Appendix E3

Report: 2012 Stack Emission

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Report Stack sampling tests



Stack sampling tests Outlet of the incinerator

Presented to: Agnico-Eagle Mines Ltd.

Our Reference: R12-089R01 (12-076-05763)

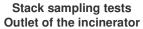
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Copy: 1 of 1

Version No.: 1

Page 1









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Author: Pierre Duguay, P. Eng.

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Page No.: 2 of 32 Version's date: November 2012

Version No.:





TABLE OF CONTENTS

1	S	UMMARY	5
	1.1 1.2	PURPOSES OF THE STUDY	5 6
2	IN	NTRODUCTION	8
	2.22.32.4	OBJECTIVE AND TEST MATRIX SCHEDULE OF TEST WORK PROJECT PERSONNEL. PROCESS OPERATING CONDITIONS. APPLICABLE STANDARDS.	8 9
3	M	IETHODS	. 11
	3.2 3.3 3.4 3.5	SAMPLING METHODS SAMPLING ACCEPTANCE CRITERIA PARTICULATE MATTER (PM), HYDROGEN CHLORIDE AND METALS SEMI-VOLATILE ORGANIC COMPOUNDS (SVOC) GAS MOLECULAR WEIGHT GAS TEMPERATURE, MOISTURE CONTENT AND FLOWRATE	. 11 . 12 . 14 . 18
4	S	AMPLED SOURCE	. 19
	4.2	OUTLET OF THE INCINERATOR SAMPLING EQUIPMENT QA/QC REPORT	. 19
5	T.	ABLES OF RESULTS	. 22
	APF	PENDIX 1 OUTLET OF THE INCINERATOR	

Document No.: R12-089R01

Author: Pierre Duguay, P. Eng.

Client: Agnico-Eagle Mines Ltd.

Page No.: 3 of 32
Version's date: November 2012

Version No.:

1





LIST OF TABLES

Table 1.1-1 – Overall Test Matrix	5
Table 1.1-2 – Sampling procedures	6
Table 1.2-1 – Summary of results	6
TABLE 1.2-2 – SUMMARY OF RESULTS (CONT'D)	7
Table 2.1-1 – Overall Test Matrix	8
Table 2.2-1 – Test schedule	
TABLE 2.3-1 – KEY PERSONNEL INVOLVED IN THE PROJECT	
Table 2.5-1 – Applicable standards	
TABLE 3.1-1 – SAMPLING METHODS	
TABLE 3.2-1 – SAMPLING VALIDITY CRITERIA	
TABLE 3.3-1 - MAIN COMPONENTS OF THE SAMPLING SYSTEM - PM / HCL / METALS	
TABLE 3.3-2 - SAMPLE RECOVERY - PM / HCL / METALS	
TABLE 3.3-3 – SAMPLES ANALYSES – PM / METALS	
TABLE 3.4-1 – MAIN COMPONENTS OF THE SAMPLING SYSTEM – SVOC	
TABLE 3.4-2 – SAMPLE RECOVERY – SVOC	
TABLE 3.5-1 – SAMPLES ANALYSES – SVOO	
TABLE 4.1-1 – OUTLET OF THE INCINERATOR	_
TABLE 4.2-1 — SAMPLING EQUIPMENT FOR PM / HCL / METALS TRAIN	
TABLE 4.2-2 – SAMPLING EQUIPMENT FOR SVOC TRAIN	
Table 4.3-1 – Gas flow conditions	
TABLE 4.3-2 – SAMPLING EQUIPMENT AND PROCEDURES	
Table 4.3-3 – Isokineticity	21
LIST OF TABLES OF RESULTS	
# 1 : Detailed results of particulate matter (PM) and HCI emissions	. 23
# 2 : Summary results of metals emissions	. 24
# 3 : Detailed results of metals emissions – test # 1	. 27
# 4 : Detailed results of metals emissions – test # 3	28
# 5 : Summary results of SVOC emissions	
# 6 : Detailed results of PCDD/F emissions – test # 1	
#7: Detailed results of PCDD/F emissions – test #3	. 31

Document No.: R12-089R01

Author: Pierre Duguay, P. Eng.

Client: Agnico-Eagle Mines Ltd.

Page No.: 4 of 32 Version's date: November 2012

Version No.:





1 SUMMARY

Exova Canada Inc. was requested by **Agnico-Eagle Mines Itd. – Meadowbank Division** to sample atmospheric emissions at the outlet of the incinerator for its plant located in Baker Lake, Nunavut at the following address.

Agnico-Eagle Mines Ltd. - Meadowbank Division

P.O. Box 540, Baker Lake, Nunavut X0C 0A0

Contact: Mr. Jeffrey Pratt, Environmental coordinator

Telephone: (819) 759-3555, ext. 6728

Cell: (819) 856-1475

Email: Jeffrey.pratt@agnico-eagle.com

1.1 Purposes of the study

The tests were done to demonstrate the performance of the incinerator to meet the standards for mercury (Hg) and dioxins and furans (PCDD/F).

Field testing was carried out on October 2 and 3, 2012 by a team of two technicians. Stack gas properties such as velocity, volumetric flow rates, temperature, moisture content, molecular weight and pressure were all measured concurrently to stack sampling. Three runs were performed for each contaminant. However test # 2 was discarded because the burner operation was not optimal. The test matrix is shown in the following table.

Table 1.1-1 - Overall Test Matrix

Dellutente Compling methods		
Pollutants	Sampling methods	
Particulate matter (PM)	EPS 1/RM/8	
Anion - Hydrogen chloride (HCI)	EPS 1/RM/1	
Metals	EPA 29	
SVOC (PCDD/F)	EPS 1/RM/2	

The list of metals includes Al, Sb, As, Ba, Be, Bi, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mn, Hg, Mo, Ni, P, K, Se, Si, Ag, Na, Sr, Te, Tl, Sn, Ti, U, V, Zn.

The manual sampling procedure of particulate matter was as shown in table 1.1-2 hereafter.

Document No.:R12-089R01Page No.:5 of 32Author:Pierre Duguay, P. Eng.Version's date:November 2012Client:Agnico-Eagle Mines Ltd.Version No.:1





Table 1.1-2 – Sampling procedures

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Sources	# of sampling points (total)	# of sampling points (per traverse)	Sampling time per point (min.)	Total sampling time (min)	Notes
PAM # 1, 2, 3	36	18	5	180	Isokinetic adjustments each 5 minutes
SVOC # 1, 2, 3	36	18	5	180	Isokinetic adjustments each 5 minutes

1.2 Summary of results

All the tests results are summarized in the summary tables appearing below and on the next page and represent the average of two tests. Complete results of the sampling program are presented in section 5.0 of this report.

A comprehensive internal Quality Assurance/Quality Control (QA/QC) plan was designed and implemented by Exova regarding the gaseous emissions. The quality of the sampling data and results is good for all measurements. All the data are consistent and reliable.

The operating conditions were maintained stable throughout each day of the test program except during PAM and SVOC tests # 2. At the beginning of these tests, there was a problem with one burner.

For this project, the applicable standards are shown below with the tests results. The applicable standards for mercury (Hg) and for dioxins and furans (PCDD/F) were met during tests # 1 and # 3. All the results of test # 2 are not presented in this report because the burner operation was not optimal during this run.

Table 1.2-1 – Summary of results

Contaminants	Test results	Standards
Mercury (Hg)	< 0.10 μg / Rm³ @ 11 % v/v O ₂	20 μg / Rm³ @ 11 % v/v O₂
Dioxins and furans (PCDD/F)	39.9 pg TEQ / Rm³ @ 11 % v/v O ₂	80 pg TEQ / Rm³ @ 11 % v/v O ₂

R: Reference conditions, 25 °C, 101.3 kPa, dry basis.

Document No.:R12-089R01Page No.:6 of 32Author:Pierre Duguay, P. Eng.Version's date:November 2012Client:Agnico-Eagle Mines Ltd.Version No.:1





Table 1.2-2 – Summary of results (Cont'd)

Parameters	Summary of results (PAM train	SVOC train
Concentrations			
PM	(mg/Rm³)	14.1	
HCI	(mg/Rm³)	43.5	
Hg	(μg/Rm³)	< 0.07	
PCDD/F	(pg/Rm³ TEQ)		29.1
Emission rates			
PM	(kg/h)	0.098	
HCI	(kg/h)	0.302	
Hg	(mg/h)	< 0.503	
PCDD/F	(ng/h TEQ)		202.3
Stack gas propert	ies		
Velocity	(m/s)	7.6	7.6
Actual flow rate	(m³/h)	20055	20123
Reference flow rate	e (Rm³/h)	6926	6950
Temperature	(°C)	567	563
Moisture	(% v/v, wet basis)	3.8	4.2
Static pressure	(inch H ₂ O)	- 0.18	- 0.18
O ₂	(% v/v, dry basis)	13.68	13.68
CO ₂	(% v/v, dry basis)	3.78	3.78
СО	(ppmv, dry basis)	16	16
Average isokinetici	ty (%)	98.5	97.5

R : Reference conditions, 25 $^{\circ}$ C, 101.3 kPa and dry basis.

Document No.: R12-089R01

Author: Pierre Duguay, P. Eng.

Client: Agnico-Eagle Mines Ltd.

Page No.: 7 of 32 Version's date: November 2012

1

Version No.:





2 INTRODUCTION

Exova Canada Inc. was requested by Agnico-Eagle Mines Itd. – Meadowbank Division to sample the atmospheric emissions at the outlet of an incinerator for its plant located in Baker Lake, Nunavut at the following address.

The report describes the purposes of the study, the field work schedule, the sampling location and the sampling methods employed. All the results are summarized in table form. All field data, analytical results and calibration reports are appended.

2.1 Objective and test matrix

A comprehensive stack testing program was adopted by Exova to determine qualitatively and quantitatively the contents of the stack emissions. Table # 2.1-1 shows the parameters measured during the test program. Three runs were performed for each contaminant during the sampling program. However test # 2 was discarded because the burner operation was not optimal.

Table 2.1-1 – Overall Test Matrix

Pollutants	Sampling methods
Particulate matter (PM)	EPS 1/RM/8
Anion - Hydrogen chloride (HCI)	EPS 1/RM/1
Metals	EPA 29
SVOC (PCDD/F)	EPS 1/RM/2

The list of metals includes Al, Sb, As, Ba, Be, Bi, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mn, Hg, Mo, Ni, P, K, Se, Si, Ag, Na, Sr, Te, Tl, Sn, Ti, U, V, Zn.

2.2 Schedule of test work

The sampling program was carried out on October 2 and 3, 2012 by a team of two technicians. Table # 2.2-1 appearing in this section shows the test schedule.

Document No.: R12-089R01 Page No.: 8 of 32 Author: Pierre Duguay, P. Eng. Version's date: November 2012 1

Client: Agnico-Eagle Mines Ltd. Version No.:





Table 2.2-1 - Test schedule

Source	Date	Time	Test
	October 2, 2012	15:15 – 18:30	PAM # 1
	October 2, 2012	15:30 – 18:40	SVOC # 1
Outlet of the	October 3, 2012	07:30 – 11:45	PAM # 2 - Discarded
incinerator	October 3, 2012	07:30 – 11:45	SVOC # 2 - Discarded
	October 3, 2012	15:20 – 18:40	PAM # 3
	October 3, 2012	15:15 – 18:30	SVOC #3

2.3 Project personnel

The following is a list of the direct contributors to this test program.

Table 2.3-1 - Key personnel involved in the project

Name Experience and responsibilities

Agnico-Eagle Mines Ltd.

- Mr. Jeffrey Pratt Environmental coordinator
 - > Project coordinator.

Exova Canada Inc.

- Mr. Benoît Bouchard, Technician
 - PAM and SVOC sampling.
- Mr. René Quirion-Blais, Technician
 - > Assistance at the stack.
- Mr. Christian St-Pierre, Chemist
 - Analyses of PM samples.
- Mr. Dominic Charland, ChemistAnalyses of PM samples.
 - 7 ...a., 555 5. 1 ... 5a...p.55.
- Mr. Pierre Duguay, P.Eng. Supervisor

 > Report writing.
- Mr. Claude Bélanger, Chemist Operations manager
 - Report verification.

Agat Laboratories

- Mr. Marc-André Desjardins Chemist
 - Analyses of SVOC samples.

Document No.:R12-089R01Page No.:9 of 32Author:Pierre Duguay, P. Eng.Version's date:November 2012Client:Agnico-Eagle Mines Ltd.Version No.:1





2.4 Process operating conditions

Process operating conditions of the incinerator were under Agnico-Eagle's responsibility. The operating conditions were maintained stable throughout each day of the test program except during PAM and SVOC tests # 2. At the beginning of these tests, there was a problem with one burner.

2.5 Applicable standards

For this project, the applicable standards are shown below.

Table 2.5-1 – Applicable standards

Contaminants	Standards
Mercury (Hg)	20 μg / Rm³ @ 11 % v/v O ₂
Dioxins and furans (PCDD/F)	80 pg TEQ / Rm³ @ 11 % v/v O ₂

R: Reference conditions, 25 °C, 101.3 kPa, dry basis.

Document No.: R12-089R01

Author: Pierre Duguay, P. Eng.

Client: Agnico-Eagle Mines Ltd.

Page No.: 10 of 32 Version's date: November 2012

1

Version No.:





3 METHODS

3.1 Sampling methods

The following sections give more details on the stack sampling methods used during the test program and their application.

Table 3.1-1 - Sampling methods

Parameters	Methods	Sampling duration (min.)
Manual sampling methods		
Temperature	Thermometer or thermocouple	Ponctual
Gas flow	SPE 1/RM/8, method B – Environment Canada Pond	
O ₂ , CO ₂ , CO	SPE 1/RM/8, method C – Environment Canada Ponc	
Moisture content	SPE 1/RM/8, method D – Environment Canada	Ponctual
Particulate matter (PM)	SPE 1/RM/8, method E – Environment Canada	
Anions (HCI)	SPE 1/RM/1 – Environment Canada	
Metals	Method 29 - USEPA	
SVOC	SPE 1/RM/2 – Environment Canada	180

3.2 Sampling acceptance criteria

Isokinetic sampling means that the linear velocity of the stack gases entering the nozzle of the sampling probe is equal to the stack gas velocity at the sampling point. Acceptance criteria for a sampling run related to the reference methods that are used are as in the following table.

Table 3.2-1 – Sampling validity criteria

Parameters / Methods	Acceptance criteria
PM / Anion / Metals / SPE 1/RM/8	3 – Environment Canada & 29 - USEPA
SVOC / SPE 1/RM/2 – Environme	ent Canada

Document No.:R12-089R01Page No.:11 of 32Author:Pierre Duguay, P. Eng.Version's date:November 2012Client:Agnico-Eagle Mines Ltd.Version No.:1





3.3 Particulate matter (PM), hydrogen chloride and metals

Particulate matter (PM), hydrogen chloride (HCl) and metals were sampled in accordance with the requirements of Environment Canada EPS 1/RM/8 sampling method entitled: "Reference methods for source testing: measurement of releases of particulate from stationary sources". This method was combined with Environment Canada EPS 1/RM/1 sampling method entitled: "Reference methods for source testing: measurement of releases of hydrogen chloride from stationary sources" and USEPA method 29 entitled "Metals emissions from stationary sources" in order to allow for anion and metals sampling. Sampling lasted 180 minutes and a minimal volume of at least 2.80 Rm³ was sampled for each run. Three PM / HCl / metals tests were conducted simultaneously to the SVOC tests during each run.

Particulate matter (PM), anion (HCI), and metals (including mercury) are sampled isokinetically using a single sampling train. This is recognized as the standard method for obtaining representative samples of particulate matter.

Two complete sampling trains were prepared for this project and were transported to the worksite. Sampling nozzles, pitot tubes, dry gas meters and orifice flow meters were calibrated in accordance with the Environment Canada testing code. A standard Method 5 sampling module was used, with a 5 foot probe with a glass liner. The sampling train was as follows.

Table 3.3-1 – Main components of the sampling system – PM / HCl / metals

Components	Components Description		
Sampling probe			
a stainless steel wasthis probe is faster	ozzle of a precisely measured diameter to allow isokinetic sampling; ater-cooled probe with a heated glass liner to avoid moisture condensation; led to an "S" type Pitot tube for gas velocity measurement and to a emperature measurement.		
Sampling train			
A 0.3 µm porosity i	ore-weighted quartz filter mounted on an accurate holder and placed in a		

- A 0.3 µm porosity pre-weighted quartz filter mounted on an accurate holder and placed in a heated oven to avoid moisture condensation;
- eight impingers placed in series and containing :
- > # 1 and # 2: 100 ml demineralized water;
- # 3 and # 4: 100 ml HNO₃ (5%) / H₂O₂ (10%) solution;
- > #5: empty;
- # 6 and # 7: 100 ml KMnO₄ (4%) / H₂SO₄ (10%) solution;
- # 8: 200 g silica gel ;
- > impingers are placed in an ice bath to condense all the flue gas moisture.

Control unit

- A diaphragm leak free vacuum pump;
- a dry gas meter ;
- an orifice flow meter;
- probe and oven temperature controllers;
- temperature display (stack, gas meter, impingers, resin).

Document No.:R12-089R01Page No.:12 of 32Author:Pierre Duguay, P. Eng.Version's date:November 2012Client:Agnico-Eagle Mines Ltd.Version No.:1



At the end of each sampling run the sampling train was brought back to the field laboratory to process with sample recovery. The procedure followed for sample recovery is as in the following table.

Table 3.3-2 – Sample recovery – PM / HCl / metals			
Components Description			
Nozzle a	Nozzle and probe		
	The nozzle and probe are rinsed and brushed with acetone;		

- the rinses are kept in polyethylene with a Teflon lid;
- > the nozzle and probe are rinsed and brushed with the HNO₃ 0.1 N solution;
- the rinses are kept in another polyethylene container with a Teflon lid.

Filter

- > The filter is placed in a plastic petri dish;
- > the pieces of the filter stuck to the rubber are carefully replaced with the filter.

Impingers # 1 and # 2

- The volume of solution is measured for moisture content determination;
- > the solution is transferred in a polyethylene container with a Teflon lid;
- the glassware is rinsed with demineralized water;
- > the rinses are added to the same container in which the impingers solution have been placed;
- the solution is acidified.

Impingers # 3 and # 4

- The volume of the solution is measured for moisture content determination :
- > the solution is transferred in a polyethylene container with a Teflon lid;
- the glassware is rinsed with the HNO₃ solution;
- > the rinses are added to the same container in which the impingers solution have been placed:
- > the total volume of the solution is noted.

Impingers # 5, # 6 and # 7

- The volume of the solution is measured for moisture content determination;
- the solution is transferred in an amber glass container with a Teflon lid;
- the glassware is rinsed with the acidified permanganate solution;
- > the rinses are added to the same container in which the impingers solution have been placed;
- the total volume of the solution is noted.

Impinger #8

> The silica gel is weighted in order to determine the moisture content.

Analyses of the different components of the sampling train were done as in the following table.

Exova performed the analyses for particulate matter on the probe wash and on the filter. Exova was responsible as well for the metals analyses.

Document No.:R12-089R01Page No.:13 of 32Author:Pierre Duguay, P. Eng.Version's date:November 2012Client:Agnico-Eagle Mines Ltd.Version No.:1





1

Table 3.3-3 – Samples analyses – PM / metals

Components	Description
Components	Descript

Nozzle and probe

- Washing of the nozzle and probe are evaporated to dryness;
- The residue's weight is noted constitutes one part of the particulate matter.

Filter

- The filter is placed in a dessiccator for a period of 24 hours:
- the filter is weighted and the weight is noted;
- the residue constitutes another part of the particulate matter.

Particulate matter and HNO₃ 0.1 N washings of probe-nozzle and filter holder front half

➤ particulate matter are combined with the HNO₃ washings for digestion and analysed for metals.

Impingers # 1 and # 2

Part of the acidified solution is taken and analysed for HCl and metals content.

Impingers # 3 and # 4

Part of the HNO₃ solution is taken and analysed for metals content.

<u>Impingers # 5, # 6 and # 7</u>

Part of the acidified permanganate solution is taken and analysed for mercury content.

Impinger #8

No analysis is performed on this component.

3.4 Semi-volatile organic compounds (SVOC)

Semi-Volatile Organic Compounds (SVOC) are defined as organic compounds with boiling points greater than 100 °C. This class of compounds includes PCDD (PolyChlorinated Dibenzo p Dioxins), PCDF (PolyChlorinated DibenzoFurans), CP (ChloroPhenols), CB (ChloroBenzenes), PCB (PolyChlorinated Biphenyls) and PAH (Polycyclic Aromatic Hydrocarbons).

SVOCs were sampled in accordance with the requirements of Environment Canada EPS 1/RM/2 sampling method entitled: "Reference Method for Source Testing: Measurement of Releases of Selected Semi-volatile Organic Compounds from Stationary Sources ". For this project SVOCs included polychlorinated dibenzo-p-dioxins (PCDD) and polychlorinated dibenzofurans (PCDF). Sampling lasted 180 minutes and a minimal volume of at least 3.00 Rm3 were sampled for each run. At the outlet of the incinerator, three SVOC tests were conducted.

Document No.: R12-089R01 Page No.: 14 of 32 Author: Pierre Duguay, P. Eng. Version's date: November 2012 Client: Agnico-Eagle Mines Ltd. Version No.:



Five (5) train glassware sets were cleaned and one common rinse was analyzed for proofing. Three (3) of these trains were used for testing, one (1) was used as field blank and the remaining one was kept as spares.

A standard Method 5 sampling module was used, with a 5 foot borosilicate lined (proofed) probe. Sampling nozzles, pitot tubes, dry gas meters and orifice flow meters are calibrated in accordance with the EPS testing code.

Sampling train was assembled every day for the test to be held on the same day. Two rinses (Acetone & Hexane – 3 times each) were done before each test. The sampling train was as in the following.

Table 3.4-1 – Main components of the sampling system – SVOC

Components	Description
Sampling probe	

- A stainless steel nozzle of a precisely measured diameter to allow isokinetic sampling;
- > a stainless steel water-cooled probe with a heated glass liner to avoid moisture condensation;
- this probe is fastened to an "S" type Pitot tube for gas velocity measurement and to a thermocouple for temperature measurement.

Sampling train

- A 0.3 μm porosity pre-weighted fiber glass filter mounted on an accurate holder and placed in a heated oven to avoid moisture condensation ;
- a condenser;
- a XAD-2 resin cartridge;
- a condensate trap ;
- three impingers placed in series and containing :
- # 1: 100 ml ethylene glycol;
- # 2 : empty :
- # 3: 200 g silica gel;
- > the impingers are placed in an ice bath to condense all the flue gas moisture.

Control unit

- A diaphragm leak free vacuum pump;
- a dry gas meter;
- > an orifice flow meter;
- probe and oven temperature controllers;
- temperature display (stack, gas meter, impingers, resin).

At the end of each sampling run the sampling train was brought back to the field laboratory to process with sample recovery. The procedure followed for sample recovery is as in the following table. Except for the filter, all the sampling train's components were first rinsed three times with acetone and then three times with hexane. After recovery was completed, all samples were clearly documented in lab journals, with each sample container clearly labelled, and stored in a refrigerator.

Document No.:R12-089R01Page No.:15 of 32Author:Pierre Duguay, P. Eng.Version's date:November 2012Client:Agnico-Eagle Mines Ltd.Version No.:1





Along with one of the three SVOC tests, a blank train has been taken to the stack sampling site and left untouched for the duration of the test. At the end of the test, a volume of ambient air equal to the sum of all leak check volumes during the SVOC test was run through the blank train, according to the requirements of reference method EPS 1/RM/2.

The blank train was recovered in the field laboratory in the same manner as the compliance test trains. The field blank train has been analysed by Agat. Because they each constitute a part of the blank train, solvents, reactives, filters and the XAD-2 resin were not sampled and analysed as individual blanks. The train analysis was performed as per methods EPS 1/RM/3, EPS 1/RM/23 and NITEP/Mid Connecticut Combustion Test Methodology for Organic Analysis.

Table 3.4-2 - Sample recovery - SVOC

	Components	Description
--	------------	-------------

Nozzle, probe and front half of filter holder

- Each component is rinsed three times and brushed with acetone and then three times with hexane;
- all the rinses are kept in amber glass container with a Teflon lid.

<u>Filter</u>

- > The filter is carefully removed from filter holder and deposited on a pre-cleaned aluminum foil;
- > the pieces of the filter stuck to the rubber are carefully replaced with the filter;
- > the filter is folded in half and placed in a pre-cleaned glass petri dish.

Back half of filter holder and condenser

- > The condenser is weighted in order to determine the moisture content:
- each component is soaked 5 minutes each with acetone and hexane;
- > each component is rinsed three times with acetone and then three times with hexane;
- > all the rinses are kept in amber glass container with a Teflon lid.

