applicable)									
Cloche femelle									
Support à filtre en téflon									
Cloche mâle									
Coude (bas cloche - barb.)									
Barboteur 1	✓		✓	✓	✓	✓	✓	✓	✓
Barboteur 2			✓	✓	✓	✓	✓	✓	✓
Barboteur 3			✓	✓	✓	✓	✓	✓	✓
Barboteur 4 (si applicable)			✓	✓	✓	✓	✓	✓	✓
Barboteur 5 (si Hg)			✓	✓	✓	✓	✓	✓	✓
Barboteur 6 (si Hg)			✓	✓	✓	✓	✓	✓	✓
Coudes (5 ou)			✓	✓	✓	✓	✓	✓	✓
Liner de verre									
Vérification initiale de la verrerie et du liner du train d'échantillonnage et conserver le dernier rinçage à l'acétone si nécessaire.							Rincer		+ Brosser
Buse de verre									+ Brosser
Vérification initiale de la buse, conserver le dernier rinçage à l'acétone si nécessaire.									
N.B. Joint d'étanchéité en téflon									
Commentaires:									

Décontaminé par: JD

Date: 01/11/2014

Endroit: QC

Laboratoire - Décontamination initiale des ensembles de verrerie - MÉTAUX USEPA 29

Compagnie: _____ Projet: _____ # du Cold box: _____
 Source: _____ Essai: _____ # du filtre: _____
 Échantillonnée le: _____ Date décontamination: _____ Heure: _____

Décontamination		Rinçage Eau	Eau + Savon	Eau	Rincer H ₂ O démin.	Tremper HNO ₃ 10% 4 hrs	Rincer H ₂ O démin.	Rincer Acétone
Item (dans l'ordre)	Remarques	1 x	1 x	3 x	3 x	4 hrs	3 x	3 x
By pass		✓	✓	✓	✓	✓	✓	✓
Cyclone (si applicable)								
Erlenmeyer (si applicable)								
Cloche femelle		✓	✓	✓	✓	✓	✓	✓
Support à filtre en téflon		✓	✓	✓	✓	✓	✓	✓
Cloche mâle		✓	✓	✓	✓	✓	✓	✓
Coude (bas cloche - barb.)								
Barboteur 1								
Barboteur 2								
Barboteur 3								
Barboteur 4 (si applicable)								
Barboteur 5 (si Hg)								
Barboteur 6 (si Hg)								
Coudes (5 ou ...)								
Liner de verre								
Vérification initiale de la verrerie et du liner du train d'échantillonnage et conserver le dernier rinçage à l'acétone si nécessaire.								
Buse de verre								
Vérification initiale de la buse, conserver le dernier rinçage à l'acétone si nécessaire.								
N.B. Joint d'étanchéité en téflon								
Commentaires:								

Décontaminé par: *JD* Date: *04/09/2014* Endroit: *QC*

Usine: AE Meliadice	Date: 23.09.2018	P. Bar (po Hg):	# Cold box: ME-1
Ville: RANVIN WET		P. Stat. (po H ₂ O): -0.01	
ID point d'émission: Wéviniteur	Sonde N°: 05.07 (SQ.501)	Module N°: 25 NC	K': 28.82
Diamètre: 32 1/2"	Cp: 0.724	Kc: 0.999	
Distance avant: 50	Buse N°: SQ-434	Ko: 0.333	Niveau du manomètre: -
Distance après: 20	Coef: 0.4366	Distance P-T°B: -	Zéro du manomètre: -

Heure	Trav.	Point	Temps prélév. (min)	ΔP (po H ₂ O)	ΔH (po H ₂ O)	Températures (°F)			Volume Prélevé (pi ³)	Masse molaire			Vaccum po. Hg	Température		
						Cheminée	Compteur	Orifice		O ₂ (%v)	CO ₂ (%v)	CO (ppmv)		Sonde (°F)	Filtre (°F)	Sortie (°F)
1434	1	1	5	0.15	1.31	1290	72	71	636.82	15.4	4.9	3	22.0	260	—	40
		1		0.15	1.28	1341	72	72	610.06							
		1		0.15	1.28	1349	73	72	643.21							
		2		0.14	1.19	1352	74	74	696.52							
		2		0.14	1.19	1354	76	76	649.71	14.6	4.7			272	—	
		2		0.14	1.19	1354	78	78	652.87							
		3		0.13	1.13	1344	80	80	656.06	15.1	4.7					
		3		0.13	1.13	1340	82	82	659.14							
		3		0.13	1.12	1348	83	83	662.29	14.5	4.9	3				
		4		0.13	1.12	1347	85	85	665.19							
		4		0.13	1.12	1345	86	86	668.50	14.5	4.9					
		4		0.13	1.14	1348	87	87	671.62							
		5		0.13	1.15	1334	89	89	674.72	15.2	4.4					
		5		0.13	1.15	1336	91	91	677.84							
		5		0.13	1.15	1337	92	92	680.96	15.1	4.4	4				
		6		0.12	1.06	1334	93	93	684.09							
		6		0.12	1.06	1334	93	93	687.13	15.3	4.3	4	3.0	270	—	40
		6	12	0.12	1.06	1340	94	94	690.18							
		6		0.12	1.06	1340	95	95	693.21							

TDF Initial Débit (pi ³ /min):	0.01	Pression (inhg):	17.1145	Volume ini (pi ³):	Volume fin (pi ³):	Fuite Pitot (ΔP):
TDF Final Débit (pi ³ /min):		Pression (inhg):		Volume ini (pi ³):	Volume fin (pi ³):	
REMARQUES						
O ₂ /CO ₂ - Utiliser le formulaire de gaz en continu pour calibration des appareils.						

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TECHNICIEN :

Décontamination avant essai et détermination de l'humidité recueillie - USEPA 29

Compagnie: <u>AEM-M41</u>	Projet: <u>18-5528</u>
Source: <u>incinérateur</u>	Essai: <u>2</u> # Cold Box: <u>ME-1</u>
Échantillonnée le: <u>28-09-2018</u>	Date de l'assemblage: <u>18-09-2018</u> Heure: <u>10h30</u>

DÉCONTAMINATION AVANT ESSAI DE LA BUSE ET DE LA SONDE

Item	Remarques	Brosser acétone	Rincer 3x HNO ₃ 10%	Rincer 3x H ₂ O démin.	Rincer 3x Acétone
Buse et liner de verre		✓	✓	✓	✓
Vérification de la buse et sondes d'échantillonnage à conserver :				OUI	NON

DÉCONTAMINATION AVANT ESSAI DU TRAIN

Item	Remarques	Brosser acétone (si nécessaire)	Rincer 3x HNO ₃ 10%	Rincer 3x H ₂ O démin.	Rincer 3x Acétone
du by-pass au barboteur 6		✓	✓	✓	✓
Vérification du train d'échantillonnage à conserver :				OUI	NON

Remarques :

VOLUME D'EAU RECUEILLI (g)

ITEM #	PIÈCES	CONTENU	POIDS		
			APRÈS	AVANT	TOTAL
1	Barboteur 1 - GS mod	<u>VIDE (optionnel) OU</u> CMM H ₂ O déminéralisée (100 ml)	<u>682.6</u>	<u>609.7</u>	
2	Barboteur 2 - GS mod	HNO ₃ 5% / H ₂ O ₂ 10% (100 ml)	<u>702.5</u>	<u>684.9</u>	
3	Barboteur 3 - GS	HNO ₃ 5% / H ₂ O ₂ 10% (100 ml)	<u>573.5</u>	<u>565.5</u>	
4	Barboteur 4 - GS mod	VIDE	<u>520.4</u>	<u>520.8</u>	
5	Barboteur 5 - GS mod	KMnO ₄ 4% / H ₂ SO ₄ 10% (100 ml) recouvert d'aluminium	<u>611.7</u>	<u>612.2</u>	
6	Barboteur 6 - GS mod	KMnO ₄ 4% / H ₂ SO ₄ 10% (100 ml) recouvert d'aluminium	<u>781.4</u>	<u>783.3</u>	
7	Contenant de dessicant	GEL DE SILICE	<u>1782.6</u>	<u>1761.7</u>	<u>121.6</u>
TOTAL					

PARTICULES TOTALES (g)

