

## **Appendix G16**

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**Report: *2013 Air Quality and Dustfall Monitoring Report***

**Report: *Evaluation of dustfall along the Meadowbank  
AWAR in 2013***

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MEADOWBANK GOLD PROJECT

**2013 Air Quality and Dustfall  
Monitoring Report**

In Accordance with NIRB Project Certificate No.004

Prepared by:  
Agnico Eagle Mines Limited – Meadowbank Division

March, 2014

## EXECUTIVE SUMMARY

The 2013 air quality and dustfall monitoring program at Meadowbank was conducted in support of the Air Quality Monitoring Plan - Addendum (Golder, 2008) and Air Quality and Dustfall Monitoring Plan - Version 2 (updated plan, November, 2013). This updated plan was developed to reflect current procedures, and includes no major changes to monitored parameters, locations or methods.

The objective of the 2013 program was to measure dustfall, total suspended particulates (TSP), PM<sub>10</sub>, PM<sub>2.5</sub> and NO<sub>2</sub> at four monitoring locations around the Meadowbank site. Locations were established in 2011 in consultation with Environment Canada.

Results obtained for the measured parameters were compared to Government of Nunavut (GN) Environmental Standards for Ambient Air Quality (October, 2011) for TSP, PM<sub>2.5</sub> and NO<sub>2</sub>; BC Air Quality Objectives (August, 2013) for PM<sub>10</sub>; and Alberta Ambient Air Quality Guidelines (August, 2013) for dustfall. The Canadian Ambient Air Quality Standards for PM<sub>2.5</sub> (May, 2013) are also referenced, although Nunavut has not yet incorporated these objectives into territorial guidance documents.

Of sixty-three TSP samples obtained, one exceeded the relevant GN standard of 120 µg/m<sup>3</sup>, with a concentration of 459 µg/m<sup>3</sup>. This sample was more than four times higher than the next highest measured concentration, and was obtained from DF-2, which is located immediately south (downwind) of the main mine plant area and adjacent to the TCG contractor area. Annual average TSP values at each station did not exceed the GN standard for that time period of 60 µg/m<sup>3</sup>. No samples exceeded relevant standards or objectives for PM<sub>10</sub> or PM<sub>2.5</sub>.

The Alberta recreational area guideline for dustfall was exceeded in 11 out of 43 samples, which is similar to 2012 (10 exceedances). The industrial area guideline was exceeded in only one sample.

The GN annual average standard for NO<sub>2</sub> of 32 ppb was not exceeded, with a maximum monthly average of 5.3 ppb.

In addition, PM<sub>10</sub> data from 2012 was re-analyzed based on comments received during the 2012 Annual Report review by NIRB. This analysis rectified a calculation error which had resulted in significantly over-estimated concentrations, and presents a comparison to the BC Air Quality Objectives (August, 2013) for PM<sub>10</sub>. No suspended particulate samples from 2012 exceeded the relevant standards or objectives.

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## SECTION 1 • INTRODUCTION

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### 1.1 OBJECTIVE

Since November, 2011, Agnico Eagle Mines Ltd. (AEM) has conducted outdoor dust and air quality monitoring at the Meadowbank site, near Baker Lake, Nunavut, as required by NIRB Project Certificate No. 004.

Meadowbank's Air Quality Monitoring Plan - Addendum (Golder, 2008) was updated in November, 2013 (Air Quality and Dustfall Monitoring Plan - Version 2) to clarify current procedures, particularly following the installation of suspended particulate samplers in 2011. This update does not include any major changes to sampled parameters, locations or methods. The objective of this program is to monitor ambient air quality around the mine site perimeter, with the goal of verifying compliance with relevant environmental standards and mitigating potential environmental effects.

The parameters measured in 2013, in accordance with the Project Certificate, were suspended particulates (TSP, PM<sub>10</sub>, PM<sub>2.5</sub>), NO<sub>2</sub> and dustfall (settleable particulate matter). As described in the Air Quality and Dustfall Monitoring Plan, dustfall was measured approximately monthly and rates were normalized to 30 days; suspended particulates were measured over 24 h on a six day cycle; and NO<sub>2</sub> was measured over approximately one month periods.

### 1.2 MONITORING LOCATIONS

Monitoring locations were determined in consultation with Environment Canada in 2011. One station was moved in 2012 due to changes in the location of the Vault haul road (see 2012 Annual Report – Air Quality and Dust Monitoring Report). UTM coordinates are provided in Table 1, and locations are shown in relation to mine site features in Figure 1.

**Table 1. UTM coordinates and dates of measurement for the Meadowbank air quality and dustfall monitoring locations.**

Monitoring Location	Measured Parameters	Easting	Northing
DF-1	TSP, PM <sub>10</sub> , PM <sub>2.5</sub> , NO <sub>2</sub> , dustfall	636850	7217663
DF-2	TSP, PM <sub>10</sub> , PM <sub>2.5</sub> , NO <sub>2</sub> , dustfall	637895	7213049
DF-3	Dustfall	639599	7213198
DF-4	Dustfall	639233	7217074

#### 1.2.1 DF-1

Station DF-1 is located next to the explosive storage area (emulsion plant), and approximately 500 m north of the all-weather access road. TSP, PM<sub>10</sub> and PM<sub>2.5</sub>, were monitored at this location from June (when the unit was returned from calibration) through December, 2013. NO<sub>2</sub> and dustfall were monitored from January to December, 2013.

### **1.2.2 DF-2**

Station DF-2 is located at the northern corner of South Camp Island, near the TCG contractor area. TSP, PM<sub>10</sub> and PM<sub>2.5</sub> were monitored from January to May, 2013 (when the units were sent for calibration) and September to December, 2013. NO<sub>2</sub> and dustfall were monitored at this location from January through December 2013.

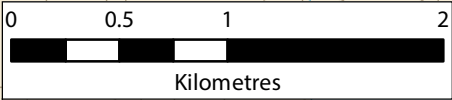
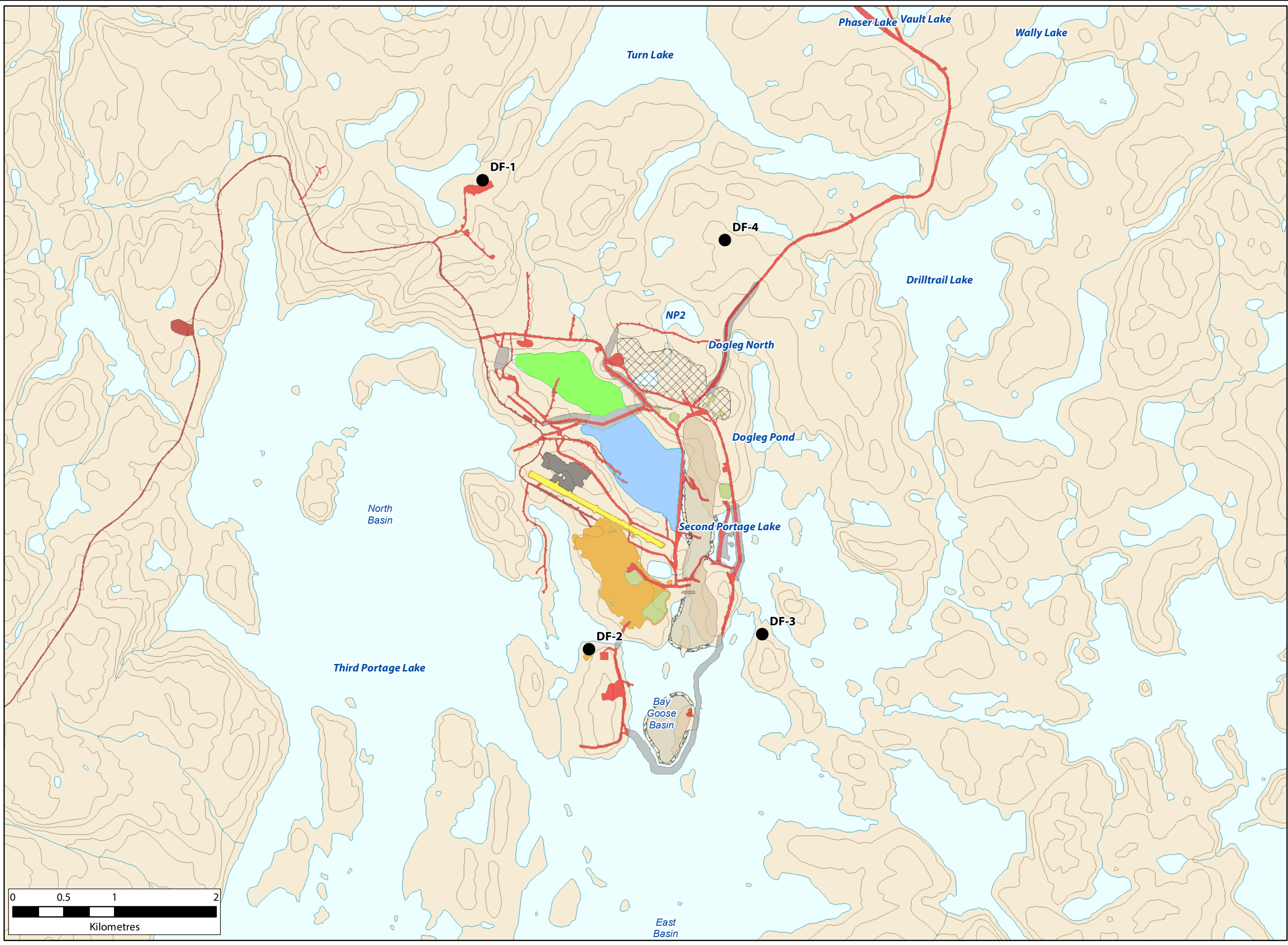
### **1.2.3 DF-3**

Station DF-3 is approximately 1,800 m east of the East Dike. Second Portage Lake is to the west and east. Dustfall only was monitored at this location from January through December 2013.

### **1.2.4 DF-4**

Station DF-4 is approximately 1,500 m southwest of the future location of Vault Pit. This monitoring station was chosen before the beginning of the construction of the Vault Road. Realignment of the road during construction placed the station within 10 feet of the road. Therefore, AEM re-positioned Station DF-4 approximately 480 m to the north-west on February 29, 2012 to be representative of the originally intended location relative to the road.

Dustfall only was monitored at this location from January through December 2013.



- Legend**
- Air Quality & Dust Monitoring Location
  - Quarry
  - AWAR Quarry
  - Dikes
  - Portage Attenuation Facility
  - Tailings Storage Facility
  - Roads
  - AWAR
  - Stockpiles
  - Facility
  - Airstrip
  - Portage Rock Storage Facility
  - Mine Pit Area
  - Pit Cap

**Air Quality & Dust Monitoring Locations**



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PROJECT: DA11-062-03

CLIENT: Agnico-Eagle Mines Ltd., Meadowbank Div.

	DATE: MARCH 2013
	SCALE: 1:35,000
	DRAWN BY: LC
	CHECKED BY:

FIGURE:  
  
1

The information displayed on this map has been compiled from various sources. While every effort has been made to accurately depict the information, this map should not be relied on as being a precise indicator of locations, features, or roads, nor as a guide to navigation. MNR data provided by Queen's Printer of Ontario. Use of the data in any derivative product does not constitute an endorsement by the MNR or the Ontario Government of such products.



## SECTION 2 • REGULATORY STANDARDS

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Data collected from the air quality and dustfall monitoring program at Meadowbank was compared to the available Government of Nunavut Environmental Standards for Ambient Air Quality (October, 2011). Standards for the measured parameters are provided in Table 2.

**Table 2. Government of Nunavut Environmental Standards for Ambient Air Quality (October, 2011) for the parameters of concern at Meadowbank. All values are for data normalized to standard conditions of 25°C and 101.3 kPa.**

Parameter	Time Frame	Standard	
		$\mu\text{g}/\text{m}^3$	ppb
Fine Particulate Matter (PM <sub>2.5</sub> )	24-h average	30	
Total Suspended Particulate (TSP)	24-h average	120	
	Annual geometric mean	60	
Nitrogen Dioxide (NO <sub>2</sub> )	1-h average	400	213
	24-h average	200	106
	Annual arithmetic mean	60	32

In 2013, the Canadian Council of Ministers of the Environment adopted new Canadian Ambient Air Quality Standards (PM<sub>2.5</sub> and ozone only). Although these have not yet been incorporated into Nunavut's regulations, the published 24-h value for PM<sub>2.5</sub> of 28  $\mu\text{g}/\text{m}^3$  and annual average standard of 10  $\mu\text{g}/\text{m}^3$  are addressed here for reference.

No GN standard is available for coarse particulate matter (PM<sub>10</sub>) so results were compared to the BC Air Quality Objective (August, 2013) of 50  $\mu\text{g}/\text{m}^3$ .

Likewise, no standards for dustfall are available for Nunavut. Results of the dustfall analysis were compared to the Alberta Environment Department recreational area guideline (August, 2013) of 0.53  $\text{mg}/\text{cm}^2/30\text{d}$  and commercial/industrial guideline of 1.58  $\text{mg}/\text{cm}^2/30\text{d}$ , to provide context.

For all parameters and locations, trends over time were assessed.

## SECTION 3 • METHODS

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### 3.1 TSP, PM<sub>10</sub>, PM<sub>2.5</sub>

In 2013, AEM field staff sampled suspended particulates (TSP, PM<sub>10</sub>, PM<sub>2.5</sub>) at the two locations previously described for 24-h periods every six days using Partisol Plus Model 2025 Sequential Air Samplers (TSP) and Partisol Plus Model 2025-D Dichotomous Sequential Air Samplers (PM<sub>2.5</sub> and PM<sub>10-2.5</sub>). Partisol samplers draw in a stream of ambient air at a controlled flow rate, and particulates are collected on a pre-weighed filter. The exposed filter is then shipped to the laboratory and re-weighed to measure the total accumulated particulates. According to the Partisol operating manual, calculations for TSP, PM<sub>10</sub> and PM<sub>2.5</sub> were performed as follows.

TSP is calculated as:

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

Where: TSP = mass concentration of particulates (µg/m<sup>3</sup>)

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

$V$  = volume of air drawn in during the sampling period (~24 m<sup>3</sup>)

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

PM<sub>2.5</sub> is calculated as:

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

Where: PM<sub>2.5</sub> = mass concentration of particulates (µg/m<sup>3</sup>)

$M_{2.5}$  = final mass of PM<sub>2.5</sub> filter – initial mass of filter (µg/filter)

$V_{2.5}$  = volume of air drawn through the PM<sub>2.5</sub> filter during the sampling period (~21.7 m<sup>3</sup>)

And PM<sub>coarse</sub> 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<sub>coarse</sub> = mass concentration of particulates (µg/m<sup>3</sup>)

$M_{\text{coarse}}$  = final mass of PM<sub>coarse</sub> filter – initial mass of filter (µg/filter)

$V_{\text{total}}$  = total volume of air drawn into unit during sampling (~24m<sup>3</sup>)

$V_{\text{coarse}}$  = volume of air drawn through the PM<sub>coarse</sub> filter during the sampling period (~2.4 m<sup>3</sup>)

Concentration of PM<sub>10</sub> is then calculated as PM<sub>coarse</sub> + PM<sub>2.5</sub>.

For comparison to Government of Nunavut Ambient Air Quality Standards (2011), concentrations of particulates should be calculated using air volumes normalized to 25°C and 101.3kPa (standard temperature and pressure; STP). The Partisol instrument can calculate and store the  $V_{\text{STD}}$  value for each filter's sampling period, but the default is to record the actual volume under ambient conditions (non-STP-normalized), as per the US EPA method. Since the default settings were not adjusted in 2013, standardized volumes were calculated from average temperature and pressure recorded by the unit during the sampling period, whenever possible. For the dichotomous unit at DF-2, these values

were not available until April 16, so the non-standardized volume was used in calculations until this time. Estimates of suspended particulate concentrations using actual 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.

### **3.2 DUSTFALL**

Dustfall was collected in open vessels containing a purified liquid matrix over one month periods (approximately) at each of the four locations. Particles are deposited and retained in the liquid, which was then analyzed for total and fixed (non-combustible) dustfall. Calculated dustfall rates were normalized to 30 days ( $\text{mg}/\text{cm}^2/30$  days). Dustfall canisters were provided by and analyzed by an accredited laboratory.

### **3.3 NO<sub>2</sub>**

Concentrations of NO<sub>2</sub> by volume (ppb) were analyzed over one month periods (approximately 30 days) using a passive sampling device provided by Maxxam Analytics. No monitoring was proposed for other gaseous pollutants because of low concentrations predicted in pre-construction dispersion modelling (Cumberland, 2005).

The annual average NO<sub>2</sub> concentration by volume was calculated from the monthly data for comparison against the relevant standard.

### **3.4 WEATHER DATA**

Weather data for the dustfall and air quality monitoring periods was collected using the mine site's permanent weather station. Daily averages for wind speed, wind direction and temperature were available from this station.

### **3.5 GREENHOUSE GAS EMISSIONS**

AEM 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.

## SECTION 4 • 2013 RESULTS

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### 4.1 TSP, PM<sub>10</sub>, PM<sub>2.5</sub>

Sampling dates and 24-h average concentrations of TSP, PM<sub>10</sub> and PM<sub>2.5</sub> are shown in Figures 2 – 4.

The units at DF-1 were in operation from June – December, and the units at DF-2 were in operation from January – May, and September (TSP) or October (dichotomous unit) – December. When not operating, units were undergoing maintenance and calibration (both on and offsite). Delays in returning to operation were caused by shipping time and waiting for repair parts. AEM's Environmental Technicians are now able to provide onsite maintenance and calibration, so scheduled down-time should be limited to one month in 2014.

A total of 12 filters were damaged in the instrument or during shipment and were not analyzed.

From April 16 – May 16, the instrument log indicated no flow to the PM<sub>coarse</sub> filter, and full flow to the PM<sub>2.5</sub> filter. Since sample results are in line with others obtained, they were included in the dataset, but should be interpreted with caution.

Additionally, in 14 out of 29 samples at DF-1, TSP results were lower than PM<sub>10</sub> results. While not technically possible since PM<sub>10</sub> is a subset of TSP, this has been observed by others with the same Partisol samplers over a similar range of concentrations (Doris North - Rescan, 2009). Rescan (2009) indicated this was potentially due to a leak in the system, or laboratory measurement error. The DF-1 samplers at Meadowbank underwent professional calibration just prior to the 2013 season, but since the problem only occurred at one sample station and not the other, an issue with the instrument is possible. However, the error only occurred for TSP concentrations <7.5 µg/m<sup>3</sup>, and in five of the cases, contamination of the travel blank up to 4x the detection limit was recorded, so measurement error is also a possible cause. Efforts will be made in 2014 to determine the reason for this problem, but since all results were significantly lower than the GN standard, they are not handled separately in the dataset.

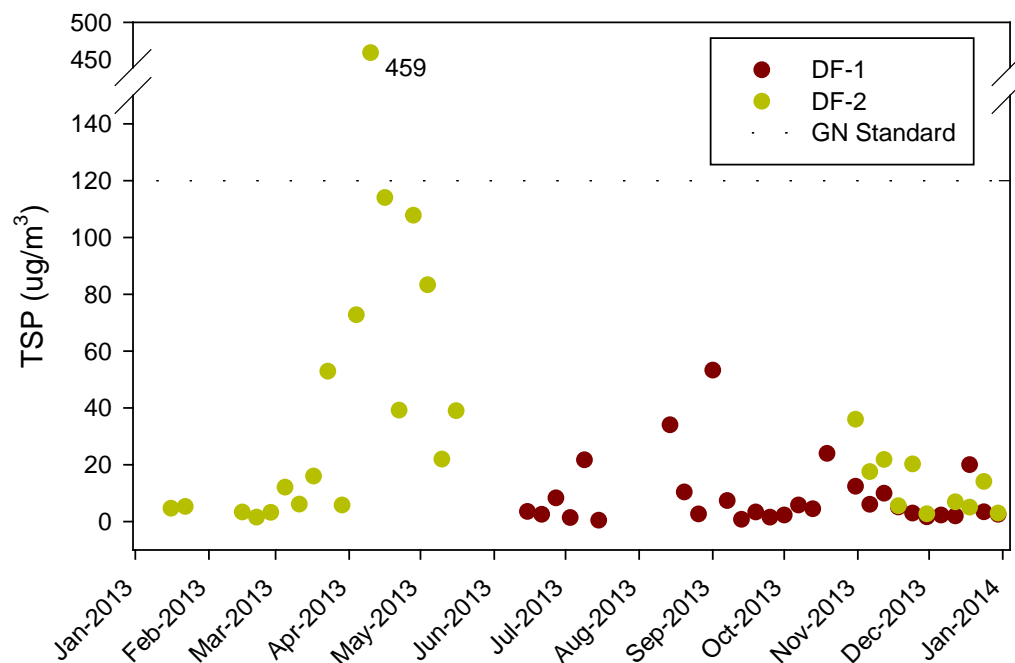
TSP concentrations were generally highest in April, and did not exceed ~50 µg/m<sup>3</sup> for the rest of the year at either location. One TSP sample at DF-2 was above the GN 24-h standard of 120 µg/m<sup>3</sup>, at 459 µg/m<sup>3</sup>. Visible residue was noted on this filter and several others by the analytical laboratory (DF-2 TSP: March 23, April 4, 10, 16; DF-1 PM<sub>coarse</sub> August 26). The TSP standard is mainly based on potential for reduced visibility, soiling of structures and vehicles, and smothering of vegetation (not health concerns), so exceedance of one sample is not expected to result in measureable environmental impact. However, additional actions are recommended to help reduce dust levels onsite, as described in Section 8, and data in 2014 will be assessed for any trends towards increasing TSP.

The annual geometric mean concentrations of TSP at DF-1 and DF-2 were 4.6 and 14.0 µg/m<sup>3</sup>, respectively. These estimates are well below the annual GN standard of 60 µg/m<sup>3</sup>, and are similar to the values of 8 and 12 µg/m<sup>3</sup> obtained in 2012.

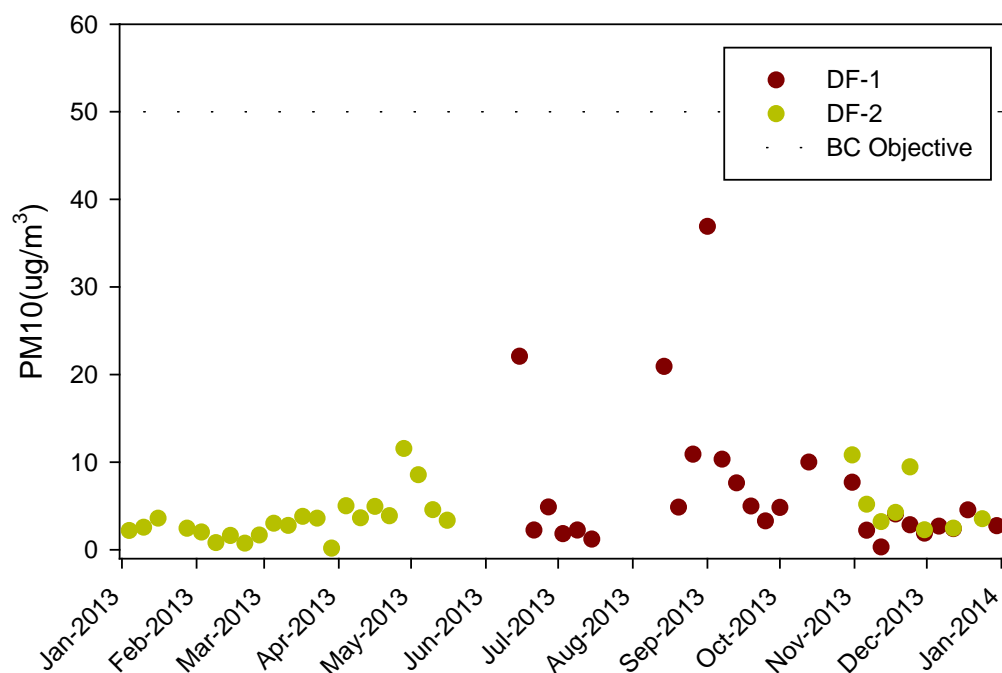
The highest PM<sub>10</sub> concentrations were observed at DF-1 during the summer months. No samples exceeded the BC Air Quality Objective of 50 µg/m<sup>3</sup> for 24-h average PM<sub>10</sub>. A maximum concentration of 37 µg/m<sup>3</sup> was observed (DF-1) and average concentrations were 7 and 4 µg/m<sup>3</sup> at DF-1 and DF-2, respectively.

No samples exceeded the GN standard of 30 µg/m<sup>3</sup> for 24-h average PM<sub>2.5</sub>, or the Canadian Ambient Air Quality Standard of 28 µg/m<sup>3</sup>. Annual average concentrations of PM<sub>2.5</sub> were 0.78 and 1.2 µg/m<sup>3</sup>

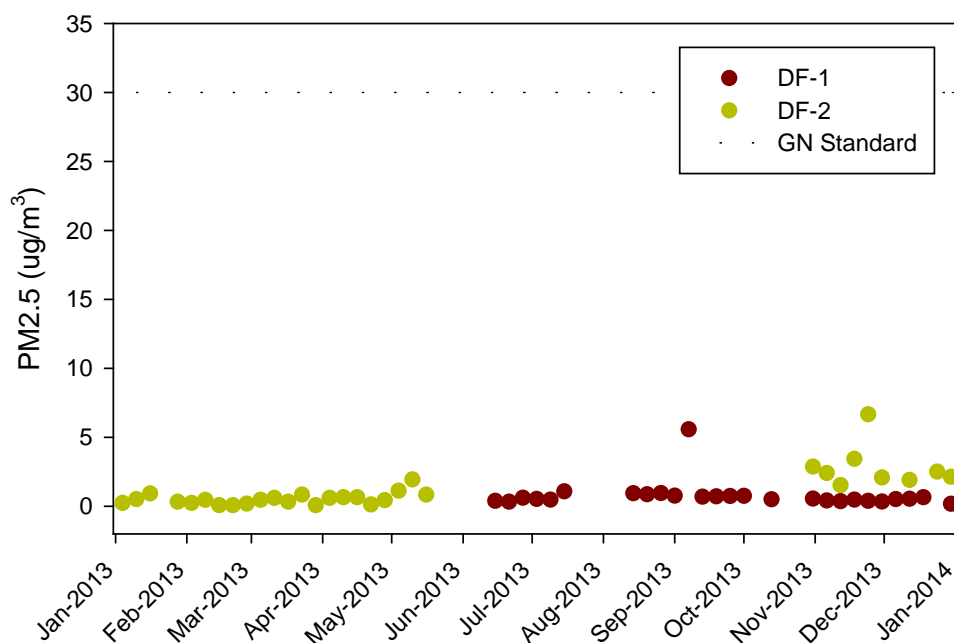
at DF-1 and DF-2, respectively, which are well below the Canadian Ambient Air Quality Standard for annual average  $\text{PM}_{2.5}$  of  $10 \mu\text{g}/\text{m}^3$ .