Resin cartridge

- > The cartridge is weighted in order to determine the moisture content;
- both ends of the cartridge are sealed;
- > the whole tube is wrapped with an aluminum foil.

Condensate trap and impinger # 1

- Each component is weighted in order to determine the moisture content:
- the solution of each container is transferred into a pre-cleaned amber glass bottle;
- > each component is rinsed three times each with HPLC water :
- the rinses are added into the same container.

All back half glassware excluding resin cartridge

- Each component including connectors are rinsed three times each with acetone and hexane;
- > all the rinses are kept into a pre-cleaned glass amber bottle.

Impingers # 2 and # 3

Each component is weighted in order to determine the moisture content.

Document No.:R12-089R01Page No.:16 of 32Author:Pierre Duguay, P. Eng.Version's date:November 2012Client:Agnico-Eagle Mines Ltd.Version No.:1





Procedures in Environment Canada's Reports EPS 1/RM/3 and EPS 1/RM/23 were followed by Agat. All glassware was rinsed (with acetone and hexane) on site prior to usage, as per EPS 1/RM/2. SVOC samples were treated as one combined extract per test. Front and back halves of the sampling trains were not analyzed separately. The following analyses were done by the laboratory.

Table 3.4-3 - Samples analyses - SVOC

Components	Description
<u>Proofing</u>	

1 analysis for PCDD/F (1 combined proof rinse for all 5 trains glassware, XAD resin + filters).

Laboratory blank

> 1 analysis as part of the lab internal quality control.

Field blank

1 analysis for PCDD/F.

Samples

> 3 analyses (1 analysis per train) for PCDD/F.

The proofing procedures detailed in Environment Canada's Report EPS 1/RM/2 entitled "Reference Method for Source Testing: Measurement of Releases of Selected Semi Volatile Organic Compounds from Stationary Sources" dated June 1989 were followed. These procedures have been carried out several times by the personnel assigned to this study.

Items cleaned by Exova: probe glass liners, all train glassware, petri dishes used for storing

filters, XAD-2 traps and sample containers.

Items cleaned by Agat: XAD-2 resin, glass wool and filters.

All solvents and reagents used in this project were supplied by Exova except for the Amberlite XAD-2 resin and glass wool which were supplied by Agat. Exova's and Agat's last rinsings were combined to produce 1 final sample for proofing. One proofing analysis was carried out by Agat.

Document No.:R12-089R01Page No.:Author:Pierre Duguay, P. Eng.Version's date:Client:Agnico-Eagle Mines Ltd.Version No.:

Version No.:

17 of 32

November 2012



3.5 Gas molecular weight

Gas molecular weight was determined by measuring O₂, CO₂ and CO in accordance with the requirements of Environment Canada EPS 1/RM/8 sampling method entitled: "Reference methods for source testing: measurement of releases of particulate from stationary sources".

All system's components in contact with the stack gas were made of stainless steel. The gas composition at the sampling site was measured by connecting the analyser to the exhaust of the control unit. Specifications of the analyser are as in the following table.

Table 3.5-1 – Specifications of the analyser used for gas molecular weight determination

Pollutant	O_2	CO ₂	CO
Measuring principle	Electrochemical cell	Thermoconductivity cell	Electrochemical cell
Instrument	Nova 376	Nova 376	Nova 376
Measuring range	0 – 25 % v/v	0 – 20 % v/v	0 – 4 % v/v

3.6 Gas temperature, moisture content and flowrate

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

Document No.:R12-089R01Page No.:18 of 32Author:Pierre Duguay, P. Eng.Version's date:November 2012Client:Agnico-Eagle Mines Ltd.Version No.:1





SAMPLED SOURCE 4

4.1 Outlet of the incinerator

Sampling was conducted at the outlet of the incinerator. A description of the sampling location is shown below.

Table 4.1-1 – Outlet of the incinerator

Parameter	Value
Stack inside diameter at the sampling site	38.0"
Length of sampling ports	10.0"
No. of straight duct diameters upstream from the sampling ports	5.0 D
No. of straight duct diameters downstream of the sampling ports	2.0 D
No. of sampling traverses	2
Total no. of sampling points per sampling traverse	18
Total no. of sampling points per test	36
Sampling time per point (minutes)	5

4.2 Sampling equipment

The sampling equipment used for particulate matter (PM) / hydrogen chloride (HCI) / metals testing and for SVOC testing are described in the following tables.

Table 4.2-1 – Sampling equipment for PM / HCI / metals train

Parameter	Test # 1	Test # 3
Sampling module	L1	L1
Gas meter factor (γ)	0.9862	0.9862
Orifice factor (K _o)	0.8852	0.8852
Probe	2' F (eau)	2' F (eau)
Pitot factor (Cv)	0.816	0.816
Nozzle (inches)	0.540	0.540

Document No.: R12-089R01 Page No.: 19 of 32 Pierre Duguay, P. Eng. Author: Version's date: November 2012 1

Client: Agnico-Eagle Mines Ltd. Version No.:





Table 4.2-2 – Sampling equipment for SVOC train

Parameter	Test # 1	Test # 3
Sampling module	L2	L2
Gas meter factor (γ)	0.9855	0.9855
Orifice factor (K _o)	1.1256	1.1256
Probe	2' E (eau)	2' E (eau)
Pitot factor (Cv)	0.816	0.816
Nozzle (inches)	0.527	0.527

4.3 QA/QC report

The following tables show the quality assurance / quality control parameters applied during the test program. These parameters deal with the gas flow conditions at the sampling location, the sampling equipment/procedures employed and the isokineticity of the tests. The value of each parameter is compared to a quality acceptance criterion formulated in the reference sampling methods.

Table 4.3-1 – Gas flow conditions

Table 4.0 1 Gas now conditions								
Parameter	A	ctual	Quality criteria					
Duct diameter (inches)	3	8.0	≥ 12.0					
Sampling cross-section (ft ²)	7	'.88	≥ 0.78					
No. of duct diam. upstream	5	.0 D	≥ 2.0 D					
No. of stack diam. downstream	2	.0 D	≥ 0.5 D					
No. of sampling traverses		2	2 or more					
Cyclonic flow	0°		≤ 15°					
PM / HCI / metals tests	# 1	# 3						
Maximum stack gas velocity (ft/s)	26.1	26.3	≤ 100					
Minimum stack gas velocity (ft/s)	22.4	22.6	≥ 10.0					
Highest Ratio Vmax / Vmin	1.2	1.2	≤ 2.0					
SVOC tests	# 1	# 3						
Maximum stack gas velocity (ft/s)	30.6	29.2	≤ 100					
Minimum stack gas velocity (ft/s)	22.3	22.4	≥ 10.0					
Highest Ratio Vmax / Vmin	1.4	1.3	≤ 2.0					

The gas flow conditions at the sampling location can be considered as ideal since all quality criteria required by the reference sampling method are met.

Document No.:R12-089R01Page No.:20 of 32Author:Pierre Duguay, P. Eng.Version's date:November 2012Client:Agnico-Eagle Mines Ltd.Version No.:1





Table 4.3-2 – Sampling equipment and procedures

PM / HCI / metals	Test # 1	Test # 3	Quality criteria
Filter enclosure temperature (^O F)	250	250	248 ± 25
Probe temperature (^O F)	250	250	248 ± 25
Maximum leak rate (cfm)	< 0.02	< 0.02	≤ 0.02
Nozzle diameter (in.)	0.540	0.540	≥ 0.188
Gas meter calibration factor	0.9862	0.9862	$0.95 \le \gamma \le 1.05$
Sampling duration (min)	180	180	≥ 120
Gas sample volume (Rm³)	4.122	4.142	≥ 2.80
svoc	Test # 1	Test # 3	Quality criteria
Filter enclosure temperature (^O F)	250	250	248 ± 25
Probe temperature (^o F)	250	250	248 ± 25
Resin XAD-2 temperature (°F)	55	55	≤ 68
Maximum look rata (afm)	< 0.02	< 0.02	≤ 0.02
Maximum leak rate (cfm)	₹ 0.02		
Nozzle diameter (in.)	0.527	0.527	≥ 0.188
,			≥ 0.188 0.95 ≤ γ ≤ 1.05
Nozzle diameter (in.)	0.527	0.527	

All quality criteria required by the reference sampling method were met concerning the sampling equipment and procedures. No equipment failure, leaks or sample recovery problems were encountered during the testing program.

Table 4.3-3 – Isokineticity

PM / HCl / metals	Test # 1	Test # 3	Quality criteria
Average (%)	97.6	99.3	90 % ≤ Iso ≤ 110 %
> 110%	0 / 36	0 / 36	≤ 3 / 36
< 90%	0 / 36	0 / 36	
SVOC	Test # 1	Test # 3	Quality criteria
Average (%)	98.0	97.0	90 % ≤ Iso ≤ 110 %
> 110%	0 / 36	0 / 36	≤ 3 / 36
< 90%	0 / 36	0 / 36	

All quality criteria required by the reference sampling method were met concerning the isokineticity of the tests.

Document No.:R12-089R01Page No.:21 of 32Author:Pierre Duguay, P. Eng.Version's date:November 2012Client:Agnico-Eagle Mines Ltd.Version No.:1





1

5 TABLES OF RESULTS

All the tests results are summarized in section 1.2 and represent the average of two tests. Complete results for particulate matter (PM) and chlorhydric acid (HCl) are presented in table # 1. For metals, summary results are presented in table # 2 and detailed results are presented in tables 3 and 4.

For dioxins and furans (PCDD/F), summary results are presented in table # 5 and detailed results are presented in tables 6 and 7 with field blank results. The PCDD/PCDF tables of results give the analytical results in terms of international toxic equivalent (ITEQ) of the dioxin and furan congeners (expressed as 2, 3, 7, 8-T4CDD) as per method EPS 1/RM/2 requirements.

Results of PM / HCl / metals and SVOC include stack gas properties (velocity, flow, temperature, moisture, static pressure, molecular weight) measured during each test.

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# 1 : Detailed results of particulate matter (PM) and HCl emissions ;
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2 : Summary results of metals emissions ;

#3: Detailed results of metals emissions – test #1;

4 : Detailed results of metals emissions – test # 3;

5 : Summary results of SVOC emissions ;

6 : Detailed results of PCDD/F emissions – test # 1;

#7: Detailed results of PCDD/F emissions – test #3.

The quality of the sampling data and results is good for all measurements. All the data are consistent and reliable.

The operating conditions were maintained stable throughout each day of the test program except during PAM and SVOC tests # 2. At the beginning of these tests, there was a problem with one burner.

The applicable standards for mercury (Hg) and for dioxins and furans (PCDD/F) were met during tests # 1 and # 3. All the results of test # 2 are not presented in this report because the burner operation was not optimal during this run.

Document No.:R12-089R01Page No.:22 of 32Author:Pierre Duguay, P. Eng.Version's date:November 2012

Client: Agnico-Eagle Mines Ltd. Version No.:



TABLE # 1 OUTLET OF INCINERATOR SUMMARY OF ATMOSPHERIC EMISSIONS PARTICULATE MATTER - ANIONS

Test	1	3	
Date	2-Oct-12	3-Oct-12	AVERAGE
Time	15:15 - 18:30	15:20 - 18:40	
WEIGHT OF SAMPLE			
Particulate matter (mg)	52.52	63.99	
HCI (mg)	293.10	65.51	
GAS SAMPLE VOLUME (Rm³)	4.122	4.142	
CONCENTRATIONS			
Portioulate metter /mg/Pm3)	12.7	15.4	14.1
Particulate matter (mg/Rm³) Particulate matter (mg/Rm³ @ 11 % O2)	17.6	15.4 21.0	14.1 19.3
HCI (mg/Rm³)	71.1	15.8	43.5
HCI (ppmv)	47.7	10.6	29.2
(pp)			
EMISSION MASS FLOW RATES			
Particulate matter (kg/h)	0.089	0.106	0.098
HCI (kg/h)	0.495	0.109	0.302
STACK GAS PROPERTIES			
VELOCITY (m/s)	7.6	7.6	7.6
VOLUMETRIC FLOW RATES			
m³/h (Actual conditions)	20075	20034	20055
Rm³/h (Reference conditions)	6967	6885	6926
TEMPERATURE (℃)	564	569	567
MOISTURE (% v/v, wet basis)	3.1	4.4	3.8
STATIC PRESSURE (" H2O)	-0.18	-0.18	-0.18
GAS COMPOSITION (dry basis)			
O2 (% v/v)	13.75	13.60	13.68
CO2 (% v/v)	4.65	2.91	3.78
CO (ppmv)	10	22	16
AVERAGE ISOKINETICITY (%)	97.6	99.3	98.5

[&]quot;R" or "Reference Conditions" at 25 °C, 101.3 kPa, dry basis.

Document No.:R12-089R01Page No.:23 of 32Author:Pierre Duguay, P. Eng.Version's date:November 2012Client:Agnico-Eagle Mines Ltd.Version No.:1





TABLE # 2 OUTLET OF INCINERATOR RESULTS OF METALS ATMOSPHERIC EMISSIONS

Test	1	3	
Date	2-Oct-12	3-Oct-12	Average
Time	15:15 - 18:30	15:20 - 18:40	

Metals		C	once	entrations (µg/F	łm³)	
Aluminum (AI)	1	6.31		36.70		21.50
Antimony (Sb)		0.39		4.49		2.44
Arsenic (As)		0.22		0.39		0.30
Baryum (Ba)	<	7.52		1.42	<	4.47
Beryllium (Be)	<	0.73	<	0.72	<	0.73
Bismuth (Bi)	<	1.21	<	1.21	<	1.21
Boron (B)	<	15.04	<	15.45	<	15.25
Cadmium (Cd)		0.29		1.09		0.69
Calcium (Ca)		56.53		405.60		231.06
Chromium (Cr)		1.16		3.07		2.12
Cobalt (Co)	<	0.73	<	0.72	<	0.73
Copper (Cu)		3.52		20.57		12.04
Iron (Fe)		8.01		127.47		67.74
Lead (Pb)		8.61		35.49		22.05
Lithium (Li)		0.63		2.46		1.55
Magnesium (Mg)		9.80		19.87		14.84
Manganese (Mn)		63.83		3.38		33.60
Mercury (Hg)	<	0.07	<	0.07	<	0.07
Molybdenum (Mo)		0.24		1.69		0.97
Nickel (Ni)		8.27		0.85		4.56
Phosphorus (P)	<	74.96		289.72	<	182.34
Potassium (K)		1094.13		4611.30		2852.71
Selenium (Se)	<	0.73		0.17	<	0.45
Silicium (soluble in HNO3)		17.95		76.05		47.00
Silver (Ag)		0.22		0.34		0.28
Sodium (Na)		781.17		2559.15		1670.16
Strontium (Sr)	<	0.73		0.39	<	0.56
Tellurium (Te)	<	0.73	<	0.72	<	0.73
Thallium (TI)	<	0.73	<	0.72	<	0.73
Tin (Sn)		6.77		23.35		15.06
Titanium (Ti)	<	0.73		1.04	<	0.88
Uranium (U)	<	0.73	<	0.72	<	0.73
Vanadium (V)		0.05	<	0.72	<	0.39
Zinc (Zn)		16.91		335.59		176.25

"R" or "Reference Conditions" at 25 °C, 101.3 kPa, dry basis.

Document No.:R12-089R01Page No.:24 of 32Author:Pierre Duguay, P. Eng.Version's date:November 2012Client:Agnico-Eagle Mines Ltd.Version No.:1





TABLE # 2 (cont'd) OUTLET OF INCINERATOR RESULTS OF METALS ATMOSPHERIC EMISSIONS

Test	1	3	
Date	2-Oct-12	3-Oct-12	Average
Time	15:15 - 18:30	15:20 - 18:40	

Metals		Concentrations (μg/Rm³ @ 11 % O2)						
Aluminum (AI)	$\dashv \vdash$	8.73		49.77	Т	29.25		
Antimony (Sb)		0.54		6.09		3.31		
Arsenic (As)		0.30		0.52		0.41		
Baryum (Ba)	<	10.41		1.93	<	6.17		
Beryllium (Be)	<	1.01	<	0.98	<	0.99		
Bismuth (Bi)	<	1.68	<	1.64	<	1.66		
Boron (B)	<	20.83	<	20.95	<	20.89		
Cadmium (Cd)		0.40		1.47		0.94		
Calcium (Ca)		78.27		550.06		314.16		
Chromium (Cr)		1.61		4.16		2.89		
Cobalt (Co)	<	1.01	<	0.98	<	0.99		
Copper (Cu)		4.87		27.90		16.38		
Iron (Fe)		11.08		172.88		91.98		
Lead (Pb)		11.92		48.13		30.03		
Lithium (Li)		0.87		3.34		2.11		
Magnesium (Mg)		13.57		26.95		20.26		
Manganese (Mn)		88.38		4.58		46.48		
Mercury (Hg)	<	0.10	<	0.10	<	0.10		
Molybdenum (Mo)		0.34		2.29		1.31		
Nickel (Ni)		11.45		1.15		6.30		
Phosphorus (P)	<	103.80		392.90	<	248.35		
Potassium (K)		1514.95		6253.68		3884.31		
Selenium (Se)	<	1.01		0.23	<	0.62		
Silicium (soluble in HNO3)		24.86		103.14		64.00		
Silver (Ag)		0.30		0.46		0.38		
Sodium (Na)		1081.63		3470.63		2276.13		
Strontium (Sr)	<	1.01		0.52	<	0.77		
Tellurium (Te)	<	1.01	<	0.98	<	0.99		
Thallium (TI)	<	1.01	<	0.98	<	0.99		
Tin (Sn)	Π	9.37		31.66		20.52		
Titanium (Ti)	<	1.01		1.41	<	1.21		
Uranium (U)	<	1.01	<	0.98	<	0.99		
Vanadium (V)		0.07	<	0.98	<	0.52		
Zinc (Zn)		23.41		455.11		239.26		

"R" or "Reference Conditions" at 25 °C, 101.3 kPa, dry basis.

Document No.:R12-089R01Page No.:25 of 32Author:Pierre Duguay, P. Eng.Version's date:November 2012Client:Agnico-Eagle Mines Ltd.Version No.:1





TABLE # 2 (cont'd) OUTLET OF INCINERATOR RESULTS OF METALS ATMOSPHERIC EMISSIONS

Test	1	3	
Date	2-Oct-12	3-Oct-12	Average
Time	15:15 - 18:30	15:20 - 18:40	

Metals	Emission rates (μg/s)					
Aluminum (Al)		12.21		70.18		41.19
Antimony (Sb)		0.75		8.59		4.67
Arsenic (As)		0.42		0.74		0.58
Baryum (Ba)	<	14.55		2.72	<	8.64
Beryllium (Be)	<	1.41	<	< 1.39	<	1.40
Bismuth (Bi)	<	2.35	<	< 2.31	<	2.33
Boron (B)	<	29.11	<	< 29.55	<	29.33
Cadmium (Cd)		0.56		2.08		1.32
Calcium (Ca)		109.39		775.66		442.52
Chromium (Cr)		2.25		5.86		4.06
Cobalt (Co)	<	1.41	<	< 1.39	<	1.40
Copper (Cu)		6.81		39.34		23.07
Iron (Fe)		15.49		243.78		129.64
Lead (Pb)		16.67		67.87		42.27
Lithium (Li)		1.22		4.71		2.97
Magnesium (Mg)		18.97		38.00		28.48
Manganese (Mn)		123.52		6.46		64.99
Mercury (Hg)	<	0.14	<	< 0.14	<	0.14
Molybdenum (Mo)		0.47		3.23		1.85
Nickel (Ni)		16.01		1.62		8.81
Phosphorus (P)	<	145.07		554.04	<	349.56
Potassium (K)		2117.32		8818.53		5467.93
Selenium (Se)	<	1.41		0.32	<	0.87
Silicium (soluble in HNO3)		34.74		145.44		90.09
Silver (Ag)		0.42		0.65		0.53
Sodium (Na)		1511.70		4894.05		3202.88
Strontium (Sr)	<	1.41		0.74	<	1.07
Tellurium (Te)	<	1.41	<	< 1.39	<	1.40
Thallium (TI)	<	1.41	<	< 1.39	<	1.40
Tin (Sn)		13.10		44.65		28.87
Titanium (Ti)	<	1.41		1.99	<	1.70
Uranium (U)	<	1.41	<	< 1.39	<	1.40
Vanadium (V)	1	0.09	<	< 1.39	<	0.74
Zinc (Zn)		32.72		641.77		337.24

Document No.:R12-089R01Page No.:26 of 32Author:Pierre Duguay, P. Eng.Version's date:November 2012Client:Agnico-Eagle Mines Ltd.Version No.:1

Stack sampling tests Outlet of the incinerator



1

TABLE #3

OUTLET OF INCINERATOR METALS EMISSIONS AT THE STACK

TEST #	1
DATE	2-Oct-12
TIME	15:15 - 18:30

		ANALYSES	со	NCENTRATION		EMISSION	CON	CENTRATION
Metals		OF SAMPLE		(1)	RATE		(1)	
						(1)		
		μg		μg/Rm³	μg/s		μg/Rr	n³ @ 11 % O2
Aluminum (Al)		26.0		6.31		12,21		8.73
Antimony (Sb)		1.6		0.39		0.75		0.54
Arsenic (As)		0.9		0.22		0.42		0.30
Baryum (Ba)	<	31.0	<	7.52	<	14.55	<	10.41
Beryllium (Be)	<	3.0	<	0.73	<	1.41	<	1.01
Bismuth (Bi)	<	5.0	<	1.21	<	2.35	<	1.68
Boron (B)	<	62.0	<	15.04	<	29.11	<	20.83
Cadmium (Cd)		1.2		0.29		0.56		0.40
Calcium (Ca)		233.0		56.53		109.39		78.27
Chromium (Cr)		4.8		1.16		2.25		1.61
Cobalt (Co)	<	3.0	<	0.73	<	1.41	<	1.01
Copper (Cu)		14.5		3.52		6.81		4.87
Iron (Fe)		33.0		8.01		15.49		11.08
Lead (Pb)		35.5		8.61		16.67		11.92
Lithium (Li)		2.6		0.63		1.22		0.87
Magnesium (Mg)		40.4		9.80		18.97		13.57
Manganese (Mn)		263.1		63.83		123.52		88.38
Mercury (Hg)	<	0.3	<	0.07	<	0.14	<	0.10
Molybdenum (Mo)		1.0		0.24		0.47		0.34
Nickel (Ni)		34.1		8.27		16.01		11.45
Phosphorus (P)	<	309.0	<	74.96	<	145.07	<	103.80
Potassium (K)		4510.0		1094.13		2117.32		1514.95
Selenium (Se)	<	3.0	<	0.73	<	1.41	<	1.01
Silicium (soluble in HNO3)		74.0		17.95		34.74		24.86
Silver (Ag)		0.9		0.22		0.42		0.30
Sodium (Na)		3220.0		781.17		1511.70		1081.63
Strontium (Sr)	<	3.0	<	0.73	<	1.41	<	1.01
Tellurium (Te)	<	3.0	<	0.73	<	1.41	<	1.01
Thallium (TI)	<	3.0	<	0.73	<	1.41	<	1.01
Tin (Sn)		27.9		6.77	l	13.10		9.37
Titanium (Ti)	<	3.0	<	0.73	<	1.41	<	1.01
Uranium (U)	<	3.0	<	0.73	<	1.41	<	1.01
Vanadium (V)		0.2		0.05	l	0.09		0.07
Zinc (Zn)		69.7		16.91	L	32.72		23.41

GAS SAMPLE VOLUME	(Rm³):	4.122

STACK GAS PROPERTIES	
VELOCITY (m/s)	7.6
VOLUMETRIC FLOW RATE	
m³/h (actual conditions)	20075
Rm³/h (reference conditions)	6967
GAS TEMPERATURE (°C)	564
MOISTURE (% v/v wet basis)	3.1
STATIC PRESSURE (inch H2O)	-0.18
GAS COMPOSITION (dry basis)	
O2 (% v/v)	13.75
CO2 (% v/v)	4.65
CO (ppmv)	9.5

(1) When an analysis is "< D.L.", the detection limit (D.L.) is used in the calculations of concentration and emission.