# FILTRE QUARTZ	POIDS (g)	REMARQUES

LOTS DES PRODUITS UTILISÉS

Produits	# LOT
Acétone ACS	
Solution d'acide nitrique (HNO ₃) 10%	
Solution d'acide nitrique (HNO ₃) 0.1 N	
Solution d'acide sulfurique (H ₂ SO ₄) 10%	
Solution d'acide chlorhydrique (HCl) 8N	
Permanganate de potassium (KMnO ₄)	
Solution H ₂ O ₂ 10% / HNO ₃ 5%	

Remarques:

Technicien :

Récupération finale du dispositif de prélèvement MÉTAUX USEPA 29

Date de récupération :	29-09-2018	Heure de récupération:	8h00
Pesée des barboteurs pour l'humidité:	✓	Nettoyage de l'extérieur des différentes pièces :	✓
Conditionnement des contenants de récupération :	✓		

Contenant 1 - Récupération du filtre (Séparateur principal)

Mettre le filtre dans un pétri propre et scellé (pince en polyéthylène ou teflon)	✓
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Contenants 2 et 3 - Récupération de la buse et de la sonde

Items	Remarques	Brusher 100 ml Acétone	Rincer 100 ml HNO ₃ 0,1N	Niveau
de la buse à la partie avant du porte-filtre		✓	✓	✓

Contenant 4 - Récupération de la partie arrière du porte-filtre aux barboteurs métaux (Barb. 1-2 & 3)

Items	Remarques	Rincer 100 mL HNO ₃ 0.1N	Niveau	Volume (mL)
de la partie arrière du porte-filtre aux barboteurs métaux (Barb. 1-2 & 3) +4		✓	✓	323

Contenant 5 - Récupération barboteurs 4 seul

Items	Remarques	Rincer 100 ml HNO ₃ 0.1N	Niveau	Volume (mL)
barboteur 4	Avec BB123			

Contenant 6 - Récupération barboteurs 5 et 6 (KMnO₄)

Items	Remarques	Rincer 100 ml KMnO ₄ /H ₂ SO ₄	Rincer 100 ml eau	Niveau	Volume (mL)
du barboteur 5 au barboteur 6 (pot de verre ambré)		✓	✓	✓	400

Contenant 7 - Récupération barboteurs 5 et 6 (KMnO₄) avec HCl 8N

Items	Remarques	200 mL H ₂ O dans bouteille récup. Rincer 25 mL HCl 8N	Niveau	Volume (mL)
du barboteur 5 au barboteur 6		✓	✓	225

Remarques:

BB1 → H₂Re → 188cc
 BB4 → Vide Rincer Avec BB123

Blancs :

100 mL Acétone		Pour la demande d'analyse, voici les échantillons: 1a- Métaux sur contenants 1 + 2 + 3 1b- Hg sur contenants 1 + 2 + 3 2a- Métaux sur contenant 4 2b- Hg sur contenant 4 3a- Hg sur contenant 5 3b- Hg sur contenant 6 3c- Hg sur contenant 7
300 mL 0.1 N HNO ₃		
100 mL H ₂ O		
200 mL Solution H ₂ O ₂ 10% / HNO ₃ 5%		
100 mL KMnO ₄ 4% / H ₂ SO ₄ 10%		
200 mL H ₂ O + 25 mL HCL 8N		
Filtre Quartz (x3)		

Technicien :

Usine : AE MEYLANDINE	Date : 29-09-2018	P. Bar (po Hg):	# Cold box : ME.1
Ville : RANANIVATO	Sonde N° : 05-07 Q 501	P. Stat. (po H ₂ O):	
ID point d'émission : Incinerateur	Cp : 0.774	Module N° : 85 NC	
Diamètre : 30.5"	Buse N° : 50.434	Kc : 0.999	K' : 28.82
Distance avant : 50	Coef : 0.4366	Ko : 0.733	Niveau du manomètre: ☒
Distance après : 20		Distance P-T°-B : ☒	Zéro du manomètre: ☒

Heure	Trav.	Point	Temps prélév. (min)	ΔP (po H ₂ O)	ΔH (po H ₂ O)	Températures (°F)			Orifice	Masse molaire				Volume Prélevé (pi ³)	Vaccum			Température			
						Cheminée	Compteur			O ₂ (%)	CO ₂ (%)	CO (ppmv)	po. Hg		Sonde (°F)	Filtre (°F)	Sortie (°F)	Trappe/Filtre (°F)			
16h14	1	1	5	0.20	1.68	1327	78	78	+	12.9	1.0	3	-3.0	747.13			200	50	✓		
		1		0.20	1.72	1347	79	79						750.81							
		2		0.20	1.77	1350	80	80						754.60							
		3		0.20	1.71	1360	81	81						758.43							
		2		0.20	1.70	1374	81	81						762.18							
		3		0.20	1.70	1378	82	82						765.96							
		3		0.22	1.87	1380	83	83						769.21							
		3		0.23	1.94	1393	84	84						773.68							
		3		0.23	1.94	1401	85	85						777.76			268				
		3		0.23	1.92	1410	85	85						781.26							
		3		0.23	1.92	1420	86	86						785.31							
		3		0.23	1.92	1423	87	87						789.22							
		3		0.23	1.92	1431	87	87						793.27							
		3		0.23	1.68	1418	89	89						801.57							
		3		0.20	1.68	1430	90	90						805.38							
		3		0.20	1.69	1418	90	90						809.19							
		3		0.20	1.67	1440	90	90						813.00			220				
		3	12	0.20	1.67	1441	91	91						816.78							

TDF Initial Débit (pi³/min): 20.0	Pression (inhg) : 15" Hg	Volume fin (pi³):	Volume fin (pi³):	Fuite Pitot (ΔP):
TDF Final Débit (pi³/min):	Pression (inhg):	Volume fin (pi³):	Volume fin (pi³):	

REMARQUES: O₂/CO₂ - Utiliser le formulaire de gaz en continu pour calibration des appareils.

TECHNICIEN :

Usine :	Date :	P. Bar (po Hg) :	# Cold box :
Ville :		P. Stat. (po H ₂ O) :	
ID point d'émission :	Sonde N° :	Module N° :	K' :
Diamètre :	Cp :	Kc :	
Distance avant :	Buse N° :	Ko :	Niveau du manomètre :
Distance après :	Coef :	Distance P-T°B :	Zéro du manomètre :

Heure	Trav.	Point	Temps prélèv. (min)	ΔP (po H ₂ O)	ΔH (po H ₂ O)	Températures (°F)			Volume Prélevé (pi ³)	Masse molaire			Vaccum po. Hg	Température		
						Cheminée	Compteur			Orifice	O ₂ (%v)	CO ₂ (%v)		CO (ppmv)	Sonde (°F)	Filtre (°F)
Entrée	Sortie															
2	6	5	0.20	1.66	1451	91	91	81.78	14.1	5.2	3	-3.0	270	90	—	
—	5	4	0.19	1.57	1476	94	94	831.88	14.0	5.3	3					
—	3	3	0.21	1.71	1518	99	99	846.82	10.9	6.2						
—	3	3	0.21	1.71	1522	103	103	862.27	8.6	6.14						
—	3	3	0.17	1.39	1560	106	106	876.67	8.8	3.81						

Fuite Pitot (ΔP) :	
TDF Initial Débit (pt^3/min):	Pression (inhg) : Volume ini (pt^3): Volume fin (pt^3):
TDF Final Débit (pt^3/min):	Pression (inhg) : Volume ini (pt^3): Volume fin (pt^3):
REMARQUES	O ₂ /CO ₂ - Utiliser le formulaire de gaz en continu pour calibration des appareils.

O₂/CO₂ - Utiliser le formulaire de gaz en continu pour calibration des appareils.