**Figure 2. 24-h average concentrations of total suspended particulates (TSP) at Meadowbank stations DF-1 and DF-2. Dashed line indicates the 24-hr average GN standard for ambient air quality.**



**Figure 3. 24-h average concentration of airborne particulate matter less than 10 microns ( $PM_{10}$ ) at Meadowbank stations DF-1 and DF-2. Dashed line indicates the BC Air Quality Objective for this parameter.**



**Figure 4. 24-average concentrations of airborne particulate matter less than 2.5 microns ( $PM_{2.5}$ ) at Meadowbank stations DF-1 and DF-2. Dashed line indicates the 24-hr average GN standard for this parameter.**

## 4.2 DUSTFALL

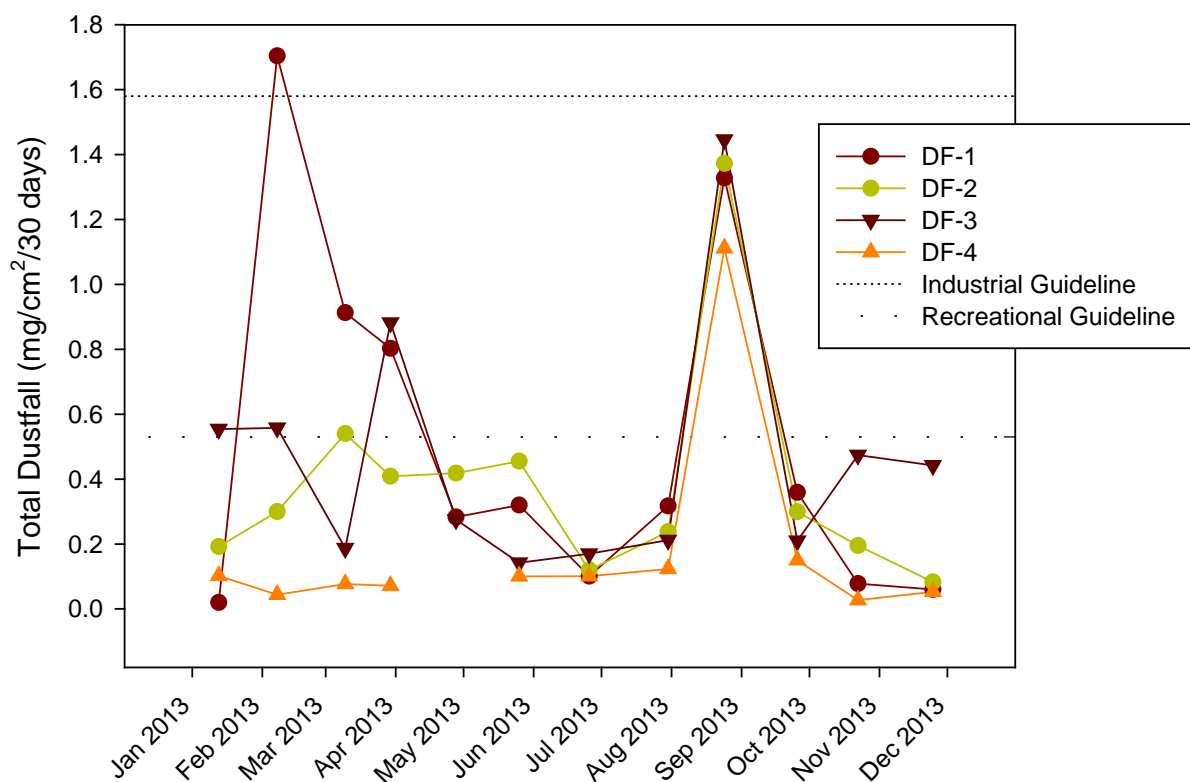
Results of the 2013 dustfall sampling program (30-day normalized rates of total and fixed dustfall) are provided in Figure 5 and 6. Fixed dustfall accounted for nearly all of total dustfall in most samples. Samples are plotted by the collection start date. One sample (May, DF-4) was lost in transit. To provide context, the Alberta Environment Department's recreational/residential and industrial/commercial area dustfall guidelines of  $0.53 \text{ mg/cm}^2/30 \text{ days}$  and  $1.58 \text{ mg/cm}^2/30 \text{ days}$  are indicated. These guidelines may be used for airshed planning and management; as a general performance indicator; and to assess local concerns.

The recreational/residential area guideline was exceeded in 11 out of 43 samples, which is similar to 2012 (10 exceedances). The industrial/commercial area guideline was exceeded in only one sample. While the applicability of these guidelines is not well defined, there are no recreational or residential users within vicinity of the mine site.

Although dustfall rates were typically lowest at DF-4, no significant trends by location are apparent. Interestingly, samples from all locations were at or near their highest in September, 2013, and all results were similar for this time point. This sampling time coincided with barge season, and comparatively high results may have been due to the extra truck traffic. On several occasions (all locations in April), the presence of rust from the dust canister stand was noted in the sample, which may have inflated some dustfall results.

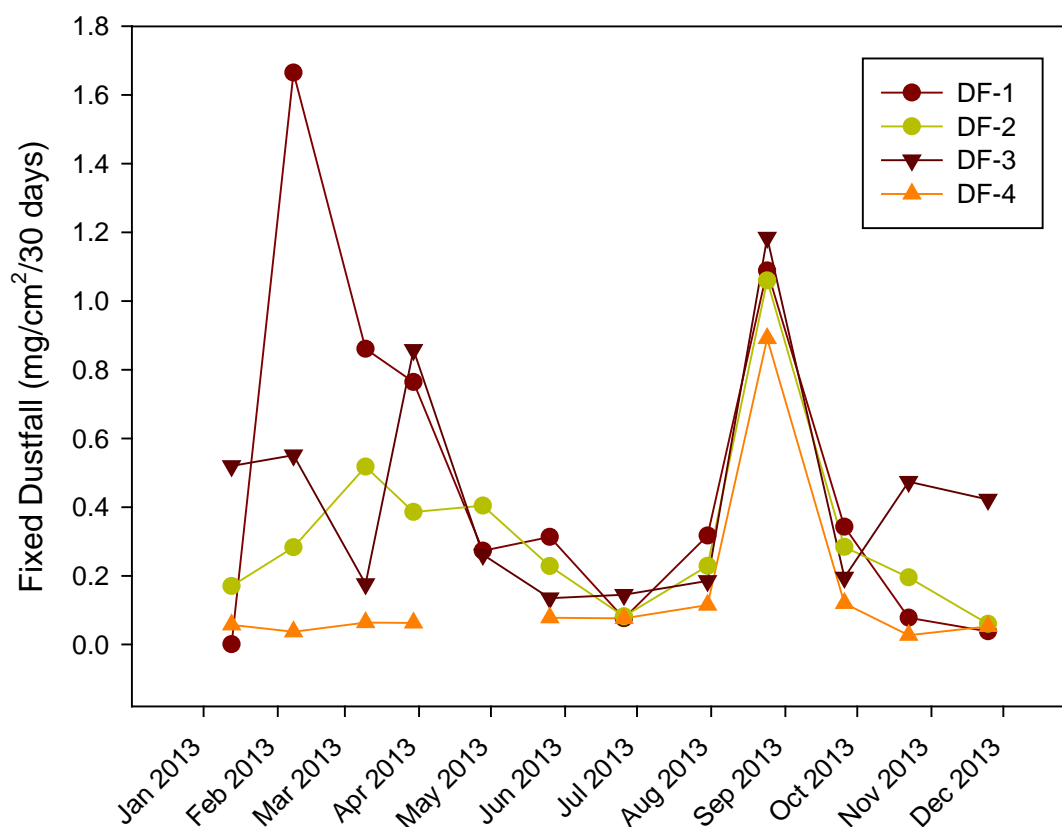
As recommended in the 2011 Air Quality and Dustfall Monitoring Report (AEM, 2012), dust suppression efforts were again increased in order to reduce dust generation. Liquid calcium chloride was applied as a dust suppressant on the roads around the Meadowbank site, and roads (and airstrip) were watered continuously during the snow-free months using two water trucks.

In addition, a light-oil based dust suppressant was tested on a portion of the airstrip (a major source of dust onsite) in 2012. The product was effective and was applied to the airstrip in the spring of 2013. However the charter aircraft operator expressed some safety concerns and the project was halted after approximately one month. Subsequently, water was used and was applied approximately 20 minutes before take-off and landing. Due to delays in take-off or landing time, this was not always totally effective, and recommendations to revise the procedure are provided in Section 8.



**Figure 5. Total 30-day-normalized dustfall at DF-1 – 4 at the Meadowbank site. Points represent start date of sample collection. Dashed line indicates the Alberta Environment Department's recreational area guideline of  $0.53 \text{ mg}/\text{cm}^2/30\text{d}$ , and the dotted line indicates the industrial area guideline of  $1.58 \text{ mg}/\text{cm}^2/30\text{d}$ .**



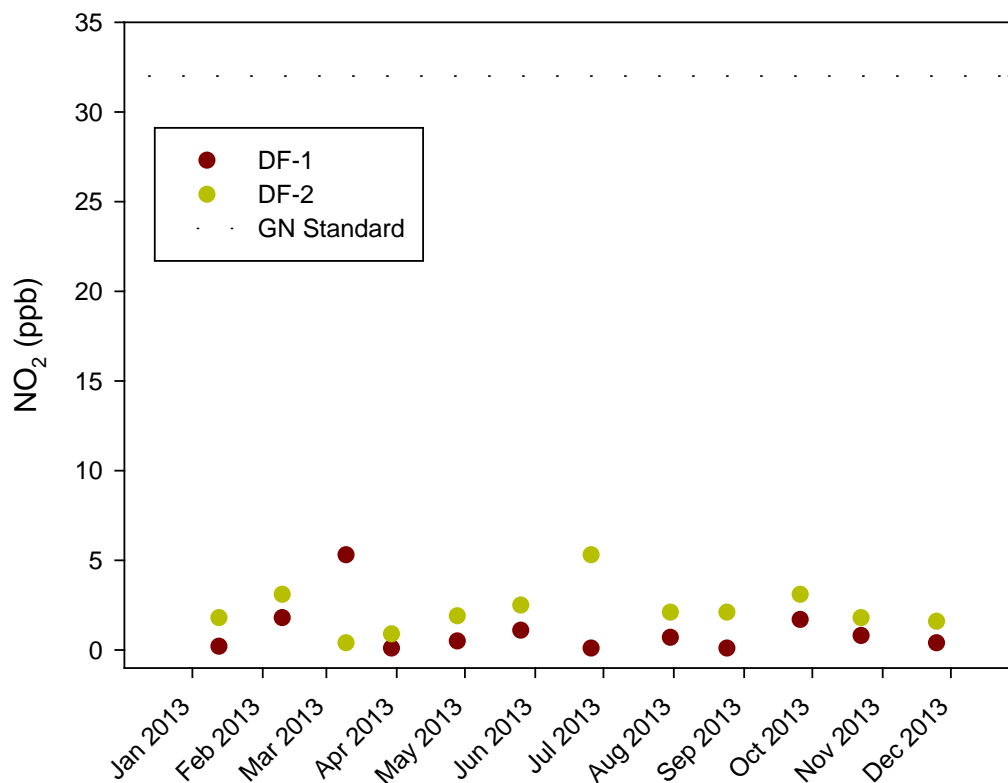


**Figure 6. Fixed (non-combustible) 30-day-normalized dustfall at DF-1 – 4 at the Meadowbank site. Points represent start date of sample collection.**

#### 4.3 NO<sub>2</sub>

Monthly-average NO<sub>2</sub> trends in 2013 are provided in Figure 7. Samples are referred to by the collection start date. Concentrations of NO<sub>2</sub> vary between non-detect (<0.1) and 5.3 ppb. This maximum is slightly lower than the maximum of 6.8 ppb observed in 2012. At most time points, concentrations are lower at DF-1 than DF-2. This is likely because DF-1 is further from the main camp area and there is generally less vehicular activity in the vicinity. No clear trends towards increasing or decreasing concentrations over time are evident.

Since no monthly standard is available, annual arithmetic mean concentrations were calculated for each station as the average of the monthly values. The annual mean concentrations of NO<sub>2</sub> were 0.2 ppb and 1.80 ppb for DF-1 and DF-2, respectively (January 12, 2013 – January 2, 2014). These are both well below the Government of Nunavut Ambient Air Quality Standard of 32 ppb for the annual average.



**Figure 7. Monthly average concentration of NO<sub>2</sub> at DF-1 and DF-2. Points represent start date of sample collection. Dashed line indicates GN standard for the annual average.**

#### 4.4 WEATHER DATA

Daily averages for wind speed, wind direction and temperature are provided in Appendix A.

#### 4.5 GREENHOUSE GAS EMISSIONS

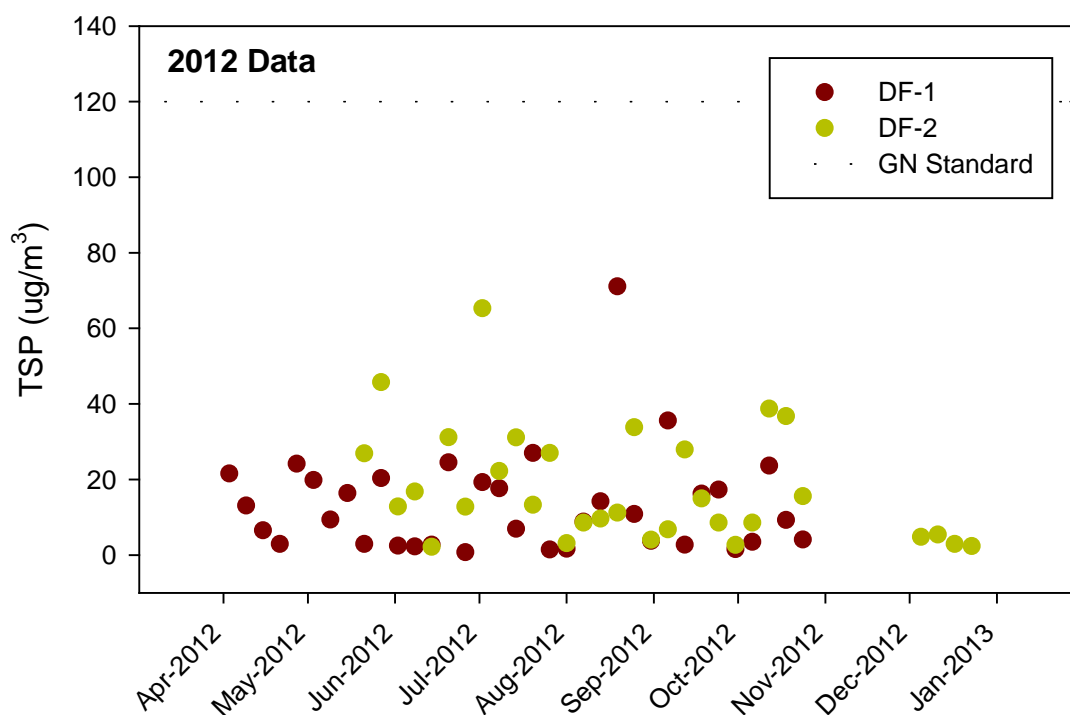
Estimated greenhouse gas emissions for the Meadowbank site as reported to Environment Canada's Greenhouse Gas Emissions Reporting Program in 2013 were 195,686 tonnes CO<sub>2</sub> equivalent. This is similar to the estimated emissions of 202,201 tonnes CO<sub>2</sub> equivalent in 2012.

## SECTION 5 • 2012 PM<sub>10</sub> RESULTS – RE-ANALYSIS

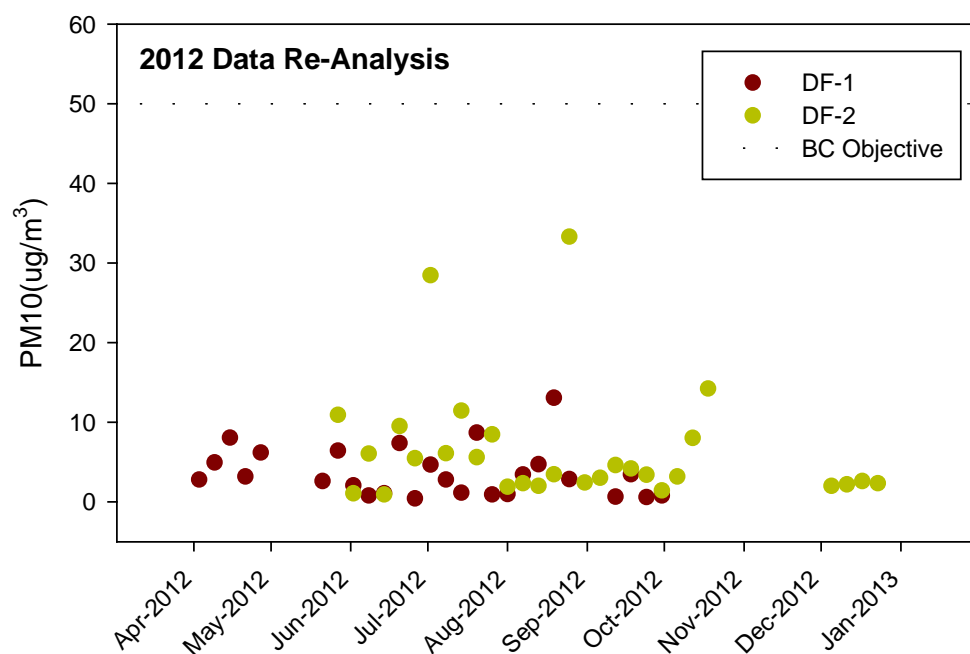
Based on comments received during the 2012 Annual Report NIRB review process, an error in calculations of PM<sub>10</sub> 24-h averages was corrected. This error had resulted in substantial over-estimates of PM<sub>10</sub> values in many cases. All suspended particulate data is re-issued here based on the calculations provided in Section 3.1, with the additional comparison of PM<sub>10</sub> data to the BC Air Quality Objective of 50 µg/m<sup>3</sup>.

No data points exceeded the relevant air quality standards or objectives for each parameter.

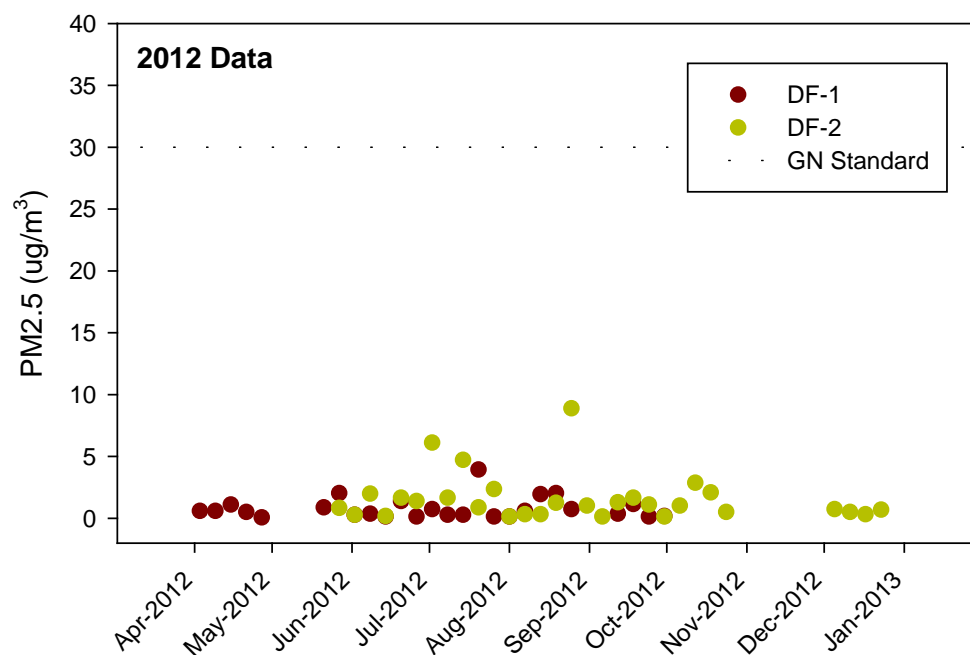
Two PM<sub>10</sub> values exceeded corresponding TSP values, both at DF-1. Both were for relatively low concentrations of TSP (<7 µg/m<sup>3</sup>), and this may be due to measurement error, as described for the 2013 data (Section 4.1).



**Figure 8. 24-h average concentrations of total suspended particulates (TSP) at Meadowbank stations DF-1 and DF-2 in 2012. Dashed line indicates the 24-hr average GN standard for ambient air quality.**



**Figure 9. 24-h average concentrations of PM<sub>10</sub> at Meadowbank stations DF-1 and DF-2 in 2012. Dashed line indicates the 24-hr average BC Air Quality Objective.**



**Figure 10. 24-h average concentrations of PM<sub>2.5</sub> at Meadowbank stations DF-1 and DF-2 in 2012. Dashed line indicates the 24-hr average GN standard for ambient air quality.**

## **SECTION 6 • QA/QC**

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QA/QC procedures in 2013 included the use of an accredited lab for sample preparation and analysis, and sample collection by appropriate personnel (trained by a professional air quality specialist).

AEM's Partisol instruments are sent for calibration yearly, and travel blanks were used as part of particulate sample submissions. Several laboratory records indicated contamination of travel blanks up to 12 µg/filter (MDL = 3 µg/filter). This included reports for samples taken April 28 – May 15 (DF-2); June 15 – July 15 (DF-2); and August 14 – September 7 (DF-1). No results during these periods exceeded regulatory limits, so the data was not handled separately. However, a review of filter handling procedures will be conducted to reduce the possibility for contamination during transit.

## SECTION 7 • SUMMARY

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### 7.1 COMPARISON TO REGULATORY STANDARDS AND GUIDELINES

#### 7.1.1 Suspended Particulates (TSP, PM<sub>10</sub>, PM<sub>2.5</sub>)

One sample exceeded the GN 24-h average TSP standard of 120 µg/m<sup>3</sup>, with a concentration of 459 µg/m<sup>3</sup>. The annual average standard was not exceeded. No PM<sub>10</sub> or PM<sub>2.5</sub> samples exceeded the relevant GN, BC or Canadian standards or objectives for daily or annual averages.

#### 7.1.2 Dustfall Guideline

The Alberta Environment Department's recreational area dustfall guideline was exceeded in 11 out of 43 samples, which is similar to previous years. One sample exceeded the industrial area guideline.

#### 7.1.3 NO<sub>2</sub>

The GN standard for NO<sub>2</sub> was not exceeded in 2013. The maximum one-month average concentration was more than six times lower than the standard for the annual average.

### 7.2 TEMPORAL AND SPATIAL TRENDS

For TSP, maximum concentrations generally occurred in April, but overall, no significant trends were evident over the year or between sampling stations for suspended particulates (TSP, PM<sub>10</sub> and PM<sub>2.5</sub>).

Dustfall at all stations was lowest in May - August, potentially as a result of spring precipitation and dust suppression during the summer months. No clear trends between sites were observed.

Concentrations of NO<sub>2</sub> were always lower at DF-1 compared to DF-2, likely because DF-1 is more remote. No clear trends over the year were observed.

## SECTION 8 • ACTIONS

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- The Partisol instrument should be set to record STP-normalized volume such that results can more readily be compared with GN standards. If this is not possible, recorded values of ambient average temperature and pressure will be downloaded for all sampling periods.
- The Partisol instruments are now calibrated onsite so that they are operational throughout the year (not offline for several months at a time).
- A review of Partisol filter cartridge handling procedures will be conducted to ensure minimal contamination during transport.
- Stands for the dustfall canisters will be cleaned and the canisters will be raised on the stand to reduce the possibility of rust deposition in the dustfall sample.
- Calcium chloride solid flakes will be used instead of liquid CaCl as it has a longer lasting effect.
- Better timing and communication procedures with the water trucks will be implemented to ensure maximum mitigation of dust from the airstrip.

It is AEM's intent to implement all actions indicated in this report for the 2014 Air Monitoring Program.

## **SECTION 9 • REFERENCES**

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AEM, 2012. 2011 Dust and Air Quality Monitoring Report. Meadowbank Gold Project. Prepared for Nunavut Impact Review Board.

Cumberland Resources Ltd. 2005. Meadowbank Gold Project Air Quality Impact Assessment Report.

Golder Associates Ltd. (Golder) 2008. Technical Memorandum. Addendum Report: Air Quality Monitoring Meadowbank Gold Project. Prepared for Agnico-Eagle Mines Ltd. May 16, 2008.

Rescan Environmental Services Ltd. (Rescan) 2009. Doris North Gold Mine Project: Air Quality Compliance Report for Section 4 Item 30 of the Project Certificate. Prepared for Hope Bay Mining Ltd. November, 2009.