Document No.:R12-089R01Page No.:27 of 32Author:Pierre Duguay, P. Eng.Version's date:November 2012

Client: Agnico-Eagle Mines Ltd. Version No.:

[&]quot;R" or "Reference Conditions" at $25^{\circ}\text{C},\,101.3\text{ kPa},\,\text{dry basis}.$

AEM



TABLE # 4

OUTLET OF INCINERATOR METALS EMISSIONS AT THE STACK

TEST#	3
DATE	October 3, 2012
TIME	15:20 - 18:40

	1	ANALYSES	CO	NCENTRATION		EMISSION	CON	CENTRATION
Metals		OF SAMPLE		(1)		RATE		(1)
						(1)		
		μg		μg/Rm³		μg/s	μg/Rn	n³ @ 11 % O2
Aluminum (Al)		152.0		36.70		70.18		49.77
Antimony (Sb)		18.6		4.49		8.59		6.09
Arsenic (As)		1.6		0.39		0.74		0.52
Baryum (Ba)		5.9		1.42		2.72		1.93
Beryllium (Be)	<	3.0	<	0.72	<	1.39	<	0.98
Bismuth (Bi)	<	5.0	<	1.21	<	2.31	<	1.64
Boron (B)	<	64.0	<	15.45	<	29.55	<	20.95
Cadmium (Cd)		4.5		1.09		2.08		1.47
Calcium (Ca)		1680.0		405.60		775.66		550.06
Chromium (Cr)		12.7		3.07		5.86		4.16
Cobalt (Co)	<	3.0	<	0.72	<	1.39	<	0.98
Copper (Cu)		85.2		20.57		39.34		27.90
Iron (Fe)		528.0		127.47		243.78		172.88
Lead (Pb)		147.0		35.49		67.87		48.13
Lithium (Li)		10.2		2.46		4.71		3.34
Magnesium (Mg)		82.3		19.87		38.00		26.95
Manganese (Mn)		14.0		3.38		6.46		4.58
Mercury (Hg)	<	0.3	<	0.07	<	0.14	<	0.10
Molybdenum (Mo)		7.0		1.69		3.23		2.29
Nickel (Ni)		3.5		0.85		1.62		1.15
Phosphorus (P)		1200.0		289.72		554.04		392.90
Potassium (K)		19100.0		4611.30		8818.53		6253.68
Selenium (Se)		0.7		0.17		0.32		0.23
Silicium (soluble in HNO3)		315.0		76.05		145.44		103.14
Silver (Ag)		1.4		0.34		0.65		0.46
Sodium (Na)		10600.0		2559.15		4894.05		3470.63
Strontium (Sr)		1.6		0.39		0.74		0.52
Tellurium (Te)	<	3.0	<	0.72	<	1.39	<	0.98
Thallium (TI)	<	3.0	<	0.72	<	1.39	<	0.98
Tin (Sn)		96.7		23.35		44.65		31.66
Titanium (Ti)	1	4.3		1.04	l	1.99		1.41
Uranium (U)	<	3.0	<	0.72	<	1.39	<	0.98
Vanadium (V)	<	3.0	<	0.72	<	1.39	<	0.98
Zinc (Zn)		1390.0		335.59	1	641.77	1	455.11

GAS SAMPLE VOLUME (Rm3):	4.142

STACK GAS PROPERTIES	
VELOCITY (m/s)	7.6
VOLUMETRIC FLOW RATE	
m³/h (actual conditions)	20034
Rm³/h (reference conditions)	6885
GAS TEMPERATURE (°C)	569
MOISTURE (% v/v wet basis)	4.4
STATIC PRESSURE (inch H2O)	-0.18
GAS COMPOSITION (dry basis)	
O2 (% v/v)	13.60
CO2 (% v/v)	2.91
CO (ppmv)	22.1

⁽¹⁾ When an analysis is "< D.L.", the detection limit (D.L.) is used in the calculations of concentration and emission.

Document No.:R12-089R01Page No.:28 of 32Author:Pierre Duguay, P. Eng.Version's date:November 2012

Client: Agnico-Eagle Mines Ltd. Version No.: 1

[&]quot;R" or "Reference Conditions" at 25°C, 101.3 kPa, dry basis.





TABLE # 5 OUTLET OF INCINERATOR SUMMARY OF ATMOSPHERIC EMISSIONS SVOC

Test Date	1 2-Oct-12	3 3-Oct-12	Average
Time	15:30 - 18:40	15:15 - 18:30	J
Weight of sample			
PCDD/F (pg TEQ)	108.00	119.22	
Gas sample volume (Rm³)	3.985	3.826	
CONCENTRATIONS			
CONCENTIATIONS			
PCDD/F (pg/Rm³ TEQ)	27.1	31.2	29.1
PCDD/F (pg/Rm3 TEQ @ 11 % O2)	37.5	42.3	39.9
MASS EMISSION RATE			
PCDD/F (ng/h TEQ)	191.2	213.3	202.3
STACK GAS PROPERTIES			
OTAGK GAGT HOT EITHEG			
VELOCITY (m/s)	7.8	7.5	7.6
VOLUMETRIC FLOW RATES	00400	10747	00100
m³/h (Actual conditions) Rm³/h (Reference conditions)	20499 7054	19747 6846	20123 6950
Hillyll (helerence conditions)	7034	0840	0930
TEMPERATURE (°C)	561	565	563
MOISTURE (% v/v, wet basis)	4.3	4.0	4.2
STATIC PRESSURE (" H2O)	-0.18	-0.18	-0.18
GAS COMPOSITION (dry basis)	10.75	12.60	12.60
O2 (% v/v) CO2 (% v/v)	13.75 4.65	13.60 2.91	13.68 3.78
CO2 (% V/V) CO (ppmv)	4.65	2.91 22	3.76 16
oc (pp)	10		10
AVERAGE ISOKINETICITY (%)	98.0	97.0	97.5

[&]quot;R" or "Reference Conditions" at 25 °C, 101.3 kPa, dry basis.

Document No.:R12-089R01Page No.:29 of 32Author:Pierre Duguay, P. Eng.Version's date:November 2012Client:Agnico-Eagle Mines Ltd.Version No.:1

TABLES OF RESULTS

TABLE # 6

OUTLET OF INCINERATOR EMISSIONS OF PCDD/PCDF

TEST # 1

PROJECT: R12-089

COMPANY: AGNICO-EAGLE MINES LTD, SITE: OUTLET OF INCINERATOR

DATE: October 2, 2012

GAS SAMPLE VOLUME: 3.985 Rm³ 7054 Rm³/h VOLUMETRIC FLOW RATE: OXYGEN (O2): 13.75 % v/v, dry basis

CONGENERS	Al	NALYSES (1)	В	LANK (2)	TOXIC (4)		TEQ (3)	CONCENTRATIONS pg/Rm³ TEQ	Е	MISSIONS (TEQ)
		pg		pg	FACTOR		pg	(3)		pg/s (3)
2,3,7,8-T4CDF without DB-225		17.7	<	0.5	0.1		1.77	0.44		0.87
1,2,3,7,8-P5CDF		19.7	<	0.7	0.05		0.99	0.25		0.48
2,3,4,7,8-P5CDF		56.8		0.8	0.5		28.40	7.13		13.97
1,2,3,4,7,8-H6CDF		100.0		1.8	0.1		10.00	2.51		4.92
1,2,3,6,7,8-H6CDF		41.1		1.0	0.1		4.11	1.03		2.02
2,3,4,6,7,8-H6CDF		83.6		1.7	0.1		8.36	2.10		4.11
1,2,3,7,8,9-H6CDF		14.5	<	0.9	0.1		1.45	0.36		0.71
1,2,3,4,6,7,8-H7CDF		137.0	<	1.0	0.01		1.37	0.34		0.67
1,2,3,4,7,8,9-H7CDF		23.0	<	2.0	0.01		0.23	0.06		0.11
1,2,3,4,6,7,8,9-O8CDF		69.7		2.1	0.001		0.07	0.02		0.03
2,3,7,8-T4CDD	<	0.5	<	0.4	1	<	0.50	< 0.13	<	0.25
1,2,3,7,8-P5CDD		28.5	<	0.7	0.5		14.25	3.58		7.01
1,2,3,4,7,8-H6CDD		22.0	<	0.6	0.1		2.20	0.55		1.08
1,2,3,6,7,8-H6CDD		116.0	<	0.6	0.1		11.60	2.91		5.70
1,2,3,7,8,9-H6CDD		185.0		1.0	0.1		18.50	4.64		9.10
1,2,3,4,6,7,8-H7CDD		399.0		2.0	0.01		3.99	1.00		1.96
1,2,3,4,6,7,8,9-O8CDD		217.0		4.4	0.001		0.22	0.05		0.11
TOTAL PCDD/F (5)		1531.1	1	14.8	<u> </u>	ı -	108.00	27.10		53.11

HOMOLOGUOUS		ANALYSES pg	BLANK (2) pg
T4CDF	1	772.0	4.7
P5CDF		671.0	3.9
H6CDF		526.0	6.8
H7CDF		248.0	< 2.0
OCDF		69.7	2.1
T4CDD		463.0	1.5
P5CDD		1400.0	4.9
H6CDD		2180.0	5.1
H7CDD		1170.0	6.0
OCDD		217.0	4.4

NOTES: "R" or "Reference Conditions" correspond to 25 °C, 101.3 kPa, dry basis.

The sign "<" means that the analytical result is less than the detection limit (d.l.).

- (1) Analyzed by Agat Laboratories. Results ARE CORRECTED for the recovery of surrogates.
- (2) Field blank results are not substracted from the analytical results.
- (3) When an analytical result is given as < d.l., the d.l. provided by the laboratory is used in the calculations.
- (4) Toxicity factors of method EPS 1/RM/2 of Environment Canada.
- (5) When a congener is not detected, the d.l. provided by the laboratory is used in the calculations for total PCDD/F.

Document No.: R12-089R01 Page No.: 30 of 32 Pierre Duguay, P. Eng. Author: Version's date: November 2012 Client: Agnico-Eagle Mines Ltd. Version No.:





TABLE # 7

OUTLET OF INCINERATOR EMISSIONS OF PCDD/PCDF

TEST # 3

PROJECT: R12-089

COMPANY: AGNICO-EAGLE MINES LTD, SITE: OUTLET OF INCINERATOR

DATE: October 3, 2012

GAS SAMPLE VOLUME: 3.826 $\,$ Rm³ VOLUMETRIC FLOW RATE: 6846 $\,$ Rm³/h OXYGEN (O2): 13.60 $\,$ % v/v, dry basis

GOVGPNERG	ANALYSES	BLANK	TOXIC	TEQ	CONCENTRATIONS	EMISSIONS
CONGENERS	(1) pg	(2) pg	(4) FACTOR	(3) pg	pg/Rm ³ TEQ (3)	(TEQ) pg/s (3)
2,3,7,8-T4CDF without DB-225	36.4	< 0.5	0.1	3.64	0.95	1.81
1,2,3,7,8-P5CDF	42.0	< 0.7	0.05	2.10	0.55	1.04
2,3,4,7,8-P5CDF	91.0	0.8	0.5	45.50	11.89	22.61
1,2,3,4,7,8-H6CDF	185.0	1.8	0.1	18.50	4.84	9.19
1,2,3,6,7,8-H6CDF	71.0	1.0	0.1	7.10	1.86	3.53
2,3,4,6,7,8-H6CDF	148.0	1.7	0.1	14.80	3.87	7.36
1,2,3,7,8,9-H6CDF	7.0	< 0.9	0.1	0.70	0.18	0.35
1,2,3,4,6,7,8-H7CDF	275.0	< 1.0	0.01	2.75	0.72	1.37
1,2,3,4,7,8,9-H7CDF	38.0	< 2.0	0.01	0.38	0.10	0.19
1,2,3,4,6,7,8,9-O8CDF	130.0	2.1	0.001	0.13	0.03	0.06
2,3,7,8-T4CDD	4.5	< 0.4	1	4.50	1.18	2.24
1,2,3,7,8-P5CDD	17.3	< 0.7	0.5	8.65	2.26	4.30
1,2,3,4,7,8-H6CDD	13.1	< 0.6	0.1	1.31	0.34	0.65
1,2,3,6,7,8-H6CDD	27.2	< 0.6	0.1	2.72	0.71	1.35
1,2,3,7,8,9-H6CDD	45.7	1.0	0.1	4.57	1.19	2.27
1,2,3,4,6,7,8-H7CDD	160.0	2.0	0.01	1.60	0.42	0.80
1,2,3,4,6,7,8,9-O8CDD	273.0	4.4	0.001	0.27	0.07	0.14
TOTAL PCDD/F (5)	1564.2	14.8		119.22	31.16	59.25

HOMOLOGUOUS] [ANALYSES	BLANK (2) pg
T4CDF	1 [994.0	4.7
P5CDF		913.0	3.9
H6CDF		769.0	6.8
H7CDF		456.0	< 2.0
OCDF		130.0	2.1
T4CDD		159.0	1.5
P5CDD		315.0	4.9
H6CDD		376.0	5.1
H7CDD		327.0	6.0
OCDD		273.0	4.4

NOTES: "R" or "Reference Conditions" correspond to 25 °C, 101.3 kPa, dry basis.

The sign "<" means that the analytical result is less than the detection limit (d.l.).

- (1) Analyzed by Agat Laboratories. Results ARE CORRECTED for the recovery of surrogates.
- (2) Field blank results are not substracted from the analytical results.
- (3) When an analytical result is given as < d.l., the d.l. provided by the laboratory is used in the calculations.
- (4) Toxicity factors of method EPS 1/RM/2 of Environment Canada.
- $(5) \ \ When a congener is not detected, the d.l.\ provided by the \ laboratory\ is\ used\ in\ the\ calculations\ for\ total\ PCDD/F.$

Document No.:R12-089R01Page No.:31 of 32Author:Pierre Duguay, P. Eng.Version's date:November 2012Client:Agnico-Eagle Mines Ltd.Version No.:1





Report signatories and approval

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Document No.: R12-089R01

Author: Pierre Duguay, P. Eng.

Client: Agnico-Eagle Mines Ltd.

Page No.: 32 of 32 Version's date: November 2012

Version No.:





APPENDIX 1 OUTLET OF THE INCINERATOR

PAM TESTS

DATA REDUCTION COMPUTER PRINT-OUTS	Pages A1-1 to A1-4
FIELD SAMPLING DATA SHEETS	Pages A1-5 to A1-14
SAMPLING EQUIPMENT CALIBRATION REPORTS	Pages A1-15 and A1-16

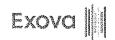
SVOC TESTS

DATA REDUCTION COMPUTER PRINT-OUTS	Pages A1-17 to A1-20
FIELD SAMPLING DATA SHEETS	Pages A1-21 to A1-28
SAMPLING EQUIPMENT CALIBRATION REPORTS	Pages A1-29 and A1-30

ANALYTICAL REPORTS

CODIFICATION OF SAMPLES	Pages A1-31 to A1-33
SVOC PROOFING RESULTS	Pages A1-34 to A1-40
PM ANALYTICAL RESULTS	Page A1-41
HCI / METALS ANALYTICAL RESULTS	Pages A1-42 to A1-76
SVOC ANALYTICAL RESULTS	Pages A1-77 to A1-83





APPENDIX 1 OUTLET OF THE INCINERATOR

PAM TESTS

DATA REDUCTION COMPUTER PRINT-OUTS	Pages A1-1 to A1-4
FIELD SAMPLING DATA SHEETS	Pages A1-5 to A1-14
SAMPLING EQUIPMENT CALIBRATION REPORTS	Pages A1-15 and A1-16

SVOC TESTS

DATA REDUCTION COMPUTER PRINT-OUTS	Pages A1-17 to A1-20
FIELD SAMPLING DATA SHEETS	Pages A1-21 to A1-28
SAMPLING EQUIPMENT CALIBRATION REPORTS	Pages A1-29 and A1-30

ANALYTICAL REPORTS

CODIFICATION OF SAMPLES	Pages A1-31 to A1-33
SVOC PROOFING RESULTS	Pages A1-34 to A1-40
PM ANALYTICAL RESULTS	Page A1-41
HCI / METALS ANALYTICAL RESULTS	Pages A1-42 to A1-76
SVOC ANALYTICAL RESULTS	Pages A1-77 to A1-83

AGNICO-EAGLE MINES LTD, MEADOWBANK DIVISION BAKER LAKE, NUNAVUT OUTLET OF INCINERATOR PAM

Test	Date	Time	Filter	Probe	Cyclone	Vmeter	Dstack	Period
	,	ė manamaė	mg	mg	mg	ft³	inches	minutes
1	October 2, 2012	15:15 - 18:30	49.37	3.15		146.88	38.00	5

O2 (% v/v)	CO2 (% v/v)		Vol. water	Pbar	Dnozzle	Cpitot	γ	Pstatic
Dry basis	Dry basis	Dry basis	mL	"Hg	inch		****	"H2O
13.75	4.65	9.5	97.9	30.10	0.540	0.816	0.9862	-0.18
SO2	H2							
0	0]						

Traverse #1								
Point	Tstack °F	ΔP "H2O	<i>ДН</i> "H2O	Volume ft³	Tinlet °F	Toutlet °F	Isokinetic %	Velocity ft/s
1	1032	0.080	1.48	15.00	71	70	98.2	25.8
	1032	0.080	1.48	19.21	71	70		
2	1032	0.080	1.48	19.21	72	70	97.7	25.8
	1032	0.080	1.48	23.40	72	70		
3	1032	0.080	1.48	23.40	74	70	95.4	25.8
	1032	0.080	1.48	27.50	74	70		
4	1032	0.080	1.48	27.50	75	71	97.5	25.8
	1032	0.080	1.48	31.70	75	71		
5	1040	0.080	1.48	31.70	75	71	98.9	25.9
	1040	0.080	1.48	35.95	75	71		
6	1040	0.080	1.48	35.95	76	71	99.1	25.9
	1040	0.080	1.48	40.21	76	71		ļ
7	1040	0.060	1.11	40.21	76	74	97.9	22.4
	1040	0.060	1.11	43.87	76	74		
8	1045	0.060	1.11	43.87	77	74	97.2	22.5
	1045	0.060	1.11	47.50	77	74		
9	1045	0.060	1.11	47.50	77	76	98.1	22.5
	1045	0.060	1.11	51.17	77	76		1
10	1045	0.060	1.11	51.17	78	76	98.8	22.5
	1045	0.060	1.11	54.87	78	76		
11	1045	0.080	1.48	54.87	78	77	98.3	25.9
	1045	0.080	1.48	59.12	78	77		
12	1048	0.080	1.48	59.12	78	77	99.1	26.0
	1048	0.080	1.48	63.40	78	77		
13	1048	0.080	1.44	63.40	78	77	99.8	26.0
***************************************	1048	0.080	1.44	67.71	78	77		
14	1048	0.080	1.44	67.71	79	77	99.0	26.0
	1048	0.080	1.44	71.99	79	77		
15	1045	0.080	1.44	71.99	79	78	97.4	25.9
	1045	0.080	1.44	76.21	79	78		
16	1045	0.080	1.44	76.21	79	78	96.9	25.9
	1045	0.080	1.44	80.41	79	78		
17	1050	0.080	1.44	80.41	80	80	98.2	26.0
	1050	0.080	1.44	84.67	80	80		
18	1050	0.080	1.43	84.67	80	80	97.1	26.0
	1050	0.080	1.43	88.88	80	80		

•			7 e	st #1, Travers	e #2			
Point	Tstack °F	ΔР "H2O	∆Н "H2O	Volume ft³	Tinlet °F	Toutlet °F	Isokinetic %	Velocity ft/s
	· · · · · · · · · · · · · · · · · · ·	7120	7120		•	· ·	,,,	700
1	1045	0.060	1.08	89.00	79	77	95.9	22.5
	1045	0.060	1.08	92.60	79	77		
2	1045	0.060	1.08	92.60	79	78	96.1	22.5
	1045	0.060	1.08	96.21	79	78		
3	1045	0.060	1.08	96.21	79	78	95.1	22.5
	1045	0.060	1.08	99.78	79	78		
4	1045	0.060	1.08	99.78	80	79	96.2	22.5
	1045	0.060	1.08	103.40	80	79		
5	1055	0.080	1.43	103.40	81	79	98.6	26.0
_	1055	0.080	1.43	107.67	81	79		
6	1055	0.080	1.43	107.67	81	80	99.9	26.0
_	1055	0.080	1.43	112.00	81	80	22.0	
7	1056	0.070	1.25	112.00	82	80	96.8	24.4
	1056	0.070	1.25	115.93	82	80	27.4	24.4
8	1056	0.070	1.25	115.93	83	81	97.1	24.4
9	1056 1060	0.070 0.070	1,25 1,25	119.88	83 84	81	96.9	24.4
9	1060	0.070	1.25 1.25	119.88 123.82	84	81	30.3	24.4
10	1060	0.070	1.25	123.82	85	81	97.3	24.4
70	1060	0.070	1.25	127.78	85	81	37.5	27.7
11	1060	0.080	1.43	127.78	86	81	97.0	26.1
• • •	1060	0.080	1.43	132.00	86	81	07.0	20.7
12	1060	0.080	1.44	132.00	87	81	98.0	26,1
	1060	0.080	1.44	136.27	87	81	00/0	
13	1047	0.080	1.45	136.27	88	82	97.7	26.0
	1047	0.080	1.45	140.55	88	82		
14	1047	0.080	1.45	140.55	89	82	97.3	26.0
	1047	0.080	1.45	144.82	89	82		
15	1047	0.080	1.46	144.82	90	84	97.5	26.0
	1047	0.080	1.46	149.11	90	84		
16	1054	0.080	1.45	149.11	91	84	98.4	26.0
	1054	0.080	1.45	153.43	91	84		
17	1054	0.080	1.45	153.43	92	85	96.4	26.0
	1054	0.080	1.45	157.67	92	85		
18	1054	0.080	1.45	157.67	92	86	98.3	26.0
	1054	0.080	1.45	162.00	92	86	<u> </u>	<u> </u>
	4050	0.070	4 000	T 70.00	0.5	Τ οι		
Average	1053	0.073	1.320	73.00	85	81	97.3	24.9
Ave. test	1047	0.074	1.352	146.88	81	78	97.6	25.0

Velo	Velocity Volumetric flow rates						perature	Moisture
ft/s	m/s	ACFM	SDCFM	m³/h	Rm³/h	°F	°C	% v/v
25.0	7.6	11815	4100	20075	6967	1047	564	3.1

Total part.	Gas sample volume		Verification of Isokinetic							
mg	SDCF	Rm³	Nb readings	Nb non Iso	Nb < 90%	Nb > 110%	lso max.	lso min.		
52.52	145.57	4.122	36	0	0	0	99.9	95.1		

Pstack	Pmeter	Md	Ms	Bwo	Ratio Vs max / Vs min	Vs max.	Vs min.
"Hg	"Hg	g/g-mole	g/g-mole			ft/s	ft/s
30.09	30.20	29.29	28.94	0.031	1.2	26.1	22.4

1	Particulate co	3	Emission m	ass flow rate	
gr/ACF	gr/SDCF	lb/h	kg/h		
0.002	0.006	4	13	0.2	0.1

[&]quot;R" or "Reference Conditions" at 25°C, 101.3 kPa, dry basis.