TECHNICIEN :

Décontamination avant essai et détermination de l'humidité recueillie - USEPA 29

Compagnie: <u>AE, Melia d'ne</u>	Projet: <u>528</u>
Source: <u>Incinérateur</u>	Essai: <u>#3</u> # Cold Box: <u>ME-1</u>
Échantillonnée le: <u>28-09-2018</u>	Date de l'assemblage: <u>28-09-2018</u> Heure: <u>7h00</u>

DÉCONTAMINATION AVANT ESSAI DE LA BUSE ET DE LA SONDE

Item	Remarques	Brosser acétone	Rincer 3x HNO ₃ 10%	Rincer 3x H ₂ O démin.	Rincer 3x Acétone
Buse et liner de verre		✓	✓	✓	✓
Vérification de la buse et sondes d'échantillonnage à conserver :				OUI	NON

DÉCONTAMINATION AVANT ESSAI DU TRAIN

Item	Remarques	Brosser acétone (si nécessaire)	Rincer 3x HNO ₃ 10%	Rincer 3x H ₂ O démin.	Rincer 3x Acétone
du by-pass au barboteur 6			✓	✓	✓
Vérification du train d'échantillonnage à conserver :				OUI	NON

Remarques :

VOLUME D'EAU RECUEILLI (g)

ITEM #	PIÈCES	CONTENU	POIDS		
			APRÈS	AVANT	TOTAL
1	Barboteur 1 - GS mod	VIDE (optionnel) OU CMM H ₂ O déminéralisée (100 ml)	740.1	604.4	
2	Barboteur 2 - GS mod	HNO ₃ 5% / H ₂ O ₂ 10% (100 ml)	711.9	684.0	
3	Barboteur 3 - GS	HNO ₃ 5% / H ₂ O ₂ 10% (100 ml)	575.8	570.9	
4	Barboteur 4 - GS mod	VIDE	519.6	518.9	
5	Barboteur 5 - GS mod	KMnO ₄ 4% / H ₂ SO ₄ 10% (100 ml) recouvert d'aluminium	623.3	624.0	
6	Barboteur 6 - GS mod	KMnO ₄ 4% / H ₂ SO ₄ 10% (100 ml) recouvert d'aluminium	773.1	774.0	
7	Contenant de dessicant	GEL DE SILICE	1801.7	1780.6	1822
TOTAL					

PARTICULES TOTALES (g)

# FILTRE QUARTZ	POIDS (g)	REMARQUES

LOTS DES PRODUITS UTILISÉS

Produits	# LOT
Acétone ACS	
Solution d'acide nitrique (HNO ₃) 10%	
Solution d'acide nitrique (HNO ₃) 0.1 N	
Solution d'acide sulfurique (H ₂ SO ₄) 10%	
Solution d'acide chlorhydrique (HCl) 8N	
Permanganate de potassium (KMnO ₄)	
Solution H ₂ O ₂ 10% / HNO ₃ 5%	

Remarques:

Technicien :

Récupération finale du dispositif de prélèvement MÉTAUX USEPA 29

Date de récupération :	30 9 2018	Heure de récupération:	07h15
Pesée des barboteurs pour l'humidité:	☒	Nettoyage de l'extérieur des différentes pièces :	☒
Conditionnement des contenants de récupération :	☒		

Contenant 1 - Récupération du filtre (Séparateur principal)

Mettre le filtre dans un pétri propre et scellé (pince en polyéthylène ou teflon)	☒
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Contenants 2 et 3 - Récupération de la buse et de la sonde

Items	Remarques	Brasser 100 ml Acétone	Rincer 100 ml HNO ₃ 0,1N	Niveau
de la buse à la partie avant du porte-filtre		☒	☒	☒

Contenant 4 - Récupération de la partie arrière du porte-filtre aux barboteurs métaux (Barb. 1-2 & 3)

Items	Remarques	Rincer 100 mL HNO ₃ 0.1N	Niveau	Volume (mL)
de la partie arrière du porte-filtre aux barboteurs métaux (Barb. 1-2 & 3)	230 + 100	☒	☒	330

Contenant 5 - Récupération barboteurs 4 seul

Items	Remarques	Rincer 100 ml HNO ₃ 0.1N	Niveau	Volume (mL)
barboteur 4	Avec BB 123	☒	☒	

Contenant 6 - Récupération barboteurs 5 et 6 (KMnO₄)

Items	Remarques	Rincer 100 ml KMnO ₄ /H ₂ SO ₄	Rincer 100 ml eau	Niveau	Volume (mL)
du barboteur 5 au barboteur 6 (pot de verre ambré)		☒	☒	☒	400

Contenant 7 - Récupération barboteurs 5 et 6 (KMnO₄) avec HCl 8N

Items	Remarques	200 mL H ₂ O dans bouteille récup. Rincer 25 mL HCl 8N	Niveau	Volume (mL)
du barboteur 5 au barboteur 6		☒	☒	225

Remarques:

BB 1 → HCl → 240 mL

BB4 avec BB 123

Blancs :

100 mL Acétone	
300 mL 0.1 N HNO ₃	
100 mL H ₂ O	
200 mL Solution H ₂ O ₂ 10% / HNO ₃ 5%	
100 mL KMnO ₄ 4% / H ₂ SO ₄ 10%	
200 mL H ₂ O + 25 mL HCL 8N	
Filtre Quartz (x3)	

Pour la demande d'analyse, voici les échantillons:

1a- Métaux sur contenants 1 + 2 + 3

1b- Hg sur contenants 1 + 2 + 3

2a- Métaux sur contenant 4

2b- Hg sur contenant 4

3a- Hg sur contenant 5

3b- Hg sur contenant 6

3c- Hg sur contenant 7

Technicien :

Décontamination avant essai et détermination de l'humidité recueillie - USEPA 29

Compagnie: <u>AEM - MEI</u>	Projet: <u>18-5528</u>
Source: <u>Initiative</u>	Essai: <u>BL</u> # Cold Box: <u>ME-2</u>
Échantillonnée le: <u>2018-09-23</u>	Date de l'assemblage: <u>18-09-23</u> Heure: <u>9600</u>

DÉCONTAMINATION AVANT ESSAI DE LA BUSE ET DE LA SONDE

Item	Remarques	Brosser acétone	Rincer 3x HNO ₃ 10%	Rincer 3x H ₂ O démin.	Rincer 3x Acétone
Buse et liner de verre			✓	✓	✓
Vérification de la buse et sondes d'échantillonnage à conserver :				OUI	<u>NON</u>

DÉCONTAMINATION AVANT ESSAI DU TRAIN

Item	Remarques	Brosser acétone (si nécessaire)	Rincer 3x HNO ₃ 10%	Rincer 3x H ₂ O démin.	Rincer 3x Acétone
du by-pass au barboteur 6			✓	✓	✓
Vérification du train d'échantillonnage à conserver :				OUI	<u>NON</u>

Remarques :

VOLUME D'EAU RECUEILLI (g)

ITEM #	PIÈCES	CONTENU	POIDS		
			APRÈS	AVANT	TOTAL
1	Barboteur 1 - GS mod	VIDE (optionnel) OU CMM H ₂ O déminéralisée (100 ml)		<u>603.0</u>	
2	Barboteur 2 - GS mod	HNO ₃ 5% / H ₂ O ₂ 10% (100 ml)		<u>705.1</u>	
3	Barboteur 3 - GS	HNO ₃ 5% / H ₂ O ₂ 10% (100 ml)		<u>560.1</u>	
4	Barboteur 4 - GS mod	VIDE		<u>519.2</u>	
5	Barboteur 5 - GS mod	KMnO ₄ 4% / H ₂ SO ₄ 10% (100 ml) recouvert d'aluminium		<u>620.4</u>	
6	Barboteur 6 - GS mod	KMnO ₄ 4% / H ₂ SO ₄ 10% (100 ml) recouvert d'aluminium		<u>764.1</u>	
7	Contenant de dessicant	GEL DE SILICE		<u>1766.7</u>	
TOTAL					

PARTICULES TOTALES (g)

# FILTRE QUARTZ	POIDS (g)	REMARQUES

LOTS DES PRODUITS UTILISÉS

Produits	# LOT
Acétone ACS <u>optima</u>	<u>B3 PM</u>
Solution d'acide nitrique (HNO ₃) 10%	<u>A-148</u>
Solution d'acide nitrique (HNO ₃) 0.1 N	<u>A-148</u>
Solution d'acide sulfurique (H ₂ SO ₄) 10%	<u>A-136</u>
Solution d'acide chlorhydrique (HCl) 8N	<u>A-085</u>
Permanganate de potassium (KMnO ₄)	<u>A-1017</u>
Solution H ₂ O ₂ 10% / HNO ₃ 5%	

Remarques:

Technicien :

Récupération finale du dispositif de prélèvement MÉTAUX USEPA 29

Date de récupération :	24.09.2018	Heure de récupération:	10h00
Pesée des barboteurs pour l'humidité:	✓	Nettoyage de l'extérieur des différentes pièces :	✓
Conditionnement des contenants de récupération :	✓		