## **Appendix A**

### **Weather Data**

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**Table -ApX 1. Average temperature, wind speed and wind direction for all available dates in 2013 at the Meadowbank site.**

<b>Date</b>	<b>Average Temperature (°C)</b>	<b>Minimum Temperature (°C)</b>	<b>Maximum Temperature (°C)</b>	<b>Wind Speed (m/s)</b>	<b>Wind Direction (deg.)</b>
01/01/2013	-29.26	-22.49	-34.54	2.46	312
02/01/2013	-34.03	-30.75	-36.09	3.263	311.5
03/01/2013	-33.74	-30.27	-36.05	3.84	316.1
04/01/2013	-27.26	-25.44	-30.37	5.729	89.1
05/01/2013	-31.43	-26.52	-34.54	9.5	301.3
06/01/2013	-33.55	-28.66	-35.97	4.367	262
07/01/2013	-29.78	-26.59	-32.16	3.074	234.2
08/01/2013	-30.81	-28	-34.47	3.112	232.2
09/01/2013	-38.37	-34.19	-40.3	4.195	291.9
10/01/2013	-39.27	-38.3	-40.23	4.185	275.9
11/01/2013	-38.65	-37.06	-39.8	2.194	189.1
12/01/2013	-37.52	-36.42	-38.25	2.098	162
13/01/2013	-38.27	-36.57	-39.81	1.467	93.8
14/01/2013	-36.66	-33.92	-39.62	2.044	319.1
15/01/2013	-39.9	-35.88	-41.66	3.083	298.2
16/01/2013	-42.01	-38.95	-44.33	4.339	317.2
17/01/2013	-33.57	-29.39	-39.05	9.74	312.4
18/01/2013	-31.17	-29.59	-32.35	11.85	324.8
19/01/2013	-33.1	-32.06	-34.43	9.14	312.8
20/01/2013	-34.64	-33.13	-36.76	6.302	291.7
21/01/2013	-34.61	-30.56	-37.49	6.822	311.5
22/01/2013	-32.43	-29.37	-34.63	2.949	274.1
23/01/2013	-34.38	-32.31	-36.16	4.071	350.8
24/01/2013	-31.65	-29.25	-35.72	8.99	315.2
25/01/2013	-33.02	-30.96	-34.58	4.201	297.6
26/01/2013	-34.81	-33.41	-36.57	0.536	234.4
27/01/2013	-35.12	-31.01	-37.3	2.311	325.4
28/01/2013	-27.17	-23.95	-31.87	2.492	279.9
29/01/2013	-25.52	-24.04	-28.53	2.521	338.9
30/01/2013	-32.3	-27.71	-36.33	5.551	314
31/01/2013	-35.58	-34.48	-36.62	5.47	303.6
01/02/2013	-35.1	-34.08	-35.72	5.371	302.3
02/02/2013	-35.89	-34.7	-36.71	6.973	295.4
03/02/2013	-35.43	-34.04	-37.35	9.25	306.9
04/02/2013	-33.89	-32.33	-35.99	9.19	319.2

Date	Average Temperature (°C)	Minimum Temperature (°C)	Maximum Temperature (°C)	Wind Speed (m/s)	Wind Direction (deg.)
05/02/2013	-35.46	-34.68	-36.62	6.097	341
06/02/2013	-36.5	-34.88	-38.47	2.298	311.1
07/02/2013	-37.24	-35.61	-38.91	2.805	288.8
08/02/2013	-32.25	-25.57	-36.18	3.606	211.6
09/02/2013	-36.64	-34.99	-38.05	3.616	293
10/02/2013	-36.11	-33.16	-38.03	2.881	292.8
11/02/2013	-30.62	-26.3	-35.92	4.174	156.4
12/02/2013	-19.89	-16.74	-26.32	8.52	112.6
13/02/2013	-24.82	-17.05	-34.82	6.823	352.1
14/02/2013	-35.91	-33.72	-37.25	4.962	322.7
15/02/2013	-35.82	-33.79	-37.93	4.335	315.5
16/02/2013	-36.8	-33.92	-39.15	2.177	332
17/02/2013	-37.7	-33.57	-40.11	0.214	33.4
18/02/2013	-37.89	-34.74	-40.59	2.893	316.4
19/02/2013	-37.86	-35.21	-39.7	5.018	308.3
20/02/2013	-36.66	-31.01	-38.81	1.393	310.5
21/02/2013	-29.7	-22.58	-37.74	6.829	115.9
22/02/2013	-21.9	-21	-23.12	7.796	147.7
23/02/2013	-18.84	-15.38	-23.89	7.071	125.3
24/02/2013	-17.76	-15.5	-20.9	4.706	132.3
25/02/2013	-26.44	-16.43	-29.78	5.237	323.6
26/02/2013	-25	-21.52	-28.19	4.117	347.1
27/02/2013	-32.23	-27.53	-36.47	6.68	335.9
28/02/2013	-36.04	-33.38	-38.18	3.665	318.3
01/03/2013	-34.97	-31.48	-38.03	2.763	91.5
02/03/2013	-20.74	-11.82	-31.58	7.2	124.2
03/03/2013	-16.33	-11.75	-22.52	8.85	149.8
04/03/2013	-24.76	-21.14	-28.28	2.694	96.3
05/03/2013	-25.77	-23.07	-29.07	3.885	307.2
06/03/2013	-23.42	-21.69	-24.49	4.288	117.1
07/03/2013	-25.59	-20.75	-34.06	5.178	258.3
08/03/2013	-30.88	-27.51	-36.04	8.39	268.1
09/03/2013	-32.55	-30.81	-34.87	5.501	258.7
10/03/2013	-33.21	-29.33	-36.47	2.756	288.1
11/03/2013	-31.88	-28.6	-34.04	2.365	192.9
12/03/2013	-29.08	-25.07	-32.4	7.97	165
13/03/2013	-33.29	-31.19	-35.02	6.356	265

Date	Average Temperature (°C)	Minimum Temperature (°C)	Maximum Temperature (°C)	Wind Speed (m/s)	Wind Direction (deg.)
14/03/2013	-33.92	-30.82	-37.4	2.181	175.4
15/03/2013	-34.42	-29.95	-37.25	2.658	333.8
16/03/2013	-31.49	-29.74	-33.04	13.12	327.6
17/03/2013	-27.72	-22.49	-33.01	10.75	305.4
18/03/2013	-24.78	-22.74	-29.64	5.528	63.84
19/03/2013	-29.08	-26.24	-31.05	6.276	89.2
20/03/2013	-29.36	-26.12	-32.31	3.887	121.9
21/03/2013	-29.4	-25.21	-33.75	1.925	111
22/03/2013	-25.06	-18.98	-29.37	1.413	27.85
23/03/2013	-21.31	-15.87	-27.9	1.706	20.16
24/03/2013	-13.03	-8.78	-17.47	2.604	63.29
25/03/2013	-13.14	-10.42	-16.23	4.469	100.2
26/03/2013	-16.79	-11.53	-21	1.419	42.54
27/03/2013	-15.22	-10.72	-22.16	2.903	88.1
28/03/2013	-13.25	-10.76	-18.34	5.936	110.7
29/03/2013	-15.6	-13.03	-19.69	5.307	127.9
30/03/2013	-14.62	-11.95	-19.59	2.844	35.33
31/03/2013	-18.57	-14.43	-22.49	6.023	335.6
01/04/2013	-21.96	-18.12	-25.92	8.18	324.1
02/04/2013	-21.14	-18.48	-23.89	4.677	282.8
03/04/2013	-24.77	-22.63	-28.62	4.271	333.8
04/04/2013	-26.63	-21.92	-30.41	4.905	336.1
05/04/2013	-26.67	-23.65	-29.6	8.49	321.8
06/04/2013	-22.22	-18.52	-26.64	12.75	323
07/04/2013	-9.39	-4.219	-18.52	8.11	354.8
08/04/2013	-13.62	-8.48	-19.25	8.4	329.3
09/04/2013	-17.55	-13.62	-20.85	8.99	336.2
10/04/2013	-14.15	-9.58	-19.69	3.57	117.4
11/04/2013	-15.33	-11.3	-20.66	6.248	128.2
12/04/2013	-10.3	-7.107	-14.33	9.25	131.1
13/04/2013	-9.79	-7.495	-11.93	8.6	134.1
14/04/2013	-11.07	-8.82	-12.6	2.984	99.4
15/04/2013	-13.78	-10.82	-17.75	1.632	300.2
16/04/2013	-16.07	-11.16	-20.93	3.145	285.6
17/04/2013	-19.26	-15.16	-23.41	7.235	283.9
18/04/2013	-20.52	-17.13	-24.71	7.753	292.7
19/04/2013	-18.96	-15.59	-22.63	6.812	289.8

Date	Average Temperature (°C)	Minimum Temperature (°C)	Maximum Temperature (°C)	Wind Speed (m/s)	Wind Direction (deg.)
20/04/2013	-16.65	-13.28	-20.17	6.009	284
21/04/2013	-16.87	-13.57	-20.17	6.043	291.5
22/04/2013	-15.66	-11.54	-19.93	5.229	241.3
23/04/2013	-15.41	-12.36	-20.03	5.427	269.9
24/04/2013	-19.99	-15.34	-24.85	5.629	306.9
25/04/2013	-23.14	-19.54	-28.07	4.161	207.6
26/04/2013	-18.18	-14.05	-21.96	5.708	77.88
27/04/2013	-18.08	-13.49	-22.97	1.746	128.8
28/04/2013	-18.22	-14.3	-22.97	2.335	289.3
29/04/2013	-14.74	-12.08	-16.55	6.192	25.98
30/04/2013	-16.83	-14.28	-19.15	16.08	352.8
01/05/2013	-19.34	-16.84	-22.15	13.17	297.7
02/05/2013	-19.6	-14.61	-24.73	2.825	210.6
03/05/2013	-14.75	-8.61	-21.52	7.332	164.3
04/05/2013	-11.7	-6.767	-18.52	6.506	326.8
05/05/2013	-13.74	-8.35	-19.4	5.518	87
06/05/2013	-13.96	-9.7	-18.67	5.984	12.22
07/05/2013	-16.24	-11.57	-22.12	2.633	57.47
08/05/2013	-13.54	-10.68	-18.96	6.14	48.39
09/05/2013	-17.57	-15.16	-21	7.309	304.9
10/05/2013	-17.2	-11.6	-25.35	3.469	233.9
11/05/2013	-11.49	-7.156	-16.45	3.848	282.8
12/05/2013	-10.88	-8.83	-12.84	3.333	188.9
13/05/2013	-7.283	-3.806	-9.61	5.378	146.1
14/05/2013	-8.15	-6.244	-10.34	9.97	99.6
15/05/2013	-3.517	-1.625	-6.561	8.35	77.14
16/05/2013	-3.859	-1.528	-7.253	9.1	58.89
17/05/2013	-3.68	-2.379	-4.268	11.42	103.6
18/05/2013	-1.176	0.945	-2.687	3.802	184.5
19/05/2013	-2.064	-0.231	-4.995	5.855	305.6
20/05/2013	-3.093	-1.142	-4.801	3.778	15.29
21/05/2013	-1.752	-0.091	-5.632	3.993	94.5
22/05/2013	-2.369	0.169	-6.137	3.542	24.46
23/05/2013	-6.099	-3.406	-9.37	3.691	342.8
24/05/2013	-3.039	1.43	-9.34	2.411	346.9
25/05/2013	-1.881	1.573	-6.285	2.477	229.2
26/05/2013	-0.486	2.203	-4.644	4.141	155.8

Date	Average Temperature (°C)	Minimum Temperature (°C)	Maximum Temperature (°C)	Wind Speed (m/s)	Wind Direction (deg.)
27/05/2013	1.597	3.85	0.349	3.677	298.8
28/05/2013	0.801	2.604	-0.175	4.427	0.91
29/05/2013	-1.43	-0.172	-2.46	5.749	42.82
30/05/2013	-1.566	0.653	-2.977	3.466	37.77
31/05/2013	-1.438	1.67	-4.828	1.958	178.3
01/06/2013	0.58	4.56	-4.111	2.518	240.7
02/06/2013	2.013	5.096	-1.72	4.407	192.1
03/06/2013	1.924	6.937	-0.558	7.565	285
04/06/2013	0.937	3.85	-1.962	6.019	299.4
05/06/2013	3.156	7.408	-1.514	5.276	186
06/06/2013	5.822	10.87	2.311	4.805	114.6
07/06/2013	6.465	12.74	1.55	5.361	98.8
08/06/2013	6.722	13.03	2.321	6.429	104.3
09/06/2013	4.452	7.797	2.597	7.028	121.3
10/06/2013	4.733	9.68	1.453	3.857	186.9
11/06/2013	3.107	4.673	1.501	5.062	7.296
12/06/2013	4.018	9.52	-0.716	4.914	22.42
13/06/2013	8.56	14.27	1.307	4.713	298.5
14/06/2013	11.85	17.49	4.734	2.836	330.8
15/06/2013	14.88	20.03	6.692	2.166	323.1
16/06/2013	15.06	19.81	7.052	1.583	28.22
17/06/2013	15.36	21.36	8.17	1.937	282.5
18/06/2013	15.08	19.97	8.11	2.455	292.5
19/06/2013	7.187	11.68	2.021	6.966	320.7
20/06/2013	2.876	7.465	-0.195	6.571	300.6
21/06/2013	8.2	13.76	3.268	7.477	290.7
22/06/2013	8.61	14.6	2.639	6.796	312.5
23/06/2013	11.52	17.58	4.079	2.378	13.9
24/06/2013	14.01	19.04	8.27	3.629	85.8
25/06/2013	8.92	12.98	6.207	7.179	131.4
26/06/2013	7.975	11.95	5.096	6.72	158.4
27/06/2013	4.812	8.36	0.768	7.615	352.7
28/06/2013	7.693	13.24	2.34	2.638	188.7
29/06/2013	11.8	20.78	3.704	7.373	253.9
30/06/2013	9.72	17.47	3.22	4.023	314.9
01/07/2013	18.04	28	8.3	3.911	208.2
02/07/2013	10.3	20.3	2.711	9.41	294.4

Date	Average Temperature (°C)	Minimum Temperature (°C)	Maximum Temperature (°C)	Wind Speed (m/s)	Wind Direction (deg.)
03/07/2013	8.41	16.14	1.259	3.976	255.7
04/07/2013	9.37	12.64	6.716	6.252	64.04
05/07/2013	7.3	10.59	5.235	7.575	338.1
06/07/2013	8.49	13.12	4.454	8.81	329.1
07/07/2013	10.28	17.18	4.563	5.237	314.4
08/07/2013	16.11	22.3	8.12	4.515	221
09/07/2013	16.07	21.26	9.44	4.083	299.4
10/07/2013	12.48	16.27	8.69	5.112	344.6
11/07/2013	8.33	11.67	5.092	5.139	332.3
12/07/2013	10	14.21	6.77	3.942	351.8
13/07/2013	11.11	14.83	7.491	4.683	19.14
14/07/2013	9.52	13.39	6.245	6.353	333.8
15/07/2013	8.39	11.32	6.087	5.66	266.6
16/07/2013	9.6	11.31	7.454	3.773	299.4
17/07/2013	7.536	9.93	5.238	5.85	296.1
18/07/2013	5.969	8.46	3.837	12.34	306.1
19/07/2013	7.666	11.14	4.306	8.61	32.05
20/07/2013	11.29	16.07	5.626	7.417	323.3
21/07/2013	13.51	19.64	6.91	3.509	300.7
22/07/2013	13.73	16.96	10.88	2.747	11.45
23/07/2013	11.84	13.44	9.31	4.164	113.4
24/07/2013	13.81	16.84	9.5	2.098	11.26
25/07/2013	15.15	19.28	8.77	1.999	241.6
26/07/2013	16.14	20.73	12.32	4.751	216.9
27/07/2013	19.12	25.02	12.33	5.357	232
28/07/2013	16.99	24.1	11.34	3.887	12.86
29/07/2013	11.8	15.46	10.08	7.711	12.75
30/07/2013	10.31	12.78	7.491	7.313	10.57
31/07/2013	9.97	14.64	5.415	3.399	8.88
01/08/2013	12.52	15.38	9.03	2.705	141.6
02/08/2013	12	15.08	9.93	5.049	328
03/08/2013	9.91	12.95	6.529	6.045	318.2
04/08/2013	8.38	13.24	3.582	6.134	335.7
05/08/2013	8.37	11.87	4.321	7.392	350.8
06/08/2013	12.43	17.57	8.92	4.63	47.56
07/08/2013	13.92	18.09	9.88	4.165	75.99
08/08/2013	17.25	23.31	10.59	3.28	349.9

Date	Average Temperature (°C)	Minimum Temperature (°C)	Maximum Temperature (°C)	Wind Speed (m/s)	Wind Direction (deg.)
09/08/2013	17.63	23.79	11.72	4.685	312.5
10/08/2013	14.12	18.24	9.59	4.725	357.5
11/08/2013	15.13	20.16	10	3.869	2.6
12/08/2013	15	19.08	11	2.826	131.4
13/08/2013	17.7	24.68	10.84	4.095	272.9
14/08/2013	15.77	18.16	12.37	4.687	335
15/08/2013	14.59	20.39	8.64	2.365	280.5
16/08/2013	16.87	25.83	10.37	5.045	201.7
17/08/2013	11.5	15.87	7.681	5.03	31.92
18/08/2013	11.76	16.29	6.225	3.196	1.574
19/08/2013	13.74	17.01	11.05	7.889	184.9
20/08/2013	11.25	12.68	10.08	8.29	148.5
21/08/2013	9.6	11.43	6.716	5.477	66.16
22/08/2013	8.46	13.7	2.929	5.879	313.9
23/08/2013	11.89	16.45	9.37	6.122	206.8
24/08/2013	7.164	11.29	3.715	7.539	313.3
25/08/2013	3.571	6.002	1.997	8.89	274.5
26/08/2013	2.541	4.127	1.21	7.412	305
27/08/2013	4.905	8.54	2.348	6.582	313.3
28/08/2013	7.446	11.51	1.96	6.955	171.3
29/08/2013	5.438	9.6	2.009	6.39	358.8
30/08/2013	4.649	8.54	1.38	5.779	310.3
31/08/2013	6.406	11.92	1.479	3.555	281.2
01/09/2013	9.46	13.58	6.289	4.505	227.4
02/09/2013	11.73	16.5	7.007	3.818	223.3
03/09/2013	5.266	11.95	3.449	8.03	306
04/09/2013	1.946	4.224	0.086	8.48	306.9
05/09/2013	1.918	4.511	-0.873	5.555	286.3
06/09/2013	4.737	7.333	2.493	5.944	99.2
07/09/2013	3.544	4.717	0.362	5.347	342.3
08/09/2013	1.334	4.184	-0.97	5.022	229.1
09/09/2013	1.068	3.026	-0.946	5.23	6.965
10/09/2013	-0.203	1.621	-1.794	4.384	354.9
11/09/2013	-0.591	1.621	-1.891	2.933	43.86
12/09/2013	0.214	4.027	-2.4	2.871	347.9
13/09/2013	0.167	3.317	-2.414	4.204	122
14/09/2013	1.834	3.123	0.144	11.42	61.43



Date	Average Temperature (°C)	Minimum Temperature (°C)	Maximum Temperature (°C)	Wind Speed (m/s)	Wind Direction (deg.)
15/09/2013	-1.444	0.144	-3.418	5.591	337.7
16/09/2013	2.127	4.033	-0.486	4.396	142.4
17/09/2013	1.24	5.629	-1.649	6.14	328.7
18/09/2013	-1.601	-0.558	-3.394	8.03	336.1
19/09/2013	-2.224	-0.001	-4.097	6.181	347
20/09/2013	-2.693	-0.195	-4.558	4.194	100.5
21/09/2013	1.091	3.172	-0.873	7.022	159.4
22/09/2013	2.507	5.527	0.096	9.4	145.3
23/09/2013	6.41	10.61	3.55	6.007	148.4
24/09/2013	4.643	5.769	4.031	4.501	81.7
25/09/2013	4.244	5.72	3.256	3.211	45.83
26/09/2013	3.984	4.765	2.975	5.901	27.15
27/09/2013	2.452	3.172	1.137	7.116	330.3
28/09/2013	1.41	2.784	0.424	5.106	25.5
29/09/2013	2.626	4.612	1.331	5.516	13.54
30/09/2013	2.228	3.361	1.137	3.277	31.9
01/10/2013	0.305	2.203	-2.697	4.013	31.46
02/10/2013	-2.783	-1.502	-3.758	5.484	5.941
03/10/2013	-2.044	1.284	-3.806	7.117	4.828
04/10/2013	-4.373	-3.176	-5.556	6.832	354.6
05/10/2013	-5.09	-4.287	-6.014	3.379	48.44
06/10/2013	-3.548	-0.678	-5.346	8.57	137.5
07/10/2013	0.133	0.722	-0.727	10.32	115.6
08/10/2013	-1.826	0.047	-4.145	6.642	97.4
09/10/2013	-4.569	-3.418	-5.594	3.04	33.45
10/10/2013	-5.711	-2.788	-7.939	4.371	124.9
11/10/2013	0.112	2.011	-2.837	9.02	143.4
12/10/2013	2.229	4.413	0.483	5.336	178.5
13/10/2013	-0.972	0.914	-3.709	4.939	288.8
14/10/2013	-2.367	-0.938	-5.48	9.63	330.3
15/10/2013	-1.865	-0.715	-5.105	10.97	318.2
16/10/2013	-5.626	-4.194	-6.935	3.87	318.5
17/10/2013	-6.146	-4.965	-7.333	3.595	341
18/10/2013	-6.309	-4.047	-8.18	5.066	344.6
19/10/2013	-5.246	-3.127	-7.032	8.81	318.5
20/10/2013	-4.223	-2.122	-5.82	3.739	346.8
21/10/2013	-4.729	-2.087	-8.95	2.455	107.9

<b>Date</b>	<b>Average Temperature (°C)</b>	<b>Minimum Temperature (°C)</b>	<b>Maximum Temperature (°C)</b>	<b>Wind Speed (m/s)</b>	<b>Wind Direction (deg.)</b>
22/10/2013	-5.619	-3.878	-9.44	2.539	356.7
23/10/2013	-9.24	-4.559	-13.19	1.309	2.995
24/10/2013	-4.988	-3.611	-10.06	1.093	338.9
25/10/2013	-5.327	-3.224	-9.86	1.706	264.3
26/10/2013	-7.184	-4.935	-10.83	4.396	300.1
27/10/2013	-9.35	-7.98	-12.17	6.742	314
28/10/2013	-11.5	-9.51	-13.81	9.59	304.5
29/10/2013	-12.2	-10.48	-14.21	8.9	310.6
30/10/2013	-14.56	-12.61	-18.15	3.227	314.9
31/10/2013	-13.18	-9.66	-16.48	9.53	108.5
01/11/2013	-10.4	-8.87	-13.68	8.2	90.8
02/11/2013	-10.1	-9.08	-12.05	5.566	117
03/11/2013	-7.953	-6.794	-10.29	6.495	155.4
04/11/2013	-9.37	-6.961	-14.44	2.168	39.72
05/11/2013	-8.43	-6.67	-9.85	2.669	34.33
06/11/2013	-10.23	-7.216	-12.57	0.991	197.2
07/11/2013	-7.716	-5.991	-10.72	4.343	105.9
08/11/2013	-8.97	-7.543	-12.23	4.292	160.9
09/11/2013	-18.78	-12.23	-24.43	5.633	335.1
10/11/2013	-25.03	-23.36	-26.65	6.647	348
11/11/2013	-25.1	-22.59	-27.38	4.212	287
12/11/2013	-14.91	-4.268	-26.12	7.217	223.7
13/11/2013	-7.97	-5.48	-11.74	5.536	289.4
14/11/2013	-13.58	-9.9	-19.6	5.367	295.3
15/11/2013	-22.42	-18.21	-26.58	4.769	245
16/11/2013	-17.68	-14.05	-23.41	6.771	165.6
17/11/2013	-28	-23.41	-30.21	6.502	276.6
18/11/2013	-27.88	-26.7	-28.66	6.183	234.2
19/11/2013	-28.31	-27.28	-30.09	6.307	268.2
20/11/2013	-30.44	-29.02	-32.84	3.776	286
21/11/2013	-32.43	-30.28	-34.32	0.864	260
22/11/2013	-32.93	-31.72	-34.03	1.207	271.8
23/11/2013	-30.92	-28.24	-34.03	1.714	280.1
24/11/2013	-30.34	-28.65	-31.58	1.134	115.1
25/11/2013	-29.74	-27.68	-31.73	3.084	75.01
26/11/2013	-29.83	-27.96	-31.92	2.423	309.3
27/11/2013	-28.48	-24.76	-30.38	2.25	273

<b>Date</b>	<b>Average Temperature (°C)</b>	<b>Minimum Temperature (°C)</b>	<b>Maximum Temperature (°C)</b>	<b>Wind Speed (m/s)</b>	<b>Wind Direction (deg.)</b>
28/11/2013	-26.96	-23.27	-30.13	2.307	307.2

## **Appendix B**

### **2013 Laboratory Certificates**

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Your P.O. #: 82140  
 Your Project #: PM2.5/10/TSP  
 Site Location: BAKER LAKE, NU

**Attention:MEADOWBANK ENVIRONMENT**

Agnico Eagle Mines Ltd.  
 Meadowbank Division  
 10200, Route du Preissac  
 Rouyn-Noranda, QC  
 CANADA J0Y 1C0

**Report Date: 2013/12/12**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B3B1435**

**Received: 2013/12/02, 12:14**

Sample Matrix: Filter  
 # Samples Received: 22

Analyses	Date		Date Analyzed	Laboratory Method	Analytical Method
	Quantity	Extracted			
Mass Determination(ug/filter)	22	N/A	2013/12/07	PTC SOP-00151	EPA 2.12 Monitoring

\* 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, Customer Service  
 Email: LManchak@maxxam.ca  
 Phone# (780) 378-8500

=====

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Maxxam Job #: B3B1435  
Report Date: 2013/12/12

Agnico Eagle Mines Ltd.  
Client Project #: PM2.5/10/TSP  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

### RESULTS OF CHEMICAL ANALYSES OF FILTER

Maxxam ID		IF5698	IF5699	IF5700	IF5701	IF5703		
Sampling Date		2013/09/13	2013/09/19	2013/09/25	2013/10/01	2013/09/13		
	Units	PM2.5 RP20578	PM2.5 RP9921	PM2.5 RP17823	PM2.5 RP76199	PM10 RP15145	RDL	QC Batch
<b>PM2.5/10</b>								
Particulate Matter	ug/filter	15	16	16	16	171	3	7311967
RDL = Reportable Detection Limit								

Maxxam ID		IF5704	IF5705	IF5706	IF5707	IF5708		
Sampling Date		2013/09/19	2013/09/25	2013/10/01	2013/10/07	2013/10/13		
	Units	PM10 RP1574	PM10 RP85911	PM10 RP76151	PM10 RP894	PM10 RP36940	RDL	QC Batch
<b>PM2.5/10</b>								
Particulate Matter	ug/filter	109	64	99	135	232	3	7311967
RDL = Reportable Detection Limit								

Maxxam ID		IF5709	IF5710	IF5711	IF5712	IF5713	IF5714		
Sampling Date		2013/09/13	2013/09/19	2013/09/25	2013/10/01	2013/10/07	2013/10/13		
	Units	TSP RP27588	TSP RP89967	TSP RP15508	TSP RP4242	TSP RP930	TSP RP13258	RDL	QC Batch
<b>PM2.5/10</b>									
Particulate Matter	ug/filter	18	82	36	53	136	107	3	7311967
RDL = Reportable Detection Limit									

Maxxam ID		IF5715	IF5717	IF5719	IF5746	IF5747	IF5749		
Sampling Date		2013/09/25	2013/10/01	2013/10/07	2013/10/13	2013/10/19			
	Units	TSP RP15549	TSP RP22219	TSP RP872	TSP RP10084	TSP RP877	BLANK	RDL	QC Batch
<b>PM2.5/10</b>									
Particulate Matter	ug/filter	25	236	640	335	292	3	3	7311967
RDL = Reportable Detection Limit									

Maxxam Job #: B3B1435  
Report Date: 2013/12/12

Agnico Eagle Mines Ltd.  
Client Project #: PM2.5/10/TSP  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

### GENERAL COMMENTS

Results relate only to the items tested.