Test	Date	Time	Filter	Probe	Cyclone	Vmeter	Dstack	Period
	for one of the new	and the tab had put up.	mg	mg	mg	ft³	inches	minutes
3	October 3, 2012	15:20 - 18:40	59.31	4.68		145.61	38.00	5

O2 (% v/v)	CO2 (% v/v)	CO (ppmv)	Vol. water	Pbar	Dnozzle	Cpitot	γ	Pstatic
Dry basis	Dry basis	Dry basis	mL	"Hg	inch			"H2O
13.60	2.91	22.1	140.5	30.39	0.540	0.816	0.9862	-0.18
SO2	H2							
0	0	11						

Traverse #1												
Point	Tstack °F	ΔP "H2O	ΔH "H2O	Volume ft³	Tinlet	Toutlet °F	Isokinetic	Velocity				
	F	nzu	HZU	π	°F	7-	%	ft/s				
1	1042	0.070	1.20	170.09	74	74	98.9	24.3				
	1042	0.070	1.20	174.03	74	74						
2	1042	0.070	1.20	174.03	74	74	100.2	24.3				
	1042	0.070	1.20	178.02	74	74						
3	1042	0.080	1.44	178.02	71	74	98.8	26.0				
	1042	0.080	1.44	182.21	71	74						
4	1042	0.080	1.44	182.21	71	74	100.9	26.0				
	1042	0.080	1.44	186.49	71	74						
5	1076	0.080	1.44	186.49	72	75	99.4	26.3				
	1076	0.080	1.44	190.67	72	75						
6	1070	0.080	1.44	190.67	73	75	98.9	26.2				
	1070	0.080	1.44	194.84	73	75						
7	1070	0.060	1.10	194.84	74	75	100.9	22.7				
	1070	0.060	1.10	198.53	74	75						
8	1070	0.060	1.10	198.53	75	75	99.7	22.7				
	1070	0.060	1.10	202.18	75	75						
9	1070	0.060	1.10	202.18	76	76	100.1	22.7				
	1070	0.060	1.10	205.85	76	76						
10	1072	0.060	1.10	205.85	77	76	99.2	22.7				
	1072	0.060	1.10	209.49	77	76						
11	1071	0.080	1.45	209.49	78	77	99.3	26.2				
	1071	0.080	1.45	213.70	78	77						
12	1072	0.080	1.45	213.70	79	78	99.3	26.2				
	1072	0.080	1.45	217.92	79	78	1					
13	1073	0.080	1.46	217.92	80	78	98.3	26.2				
	1073	0.080	1.46	222.10	80	78						
14	1073	0.080	1.46	222.10	81	78	98.7	26.2				
	1073	0.080	1.46	226.30	81	78						
15	1074	0.080	1.46	226.30	82	78	98.4	26.3				
ļ	1074	0.080	1.46	230.49	82	78						
16	1074	0.080	1.46	230.49	82	78	98.2	26.3				
	1074	0.080	1.46	234.67	82	78						
17	1075	0.070	1.28	234.67	83	78	100.1	24.6				
	1075	0.070	1.28	238.66	83	78	'''	2.7.0				
18	1077	0.070	1.28	238.66	84	78	99.3	24.6				
	1077	0.070	1.28	242.62	84	78]	****				

Average	1066	0.073	1.326	72.53	77	76	99.4	25.0
		-						

			Te	est #3, Travers	ie #2			
Point	Tstack	ΔP	ΔH	Volume	Tinlet	Toutlet	Isokinetic	Veloci
	۰F	"H2O	"H2O	ft³	°F	°F	%	ft/s
1	1056	0.060	1.10	242.79	75	74	98.3	22.6
'	1056	0.060	1.10	246.40	75 75	74	30.3	22.0
2	1067	0.060	1.10	246.40	75 76	74	98.5	22.7
2	1067	0.060	1.10	250.01	76	74	30.0	22.7
3	1065	0.060	1.10	250.01	78	75	98.2	22.7
J	1065	0.060	1.10	253.62	78	75	30.2	4.4.7
4	1056	0.060	1.10	253.62	78	75	97.9	22.6
**	1056	0.060	1.10	257.23	78	75	37.3	22.0
5	1056	0.080	1.10	257.23	79	76	98.1	26.1
J	1056	0.080	1.49	261.41	79	76	30.1	2.0.1
6	1040	0.080	1.49	261.41	79	76	98.5	26.0
U	1040	0.080	1.49	265.63	79	76	30.5	20.0
7	1040	0.070	1.30	265.63	79 79	76	100.2	24.3
,	1040	0.070	1.30	269.65	79	76	700.2	24.0
8	1040	0.070	1.30	269.65	80	76	100.4	24.3
Ü	1040	0.070	1.30	273.68	80	76	700.4	17.0
9	1040	0.070	1.30	273.68	80	76	100.4	24.3
9	1040	0.070	1.30	277.71	80	76	700.24	24.0
10	1036	0.070	1.30	277.71	80	76	100.5	24.3
10	1036	0.070	1.30	281.75	80	76	100.5	24.0
11	1036	0.070	1.50	281.75	80	77	97.9	25.9
11	1036	0.080	1.50	285.96	80	77	37.3	20.0
12	1036	0.080	1.50	285.96	81	78	98.2	25.9
12	1036	0.080	1.50	290.19	81	78	30.2	25.5
13	1042	0.080	1.50	290.19	81	78	100.5	26.0
13	1042	0.080	1.50	294.51	81	78	100.5	20.0
14	1045	0.080	1.50	294.51	81	78	102.7	26.0
, 4	1045	0.080	1.50	298.92	81	78	102.7	20.0
15	1045	0.080	1.50	298.92	81	78	99.2	26.0
, 0	1045	0.080	1.50	303.18	81	78	00.2	20,0
16	1045	0.080	1.50	303.18	81	78	98.1	26.0
, ,	1045	0.080	1.50	307.39	81	78	30.,	1
17	1054	0.080	1.50	307.39	81	78	98.6	26.1
17	1054	0.080	1.50	311.61	81	78	30.0	20.7
18	1054	0.080	1.50	311.61	81	79	99.4	26.1
10	1054	0.080	1.50	315.87	81	79	33.7	20.7
<u> </u>	, ,,,,,	0.000	1.00	1 070.07	ν.	1 , ,	<u> </u>	.1
Average	1047	0.073	1.366	73.08	80	77	99.2	24.9
Tvo toef	1057	0.072	1 2/6	145.61	7.0	76	00.3	25.0

Average	1047	0.073	1.366	73.08	80	77	99.2	24.9
Ave. test	1057	0.073	1.346	145.61	78	76	99.3	25.0

Velo	ocity	Volumetric flow rates			Temp	Moisture		
ft/s	m/s	ACFM	ACFM SDCFM m³/h Rm³/h				°C	% v/v
25.0	7.6	11790	4052	20034	6885	1057	569	4.4

Total part.	Gas samp	le volume			Verification	n of Isokinetic		
mg	SDCF	Rm³	Nb readings	Nb non Iso	Nb < 90%	Nb > 110%	lso max.	lso min.
63.99	146.27	4.142	36	0	0	0	102.7	97.9

Pstack	Pmeter	Md	Ms	Bwo	Ratio Vs max / Vs min	Vs max.	Vs min.
"Hg	"Hg	g/g-mole	g/g-mole	*****	407477	ft/s	ft/s
30.38	30.49	29.01	28.52	0.044	1.2	26.3	22.6

F	Particulate co	ncentrations		Emission ma	ass flow rate
gr/ACF	gr/SDCF	mg/m³	mg/Rm³	lb/h	kg/h
0.002	0.007	5	15	0.2	0.1

[&]quot;R" or "Reference Conditions" at 25°C, 101.3 kPa, dry basis.

1390 Rue Hocquart St-Bruno-de-Montarville Quèbec Canada J3V, 6E1 Exova Canada Inc.

DONNÉES DE TERRAIN - ÉCHANTILLONNAGE MANUEL

Color Calsson # Feuille Independent Color Independent In	## Dn = C, \(\(\(\frac{1}{1}\)\) \(\frac{1}{1}\) \(\frac{1}\) \(1						ole:	#	ے 20 = 0 8 = 0	3 3 3 3 3 3	1 1 6 3 3	Ko = ○		Conduit: Diamètre:	Dia ("):§ Av:		Porte (") Ap: ≥	
Température	Phat (THg) = \(\text{C} \) Potat (THZO) = \(\text{C} \) Potat Potat	Date: 今、た、/ Projet, R Buse: Site:	/ Projet: R	ojet: R	Buse: Humidite	Buse: Humidité		# upposée	<u>ੇ</u> = '' % = %		Caisson	#		Feuille:		de ∑ "H2O @	V	P
Température Vacuum % ISO OZ COZ	Tmi Tmo Timp Sonde Four Vacuum % ISO O2 CO2 CO3 CO	Pression:	Pression:	Pression:	M Pression:	Pression:	1 1	Pbar ("Hg,) <u> </u>	3	Pstat ("H2	- T		Fuite Après:		"H20 @		'Hg
The control of the	1	Point Haura TS &P &H Volume	TS &P AH	H W	, managam	Volume	9	Tani	Te	empérat Timp	ure Sonde	7177	Vacuum	081%	00		3Z CO	^ON
10 6 1 200 200 5 12 12 12 12 12 12 12 12 12 12 12 12 12	10 50 500 500 50 50 50 5		(°F) ("H2O) ("H2O)	(" H2O)		(pi³)	- 8	(°F)	(°F)	(3°)		(°F)	(" Hg)	(%)	(%)		(% / xudd	ymdd
20 36	20	<u> </u>		80	377		II) C	(-)		SSG	11 1	\(\sigma\)				
7 30	3	800 800 CEON		,e	\frac{1}{2}	3	1 3	1 4	(100) (100) (100)									
20 30 13.8 4.6 1 30 30 13.8 4	32 3C		/ 41 / B / C es	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		T C	. 7	/*{ (1)	00				50	1 1				
4 3.6 13.8 4.6 1 5 3.7 6.0 13.8 14.6 1 5 3.7 6.0 13.8 16.0 1 1 6 3.7 6.0 10.0 10.0 1	4 3 C						- 78	3) }					200001100000000000000000000000000000000				
4 30 4 30 100 <td>\$\frac{7}{2}\$ \$\frac{7}{2}\$ \$\frac{7}{2}\$</td> <td>- X</td> <td></td> <td></td> <td></td> <td>03:40</td> <td></td> <td>) ロ</td> <td>30</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>- 4</td> <td>E E</td> <td></td>	\$\frac{7}{2}\$	- X				03:40) ロ	30							- 4	E E	
			0.08		\$			h.	Ç									SCHOOL STANSSON OF STANSSON OF
	() 2 / () () () () () () () () () (<u> </u>	- 0.08 (89.08)	(5) (6) (6)	(5) (6) (6)	(N		- C	1	こう	シング							
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4 3/1 10/	4 子/ 一 10/ 日 <td>126 Un 1971 QC (1970 1971)</td> <td></td> <td></td> <td>[] [0</td> <td>المشررة</td> <td>Ь—</td> <td>90</td> <td>16</td> <td></td> <td></td> <td></td> <td>Ų</td> <td>(°07)</td> <td></td> <td></td> <td></td> <td></td>	126 Un 1971 QC (1970 1971)			[] [0	المشررة	Ь—	90	16				Ų	(°07)				
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Echantillonneur:



2	100 110 100 100 100 100 100 100 100 100	"Ha	"Hg		NOX ppmv											CONTRACTOR ASSESSMENT		-												
Porte (")	ि db:	- James		Gaz	(% / wwdd)			0		200000000000000000000000000000000000000						O CONTRACTOR DE LA CONT	*****	Name and Address of the Owner, where the Owner, which is the Owne				વ								
38.		"H20 @		G. C.C.C.	7000			1, 7,								on accommon		and discovered the second				ر ا								
	ু ১ ১	0000			(%)			13.1								to an						13,9								
Conduit:	Diamètre: Feuille :	i ;	Fuite Après:	0SI %	(%)	1				(9)		25		A.						\circ		う か		0				S.		$\sim -70 \text{ V}$
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Ko = ि	#) = (c		(F,)				amoin.	6			\? 		5. QX,		7		4) (X) (T)	· α	. 88	10C	0 7K	6	, ()	0	0.	T.	
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\ Σ == Σ	୍ମ ଅଧି	= %	C H	Te	(°F)	<u></u>	2		K	Œ,	(A)	00 00	38	ر ش	((2	() K													Concession
#250	L 	supposée	Pbar ("Hg) =	iw.	(°F)	Ŝ	Œ.	J.	56	5 0			ō6	K K	K K K		C											1	Jane Contract	
Contrôle:	Sonde: Buse:	lite	Pression:	Volume	(pi³)	()NY 87		18767		6674	an desaminated especial and a second	(A)		5 C C			X	''				70 P		CCA か		15 3 .40		103,63	00'811	
	(2533)			H	(" H2O)	37 27 21))	700	フ ナ ニ))	27)))	ナン	ナカツ	# T C C	か プラ		e() C	80	ر 100	,00 . C	801	, o8	0.0	X	163	60,20	1.83	1.537	
7 000	et: R			ΑP	(" H2O)	80.0	200	760°C) () ()		X O ()	80.0	30.0	3.0° ()	30,0		(A) (B)	1/2 1/2	30.0	2007) A6.	2000	70	30.0	9886) ()	30 0 0), O.S	1887 C	
Charle	/ Projet:	T 2 3 3 3 3 3		TS	(°F)	3.0	50,00	ー ダブ ()))))))	ーしかり	1350		->+0/	$\overline{}$	200					1 1350	ショく	1045		レンク・ハ		0.75			1550	***************************************
gnie :			**************************************	Holls		000						, 2 (N)		947 (2			5. 52	_ _ _ _ _		70000		0170		ことでは		P.30		> 0.00 C	300	
Compagnie	Endroit: Date:	Site:	Essai:	Doint						, four,		7)		73		<u>り</u>				r s		pr.		7		ا کار		-29		

D Echantillonneur.

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Compagnie		Charles	0000	POPANNED STATISTICS AND STATISTICS A	Ĩ	#5B ii	~ = X	アンダゼ シ	***************************************	Ko = ○	$K_0 = C \in C \subset C$	Conduit	(") eiQ	n a co	Porte (")	201
Endroit	No	NUBBULE	3		Sonde:	14 で#	II.	280				Diamètre:	Av:	· ~	Ap:	2
1	2102-10-2015		Projet: R J 🛭	-08.9	Buse:	#	l u l	,54c	Caisson #	#		Feuille:	m	de 3		
Site:		NEW RELIE			Humidité s	= % eesoddns	⊘ = %					Fuite Avant:		"H2O @		"Hg
Essai:	.T.	V R M	th 2000, Which has been been been been been been been bee	And the supplemental supplement	Pression:	Pbar ("Hg) =)= 30	Management of the Control	Pstat ("H2O) =	= (0	<u> </u>	Fuite Après:	0,00	"H20 @	51	"Hg
, O		TS	A₽	H₩	Volume	1	Tel	empérature	lre	L.	Vacuum	OSI %	-		Gaz	
	ב ב ב	(3E)	(" H2O)	(" H2O)	(pi³)	(F)	(F)	(°F)	Sonde (°F)	Four (°F)	(" Hg)	(%)	% % 6	Z (%)	CO (bpmv / %)	NOX ppm<
4	19130	1056	400	1,25	8.87	<u>ਨ</u> ਭ	08	75	351	250	71-	00/				
			Q, Q Q	1,95		83	08				-					
3	38:21		Q Q	1.25	115.93	83	<u> </u>				ナー	F ₂ 9 /	13.8	3,7	L.	
ATTEN MANAGEMENT OF THE PARTY O	e de la companya de l	9501	40.0	1.25		Ω Ω	70									
S	19:40	1060	0.07	3.5	119.88	T (X.	Œ				-14	165				
		920	900	SET		τ œ	 80									
ু	1945	1060	0.0%	1.25	123.82	8 (5	~ X	n n	250	250	-14	100		MANAGEM AND CONTROL OF THE CONTROL O		0.0000000000000000000000000000000000000
	NAME OF TAXABLE PARTY O	000	B 00	7. 2.		() ()	√C									
~	og:去!	10 6 C	00 0 0	651	129.78	86	æ				- 4	203			of the state of th	Westernoons
		(000)	0 0	1,43		S S	(X)									
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		0307	\$ 0 0	1.44		9. P	~ ∞									
5	००: हो	ならの	0.68]/\ 	48.381		ල ල	ر ان	9.5°C	250	~ (5) 	6.61	2 ×	K./	
		1049	୦ ୦ ୦	1,45		38	S. S.									
7	18:05	1044	୍ଦ ଓଡ଼	1.45	140.55		Œ Œ				~ (5	₹ <i>01</i>				
Committee		(C4P)	O, GR	1.45		J.	<u> </u>									
15	01:81	4601	6.08	7:46	であっても!		かめ				- 15	(C)				
2000	WALLEST OF THE PROPERTY OF THE	かかい	800	1,46		୍ଚ 	J &	CHOCK CONTRACTOR CONTR	Manage of the Control							
9	18:15	750	0.08	1.45	111.657	91	±1 8	56	asc	250	-15	99				
		4501	80.0	55		9)	7 3									
17	18:20	1054	0.08	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \)53.43	કજ	S S				-15	100				
		けいつ	30 C	545		ر ال	V V									
32	18:35	4501	80.0	541	49651	5	98				- 15	<i>(</i> ○)				
	118:30	1054	0.0%	1.45		93	93									
					162.C		Constante =>		. ĭ 	17 - 05	Ŋ	A%= 93.	3. 98			

Echantillonneur.

C

WEIGHT SHEET

Company	Agnico-Eagle
Location	Baker Lake
Date	<u>Ca_/_10_/2012</u>
Site	Outlet incinerator
Train #	
Test #	<i>#/ /</i> PAM

		DATA	ι.	
Pbar:	30.	10 p	o.Hg	
		O_2	%	13.75
G		CO_2	%	4.65
A		CO	ppm	9,5
Z		CO	%	

	No.	Final (g)	Veight Initial (g)	Weight Particulates
	0.11.5	1 11101 (8)	25:4554	
Filter	Q-[건)			
Probe wash		•		
Cyclone				
			Weight (g)	

Imp	pingers	Final weight	Initial weight	Water weight
1	H2O	593	514.6	43.5
2	420 Vide	5 12.8	Sans J	0.5
3	HNO ₃ 5% /H ₂ O ₂ 10 %	6091	(3)3	39.8
4	HNO ₃ 5%/H ₂ O ₂ 10%	< 39.8	9630	6.8
5	Empty	495.7	4750	6.4
6	KMnO ₄ 4%/ H ₂ SO ₄ 10%	4475	544.	
7	KMnO ₄ 4%/ H ₂ SO ₄ 10%	639.)	639.	0, 🧠
8	Silica gel		574. y	(1.3
			Final weight	99,9

Preparation	Prepared by	Recovered by	Approved by
Date		01-10-10	
On site		88	
Laboratory		K P ₃	

Gestion des volumes des Barboteurs

Barboteur #	Volume d'eau Condensé	Volume de solution Initiale	Total	Code
1	mL	+ 100 mL	$/\% / \mathbb{C} \ mL^{(1)}$	
2	mL	+ 100 mL	mL ⁽²⁾	
Rinçage (poids)	g	g	$\frac{1}{2}$ mL ⁽³⁾	1 g d'eau = 1 mL
Sous total (1+2+3)			$mL^{(4)}$	
Aliquot (Contenant	3B)		(-) 100 mL ⁽⁵⁾	OCT12-A1-PAM-INC-(1+2-A)-12089.44
Volume final (4-5)			97 mL ⁽⁶⁾	
Divise par 20			divise par 20 ⁽⁷⁾	
Volume d'acide HN	O ₃ conc. à ajouter		$\beta \ni mL^{(8)}$	
Volume final (5+6+	8) (Contenant 3A)	-	77.7 mL ⁽⁹⁾	OCT12-A1-PAM-INC-(1+2-M1)-12089.45 OCT12-A1-PAM-INC-(1+2-M2)-12089.46

3	a) a	mL	+ 100 mL	137 CmL (10)	
4	3 8	mL	+ 100 mL	\0 \% .	
Rinçage (poids)		g	g	$93 \text{ mL}^{(12)}$	
Total (10 + 11 + 12) (Contenan	t 4)		3>05 ≯mL ⁽¹³⁾	OCT12-A1-PAM-INC-(3+4-RM)-12089.47

5	-7 5	mL	+ 0 mL). (- mL ⁽¹⁴⁾	
Rinçage (poids)		g	g	7	$mL^{(15)}$	
Total (14 + 15) (Cor	ntenant 5 A	<i>y</i>)		42	mL ⁽¹⁶⁾	OCT12-A1-PAM-INC-(5)-12089.48

6	0. y	mL	+ 100 mL	100.4 mL ⁽¹	17)
7	\sim	mL	+ 100 mL	1()() mL ⁽⁾	8)
Rinçage (KMnO ₄)		g	g	39.9 mL"	$g \text{ KMnO}_4 / 1.124 \text{ g/mL} = \text{mL KMnO}_4$
Rinçage (H ₂ O)		g	g	$55.$ mL^{\odot}	20)
Total (17 + 18 + 19+	20) (Cont	enant 5	5 B)	27 (- JmL(2	OCT12-A1-PAM-INC-(6+7)-12089.49



## Done Calisson # Equilibrium Calisson # Fullified Calisson # Equilibrium Calisson # Equilibrium Calisson # Equilibrium Calisson # Equilibrium Calison # Equilibrium Calison Calison # Californ # Calison # Californ # Calison # Californ # Ca	- 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	200	The state of the s	Contrôle:	##	× = X		The state of the s	Ko = _	?	B	Dia (").	**************************************	Porte (")	
Fight ("H2O) =	/ Projet: R Bi	<u>N</u> <u>A</u>	Μ۵	onde. use:	# #		9	Saisson	#		Diametre. Feuille:	AV.	de	Ap.	
Pati (TAZO) = Fulle Apres: TAZO COZ		Hnm	Hull	idité su	apsoddr	= %					Fuite Avant:		"H20 @		"Hg
This This Sonde Four Vacuum % ISO O2 CO2 CO2 CO3 C	ries:	FIESS	Lies	IOII.	Pbar ("Hg)		* TOOLS AND THE PROPERTY OF THE PERSONS AND TH	stat ("H20	ğ	AND THE PROPERTY OF THE PROPER	Fulte Apres:	CONTRACTOR	D 07L		BL.
("F) ("F) ("F) ("F) ("F) ("F) ("Hg) (%) (%) (%) (%) (ppmv/%)	TS AP AH Volume		Nolu	me	Tmi	Ter Tmo	mpėratus Timo I	e Sonde l	Four	Vacuum	OSI %	02	COS	jaz CO	XON
	(°F) ("H2O) ("H2O) (pi³)	(" H2O)	(pi³)		(4°)	(°F)		(°F)	(°F)	(" Hg)	(%)	(%)	(%)	(% / wwdd)	
		The second secon	1 July 1												
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		13	13		2.7	2									
3					(A)	\\ 									
	3		,	1.0	1	ψ (-					***************************************				

Échantillonneur



Compagnie	gnie :		WOODCO SHARRANG AND		Contrôle:	#		()	WIFEGUODS AND DESCRIPTIONS	Ko = 0X	HILLER CONTROL OF THE PARTY OF	Conduit	Dia (");	A TOTAL CONTRACTOR OF THE PARTY	Porte (")	
Endroit					Sonde:	#	= >		V			Diamètre:	Av:		Ap:	
Date:	186 18	/ Pr	/ Projet: R			#	Dn =)	Caisson#	#		Feuille:		de		
Site:	3	1. 1. 1. 1.			Humidité s	= % epsoddns	= %					Fuite Avant:		"H2O @		"Hg
Essai:		- 3	. X. E.	nemonografii istoremovanani	Pression:	Pbar ("Hg)		-	Pstat ("H2O)	= ((Fuite Après:	AND THE PERSON NAMED IN COLUMN	"H20 @	A THE PROPERTY OF THE PROPERTY	"Hg
Dois		TS	P₽	HW	Volume	F	Tel	B - 3	e		Vacuum	OSI %		9	Gaz	
	ב ב ב	(°F)	(" H2O)	(" H20)	(pi³)	(%)	(F)	(F)	Sorine (F)	(F)	(" Hg)	(%)	7 (%)	(%)	(% / wuidd)	MOX ppmv
	400,000	1.00				1	**. ·	1	1777	() (1	1				
						1. Ca	\\.\.									
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	3.			1 113) (2) (2)				And the second second second second					
	Page 1		12,137			N.	2				1	en en				
v Š		1	6.3.5.3	7.7		,	: 5 %	\			, , , , , , , , , , , , , , , , , , ,	(F)				
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	7					Ά.	1				***************************************					
							Constante ≈>		K =			A% =				1
71					Assessment Strategic Control of the									7		

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Échantillonneur.

Assistant à l'échantillonneur.