Contenant 1 - Récupération du filtre (Séparateur principal)

Mettre le filtre dans un pétri propre et scellé (pince en polyéthylène ou teflon)	✓
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Contenants 2 et 3 - Récupération de la buse et de la sonde

Items	Remarques	Brosser 100 ml Acétone	Rincer 100 ml HNO ₃ 0,1N	Niveau
de la buse à la partie avant du porte-filtre		✓	✓	✓

Contenant 4 - Récupération de la partie arrière du porte-filtre aux barboteurs métaux (Barb. 1-2 & 3)

Items	Remarques	Rincer 100 mL HNO ₃ 0.1N	Niveau	Volume (mL)
de la partie arrière du porte-filtre aux barboteurs métaux (Barb. 1-2 & 3)		✓	✓	~ 300

Contenant 5 - Récupération barboteurs 4 seul

Items	Remarques	Rincer 100 ml HNO ₃ 0.1N	Niveau	Volume (mL)
barboteur 4	Avec 123	✓	✓	✓

Contenant 6 - Récupération barboteurs 5 et 6 (KMnO₄)

Items	Remarques	Rincer 100 ml KMnO ₄ /H ₂ SO ₄	Rincer 100 ml eau	Niveau	Volume (mL)
du barboteur 5 au barboteur 6 (pot de verre ambré)		✓	✓	✓	400

Contenant 7 - Récupération barboteurs 5 et 6 (KMnO₄) avec HCl 8N

Items	Remarques	200 mL H ₂ O dans bouteille récup. Rincer 25 mL HCl 8N	Niveau	Volume (mL)
du barboteur 5 au barboteur 6		✓	✓	225

Remarques:

BB1 - HCl → 100 cc

BB4 - Rincer avec BB 123

Blancs :

100 mL Acétone	✓
300 mL 0.1 N HNO ₃	✓
100 mL H ₂ O	✓
200 mL Solution H ₂ O ₂ 10% / HNO ₃ 5%	✓
100 mL KMnO ₄ 4% / H ₂ SO ₄ 10%	✓
200 mL H ₂ O + 25 mL HCL 8N	✓
Filtre Quartz (x3)	

Pour la demande d'analyse, voici les échantillons:

1a- Métaux sur contenants 1 + 2 + 3

1b- Hg sur contenants 1 + 2 + 3

2a- Métaux sur contenant 4

2b- Hg sur contenant 4

3a- Hg sur contenant 5

3b- Hg sur contenant 6

3c- Hg sur contenant 7

Technicien :

Usine: AF Melindine Date: 22.09.2018

Ville: Rankin Inlet

ID point d'émission: 1 (Kleinnoton)

Diamètre: 32.5

Distance avant: 50

Distance après: 20

Cold box: OR-2/V1

K': 26.18

Niveau du manomètre: —

Zéro du manomètre: —

Heure	Trav.	Point	Temps prélèv. (min)	ΔP (po H ₂ O)	ΔH (po H ₂ O)	Températures (°F)			Orifice	Volume Prélevé (pi ³)	Masse molaire			Vaccum po. Hg	Température		
						Cheminée	Compteur				O ₂ (%v)	CO ₂ (%v)	CO (ppmv)		Sonde (°F)	Filtre (°F)	Sortie (°F)
13444	1	1	5	0.18	0.45	1330	60	76	48.51	13.4	5.3	3	-1.0	—	—	37	
	1	1	1	0.17	0.43	1345	1	77	48.0	13.4	5.6	3	-1.0				
	1	1	1	0.17	0.43	1345	1	77	49.046	13.4	5.7	3					
	2	2	1	0.17	0.43	1352	1	78	49.292	13.4	5.2	3				36	
	2	2	1	0.17	0.43	1356	1	79	49.588	13.5	5.2	2					
	2	2	1	0.18	0.41	1354	1	80	49.785	13.5	5.2	2					
	2	2	1	0.18	0.41	1354	1	80	50.35	13.5	5.2	2	-1.0			36	
	3	3	1	0.21	0.41	1363	1	82	50.87	13.5	5.2	2	-1.0			36	
	3	3	1	0.21	0.43	1366	1	82	50.838	13.5	5.2	2	-1.0			39	
	3	3	1	0.21	0.43	1381	1	84	50.29	13.4	5.2	2					
	3	3	1	0.21	0.43	1377	1	83	51.50	13.4	5.2	2	-1.5				
	3	3	1	0.21	0.43	1379	1	84	51.62	13.5	5.2	2					
	4	4	1	0.21	0.43	1380	1	85	51.61	13.5	5.2	2	-1.5			39	
	4	4	1	0.21	0.43	1373	1	85	52.28	13.9	5.4			200			
	4	4	1	0.21	0.43	1373	1	85	52.28	13.5	5.4					39	
	5	5	1	0.18	0.41	1348	1	87	52.27	14.0	5.3		-1.5				
	5	5	1	0.18	0.41	1350	1	87	52.26	14.0	5.3						
	5	5	1	0.18	0.41	1354	1	88	53.679	14.0	5.3	2					
	6	6	1	0.18	0.41	1355	1	88	53.34	14.0	5.3	2					
	6	6	1	0.18	0.41	1359	1	90	54.87	14.0	5.3	2					
	6	6	1	0.18	0.41	1366	1	90	54.87	14.0	5.3	2					
	6	6	1	0.18	0.41	1350	1	90	54.36	14.0	5.3						

TDF Initial Débit (pi³/min): 0.015 Pression (inhg): 15" Hg Volume ini (pi³):

TDF Final Débit (pi³/min): Pression (inhg): Volume fin (pi³):

REMARQUES: O₂/CO₂ - Utiliser le formulaire de gaz en continu pour calibration des appareils.

ΔP = 0.16 ABW = 0.16
max ΔP = 0.21

TECHNICIEN :

Vérification avant essai et montage du dispositif de prélèvement - COSV (SPE 1/RM/2)

Compagnie: <u>AE Heliodive</u>	Projet: <u>5528</u>	# Ensemble de verrerie: <u>28</u>
Source: <u>Incinerateur</u>	Essai: <u>E1</u>	# Hot Box: <u>OR.2 / V1</u>
Date: <u>22-05-2018</u>	Heure: <u>17h00</u>	

1 - DÉCONTAMINATION & VÉRIFICATION AVANT ESSAI - BUSE ET SONDE

Item	Remarques	Brosse - DHA	HA
		3x Ch.	3x Ch.
Buse et sonde		☒	☒
Vérification de la buse et sondes d'échantillonnage à conserver :		OUI	<u>NON</u>

2 - VÉRIFICATION AVANT ESSAI - TRAIN

Item	Remarques	HA
		3x Ch.
Train		☒
Vérification de la verrerie du train d'échantillonnage à conserver :		OUI <u>NON</u>

3 - VOLUME D'EAU RECUEILLIE

ITEM #	PIÈCE	CONTENU	POIDS (g)		
			APRÈS	AVANT	TOTAL
1	Condenseur (réfrigérant)	VIDE			
2	Trappe de résine *	XAD-2 #4281	401.1	382.8	
3	Trappe à condensat	VIDE	502.9	365.3	
4	Barboteur Greenburg-Smith	ÉTHYLÈNE GLYCOL (100-150 mL)	599.7	586.7	
5	Barboteur modifié	VIDE	446.7	446.70	
6	Contenant de dessicant	GEL DE SILICE	1713.9	1708.0	<u>174.8</u>
			3664.3	3488.5 TOTAL	

* : Recouvrir de papier d'aluminium après la pré-pesée, et retirer avant la pesée après essai.