Maxxam Job #: B3B1435  
Report Date: 2013/12/12

Agnico Eagle Mines Ltd.  
Client Project #: PM2.5/10/TSP  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

### QUALITY ASSURANCE REPORT

QA/QC		QC Type	Parameter	Date	Value	Recovery	Units	QC Limits
Batch	Init			Analyzed				
7311967	SS6	Calibration Check	Particulate Matter	2013/12/07		100	%	N/A
Calibration Check: A calibration standard analyzed at different times to evaluate on-going calibration accuracy.								



Maxxam Job #: B3B1435  
Report Date: 2013/12/12

Agnico Eagle Mines Ltd.  
Client Project #: PM2.5/10/TSP  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

### VALIDATION SIGNATURE PAGE

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

A handwritten signature in black ink, appearing to read "Darren Funnell", is written over a horizontal line.

Darren Funnell, Analyst I

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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. #: 82140  
Your Project #: 2013/10/22 - 2013/11/24  
Site Location: BAKER LAKE, NU

**Attention: MEADOWBANK ENVIRONMENT**

Agnico Eagle Mines Ltd.  
Meadowbank Division  
10200, Route du Preissac  
Rouyn-Noranda, QC  
CANADA J0Y 1C0

**Report Date: 2013/12/06**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B3B1431**

**Received: 2013/12/02, 12:11**

Sample Matrix: Air  
# Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Total & Fixed Dustfall	4	2013/12/06	2013/12/06	PTC SOP-00180	AMD 32020
Determination of Dustfall-mg/cm2/30 days	4	2013/12/06	2013/12/06	PTC SOP-00180	
Exposure (Number of days)	4	2013/12/06	2013/12/06	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, Customer Service  
Email: LManchak@maxxam.ca  
Phone# (780) 378-8500

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Total cover pages: 1



Maxxam Job #: B3B1431  
Report Date: 2013/12/06

Agnico Eagle Mines Ltd.  
Client Project #: 2013/10/22 - 2013/11/24  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

### RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		IF5667	IF5668	IF5669	IF5670		
Sampling Date		2013/10/22	2013/10/22	2013/10/22	2013/10/22		
	<b>UNITS</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Industrial</b>							
Exposure	days	33	33	33	33	1	7310391
<b>Dustfall Determination</b>							
Total Dustfall	mg	7	18	43	2	1	7310388
Total Dustfall (30 day)	mg/cm2/30day	0.078	0.195	0.474	0.027	0.001	7310389
Total Fixed Dustfall	mg	7	18	43	2	1	7310388
Total Fixed Dustfall (30 day)	mg/cm2/30day	0.078	0.195	0.474	0.027	0.001	7310389
RDL = Reportable Detection Limit							



Maxxam Job #: B3B1431  
Report Date: 2013/12/06

Agnico Eagle Mines Ltd.  
Client Project #: 2013/10/22 - 2013/11/24  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

**General Comments**

**Results relate only to the items tested.**



Agnico Eagle Mines Ltd.  
Attention: MEADOWBANK ENVIRONMENT  
Client Project #: 2013/10/22 - 2013/11/24  
P.O. #: 82140  
Site Location: BAKER LAKE, NU

### Quality Assurance Report

Maxxam Job Number: PB3B1431

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	UNITS	QC Limits
7310388 OZ	Calibration Check	Total Dustfall	2013/12/06		101	%	N/A
	Method Blank	Total Dustfall	2013/12/06	<1		mg	
		Total Fixed Dustfall	2013/12/06	<1		mg	
	RPD [IF5667-01]	Total Dustfall	2013/12/06	9.5		%	N/A
		Total Fixed Dustfall	2013/12/06	9.5		%	N/A

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Calibration Check: A calibration standard analyzed at different times to evaluate on-going calibration accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Maxxam Analytics International Corporation o/a Maxxam Analytics Edmonton: 6744 - 50th Street T6B 3M9 Telephone(780) 378-8500 FAX(780) 378-8699



## Validation Signature Page

Maxxam Job #: B3B1431

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A handwritten signature in black ink, appearing to read "Darren Funnell", is written over a horizontal line.

Darren Funnell, Analyst I

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Your P.O. #: 82140  
Your Project #: 2013/10/22 - 2013/11/24  
Site Location: BAKER LAKE, NU

**Attention: MEADOWBANK ENVIRONMENT**

Agnico Eagle Mines Ltd.  
Meadowbank Division  
10200, Route du Preissac  
Rouyn-Noranda, QC  
CANADA J0Y 1C0

**Report Date: 2013/12/05**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B3B1429**

**Received: 2013/12/02, 12:08**

Sample Matrix: Air  
# Samples Received: 3

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
NO2 Passive Analysis (1)	2	2013/12/05	2013/12/05	PTC SOP-00148	Passive NO2 in ATM
Raw NO2 Passive Analysis	1	2013/12/05	2013/12/05	PTC SOP-00148	Tang Passive NO2 in

\* 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, Customer Service  
Email: LManchak@maxxam.ca  
Phone# (780) 378-8500

=====

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Total cover pages: 1



Maxxam Job #: B3B1429  
Report Date: 2013/12/05

Agnico Eagle Mines Ltd.  
Client Project #: 2013/10/22 - 2013/11/24  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

### RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		IF5658	IF5659	IF5660		
Sampling Date		2013/10/22 11:05	2013/10/22 10:00			
	<b>UNITS</b>	<b>NO2: 1</b>	<b>NO2: 2</b>	<b>NO2: BLANK</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Passive Monitoring</b>						
Calculated NO2	ppb	0.8	1.8		0.1	7309301
NO2	ppm			0.06	N/A	7309310
RDL = Reportable Detection Limit						





Maxxam Job #: B3B1429  
Report Date: 2013/12/05

Agnico Eagle Mines Ltd.  
Client Project #: 2013/10/22 - 2013/11/24  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

**General Comments**

**Results relate only to the items tested.**



Agnico Eagle Mines Ltd.  
Attention: MEADOWBANK ENVIRONMENT  
Client Project #: 2013/10/22 - 2013/11/24  
P.O. #: 82140  
Site Location: BAKER LAKE, NU

### Quality Assurance Report

Maxxam Job Number: PB3B1429

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	UNITS	QC Limits
7309301 DF4	Calibration Check	Calculated NO2	2013/12/05		99	%	76 - 118
	Spiked Blank	Calculated NO2	2013/12/05		99	%	93 - 105
	Method Blank	Calculated NO2	2013/12/05	<0.1		ppb	

Calibration Check: A calibration standard analyzed at different times to evaluate on-going calibration accuracy.

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.

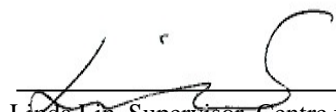
Maxxam Analytics International Corporation o/a Maxxam Analytics Edmonton: 6744 - 50th Street T6B 3M9 Telephone(780) 378-8500 FAX(780) 378-8699

## Validation Signature Page

**Maxxam Job #: B3B1429**

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

A handwritten signature in black ink, appearing to read "Linda Lin", written over a horizontal line.

Linda Lin, Supervisor, Centre for Passive Sampling Technology

=====

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Your P.O. #: 82140  
Your Project #: 2013/09/25 - 2013/10/22  
Site Location: BAKER LAKE, NU

**Attention: MEADOWBANK ENVIRONMENT**

Agnico Eagle Mines Ltd.  
Meadowbank Division  
10200, Route du Preissac  
Rouyn-Noranda, QC  
CANADA J0Y 1C0

**Report Date: 2013/11/08**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B3A0905**

**Received: 2013/10/31, 12:36**

Sample Matrix: Air  
# Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Total & Fixed Dustfall	4	2013/11/08	2013/11/08	PTC SOP-00180	AMD 32020
Determination of Dustfall-mg/cm2/30 days	4	2013/11/08	2013/11/08	PTC SOP-00180	
Exposure (Number of days)	4	2013/11/07	2013/11/07	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, Customer Service  
Email: LManchak@maxxam.ca  
Phone# (780) 378-8500

=====

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Total cover pages: 1

### RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		HZ2171	HZ2172	HZ2173	HZ2174		
Sampling Date		2013/09/25	2013/09/25	2013/09/25	2013/09/25		
	<b>UNITS</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Industrial</b>							
Exposure	days	27	27	27	27	1	7267316
<b>Dustfall Determination</b>							
Total Dustfall	mg	26	22	15	11	2	7269786
Total Dustfall (30 day)	mg/cm2/30day	0.359	0.299	0.210	0.150	0.002	7269787
Total Fixed Dustfall	mg	25	21	14	9	2	7269786
Total Fixed Dustfall (30 day)	mg/cm2/30day	0.343	0.284	0.195	0.120	0.002	7269787

RDL = Reportable Detection Limit



Maxxam Job #: B3A0905  
Report Date: 2013/11/08

Agnico Eagle Mines Ltd.  
Client Project #: 2013/09/25 - 2013/10/22  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

**General Comments**

**Results relate only to the items tested.**



Agnico Eagle Mines Ltd.  
Attention: MEADOWBANK ENVIRONMENT  
Client Project #: 2013/09/25 - 2013/10/22  
P.O. #: 82140  
Site Location: BAKER LAKE, NU

### Quality Assurance Report

Maxxam Job Number: PB3A0905

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	UNITS	QC Limits
7269786 OZ	Calibration Check	Total Dustfall	2013/11/08		101	%	N/A
	Method Blank	Total Dustfall	2013/11/08	<1		mg	
		Total Fixed Dustfall	2013/11/08	<1		mg	
	RPD [HZ2171-01]	Total Dustfall	2013/11/08	4.7		%	N/A
		Total Fixed Dustfall	2013/11/08	4.9		%	N/A

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Calibration Check: A calibration standard analyzed at different times to evaluate on-going calibration accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Maxxam Analytics International Corporation o/a Maxxam Analytics Edmonton: 6744 - 50th Street T6B 3M9 Telephone(780) 378-8500 FAX(780) 378-8699



## Validation Signature Page

Maxxam Job #: B3A0905

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Darren Funnell, Analyst I

=====

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Your P.O. #: 82140  
Your Project #: 2013/09/25 - 2013/10/22  
Site Location: BAKER LAKE, NU

**Attention: MEADOWBANK ENVIRONMENT**

Agnico Eagle Mines Ltd.  
Meadowbank Division  
10200, Route du Preissac  
Rouyn-Noranda, QC  
CANADA J0Y 1C0

**Report Date: 2013/11/06**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B3A0902**

**Received: 2013/10/31, 12:32**

Sample Matrix: Air  
# Samples Received: 3

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
NO2 Passive Analysis (1)	2	2013/11/05	2013/11/06	PTC SOP-00148	Tang Passive NO2 in
Raw NO2 Passive Analysis	1	2013/11/05	2013/11/05	PTC SOP-00148	Tang Passive NO2 in

\* 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, Customer Service  
Email: LManchak@maxxam.ca  
Phone# (780) 378-8500

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Total cover pages: 1



Maxxam Job #: B3A0902  
Report Date: 2013/11/06

Agnico Eagle Mines Ltd.  
Client Project #: 2013/09/25 - 2013/10/22  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

### RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		HZ2157	HZ2158	HZ2159		
Sampling Date		2013/09/25 14:35	2013/09/25 13:30			
	UNITS	NO2: 1	NO2: 2	NO2: BLANK	RDL	QC Batch

Passive Monitoring						
Calculated NO2	ppb	1.7	3.1		0.1	7263287
NO2	ppm			0.05	N/A	7263302
RDL = Reportable Detection Limit						



Maxxam Job #: B3A0902  
Report Date: 2013/11/06

Agnico Eagle Mines Ltd.  
Client Project #: 2013/09/25 - 2013/10/22  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

**General Comments**

**Results relate only to the items tested.**



Agnico Eagle Mines Ltd.  
Attention: MEADOWBANK ENVIRONMENT  
Client Project #: 2013/09/25 - 2013/10/22  
P.O. #: 82140  
Site Location: BAKER LAKE, NU

### Quality Assurance Report

Maxxam Job Number: PB3A0902

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	UNITS	QC Limits
7263287 SS6	Calibration Check	Calculated NO2	2013/11/05		99	%	76 - 118
	Spiked Blank	Calculated NO2	2013/11/05		100	%	93 - 105
	Method Blank	Calculated NO2	2013/11/05	<0.1		ppb	

Calibration Check: A calibration standard analyzed at different times to evaluate on-going calibration accuracy.

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.

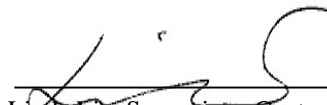
Maxxam Analytics International Corporation o/a Maxxam Analytics Edmonton: 6744 - 50th Street T6B 3M9 Telephone(780) 378-8500 FAX(780) 378-8699

## Validation Signature Page

**Maxxam Job #: B3A0902**

---

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A handwritten signature in black ink, appearing to read "Linda Lin", is written over a horizontal line.

Linda Lin, Supervisor, Centre for Passive Sampling Technology

=====

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Your P.O. #: 82140  
Your Project #: 2013/08/24 - 2013/09/25  
Site Location: BAKER LAKE, NU

**Attention: MEADOWBANK ENVIRONMENT**

Agnico Eagle Mines Ltd.  
Meadowbank Division  
10200, Route du Preissac  
Rouyn-Noranda, QC  
CANADA J0Y 1C0

**Report Date: 2013/10/09**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B390778**

**Received: 2013/10/03, 15:20**

Sample Matrix: Air  
# Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Total & Fixed Dustfall	4	2013/10/08	2013/10/09	EINDSOP-00180	AMD 32020
Determination of Dustfall-mg/cm2/30 days	4	2013/10/08	2013/10/09		see department
Exposure (Number of days)	4	2013/10/07	2013/10/07		see department

\* 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, Customer Service  
Email: LManchak@maxxam.ca  
Phone# (780) 378-8500

=====

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Total cover pages: 1



Maxxam Job #: B390778  
Report Date: 2013/10/09

Agnico Eagle Mines Ltd.  
Client Project #: 2013/08/24 - 2013/09/25  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

### RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		HS1807	HS1808	HS1809		HS1810		
Sampling Date		2013/08/24	2013/08/24	2013/08/24		2013/08/24		
	<b>UNITS</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>RDL</b>	<b>4</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Industrial</b>								
Exposure	days	32	32	32	1	32	1	7211602
<b>Dustfall Determination</b>								
Total Dustfall	mg	120	120	130	2	97	1	7215538
Total Dustfall (30 day)	mg/cm2/30day	1.328	1.373	1.446	0.002	1.111	0.001	7215539
Total Fixed Dustfall	mg	95	92	100	2	78	1	7215538
Total Fixed Dustfall (30 day)	mg/cm2/30day	1.089	1.060	1.185	0.002	0.891	0.001	7215539

RDL = Reportable Detection Limit



Maxxam Job #: B390778  
Report Date: 2013/10/09

Agnico Eagle Mines Ltd.  
Client Project #: 2013/08/24 - 2013/09/25  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

**General Comments**

**Results relate only to the items tested.**





Agnico Eagle Mines Ltd.  
Attention: MEADOWBANK ENVIRONMENT  
Client Project #: 2013/08/24 - 2013/09/25  
P.O. #: 82140  
Site Location: BAKER LAKE, NU

### Quality Assurance Report

Maxxam Job Number: PB390778

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	UNITS	QC Limits
7215538 OZ	Calibration Check	Total Dustfall	2013/10/08		100	%	N/A
	Method Blank	Total Dustfall	2013/10/08	<1		mg	
		Total Fixed Dustfall	2013/10/08	<1		mg	
	RPD [HS1807-01]	Total Dustfall	2013/10/09	0		%	N/A
		Total Fixed Dustfall	2013/10/09	1.4		%	N/A

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Calibration Check: A calibration standard analyzed at different times to evaluate on-going calibration accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Maxxam Analytics International Corporation o/a Maxxam Analytics Edmonton: 6744 - 50th Street T6B 3M9 Telephone(780) 378-8500 FAX(780) 378-8699



## Validation Signature Page

Maxxam Job #: B390778

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Darren Funnell, Analyst I

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Your P.O. #: 82140  
Your Project #: 2013/08/24 - 2013/09/25  
Site Location: BAKER LAKE, NU

**Attention: MEADOWBANK ENVIRONMENT**

Agnico Eagle Mines Ltd.  
Meadowbank Division  
10200, Route du Preissac  
Rouyn-Noranda, QC  
CANADA J0Y 1C0

**Report Date: 2013/10/15**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B390776**

**Received: 2013/10/03, 15:17**

Sample Matrix: Air  
# Samples Received: 3

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
NO2 Passive Analysis (1)	2	2013/10/07	2013/10/15	EINDSOP-00148	Tang Passive NO2 in
Raw NO2 Passive Analysis	1	2013/10/07	2013/10/07	EINDSOP-00148	Tang Passive NO2 in

\* 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, Customer Service  
Email: LManchak@maxxam.ca  
Phone# (780) 378-8500

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Total cover pages: 1



Maxxam Job #: B390776  
Report Date: 2013/10/15

Agnico Eagle Mines Ltd.  
Client Project #: 2013/08/24 - 2013/09/25  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

### RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		HS1802	HS1803	HS1804		
Sampling Date		2013/08/24	2013/08/24			
	<b>UNITS</b>	<b>NO2: 1</b>	<b>NO2: 2</b>	<b>NO2: BLANK</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Passive Monitoring</b>						
Calculated NO2	ppb	<0.1	2.1		0.1	7212392
NO2	ppm			0.06	N/A	7212394
RDL = Reportable Detection Limit						



Maxxam Job #: B390776  
Report Date: 2013/10/15

Agnico Eagle Mines Ltd.  
Client Project #: 2013/08/24 - 2013/09/25  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

**General Comments**

**Results relate only to the items tested.**



Agnico Eagle Mines Ltd.  
Attention: MEADOWBANK ENVIRONMENT  
Client Project #: 2013/08/24 - 2013/09/25  
P.O. #: 82140  
Site Location: BAKER LAKE, NU

### Quality Assurance Report

Maxxam Job Number: PB390776

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	UNITS	QC Limits
7212392 DF4	Calibration Check	Calculated NO2	2013/10/07		97	%	76 - 118
	Spiked Blank	Calculated NO2	2013/10/07		101	%	93 - 105
	Method Blank	Calculated NO2	2013/10/07	<0.1		ppb	

Calibration Check: A calibration standard analyzed at different times to evaluate on-going calibration accuracy.

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.

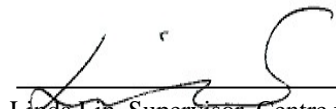
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## Validation Signature Page

**Maxxam Job #: B390776**

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Linda Lin, Supervisor, Centre for Passive Sampling Technology

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Your P.O. #: 82140  
Your Project #: 2013/07/30 - 2013/08/24  
Site Location: BAKER LAKE, NU

**Attention: MEADOWBANK ENVIRONMENT**

Agnico Eagle Mines Ltd.  
Meadowbank Division  
10200, Route du Preissac  
Rouyn-Noranda, QC  
CANADA J0Y 1C0

**Report Date: 2013/09/09**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B377786**

**Received: 2013/08/30, 13:17**

Sample Matrix: Air  
# Samples Received: 3

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
NO2 Passive Analysis (1)	2	2013/09/06	2013/09/09	EINDSOP-00148	Tang Passive NO2 in
Raw NO2 Passive Analysis	1	2013/09/06	2013/09/06	EINDSOP-00148	Tang Passive NO2 in

\* 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, Customer Service  
Email: LManchak@maxxam.ca  
Phone# (780) 378-8500

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Total cover pages: 1





Maxxam Job #: B377786  
Report Date: 2013/09/09

Agnico Eagle Mines Ltd.  
Client Project #: 2013/07/30 - 2013/08/24  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

### RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		HJ2321	HJ2322	HJ2323		
Sampling Date		2013/07/30 12:10	2013/07/30 10:35			
	<b>UNITS</b>	<b>NO2: 1</b>	<b>NO2: 2</b>	<b>NO2: BLANK</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Passive Monitoring</b>						
Calculated NO2	ppb	0.7	2.1		0.1	7151004
NO2	ppm			0.02	N/A	7151012
RDL = Reportable Detection Limit						



Maxxam Job #: B377786  
Report Date: 2013/09/09

Agnico Eagle Mines Ltd.  
Client Project #: 2013/07/30 - 2013/08/24  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

**General Comments**

**Results relate only to the items tested.**



Agnico Eagle Mines Ltd.  
Attention: MEADOWBANK ENVIRONMENT  
Client Project #: 2013/07/30 - 2013/08/24  
P.O. #: 82140  
Site Location: BAKER LAKE, NU

### Quality Assurance Report

Maxxam Job Number: PB377786

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	UNITS	QC Limits
7151004 DF4	Calibration Check	Calculated NO2	2013/09/06		100	%	76 - 118
	Spiked Blank	Calculated NO2	2013/09/06		101	%	93 - 105
	Method Blank	Calculated NO2	2013/09/06	<0.1		ppb	

Calibration Check: A calibration standard analyzed at different times to evaluate on-going calibration accuracy.  
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.

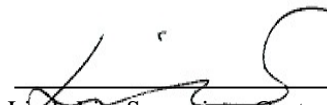
Maxxam Analytics International Corporation o/a Maxxam Analytics Edmonton: 6744 - 50th Street T6B 3M9 Telephone(780) 378-8500 FAX(780) 378-8699

## Validation Signature Page

**Maxxam Job #: B377786**

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Linda Lin, Supervisor, Centre for Passive Sampling Technology

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Your P.O. #: 82140  
Your Project #: 2013/07/30 - 2013/08/24  
Site Location: BAKER LAKE, NU

**Attention: MEADOWBANK ENVIRONMENT**

Agnico Eagle Mines Ltd.  
Meadowbank Division  
10200, Route du Preissac  
Rouyn-Noranda, QC  
CANADA J0Y 1C0

**Report Date: 2013/09/11**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B377780**

**Received: 2013/08/30, 13:13**

Sample Matrix: Air  
# Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Total & Fixed Dustfall	4	2013/09/10	2013/09/10	EINDSOP-00180	AMD 32020
Determination of Dustfall-mg/cm2/30 days	4	2013/09/10	2013/09/10		see department
Exposure (Number of days)	4	2013/09/09	2013/09/09		see department

\* 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, Customer Service  
Email: LManchak@maxxam.ca  
Phone# (780) 378-8500

=====

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Total cover pages: 1



Maxxam Job #: B377780  
Report Date: 2013/09/11

Agnico Eagle Mines Ltd.  
Client Project #: 2013/07/30 - 2013/08/24  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

### RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		HJ2283	HJ2284	HJ2285	HJ2286		
Sampling Date		2013/07/30	2013/07/30	2013/07/30	2013/07/30		
	<b>UNITS</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Industrial</b>							
Exposure	days	25	25	25	25	1	7154053
<b>Dustfall Determination</b>							
Total Dustfall	mg	22	16	14	8	1	7156707
Total Dustfall (30 day)	mg/cm2/30day	0.317	0.238	0.212	0.123	0.001	7156708
Total Fixed Dustfall	mg	22	16	13	8	1	7156707
Total Fixed Dustfall (30 day)	mg/cm2/30day	0.317	0.229	0.185	0.115	0.001	7156708

RDL = Reportable Detection Limit



Maxxam Job #: B377780  
Report Date: 2013/09/11

Agnico Eagle Mines Ltd.  
Client Project #: 2013/07/30 - 2013/08/24  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

**General Comments**

**Results relate only to the items tested.**



Agnico Eagle Mines Ltd.  
Attention: MEADOWBANK ENVIRONMENT  
Client Project #: 2013/07/30 - 2013/08/24  
P.O. #: 82140  
Site Location: BAKER LAKE, NU

### Quality Assurance Report

Maxxam Job Number: PB377780

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	UNITS	QC Limits
7156707 OZ	Calibration Check	Total Dustfall	2013/09/10		102	%	N/A
	Method Blank	Total Dustfall	2013/09/10	<1		mg	
		Total Fixed Dustfall	2013/09/10	<1		mg	

Calibration Check: A calibration standard analyzed at different times to evaluate on-going calibration accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Maxxam Analytics International Corporation o/a Maxxam Analytics Edmonton: 6744 - 50th Street T6B 3M9 Telephone(780) 378-8500 FAX(780) 378-8699

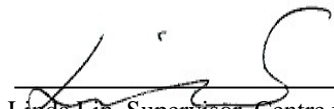


## Validation Signature Page

**Maxxam Job #: B377780**

---

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

A handwritten signature in black ink, appearing to read "Linda Lin", is written over a horizontal line.

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. #: 82140  
 Your Project #: PM2.5/10/TSP  
 Site Location: BAKER LAKE, NU

**Attention:MEADOWBANK ENVIRONMENT**

Agnico Eagle Mines Ltd.  
 Meadowbank Division  
 10200, Route du Preissac  
 Rouyn-Noranda, QC  
 CANADA J0Y 1C0

**Report Date: 2013/12/12**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B3B1435**

**Received: 2013/12/02, 12:14**

Sample Matrix: Filter  
 # Samples Received: 22

Analyses	Date		Date Analyzed	Laboratory Method	Analytical Method
	Quantity	Extracted			
Mass Determination(ug/filter)	22	N/A	2013/12/07	PTC SOP-00151	EPA 2.12 Monitoring

\* 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, Customer Service  
 Email: LManchak@maxxam.ca  
 Phone# (780) 378-8500

=====

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Maxxam Job #: B3B1435  
Report Date: 2013/12/12

Agnico Eagle Mines Ltd.  
Client Project #: PM2.5/10/TSP  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

### RESULTS OF CHEMICAL ANALYSES OF FILTER

Maxxam ID		IF5698	IF5699	IF5700	IF5701	IF5703		
Sampling Date		2013/09/13	2013/09/19	2013/09/25	2013/10/01	2013/09/13		
	Units	PM2.5 RP20578	PM2.5 RP9921	PM2.5 RP17823	PM2.5 RP76199	PM10 RP15145	RDL	QC Batch
<b>PM2.5/10</b>								
Particulate Matter	ug/filter	15	16	16	16	171	3	7311967
RDL = Reportable Detection Limit								

Maxxam ID		IF5704	IF5705	IF5706	IF5707	IF5708		
Sampling Date		2013/09/19	2013/09/25	2013/10/01	2013/10/07	2013/10/13		
	Units	PM10 RP1574	PM10 RP85911	PM10 RP76151	PM10 RP894	PM10 RP36940	RDL	QC Batch
<b>PM2.5/10</b>								
Particulate Matter	ug/filter	109	64	99	135	232	3	7311967
RDL = Reportable Detection Limit								

Maxxam ID		IF5709	IF5710	IF5711	IF5712	IF5713	IF5714		
Sampling Date		2013/09/13	2013/09/19	2013/09/25	2013/10/01	2013/10/07	2013/10/13		
	Units	TSP RP27588	TSP RP89967	TSP RP15508	TSP RP4242	TSP RP930	TSP RP13258	RDL	QC Batch
<b>PM2.5/10</b>									
Particulate Matter	ug/filter	18	82	36	53	136	107	3	7311967
RDL = Reportable Detection Limit									

Maxxam ID		IF5715	IF5717	IF5719	IF5746	IF5747	IF5749		
Sampling Date		2013/09/25	2013/10/01	2013/10/07	2013/10/13	2013/10/19			
	Units	TSP RP15549	TSP RP22219	TSP RP872	TSP RP10084	TSP RP877	BLANK	RDL	QC Batch
<b>PM2.5/10</b>									
Particulate Matter	ug/filter	25	236	640	335	292	3	3	7311967
RDL = Reportable Detection Limit									

Maxxam Job #: B3B1435  
Report Date: 2013/12/12

Agnico Eagle Mines Ltd.  
Client Project #: PM2.5/10/TSP  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

#### GENERAL COMMENTS

Results relate only to the items tested.