Dernière modification: 16-10-09



# 1/2	9)= Tel Tmo	("H2O) (pi³) (°F) (°F) (°F) (°F) ("Hg) (%) (%)																		Constante => K == A% =
	11	(pi³)	A free		- 18 A.S.	i di sim		1.			8 .	\$ P.	100			<u>.</u>		¥.	6.1	
/ Projet: R		(" H2O) (" H2C		-			M		Company of the contract of the								\ \frac{1}{2} \cdot \frac{1}{2			
agnie: C.S.	Essai: Point Heure TS								THE REAL PROPERTY OF THE PROPE	WARRACT TO THE PARTY OF THE PAR										

Échantillonneur:

12

the feet

WEIGHT SHEET

Company	Agnico-Eagle
Location	Baker Lake
Date	3 / 10 / 2012
Site	Outlet incinerator
Train #	5
Test #	PAM

		DAT	A	
Pbar:	J0.	39 1	ро.Нg	
		O_2	%	13,60
G		CO_2	%_	2.91
A		СО	ppm	Z2.1
Z		СО	%	

	No.	Final (g)	Weight Initial (g)	Weight Particulates
Filter	Q-182		052718	
Probe wash				American
Cyclone				
			Weight (g)	

Imp	ingers	Final weight	7 Initial weight	∕Water weight _{/∰}
1	H2O	<73.4	5223	
2	H2O	SSOUL	5136	ઉં કે જ
3	HNO ₃ 5%/H ₂ O ₂ 10%	<u> </u>	5628	10.9
4	HNO ₃ 5% /H ₂ O ₂ 10 %	5734	5757	0 6
5	Empty	4963	471 6	0.3
6	KMnO ₄ 4%/ H ₂ SO ₄ 10%	69 6.0	540.7	
7	KMnO ₄ 4%/ H ₂ SO ₄ 10%	5 49.8	5408	0.0
8	Silica gel	964.4	6798	946
,		****	Final weight	40.5

Preparation	Prepared by	Recovered by	Approved by
Date	30206	3 pc/ola	
On site	- 1 - 3 - B - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1		
Laboratory			

Gestion des volumes des Barboteurs

Barboteur #	Volume d'eau Condensé	Volume de solution Initiale	Total	Code
1	CO A mL	+ 100 mL	$11000 mL^{(1)}$	
2	G 6 🖔 mL	+-100-mL	36 % mL ⁽²⁾	
Rincage (poids)	g	g	$63 \cdot \sqrt{mL^{(3)}}$	1 g d'eau = 1 mL
Sous-total (1+2+3)			$\mathbb{R}^{(4)}$	
Aliquot (Contenant	3B)		(-) 100 mL ⁽⁵⁾	OCT12-A3-PAM-INC-(1+2-A)-12089.64
Volume final (4-5)			, √ 1. 2. mL ⁽⁶⁾	
Divise par 20			divise par 20 (7)	
Volume d'acide HNC	0 ₃ conc. à ajouter		∋. 5% mL ⁽⁸⁾	
Volume final (5+6+8	3) (Contenant 3A)	956,8	58 J mL (9)	OCT12-A3-PAM-INC-(1+2-M1)-12089.65 OCT12-A3-PAM-INC-(1+2-M2)-12089.66
3	/(). 🧦 mL	+ 100 mL	110 9 mL(10)	
4	a mL	+100 mL	(O) omL(II)	
Rincage (poids)	g	g	10 9.5 mL ⁽¹²⁾	
Total (10 + 11 + 12)	(Contenant 4)	W	3-0 -mL ⁽¹³⁾	OCT12-A3-PAM-INC-(3÷4-RM)-12089.67
			1	,
5	$\mathbb{C} \cdot \mathbb{A}$ mL	+ 0 mL	mL ⁽¹⁴⁾	
Rincage (poids)	g	g	원이 mL ⁽¹⁵⁾	
Total (14 + 15) (Co	ntenant 5 A)	Mark.	$80 > mL^{(16)}$	OCT12-A3-PAM-INC-(5)-12089.68
6	mL	+ 100 mL	(5 <u>3</u> mL ⁽¹⁷⁾	
7	mL	+ 100 mL	00 mL ⁽¹⁸⁾	
Rincage (KMnO ₄)	g	g	\\\\\\ mL^{(19)}	g KMnO ₄ / 1.124 g/mL = mL KMnO ₄
Rincage (H ₂ O)	g	g	30 mL ⁽²⁰⁾	
Total (17 + 18 + 19+	20) (Contenant	5 B)	460,4 mL ⁽²¹⁾	OCT12-A3-PAM-INC-(6+7)-12089.69

CALIBRATION OF SAMPLING MODULE

Module Identification:	SB L1
Inventory number:	0
Atmospheric pressure ("Hg):	29.90

Responsable calibration:	B.BOUCHARD
Responsable data entry:	0
Calibration date:	01-févr-12
Next calibration date:	01-févr-13

del.H in.H2O	Vw ft³	Vd ft³	Tw deg.F	Tdo deg.F	Td deg.F	time min.	del.m in.H2O	factor count.
1.0	5.00	5.24	70.0	88.0	90.0	7.45	-0.30	1.0008
1.0	5.00	5.21	70.0	86.5	85.8	7.45	-0.30	1.0008
1.5	5.00	5.19	70.0	84.5	85.0	6.03	-0.35	1.0008
1.5	5.00	5.20	70.0	84.0	85.0	6.03	-0.35	1.0008
2.0	5.00	5.20	70.0	84.0	85.5	5.15	-0.45	1.0008
2.0	5.00	5.20	70.0	84.0	86.3	5.16	-0.45	1.0008
2.5	10.00	10.37	70.0	84.0	87.3	9.12	-0.50	1.0008
2.5	10.00	10.39	70.0	85.0	88.0	9.12	-0.50	1.0008
3.0	10.00	10.44	70.0	85.5	88.8	8.28	~0.60	1.0008
3.0	10.00	10.45	70.0	86.5	89.8	8.30	-0.60	1.0008

del.H	Vwc	K	del.H@	Qm	Ko	gamma	Accepta	bility criteria
in.H2O	ft³		in.H2O	cfm			1.50%	yes/no
1.0	5.00	0.7947	1.20	0.6923	0.8711	0.9878	0.16	yes
1.0	5.00	0.7936	1.21	0.6904	0.8699	0.9858	0.04	yes
1.5	5.00	0.9696	1.19	0.8487	0.8753	0.9870	0.07	yes
1.5	5.00	0.9691	1.19	0.8479	0.8749	0.9851	0.12	yes
2.0	5.00	1.1184	1.16	0.9913	0.8864	0.9845	0.18	yes
2.0	5.00	1.1184	1.16	0.9894	0.8847	0.9859	0.04	yes
2.5	10.01	1.2496	1.13	1.1181	0.8947	0.9892	0.30	yes
2.5	10.01	1.2508	1.13	1.1202	0.8956	0.9886	0.24	yes
3.0	10.01	1.3699	1.11	1.2331	0.9001	0.9838	0.25	yes
3.0	10.01	1.3712	1.12	1.2324	0.8988	0.9847	0.16	yes
Δ	AVERAGE		1.16	0.9764	0.8852	0.9862		

Reference: Method 1/RM/8

Document : Cal2012 Contrôle SB_L1.xls

Probe Identifi Inventory nut		2F (EAU) 0		ate chnician responsable ing technician responsable	22-févr-1 S.Demers S.Demers
Barometric p Ambiant tem		29.76 "Hg 70.0 of	Ms:	28.73	
NOZZLES	SCALE	PITOT	PITOT	Vs	Cv
		REFERENCE	"S" TYPE		
		del p	del p	ft/s	
	,	* 000	1.510	67.308	0.814
	2	1.000 0.660	1.510 0.993	54.682	0.815
VITHOUT	3	0.518	0.776	48.443	0.817
NOZZLE	4	0,285	0.425	35,933	0.819
	5	0.140	0.205	25.184	0.826
	6	0.050	0.072	15,051	0.833
	1	1,000	1.510	67.308	0.814
	2	0.660	0.993	54.682	0.815
Dia. 1/8	3	0.518	0.776	48,443	0.817
No. EX5	4	0.285	0.425	35.933	0.819
	5	0.140	0.205	25.184	0.826
	6	0.050	0.072	15.051	0.833
	1	1.000	1.580	67.308	0.796
	2	0.660	1.035	54.682	0.799
Dia. 3/16	3	0.518	0.802	48,443	0.804
No. EX5	4	0.285	0.438	35.933	0,807 0,809
	5 6	0.140 0.050	0.214 0.075	25.184 15.051	0.816
		,			
	1	1.000	1.580	67.308	0.796
Dia. 1/4	2 3	0,660 0,518	1.035 0.803	54.682 48.443	0.799 0.803
No. EX5	4	0.285	0.439	35.933	0.806
110. 4//44/	5	0.140	0.214	25.184	0.809
	6	0.050	0.075	15.051	0.816
	1	1.000	1.580	67.308	0.796
	2	0.660	1,035	54.682	0.799
Dia. 5/16	3	0.518	0.804	48.443	0.803
No. EX5	4	0.285	0.440	35.933	0.805
	5	0.140	0.214	25,184	0.809
	6	0.050	0.075	15.051	0.816
	1	1.000	1.580	67,308	0.796
	2	0.660	1,035	54.682	0.799
Dia. 3/8	3	0.518	0.804	48.443	0.803
No. EX5	4	0,285	0.440	35,933 25,184	0,805 0,809
	5 6	0.140 0.050	0.214 0.075	15.051	0.816
		1 000	1.590	67.308	0.793
	1 2	1.000 0.660	1.040	54.682	0.797
Dia. 7/16	3	0.518	0.806	48.443	0.802
No. EX5	4	0.285	0.441	35,933	0.804
	5	0.140	0.214	25.184	0.809
	6	0.050	0.075	15.051	0.816
	ı	1.000	1.590	67.308	0.793
	2	0.660	1.040	54,682	0.797
Dia. 1/2	3	0.518	0.807	48.443	0.801
No. EX5	4	0.285	0.441	35,933	0.804
	5	0.140	0.214 0.075	25.184 15.051	0,809 0,816
	6	0.050	0.073	13,031	0,010

NOTICE: Shows the average of three reading taken during calibration.

Test	Date	Time	Filter	Probe	Cyclone	Vmeter	Dstack	Period
	As alread Mr.		mg	mg	mg	ft³	inches	minutes
1	October 2, 2012	15:30 - 18:40				143.57	38.00	5

O2 (% v/v)	CO2 (% v/v)	CO (ppmv)	Vol. water	Pbar	Dnozzle	Cpitot	γ	Pstatic
Dry basis	Dry basis	Dry basis	mL	"Hg	inch			"H2O
13.75	4.65	9.5	132.1	30.10	0.527	0.816	0.9855	-0.18
SO2	H2		•					
0	0							

			T	raverse #1				
Point	Tstack	ΔP	ΔH	Volume	Tinlet	Toutlet	Isokinetic	Velocit
	°F	"H2O	"H2O	ft³	°F	°F	%	ft/s
1	1057	0.110	1.08	28.00	71	70	94.1	30.6
	1057	0.110	1.08	32.43	71	70		
2	1057	0.110	1.08	32.43	71	70	96.6	30.6
-	1057	0.110	1.08	36.98	71	70		
3	1058	0.100	0.99	36.98	72	70	94.1	29.2
	1058	0.100	0.99	41.21	72	70		
4	1058	0.100	0.99	41.21	73	71	95.3	29.2
	1058	0.100	0.99	45.50	73	71		
5	1058	0.100	0.99	45.50	74	71	95.2	29.2
	1058	0.100	0.99	49.79	74	71		
6	1058	0.100	0.99	49.79	75	71	97.8	29.2
	1058	0.100	0.99	54.20	75	71		
7	1023	0.080	0.81	54.20	77	72	98.9	25.8
	1023	0.080	0.81	58.25	77	72		
8	1022	0.080	0.81	58.25	79	72	98.0	25.8
	1022	0.080	0.81	62.27	79	72		
9	1022	0.080	0.81	62.27	82	73	97.8	25.8
	1022	0.080	0.81	66.30	82	73		
10	1022	0.080	0.82	66.30	84	73	96.9	25.8
	1022	0.080	0.82	70.30	84	73		
11	1022	0.080	0.82	70.30	85	74	97.7	25.8
-	1022	0.080	0.82	74.34	85	74		
12	1034	0.080	0.82	74.34	86	74	98.5	25.9
ļ.	1034	0.080	0.82	78.40	86	74		
13	1000	0.080	0.81	78.40	88	75	98.1	25.6
1	1000	0.080	0.81	82.50	88	75		
14	1000	0.080	0.81	82.50	89	76	99.6	25.6
	1000	0.080	0.81	86.67	89	76		
15	1002	0.080	0.81	86.67	90	77	98.0	25.6
	1002	0.080	0.81	90.78	90	77		
16	1002	0.080	0.81	90.78	91	78	98.5	25.6
	1002	0.080	0.81	94.92	91	78		
17	1010	0.060	0.62	94.92	92	79	96.8	22.3
	1010	0.060	0.62	98.44	92	79		
18	1010	0.060	0.62	98.44	93	80	97.7	22.3
	1010	0.060	0.62	102.00	93	80		

Average	1029	0.086	0.861	74.00	82	74	97.2	26.7
		~						

		F		T				
Point	Tstack	ΔP	ΔH	Volume	Tinlet	Toutlet	Isokinetic	Veloci
	°F	"H2O	"H2O	ft³	°F	°F	%	ft/s
1	1006	0.070	0.72	102.21	94	82	98.7	24.0
	1006	0.070	0.72	106.11	94	82		
2	1021	0.070	0.72	106.11	94	83	98.9	24.1
	1021	0.070	0.72	110.00	94	83		
3	1057	0.070	0.72	110.00	94	83	103.2	24.4
	1057	0.070	0.72	114.01	94	83		
4	1062	0.070	0.72	114.01	94	84	97.1	24.5
	1062	0.070	0.72	117.78	94	84		
5	1064	0.060	0.61	117.78	95	84	97.8	22.7
	1064	0.060	0.61	121.30	95	84		
6	1066	0.060	0.61	121.30	95	85	99.8	22.7
_	1066	0.060	0.61	124.89	95	85		
7	1056	0.060	0.61	124.89	95	85	97.2	22.6
	1056	0.060	0.61	128.40	95	85		
8	1056	0.090	0.92	128.40	95	86	101.7	27.7
	1056	0.090	0.92	132.90	95	86	,	
9	1056	0.090	0.92	132.90	95	86	102.9	27.7
Ū	1056	0.090	0.92	137.45	95	86	, , , , , ,	
10	1067	0.090	0.92	137.45	95	87	97.7	27.8
, ,	1067	0.090	0.92	141.76	95	87	J 11.7	1 27.0
11	1054	0.090	0.92	141.76	95	88	100.4	27.7
	1054	0.090	0.92	146,21	95	88	100.4	~~
12	1054	0.090	0.92	146.21	96	88	95.5	27.7
	1054	0.090	0.92	150.45	96	88	00,0	
13	1060	0.060	0.61	150.45	96	90	97.9	22.6
	1060	0.060	0.61	154.00	96	90	0.70	1
14	1060	0.060	0.61	154.00	96	90	99.3	22.6
, -	1060	0.060	0.61	157.60	96	90	33.5	12.0
15	1060	0.060	0.61	157.60	96	90	99.6	22.6
, 0	1060	0.060	0.61	161.21	96	90	33.0	12.0
16	1060	0.060	0.61	161.21	96	90	96.0	22.6
,,,	1060	0.060	0.61	164.69	96	90	30.0	22.0
17	1060	0.060	0.61	164.69	96	90	97.1	22.6
11	1060	0.060	0.61	168.21	96 96	90	37.1	22.0
18	1060	0.060	0.61	168.21	96	90	98.5	22.6
10	1060	0.060	0.61	171.78	96	90	30.5	22.0

Ave. test 1042 0.078 0.791 143.57 88 80 98.0 25.5	Average	1054	0.071	0.721	69.57	95	87	98.8	24.4
Ave test 1042 0.078 0.794 143.57 88 80 98.0 25.5									
	Ave. test	1042		0.791	143.57	88	80	98.0	

Velo	city		Volumetric	flow rates	Temp	Moisture		
ft/s	m/s	ACFM	SDCFM	m³/h	Rm³/h	°F	ο̈́	% v/v
25.5	7.8	12064	4152	20499	7054	1042	561	4.3

Total part.	Gas samp	le volume		Verification of Isokinetic						
mg	SDCF	Rm³	Nb readings		Nb < 90%	Nb > 110%	lso max.	lso min.		
0	140.73	3.985	36	0	0	0	103.2	94,1		

Pstack	Pmeter	Md	Ms	Bwo	Ratio Vs max / Vs min	Vs max.	Vs min.
"Hg	"Hg	g/g-mole	g/g-mole			ft/s	ft/s
30.09	30.16	29.29	28.81	0.043	1.4	30.6	22.3

I	Particulate co	Emission ma	ass flow rate		
gr/ACF	gr/SDCF	lb/h	kg/h		
0.000	0.000	0	0	0.0	0.0

[&]quot;R" or "Reference Conditions" at 25°C, 101.3 kPa, dry basis.

Test	Date	Time	Filter	Probe	Cyclone	Vmeter	Dstack	Period
			mg	mg	mg	ft³	inches	minutes
3	October 3, 2012	15:15 - 18:30				136.28	38.00	5

O2 (% v/v)	CO2 (% v/v)	CO (ppmv)	Vol. water	Pbar	Dnozzle	Cpitot	γ	Pstatic
Dry basis	Dry basis	Dry basis	mL	"Hg	inch			"H2O
13.60	2.91	22.1	118.6	30.39	0.527	0.816	0.9855	-0.18
SO2	H2							
Ω	0							

Tstack °F 1054 1050 1050 1061 1061 1061 1061 1061 1061	ΔP "H2O 0.100 0.100 0.100 0.100 0.100 0.100 0.080	ΔΗ "H2O 1.00 1.00 1.00 1.00 1.00	Volume ft ³ 203.04 207.37 207.37 211.70	Tinlet °F 76 76 76	Toutlet °F 75 75	Isokinetic % 95.2	Velocity ft/s 29.1
1054 1054 1050 1050 1061 1061 1061 1061	0.100 0.100 0.100 0.100 0.100 0.100 0.080	1.00 1.00 1.00 1.00 1.00	203.04 207.37 207.37	76 76	75		
1054 1050 1050 1061 1061 1061 1061	0.100 0.100 0.100 0.100 0.100 0.080	1.00 1.00 1.00 1.00	207.37 207.37	76		95.2	29.1
1050 1050 1061 1061 1061 1061 1061	0.100 0.100 0.100 0.100 0.080	1.00 1.00 1.00	207.37		75	*	
1050 1061 1061 1061 1061 1061	0.100 0.100 0.100 0.080	1.00 1.00	?	76		t	
1061 1061 1061 1061 1061	0.100 0.100 0.080	1.00	211.70	70	76	95.0	29.1
1061 1061 1061 1061	0.100 0.080			76	76		
1061 1061 1061	0.080	1.00	211.70	77	77	94.3	29.2
1061 1061		1.00	215.99	77	77		ļ
1061		0.80	215.99	77	<i>7</i> 8	98.4	26.1
	0.080	0.80	220.00	77	78		
1061	0.080	0.80	220.00	77	79	96.8	26.1
	0.080	0.80	223.95	77	79		
1057	0.080	0.80	223.95	78	79	96.4	26.1
1057	0.080	0.80	227.89	78	79		
1056	0.080	0.80	227.89	78	80	97.2	26.1
1056	0.080	0.80	231.87	78	80		
1056	0.080	0.80	231.87	78	80	96.7	26.1
1056	0.080	0.80	235.83	78	80		
1057	0.080	0.80	235.83	78	80	95.8	26.1
1057	0.080	0.80	239.75	78	80		
1057	0.080	0.80	239.75		81	96.4	26.1
1057	0.080	0.80	243.70		81		
1057	0.080	0.80	243.70			93.9	26.1
1057	0.080	0.80	247.55		81		
1057	0.070		247.55		81	99.2	24.4
1057	0.070		251.36				
1057			251.36			97.1	24.4
1057	0.070	0.70	255.10		81	-	
1057	0.070	0.70	255.10		81	96.5	24.4
1057	0.070	0.70	258.82	84	81		
1057	0.070	0.71	258.82	86	81	97.4	24.4
1057	0.070	0.71	262.58	86	81		
1058	0.070	0.71	262.58	87	81	97.3	24.4
1058	0.070	0.71	266.34	87	81		
1060	0.060	0.60	266.34	88	82	98.3	22.6
1060	0.060	0.60	269.86				
II.	0.060	0.60	269.86			100.3	22.7
7068	0.060	0.60	273.45	89		t .	1
	1057 1057 1057 1057 1057 1057 1057 1057	1057 0.080 1057 0.080 1057 0.080 1057 0.080 1057 0.070 1057 0.070 1057 0.070 1057 0.070 1057 0.070 1057 0.070 1057 0.070 1057 0.070 1058 0.070 1058 0.070 1060 0.060 1060 0.060 1068 0.060	1057 0.080 0.80 1057 0.080 0.80 1057 0.080 0.80 1057 0.080 0.80 1057 0.070 0.70 1057 0.070 0.70 1057 0.070 0.70 1057 0.070 0.70 1057 0.070 0.70 1057 0.070 0.71 1057 0.070 0.71 1058 0.070 0.71 1058 0.070 0.71 1058 0.070 0.71 1060 0.060 0.60 1060 0.060 0.60 1068 0.060 0.60	1057 0.080 0.80 239.75 1057 0.080 0.80 243.70 1057 0.080 0.80 243.70 1057 0.080 0.80 247.55 1057 0.070 0.70 247.55 1057 0.070 0.70 251.36 1057 0.070 0.70 251.36 1057 0.070 0.70 255.10 1057 0.070 0.70 255.10 1057 0.070 0.70 258.82 1057 0.070 0.71 258.82 1057 0.070 0.71 262.58 1058 0.070 0.71 262.58 1058 0.070 0.71 262.58 1058 0.070 0.71 266.34 1060 0.060 0.60 266.34 1060 0.060 0.60 269.86 1068 0.060 0.60 269.86	1057 0.080 0.80 239.75 79 1057 0.080 0.80 243.70 79 1057 0.080 0.80 243.70 79 1057 0.080 0.80 247.55 79 1057 0.070 0.70 247.55 80 1057 0.070 0.70 251.36 80 1057 0.070 0.70 251.36 84 1057 0.070 0.70 255.10 84 1057 0.070 0.70 255.10 84 1057 0.070 0.70 258.82 84 1057 0.070 0.71 258.82 86 1057 0.070 0.71 262.58 86 1057 0.070 0.71 262.58 86 1058 0.070 0.71 262.58 87 1058 0.070 0.71 266.34 87 1060 0.060 0.60 269.86	1057 0.080 0.80 239.75 79 81 1057 0.080 0.80 243.70 79 81 1057 0.080 0.80 243.70 79 81 1057 0.080 0.80 247.55 79 81 1057 0.070 0.70 247.55 80 81 1057 0.070 0.70 251.36 80 81 1057 0.070 0.70 251.36 84 81 1057 0.070 0.70 255.10 84 81 1057 0.070 0.70 255.10 84 81 1057 0.070 0.70 258.82 84 81 1057 0.070 0.71 258.82 86 81 1057 0.070 0.71 262.58 86 81 1057 0.070 0.71 262.58 86 81 1058 0.070 0.71 262.58	1057 0.080 0.80 239.75 79 81 96.4 1057 0.080 0.80 243.70 79 81 93.9 1057 0.080 0.80 243.70 79 81 93.9 1057 0.080 0.80 247.55 79 81 99.2 1057 0.070 0.70 247.55 80 81 99.2 1057 0.070 0.70 251.36 80 81 97.1 1057 0.070 0.70 251.36 84 81 97.1 1057 0.070 0.70 255.10 84 81 97.1 1057 0.070 0.70 255.10 84 81 96.5 1057 0.070 0.70 258.82 84 81 96.5 1057 0.070 0.71 258.82 86 81 97.4 1057 0.070 0.71 262.58 86 81

Average	1058	0.078	0.784	70.41	81	80	96.8	25.8
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			Te	est #3, Travers	e #2			
Point	Tstack	ΔP	ΔH	Volume	Tinlet	Toutlet	Isokinetic	Velocity
	°F	"H2O	"H2Q	ft³	°F	} °F	%	ft/s
1	1040	0.060	0.61	273.60	85	83	97.0	22.5
	1040	0.060	0.61	277.09	85	83	****	
2	1044	0.060	0.61	277.09	85	83	97.7	22.5
	1044	0.060	0.61	280.60	85	83		1
3	1050	0.060	0.61	280.60	85	83	98.1	22.5
	1050	0.060	0.61	284.12	85	83		
4	1051	0.060	0.61	284.12	86	83	97.3	22.5
	1051	0.060	0.61	287.61	86	83		
5	1042	0.060	0.61	287.61	86	84	97.4	22.5
	1042	0.060	0.61	291.12	86	84		
6	1042	0.060	0.61	291.12	86	84	96.9	22.5
	1042	0.060	0.61	294.61	86	84		
7	1043	0.060	0.61	294.61	87	84	97.1	22.5
	1043	0.060	0.61	298.11	87	84		
8	1041	0.080	0.81	298.11	8 <i>7</i>	84	96.3	26.0
	1041	0.080	0.81	302.12	87	84		
9	1042	0.080	0.81	302.12	87	85	95.1	26.0
	1042	0.080	0.81	306.08	87	85		
10	1042	0.080	0.81	306.08	88	85	95.9	26.0
	1042	0.080	0.81	310.08	88	85		
11	1034	0.080	0.81	310.08	88	85	97.1	25.9
	1034	0.080	0.81	314.14	88	85		
12	1034	0.080	0.81	314.14	88	85	95.2	25.9
	1034	0.080	0.81	318.12	88	85		
13	1035	0.060	0.62	318.12	89	86	98.7	22,4
	1035	0.060	0.62	321.70	89	86		
14	1036	0.060	0.62	321.70	89	86	98.7	22.4
	1036	0.060	0.62	325.28	89	86		
15	1038	0.060	0.62	325.28	89	86	99.9	22.5
	1038	0.060	0.62	328.90	89	86		
16	1038	0.060	0.62	328.90	90	86	97.3	22.5
	1038	0.060	0.62	332.43	90	86		
17	1038	0.060	0.62	332.43	90	87	97.5	22.5
	1038	0.060	0.62	335.97	90	87		
18	1038	0.060	0.62	335.97	90	87	96.4	22.5
	1038	0.060	0.62	339.47	90	87		
	1 4040	0.000	0.000	7 25 2	~~	T 0=	1 070	1 00 1
Average	1040	0.066	0.669	65.87	88	85	97.2	23.4

		! <u></u>				
Ave. test 10	049 0.072	0.727 136.28	84	82	97.0	24.6

Velo	city		Volumetric flow rates				Temperature	
ft/s	m/s	ACFM	SDCFM	m³/h	Rm³/h	°F	°C	% v/v
24.6	7.5	11622	4029	19747	6846	1049	565	4.0

Total part.	Gas samp	le volume	Verification of Isokinetic						
mg	SDCF	SDCF Rm³		Nb non Iso	Nb < 90%	Nb > 110%	lso max.	lso min.	
0.00	135.11	3.826	36	0	0	0	100.3	93.9	

Pstack	Pmeter	Md	Ms	Bwo	Ratio Vs max / Vs min	Vs max.	Vs min.
"Hg	"Hg	g/g-mole	g/g-mole			ft/s	ft/s
30.38	30.44	29.01	28.56	0.040	1.3	29.2	22.4

gr/ACF gr/SDCF mg/m³ mg/Rm³	lb/h	kn/h
	10/11	ng/u j
0.000 0.000 0 0	0.0	0.0

[&]quot;R" or "Reference Conditions" at 25°C, 101.3 kPa, dry basis.