REMARQUES :

4 - LOTS DES SOLVANTS UTILISÉS

SOLVANTS	# LOT
Dichlorométhane (grade optima)	
Hexane (grade optima)	156309
Acétone (grade optima)	153394
Éthylène glycol	142823
Eau HPLC	135150
Résine XAD-2	
Vérifié par:	Date: Endroit:

Récupération finale du dispositif de prélèvement - COSV (SPE 1/RM/2)

Date de récupération :	2018-09-23	Heure de récupération:	
Nettoyage de l'extérieur des différentes pièces :	✓		
Conditionnement (HA) des contenants (verre ambré) de récupération :	✓		

Contenant 1 - Buse-Sonde

Item	Remarques	Brosse HA	HA 3x Ch.	Niveau
Buse et Sonde		✓	✓	✓

Contenant 2 - Filtre

Filtre	Pétri scellé avec ruban de teflon - dans le papier d'aluminium		✓
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Contenant 3 - Récupération de la partie arrière du Porte-filtre au Condenseur (avant trappe)

Item	Remarques	Temp. H-A min Ch	HA 3x Ch.	Niveau
Avant trappe résine		✓	✓	✓

Contenant 4 - Récupération de la Trappe de résine XAD-2

Trappe de résine XAD-2	Sceller avec ruban de teflon - enveloppé papier d'aluminium		✓
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Contenant 5 - Récupération de la Trappe à condensat au 1er Barboteur (eau)

Item (dans l'ordre)	Remarques	H ₂ O HPLC 3x	Niveau
Eau		✓	✓

Contenant 6 - Rinçage final de la partie arrière du Porte-filtre au dernier Barboteur

Item	Remarques	HA 3x Ch.	Niveau
Rinçage final		✓	✓

Les pots doivent être en verre ambré.

Remarques

Blancs:

Blanc de terrain (1x pour chaque 3 essais) - Faire aspirer volume d'air équivalent à tous les tests de fuite	
Résine XAD-2 (environ 40g, 1 tube)	
Eau HPLC	
Éthylène Glycol	
Acétone	
Hexane	
Récupération par :	Date :
	Endroit :

Train d'échantillonnage - ORGANIQUES

Compagnie: <i>AE Meliodive</i>	Projet: <i>SR28</i>
Échantillonné le: <i>22-09-2018</i>	Récupéré par: <i>[Signature]</i>
Source: <i>Incinérateur</i>	Essai: <i>#1</i>
Date: <i>21-08-2018</i>	Heure:

CAISSE # 28

Décontamination			Sol. RBS	Eau + Savon	Eau démin.	DHA	HA
Item (dans l'ordre)	#	Nom de la pièce	Ok				
By pass	OR-28-BP	By pass	☒	☒	☒	☒	☒
Cloche femelle	(N/A)	Cloche femelle	☒	☒	☒	☒	☒
Support à filtre en téflon	(N/A)	Support à filtre en téflon	☒	☒	☒	☒	☒
Cloche mâle	(N/A)	Cloche mâle	☒	☒	☒	☒	☒
Réfrigérant	ORC-28-R	Réfrigérant	☒	☒	☒	☒	☒
Trappe de résine		Trappe de résine	☒	☒	☒	☒	☒
Trappe à condensat verticale	OR-28TC	Trappe à condensat verticale	☒	☒	☒	☒	☒
Long coude		<i>Long MF pour Réfrigérant</i>	☒	☒	☒	☒	☒
	OR-28-LC	Long coude	☒	☒	☒	☒	☒
Barboteur Greenberg Smith	(N/A)	Barboteur Greenberg Smith	☒	☒	☒	☒	☒
Coude	ORC-28-C	Coude	☒	☒	☒	☒	☒
Barboteur Std	(N/A)	Barboteur Std	☒	☒	☒	☒	☒
Bouteille de verre ambrée (1)		Bouteille de verre ambrée	☒	☒	☒	☒	☒
Garnitures (Téflon + Aluminium)			☒	☒	☒	☒	☒
Nombre total de pièces	10	# Unique	1494				

Décontaminé par: <i>[Signature]</i>	Date: <i>30/08/2018</i>	Endroit: Québec
Code de décontamination (pot): <i>JD-30/08/2018-OR28</i>		
# Lot Des Solvants:	Dichlorométhane: <i>176773</i> Hexane: <i>1757612</i> Acétone: <i>161822</i>	

Commentaires

Usine : AE Meladique	Date : 28.09.2018	P. Bar (po Hg) :	# Cold box : OR2/VU
Ville : Rankin Inlet		P. Stat. (po H ₂ O) :	
ID point d'émission : Incinerateur	Sonde N° : 03.06 3Q.503	Module N° : 19 comp	K' : 26.19
Diamètre : 32 1/2	Cp : 0.781	Kc : 0.997	Niveau du manomètre : —
Distance avant : SD	Busse N° : 3Q.503	Ko : —	Zéro du manomètre : —
Distance après : SD	Coef : 0.4958	Distance P-T-B : —	

Heure	Trav.	Point	Temps prélev. (min)	ΔP (po H ₂ O)	ΔH (po H ₂ O)	Températures (°F)			Orifice	Volume Prélevé (pi ³)	Masse molaire				Vaccum po. Hg	Température		
						Cheminée	Compteur Entrée	Compteur Sortie			O ₂ (%v)	CO ₂ (%v)	CO (ppmv)	Sonde (°F)		Filtre (°F)	Sortie (°F)	Trappe/Filtre (°F)
11:50	1	6	5	0.16	1.18	122	60	60	72	604.57	14.1	4.6	3	—	27.0	—	—	95
	6	6	1	0.15	1.16	1353			73	608.84								
	6	6	1	0.15	1.15	1368			73	612.97	14.5	4.9	3					
	6	6	1	0.15	1.15	1362			74	617.11								
	6	6	1	0.15	1.15	1369			75	621.25								
	6	6	1	0.15	1.15	1362			77	625.40	14.6	4.7	3	—	—	—	—	—
	6	6	1	0.15	1.15	1371			77	629.66	14.7	4.7	3					91
	6	6	1	0.15	1.16	1372			79	633.81								
	6	6	1	0.15	1.16	1372			80	637.92	14.5	4.9	3					
	6	6	1	0.15	1.16	1369			81	642.08								
	6	6	1	0.15	1.16	1369			83	646.17	14.5	4.9						
	6	6	1	0.15	1.16	1373			84	650.31								
	6	6	1	0.15	1.04	1315			86	654.34	15.2	4.4	3					
	6	6	1	0.13	1.04	1320			87	658.45								
	6	6	1	0.13	0.97	1316			88	661.47	15.1	4.4	4					
	6	6	1	0.12	0.91	1314			89	665.75								
	6	6	1	0.12	0.92	1318			90	669.50	15.3	4.3	4			370	40	
	6	6	1	0.12	0.97	1318			91	673.25								

TDF Initial Débit (pi ³ /min): 20.05	Pression (inhg) : — 15" Hg	Volume ini (pi ³) :	Volume fin (pi ³) :	Fuite Pitot (ΔP) :
TDF Final Débit (pi ³ /min):	Pression (inhg) :	Volume ini (pi ³) :	Volume fin (pi ³) :	

REMARQUES : O₂/CO₂ - Utiliser le formulaire de gaz en continu pour calibration des appareils.

Changement refroidissement -
Casse à cause du gel

TECHNICIEN :

pr

CONSULAIR
SOLUTIONS GAZIERS POUR L'ENVIRONNEMENT

Formulaire: F_09_V5

FEUILLE DE VÉRIFICATIONS ET DE DONNÉES DE PRÉLÈVEMENT MANUEL

Code d'essai :

COV-E2

February/2017

Usine :	Date :	P. Bar (po Hg) :	# Cold box :
Ville :		P. Stat. (po H ₂ O) :	
ID point d'émission :		Module N° :	K' :
Diamètre :		Kc :	
Distance avant :		Ko :	
Distance après :		Distance P-T°-B :	

Heure	Trav.	Point	Temps prélév. (min)	ΔP (po H ₂ O)	ΔH (po H ₂ O)	Températures (°F)			Volume Prélevé (pi ³)	Masse molaire				Vaccuum po. Hg	Température		
						Cheminée	Compteur	Orifice		O ₂ (%v)	CO ₂ (%v)	CO (ppmv)	Sonde (°F)		Filtre (°F)	Sortie (°F)	
14h12	2	1	5	0.12	0.98	1318	60	92	673.25	15.3	4.3	4	-5.5	-	252	-	39
	1			1311		94	672.00										
	1			1300		94	674.49										
	2	2	5	0.12	0.98	1317		94	678.23	15.3	4.3	4					
	2			1322		96	671.97										
	2			1318		96	675.73									40	
	3	3	5	0.12	0.98	1325		96	679.71								
	3			1320		96	703.00										
	3			1318		96	706.53										
	4	4	5	0.10	0.82	1320		100	709.94	15.3	4.4						
	4			1310		100	713.36										
	4			1314		101	716.79										
		5	5	0.10	0.83	1300		101									
	6																
	6																

TDF Initial Débit (pi³/min):	Pression (inhg) :	Volume ini (pi³):	Volume fin (pi³):	Fuite Pitot (ΔP) :
TDF Final Débit (pi³/min):	Pression (inhg) :	Volume ini (pi³):	Volume fin (pi³):	

REMARQUES : O₂/CO₂ - Utiliser le formulaire de gaz en continu pour calibration des appareils.