Maxxam Job #: B3B1435  
Report Date: 2013/12/12

Agnico Eagle Mines Ltd.  
Client Project #: PM2.5/10/TSP  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

### QUALITY ASSURANCE REPORT

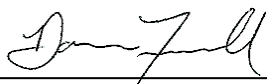
QA/QC		QC Type	Parameter	Date	Value	Recovery	Units	QC Limits
Batch	Init			Analyzed				
7311967	SS6	Calibration Check	Particulate Matter	2013/12/07		100	%	N/A
Calibration Check: A calibration standard analyzed at different times to evaluate on-going calibration accuracy.								

Maxxam Job #: B3B1435  
Report Date: 2013/12/12

Agnico Eagle Mines Ltd.  
Client Project #: PM2.5/10/TSP  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

### VALIDATION SIGNATURE PAGE

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

A handwritten signature in black ink, appearing to read "Darren Funnell", is written over a horizontal line.

Darren Funnell, Analyst I

---

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Your P.O. #: 82140  
Your Project #: PM2.5/10/TSP  
Site Location: BAKER LAKE, NU

**Attention: MEADOWBANK ENVIRONMENT**

Agnico Eagle Mines Ltd.  
Meadowbank Division  
10200, Route du Preissac  
Rouyn-Noranda, QC  
CANADA J0Y 1C0

**Report Date: 2013/09/30**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B386287**

**Received: 2013/09/23, 10:48**

Sample Matrix: Filter  
# Samples Received: 17

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Mass Determination(ug/filter)	17	N/A	2013/09/30	EINDSOP-00151	EPA 2.12 Monitoring

\* 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, Customer Service  
Email: LManchak@maxxam.ca  
Phone# (780) 378-8500

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Total cover pages: 1

### RESULTS OF CHEMICAL ANALYSES OF FILTER

Maxxam ID		HP1820	HP1821	HP1822	HP1823	HP1824	HP1827		
Sampling Date		2013/08/14	2013/08/20	2013/08/26	2013/09/01	2013/09/07	2013/08/14		
	<b>UNITS</b>	<b>PM2.5</b> <b>RP93442</b>	<b>PM2.5</b> <b>RP2884</b>	<b>PM2.5</b> <b>RP27582</b>	<b>PM2.5</b> <b>RP15495</b>	<b>PM2.5</b> <b>RP15517</b>	<b>PM10</b> <b>RP27288</b>	<b>RDL</b>	<b>QC Batch</b>

<b>PM2.5/10</b>									
Particulate Matter	ug/filter	19	19	21	16	123	451	3	7198021
RDL = Reportable Detection Limit									

Maxxam ID		HP1828	HP1829	HP1830	HP1831	HP1834	HP1835		
Sampling Date		2013/08/20	2013/08/26	2013/09/01	2013/09/07	2013/08/14	2013/08/20		
	<b>UNITS</b>	<b>PM10</b> <b>RP15236</b>	<b>PM10</b> <b>RP51140</b>	<b>PM10</b> <b>RP27277</b>	<b>PM10</b> <b>RP28677</b>	<b>TSP</b> <b>RP15542</b>	<b>TSP</b> <b>RP26376</b>	<b>RDL</b>	<b>QC Batch</b>

<b>PM2.5/10</b>									
Particulate Matter	ug/filter	96	246	846	131	766	241	3	7198021
RDL = Reportable Detection Limit									

Maxxam ID		HP1836	HP1837	HP1838	HP1839	HP1845		
Sampling Date		2013/08/26	2013/09/01	2013/09/07				
	<b>UNITS</b>	<b>TSP</b> <b>RP22199</b>	<b>TSP</b> <b>RP15505</b>	<b>TSP</b> <b>RP22204</b>	<b>BLANK</b>	<b>TRAVEL</b> <b>BLANK</b> <b>RP13326</b>	<b>RDL</b>	<b>QC Batch</b>

<b>PM2.5/10</b>									
Particulate Matter	ug/filter	64	1240	180	9	4	3	7198021	
RDL = Reportable Detection Limit									





Maxxam Job #: B386287  
Report Date: 2013/09/30

Agnico Eagle Mines Ltd.  
Client Project #: PM2.5/10/TSP  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

**General Comments**

Sample HP1829-01: PM10 RP51140 (HP1829) received to the Lab with visible particulate on filter. SS

**Results relate only to the items tested.**



Agnico Eagle Mines Ltd.  
Attention: MEADOWBANK ENVIRONMENT  
Client Project #: PM2.5/10/TSP  
P.O. #: 82140  
Site Location: BAKER LAKE, NU

### Quality Assurance Report

Maxxam Job Number: PB386287

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	UNITS	QC Limits
7198021 SS6	Calibration Check	Particulate Matter	2013/09/30		100	%	N/A
Calibration Check: A calibration standard analyzed at different times to evaluate on-going calibration accuracy.							

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## Validation Signature Page

Maxxam Job #: B386287

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A handwritten signature in black ink, appearing to read "Darren Funnell", is written over a horizontal line.

Darren Funnell, Analyst I

=====

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Your P.O. #: 82140  
Your Project #: 2013/06/25 - 2013/07/30  
Site Location: BAKER LAKE, NU

**Attention: MEADOWBANK ENVIRONMENT**

Agnico Eagle Mines Ltd.  
Meadowbank Division  
10200, Route du Preissac  
Rouyn-Noranda, QC  
CANADA J0Y 1C0

**Report Date: 2013/08/15**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B368429**

**Received: 2013/08/07, 14:01**

Sample Matrix: Air  
# Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Total & Fixed Dustfall	4	2013/08/15	2013/08/15	EINDSOP-00180	AMD 32020
Determination of Dustfall-mg/cm2/30 days	4	2013/08/15	2013/08/15		see department
Exposure (Number of days)	4	2013/08/13	2013/08/13		see department

\* 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, Customer Service  
Email: LManchak@maxxam.ca  
Phone# (780) 378-8500

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Total cover pages: 1

### RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		HC8973	HC8974	HC8975	HC8976		
Sampling Date		2013/06/25	2013/06/25	2013/06/25	2013/06/25		
	<b>UNITS</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Industrial</b>							
Exposure	days	35	35	35	35	1	7073196
<b>Dustfall Determination</b>							
Total Dustfall	mg	10	11	16	10	1	7080502
Total Dustfall (30 day)	mg/cm2/30day	0.101	0.120	0.170	0.101	0.001	7080503
Total Fixed Dustfall	mg	7	8	14	7	1	7080502
Total Fixed Dustfall (30 day)	mg/cm2/30day	0.076	0.082	0.145	0.076	0.001	7080503

RDL = Reportable Detection Limit



Maxxam Job #: B368429  
Report Date: 2013/08/15

Agnico Eagle Mines Ltd.  
Client Project #: 2013/06/25 - 2013/07/30  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

**General Comments**

**Results relate only to the items tested.**



Agnico Eagle Mines Ltd.  
Attention: MEADOWBANK ENVIRONMENT  
Client Project #: 2013/06/25 - 2013/07/30  
P.O. #: 82140  
Site Location: BAKER LAKE, NU

### Quality Assurance Report

Maxxam Job Number: PB368429

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	UNITS	QC Limits
7080502 OZ	Calibration Check	Total Dustfall	2013/08/15		102	%	N/A
	Method Blank	Total Dustfall	2013/08/15	<1		mg	
		Total Fixed Dustfall	2013/08/15	<1		mg	

Calibration Check: A calibration standard analyzed at different times to evaluate on-going calibration accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Maxxam Analytics International Corporation o/a Maxxam Analytics Edmonton: 6744 - 50th Street T6B 3M9 Telephone(780) 378-8500 FAX(780) 378-8699



## Validation Signature Page

Maxxam Job #: B368429

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Darren Funnell, Analyst I

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Your P.O. #: 82140  
Your Project #: 2013/06/25 - 2013/07/30  
Site Location: BAKER LAKE, NU

**Attention: MEADOWBANK ENVIRONMENT**

Agnico Eagle Mines Ltd.  
Meadowbank Division  
10200, Route du Preissac  
Rouyn-Noranda, QC  
CANADA J0Y 1C0

**Report Date: 2013/08/15**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B368424**

**Received: 2013/08/07, 13:56**

Sample Matrix: Air  
# Samples Received: 3

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
NO2 Passive Analysis (1)	2	2013/08/15	2013/08/15	EINDSOP-00148	Tang Passive NO2 in
Raw NO2 Passive Analysis	1	2013/08/15	2013/08/15	EINDSOP-00148	Tang Passive NO2 in

\* 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, Customer Service  
Email: LManchak@maxxam.ca  
Phone# (780) 378-8500

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Total cover pages: 1



Maxxam Job #: B368424  
Report Date: 2013/08/15

Agnico Eagle Mines Ltd.  
Client Project #: 2013/06/25 - 2013/07/30  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

### RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		HC8906	HC8907	HC8908		
Sampling Date		2013/06/25 14:03	2013/06/25 15:32			
	<b>UNITS</b>	<b>NO2: 1</b>	<b>NO2: 2</b>	<b>NO2: BLANK</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Passive Monitoring</b>						
Calculated NO2	ppb	<0.1	5.3		0.1	7081114
NO2	ppm			0.07	N/A	7081130
RDL = Reportable Detection Limit						



Maxxam Job #: B368424  
Report Date: 2013/08/15

Agnico Eagle Mines Ltd.  
Client Project #: 2013/06/25 - 2013/07/30  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

**General Comments**

**Results relate only to the items tested.**



Agnico Eagle Mines Ltd.  
Attention: MEADOWBANK ENVIRONMENT  
Client Project #: 2013/06/25 - 2013/07/30  
P.O. #: 82140  
Site Location: BAKER LAKE, NU

### Quality Assurance Report

Maxxam Job Number: PB368424

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	UNITS	QC Limits
7081114 DF4	Calibration Check	Calculated NO2	2013/08/15		98	%	76 - 118
	Spiked Blank	Calculated NO2	2013/08/15		101	%	N/A
	Method Blank	Calculated NO2	2013/08/15	<0.1		ppb	

Calibration Check: A calibration standard analyzed at different times to evaluate on-going calibration accuracy.

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.

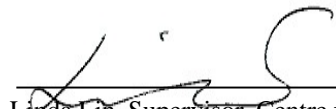
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## Validation Signature Page

**Maxxam Job #: B368424**

---

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Linda Lin, Supervisor, Centre for Passive Sampling Technology

=====

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Your P.O. #: 82140  
Your Project #: PM2.5/10/TSP  
Site Location: BAKER LAKE, NU

**Attention: MEADOWBANK ENVIRONMENT**

Agnico Eagle Mines Ltd.  
Meadowbank Division  
10200, Route du Preissac  
Rouyn-Noranda, QC  
CANADA J0Y 1C0

**Report Date: 2013/08/13**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B368432**

**Received: 2013/08/07, 14:04**

Sample Matrix: Filter  
# Samples Received: 26

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Mass Determination(ug/filter)	25	N/A	2013/08/12	EINDSOP-00151	EPA 2.12 Monitoring
Mass Determination(ug/filter)	1	N/A	2013/08/13	EINDSOP-00151	EPA 2.12 Monitoring

\* 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, Customer Service  
Email: LManchak@maxxam.ca  
Phone# (780) 378-8500

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Total cover pages: 1

### RESULTS OF CHEMICAL ANALYSES OF FILTER

Maxxam ID		HC8992	HC8993	HC8994	HC8995	HC8996	HC8997		
Sampling Date		2013/06/15	2013/06/21	2013/06/27	2013/07/03	2013/07/09	2013/07/15		
	<b>UNITS</b>	<b>PM2.5</b> <b>RP15532</b>	<b>PM2.5</b> <b>RP9941</b>	<b>PM2.5</b> <b>RP17875</b>	<b>PM2.5</b> <b>RP99742</b>	<b>PM2.5</b> <b>RP12407</b>	<b>PM2.5</b> <b>RP1569</b>	<b>RDL</b>	<b>QC Batch</b>

<b>PM2.5/10</b>									
Particulate Matter	ug/filter	8	7	13	11	10	23	3	7071237
RDL = Reportable Detection Limit									

Maxxam ID		HC8998	HC8999	HC9000	HC9001	HC9002	HC9003		
Sampling Date		2013/06/15	2013/06/21	2013/06/27	2013/07/03	2013/07/09	2013/07/15		
	<b>UNITS</b>	<b>PM10</b> <b>RP45025</b>	<b>PM10</b> <b>RP20564</b>	<b>PM10</b> <b>RP4250</b>	<b>PM10</b> <b>RP91293</b>	<b>PM10</b> <b>RP1563</b>	<b>PM10</b> <b>RP85941</b>	<b>RDL</b>	<b>QC Batch</b>

<b>PM2.5/10</b>									
Particulate Matter	ug/filter	503	47	103	32	43	6	3	7071237
RDL = Reportable Detection Limit									

Maxxam ID		HC9004	HC9005	HC9006	HC9043	HC9044	HC9045		
Sampling Date		2013/06/15	2013/06/21	2013/06/27	2013/07/03	2013/07/09	2013/07/15		
	<b>UNITS</b>	<b>TSP</b> <b>RP28681</b>	<b>TSP</b> <b>RP17816</b>	<b>TSP</b> <b>RP12409</b>	<b>TSP</b> <b>RP15487</b>	<b>TSP</b> <b>RP15067</b>	<b>TSP</b> <b>RP15165</b>	<b>RDL</b>	<b>QC Batch</b>

<b>PM2.5/10</b>									
Particulate Matter	ug/filter	81	60	195	31	10	506	3	7071237
RDL = Reportable Detection Limit									

Maxxam ID		HC9046	HC9047	HC9051	HC9445	HC9450	HC9451		
Sampling Date									
	<b>UNITS</b>	<b>BLANK</b>	<b>TRAVEL</b> <b>BLANK</b> <b>RP89985</b>	<b>TRAVEL</b> <b>BLANK</b> <b>RP89981</b>	<b>DO NOT</b> <b>ANALYZE</b> <b>RP092738</b>	<b>DO NOT</b> <b>ANALYZE</b> <b>RP000853</b>	<b>DO NOT</b> <b>ANALYZE</b> <b>RP010346</b>	<b>RDL</b>	<b>QC Batch</b>

<b>PM2.5/10</b>									
Particulate Matter	ug/filter	3	10	11	NA	NA	NA	3	7071237
RDL = Reportable Detection Limit									



Maxxam Job #: B368432  
Report Date: 2013/08/13

Agnico Eagle Mines Ltd.  
Client Project #: PM2.5/10/TSP  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

### RESULTS OF CHEMICAL ANALYSES OF FILTER

Maxxam ID		HC9452	HC9453		
Sampling Date					
	UNITS	DO NOT ANALYZE RP017819	DO NOT ANALYZE RP009904	RDL	QC Batch

PM2.5/10					
Particulate Matter	ug/filter	NA	NA	3	7071237

RDL = Reportable Detection Limit





Maxxam Job #: B368432  
Report Date: 2013/08/13

Agnico Eagle Mines Ltd.  
Client Project #: PM2.5/10/TSP  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

**General Comments**

**Results relate only to the items tested.**



Agnico Eagle Mines Ltd.  
Attention: MEADOWBANK ENVIRONMENT  
Client Project #: PM2.5/10/TSP  
P.O. #: 82140  
Site Location: BAKER LAKE, NU

### Quality Assurance Report

Maxxam Job Number: PB368432

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	UNITS	QC Limits
7071237 SS6	Calibration Check	Particulate Matter	2013/08/12		100	%	N/A
Calibration Check: A calibration standard analyzed at different times to evaluate on-going calibration accuracy.							

Maxxam Analytics International Corporation o/a Maxxam Analytics Edmonton: 6744 - 50th Street T6B 3M9 Telephone(780) 378-8500 FAX(780) 378-8699



## Validation Signature Page

Maxxam Job #: B368432

---

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

A handwritten signature in black ink, appearing to read "Darren Funnell", is written over a horizontal line.

Darren Funnell, Analyst I

=====

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Your P.O. #: 82140  
Your Project #: PM2.5/10/TSP  
Site Location: BAKER LAKE, NU

**Attention: MEADOWBANK ENVIRONMENT**

Agnico Eagle Mines Ltd.  
Meadowbank Division  
10200, Route du Preissac  
Rouyn-Noranda, QC  
CANADA J0Y 1C0

**Report Date: 2013/06/13**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B347341**

**Received: 2013/06/10, 13:26**

Sample Matrix: Filter  
# Samples Received: 15

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Mass Determination(ug/filter)	15	N/A	2013/06/13	EINDSOP-00151	EPA 2.12 Monitoring

\* 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, Customer Service  
Email: LManchak@maxxam.ca  
Phone# (780) 378-8500

=====

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Total cover pages: 1

### RESULTS OF CHEMICAL ANALYSES OF FILTER

Maxxam ID		GP5933	GP5934	GP5935	GP5936	GP5938	GP5939		
Sampling Date		2013/04/28	2013/05/04	2013/05/10	2013/05/16	2013/04/28	2013/05/04		
	<b>UNITS</b>	<b>PM2.5 RP26380</b>	<b>PM2.5 RP893</b>	<b>PM2.5 RP20552</b>	<b>PM2.5 RP46673</b>	<b>PM10 RP915</b>	<b>PM10 RP916</b>	<b>RDL</b>	<b>QC Batch</b>

<b>PM2.5/10</b>									
Particulate Matter	ug/filter	11	28	48	20	307	206	3	6899733
RDL = Reportable Detection Limit									

Maxxam ID		GP5940	GP5941	GP5943	GP5944	GP5945	GP5946		
Sampling Date		2013/05/10	2013/05/16	2013/04/28	2013/05/04	2013/05/10	2013/05/16		
	<b>UNITS</b>	<b>PM10 RP92785</b>	<b>PM10 RP15506</b>	<b>TSP RP921</b>	<b>TSP RP27515</b>	<b>TSP RP27514</b>	<b>TSP RP89943</b>	<b>RDL</b>	<b>QC Batch</b>

<b>PM2.5/10</b>									
Particulate Matter	ug/filter	77	69	2700	2070	544	942	3	6899733
RDL = Reportable Detection Limit									

Maxxam ID		GP5948	GP5949	GP5950		
Sampling Date						
	<b>UNITS</b>	<b>BLANK</b>	<b>TRAVEL BLANK RP9920</b>	<b>TRAVEL BLANK RP92714</b>	<b>RDL</b>	<b>QC Batch</b>

<b>PM2.5/10</b>						
Particulate Matter	ug/filter	9	12	8	3	6899733
RDL = Reportable Detection Limit						



Maxxam Job #: B347341  
Report Date: 2013/06/13

Agnico Eagle Mines Ltd.  
Client Project #: PM2.5/10/TSP  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

**General Comments**

**Results relate only to the items tested.**



Agnico Eagle Mines Ltd.  
Attention: MEADOWBANK ENVIRONMENT  
Client Project #: PM2.5/10/TSP  
P.O. #: 82140  
Site Location: BAKER LAKE, NU

### Quality Assurance Report

Maxxam Job Number: PB347341

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	UNITS	QC Limits
6899733 SS6	Calibration Check	Particulate Matter	2013/06/13		100	%	N/A
Calibration Check: A calibration standard analyzed at different times to evaluate on-going calibration accuracy.							

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## Validation Signature Page

Maxxam Job #: B347341

---

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A handwritten signature in black ink, appearing to read "Darren Funnell", is written over a horizontal line.

Darren Funnell, Analyst I

=====

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Your P.O. #: 82140  
Your Project #: 2013/04/27 - 2013/05/25  
Site Location: BAKER LAKE, NU

**Attention: MEADOWBANK ENVIRONMENT**

Agnico Eagle Mines Ltd.  
Meadowbank Division  
10200, Route du Preissac  
Rouyn-Noranda, QC  
CANADA J0Y 1C0

**Report Date: 2013/06/20**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B347340**

**Received: 2013/06/10, 13:24**

Sample Matrix: Air  
# Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Total & Fixed Dustfall	4	2013/06/20	2013/06/20	EINDSOP-00180	AMD 32020
Determination of Dustfall-mg/cm2/30 days	4	2013/06/20	2013/06/20		see department
Exposure (Number of days)	4	2013/06/13	2013/06/13		see department

\* 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, Customer Service  
Email: LManchak@maxxam.ca  
Phone# (780) 378-8500

=====

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Total cover pages: 1



Maxxam Job #: B347340  
Report Date: 2013/06/20

Agnico Eagle Mines Ltd.  
Client Project #: 2013/04/27 - 2013/05/25  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

### RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		GP5928		GP5929		GP5930	GP5931		
Sampling Date		2013/04/27		2013/04/27		2013/04/27	2013/04/27		
	<b>UNITS</b>	<b>1</b>	<b>RDL</b>	<b>2</b>	<b>RDL</b>	<b>3</b>	<b>4</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Industrial</b>									
Exposure	days	28	1	28	1	28	28	1	6896760
<b>Dustfall Determination</b>									
Total Dustfall	mg	22	1	32	2	21	9	1	6920325
Total Dustfall (30 day)	mg/cm2/30day	0.283	0.001	0.418	0.002	0.275	0.115	0.001	6920326
Total Fixed Dustfall	mg	21	1	31	2	20	9	1	6920325
Total Fixed Dustfall (30 day)	mg/cm2/30day	0.273	0.001	0.404	0.002	0.262	0.115	0.001	6920326

RDL = Reportable Detection Limit



Maxxam Job #: B347340  
Report Date: 2013/06/20

Agnico Eagle Mines Ltd.  
Client Project #: 2013/04/27 - 2013/05/25  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

**General Comments**

**Results relate only to the items tested.**



Agnico Eagle Mines Ltd.  
Attention: MEADOWBANK ENVIRONMENT  
Client Project #: 2013/04/27 - 2013/05/25  
P.O. #: 82140  
Site Location: BAKER LAKE, NU

### Quality Assurance Report

Maxxam Job Number: PB347340

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	UNITS	QC Limits
6920325 OZ	Calibration Check	Total Dustfall	2013/06/20		101	%	N/A
	Method Blank	Total Dustfall	2013/06/20	<1		mg	
		Total Fixed Dustfall	2013/06/20	<1		mg	

Calibration Check: A calibration standard analyzed at different times to evaluate on-going calibration accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

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## Validation Signature Page

Maxxam Job #: B347340

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Darren Funnell, Analyst I

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Your P.O. #: 82140  
Your Project #: 2013/04/27 - 2013/05/25  
Site Location: BAKER LAKE, NU

**Attention: MEADOWBANK ENVIRONMENT**

Agnico Eagle Mines Ltd.  
Meadowbank Division  
10200, Route du Preissac  
Rouyn-Noranda, QC  
CANADA J0Y 1C0

**Report Date: 2013/06/20**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B347337**

**Received: 2013/06/10, 13:21**

Sample Matrix: Air  
# Samples Received: 3

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
NO2 Passive Analysis (1)	2	2013/06/19	2013/06/20	EINDSOP-00148	Tang Passive NO2 in
Raw NO2 Passive Analysis	1	2013/06/19	2013/06/19	EINDSOP-00148	Tang Passive NO2 in

\* 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, Customer Service  
Email: LManchak@maxxam.ca  
Phone# (780) 378-8500

=====

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Total cover pages: 1



Maxxam Job #: B347337  
Report Date: 2013/06/20

Agnico Eagle Mines Ltd.  
Client Project #: 2013/04/27 - 2013/05/25  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

### RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		GP5908	GP5909	GP5910		
Sampling Date		2013/04/27	2013/04/27			
	<b>UNITS</b>	<b>NO2: 1</b>	<b>NO2: 2</b>	<b>NO2: BLANK</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Passive Monitoring</b>						
Calculated NO2	ppb	0.5	1.9		0.1	6916111
NO2	ppm			0.08	N/A	6916120
RDL = Reportable Detection Limit						



Maxxam Job #: B347337  
Report Date: 2013/06/20

Agnico Eagle Mines Ltd.  
Client Project #: 2013/04/27 - 2013/05/25  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

**General Comments**

**Results relate only to the items tested.**





Agnico Eagle Mines Ltd.  
Attention: MEADOWBANK ENVIRONMENT  
Client Project #: 2013/04/27 - 2013/05/25  
P.O. #: 82140  
Site Location: BAKER LAKE, NU

### Quality Assurance Report

Maxxam Job Number: PB347337

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	UNITS	QC Limits
6916111 DF4	Calibration Check	Calculated NO2	2013/06/19		101	%	76 - 118
	Spiked Blank	Calculated NO2	2013/06/19		97	%	N/A
	Method Blank	Calculated NO2	2013/06/19	<0.1		ppb	

Calibration Check: A calibration standard analyzed at different times to evaluate on-going calibration accuracy.

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.

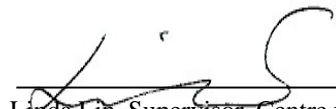
Maxxam Analytics International Corporation o/a Maxxam Analytics Edmonton: 6744 - 50th Street T6B 3M9 Telephone(780) 378-8500 FAX(780) 378-8699

## Validation Signature Page

**Maxxam Job #: B347337**

---

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A handwritten signature in black ink, appearing to read "Linda Lin", is written over a horizontal line.