Compagnie	ignie: 🧢		WOODWAND TO THE PROPERTY OF TH		Contrôle:	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	() = % ₹	77.39		Ko =	Management of the second	Conduit:	Dia ("):		Porte (")	
Endroit		San Branch	A. A.			<u> </u>	ं = ^)	348	Secretary V		,	Diamètre:	े :N		Ap: 🔇	
Date:		Pr	/ Projet: R			#	ુ≐ uO		Caisson#	#		Feuille : 🥼	1	ે əp		
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Échantillonneur

Assistant à l'échantillonneur:

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Full Heart Carlo	Date:	-2-8-	8	ojet: R		Buse:	#		7	Caisson	#		Feuille:] (*)	de		
Point Heure TS AP AH Volume Tm Température Vacuum % ISO O2 CO2 C	Site:		N. N. N.			Humidité s	upposée	/ = %	/				Fuite Avant:	77	"H2O (6	()	"Hg
Point Heure TS AP AP Volume Tmi Tmo Timp Sonde Four Vacuum % ISO O2 O2 O2 O2	Essai:	ACCOMPAND THE WAS DESCRIBED TO SECURITY OF THE PERSON OF T	V.	NOTE OF THE PROPERTY OF THE PARTY OF THE PAR	our control and the state of the party of th	Pression:	Pbar ("Hg)	1	Olembout material constraints	Pstat ("H2C	3		Fuite Après:	entradisation resistances	"H20 (6		"Hg
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二 'Échantillonneur. _



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Date:	1011	/ J. / Pr	Projet: R		Buse:	#	Dn = ೧.	œ.	Caisson #	#		Feuille:				
Site	g armen	MUNICOLONICA				enbbosée	⁹ =%					Fuite Avant: (,"H20 @	13-	"Hg
Essai	A. S.	50757	C. C	A CONTRACTOR OF THE PROPERTY O	Pression:	Pbar ("Hg) =	A		Pstat ("H2O) =)) =	TA BATTER STOLEN	Fuite Après:	and the second s	"H20 @	TOTAL PROPERTY OF THE PROPERTY	"Hg
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き Echantillonneur:

WEIGHT SHEET

Company	Agnico-Eagle
Location	Baker Lake
Date	o:2 / 10 / 2012
Site	
Train #	(SVOC-)
Test #	(PCDD/DF)

	DATA	4	
Pbar: 30	0.10	po.Hg	
	O ₂	%	13.75
G	CO ₂	%	4.65
A	СО	ppm	9.5
Z	СО	%	

ITEM	Final weight	Initial weight	Water weight
Cooler	158,2		44
XAD-2 resin	236,9	Short.	4 2
Water trap	2082	248,6	590
Impinger #1	5825	642.5	43/
Impinger #2	4029	434,4	1,2
Impinger #3 (silica gel)	6779	698.3	19,6
		Final weight	72.1

Preparation	Prepared by	Recovered	Approved by
Date	- 3 oung	- Carring	
Laboratory			
On site	23		



SAMPLING DATA SHEET - MANUAL SAMPLING

Company	anv :	1666	00:0		Control:	~ ~ <i>**</i> #	× = X		1	Ko =		Duct:	Dia ("):		ि (") /O	
City:						4	CV = V2		dr.			Diameter:	Bef:	9	After:	
Date:	8 8	/ Pro	Project: R			#	Ç⊨ u <u>d</u>		Box:#			Sheet:	-			
Site:		LACER	in overto	5	eq) = %					Leak before:		୍ୟ H2O @).	"Hg
Test				ACCUPACION DE CONTROCT CONTROC		Pbar ("Hg) =		A Section of the sect	Pstat ("H2O) =	() = = ((<u> </u>	Leak after:	anan syymany manadan	"H20 @	SAUADARIA DE CONTRACA DA CONTRACA DE C	"Flg
Point	Time	TS	A₽	H₩	Volume	Tmi	Tel Tmo	15-	robe	Oven	Vacuum	OSI %	02	Ga CO2	Gases	XON
		(%F)	(" H2O)	(" H2O)	(ft³)	(°F)	(3°)	(4°)		(°F)	(" Hg)	(%)	(%)	- 4	(% / ʌwɪdd)	
	55	750			No. 900	976	- 16		1 (0.1X	0.35	<i>ħ</i> ~.	ر د				
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							Constant =>	nt =>	二二			A% =				
F					- The state of the		***************************************				-			3		

Sampler assistant:

Exova Canao. ... 1390 Rue Hocquart St-Bruno-de-Montarville Québec Canada J3V 6E1

SAMPLING DATA SHEET - MANUAL SAMPLING

Company:			S Olk		Control:	*	= X		4	Ko≔		Duct:	Dia (")		Port (")	
City:		04338) # 1 W 1 X			3 €#	Ov = _	200	10			Diameter:			After.	
Date 💍	701/8	/ / /Pro	Project: R		Nozzle	#	Ou =		-Box : #			Sheet:	- Partie	of Jo	ļ	
Site: 🧷	MINNO	100	Any		Supposed	moisture) = %	, c			4	Leak before.	1. COT	് <i>റ</i> ിH2O @	K-	"Hg
Test:	. 3) () c	HEALTH CONTRACTOR OF THE PARTY	Pressure:	Pbar ("Hg) ≂		F	Pstat ("H2O) =		S	Leak after:	***************************************	"H20 @	A DOUBLE AND A DOU	"Hg
Point	Time	TS	d &	Τ.	Volume	Ĺmí	Ter Tmo l	15-	l ador	Oven	Vacuum	0SI %	0.0	G.O.	Gases	XON
		(°F)	(" H2O)	(" H2O)	(ft³)	(°F)	(°F)	(3E)		(°F)	(" Hg)	(%)	(%)	(%)	(% / ʌɯdd)	bpmv
71 %	101	(m.,2) () /	400	CF ()	178.136	198	5	and the second	NO.X	DVO.	10	0V)				
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S.	003	↑×()	T	04.0	0/1550	50	Õ				-10	() ()				
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3	- XX 13		_	1		8,	Ω						Z	Š	(and the second	Ē.
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					,	\ €<	£)									
(1) (1)	76.25	100 CH	30°O		100 REC	Ų (X	(4°) (20	1		Ç	} /	70,				
			and the same of th	-		^	(A) (V)									
	ALIO	05 01	20 O2	10.61	080,60	36	к) Ох			,	11	101				
-						\ \ \	(°) (2)			NAME OF TAXABLE PARTY.	Corporation Company Company Company	SPANNER CONTRACTOR DO SENDO SENDO	- Company			
(1)	7	(D) (J)	700	1971	1284 12	<i>(</i>)	(A ()<	\		į		000				
			,	,		X 5000	(^) ():2	\	NAME OF TAXABLE PARTY.		2					
	0010	C5 0/	90 Q	1910)	17 630		/ 80	~		127	A succession of					
		,	<i>5.</i>	, .		Š.	 ()-									
	17 12 AS	10.50 J	9D ()	10/01	3/ ·/SO	\ (\cdot \)	126	\			The same	007				
1	3630				00 V. K.	V.	, , , , , , , , , , , , , , , , , , ,									
							Constant =>	 	K = X	110	1	A%= 9₹	3,39			
- Linguis											***************************************			_		

Sampler. 1Sampler.

Sampler assistant:



SAMPLING DATA SHEET - MANUAL SAMPLING

//> Port (") //>	After		"H2O @ "Hg	unyananyu ananya ananya	Gases NOV	(% / ʌwɪdd)																									
Dia ("):	Bef:	·.		o in the second second	CO	(%)																									
Duct:	Diameter:	Sheet:	Leak before:	Leak after:	081%	(%)	No. 1		<i>5</i>												3 . 1										A% =
	3			AND	Vacuum	(" Hg)	,			- 2		×					Approximation of the second se	ij				2		7							
Ko =) =	Nev	(°F)																									
··	N	Box:#		Pstat ("H2O) =	e Drohe	(°F)											Commonweal Common Commo				,										K =
***				The state of the s	B	(J.,)			1																7.7						
<u> </u>	CV ==	Du =	= %	1	Ter Tmo l	(°F)	3.4	84	- 48 84	, t (3)	χ V:	ω 7	(V	x 77	20	Ω (V)	20,00	ر 20	96	QÇ Q	G	86	98 8	90	\(\sigma\)	00	7.4	ω	\$ \$	×0	Constant =>
#		#	moisture % =	: Pbar ("Hg) =	Tmi	(J,)	./ 6//	ati	4	,)	7			7			Contraction of the Contraction	V 1		C.	<i>5</i>			ji La	Q	Š	, Ĉ	73	(G	7	
Control:		Nozzle:	Supposed r	Pressure:	Volume	(ft³)							The second second				appearance and a second deposition of the seco												^ {	- C - S	
Contraction Contraction Contraction		. ***		WANTEN HOOGOALCOART ORGANINA PROFESSION	H	(" H2O)									thousand to the same of the sa		Common and an advantage of the common and and a second an														
THE PARTY OF THE P		Project: R	A Page	A A A A A A A A A A A A A A A A A A A	d 🔻	(" H2O)						, , , , , , , , , , , , , , , , , , ,			- CONTRACTOR CONTRACTO						5 A. G.										
Construction of the state of th		/ Proj		- Carlos Company	TS	(°F)	KT.	}			(C)	- Andrews	T 1/2		7.		78		in M	The same of the sa	MON	,	(X)		80		変か		2 B)	
ny :					Time)			56 17		4) 7										10°		<i>(</i>								
Company	City:	Date:	Site:	Test:	Point		3				7.								CONTRACTOR CONTRACTOR) }						

Sampler

Sampler assistant:

WEIGHT SHEET

Company	Agnico-Eagle
Location	Baker Lake
Date	(2) / 10 / 2012
Site	minzoter,
Train #	(SVOC-
Test #	(PCDD/DF)

	DATA
Pbar:	30.35 po.Hg
	02 % 13.60
G	CO ₂ % 2.5i
A	CO ppm 23.1
Z	CO %

ITEM	Final weight	Initial weight	Water weight
Cooler	140.8	16 0	0,6
XAD-2 resin	8.646	334.9	7.9
Water trap	372.6	9359	87 H
Impinger #1	6328	6.80)	179
Impinger #2	V66 9	400,0	0.7
Impinger #3 (silica gel)	6975	630.4	H . [
		Final weight	118.6

Preparation	Prepared by	Recovered	Approved by
Date			
Laboratory			
On site			

CALIBRATION OF SAMPLING MODULE

-	Module Identification:	AGL_2
-	Inventory number:	0
	Atmospheric pressure ("Hg):	30.25

Responsable calibration:	B.Bouchard	
Responsable data entry:		0
Calibration date:	07-févr-12	
Next calibration date:	07-févr-13	

del.H in.H2O	Vw ft³	Vd ft³	Tw deg.F	Tdo deg.F	Td deg.F	time min.	del.m in.H2O	factor count.
111.112.0	10	1 &	dog.i	ucg.1	405.1	min.	11.11120	• Odini
1.0	5.00	5.23	72.0	84.0	86.5	5.62	-0.40	1.0008
1.0	5.00	5.24	72.0	85.5	87.3	5.63	-0.40	1.0008
2.0	6.00	6.19	72.0	88.0	89.5	4.82	-0.55	1.0008
2.0	5.00	5.16	72.0	87.0	90.3	4.02	-0.55	1.0008
3.0	10.00	10.46	71.0	86.5	91.0	6.62	-0.80	1.0008
3.0	10.00	10.50	71.0	87.0	92.0	6.62	-0.80	1.0008
4.0	13.00	13.63	69.0	88.0	93.3	7.65	-0.90	1.0008
4.0	11.00	11.62	69.0	89.5	94.8	6.50	-0.90	1.0008
5.0	10.00	10.50	69.0	89.5	94.8	5.30	-1.10	1.0008
5.0	10.00	10.52	69.0	90.5	95.8	5.30	-1.10	1.0008

del.H	Vwc	K	del.H@	Qm	Ko	gamma	Accepta	bility criteria
in.H2O	ft³		in.H2O	cfm			1.50%	yes/no
1.0	5.00	0.7872	0.68	0.9074	1.1527	0.9795	0.60	yes
1.0	5.00	0.7883	0.69	0.9083	1.1522	0.9790	0.66	yes
2.0	6.00	1.1160	0.70	1.2754	1.1428	0.9958	1.05	yes
2.0	5.00	1.1150	0.70	1.2720	1.1408	0.9968	1.15	yes
3.0	10.01	1.3633	0.70	1.5416	1.1308	0.9837	0.18	yes
3.0	10.01	1.3639	0.70	1.5431	1.1313	0.9818	0.38	yes
4.0	13.01	1.5745	0.73	1.7410	1.1058	0.9865	0.11	yes
4.0	11.01	1.5766	0.74	1.7385	1.1027	0.9818	0.37	yes
5.0	10.01	1.7606	0.74	1.9327	1.0978	0.9849	0.06	yes
5.0	10.01	1.7622	0.74	1.9363	1.0988	0.9848	0.07	yes
A.	VERAGE		0.71	1.4796	1.1256	0.9855		

Reference: Method 1/RM/8

Document : Cal2012 Contrôle AGL_2.xls

Probe Identifi Inventory nur		2E (EAU) 0		ate chnician responsable ing technician responsable	22-févr S.Demers S.Demers
Barometric p Ambiant tem		29.76 "Hg 70.0 of	Ms :	28,73	
NOZZLES	SCALE	PITOT	PITOT	Vs	Cv
		REFERENCE	"S" TYPE		
		del p	del p	ft/s	
				C# 200	0.014
	1	1.000	1.510	67.308	0.814
	2	0.660	0.993	54.682	0,815
VITHOUT	3	0.518	0.776	48,443	0.817
NOZZLE	4	0.285	0.425	35.933	0.819
	5	0.140	0.205	25.184	0.826 0.833
	6	0.050	0.072	15.051	0.833
	1	1.000	1,510	67.308	0.814
	2	0.660	0.993	54.682	0.815
Dia. 1/8	3	0.518	0,776	48.443	0.817
No. EX5	4	0.285	0.425	35.933	0.819
	5	0.140	0,205	25.184	0.826
	6	0.050	0.072	15.051	0.833
	1	1.000	1.580	67,308	0,796
	2	0.660	1.035	54.682	0.799
Dia, 3/16	3	0,518	0,802	48.443	0.804
No. EX5	4	0.285	0.438	35.933	0.807
NO. DAS	5	0.140	0.214	25.184	0.809
	6	0.050	0.075	15.051	0.816
				6 7 GNO	0.506
	I	1.000	1.580	67.308	0.796
	2	0.660	1.035	54.682	0,799
Dia. 1/4	3	0.518	0.803	48.443	0.803
No. EX5	4	0.285	0,439	35.933	0,806 0,809
	5 6	0.140 0.050	0.214 0.075	25,184 15,051	0.816
				45.000	0.7704
	1	1.000	1.580	67.308	0.796
	2	0.660	1.035	54.682	0.799
Dia. 5/16	3	0.518	0.804	48,443	0.803
No. EX5	4	0.285	0.440	35.933	0.805 0.809
	5	0.140	0.214	25,184	0.809
·	6	0,050	0.075	15.051	0.010
	1	1.000	1.580	67.308	0.796
	2	0,660	1.035	54.682	0.799
Dia. 3/8	3	0.518	0.804	48.443	0.803
No. EX5	4	0.285	0.440	35.933	0.805
	5	0.140	0.214	25.184	0.809
	6	0.050	0.075	15,051	0,816
	1	1,000	1.590	67.308	0.793
	2	0.660	1.040	54.682	0.797
Dia. 7/16	3	0.518	0.806	48.443	0.802
No. EX5	4	0.285	0.441	35.933	0,804
	5	0.140	0.214	25,184	0.809
	6	0.050	0.075	15.051	0.816
	ī	1.000	1.590	67.308	0,793
	2	0.660	1.040	54,682	0.797
Dia. 1/2	3	0,518	0.807	48.443	0.801
No. EX5	4	0.285	0,441	35.933	0.804
	5	0.140	0.214	25.184	0.809
	6	0.050	0.075	15.051	0.816

NOTICE: Shows the average of three reading taken during calibration.



Émis par: Christian St-Pierre



Rapport des codes d'échantillons

Code échantillon	Projet	Date	Site de prélèvement	Test (description)	Paramètres
12089-3861	R12-089	17-oct-12	Incinérateur	Test#1 Filtre	Part., Métaux, Hg
12089-3862	R12-089	17-oct-12	Incinérateur	Test #1 Lav-sonde (ace)	Part., Métaux, Hg
12089-3863	R12-089	17-oct-12	Incinérateur	Test #1 Lav-sonde (HNO3)	Métaux, Hg
12089-3864	R12-089	17-oct-12	Incinérateur	Test #1 Aliquot	HCI
12089-3865	R12-089	17-oct-12	Incinérateur	Test #1 Imp 1-2	Métaux, Hg
12089-3866	R12-089	17-oct-12	Incinérateur	Test #1 1mp 3-4	Métaux, Hg
12089-3867	R12-089	17-oct-12	Incinérateur	Test #1 Imp 5	<u>on</u>
12089-3868	R12-089	17-oct-12	Incinérateur	Test #1 Imp 6-7	Нд
12089-3869	R12-089	17-oct-12	Incinérateur	Test #2 Filtre	Part., Métaux, Hg
12089-3870	R12-089	17-oct-12	Incinérateur	Test #2 Lav-sonde (acc)	Part., Métaux, Hg
12089-3871	R12-089	17-oct-12	Incinérateur	Test #2 Lav-sonde (HNO3)	Métaux, Hg
12089-3872	R12-089	17-oct-12	Incinérateur	Test #2 Aliquot	HCI
12089-3873	R12-089	17-oct-12	Incinérateur	Test #2 Imp 1-2	Métaux, Hg
12089-3874	R12-089	17-oct-12	Incinérateur	Test #2 Imp 3-4	Métaux, Hg
12089-3875	R12-089	17-oct-12	Incinérateur	Test #2 Imp 5	<u>ob</u>
12089-3876	R12-089	17-oct-12	Incinérateur	Test #2 Imp 6-7	Нg

17 octobre 2012

Code échantillon	Projet	Date	Site de prélèvement	Test (description)	Paramètres
				The control of 100 to 1	Does Milena II.
12089-3877	R12-089	17-oct-12	Incinerateur	lest#3 Filtre	ratt., inclaux, rig
12089-3878	R12-089	17-oct-12	Incinėrateur	Test #3 Lav-sonde (ace)	Part., Métaux, Hg
12089-3879	R12-089	17-0ct-12	Incinérateur	Test #3 Lav-sonde (HNO3)	Métaux, Hg
12089-3880	R12-089	17-oct-12	Incinérateur	Test#3 Aliquot	HCl
12089-3881	R12-089	17-oct-12	Incinérateur	Test #3 Imp 1-2	Métaux, Hg
12089-3882	R12-089	17-oct-12	Incinérateur	Test #3 Imp 3-4	Métaux, Hg
12089-3883	R12-089	17-oct-12	Incinérateur	Test #3 Imp 5	Ho
12089-3884	R12-089	17-oct-12	Incinérateur	Test #3 Imp 6-7	9H
12089-3885	R12-089	17-oct-12	Incinérateur	Blanc filtre	Métaux, 11g
12089-3886	R12-089	17-oct-12	Incinérateur	Blanc HNO3	Métaux, Hg
12089-3887	R12-089	17-oct-12	Incinérateur	Blanc d'eau	HCI
12089-3888	R12-089	17-oct-12	Incinérateur	Blanc de HNO3/H2O2	Métaux. Hg
12089-3889	R12-089	17-oct-12	Incinérateur	Blanc H2SO4/KMnO4	Hg
12089-3890	R12-089	17-oct-12	Incinérateur	Test #1 SVOC 12089.1 (FH)	PCDD/F
12089-3891	R12-089	17-oct-12	Incinérateur	Test #1 SVOC 12089,2 (F)	PCDD/F
12089-3892	R12-089	17-oct-12	Incinérateur	Test #1 SVOC 12089.3 (X)	PCDD/F
12089-3893	R12-089	17-oct-12	Incinérateur	Test #1 SVOC 12089,4 (FCR)	PCDD/F
12089-3894	R12-089	17-oct-12	Incinérateur	Test #1 SVOC 12089.5 (C1)	PCDD/F
12089-3895	R12-089	17-oct-12	Incinérateur	Test #1 SVOC 12089.7 (GR)	PCDD/F
12089-3896	R12-089	17-oct-12	Incinérateur	Test #2 SVOC 12089.10 (FH)	PCDD/F
17 octobre 2012			Émis par: Christian St-Pierre	t-Pierre	Page 2 of 3

Code échantillon	Projet	Date	Site de prélèvement	Test (description)	Paramètres
DAY-man-1777					
12089-3897	R12-089	17-oct-12	Incinérateur	Test #2 SVOC 12089.11 (F)	PCDD/F
12089-3898	R12-089	I7-oct-12	Incinérateur	Test #2 SVOC 12089.12 (X)	PCDD/F
12089-3899	R12-089	17-oct-12	Incinérateur	Test #2 SVOC 12089.13 (FCR)	PCDD/F
12089-3900	R12-089	17-oct-12	Incinérateur	Test #2 SVOC 12089.14 (C1)	PCDD/F
12089-3901	R12-089	17-oct-12	Incinérateur	Test #2 SVOC 12089.16 (GR)	PCDD/F
12089-3902	R12-089	17-oct-12	Incinérateur	Test #3 SVOC 12089.20 (FH)	PCDD/F
12089-3903	R12-089	17-oct-12	Incinérateur	Test #3 SVOC 12089.21 (F)	PCDD/F
12089-3904	R12-089	17-oct-12	Incinérateur	Test #3 SVOC 12089.22 (X)	PCDD/F
12089-3905	R12-089	17-oct-12	Incinérateur	Test #3 SVOC 12089.23 (FCR)	PCDD/F
12089-3906	R12-089	17-oct-12	Incinérateur	Test #3 SVOC 12089.24 (C1)	PCDD/F
12089-3907	R12-089	17-oct-12	Incinérateur	Test #3 SVOC 12089.26 (GR)	PCDD/F
12089-3908	R12-089	17-oct-12	Incinérateur	Blanc SVOC 12089.30 (FH)	PCDD/F
12089-3909	R12-089	17-oct-12	Incinérateur	Blane SVOC 12089.31 (F)	PCDD/F
12089-3910	R12-089	17-oct-12	Incinérateur	Blane SVOC 12089.32 (X)	PCDD/F
12089-3911	R12-089	17-oct-12	Incinérateur	Blane SVOC 12089.33 (PCR)	PCDD/F
12089-3912	R12-089	17-oct-12	fncinérateur	Blanc SVOC 12089.34 (C1)	PCDD/F
12089-3913	R12-089	17-oct-12	Incinérateur	Blanc SVOC 12089.35 (GR)	PCDD/F