Fin bris équipement (ce fichier) changer à de point !

TECHNICIEN :

Vérification avant essai et montage du dispositif de prélèvement - COSV (SPE 1/RM/2)

Compagnie: <i>AEM-MvI</i>	Projet: <i>18-5578</i>	# Ensemble de verrerie: <i>10</i>
Source: <i>Incinérateur</i>	Essai: <i>2</i>	# Hot Box: <i>OR-2</i>
Date: <i>28-07-2018</i>	Heure:	

1 - DÉCONTAMINATION & VÉRIFICATION AVANT ESSAI - BUSE ET SONDE

Item	Remarques	Brosse - DHA	HA
		3x Ch.	3x Ch.
Buse et sonde		☒	☒
Vérification de la buse et sondes d'échantillonnage à conserver :		OUI	NON

2 - VÉRIFICATION AVANT ESSAI - TRAIN

Item	Remarques	HA	
		3x Ch.	
Train		☒	
Vérification de la verrerie du train d'échantillonnage à conserver :		OUI	NON

3 - VOLUME D'EAU RECUEILLIE

ITEM #	PIÈCE	CONTENU	POIDS (g)		
			APRÈS	AVANT	TOTAL
1	Condenseur (réfrigérant)	VIDE			
2	Trappe de résine *	XAD-2	<i>131.7</i>	<i>125.0</i>	
3	Trappe à condensat	VIDE	<i>375.6</i>	<i>249.5</i>	
4	Barboteur Greenburg-Smith	ÉTHYLÈNE GLYCOL (100-150 mL)	<i>713.9</i>	<i>700.8</i>	
5	Barboteur modifié	VIDE			
6	Contenant de dessicant	GEL DE SILICE	<i>1723.1</i>	<i>1713.0</i>	<i>134.8</i>
TOTAL					

* : Recouvrir de papier d'aluminium après la pré-pesée, et retirer avant la pesée après essai.

REMARQUES :

trappe XAD: 1172

4 - LOTS DES SOLVANTS UTILISÉS

SOLVANTS	# LOT
Dichlorométhane (grade optima)	
Hexane (grade optima)	
Acétone (grade optima)	
Éthylène glycol	
Eau HPLC	
Résine XAD-2	
Vérifié par:	Date: Endroit:

Récupération finale du dispositif de prélèvement - COSV (SPE 1/RM/2)

Date de récupération : 28-09-2018 Heure de récupération : 15h00

Nettoyage de l'extérieur des différentes pièces :

Conditionnement (HA) des contenants (**verre ambré**) de récupération :

Contenant 1 - Buse-Sonde

Item	Remarques	Brosse HA	HA 3x Ch.	Niveau
Buse et Sonde		☒	☒	☒

Contenant 2 - Filtre

Filtre	Pétri scellé avec ruban de teflon - dans le papier d'aluminium			☒
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Contenant 3 - Récupération de la partie arrière du Porte-filtre au Condenseur (avant trappe)

Item	Remarques	Temp. H-A min Ch.	HA 3x Ch.	Niveau
Avant trappe résine		☒	☒	☒

Contenant 4 - Récupération de la Trappe de résine XAD-2

Trappe de résine XAD-2	Sceller avec ruban de teflon - enveloppé papier d'aluminium			☒
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Contenant 5 - Récupération de la Trappe à condensat au 1er Barboteur (eau)

Item (dans l'ordre)	Remarques	H ₂ O HPLC 3x	Niveau
Eau		☒	☒

Contenant 6 - Rinçage final de la partie arrière du Porte-filtre au dernier Barboteur

Item	Remarques	HA 3x Ch.	Niveau
Rinçage final		☒	☒

Les pots doivent être en verre ambré.
Remarques
Blancs:

Blanc de terrain (1x pour chaque 3 essais) - Faire aspirer volume d'air équivalent à tous les tests de fuite

Résine XAD-2 (environ 40g, 1 tube)

Eau HPLC

Éthylène Glycol

Acétone

Hexane

Récupération par :

Date :

Endroit :

Train d'échantillonnage - ORGANIQUES

Compagnie: <i>AE de Graveline</i>	Projet: <i>ST 28</i>
Échantillonné le: <i>23-09-2018</i>	Récupéré par: <i>[Signature]</i>
Source: <i>Incinérateur</i>	Essai: <i>ST E-2</i>
Date: <i>23-09-2018</i>	Heure:

CAISSE # 10

Décontamination			Sol. RBS	Eau + Savon	Eau démin.	DHA	HA
Item (dans l'ordre)	#	Nom de la pièce	Ok				
By pass		By pass	✓	✓	✓	✓	✓
Cloche femelle		Cloche femelle	✓	✓	✓	✓	✓
Support à filtre en téflon		Support à filtre en téflon	✓	✓	✓	✓	✓
Cloche mâle		Cloche mâle	✓	✓	✓	✓	✓
Réfrigérant		<i>Cup RT</i>	✓	✓	✓	✓	✓
		Réfrigérant	✓	✓	✓	✓	✓
		<i>Coude RT</i>	✓	✓	✓	✓	✓
Trappe à condensat		Trappe à condensat	✓	✓	✓	✓	✓
		<i>[Signature]</i>					
Grand L		Grand " L "	✓	✓	✓	✓	✓
Barboteur Greenberg Smith		Barboteur Greenberg Smith	✓	✓	✓	✓	✓
Coude		Coude	✓	✓	✓	✓	✓
Barboteur Std		Barboteur Std	✓	✓	✓	✓	✓
Pot pour le proofing		Pot pour le proofing	✓	✓	✓	✓	✓
Nombre total de pièces		# Unique	988				

Sur le terrain

Verrerie de laboratoire							
Bouteilles de verre ambrée (5)							
Teflon							
Aluminium							
Trappe de résine		Trappe de résine					

Décontaminé par: <i>JD</i>	Date: <i>24/08/2018</i>	Endroit: Québec
Code de décontamination (pot):	<i>JD- 24/08/2018 - 0210</i>	
# Lot Des Solvants:	Dichlorométhane: <i>162956</i> Hexane: <i>162082</i> Acétone: <i>161822</i>	

Commentaires

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CONSULAIR
GLOBAL AIR & ENVIRONMENT

FEUILLE DE VÉRIFICATIONS ET DE DONNÉES DE PRÉLÈVEMENT MANUEL

Usine : <u>AE MELINDINE</u>	Date : <u>29-09-2011</u>		
Ville : <u>BRUXELLES</u>			
ID point d'émission : <u>incinérateur</u>	Sonde N° : <u>0306 Q503</u>	Module N° : <u>19 COMP</u>	# Cold box : <u>ORR-V1</u>
Diamètre : <u>321</u>	Cp : <u>0.781</u>	Kc : <u>0.997</u>	K' : <u>26.19</u>
Distance avant : <u>5D</u>	Buse N° : <u>30.503</u>	Ko : <u>1.000</u>	Niveau du manomètre : <u>✓</u>
Distance après : <u>33</u>	Coef : <u>0.4958</u>	Distance P-T° B : <u>✓</u>	Zéro du manomètre : <u>✓</u>

[illegible][illegible]