Linda Lin, Supervisor, Centre for Passive Sampling Technology

=====

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Your P.O. #: 82140  
Your Project #: 2013/05/25 - 2013/06/25  
Site Location: BAKER LAKE, NU

**Attention: MEADOWBANK ENVIRONMENT**

Agnico Eagle Mines Ltd.  
Meadowbank Division  
10200, Route du Preissac  
Rouyn-Noranda, QC  
CANADA J0Y 1C0

**Report Date: 2013/07/23**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B359592**

**Received: 2013/07/15, 09:21**

Sample Matrix: Air  
# Samples Received: 3

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
NO2 Passive Analysis (1)	2	2013/07/15	2013/07/23	EINDSOP-00148	Tang Passive NO2 in
Raw NO2 Passive Analysis	1	2013/07/15	2013/07/15	EINDSOP-00148	Tang Passive NO2 in

\* 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, Customer Service  
Email: LManchak@maxxam.ca  
Phone# (780) 378-8500

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Total cover pages: 1



Maxxam Job #: B359592  
Report Date: 2013/07/23

Agnico Eagle Mines Ltd.  
Client Project #: 2013/05/25 - 2013/06/25  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

### RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		GX1508	GX1509	GX1510		
Sampling Date		2013/05/25	2013/05/25			
	<b>UNITS</b>	<b>NO2: 1</b>	<b>NO2: 2</b>	<b>NO2: BLANK</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Passive Monitoring</b>						
Calculated NO2	ppb	1.1	2.5		0.1	6982623
NO2	ppm			0.06	N/A	6982629
RDL = Reportable Detection Limit						



Maxxam Job #: B359592  
Report Date: 2013/07/23

Agnico Eagle Mines Ltd.  
Client Project #: 2013/05/25 - 2013/06/25  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

**General Comments**

**Results relate only to the items tested.**



Agnico Eagle Mines Ltd.  
Attention: MEADOWBANK ENVIRONMENT  
Client Project #: 2013/05/25 - 2013/06/25  
P.O. #: 82140  
Site Location: BAKER LAKE, NU

### Quality Assurance Report

Maxxam Job Number: PB359592

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	UNITS	QC Limits
6982623 DF4	Calibration Check	Calculated NO2	2013/07/15		100	%	76 - 118
	Spiked Blank	Calculated NO2	2013/07/15		98	%	N/A
	Method Blank	Calculated NO2	2013/07/15	<0.1		ppb	

Calibration Check: A calibration standard analyzed at different times to evaluate on-going calibration accuracy.

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.

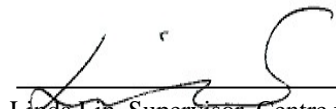
Maxxam Analytics International Corporation o/a Maxxam Analytics Edmonton: 6744 - 50th Street T6B 3M9 Telephone(780) 378-8500 FAX(780) 378-8699

## Validation Signature Page

**Maxxam Job #: B359592**

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Linda Lin, Supervisor, Centre for Passive Sampling Technology

=====

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Your P.O. #: 82140  
Your Project #: 2013/05/25 - 2013/06/25  
Site Location: BAKER LAKE, NU

**Attention: MEADOWBANK ENVIRONMENT**

Agnico Eagle Mines Ltd.  
Meadowbank Division  
10200, Route du Preissac  
Rouyn-Noranda, QC  
CANADA J0Y 1C0

**Report Date: 2013/07/19**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B358443**

**Received: 2013/07/11, 10:27**

Sample Matrix: Air  
# Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Total & Fixed Dustfall	4	2013/07/11	2013/07/11	EINDSOP-00180	AMD 32020
Determination of Dustfall-mg/cm2/30 days	4	2013/07/11	2013/07/11		see department
Exposure (Number of days)	4	2013/07/11	2013/07/11		see department

\* 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, Customer Service  
Email: LManchak@maxxam.ca  
Phone# (780) 378-8500

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Total cover pages: 1



### RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		GW3336	GW3337	GW3338	GW3339		
Sampling Date		2013/05/25	2013/05/25	2013/05/25	2013/05/25		
	<b>UNITS</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Industrial</b>							
Exposure	days	31	31	31	31	1	6974679
<b>Dustfall Determination</b>							
Total Dustfall	mg	27	38	12	8	1	6974799
Total Dustfall (30 day)	mg/cm2/30day	0.320	0.455	0.142	0.100	0.001	6974800
Total Fixed Dustfall	mg	26	19	11	7	1	6974799
Total Fixed Dustfall (30 day)	mg/cm2/30day	0.313	0.228	0.135	0.078	0.001	6974800

RDL = Reportable Detection Limit



Maxxam Job #: B358443  
Report Date: 2013/07/19

Agnico Eagle Mines Ltd.  
Client Project #: 2013/05/25 - 2013/06/25  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

**General Comments**

**Results relate only to the items tested.**



Agnico Eagle Mines Ltd.  
Attention: MEADOWBANK ENVIRONMENT  
Client Project #: 2013/05/25 - 2013/06/25  
P.O. #: 82140  
Site Location: BAKER LAKE, NU

### Quality Assurance Report

Maxxam Job Number: PB358443

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	UNITS	QC Limits
6974799 OZ	Calibration Check	Total Dustfall	2013/07/11		102	%	N/A
	Method Blank	Total Dustfall	2013/07/11	<1		mg	
		Total Fixed Dustfall	2013/07/11	<1		mg	

Calibration Check: A calibration standard analyzed at different times to evaluate on-going calibration accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

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## Validation Signature Page

Maxxam Job #: B358443

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Darren Funnell, Analyst I

=====

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Your P.O. #: 82140  
Your Project #: PM2.5/10/TSP  
Site Location: BAKER LAKE, NU

**Attention: MEADOWBANK ENVIRONMENT**

Agnico Eagle Mines Ltd.  
Meadowbank Division  
10200, Route du Preissac  
Rouyn-Noranda, QC  
CANADA J0Y 1C0

**Report Date: 2013/06/13**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B347341**

**Received: 2013/06/10, 13:26**

Sample Matrix: Filter  
# Samples Received: 15

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Mass Determination(ug/filter)	15	N/A	2013/06/13	EINDSOP-00151	EPA 2.12 Monitoring

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

**Encryption Key**

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Levi Manchak, Customer Service  
Email: LManchak@maxxam.ca  
Phone# (780) 378-8500

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Total cover pages: 1

### RESULTS OF CHEMICAL ANALYSES OF FILTER

Maxxam ID		GP5933	GP5934	GP5935	GP5936	GP5938	GP5939		
Sampling Date		2013/04/28	2013/05/04	2013/05/10	2013/05/16	2013/04/28	2013/05/04		
	<b>UNITS</b>	<b>PM2.5 RP26380</b>	<b>PM2.5 RP893</b>	<b>PM2.5 RP20552</b>	<b>PM2.5 RP46673</b>	<b>PM10 RP915</b>	<b>PM10 RP916</b>	<b>RDL</b>	<b>QC Batch</b>

<b>PM2.5/10</b>									
Particulate Matter	ug/filter	11	28	48	20	307	206	3	6899733
RDL = Reportable Detection Limit									

Maxxam ID		GP5940	GP5941	GP5943	GP5944	GP5945	GP5946		
Sampling Date		2013/05/10	2013/05/16	2013/04/28	2013/05/04	2013/05/10	2013/05/16		
	<b>UNITS</b>	<b>PM10 RP92785</b>	<b>PM10 RP15506</b>	<b>TSP RP921</b>	<b>TSP RP27515</b>	<b>TSP RP27514</b>	<b>TSP RP89943</b>	<b>RDL</b>	<b>QC Batch</b>

<b>PM2.5/10</b>									
Particulate Matter	ug/filter	77	69	2700	2070	544	942	3	6899733
RDL = Reportable Detection Limit									

Maxxam ID		GP5948	GP5949	GP5950		
Sampling Date						
	<b>UNITS</b>	<b>BLANK</b>	<b>TRAVEL BLANK RP9920</b>	<b>TRAVEL BLANK RP92714</b>	<b>RDL</b>	<b>QC Batch</b>

<b>PM2.5/10</b>						
Particulate Matter	ug/filter	9	12	8	3	6899733
RDL = Reportable Detection Limit						



Maxxam Job #: B347341  
Report Date: 2013/06/13

Agnico Eagle Mines Ltd.  
Client Project #: PM2.5/10/TSP  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

**General Comments**

**Results relate only to the items tested.**



Agnico Eagle Mines Ltd.  
Attention: MEADOWBANK ENVIRONMENT  
Client Project #: PM2.5/10/TSP  
P.O. #: 82140  
Site Location: BAKER LAKE, NU

### Quality Assurance Report

Maxxam Job Number: PB347341

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	UNITS	QC Limits
6899733 SS6	Calibration Check	Particulate Matter	2013/06/13		100	%	N/A
Calibration Check: A calibration standard analyzed at different times to evaluate on-going calibration accuracy.							

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## Validation Signature Page

Maxxam Job #: B347341

---

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

A handwritten signature in black ink, appearing to read "Darren Funnell", is written over a horizontal line.

Darren Funnell, Analyst I

=====

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Your P.O. #: 82140  
Your Project #: 2013/04/27 - 2013/05/25  
Site Location: BAKER LAKE, NU

**Attention: MEADOWBANK ENVIRONMENT**

Agnico Eagle Mines Ltd.  
Meadowbank Division  
10200, Route du Preissac  
Rouyn-Noranda, QC  
CANADA J0Y 1C0

**Report Date: 2013/06/20**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B347340**

**Received: 2013/06/10, 13:24**

Sample Matrix: Air  
# Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Total & Fixed Dustfall	4	2013/06/20	2013/06/20	EINDSOP-00180	AMD 32020
Determination of Dustfall-mg/cm2/30 days	4	2013/06/20	2013/06/20		see department
Exposure (Number of days)	4	2013/06/13	2013/06/13		see department

\* 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, Customer Service  
Email: LManchak@maxxam.ca  
Phone# (780) 378-8500

=====

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Total cover pages: 1



Maxxam Job #: B347340  
Report Date: 2013/06/20

Agnico Eagle Mines Ltd.  
Client Project #: 2013/04/27 - 2013/05/25  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

### RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		GP5928		GP5929		GP5930	GP5931		
Sampling Date		2013/04/27		2013/04/27		2013/04/27	2013/04/27		
	<b>UNITS</b>	<b>1</b>	<b>RDL</b>	<b>2</b>	<b>RDL</b>	<b>3</b>	<b>4</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Industrial</b>									
Exposure	days	28	1	28	1	28	28	1	6896760
<b>Dustfall Determination</b>									
Total Dustfall	mg	22	1	32	2	21	9	1	6920325
Total Dustfall (30 day)	mg/cm2/30day	0.283	0.001	0.418	0.002	0.275	0.115	0.001	6920326
Total Fixed Dustfall	mg	21	1	31	2	20	9	1	6920325
Total Fixed Dustfall (30 day)	mg/cm2/30day	0.273	0.001	0.404	0.002	0.262	0.115	0.001	6920326

RDL = Reportable Detection Limit



Maxxam Job #: B347340  
Report Date: 2013/06/20

Agnico Eagle Mines Ltd.  
Client Project #: 2013/04/27 - 2013/05/25  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

**General Comments**

**Results relate only to the items tested.**



Agnico Eagle Mines Ltd.  
Attention: MEADOWBANK ENVIRONMENT  
Client Project #: 2013/04/27 - 2013/05/25  
P.O. #: 82140  
Site Location: BAKER LAKE, NU

### Quality Assurance Report

Maxxam Job Number: PB347340

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	UNITS	QC Limits
6920325 OZ	Calibration Check	Total Dustfall	2013/06/20		101	%	N/A
	Method Blank	Total Dustfall	2013/06/20	<1		mg	
		Total Fixed Dustfall	2013/06/20	<1		mg	

Calibration Check: A calibration standard analyzed at different times to evaluate on-going calibration accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Maxxam Analytics International Corporation o/a Maxxam Analytics Edmonton: 6744 - 50th Street T6B 3M9 Telephone(780) 378-8500 FAX(780) 378-8699



## Validation Signature Page

Maxxam Job #: B347340

---

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

A handwritten signature in black ink, appearing to read "Darren Funnell", is written over a horizontal line.

Darren Funnell, Analyst I

=====

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Your P.O. #: 82140  
Your Project #: 2013/04/27 - 2013/05/25  
Site Location: BAKER LAKE, NU

**Attention: MEADOWBANK ENVIRONMENT**

Agnico Eagle Mines Ltd.  
Meadowbank Division  
10200, Route du Preissac  
Rouyn-Noranda, QC  
CANADA J0Y 1C0

**Report Date: 2013/06/20**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B347337**

**Received: 2013/06/10, 13:21**

Sample Matrix: Air  
# Samples Received: 3

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
NO2 Passive Analysis (1)	2	2013/06/19	2013/06/20	EINDSOP-00148	Tang Passive NO2 in
Raw NO2 Passive Analysis	1	2013/06/19	2013/06/19	EINDSOP-00148	Tang Passive NO2 in

\* 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, Customer Service  
Email: LManchak@maxxam.ca  
Phone# (780) 378-8500

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Total cover pages: 1



Maxxam Job #: B347337  
Report Date: 2013/06/20

Agnico Eagle Mines Ltd.  
Client Project #: 2013/04/27 - 2013/05/25  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

### RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		GP5908	GP5909	GP5910		
Sampling Date		2013/04/27	2013/04/27			
	<b>UNITS</b>	<b>NO2: 1</b>	<b>NO2: 2</b>	<b>NO2: BLANK</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Passive Monitoring</b>						
Calculated NO2	ppb	0.5	1.9		0.1	6916111
NO2	ppm			0.08	N/A	6916120
RDL = Reportable Detection Limit						





Maxxam Job #: B347337  
Report Date: 2013/06/20

Agnico Eagle Mines Ltd.  
Client Project #: 2013/04/27 - 2013/05/25  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

**General Comments**

**Results relate only to the items tested.**



Agnico Eagle Mines Ltd.  
Attention: MEADOWBANK ENVIRONMENT  
Client Project #: 2013/04/27 - 2013/05/25  
P.O. #: 82140  
Site Location: BAKER LAKE, NU

Quality Assurance Report  
Maxxam Job Number: PB347337

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	UNITS	QC Limits
6916111 DF4	Calibration Check	Calculated NO2	2013/06/19		101	%	76 - 118
	Spiked Blank	Calculated NO2	2013/06/19		97	%	N/A
	Method Blank	Calculated NO2	2013/06/19	<0.1		ppb	
<p>Calibration Check: A calibration standard analyzed at different times to evaluate on-going calibration accuracy. 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.</p>							

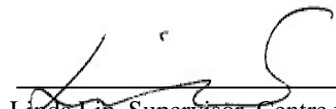
Maxxam Analytics International Corporation o/a Maxxam Analytics Edmonton: 6744 - 50th Street T6B 3M9 Telephone(780) 378-8500 FAX(780) 378-8699

## Validation Signature Page

**Maxxam Job #: B347337**

---

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A handwritten signature in black ink, appearing to read "Linda Lin", is written over a horizontal line.

Linda Lin, Supervisor, Centre for Passive Sampling Technology

=====

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Your P.O. #: 82140  
Your Project #: 2013/03/29 - 2013/04/27  
Site Location: BAKER LAKE, NU

**Attention: MEADOWBANK ENVIRONMENT**

Agnico Eagle Mines Ltd.  
Meadowbank Division  
10200, Route du Preissac  
Rouyn-Noranda, QC  
CANADA J0Y 1C0

**Report Date: 2013/05/09**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B334273**

**Received: 2013/05/02, 10:38**

Sample Matrix: Air  
# Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Total & Fixed Dustfall	4	2013/05/08	2013/05/08	EINDSOP-00180	AMD 32020
Determination of Dustfall-mg/cm2/30 days	4	2013/05/08	2013/05/08		see department
Exposure (Number of days)	4	2013/05/06	2013/05/06		see department

\* 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, Customer Service  
Email: LManchak@maxxam.ca  
Phone# (780) 378-8500

=====

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Total cover pages: 1



Maxxam Job #: B334273  
Report Date: 2013/05/09

Agnico Eagle Mines Ltd.  
Client Project #: 2013/03/29 - 2013/04/27  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

### RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		GH0450	GH0451	GH0452	GH0453		
Sampling Date		2013/03/29 16:17	2013/03/29 15:37	2013/03/29 15:49	2013/03/29 16:02		
	<b>UNITS</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Industrial</b>							
Exposure	days	28	28	28	28	1	6791244
<b>Dustfall Determination</b>							
Total Dustfall	mg	61	31	67	5	1	6798229
Total Dustfall (30 day)	mg/cm2/30day	0.803	0.409	0.882	0.071	0.001	6798230
Total Fixed Dustfall	mg	58	29	65	5	1	6798229
Total Fixed Dustfall (30 day)	mg/cm2/30day	0.764	0.386	0.858	0.063	0.001	6798230

RDL = Reportable Detection Limit



Maxxam Job #: B334273  
Report Date: 2013/05/09

Agnico Eagle Mines Ltd.  
Client Project #: 2013/03/29 - 2013/04/27  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

**General Comments**

**Results relate only to the items tested.**



Agnico Eagle Mines Ltd.  
Attention: MEADOWBANK ENVIRONMENT  
Client Project #: 2013/03/29 - 2013/04/27  
P.O. #: 82140  
Site Location: BAKER LAKE, NU

### Quality Assurance Report

Maxxam Job Number: PB334273

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	UNITS	QC Limits
6798229 OZ	Calibration Check	Total Dustfall	2013/05/08		101	%	N/A
	Method Blank	Total Dustfall	2013/05/08	<1		mg	
		Total Fixed Dustfall	2013/05/08	<1		mg	
	RPD [GH0450-01]	Total Dustfall	2013/05/08	1		%	N/A
		Total Fixed Dustfall	2013/05/08	1.0		%	N/A

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Calibration Check: A calibration standard analyzed at different times to evaluate on-going calibration accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Maxxam Analytics International Corporation o/a Maxxam Analytics Edmonton: 6744 - 50th Street T6B 3M9 Telephone(780) 378-8500 FAX(780) 378-8699



## Validation Signature Page

Maxxam Job #: B334273

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A handwritten signature in black ink, appearing to read "Darren Funnell", is written over a horizontal line.

Darren Funnell, Analyst I

=====

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Your P.O. #: 82140  
Your Project #: 2013/03/29 - 2013/04/27  
Site Location: BAKER LAKE, NU

**Attention: MEADOWBANK ENVIRONMENT**

Agnico Eagle Mines Ltd.  
Meadowbank Division  
10200, Route du Preissac  
Rouyn-Noranda, QC  
CANADA J0Y 1C0

**Report Date: 2013/05/07**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B334271**

**Received: 2013/05/02, 10:35**

Sample Matrix: Air  
# Samples Received: 3

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
NO2 Passive Analysis (1)	2	2013/05/06	2013/05/07	EINDSOP-00148	Tang Passive NO2 in
Raw NO2 Passive Analysis	1	2013/05/06	2013/05/06	EINDSOP-00148	Tang Passive NO2 in

\* 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, Customer Service  
Email: LManchak@maxxam.ca  
Phone# (780) 378-8500

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Total cover pages: 1



Maxxam Job #: B334271  
Report Date: 2013/05/07

Agnico Eagle Mines Ltd.  
Client Project #: 2013/03/29 - 2013/04/27  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

### RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		GH0444	GH0445	GH0446		
Sampling Date		2013/03/29 16:17	2013/03/29 15:37			
	UNITS	NO2: 1	NO2: 2	NO2: BLANK	RDL	QC Batch

Passive Monitoring						
Calculated NO2	ppb	<0.1	0.9		0.1	6792272
NO2	ppm			0.04	N/A	6792305
RDL = Reportable Detection Limit						



Maxxam Job #: B334271  
Report Date: 2013/05/07

Agnico Eagle Mines Ltd.  
Client Project #: 2013/03/29 - 2013/04/27  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

**General Comments**

**Results relate only to the items tested.**



Agnico Eagle Mines Ltd.  
Attention: MEADOWBANK ENVIRONMENT  
Client Project #: 2013/03/29 - 2013/04/27  
P.O. #: 82140  
Site Location: BAKER LAKE, NU

### Quality Assurance Report

Maxxam Job Number: PB334271

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	UNITS	QC Limits
6792272 DF4	Calibration Check	Calculated NO2	2013/05/06		100	%	76 - 118
	Spiked Blank	Calculated NO2	2013/05/06		96	%	N/A
	Method Blank	Calculated NO2	2013/05/06	<0.1		ppb	

Calibration Check: A calibration standard analyzed at different times to evaluate on-going calibration accuracy.

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.

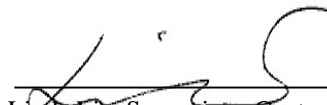
Maxxam Analytics International Corporation o/a Maxxam Analytics Edmonton: 6744 - 50th Street T6B 3M9 Telephone(780) 378-8500 FAX(780) 378-8699

## Validation Signature Page

**Maxxam Job #: B334271**

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A handwritten signature in black ink, appearing to read "Linda Lin", is written over a horizontal line.

Linda Lin, Supervisor, Centre for Passive Sampling Technology

=====

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Your P.O. #: 82140  
Your Project #: PM2.5/10/TSP  
Site Location: BAKER LAKE, NU

**Attention: MEADOWBANK ENVIRONMENT**

Agnico Eagle Mines Ltd.  
Meadowbank Division  
10200, Route du Preissac  
Rouyn-Noranda, QC  
CANADA J0Y 1C0

**Report Date: 2013/05/10**

This report supersedes all previous reports with the same Maxxam job number

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B334261**

**Received: 2013/05/02, 10:26**

Sample Matrix: Filter  
# Samples Received: 18

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Mass Determination(ug/filter)	18	N/A	2013/05/06	EINDSOP-00151	EPA 2.12 Monitoring

\* 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, Customer Service  
Email: LManchak@maxxam.ca  
Phone# (780) 378-8500

=====

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Total cover pages: 1

### RESULTS OF CHEMICAL ANALYSES OF FILTER

Maxxam ID		GH0338	GH0339	GH0340	GH0341	GH0342	GH0343		
Sampling Date		2013/03/29	2013/04/04	2013/04/10	2013/04/16	2013/04/22	2013/03/29		
	<b>UNITS</b>	<b>PM2.5 RP879</b>	<b>PM2.5 RP89982</b>	<b>PM2.5 RP909</b>	<b>PM2.5 RP908</b>	<b>PM2.5 RP15157</b>	<b>PM10 RP27276</b>	<b>RDL</b>	<b>QC Batch</b>

<b>PM2.5/10</b>									
Particulate Matter	ug/filter	<3	13	14	17	3	3	3	6790552
RDL = Reportable Detection Limit									

Maxxam ID		GH0344	GH0345	GH0346	GH0347	GH0348	GH0349		
Sampling Date		2013/04/04	2013/04/10	2013/04/16	2013/04/22	2013/03/29	2013/04/04		
	<b>UNITS</b>	<b>PM10 RP28672</b>	<b>PM10 RP920</b>	<b>PM10 RP27517</b>	<b>PM10 RP919</b>	<b>TSP RP13776</b>	<b>TSP RP15069</b>	<b>RDL</b>	<b>QC Batch</b>

<b>PM2.5/10</b>									
Particulate Matter	ug/filter	108	74	124	103	143	1960	3	6790552
RDL = Reportable Detection Limit									

Maxxam ID		GH0350	GH0351	GH0352	GH0407	GH0408	GH0409		
Sampling Date		2013/04/10	2013/04/16	2013/04/22					
	<b>UNITS</b>	<b>TSP RP95651</b>	<b>TSP RP27429</b>	<b>TSP RP878</b>	<b>BLANK</b>	<b>TRAVEL BLANK 24907</b>	<b>TRAVEL BLANK RP10352</b>	<b>RDL</b>	<b>QC Batch</b>

<b>PM2.5/10</b>									
Particulate Matter	ug/filter	11500	2970	971	<3	<3	<3	3	6790552
RDL = Reportable Detection Limit									



Maxxam Job #: B334261  
Report Date: 2013/05/10

Agnico Eagle Mines Ltd.  
Client Project #: PM2.5/10/TSP  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

**General Comments**

Sample GH0349-01: TSP samples RP#15069, RP# 95651, RP#27429 received to the Lab with visible dirt on them. SS

**Results relate only to the items tested.**





Agnico Eagle Mines Ltd.  
Attention: MEADOWBANK ENVIRONMENT  
Client Project #: PM2.5/10/TSP  
P.O. #: 82140  
Site Location: BAKER LAKE, NU

### Quality Assurance Report

Maxxam Job Number: PB334261

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	UNITS	QC Limits
6790552 SS6	Calibration Check	Particulate Matter	2013/05/06		100	%	N/A
Calibration Check: A calibration standard analyzed at different times to evaluate on-going calibration accuracy.							

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## Validation Signature Page

Maxxam Job #: B334261

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A handwritten signature in black ink, appearing to read "Darren Funnell", is written over a horizontal line.

Darren Funnell, Analyst I

=====

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Your P.O. #: 82140  
Your Project #: PM2.5/10/TSP  
Site Location: BAKER LAKE, NU

**Attention: MEADOWBANK ENVIRONMENT**

Agnico Eagle Mines Ltd.  
Meadowbank Division  
10200, Route du Preissac  
Rouyn-Noranda, QC  
CANADA J0Y 1C0

**Report Date: 2013/04/13**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B326618**

**Received: 2013/04/05, 13:40**

Sample Matrix: Filter  
# Samples Received: 15

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Mass Determination(ug/filter)	15	N/A	2013/04/12	EINDSOP-00151	EPA 2.12 Monitoring

\* 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, Customer Service  
Email: LManchak@maxxam.ca  
Phone# (780) 378-8500

=====

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Total cover pages: 1

### RESULTS OF CHEMICAL ANALYSES OF FILTER

Maxxam ID		GB8827	GB8838	GB8840	GB8841	GB8843	GB8846		
Sampling Date		2013/03/05	2013/03/11	2013/03/17	2013/03/23	2013/03/05	2013/03/11		
	<b>UNITS</b>	<b>PM2.5</b> <b>RP10071</b>	<b>PM2.5</b> <b>RP00918</b>	<b>PM2.5</b> <b>RP00922</b>	<b>PM2.5</b> <b>RP10060</b>	<b>PM10</b> <b>RP00891</b>	<b>PM10</b> <b>RP00917</b>	<b>RDL</b>	<b>QC Batch</b>

<b>PM2.5/10</b>									
Particulate Matter	ug/filter	10	13	7	18	63	54	3	6735346
RDL = Reportable Detection Limit									

Maxxam ID		GB8849	GB8851	GB8854	GB8857	GB8859	GB8861		
Sampling Date		2013/03/17	2013/03/23	2013/03/05	2013/03/11	2013/03/17	2013/03/23		
	<b>UNITS</b>	<b>PM10</b> <b>RP17839</b>	<b>PM10</b> <b>RP27587</b>	<b>TSP</b> <b>RP00902</b>	<b>TSP</b> <b>RP00903</b>	<b>TSP</b> <b>RP00905</b>	<b>TSP</b> <b>RP17830</b>	<b>RDL</b>	<b>QC Batch</b>

<b>PM2.5/10</b>									
Particulate Matter	ug/filter	85	69	306	158	397	1330	3	6735346
RDL = Reportable Detection Limit									

Maxxam ID		GB8865	GB8867	GB8942		
Sampling Date						
	<b>UNITS</b>	<b>BLANK</b>	<b>TRAVEL</b> <b>BLANK</b> <b>RP15546</b>	<b>TRAVEL</b> <b>BLANK</b> <b>RP4238</b>	<b>RDL</b>	<b>QC Batch</b>

<b>PM2.5/10</b>						
Particulate Matter	ug/filter	3	<3	3	3	6735346
RDL = Reportable Detection Limit						



Maxxam Job #: B326618  
Report Date: 2013/04/13

Agnico Eagle Mines Ltd.  
Client Project #: PM2.5/10/TSP  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

**General Comments**

Sample GB8861-01: PM# 17830 (TSP) received to the Lab with visible dirt on filter. SS

**Results relate only to the items tested.**



Agnico Eagle Mines Ltd.  
Attention: MEADOWBANK ENVIRONMENT  
Client Project #: PM2.5/10/TSP  
P.O. #: 82140  
Site Location: BAKER LAKE, NU

### Quality Assurance Report

Maxxam Job Number: PB326618

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	UNITS	QC Limits
6735346 SS6	Calibration Check	Particulate Matter	2013/04/12		100	%	N/A
Calibration Check: A calibration standard analyzed at different times to evaluate on-going calibration accuracy.							