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

NOM DU CLIENT: EXOVA

1390 RUE HOCQUART

ST-BRUNO DE DE MONTARVILLE, QC J3V6E1

(450) 441-5880

À L'ATTENTION DE: CHRISTIAN ST-PIERRE

N° DE PROJET: R12-089

N° BON DE TRAVAIL: 12M639416

HAUTE RÉSOLUTION VÉRIFIÉ PAR: Marc-André Desjardins, chimiste

DATE DU RAPPORT: 2012-09-19

VERSION*: 1

NOMBRE DE PAGES: 7

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

NOTES		
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		1 × 10
		A)-3 ⁴

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



NOM DU CLIENT: EXOVA

PRÉLEVÉ PAR:

Certificat d'analyse

N° BON DE TRAVAIL: 12M639416

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

N° DE PROJET: R12-089

À L'ATTENTION DE: CHRISTIAN ST-PIERRE LIEU DE PRÉLÈVEMENT:

antillonnage)	DATE DII RAPPORT: 2012.09.19
Dioxines et furanes - Air (train d'éch	

DATE DE RÉCEPTION: 2012-09-07				DATE DU RAPPORT: 2012-09-19
	DESCRIPTION D'ÉCHANTILLON:		PROOF RD-089	
		MATRICE:	Liquide	
	DATE D'ÉCHANTILLONNAGE:	ONNAGE:	2012-09-07	
Paramètre	Unités C/N	LDR	3685411	
2,3,7,8-TCDD (pg total)	6d	0.5	3.7	
1,2,3,7,8 PeCDD (pg total)	bd	τ-	7	
1,2,3,4,7,8 HxCDD (pg total)	Бd	9.0	9,4	
1,2,3,6,7,8 HxCDD (pg total)	Бd	0.5	5.8	
1,2,3,7,8,9 HxCDD (pg total)	5d.	9.0	13.7	
1,2,3,4,6,7,8 HpCDD (pg total)	₿d	0.7	27.2	
OCDD (pg total)	Đđ.	•	47	
[2,3,7,8 TCDF (pg total)	5d	0.3	5.3	
1,2,3,7,8 PeCDF (pg total)	бd	0.4	8,3	
2,3,4,7,8-PeCDF (pg total)	bd	0,4	17.1	
1,2,3,4,7,8 HxCDF (pg total)	bd	7.0	34.7	
1,2,3,6,7,8 HxCDF (pg total)	bd	0.7	11.8	
2,3,4,6,7,8-HxCDF (pg tofal)	6d	0.8	15.2	
1,2,3,7,8,9 HxCDF (pg total)	6d	-	9	
1,2,3,4,6,7,8 HpCDF (pg total)	5d	6.0	28.3	
1,2,3,4,7,8,9 HpCDF (pg total)	5d	2	<2	
OCDF (pg total)	50	τ	ω	
Sommation des Tétrachlorodibenzodioxines	5d	0.5	108	
Sommation des Pentachlorodibenzodioxines	bd	4 444	131	
Sommation des Hexachlorodibenzodioxines	бd	0.6	83.7	
Sommation des Heptachlorodibenzodioxines	6d	0.7	50.3	
Sommation des PCDDs	6d		420	
Sommation des Tétrachlorodibenzofuranes	6d	0.3	367	
Sommation des Pentachlorodibenzofuranes	Бd	0,4	228	



Page 2 de 7



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PRÉLEVÉ PAR:

Certificat d'analyse

N° BON DE TRAVAIL: 12M639416 N° DE PROJET: R12-089

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À L'ATTENTION DE: CHRISTIAN ST-PIERRE

LIEU DE PRÉLÈVEMENT: NOM DU CLIENT: EXOVA

			Dioxir	es et furanes - Air (tra	ines et furanes - Air (train d'échantillonnage)	
DATE DE RÉCEPTION: 2012-09-07					DATE DI	DATE DU RAPPORT: 2012-09-19
	DESCRIPTION D'ÉCHANTILLON:	I D'ÉCHAN		PROOF RD-089		
	MAINTER STATES OF STATES O		MAINICE:	Liquide		
Paramètre	DATE D'EC Unités	C/N	LDR LDR	3685411		
Sommation des Hexachlorodibenzofuranes	Đđ		4 -	211		
Sommation des Heptachlorodibenzofuranes	50 ct		77	45		
Sommation des PCDFs	Вd		2	764		
2,3,7,8-Tetra CDD (TEF 1.0)	TEQ			3.74		
1,2,3,7,8-Penta CDD (TEF 0.5)	TEQ			3.44		
1,2,3,4,7,8-Hexa CDD (TEF 0.1)	TEQ			0.458		
1,2,3,6,7,8-Hexa CDD (TEF 0.1)	TEQ			0.584		
1,2,3,7,8,9-Hexa CDD (TEF 0.1)	TEQ			1.37		
1,2,3,4,6,7,8-Hepta CDD (TEF 0.01)	TEQ			0.272		
Octa CDD (TEF 0.001)	TEQ			0.0467		
2,3,7,8-Tetra CDF (TEF 0.1)	TEQ			0.530		
1,2,3,7,8-Penta CDF (TEF 0.05)	TEQ			0.417		
2,3,4,7,8-Penta CDF (TEF 0.5)	TEQ			8.53		
1,2,3,4,7,8-Hexa CDF (TEF 0.1)	TEQ			3.47		
1,2,3,6,7,8-Hexa CDF (TEF 0.1)	TEQ			1.18		
2,3,4,6,7,8-Hexa CDF (TEF 0.1)	TEQ			1.52		
1,2,3,7,8,9-Hexa CDF (TEF 0.1)	TEQ			0.578		
1,2,3,4,6,7,8-Hepta CDF (TEF 0.01)	TEQ			0.283		
1,2,3,4,7,8,9-Hepta CDF (TEF 0.01)	TEQ			0		
Octa CDF (TEF 0.001)	TEQ			0.00800		
Sommation des PCDDs et PCDFs (TEF)				26.4		
13C-2378-TCDF	%			107		
13C-12378-PeCDF	%			120		
13C-23478-PeCDF	%			122		
13C-123478-HxCDF	%			66		
13C-123678-HxCDF	%			93		





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用写用T Laboratoires

NOM DU CLIENT: EXOVA

PRÉLEVÉ PAR:

Certificat d'analyse

N° BON DE TRAVAIL: 12M639416 N° DE PROJET: R12-089

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À L'ATTENTION DE: CHRISTIAN ST-PIERRE LIEU DE PRÉLÈVEMENT:

nantillonnage)	DATE DU RAPPORT: 2012-09-19														
Dioxines et furanes - Air (train d'échantillonnage)		ROOF RD-089	Liquide	2012-09-07	3685411	89	94	86	86	88	114	91	101	113	118
Dioxir		DESCRIPTION D'ÉCHANTILLON: PROOF RD-089	MATRICE:	DATE D'ÉCHANTILLONNAGE:	Unités C/N LDR	%	%	%	%	%	%	%	%	%	%
	DATE DE RÉCEPTION: 2012-09-07				Paramètre	13C-234678-HxCDF	13C-123789-HxCDF	13C-1234678-HpCDF	13C-1234789-HpCDF	13C-2378-TCDD	13C-12378-PeCDD	13C-123478-HxCDD	13C-123678-HxCDD	13C-1234678-HxCDD	13C-0CDD

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

Le résultat en pg total correspond au composite de chacune des parties du train d'échantillonnage. 3685411



Certifié par:

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Contrôle de qualité

NOM DU CLIENT: EXOVA N° DE PROJET: R12-089

PRÉLEVÉ PAR:

N° BON DE TRAVAIL: 12M639416

À L'ATTENTION DE: CHRISTIAN ST-PIERRE

LIEU DE PRÉLÈVEMENT:

FIXING Law V Law F 771 Vs									/ L 1 1 (V					
			Anal	lyse l	haute	e réso	olutio	n							
Date du rapport: 2012-09-19			r	DUPLICAT	ГА	MATÉR	RIAU DE F	ÉFÉRI	ENCE	BLANG	FOR	ſŀFIÉ	ĖCH.	FORTI	FIÉ
PARAMÈTRE	Lot	N° éch.	Dup #1	Dup #2	% d'écart	Blanc de	% Récup.		nites	% Récup.	Lin	nites	% Récup.		nites
	1 200	II COII.	Dap #1	Oup ##	/o d coare	méthode	A recop.	Inf.	Sup.	n necup.	Inf.	Sup.	A Accoup.	lnf.	Sup.
Dioxines et furanes - Air (train d'é	chantillon	nage)													
2,3,7,8-TCDD (pg total)	1	NΑ	NA	NA	0.0	< 0.4	NA	70%	130%	NA	70%	130%	NA	70%	130%
1,2,3,7,8 PeCDD (pg total)	1	NA	NA	NA	0.0	< 0.4	NA	70%	130%	NA	70%	130%	NA	70%	130%
1,2,3,4,7,8 HxCDD (pg total)	1	NA	NA	NA	0.0	<0.3	NA	70%	130%	NA	70%	130%	NA	70%	130%
1,2,3,6,7,8 HxCDD (pg total)	1	NA	NA	NA	0.0	<0.3	NA	70%	130%	NA	70%	130%	NA	70%	130%
1,2,3,7,8,9 HxCDD (pg total)	1	NA	NA	NA	0.0	<0.3	NA	70%	130%	NΑ	70%	130%	NA	70%	130%
1,2,3,4,6,7,8 HpCDD (pg total)	1	NA	NA	NA	0.0	<0.5	NA	70%	130%	NA	70%	130%	NA	70%	130%
OCDD (pg total)	1	NA	NA	NA	0.0	< 0.7	NA	70%	130%	NA	70%	130%	NA	70%	130%
2,3,7,8 TCDF (pg total)	1	NA	NA	NA	0.0	< 0.3	NA	70%	130%	NA	70%	130%	NA	70%	130%
1,2,3,7,8 PeCDF (pg total)	1	NA	NA	NA	0.0	< 0.3	NA	70%	130%	NA	70%	130%	NA	70%	130%
2,3,4,7,8-PeCDF (pg total)	1	NA	NA	NA	0.0	<0.3	NA	70%	130%	NA	70%	130%	NA	70%	130%
1,2,3,4,7,8 HxCDF (pg total)	1	NA	NA	NA	0.0	<0.2	NA	70%	130%	NA	70%	130%	NA	70%	130%
1,2,3,6,7,8 HxCDF (pg total)	1	NΑ	NA	NA	0.0	< 0.2	NA	70%	130%	NA	70%	130%	NA	70%	130%
2,3,4,6,7,8-HxCDF (pg total)	1	NA	NA	NA	0.0	< 0.2	NA	70%	130%	NA	70%	130%	NA	70%	130%
1,2,3,7,8,9 HxCDF (pg total)	1	NA	NA	NA	0.0	< 0.3	NA	70%	130%	NA	70%	130%	NA	70%	130%
1,2,3,4,6,7,8 HpCDF (pg total)	1	NA	NA	NA	0.0	<0.2	NA	70%	130%	NA	70%	130%	NA	70%	130%
1,2,3,4,7,8,9 HpCDF (pg total)	1	NA	NA	NA	0.0	<0.3	NA	70%	130%	NA	70%	130%	NA	70%	130%
OCDF (pg total)	1	NA	NA	NA	0.0	<0.8	NA	70%	130%	NA	70%	130%	NA	70%	130%

Certifié par:



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

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Sommaire de méthode

NOM DU CLIENT: EXOVA N° DE PROJET: R12-089 PRÉLEVÉ PAR: N° BON DE TRAVAIL: 12M639416 À L'ATTENTION DE: CHRISTIAN ST-PIERRE

LIEU DE PRÉLÈVEMENT:

PRELEVE PAR:			LIEU DE PRELEVEMENT:					
PARAMÈTRE	PRÉPARÉ L	E ANALYSÉ LE	AGAT P.O.N.	RÉFÉRENCE DE LITTÉRATURE	TECHNIQUE ANALYTIQUE			
Analyse haute résolution			1					
2,3,7,8-TCDD (pg total)	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS			
1,2,3,7,8 PeCDD (pg total)	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS			
1,2,3,4,7,8 HxCDD (pg total)	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS			
1,2,3,6,7,8 HxCDD (pg total)	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS			
1,2,3,7,8,9 HxCDD (pg total)	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS			
1,2,3,4,6,7,8 HpCDD (pg total)	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS			
OCDD (pg total)	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS			
2.3,7,8 TCDF (pg total)	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS			
1,2,3,7,8 PeCDF (pg total)	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS			
2,3,4,7,8-PeCDF (pg total)	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS			
1,2,3,4,7,8 HxCDF (pg total)	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS			
1,2,3,6,7,8 HxCDF (pg total)	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS			
2,3,4,6,7,8-HxCDF (pg total)	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS			
1,2,3,7,8,9 HxCDF (pg total)	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS			
1,2,3,4,6,7,8 HpCDF (pg total)	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS			
1,2,3,4,7,8,9 HpCDF (pg total)	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS			
OCDF (pg total)	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS			
Sommation des Tétrachlorodibenzodioxines	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS			
Sommation des Pentachlorodibenzodioxines	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS			
Sommation des Hexachlorodibenzodioxines	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS			
Sommation des Heptachlorodibenzodioxines	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS			
Sommation des PCDDs	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS			
Sommation des Tétrachlorodibenzofuranes	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS			
Sommation des Pentachlorodibenzofuranes	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS			
Sommation des Hexachlorodibenzofuranes	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS			
Sommation des Heptachlorodibenzofuranes	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS			
Sommation des PCDFs	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS			
2,3,7,8-Tetra CDD (TEF 1.0)	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS			
1,2,3,7,8-Penta CDD (TEF 0.5)	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS			
1,2,3,4,7,8-Hexa CDD (TEF 0.1)	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS			
1,2,3,6,7,8-Hexa CDD (TEF 0.1)	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS			
1,2,3,7,8,9-Hexa CDD (TEF 0.1)	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS			
1,2,3,4,6,7,8-Hepta CDD (TEF 0.01)	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS			
Octa CDD (TEF 0.001)	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS			
2,3,7,8-Tetra CDF (TEF 0.1)	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS			
1,2,3,7,8-Penta CDF (TEF 0.05)	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS			
2,3,4,7,8-Penta CDF (TEF 0.5)	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS			
1,2,3,4,7,8-Hexa CDF (TEF 0.1)	2012-09-18	2012-09-18	HR_151-5400	CEAEQ MA.400 - DF 1.0	HRMS			
1,2,3,6,7,8-Hexa CDF (TEF 0.1)	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS			
2,3,4,6,7,8-Hexa CDF (TEF 0.1)	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS			
1,2,3,7,8,9-Hexa CDF (TEF 0.1)	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS			
1,2,3,4,6,7,8-Hepta CDF (TEF 0.01)	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS			
1,2,3,4,7,8,9-Hepta CDF (TEF 0.01)	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS			

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Sommaire de méthode

NOM DU CLIENT: EXOVA N° DE PROJET: R12-089 PRÉLEVÉ PAR: N° BON DE TRAVAIL: 12M639416

À L'ATTENTION DE: CHRISTIAN ST-PIERRE

LIEU DE PRÉLÈVEMENT:

PARAMÈTRE	PRÉPARÉ LE	ANALYSÉ LE	AGAT P.O.N.	RÉFÉRENCE DE LITTÉRATURE	TECHNIQUE ANALYTIQUE
Octa CDF (TEF 0.001)	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
Sommation des PCDDs et PCDFs (TEF)	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
13C-2378-TCDF	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
13C-12378-PeCDF	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
13C-23478-PeCDF	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
13C-123478-HxCDF	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
13C-123678-HxCDF	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
13C-234678-HxCDF	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
13C-123789-HxCDF	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
13C-1234678-HpCDF	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
13C-1234789-HpCDF	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
13C-2378-TCDD	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
13C-12378-PeCDD	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
13C-123478-HxCDD	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
13C-123678-HxCDD	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
13C-1234678-HxCDD	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
13C-OCDD	2012-09-18	2012-09-18	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS

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Test Certificate

Agnico-Eagle Mines Ltd, Meadowbank Division

Baker Lake, Nunavut Stack sampling Project R12-089

Samples	Laboratory	Particle Matters
1	Number	(g)

	
	i i
Detection limit	0.00004
Detection limit	() { () ()) 4
# Detection time	0.00001

Incinerator		ρ	
Test #1	Filter	12089-3861	0.04937
	Front wash	12089-3862	0.00315
Total			0.05252
Test #3	Filter	12089-3877	0.05931
	Front wash	12089-3878	0.00468
Total			0.06399
Filter blanl	<	12089-3885	< 0.00004
Front wash	blank (has not been subtracte	0.00119	

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Reception date : October 17th, 2012

Date of analysis: October 18th and 19th, 2012

Report date: October 24th, 2012

Reference method: A-01

File number: R12089-01 version 2



Christian St-Pierre, B. Sc. Chemist

Page I de I



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A SECTION OF THE PROPERTY OF

Request number:	12-508329
-----------------	-----------

Date Received: 2012-10-19
Date Certificate Issued: 2012-11-28

Certificate Version: 2

Official Certificate of Analysis

Preliminary Certificate of Analysis

Client

Exova

1390 rue Hocquart St-Bruno, Québec, Canada

J3V 6E1

Telephone: (450) 441-5880 Fax: (450) 441-4316

P.O. Number	Your project ID.	Project Manager
NA	R12-089	M. Christian St-Pierre

Comments

Comments	
Version 02: Division of the certificate of analysis at the client's request.	

This version replaces and cancels all earlier version.

NA: Information Not Available

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Certificate of Analysis No. 514408 - Revision 2 - Page 1 of 23



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Client: Exova			Request Nu	12-508329			
P.O. Number	Your Project	ID.	Project Manager				
NA	R12-089		M. Christian St-Pierre				
			Sam	ple(s)			
	Lab. No.	2233446	2233448	2233449	2233454		
	Your Reference	12089-3864 (174ml)	12089-3865 (177ml)	12089-3866 (309ml)	12089-3867 (43ml)+3868 (296ml)		
	Matrix	Air	Air	Air	Air		
	Sampled by	Exova St-Bruno	Exova St-Bruno	Exova St-Bruno	Exova St-Bruno		
	Site sampled	Meadowbank	Meadowbank	Meadowbank	Meadowbank		
	Date sampled	NA	NA	NA	NA		
	Date received	2012-10-19	2012-10-19	2012-10-19	2012-10-19		
Parameter(s) Method Reference							
Mercury (subcontract)	Preparation	-	-	-	-		
Analysis done by sub-contracting	Analysis	-	-	-	-		
	Sequential No.	-	-	-	NA		
Mercury		_			Annexe		
Volume	Preparation	<u>.</u>	<u>u</u>	-	-		
Not applicable	Analysis	~			-		
Not applicable	Sequential No.	NA	NA	NA	NA		
Volume	mL	174	177	309	339		

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Client: Exova			Request Nu	mber:	12-508329		
P.O. Number	Your Project	.ID.	Project Manager				
NA	R12-089			M. Christian S	t-Pierre		
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Sam	ple(s)			
	Lab. No.	2233462	2233463	2233465	2233466		
	Your Reference	12089-3880 (251ml)	12089-3881 (259ml)	12089-3882 (320ml)	12089-3883 (80ml)+3884 (460ml)		
	Matrix	Air	Air	Air	Air		
	Sampled by	Exova St-Bruno	Exova St-Bruno	Exova St-Bruno	Exova St-Bruno		
	Site sampled	Meadowbank	Meadowbank	Meadowbank	Meadowbank		
	Date sampled	NA	NA	NA	NA		
	Date received	2012-10-19	2012-10-19	2012-10-19	2012-10-19		
Parameter(s) Method Reference							
Mercury (subcontract)	Preparation	-	-	~	-		
Analysis done by sub-contracting	Analysis	-	-	=	=		
	Sequential No.	-	~		NA		
Mercury		-			406		
Volume	Preparation	-	=	-	-		
Not applicable	Analysis	-	-	<u>.</u>	-		
Not applicable	Sequential No.	NA	NA	NA	NA		
Volume	mL	251	259	320	540		

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Client: Exova			Request Nu	mber:	12-508329		
P.O. Number	Your Project	ID.		Project Ma	nager		
. NA	R12-089		M. Christian St-Pierre				
			Sam	ple(s)			
	Lab. No.	2233468	2233469	2233471			
	Your Reference	12089-3887 (100ml)	12089-3888 (100ml)	12089-3889 (100ml)			
	Matrix	Air	Air	Air			
	Sampled by	Exova St-Bruno	Exova St-Bruno	Exova St-Bruno			
	Site sampled	Meadowbank	Meadowbank	Meadowbank			
	Date sampled	NA	NA	NA			
	Date received	2012-10-19	2012-10-19	2012-10-19			
Parameter(s) Method Reference							
Mercury (subcontract)	Preparation	-	₩	-			
Analysis done by sub-contracting	Analysis	•	•	-			
,	Sequential No.	-	-	NA			
Mercury				Annexe			
Volume	Preparation	-	=	-			
Not applicable	Analysis		-	-			
Not applicable	Sequential No.	NA	NA	NA			
Volume	mL.	100	100	100			

Note 1: Results and comments, if any, relate only to samples submitted for analysis at the Pointe-Claire laboratory.

David Cajolet, chemist

Certificate of Analysis No. 514408 - Revision 2 - Page 4 of 23

David Cojetet 2008-069 **\$**, Qué B€©

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David Cajolet, chemist



Client:	Exova			Request Nu	mber:	12-508329
P.	O. Number	Your Project	ID.		Project M	anager
	NA	R12-089			M. Christian	St-Pierre
				Sam	ple(s)	
		Lab. No.	2233446	2233462	2233468	
		Your Reference	12089-3864 (174ml)	12089-3880 (251ml)	12089-3887 (100ml)	
			rais \	# 2.	Blan	K
		Matrix	Air	Air	Air	
		Sampled by	Exova St-Bruno	Exova St-Bruno	Exova St-Brun	0
		Site sampled	Meadowbank	Meadowbank	Meadowbank	
			IgmZ	Impl	Imp	
	Uncinerator	Date sampled	NA	NA	NA `	
	Linewierator	Date received	2012-10-19	2012-10-19	2012-10-19	
Paramet Method Reference	ter(s)					
Chlorides	s (IC)	Preparation	2012-10-24	2012-10-24	2012-10-23	
	chromatography.	Analysis	2012-10-24	2012-10-24	2012-10-23	
	HI-PC-MD028 (REF: MA.300-JONS 1.1, CEAEQ)	Sequential No.	405298	405298	405298	
Chloride		μg	285000	63700	880	

Note 1: Results and comments, if any, relate only to samples submitted for analysis at the Pointe-Claire laboratory.