Time	Lat	Long	Alt	Wind	Temp	Hum	Clouds	Pressure	Remarks
1400	12° 15' N	171° 15' E	1000	10	28.0	85	100	1010.0	Clear
1430	12° 15' N	171° 15' E	1000	10	28.0	85	100	1010.0	Clear
1500	12° 15' N	171° 15' E	1000	10	28.0	85	100	1010.0	Clear
1530	12° 15' N	171° 15' E	1000	10	28.0	85	100	1010.0	Clear
1600	12° 15' N	171° 15' E	1000	10	28.0	85	100	1010.0	Clear
1630	12° 15' N	171° 15' E	1000	10	28.0	85	100	1010.0	Clear
1700	12° 15' N	171° 15' E	1000	10	28.0	85	100	1010.0	Clear
1730	12° 15' N	171° 15' E	1000	10	28.0	85	100	1010.0	Clear
1800	12° 15' N	171° 15' E	1000	10	28.0	85	100	1010.0	Clear
1830	12° 15' N	171° 15' E	1000	10	28.0	85	100	1010.0	Clear
1900	12° 15' N	171° 15' E	1000	10	28.0	85	100	1010.0	Clear
1930	12° 15' N	171° 15' E	1000	10	28.0	85	100	1010.0	Clear
2000	12° 15' N	171° 15' E	1000	10	28.0	85	100	1010.0	Clear
2030	12° 15' N	171° 15' E	1000	10	28.0	85	100	1010.0	Clear
2100	12° 15' N	171° 15' E	1000	10	28.0	85	100	1010.0	Clear
2130	12° 15' N	171° 15' E	1000	10	28.0	85	100	1010.0	Clear
2200	12° 15' N	171° 15' E	1000	10	28.0	85	100	1010.0	Clear
2230	12° 15' N	171° 15' E	1000	10	28.0	85	100	1010.0	Clear
2300	12° 15' N	171° 15' E	1000	10	28.0	85	100	1010.0	Clear
2330	12° 15' N	171° 15' E	1000	10	28.0	85	100	1010.0	Clear
2400	12° 15' N	171° 15' E	1000	10	28.0	85	100	1010.0	Clear

[illegible]

TDF Initial Débit (pi ³ /min):	Pression (inHg):	Volume ini (pi ³):	Volume fin (pi ³):	Fuite Pitot (ΔP):
20.01	15	15	15	
TDF Final Débit (pi ³ /min):	Pression (inHg):	Volume ini (pi ³):	Volume fin (pi ³):	

REMARQUES	O ₂ /CO ₂ - Utiliser le formulaire de gaz en continu pour calibration des appareils.
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TECHNICIEN :

Usine :			Date :			P. Bar (po Hg) :			# Cold box :								
Ville :						P. Stat. (po H ₂ O) :											
ID point d'émission :			Sonde N° :			Module N° :			K' :								
Diamètre :			Cp :			Kc :											
Distance avant :			Buse N° :			Ko :			Niveau du manomètre :								
Distance après :			Coef :			Distance P-T°-B :			Zéro du manomètre :								
Heure	Trav.	Point	Temps prélèv. (min)	ΔP (po H ₂ O)	ΔH (po H ₂ O)	Températures (°F)			Volume Prélevé (pi ³)	Masse molaire			Vacuum po. Hg	Température			
						Cheminée	Compteur Entrée	Sortie		Orifice	O ₂ (%v)	CO ₂ (%v)		CO (ppmv)	Sonde (°F)	Filtre (°F)	Sortie (°F)
2	1	1	5	0.18	1.38	1413	60	60	90	816.86	19.1	5.2	3	-60			
	1	1	1	0.18	1.38	1417			90	821.26							
	1	1	1	0.12	1.30	1423			91	825.67							
	2	2	1	0.17	1.30	1440			94	829.97							
	2	2	1	0.17	1.30	1438			92	834.34							
	2	2	1	0.17	1.30	1443			94	838.54							
	2	2	1	0.17	1.30	1450			95	842.77							
	2	2	1	0.17	1.29	1450			95	847.00							
	2	2	1	0.24	1.33	1459			95	851.90							
	2	2	1	0.24	1.35	1535			97	856.84							
	2	2	1	0.24	1.26	1533			97	861.77							
	2	2	1	0.24	1.26	1533			98	866.72							
	2	2	1	0.24	1.26	1542			99	871.64							
	2	2	1	0.24	1.26	1546			99	876.14							
	2	2	1	0.23	1.68	1548			101	881.29							
	2	2	1	0.22	1.65	1500			101	886.00							
	2	2	1	0.22	1.68	1563			102	890.71							
	2	2	1	0.22	1.69	1457			103	895.69							
	2	2	1	0.22	1.69	1440			103	900.26							

TDF Initial Débit (pi ³ /min):	Pression (inHg):	Volume ini (pi ³):	Volume fin (pi ³):	Volume (pi ³):
TDF Final Débit (pi ³ /min):	Pression (inHg):	Volume ini (pi ³):	Volume fin (pi ³):	Volume (pi ³):
REMARQUES		O ₂ /CO ₂ - Utiliser le formulaire de gaz en continu pour calibration des appareils.		

TECHNICIEN :

Vérification avant essai et montage du dispositif de prélèvement - COSV (SPE 1/RM/2)

Compagnie: <i>AK H&Sedine</i>	Projet: <i>SSD8</i>	# Ensemble de verrerie: <i>1</i>
Source: <i>Immunisation</i>	Essai: <i>#3</i>	# Hot Box: <i>062-VI</i>
Date: <i>28-09-2018</i>		Heure: <i>16h00</i>

1 - DÉCONTAMINATION & VÉRIFICATION AVANT ESSAI - BUSE ET SONDE

Item	Remarques	Brosse - DHA	HA
		3x Ch.	3x Ch.
Buse et sonde		☒	☒
Vérification de la buse et sondes d'échantillonnage à conserver :		OUI	☒ NON

2 - VÉRIFICATION AVANT ESSAI - TRAIN

Item	Remarques	HA
		3x Ch.
Train		☒
Vérification de la verrerie du train d'échantillonnage à conserver :		OUI ☒ NON

3 - VOLUME D'EAU RECUEILLIE

ITEM #	PIÈCE	CONTENU	POIDS (g)		
			APRÈS	AVANT	TOTAL
1	Condenseur (réfrigérant)	VIDE			
2	Trappe de résine *	XAD-2 <i>1151</i>	<i>121.0</i>	<i>114.1</i>	
3	Trappe à condensat	VIDE	<i>523.10</i>	<i>304.5</i>	
4	Barboteur Greenburg-Smith	ÉTHYLÈNE GLYCOL (100-150 mL)	<i>751.7</i>	<i>729.0</i>	
5	Barboteur modifié	VIDE			
6	Contenant de dessicant	GEL DE SILICE	<i>1734.0</i>	<i>1723.1</i>	<i>259.1</i>
			TOTAL		

* : Recouvrir de papier d'aluminium après la pré-pesée, et retirer avant la pesée après essai.

REMARQUES :

4 - LOTS DES SOLVANTS UTILISÉS

SOLVANTS	# LOT
Dichlorométhane (grade optima)	
Hexane (grade optima)	
Acétone (grade optima)	
Éthylène glycol	
Eau HPLC	
Résine XAD-2	
Vérifié par:	Date: Endroit:

Récupération finale du dispositif de prélèvement - COSV (SPE 1/RM/2)

Date de récupération : **30.09.2018** Heure de récupération: **8h00**

Nettoyage de l'extérieur des différentes pièces :

Conditionnement (HA) des contenants (**verre ambré**) de récupération :

Contenant 1 - Buse-Sonde

Item	Remarques	Brosse HA	HA 3x Ch.	Niveau
Buse et Sonde		☒	☒	☒

Contenant 2 - Filtre

Filtre	Pétri scellé avec ruban de teflon - dans le papier d'aluminium	☒
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Contenant 3 - Récupération de la partie arrière du Porte-filtre au Condenseur (avant trappe)

Item	Remarques	Temp. H-A min. Ch.	HA 3x Ch.	Niveau
Avant trappe résine		☒	☒	☒

Contenant 4 - Récupération de la Trappe de résine XAD-2

Trappe de résine XAD-2	Sceller avec ruban de teflon - enveloppé papier d'aluminium	☒
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Contenant 5 - Récupération de la Trappe à condensat au 1er Barboteur (eau)

Item (dans l'ordre)	Remarques	H ₂ O HPLC 3x	Niveau
Eau		☒	☒

Contenant 6 - Rinçage final de la partie arrière du Porte-filtre au dernier Barboteur

Item	Remarques	HA 3x Ch.	Niveau
Rinçage final		☒	☒

Les pots doivent être en verre ambré.
Remarques
Blancs:

Blanc de terrain (1x pour chaque 3 essais) - Faire aspirer volume d'air équivalent à tous les tests de fuite

Résine XAD-2 (environ 40g, 1 tube)