Maxxam Analytics International Corporation o/a Maxxam Analytics Edmonton: 6744 - 50th Street T6B 3M9 Telephone(780) 378-8500 FAX(780) 378-8699



## Validation Signature Page

Maxxam Job #: B326618

---

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A handwritten signature in black ink, appearing to read "Darren Funnell", is written over a horizontal line.

Darren Funnell, Analyst I

=====

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Your P.O. #: 82140  
Your Project #: 2013/03/09 - 2013/03/29  
Site Location: BAKER LAKE, NU

**Attention: MEADOWBANK ENVIRONMENT**

Agnico Eagle Mines Ltd.  
Meadowbank Division  
10200, Route du Preissac  
Rouyn-Noranda, QC  
CANADA J0Y 1C0

**Report Date: 2013/04/19**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B326612**

**Received: 2013/04/05, 13:35**

Sample Matrix: Air  
# Samples Received: 3

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
NO2 Passive Analysis (1)	2	2013/04/19	2013/04/19	EINDSOP-00148	Tang Passive NO2 in
Raw NO2 Passive Analysis	1	2013/04/19	2013/04/19	EINDSOP-00148	Tang Passive NO2 in

\* 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, Customer Service  
Email: LManchak@maxxam.ca  
Phone# (780) 378-8500

=====

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Total cover pages: 1





Maxxam Job #: B326612  
Report Date: 2013/04/19

Agnico Eagle Mines Ltd.  
Client Project #: 2013/03/09 - 2013/03/29  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

### RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		GB8712	GB8713	GB8714		
Sampling Date		2013/03/09	2013/03/09			
	<b>UNITS</b>	<b>NO2: 1</b>	<b>NO2: 2</b>	<b>NO2: BLANK</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Passive Monitoring</b>						
Calculated NO2	ppb	5.3	0.4		0.1	6753378
NO2	ppm			0.10	N/A	6753380
RDL = Reportable Detection Limit						



Maxxam Job #: B326612  
Report Date: 2013/04/19

Agnico Eagle Mines Ltd.  
Client Project #: 2013/03/09 - 2013/03/29  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

**General Comments**

**Results relate only to the items tested.**



Agnico Eagle Mines Ltd.  
Attention: MEADOWBANK ENVIRONMENT  
Client Project #: 2013/03/09 - 2013/03/29  
P.O. #: 82140  
Site Location: BAKER LAKE, NU

### Quality Assurance Report

Maxxam Job Number: PB326612

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	UNITS	QC Limits
6753378 DF4	Calibration Check	Calculated NO2	2013/04/19		100	%	76 - 118
	Spiked Blank	Calculated NO2	2013/04/19		99	%	N/A
	Method Blank	Calculated NO2	2013/04/19	<0.1		ppb	

Calibration Check: A calibration standard analyzed at different times to evaluate on-going calibration accuracy.

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.

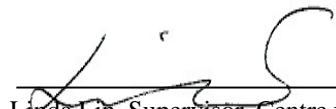
Maxxam Analytics International Corporation o/a Maxxam Analytics Edmonton: 6744 - 50th Street T6B 3M9 Telephone(780) 378-8500 FAX(780) 378-8699

## Validation Signature Page

**Maxxam Job #: B326612**

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A handwritten signature in black ink, appearing to read "Linda Lin", is written over a horizontal line.

Linda Lin, Supervisor, Centre for Passive Sampling Technology

=====

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Your P.O. #: 82140  
Your Project #: 2013/03/09 - 2013/03/29  
Site Location: BAKER LAKE, NU

**Attention: MEADOWBANK ENVIRONMENT**

Agnico Eagle Mines Ltd.  
Meadowbank Division  
10200, Route du Preissac  
Rouyn-Noranda, QC  
CANADA J0Y 1C0

**Report Date: 2013/04/15**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B326609**

**Received: 2013/04/05, 13:31**

Sample Matrix: Air  
# Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Total & Fixed Dustfall	4	2013/04/15	2013/04/15	EINDSOP-00180	AMD 32020
Determination of Dustfall-mg/cm2/30 days	4	2013/04/15	2013/04/15		see department
Exposure (Number of days)	4	2013/04/10	2013/04/10		see department

\* 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, Customer Service  
Email: LManchak@maxxam.ca  
Phone# (780) 378-8500

=====

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Total cover pages: 1

### RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		GB8699	GB8700	GB8701	GB8702		
Sampling Date		2013/03/09	2013/03/09	2013/03/09	2013/03/09		
	<b>UNITS</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Industrial</b>							
Exposure	days	20	20	20	20	1	6717585
<b>Dustfall Determination</b>							
Total Dustfall	mg	50	29	10	4	1	6738280
Total Dustfall (30 day)	mg/cm2/30day	0.913	0.540	0.187	0.077	0.001	6738281
Total Fixed Dustfall	mg	47	28	10	4	1	6738280
Total Fixed Dustfall (30 day)	mg/cm2/30day	0.861	0.518	0.176	0.064	0.001	6738281

RDL = Reportable Detection Limit



Maxxam Job #: B326609  
Report Date: 2013/04/15

Agnico Eagle Mines Ltd.  
Client Project #: 2013/03/09 - 2013/03/29  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

**General Comments**

**Results relate only to the items tested.**



Agnico Eagle Mines Ltd.  
Attention: MEADOWBANK ENVIRONMENT  
Client Project #: 2013/03/09 - 2013/03/29  
P.O. #: 82140  
Site Location: BAKER LAKE, NU

### Quality Assurance Report

Maxxam Job Number: PB326609

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	UNITS	QC Limits
6738280 OZ	Calibration Check	Total Dustfall	2013/04/15		100	%	N/A
	Method Blank	Total Dustfall	2013/04/15	<1		mg	
		Total Fixed Dustfall	2013/04/15	<1		mg	
	RPD [GB8699-01]	Total Dustfall	2013/04/15	1.4		%	N/A
		Total Fixed Dustfall	2013/04/15	1.5		%	N/A

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Calibration Check: A calibration standard analyzed at different times to evaluate on-going calibration accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

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## Validation Signature Page

Maxxam Job #: B326609

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Darren Funnell, Analyst I

=====

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Your P.O. #: 82140  
Your Project #: PM2.5/10/TSP  
Site Location: BAKER LAKE, NU

**Attention: MEADOWBANK ENVIRONMENT**

Agnico Eagle Mines Ltd.  
Meadowbank Division  
10200, Route du Preissac  
Rouyn-Noranda, QC  
CANADA J0Y 1C0

**Report Date: 2013/03/22**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B320552**

**Received: 2013/03/15, 10:50**

Sample Matrix: Filter  
# Samples Received: 16

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Mass Determination(ug/filter)	16	N/A	2013/03/19	EINDSOP-00151	EPA 2.12 Monitoring

\* 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, Customer Service  
Email: LManchak@maxxam.ca  
Phone# (780) 378-8500

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Total cover pages: 1

## RESULTS OF CHEMICAL ANALYSES OF FILTER

Maxxam ID		FW7252	FW7253	FW7254	FW7255	FW7256	FW7257		
Sampling Date		2013/02/03	2013/02/09	2013/02/15	2013/02/21	2013/02/27	2013/02/03		
	<b>UNITS</b>	<b>PM2.5</b> <b>RP54427</b>	<b>PM2.5</b> <b>RP00901</b>	<b>PM2.5</b> <b>RP84094</b>	<b>PM2.5</b> <b>RP27285</b>	<b>PM2.5</b> <b>RP89952</b>	<b>PM10</b> <b>RP15511</b>	<b>RDL</b>	<b>QC Batch</b>

<b>PM2.5/10</b>									
Particulate Matter	ug/filter	5	10	<3	<3	4	44	3	6664269
RDL = Reportable Detection Limit									

Maxxam ID		FW7258	FW7259	FW7260	FW7261	FW7262	FW7263		
Sampling Date		2013/02/09	2013/02/15	2013/02/21	2013/02/27	2013/02/15	2013/02/21		
	<b>UNITS</b>	<b>PM10</b> <b>RP10067</b>	<b>PM10</b> <b>RP27516</b>	<b>PM10</b> <b>RP00880</b>	<b>PM10 00890</b>	<b>TSP</b> <b>RP17779</b>	<b>TSP RP907</b>	<b>RDL</b>	<b>QC Batch</b>

<b>PM2.5/10</b>									
Particulate Matter	ug/filter	10	38	17	37	87	37	3	6664269
RDL = Reportable Detection Limit									

Maxxam ID		FW7264	FW7265	FW7266	FW7274		
Sampling Date		2013/02/27					
	<b>UNITS</b>	<b>TSP</b> <b>RP27509</b>	<b>TRAVEL</b> <b>BLANK</b> <b>RP27289</b>	<b>BLANK</b>	<b>TRAVEL</b> <b>BLANK</b> <b>RP27592</b>	<b>RDL</b>	<b>QC Batch</b>

<b>PM2.5/10</b>							
Particulate Matter	ug/filter	84	<3	<3	<3	3	6664269
RDL = Reportable Detection Limit							



Maxxam Job #: B320552  
Report Date: 2013/03/22

Agnico Eagle Mines Ltd.  
Client Project #: PM2.5/10/TSP  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

**General Comments**

**Results relate only to the items tested.**



Agnico Eagle Mines Ltd.  
Attention: MEADOWBANK ENVIRONMENT  
Client Project #: PM2.5/10/TSP  
P.O. #: 82140  
Site Location: BAKER LAKE, NU

### Quality Assurance Report

Maxxam Job Number: PB320552

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	UNITS	QC Limits
6664269 SS6	Calibration Check	Particulate Matter	2013/03/19		100	%	N/A
Calibration Check: A calibration standard analyzed at different times to evaluate on-going calibration accuracy.							

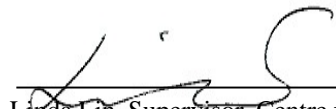
Maxxam Analytics International Corporation o/a Maxxam Analytics Edmonton: 6744 - 50th Street T6B 3M9 Telephone(780) 378-8500 FAX(780) 378-8699

## Validation Signature Page

**Maxxam Job #: B320552**

---

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Linda Lin, Supervisor, Centre for Passive Sampling Technology

=====

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Your P.O. #: 82140  
Your Project #: 2013/02/07 - 2013/03/09  
Site Location: BAKER LAKE, NU

**Attention: MEADOWBANK ENVIRONMENT**

Agnico Eagle Mines Ltd.  
Meadowbank Division  
10200, Route du Preissac  
Rouyn-Noranda, QC  
CANADA J0Y 1C0

**Report Date: 2013/03/20**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B320546**

**Received: 2013/03/15, 10:45**

Sample Matrix: Air  
# Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Total & Fixed Dustfall	4	2013/03/19	2013/03/20	EINDSOP-00180	AMD 32020
Determination of Dustfall-mg/cm2/30 days	4	2013/03/19	2013/03/20		see department
Exposure (Number of days)	4	2013/03/18	2013/03/18		see department

\* 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, Customer Service  
Email: LManchak@maxxam.ca  
Phone# (780) 378-8500

=====

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Total cover pages: 1



Maxxam Job #: B320546  
Report Date: 2013/03/20

Agnico Eagle Mines Ltd.  
Client Project #: 2013/02/07 - 2013/03/09  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

### RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		FW7233	FW7234	FW7235	FW7236		
Sampling Date		2013/02/07	2013/02/07	2013/02/07	2013/02/07		
	<b>UNITS</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Industrial</b>							
Exposure	days	30	30	30	30	1	6657953
<b>Dustfall Determination</b>							
Total Dustfall	mg	140	25	46	4	1	6663949
Total Dustfall (30 day)	mg/cm2/30day	1.704	0.300	0.558	0.044	0.001	6663950
Total Fixed Dustfall	mg	140	23	45	3	1	6663949
Total Fixed Dustfall (30 day)	mg/cm2/30day	1.665	0.283	0.551	0.037	0.001	6663950

RDL = Reportable Detection Limit





Maxxam Job #: B320546  
Report Date: 2013/03/20

Agnico Eagle Mines Ltd.  
Client Project #: 2013/02/07 - 2013/03/09  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

**General Comments**

**Results relate only to the items tested.**



Agnico Eagle Mines Ltd.  
Attention: MEADOWBANK ENVIRONMENT  
Client Project #: 2013/02/07 - 2013/03/09  
P.O. #: 82140  
Site Location: BAKER LAKE, NU

### Quality Assurance Report

Maxxam Job Number: PB320546

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	UNITS	QC Limits
6663949 OZ	Calibration Check	Total Dustfall	2013/03/20		99	%	N/A
	Method Blank	Total Dustfall	2013/03/20	<1		mg	
		Total Fixed Dustfall	2013/03/20	<1		mg	

Calibration Check: A calibration standard analyzed at different times to evaluate on-going calibration accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

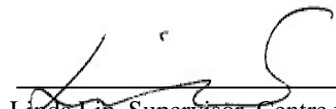
Maxxam Analytics International Corporation o/a Maxxam Analytics Edmonton: 6744 - 50th Street T6B 3M9 Telephone(780) 378-8500 FAX(780) 378-8699

## Validation Signature Page

**Maxxam Job #: B320546**

---

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A handwritten signature in black ink, appearing to read "Linda Lin", is written over a horizontal line.

Linda Lin, Supervisor, Centre for Passive Sampling Technology

=====

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Your P.O. #: 82140  
Your Project #: 2013/02/07 - 2013/03/09  
Site Location: BAKER LAKE, NU

**Attention: MEADOWBANK ENVIRONMENT**

Agnico Eagle Mines Ltd.  
Meadowbank Division  
10200, Route du Preissac  
Rouyn-Noranda, QC  
CANADA J0Y 1C0

**Report Date: 2013/03/25**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B320532**

**Received: 2013/03/15, 10:35**

Sample Matrix: Air  
# Samples Received: 3

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
NO2 Passive Analysis (1)	2	2013/03/20	2013/03/25	EINDSOP-00148	Tang Passive NO2 in
Raw NO2 Passive Analysis	1	2013/03/20	2013/03/20	EINDSOP-00148	Tang Passive NO2 in

\* 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, Customer Service  
Email: LManchak@maxxam.ca  
Phone# (780) 378-8500

=====

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Total cover pages: 1



Maxxam Job #: B320532  
Report Date: 2013/03/25

Agnico Eagle Mines Ltd.  
Client Project #: 2013/02/07 - 2013/03/09  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

### RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		FW7182	FW7183	FW7184		
Sampling Date		2013/02/07 12:02	2013/02/07 11:12			
	<b>UNITS</b>	<b>NO2: 1</b>	<b>NO2: 2</b>	<b>NO2: BLANK</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Passive Monitoring</b>						
Calculated NO2	ppb	1.8	3.1		0.1	6666356
NO2	ppm			0.03	N/A	6666352
RDL = Reportable Detection Limit						



Maxxam Job #: B320532  
Report Date: 2013/03/25

Agnico Eagle Mines Ltd.  
Client Project #: 2013/02/07 - 2013/03/09  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

**General Comments**

Sample FW7182-01: NO2: 1 is emulsion, NO2: 2 is TCG, as per client's label. SS

**Results relate only to the items tested.**



Agnico Eagle Mines Ltd.  
Attention: MEADOWBANK ENVIRONMENT  
Client Project #: 2013/02/07 - 2013/03/09  
P.O. #: 82140  
Site Location: BAKER LAKE, NU

### Quality Assurance Report

Maxxam Job Number: PB320532

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	UNITS	QC Limits
6666356 SS6	Calibration Check	Calculated NO2	2013/03/20		97	%	76 - 118
	Spiked Blank	Calculated NO2	2013/03/20		95	%	N/A
	Method Blank	Calculated NO2	2013/03/20	<0.1		ppb	

Calibration Check: A calibration standard analyzed at different times to evaluate on-going calibration accuracy.

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.

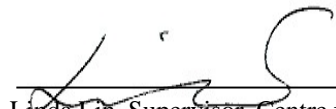
Maxxam Analytics International Corporation o/a Maxxam Analytics Edmonton: 6744 - 50th Street T6B 3M9 Telephone(780) 378-8500 FAX(780) 378-8699

## Validation Signature Page

**Maxxam Job #: B320532**

---

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

A handwritten signature in black ink, appearing to read "Linda Lin", is written over a horizontal line.

Linda Lin, Supervisor, Centre for Passive Sampling Technology

=====

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Your P.O. #: 82140  
Your Project #: 2013/01/12 - 2013/02/07  
Site Location: BAKER LAKE, NU

**Attention: MEADOWBANK ENVIRONMENT**

Agnico Eagle Mines Ltd.  
Meadowbank Division  
10200, Route du Preissac  
Rouyn-Noranda, QC  
CANADA J0Y 1C0

**Report Date: 2013/03/07**

This report supersedes all previous reports with the same Maxxam job number

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B311458**

**Received: 2013/02/14, 10:13**

Sample Matrix: Air  
# Samples Received: 3

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
NO2 Passive Analysis (1)	2	2013/02/20	2013/02/20	EINDSOP-00148	Tang Passive NO2 in
Raw NO2 Passive Analysis	1	2013/02/20	2013/02/20	EINDSOP-00148	Tang Passive NO2 in

\* 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, Customer Service  
Email: LManchak@maxxam.ca  
Phone# (780) 378-8500

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Total cover pages: 1



Maxxam Job #: B311458  
Report Date: 2013/03/07

Agnico Eagle Mines Ltd.  
Client Project #: 2013/01/12 - 2013/02/07  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

### RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		FP8111	FP8112	FP8113		
Sampling Date		2013/01/12 16:26	2013/01/12 14:42			
	UNITS	NO2: 1	NO2: 2	NO2: BLANK	RDL	QC Batch

Passive Monitoring						
Calculated NO2	ppb	0.2	1.8		0.1	6580465
NO2	ppm			0.07	N/A	6580463
RDL = Reportable Detection Limit						



Maxxam Job #: B311458  
Report Date: 2013/03/07

Agnico Eagle Mines Ltd.  
Client Project #: 2013/01/12 - 2013/02/07  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

**General Comments**

**Results relate only to the items tested.**



Agnico Eagle Mines Ltd.  
Attention: MEADOWBANK ENVIRONMENT  
Client Project #: 2013/01/12 - 2013/02/07  
P.O. #: 82140  
Site Location: BAKER LAKE, NU

### Quality Assurance Report

Maxxam Job Number: PB311458

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	UNITS	QC Limits
6580465 DF4	Calibration Check	Calculated NO2	2013/02/20		100	%	76 - 118
	Spiked Blank	Calculated NO2	2013/02/20		96	%	N/A
	Method Blank	Calculated NO2	2013/02/20	<0.1		ppb	

Calibration Check: A calibration standard analyzed at different times to evaluate on-going calibration accuracy.

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.

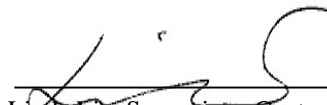
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## Validation Signature Page

**Maxxam Job #: B311458**

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Linda Lin, Supervisor, Centre for Passive Sampling Technology

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Your P.O. #: 82140  
Your Project #: PM2.5/10/TSP  
Site Location: BAKER LAKE, NU

**Attention: MEADOWBANK ENVIRONMENT**

Agnico Eagle Mines Ltd.  
Meadowbank Division  
10200, Route du Preissac  
Rouyn-Noranda, QC  
CANADA J0Y 1C0

**Report Date: 2013/02/20**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B311464**

**Received: 2013/02/14, 10:18**

Sample Matrix: Filter  
# Samples Received: 15

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Mass Determination(ug/filter)	14	N/A	2013/02/19	EINDSOP-00151	EPA 2.12 Monitoring
Mass Determination(ug/filter)	1	N/A	2013/02/20	EINDSOP-00151	EPA 2.12 Monitoring

\* 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, Customer Service  
Email: LManchak@maxxam.ca  
Phone# (780) 378-8500

=====

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Total cover pages: 1

## RESULTS OF CHEMICAL ANALYSES OF FILTER

Maxxam ID		FP8133	FP8134	FP8135	FP8136	FP8137	FP8138		
Sampling Date		2012/12/29	2013/01/10	2013/01/16	2013/01/22	2013/01/28	2012/12/29		
	<b>UNITS</b>	<b>PM2.5</b> <b>RP015893</b>	<b>PM2.5</b> <b>RP14316</b>	<b>PM2.5</b> <b>RP19592</b>	<b>PM2.5</b> <b>RP27293</b>	<b>PM2.5</b> <b>RP9927</b>	<b>PM10</b> <b>RP090554</b>	<b>RDL</b>	<b>QC Batch</b>

<b>PM2.5/10</b>									
Particulate Matter	ug/filter	10	5	11	20	7	131	3	6575393
RDL = Reportable Detection Limit									

Maxxam ID		FP8139	FP8140	FP8141	FP8142	FP8143	FP8144		
Sampling Date		2013/01/10	2013/01/16	2013/01/22	2013/01/28	2012/12/29	2013/01/16		
	<b>UNITS</b>	<b>PM10</b> <b>RP9925</b>	<b>PM10</b> <b>RP15238</b>	<b>PM10</b> <b>RP15523</b>	<b>PM10</b> <b>098002</b>	<b>TSP</b> <b>RP27329</b>	<b>TSP</b> <b>RP15545</b>	<b>RDL</b>	<b>QC Batch</b>

<b>PM2.5/10</b>									
Particulate Matter	ug/filter	48	51	67	52	137	124	3	6575393
RDL = Reportable Detection Limit									

Maxxam ID		FP8145	FP8146	FP8158		
Sampling Date		2013/01/22	2013/01/28			
	<b>UNITS</b>	<b>TSP</b> <b>RP093472</b>	<b>TSP</b> <b>RP087504</b>	<b>BLANK</b>	<b>RDL</b>	<b>QC Batch</b>

<b>PM2.5/10</b>						
Particulate Matter	ug/filter	137	DAMAGED	<3	3	6575393
RDL = Reportable Detection Limit						



Maxxam Job #: B311464  
Report Date: 2013/02/20

Agnico Eagle Mines Ltd.  
Client Project #: PM2.5/10/TSP  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

**General Comments**

**Results relate only to the items tested.**





Agnico Eagle Mines Ltd.  
Attention: MEADOWBANK ENVIRONMENT  
Client Project #: PM2.5/10/TSP  
P.O. #: 82140  
Site Location: BAKER LAKE, NU

### Quality Assurance Report

Maxxam Job Number: PB311464

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	UNITS	QC Limits
6575393 SS6	Calibration Check	Particulate Matter	2013/02/19		100	%	N/A
Calibration Check: A calibration standard analyzed at different times to evaluate on-going calibration accuracy.							

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## Validation Signature Page

Maxxam Job #: B311464

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A handwritten signature in black ink, appearing to read "Darren Funnell", is written over a horizontal line.

Darren Funnell, Analyst I

=====

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Your P.O. #: 82140  
Your Project #: 2013/01/12 - 2013/02/07  
Site Location: BAKER LAKE, NU

**Attention: MEADOWBANK ENVIRONMENT**

Agnico Eagle Mines Ltd.  
Meadowbank Division  
10200, Route du Preissac  
Rouyn-Noranda, QC  
CANADA J0Y 1C0

**Report Date: 2013/02/21**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B311462**

**Received: 2013/02/14, 10:17**

Sample Matrix: Air  
# Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Total & Fixed Dustfall	4	2013/02/21	2013/02/21	EINDSOP-00180	AMD 32020
Determination of Dustfall-mg/cm2/30 days	4	2013/02/21	2013/02/21		see department
Exposure (Number of days)	4	2013/02/19	2013/02/19		see department

\* 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, Customer Service  
Email: LManchak@maxxam.ca  
Phone# (780) 378-8500

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Total cover pages: 1

### RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		FP8126	FP8127	FP8128	FP8129		
Sampling Date		2013/01/12	2013/01/12	2013/01/12	2013/01/12		
	<b>UNITS</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Industrial</b>							
Exposure	days	26	26	26	26	1	6565713
<b>Dustfall Determination</b>							
Total Dustfall	mg	1	14	39	7	1	6585595
Total Dustfall (30 day)	mg/cm2/30day	0.020	0.192	0.554	0.102	0.001	6585596
Total Fixed Dustfall	mg	<1	12	37	4	1	6585595
Total Fixed Dustfall (30 day)	mg/cm2/30day	<0.001	0.170	0.520	0.057	0.001	6585596

RDL = Reportable Detection Limit



Maxxam Job #: B311462  
Report Date: 2013/02/21

Agnico Eagle Mines Ltd.  
Client Project #: 2013/01/12 - 2013/02/07  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

**General Comments**

**Results relate only to the items tested.**



Agnico Eagle Mines Ltd.  
Attention: MEADOWBANK ENVIRONMENT  
Client Project #: 2013/01/12 - 2013/02/07  
P.O. #: 82140  
Site Location: BAKER LAKE, NU

### Quality Assurance Report

Maxxam Job Number: PB311462

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	UNITS	QC Limits
6585595 OZ	Calibration Check	Total Dustfall	2013/02/21		101	%	N/A
	Method Blank	Total Dustfall	2013/02/21	<1		mg	
		Total Fixed Dustfall	2013/02/21	<1		mg	
	RPD [FP8126-01]	Total Dustfall	2013/02/21	NC		%	N/A
		Total Fixed Dustfall	2013/02/21	NC		%	N/A

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Calibration Check: A calibration standard analyzed at different times to evaluate on-going calibration accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

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## Validation Signature Page

Maxxam Job #: B311462

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Darren Funnell, Analyst I

=====

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# TECHNICAL MEMORANDUM

Agnico Eagle Mines Ltd: Meadowbank Division  
Baker Lake, Nunavut, X0C 0A0

---

**Date:** January 13, 2014

**Subject:** Evaluation of dustfall along the Meadowbank AWAR in 2013

**From:** Kevin Buck (Environment Superintendent), Ryan VanEngen (Environment Biologist) and Leilan Baxter (AEM Consultant)

---

In 2013, AEM conducted a study of dustfall along the all-weather access road (AWAR) at the Meadowbank site to determine whether impacts predicted in the Final Environmental Impact Statement (FEIS) are being exceeded. This memorandum presents the results of the study.