Eau HPLC

Éthylène Glycol

Acétone

Hexane

Récupération par :

Date :

Endroit :

Train d'échantillonnage - ORGANIQUE

Compagnie: <u>AE Molindine</u>		Projet: <u>SS28</u>	
Échantillonné le:		Récupéré par:	
Source: <u>Incinérateur</u>	Essai: <u>OSU E3</u>	Date:	Heure:

CAISSE # 1

Décontamination			Sol. RBS	Eau + Savon	Eau démin.	DHA	HA
Item (dans l'ordre)	#	Nom de la pièce	Ok				
By pass		By pass	✓	✓	✓	✓	✓
Cloche femelle		Cloche femelle	✓	✓	✓	✓	✓
Support à filtre en téflon		Support à filtre en téflon	✓	✓	✓	✓	✓
Cloche mâle		Cloche mâle	✓	✓	✓	✓	✓
Réfrigérant		Réfrigérant	✓	✓	✓	✓	✓
Trappe de résine		Trappe de résine					
Trappe à condensat		Trappe à condensat	✓	✓	✓	✓	✓
Grand L		Tige MM	✓	✓	✓	✓	✓
		Tige MF	✓	✓	✓	✓	✓
		Coude 4 po.	✓	✓	✓	✓	✓
Barboteur Greenberg Smith		Barboteur Greenberg Smith	✓	✓	✓	✓	✓
Coude		Coude	✓	✓	✓	✓	✓
Barboteur Std		Barboteur Std	✓	✓	✓	✓	✓
Pot pour le proofing							
Bouteille de verre ambrée (5)		Bouteille de verre ambrée	✓	✓	✓	✓	✓
Garnitures (Téflon + Aluminium)							
Nombre total de pièces		# Unique	495				

Décontaminé par: <u>117</u>	Date: <u>28/08/2018</u>	Endroit: <u>Québec</u>
Code de décontamination (pot): <u>117-28/08/2018</u>		
# Lot des Solvants:	Dichlorométhane: <u>182950</u> Hexane: <u>175762</u> Acétone: <u>181822</u>	
Commentaires		

[illegible]

MBL
 COSV-2 blanc

Vérification avant essai et montage du dispositif de prélèvement - COSV (SPE 1/RM/2)

Compagnie: <u>AFMeliadine</u>	Projet: <u>528</u>	# Ensemble de verrerie: <u>22</u>
Source: <u>Incinerateur</u>	Essai: <u>#2</u>	# Hot Box: <u>002-V1</u>
Date: <u>23-09-2018</u>	Heure: <u>10h00</u>	

1 - DÉCONTAMINATION & VÉRIFICATION AVANT ESSAI - BUSE ET SONDE

Item	Remarques	Brosse - DHA	HA
		3x Ch.	3x Ch.
Buse et sonde		☒	☒
Vérification de la buse et sondes d'échantillonnage à conserver :		OUI	☒ NON

2 - VÉRIFICATION AVANT ESSAI - TRAIN

Item	Remarques	HA
		3x Ch.
Train		☒
Vérification de la verrerie du train d'échantillonnage à conserver :		OUI ☒ NON

3 - VOLUME D'EAU RECUEILLIE

ITEM #	PIÈCE	CONTENU	POIDS (g)		
			APRÈS	AVANT	TOTAL
1	Condenseur (réfrigérant)	VIDE			
2	Trappe de résine *	XAD-2 <u>115r</u>	<u>123.4</u>	<u>123.3</u>	
3	Trappe à condensat	VIDE	<u>371.8</u>	<u>371.8</u>	
4	Barboteur Greenburg-Smith	ÉTHYLÈNE GLYCOL (100-150 mL)	<u>686.2</u>	<u>687.0</u>	
5	Barboteur modifié	VIDE			
6	Contenant de dessicant	GEL DE SILICE	<u>1730</u>	<u>1730</u>	
TOTAL					<u>φ</u>

* : Recouvrir de papier d'aluminium après la pré-pesée, et retirer avant la pesée après essai.

REMARQUES :

4 - LOTS DES SOLVANTS UTILISÉS

SOLVANTS	# LOT
Dichlorométhane (grade optima)	
Hexane (grade optima)	<u>156309</u>
Acétone (grade optima)	<u>153394</u>
Éthylène glycol	<u>142823</u>
Eau HPLC	<u>135150</u>
Résine XAD-2	
Vérifié par:	Date: Endroit:

Récupération finale du dispositif de prélèvement - COSV (SPE 1/RM/2)

Date de récupération : 24.09.2018	Heure de récupération : 8h00
Nettoyage de l'extérieur des différentes pièces : ✓	✓
Conditionnement (HA) des contenants (verre ambré) de récupération : ✓	✓

Contenant 1 - Buse-Sonde

Item	Remarques	Brosse HA	HA 3x Ch.	Niveau
Buse et Sonde		✓	✓	✓

Contenant 2 - Filtre

Filtre	Pétri scellé avec ruban de teflon - dans le papier d'aluminium	✓
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Contenant 3 - Récupération de la partie arrière du Porte-filtre au Condenseur (avant trappe)

Item	Remarques	Temp. H-A 5 min. Ch.	HA 3x Ch.	Niveau
Avant trappe résine		✓	✓	✓

Contenant 4 - Récupération de la Trappe de résine XAD-2

Trappe de résine XAD-2	Sceller avec ruban de teflon - enveloppé papier d'aluminium	✓
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Contenant 5 - Récupération de la Trappe à condensat au 1er Barboteur (eau)

Item (dans l'ordre)	Remarques	H ₂ O HPLC 3x	Niveau
Eau		✓	✓

Contenant 6 - Rinçage final de la partie arrière du Porte-filtre au dernier Barboteur

Item	Remarques	HA 3x Ch.	Niveau
Rinçage final		✓	✓

Les pots doivent être en verre ambré.

Remarques

Blancs:

Blanc de terrain (1x pour chaque 3 essais) - Faire aspirer volume d'air équivalent à tous les tests de fuite		✓
Résine XAD-2 (environ 40g, 1 tube)		✓
Eau HPLC		✓
Éthylène Glycol		
Acétone		✓
Hexane		✓
Récupération par : fcy	Date : 15-09-20	Endroit : MEF

Train d'échantillonnage - ORGANIQUES

Compagnie: AE Meliadine	Projet: 5528
Échantillonné le: 28-09-2018	Récupéré par:
Source: Incinérateur	Essai: AL24 BL
Date: 23-09-2018	Heure: 14h00

CAISSE # 22

Décontamination			Sol. RBS	Eau + Savon	Eau démin.	DHA	HA
Item (dans l'ordre)	#	Nom de la pièce	Ok				
By pass 125 mm	(N/A)	By pass 125 mm	☒	☒	☒	☒	☒
Cloche femelle	(N/A)	Cloche femelle	☒	☒	☒	☒	☒
Support à filtre en téflon	(N/A)	Support à filtre en téflon	☒	☒	☒	☒	☒
Cloche mâle	B	Cloche mâle	☒	☒	☒	☒	☒
Réfrigérant	OR-13-R1	Réfrigérant	☒	☒	☒	☒	☒
	OR-13-R2	Rallonge de réfrigérant	☒	☒	☒	☒	☒
	(N/A)	Coude réfrigérant	☒	☒	☒	☒	☒
Trappe de résine		Trappe de résine	☒	☒	☒	☒	☒
Trappe à condensat verticale	OR-22-TC	Trappe à condensat verticale	☒	☒	☒	☒	☒
Coude	(N/A)	Coude	☒	☒	☒	☒	☒
Barboteur Greenberg Smith	(N/A)	Barboteur Greenberg Smith	☒	☒	☒	☒	☒
Coude	(N/A)	Coude	☒	☒	☒	☒	☒
Barboteur Std	(N/A)	Barboteur Std	☒	☒	☒	☒	☒
Bouteille de verre ambrée (1)		ambrée	☒	☒	☒	☒	☒
Garnitures (Téflon + Aluminium)			☒	☒	☒	☒	☒
Nombre total de pièces	12		1000				

Décontaminé par: JD	Endroit: QC
Code de décontamination (pot): 31	# 17 - 204 04 12 016 - OR 22
# Lot Des Solvants:	Dichlorométhane: 176773 Hexane: 175762 Acétone: 181822

Commentaires