## 1. Introduction

### 1.1 Background

In accordance with NIRB Project Certificate No.004, AEM has conducted annual dustfall and air quality monitoring around the Meadowbank site since 2011. In 2012, AEM began a field study along the all-weather access road (AWAR) to assess the accuracy of predictions made in the initial environmental assessment (FEIS; Cumberland, 2005) with respect to impacts of dustfall in this area. The Terrestrial Ecosystem Impact Statement (Cumberland, 2005) indicated:

*“Potential effects from roads (e.g., all-weather access road)...will include ... reduced habitat effectiveness and habitat degradation due to dust and exhaust, and potential for increased contaminant loading in food sources (Auerbach et al, 1997; Fisk et al, 2003). With or without mitigation, these overall impacts in the LSA (local study area) are not expected to be significant.”*

Specifically, the impact assessment states that outside an assumed zone of influence (ZOI), the effect of dust would result in less than 1% change from background conditions. Therefore, the main objective of the AWAR dustfall study was to determine whether dustfall rates decline near background levels within the smallest denoted ZOI (100 m from the road). If so, it is assumed that dustfall is not affecting valued ecosystem components (VECs) outside the ZOI. If dustfall rates are exceeding background levels outside the ZOI, there is the potential for impacts to vegetation and wildlife to be higher than predicted (i.e. >1% change), and direct analyses of these VECs may be warranted (e.g. vegetation or breeding bird surveys).

### 1.2 Preliminary Study (2012)

A preliminary study of dustfall was conducted along the AWAR in 2012, which included sampling of two replicate transects along the road, and two clusters on the minesite. This initial study was used to assess methods, and assist in the design of the larger scale study to be completed in 2013. Results in 2012 indicated that the majority of dustfall occurs within 50 m of the road (the shortest distance sampled), as anticipated based on previously published studies (e.g. Walker and Everett, 1987). The average rate of dustfall at this distance was 1.13



mg/cm<sup>2</sup>/30d, and no samples exceeded Alberta Environment's industrial/commercial guideline of 1.58 mg/cm<sup>2</sup>/30d. Dustfall rates dropped to an average of 0.47 mg/cm<sup>2</sup>/30d at 100 m, but were notably variable, and half of the samples at this distance still exceeded Alberta Environment's recreational area guideline of 0.53 mg/cm<sup>2</sup>/30d. No significant difference was found between average dustfall at 100 m and 150 m, and no samples at 150 m exceeded the recreational area guideline. No analyses of background dustfall rates were conducted in this preliminary study, so it was not possible to determine whether FEIS predictions were exceeded.

Overall, maximum observed dustfall rates at AWAR locations without dust suppressant were more than four times lower than those observed on Ekati Diamond Mine haul roads after application of dust suppressants (Male and Nol, 2005). Despite much higher levels of dust deposition at Ekati, Male and Nol (2005) did not find a measurable effect of roads on the birds studied (Lapland longspurs). As anticipated, similar results were reported in the 2011 AWAR Meadowbank breeding bird survey (AEM, 2012). Since breeding birds (along with small mammals) have the smallest assumed zone of influence (100 m from the AWAR) in the impact assessment for terrestrial ecosystems (Cumberland, 2005), they would likely be the first species impacted if dust deposition is resulting in unanticipated effects.

### 1.3 2013 Study Objectives

The 2013 study aimed to confirm the spatial extent of dust deposition rates and compare results to background conditions to assess the accuracy of predictions in the initial environmental assessment (Cumberland, 2005b).

The objectives of the study conducted in 2013 were to:

1. Characterize the dustfall gradient in relation to distance from the AWAR and the Vault haul road at representative locations, including background conditions.
2. Relate results to predictions of impacts to vegetation and terrestrial habitat as described in the Terrestrial Ecosystem Impact Assessment (Cumberland, 2005).
3. Compare rates of dustfall with regulatory guidelines and effects values for northern species from the literature, where available.

## 2. Methods

### 2.1 Sample Collection and Analysis

Dustfall samples were collected in open vessels containing a purified liquid matrix provided by an accredited laboratory (Maxxam Analytics). Particles are deposited and retained in the liquid, which is then analyzed by the accredited laboratory for total and fixed (non-combustible) dustfall.

Dustfall canisters were deployed for the duration of August 10 – September 11, 2013, and calculated dustfall rates were normalized to 30 days (mg/cm<sup>2</sup>/30 days, per ASTM 1739-98).

ASTM (and Ontario MOE) methods suggest collection of the dustfall sample at 2-3 m height on a utility pole to prevent re-entrainment of particulates from the ground, and to reduce vandalism. Due to the difficulty of constructing and deploying stands to hold the sample containers in this remote location, the 2012 study compared dustfall at ground level and at 2 m height to inform future sampling method decisions. Based on these results which showed no

significant differences in total dustfall based on height, all sampling canisters were deployed at ground level in 2013.

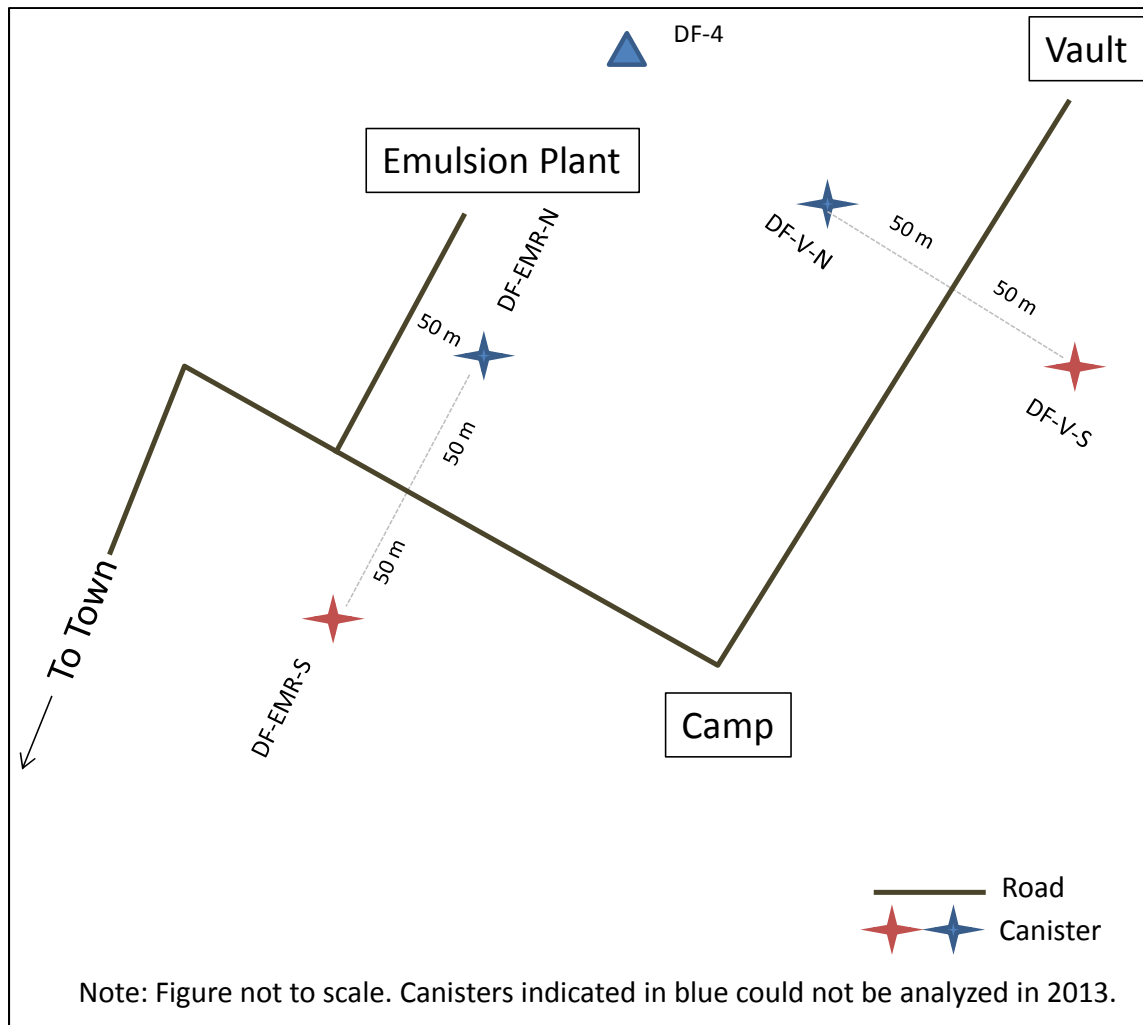
## 2.2 Sample Locations

The primary objective of the dustfall study was to characterize dust deposition along the AWAR, based on proximity to the roadway. To fulfill this objective, sampling canisters were deployed at 50 m, 100 m, 150 m, 300 m and 1000 m from both sides of the road (east and west) in two duplicated transects. Although all habitat within 100 m of the road was assumed to be lost in the terrestrial impact assessment, samples were collected beginning at 50 m in order to determine whether dustfall rates diminish to baseline within the smallest predicted zone of influence (ZOI) of 100 m. Samples were collected to a distance of 1000 m on the upwind side of the road to determine comparable background rates. A distance of 300 m from roadways has previously been found to represent the limit of impacts from road dust at sites under heavier use (Auerbach et al. 1997). Samples were collected at 300 m on the downwind side of the road only, to provide a conservative estimate of deposition at this distance. Sampling transects were located perpendicular to road segments that are relatively straight with few notable topographical features, in order to limit confounding factors that alter prevailing winds and create different micro-climates. Transects were located at km 78 (8 stations), to compare to results of the preliminary study in 2012, and at km 18 (8 stations), to provide a second full transect for dustfall characterization.

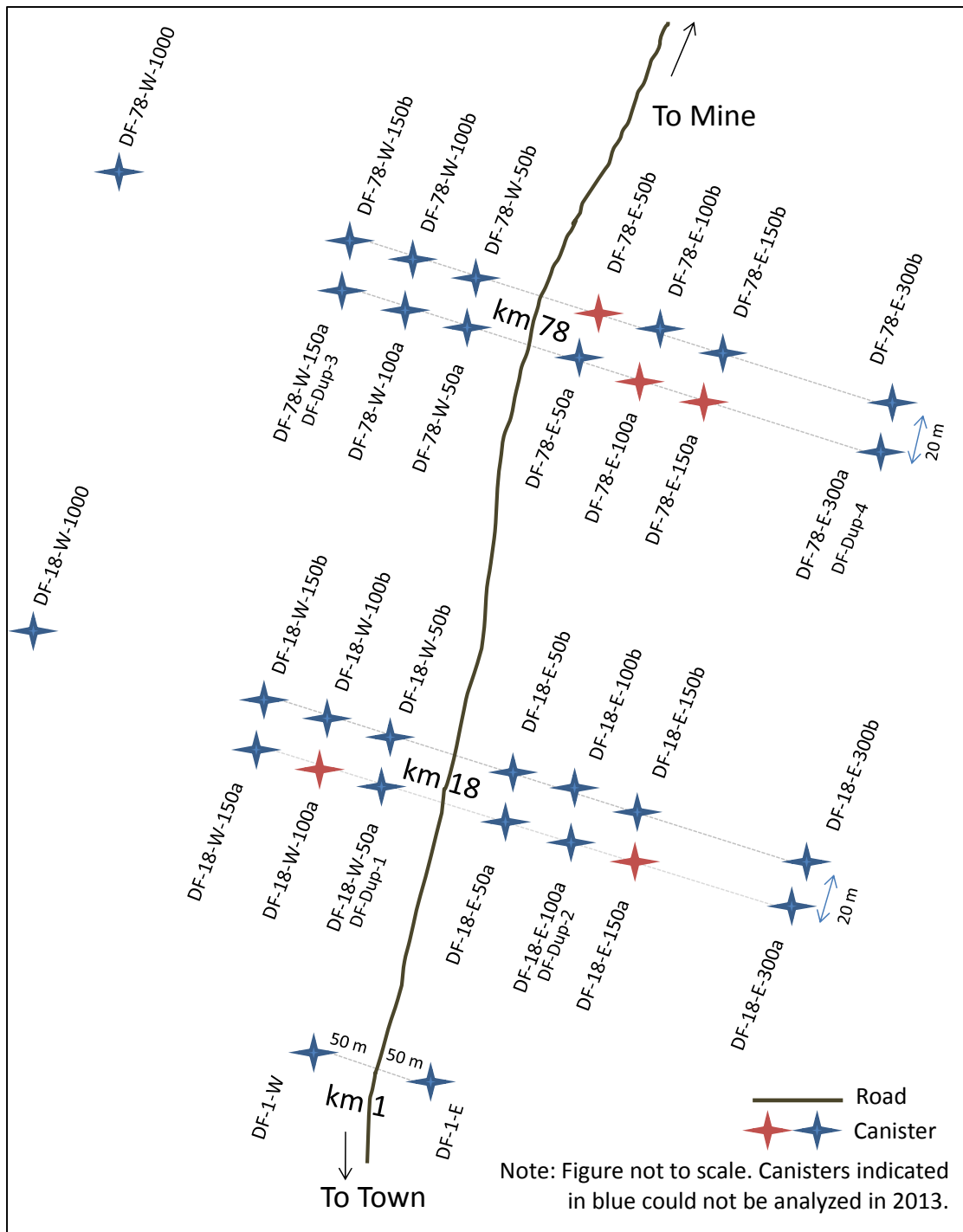
Canisters were also deployed at 50 m on either side of the road in three strategic locations to obtain preliminary information on dustfall rates -

1. Between Airplane Lake and the gatehouse at Baker Lake, to address concerns raised by the community of excess dust (2 samples).
2. Immediately south of the emulsion plant turn-off, because this area receives the highest traffic rates on the AWAR (2 samples).
3. Mid-way along the Vault haul road, in line with air quality station DF-4. This is a new roadway that was predicted in the FEIS to receive higher traffic rates than the AWAR, but is not yet fully operational (2 samples).

Although rocks were used to support the dust-collection canisters and prevent them from blowing over, only seven of the 35 canisters (plus four duplicates) were standing upright at the time of collection and could be analyzed. These are identified in red on Figures 1 and 2.



**Figure 1. Diagram of approximate dustfall canister locations on the Meadowbank site in 2013.**



**Figure 2. Diagram of approximate dustfall canister locations along the Meadowbank AWAR in 2013.**

## 2.3 QA/QC

### 2.3.1 Sample Handling

Sampling canisters and analytical services were provided by an accredited laboratory (Maxxam Analytics Inc.). Canisters were received and deployed by appropriately trained personnel. Sample collection containers remained sealed until they were installed at the specified sampling points. Once containers were installed, container lids will be removed and sampling commenced. All sample collection containers were labeled with time, date and sampling location. At the end of the sampling period, only upright containers were resealed and submitted to the laboratory for analysis. To avoid contamination or sample loss, no material was removed from the containers.

### 2.3.2 Field Duplicates

Duplicate samples were deployed at a rate of 10% in randomly chosen locations. Duplicate results were to be assessed using the relative percent difference (RPD) between measurements. The equation used to calculate a RPD is:

$$RPD = \frac{(A - B)}{((A + B)/2)} \times 100$$

where: A = analytical result

B = duplicate result

## 2.4 Data Analysis

Since only seven samples were able to be analyzed, results are compared by distance and location where possible. No standards for dustfall are available for Nunavut. Individual results of the total dustfall analysis are compared to Alberta Environment's ambient air quality guideline (February, 2013) for recreational areas of 0.53 mg/cm<sup>2</sup>/30d, and commercial/industrial area guideline of 1.58 mg/cm<sup>2</sup>/30d. These guidelines were developed in 1975 and the origin of their derivation could not be traced. These values are based on "nuisance", rather than the protection of environmental or human health (Laura Blair, AENV, pers.comm. March 2013) so, the guidelines are included to provide context only.

## 3. Results

Total and fixed dustfall rates for the samples that were remaining upright at the time of collection are provided in Table 1. Comparisons based on distance from the road, location and regulatory guidelines are provided below, however trends should be interpreted with caution due to the very low number of samples and minimal replication.

**Table 1. 30-d total and fixed dustfall rates at seven locations along the Meadowbank AWAR.**

Sample Name	Location	Distance from Road	Side of Road	Total Dustfall Rate (mg/cm <sup>2</sup> /30 d)	Fixed Dustfall Rate (mg/cm <sup>2</sup> /30 d)
DFV-S	Vault Road	50 m	South - Downwind	1.942	1.867
DF-18W-100A	km 18	100 m	West – Upwind	0.372	0.344
DF-18E-150A	km 18	150 m	East - Downwind	0.840	0.606
DF-78E-50B	km 78	50 m	East - Downwind	2.362	2.259
DF-78E-100A	km 78	100 m	East - Downwind	1.309	1.247
DF-78E-150A	km 78	150 m	East - Downwind	0.386	0.365
DF-EMR-S	Emulsion Plant	50 m	South - Downwind	1.178	1.123

### 3.1 Distance from Road

Three samples were obtained at 50 m from the road (all downwind), and dustfall rates were generally highest (mean = 1.83 mg/cm<sup>2</sup>/30 d) at this distance. Two samples were obtained at 100 m from the road (one upwind, and one downwind). While total dustfall rates in the 100 m upwind sample were the lowest observed anywhere (0.37 mg/cm<sup>2</sup>/30 d), rates in the downwind sample were comparable to 50 m samples (1.31 mg/cm<sup>2</sup>/30 d). Two samples were obtained at 150 m (both downwind), representing two of the three lowest values (0.39 and 0.84 mg/cm<sup>2</sup>/30 d).

### 3.2 Location

Contrary to expectations, samples collected in the highest traffic areas (EMR-S and DFV-S) were lower (1.18 and 1.94 mg/cm<sup>2</sup>/30 d) than at km 78 in the middle of the AWAR (78E-50; 2.36 mg/cm<sup>2</sup>/30 d) at the same distance from the road.

### 3.3 Year-over-Year Comparison

Samples taken at km 78 in 2013 can be compared to those obtained from the same locations in 2012 (Table 2). Dustfall rates in the two comparable samples at this location were higher in 2013 compared to 2012. This may be because of increased traffic rates, or reduced precipitation in 2013, but also may be due to natural variability. Dustfall rates in 2012 at 100 m on the downwind side of the road ranged by 0.6 mg/cm<sup>2</sup>/30 d (0.11 - 0.71 mg/cm<sup>2</sup>/30 d), which is similar to the difference between 2012 and 2013 samples at this location.

**Table 2. 2012 and 2013 dustfall rates in comparable locations along the AWAR.**

Sample Name	Distance from Road	Side of Road	2013 Total Dustfall Rate (mg/cm <sup>2</sup> /30 d)	2012 Total Dustfall Rate (mg/cm <sup>2</sup> /30 d)
DF-78E-50B	50 m	Downwind	2.362	1.469
DF-78E-100A	100 m	Downwind	1.309	0.710

### 3.1 Regulatory Guidelines

All samples at 100 m and 150 m, and one at 50 m were below the industrial area guideline of  $1.58 \text{ mg/cm}^2/30 \text{ d}$ . The 50 m samples at km 78 and the Vault Road were above this guideline. Two samples were also below the recreational area guideline of  $0.53 \text{ mg/cm}^2/30 \text{ d}$  (100 m upwind of the road at km 18, and 150 m downwind of the road at km 78).

## 4. Summary and Recommendations

The assessment of predicted impacts on the terrestrial ecosystem (TEIS) conducted as part of the FEIS included effects of dustfall due to AWAR traffic (Cumberland, 2005b). Specifically, the effect of dust on vegetation is considered, as well as indirect effects on wildlife. Despite predictions of continuous, long-term dust emissions, it was expected that this effect would not be significant, even without the use of mitigation measures such as minimizing traffic and implementing dust control. Specifically, the TEIS predicted that outside an assumed zone of influence (ZOI), the effect of dust would result in less than 1% change from background conditions.

In order to confirm this prediction, the main objective of this study was to determine whether dustfall rates decline to background levels within the smallest assumed ZOI (100 m from the road). If so, it is assumed that dustfall is not affecting VECs outside the ZOI. If dustfall rates are exceeding background levels outside the ZOI, there is the potential for impacts to vegetation and wildlife to be higher than predicted (i.e. >1% change), and direct analyses of these VECs may be warranted (e.g. vegetation or breeding bird surveys).

Since samples of background dustfall rates were not obtained in 2013 due to disrupted canisters, this objective could not be fulfilled, and the sampling program will be conducted again in 2014. The system used to fasten the canisters in place will be modified to help ensure more data is available. Furthermore, in conjunction with the screening level risk assessment vegetation sampling, the 2014 study will also evaluate the direct effects of potential contaminants in dust on vegetation, as well as indirect effects on wildlife.

In the meantime, AEM will continue to implement an onsite dust suppression program which includes:

- Continuous watering of mine site roads (including Vault haul road).
- Application of liquid calcium chloride along the highest-use segment of the AWAR (from the Meadowbank Gatehouse to the Exploration Camp).
- Watering of airstrip 30 min or less prior to arrival of aircraft, and 15 min or less prior to take-off.

## References

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Auerbach, N.A., Walker, M.D. and D. A. Walker 1997. Effects of roadside disturbance on substrate and vegetation properties in arctic tundra. *Ecological Applications*: Vol. 7, No. 1, pp. 218–235.

Cumberland (Cumberland Resources Ltd.), 2005. Meadowbank Gold Project- Terrestrial Ecosystem Impact Assessment. October 2005.

Fisk, A. T., Hobbs, K., and D. C.G. Muir. Editors, 2003. Contaminant Levels, trends and effects in the biological environment. Canadian Arctic Contaminants Assessment Report II Indian and Northern Affairs, Canada.

Male, S. and E. Nol. 2005. Impacts of roads associated with the Ekati Diamond Mine, Northwest Territories, Canada, on reproductive success and breeding habitat of Lapland longspurs. *Canadian Journal of Zoology* 83:1286-1296.

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## **Appendix A – Laboratory Analytical Reports**

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Your P.O. #: 82140  
Your Project #: 2013/08/10 - 2013/09/11  
Site Location: BAKER LAKE, NU

**Attention: MEADOWBANK ENVIRONMENT**

Agnico Eagle Mines Ltd.  
Meadowbank Division  
10200, Route du Preissac  
Rouyn-Noranda, QC  
CANADA J0Y 1C0

**Report Date: 2013/09/30**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B386296**

**Received: 2013/09/23, 11:00**

Sample Matrix: Air  
# Samples Received: 7

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Total & Fixed Dustfall	7	2013/09/27	2013/09/27	EINDSOP-00180	AMD 32020
Determination of Dustfall-mg/cm2/30 days	7	2013/09/27	2013/09/27		see department
Exposure (Number of days)	7	2013/09/27	2013/09/27		see department

\* 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, Customer Service  
Email: LManchak@maxxam.ca  
Phone# (780) 378-8500

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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.

Total cover pages: 1

### RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		HP1892	HP1893	HP1894	HP1895	HP1915		
Sampling Date		2013/08/10	2013/08/10	2013/08/10	2013/08/10	2013/08/10		
	<b>UNITS</b>	<b>DFV-S</b>	<b>DF-18W-100A</b>	<b>DF-18E-150A</b>	<b>DF-78E-50B</b>	<b>DF-78E-100A</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Industrial</b>								
Exposure	days	32	32	32	32	32	1	7195928
<b>Dustfall Determination</b>								
Total Dustfall	mg	170	32	73	210	110	1	7195925
Total Dustfall (30 day)	mg/cm2/30day	1.942	0.372	0.840	2.362	1.309	0.001	7195926
Total Fixed Dustfall	mg	160	30	53	200	110	1	7195925
Total Fixed Dustfall (30 day)	mg/cm2/30day	1.867	0.344	0.606	2.259	1.247	0.001	7195926

RDL = Reportable Detection Limit

Maxxam ID		HP1916	HP1917		
Sampling Date		2013/08/10	2013/08/10		
	<b>UNITS</b>	<b>DF-78E-150A</b>	<b>DF-EMR-S</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Industrial</b>					
Exposure	days	32	32	1	7195928
<b>Dustfall Determination</b>					
Total Dustfall	mg	34	100	1	7195925
Total Dustfall (30 day)	mg/cm2/30day	0.386	1.178	0.001	7195926
Total Fixed Dustfall	mg	32	98	1	7195925
Total Fixed Dustfall (30 day)	mg/cm2/30day	0.365	1.123	0.001	7195926

RDL = Reportable Detection Limit



Maxxam Job #: B386296  
Report Date: 2013/09/30

Agnico Eagle Mines Ltd.  
Client Project #: 2013/08/10 - 2013/09/11  
Site Location: BAKER LAKE, NU  
Your P.O. #: 82140

**General Comments**

**Results relate only to the items tested.**



Agnico Eagle Mines Ltd.  
Attention: MEADOWBANK ENVIRONMENT  
Client Project #: 2013/08/10 - 2013/09/11  
P.O. #: 82140  
Site Location: BAKER LAKE, NU

### Quality Assurance Report

Maxxam Job Number: PB386296

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	UNITS	QC Limits
7195925 OZ	Calibration Check	Total Dustfall	2013/09/27		99	%	N/A
	Method Blank	Total Dustfall	2013/09/27	<1		mg	
		Total Fixed Dustfall	2013/09/27	<1		mg	
	RPD [HP1892-01]	Total Dustfall	2013/09/27	0.4		%	N/A
		Total Fixed Dustfall	2013/09/27	0.4		%	N/A

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Calibration Check: A calibration standard analyzed at different times to evaluate on-going calibration accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Maxxam Analytics International Corporation o/a Maxxam Analytics Edmonton: 6744 - 50th Street T6B 3M9 Telephone(780) 378-8500 FAX(780) 378-8699



## Validation Signature Page

Maxxam Job #: B386296

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

A handwritten signature in black ink, appearing to read "Darren Funnell", is written over a horizontal line.

Darren Funnell, Analyst I

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