David Cojstat 2008-069

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Certificate of Analysis No. 514408 - Revision 2 - Page 5 of 23



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Client: Exova			Request Nu	mber:	12-508329
P.O. Number	Your Project	t ID.	Project Manager		
NA	R12-089			M. Christian S	t-Pierre
			Samı	ole(s)	
	Lab. No.	2233448	2233449	2233463	2233465
	Your Reference	12089-3865 (177ml)	12089-3866 (309ml)	12089-3881 (259ml)	12089-3882 (320ml)
		.1	- 1		± 3
	Matrix	Air	Air	Air	Air
	Sampled by	Exova St-Bruno	Exova St-Bruno	Exova St-Bruno	Exova St-Bruno
	Site sampled	Meadowbank	Meadowbank	Meadowbank	Meadowbank
į		Imp 1-2	Imp 3-4	Imp 1-2	Imp 3-4
Incinerator	Date sampled	NA	ΝA	NA	NA
	Date received	2012-10-19	2012-10-19	2012-10-19	2012-10-19
Parameter(s) Melhod Reference					
Aluminum (Al)	Preparation	2012-10-22	2012-10-22	2012-10-22	2012-10-22
letals by ICP	Analysis	2012-10-25	2012-10-25	2012-10-25	2012-10-25
-A-EN-EN-CHI-PC-MD017 (REF: MA. 200 - Mét 1.2, CEAE	Sequential No.	405250	405250	405250	405250
Juminum	hâ	26	< 31	< 26	< 32
Antimony (Sb)	Preparation	2012-10-22	2012-10-22	2012-10-22	2012-10-22 2012-10-25
tetals by ICP -A-EN-EN-CHt-PC-MD017 (REF: MA. 200 - Mét 1.2, CEAE	Analysis	2012-10-25	2012-10-25	2012-10-25 405250	405250
, , , , , , , , , , , , , , , , , , ,	ocquentan 110.	405250 < 2	405250 < 3	< 3	< 3
ntimony	μg Preparation	2012-10-22	2012-10-22	2012-10-22	2012-10-22
Arsenic (As)	Analysis	2012-10-25	2012-10-25	2012-10-25	2012-10-25
letals by ICP -A-EN-EN-CHI-PC-MD017 (REF: MA, 200 - Mét 1.2, CEAE	•	405250	405250	405250	405250
rsenic	ha	< 2	< 3	< 3	< 3
Barium (Ba)	Preparation	2012-10-22	2012-10-22	2012-10-22	2012-10-22
letals by ICP	Analysis	2012-10-23	2012-10-23	2012-10-23	2012-10-23
-A-EN-EN-CHI-PC-MD017 (REF: MA. 200 - Mét 1.2, CEAE	Q) Sequential No.	405250	405250	405250	405250
Barium	hд	< 18	< 31	< 26	< 32
Beryllium (Be)	Preparation	2012-10-22	2012-10-22	2012-10-22	2012-10-22
Metals by ICP	Analysis	2012-10-25	2012-10-25	2012-10-25	2012-10-25
-A-EN-EN-CHI-PC-MD017 (REF: MA. 200 - Mél 1.2, CEAE	Sequential 140.	405250	405250	405250	405250
Beryllium	μg	< 2	< 3	< 3	< 3 2012-10-22
Bismuth (Bi)	Preparation	2012-10-22	2012-10-22	2012-10-22	2012-10-25
letais by ICP A-EN-EN-CHI-PC-MD017 (REF: MA, 200 - Mét 1,2, CEAE	Analysis (Q) Sequential No.	2012-10-25 405250	2012-10-25 405250	2012-10-25 405250	405250
3ismuth	hã	< 2	< 3	< 3	< 3
Boron (B)	Preparation	2012-10-22	2012-10-22	2012-10-22	2012-10-22
Wetals by ICP	Analysis	2012-10-25	2012-10-25	2012-10-25	2012-10-25
E-A-EN-ÉN-CHI-PC-MD017 (REF: MA. 200 - Méi 1.2, CEAE		405250	405250	405250	405250 < 64
Boron	hд	< 35	< 62	< 52	V 04

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Client: Exova			Request Nu	mber:	12-508329
P.O. Number	Your Project	ID.	Project Ma		nager
NA	R12-089			M. Christian S	t-Pierre
·			Sam	ple(s)	
	Lab. No.	2233448	2233449	2233463	2233465
	Your Reference	12089-3865 (177ml)	12089-3866 (309ml)	12089-3881 (259ml)	12089-3882 (320ml)
		4:5	(# 3
	Matrix	Air	Air	Air	Air
	Sampled by	Exova St-Bruno	Exova St-Bruno	Exova St-Bruno	Exova St-Bruno
	Site sampled	Meadowbank	Meadowbank	Meadowbank	Meadowbank
\$	سد. سمي	tmp 1-2	7-69mI	Impl-2	Imp3
Incinerator	Date sampled	NA	NA	NA NA	NA
	Date received	2012-10-19	2012-10-19	2012-10-19	2012-10-19
Parameter(s) Method Reference					
Cadmium (Cd)	Preparation	2012-10-22	2012-10-22	2012-10-22	2012-10-22
Metals by ICP	Analysis	2012-10-25	2012-10-25	2012-10-25	2012-10-25
E-A-EN-EN-CHI-PC-MD017 (REF: MA, 200 - Mét 1.2, CEAEQ)	Sequential No.	405250	405250	405250	405250
Cadmium	ha	< 0.9	< 1.5	< 1.3	< 1.6
Calcium (Ca)	Preparation	2012-10-23	2012-10-23	2012-10-23	2012-10-23
Metals by ICP E-A-EN-EN-CHI-PC-MD017 (REF: MA. 200 - Mét 1.2, CEAEQ)	Analysis	2012-10-23	2012-10-23	2012-10-23	2012-10-23
	Sequential No.	405250 77	405250 83	405250 < 52	405250 < 64
Chromium (Ca)	μg Preparation	2012-10-22	2012-10-22	2012-10-22	2012-10-22
Chromium (Cr)	Analysis	2012-10-25	2012-10-25	2012-10-25	2012-10-25
Metals by ICP E-A-EN-EN-CHI-PC-MD017 (REF: MA. 200 - Mét 1.2, CEAEQ)	Seguential No.	405250	405250	405250	405250
Chromium	μg	2	< 3	< 3	< 3
Cobalt (Co)	Preparation	2012-10-22	2012-10-22	2012-10-22	2012-10-22
Metals by ICP	Analysis	2012-10-25	2012-10-25	2012-10-25	2012-10-25
E-A-EN-EN-CHI-PC-MD017 (REF: MA, 200 - Mét 1.2, CEAEQ)	Sequential No.	405250	405250	405250	405250
Cobalt	hа	< 2	< 3	< 3	< 3
Copper (Cu)	Preparation	2012-10-22	2012-10-22	2012-10-22	2012-10-22
Metals by ICP E-A-EN-EN-CHI-PC-MD017 (REF: MA. 200 - Mét 1.2, CEAEQ)	Analysis	2012-10-25	2012-10-25	2012-10-25	2012-10-25
·	Sequential No.	405250	405250	405250 < 3	405250 < 3
Copper	μg	< 2	< 3 2012-10-23	2012-10-23	2012-10-23
Iron (Fe)	Preparation	2012-10-23 2012-10-23	2012-10-23	2012-10-23	2012-10-23
Metals by ICP E-A-EN-EN-CHI-PC-MD017 (REF: MA. 200 - Mét 1.2, CEAEQ)	Analysis Sequential No.	405250	405250	405250	405250
Iron	Ha ha	< 89	< 155	< 130	< 160
Lead (Pb)	Preparation	2012-10-22	2012-10-22	2012-10-22	2012-10-22
Metals by ICP	Analysis	2012-10-24	2012-10-24	2012-10-24	2012-10-24
E-A-EN-EN-CHI-PC-MD017 (REF: MA. 200 - Mél 1.2, CEAEQ)	Sequential No.	405250	405250	405250	405250
Lead	µg	2	4	< 3	< 3

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Client: Exova			Request Nu	mber:	12-508329		
P.O. Number	Your Project ID.			Project Ma			
NA NA	R12-089		M. Christian St-Pierre				
· · · · · · · · · · · · · · · · · · ·	Sample(s)						
	Lab. No.	2233448	2233449	2233463	2233465		
	Your Reference	12089-3865 (177ml)	12089-3866 (309ml)	12089-3881 (259ml)	12089-3882 (320ml)		
		桂	. 1	4	- 3		
	Matrix	Air	Air	Air	Air		
	Sampled by	Exova St-Bruno	Exova St-Bruno	Exova St-Bruno	Exova St-Bruno		
	Site sampled	Meadowbank	Meadowbank	Meadowbank	Meadowbank		
. +		Imp 1-2	Imp 3.4	Imp 1-2	Imp 3-		
Incinerator	Date sampled	NA	NA	NA	NA		
	Date received	2012-10-19	2012-10-19	2012-10-19	2012-10-19		
Parameter(s) Method Reference							
keterence Lithium (Li)	Preparation	2012-10-22	2012-10-22	2012-10-22	2012-10-22		
Metals by ICP	Analysis	2012-10-25	2012-10-25	2012-10-25	2012-10-25		
E-A-EN-EN-CHI-PC-MD017 (REF: MA. 200 - Mét 1.2, CEAEQ)	Sequential No.	405250	405250	405250	405250		
Lithium	μg	< 2	< 3	< 3	< 3		
Magnesium (Mg)	Preparation	2012-10-23	2012-10-23	2012-10-23	2012-10-23		
Metals by ICP	Analysis	2012-10-23	2012-10-23	2012-10-23	2012-10-23		
E-A-EN-EN-CHI-PC-MD017 (REF: MA. 200 - Mét 1.2, CEAEQ)	Sequential No.	405250	405250	405250 4	405250 < 3		
Magnesium	μg	15 2012-10-22	15 2012-10-22	2012-10-22	2012-10-22		
Manganese (Mn)	Preparation Analysis	2012-10-25	2012-10-25	2012-10-25	2012-10-25		
Metals by ICP E-A-EN-EN-CHI-PC-MD017 (REF: MA, 200 - Mét 1.2, CEAEQ)	Seguential No.	405250	405250	405250	405250		
Manganese	рд	133	129	3	< 3		
Mercury (Hg)	Preparation	2012-10-22	2012-10-22	2012-10-22	2012-10-22		
Metals by ICP	Analysis	2012-10-25	2012-10-25	2012-10-25	2012-10-25		
E-A-EN-EN-CHI-PC-MD017 (REF: MA. 200 - Mét 1.2, CEAEQ)	Sequential No.	405250	405250	405250	405250		
Mercury	hа	< 0.2	< 0.3	< 0.3	< 0.3		
Molybdenum (Mo)	Preparation	2012-10-22	2012-10-22	2012-10-22	2012-10-22		
Metais by ICP E-A-EN-CHI-PC-MD017 (REF: MA, 200 - Mét 1,2, CEAEQ)	Analysis	2012-10-25	2012-10-25	2012-10-25	2012-10-25		
·	Sequential No.	405250 < 2	405250 < 3	405250 < 3	405250 < 3		
Molybdenum	μg Preparation	2012-10-22	2012-10-22	2012-10-22	2012-10-22		
Nickel (Ni)	Analysis	2012-10-25	2012-10-25	2012-10-25	2012-10-25		
Metals by ICP E-A-EN-CHI-PC-MD017 (REF; MA, 200 - Mét 1,2, CEAEQ)	Sequential No.	405250	405250	405250	405250		
Nickel	hа	30	3	< 3	< 3		
Phosphorus (P)	Preparation	2012-10-23	2012-10-23	2012-10-23	2012-10-23		
Metals by ICP E-A-EN-EN-CHI-PC-M0017 (REF: MA, 200 - Met 1.2, CEAEQ)	Analysis	2012-10-23	2012-10-23	2012-10-23	2012-10-23 405250		
ETTER ENTOLOGY OF MINOR THE TANK EVO - MINOR T.Z. OLINEA	Sequential No. µg	405250 < 177	405250 < 309	405250 < 259	< 320		

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Certificate of Analysis No. 514408 - Revision 2 - Page 8 of 23



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Client: Exova			Request Nu	12-508329	
P.O. Number	Your Projec	t ID.		Project Man	ager
NA	R12-089			M. Christian S	t-Pierre
			Sam	ıple(s)	
	Lab. No.	2233448	2233449	2233463	2233465
	Your	12089-3865	12089-3866	12089-3881	12089-3882
	Reference	(177ml)	(309ml)	(259ml)	(320ml)
		:zk	4	*本	3
	Matrix	Air	Air	Air	Air
	Sampled by	Exova St-Bruno	Exova St-Bruno	Exova St-Bruno	Exova St-Bruno
	Site sampled	Meadowbank	Meadowbank	Meadowbank	Meadowbank
		Imp 1-2	Imp 3-4	Impl-2	Imp3-1
Incinerator	Date sampled	NA	NA	NA	NA
white is the second of the sec	Date received	2012-10-19	2012-10-19	2012-10-19	2012-10-19
Parameter(s)					
Method Reference					
Potassium (K)	Preparation	2012-10-23	2012-10-23	2012-10-23	2012-10-23
Metals by ICP	Analysis	2012-10-23	2012-10-23	2012-10-23	2012-10-23
E-A-EN-EN-CHI-PC-MD017 (REF: MA. 200 - Mét 1.2, CEAEQ)	Sequential No.	405250	405250	405250	405250
Potassium	hа	< 885	< 1550	< 1300	< 1600
Selenium (Se)	Preparation	2012-10-22	2012-10-22	2012-10-22	2012-10-22
Metals by ICP	Analysis	2012-10-25	2012-10-25	2012-10-25	2012-10-25
E-A-EN-EN-CHI-PC-MD017 (REF: MA. 200 - Mét 1.2, CEAEQ)	Sequential No.	405250	405250	405250	405250
Selenium	hа	< 2	< 3	< 3	< 3
Silicon extractable (Si)	Preparation	2012-10-23	2012-10-23	2012-10-23	2012-10-23
Metals by ICP	Analysis	2012-10-23	2012-10-23	2012-10-23	2012-10-23
E-A-EN-EN-CHI-PC-MD017 (REF: MA. 200 - Mét 1.2, CEAEQ)	Sequential No.	405250	405250	405250	405250
Silicium	hд	< 89	< 155	< 130	< 160
Silver (Ag)	Preparation	2012-10-22	2012-10-22	2012-10-22	2012-10-22
Metals by ICP	Analysis	2012-10-25	2012-10-25	2012-10-25	2012-10-25
E-A-EN-EN-CHI-PC-M0017 (REF: MA. 200 - Mét 1.2, CEAEQ)	Sequential No.	405250	405250	405250	405250
Silver	μg	< 0.9	< 1.5	< 1.3	< 1.6 2012-10-23
Sodium (Na)	Preparation	2012-10-23	2012-10-23	2012-10-23 2012-10-23	2012-10-23
Metals by ICP E-A-EN-EN-CHI-PC-MD017 (REF: MA. 200 - Mét 1.2, CEAEQ)	Analysis Seguential No.	2012-10-23	2012-10-23 405250	405250	405250
Sodium		405250 < 885	< 1550	< 1300	< 1600
	μg Preparation	2012-10-22	2012-10-22	2012-10-22	2012-10-22
Strontium (Sr)	Analysis	2012-10-25	2012-10-25	2012-10-25	2012-10-25
Metals by ICP E-A-EN-EN-CHI-PC-MD017 (REF: MA, 200 - Mét 1.2, CEAEQ)	Sequential No.	405250	405250	405250	405250
Strontium	µg	< 2	< 3	< 3	< 3
Tellurium (Te)	Preparation	2012-10-22	2012-10-22	2012-10-22	2012-10-22
Metals by ICP	Analysis	2012-10-25	2012-10-25	2012-10-25	2012-10-25
E-A-EN-EN-CHI-PC-MD017 (REF: MA, 200 - Mét 1.2, CEAEQ)	Sequential No.	405250	405250	405250	405250
Tellurium	ha	< 2	< 3	< 3	< 3

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Certificate of Analysis No. 514408 - Revision 2 - Page 9 of 23



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Client: Exova			Request Number: 12-		12-508329
P.O. Number	Your Project	t ID.	Project M		ager
NA	R12-089			M. Christian S	t-Pierre
			Sam	ple(s)	
	Lab. No.	2233448	2233449	2233463	2233465
	Your	12089-3865	12089-3866	12089-3881	12089-3882
	Reference	(177ml)	(309ml)	(259ml)	(320ml)
		t	t (4	‡3
	Matrix	Air	Air	Air	Air
	Sampled by	Exova St-Bruno	Exova St-Bruno	Exova St-Bruno	Exova St-Bruno
	Site sampled	Meadowbank	Meadowbank	Meadowbank	Meadowbank
		Imp 1-2	Imp 3.4	Imp 1-Z	Imp 3"
	Date sampled	NA	ŇA	NA	NA
	Date received	2012-10-19	2012-10-19	2012-10-19	2012-10-19
Parameter(s) Method Reference					
Thallium (TI)	Preparation	2012-10-22	2012-10-22	2012-10-22	2012-10-22
Metals by ICP	Analysis	2012-10-25	2012-10-25	2012-10-25	2012-10-25
E-A-EN-EN-CHI-PC-MD017 (REF: MA. 200 - Mét 1.2, CEAEQ)	Sequential No.	405250	405250	405250	405250
Thallium	μg	< 2	< 3	< 3	< 3
Tin (Sn)	Preparation	2012-10-22	2012-10-22	2012-10-22	2012-10-22
Metals by ICP	Analysis	2012-10-25	2012-10-25	2012-10-25	2012-10-25
E-A-EN-ÉN-CHI-PC-MD017 (REF: MA. 200 - Méi 1.2, CEAEQ)	Sequential No.	405250	405250	405250	405250
Γin	μg	< 2	20	< 3	22
Fitanium (Ti)	Preparation	2012-10-22	2012-10-22	2012-10-22	2012-10-22
Metals by ICP	Analysis	2012-10-25	2012-10-25	2012-10-25	2012-10-25
E-A-EN-EN-CHI-PC-MD017 (REF: MA. 200 - Mét 1.2, CEAEQ)	Sequential No.	405250	405250	405250	405250
Fitanium	hа	< 2	< 3	< 3	< 3
Jranium (U)	Preparation	2012-10-22	2012-10-22	2012-10-22	2012-10-22
vietals by ICP	Analysis	2012-10-25	2012-10-25	2012-10-25	2012-10-25
E-A-EN-EN-CHI-PC-MD017 (REF: MA, 200 - Mét 1.2, CEAEQ)	Sequential No.	405250	405250	405250	405250
Jranium	μg	< 2	< 3	< 3	< 3
Vanadium (V)	Preparation	2012-10-23	2012-10-23	2012-10-23	2012-10-23
Metals by ICP	Analysis	2012-10-23	2012-10-23	2012-10-23	2012-10-23
E-A-EN-EN-CHI-PC-MD017 (REF: MA, 200 - Mét 1.2, CEAEQ)	Sequential No.	405250	405250	405250	405250
/anadium	μg	< 2	< 3	< 3	< 3
Zinc (Zn)	Preparation	2012-10-23	2012-10-23	2012-10-23	2012-10-23
Metals by ICP E-A-EN-EN-CHI-PC-MD017 (REF: MA, 200 - Mét 1.2, CEAEQ)	Analysis Sequential No.	2012-10-23 405250	2012-10-23 405250	2012-10-23 405250	2012-10-23 405250
Zinc	ha ha	< 12	< 22	< 18	< 22

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Certificate of Analysis No. 514408 - Revision 2 - Page 10 of 23



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Client: Exova			Request Number:	12-508329
P.O. Number	Your Project	ID.	Projec	t Manager
NA	R12-089		M. Christ	ian St-Pierre
			Sample(s)	
	Lab. No.	2233469		- 100
	Your	12089-3888		
	Reference	(100ml)		
		Blank		
	Matrix	Air		
	Sampled by	Exova St-Bruno		
	Site sampled	Meadowbank		
Incinerator		Imp		
manus () rough) (Cam.) Color)	Date sampled	NA		
	Date received	2012-10-19		
Parameter(s)				
Method Reference				
Aluminum (Al)	Preparation	2012-10-22		
letals by ICP	Analysis	2012-10-25		
-A-EN-EN-CHI-PC-MD017 (REF: MA. 200 - Mét 1.2, CEAEQ)	Sequential No.	405250		
Numinum	hâ	< 10		······································
Antimony (Sb)	Preparation	2012-10-22		
Metals by ICP E-A-EN-EN-CHI-PC-MD017 (REF: MA, 200 - Mét 1.2, CEAEQ)	Analysis Sequential No.	2012-10-25 405250		
Antimony	μg	403230		
Arsenic (As)	Preparation	2012-10-22		
Metals by ICP	Analysis	2012-10-25		
E-A-EN-EN-CHI-PC-MD017 (REF: MA. 200 - Mét 1.2, CEAEQ)	Sequential No.	405250		
Arsenic	hā	< 1		
3arium (Ba)	Preparation	2012-10-22		
Metals by ICP	Analysis	2012-10-23		
E-A-EN-EN-CHI-PC-MD017 (REF: MA. 200 - Mét 1.2. CEAEQ)	Sequential No.	405250		
3arium	hà	< 10		
Beryllium (Be)	Preparation	2012-10-22 2012-10-25		
Wetals by ICP E-A-EN-EN-CHI-PC-MD017 (REF: MA, 200 - Mét 1.2, CEAEQ)	Analysis Sequential No.	405250		
Beryllium	μg	< 1		
Bismuth (Bi)	Preparation	2012-10-22		
Metals by ICP	Analysis	2012-10-25		
E-A-EN-EN-CHI-PC-MD017 (REF: MA. 200 - Mét 1,2, CEAEQ)	Sequential No.	405250		
Bismuth	μg	< 1		
Boron (B)	Preparation	2012-10-22		
Metals by ICP	Analysis	2012-10-25		
E-A-EN-EN-CHI-PC-MD017 (REF: MA. 200 - Mét 1.2, CEAEQ)	Sequential No.	405250		
Boron	μg	< 20		

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Certificate of Analysis No. 514408 - Revision 2 - Page 11 of 23



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Client: Exova			Request Number:	12-508329
P.O. Number	Your Project	ID.	Projec	t Manager
NA	R12-089		M. Christ	ian St-Pierre
			Sample(s)	
	Lab. No.	2233469		ACT 102 PG
	Your	12089-3888		
	Reference	(100ml)		
		Blank		
	Matrix	Air		
	Sampled by	Exova St-Bruno		
	Site sampled	Meadowbank		
		Imp		
Incinerator	Date sampled	NA)		
	Date received	2012-10-19		
Parameter(s)				
dethod Reference				
Cadmium (Cd)	Preparation	2012-10-22		
tetals by ICP	Analysis	2012-10-25		
-A-EN-EN-CHI-PC-MD017 (REF: MA, 200 - Mét 1.2, CEAÉ		405250		
Cadmium	μg	< 0.5		
Calcium (Ca)	Preparation	2012-10-23		
letals by ICP	Analysis	2012-10-23		
-A-EN-EN-CHI-PC-MD017 (REF: MA, 200 - Mét 1.2, CEAE	ooquomiai	405250		
Calcium	ha	< 20		
Chromium (Cr)	Preparation	2012-10-22		
Aetais by ICP E-A-EN-EN-CHI-PC-MD017 (REF: MA. 200 - Mét 1.2, CEAE	Analysis EQ) Sequential No.	2012-10-25		
Chromium	pg 5equential 140.	405250 < 1		
Cobalt (Co)	Preparation	2012-10-22		
- '	Analysis	2012-10-25		
Metais by ICP E-A-EN-EN-CHI-PC-MD017 (REF: MA. 200 - Mét 1.2, CEAÉ	•	405250		
Cobalt	рq	< 1		
Copper (Cu)	Preparation	2012-10-22		
Metals by ICP	Analysis	2012-10-25		
E-A-EN-ÉN-CHI-PC-MD017 (REF: MA. 200 - Mét 1.2, CEAÉ	EQ) Sequential No.	405250		
Copper	μg	< 1		
ron (Fe)	Preparation	2012-10-23		
Metals by ICP 2-A-EN-EN-CHI-PC-MD017 (REF: MA, 200 - Mét 1.2, CEAE	Analysis EQ) Sequential No.	2012-10-23		
<u>'</u>	ocqueritar 110.	405250 < 50		
ron	μg Preparation	2012-10-22		
Lead (Pb)	Analysis	2012-10-24		
Metals by ICP E-A-EN-EN-CHI-PC-MD017 (REF: MA. 200 - Mét 1.2. CEAI	•	405250		
Lead	hā	< 1		

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Certificate of Analysis No. 514408 - Revision 2 - Page 12 of 23



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Client: Exova			Request Number:	12-508329
P.O. Number	Your Project ID.		Projec	t Manager
NA	R12-089		M. Christ	ian St-Pierre
<u> </u>			Sample(s)	
	Lab. No.	2233469		
	Your	12089-3888		
	Reference	(100ml)		
		Blank		
	Matrix	Air		
	Sampled by	Exova St-Bruno		
	Site sampled	Meadowbank		
Incinerator		Imp		
Incinerator	Date sampled	NA		
	Date received	2012-10-19		
Parameter(s)				
fethod Reference				
.ithium (Li)	Preparation	2012-10-22		
letals by ICP	Analysis	2012-10-25		
-A-EN-ÉN-CHI-PC-MD017 (REF: MA. 200 - Mét 1.2, CEAEQ)	Sequential No.	405250		
ithium	μg	< 1		
Magnesium (Mg)	Preparation	2012-10-23		
fetals by ICP -A-EN-EN-CHI-PC-MD017 (REF: MA, 200 - Mét 1.2, CEAEQ)	Analysis Sequential No.	2012-10-23 405250		
	μg	405250 < 1		
Magnesium Manganese (Mn)	Preparation	2012-10-22		
- , ,	Analysis	2012-10-25		
Metals by ICP E-A-EN-EN-CHI-PC-MD017 (REF: MA. 200 - Mét 1.2, CEAEQ)	Sequential No.	405250		
Manganese	hā	< 1		
Mercury (Hg)	Preparation	2012-10-22		
Metals by ICP	Analysis	2012-10-25		
E-A-EN-EN-CHI-PC-MD017 (REF: MA. 200 - Mét 1.2, CEAEQ)	Sequential No.	405250		
Mercury	μg	< 0.1		
Molybdenum (Mo)	Preparation	2012-10-22 2012-10-25		
Metals by ICP E-A-EN-EN-CHI-PC-MD017 (REF: MA. 200 - Mét 1.2, CEAEQ)	Analysis Sequential No.	2012-10-25 405250		
Molybdenum	µg	403230 < 1		
Vickel (Ni)	Preparation	2012-10-22		
Metals by ICP	Analysis	2012-10-25		
E-A-EN-EN-CHI-PC-MD017 (REF: MA. 200 - Mét 1.2, CEAEQ)	Sequential No.	405250		
Nickel	þg	< 1		
Phosphorus (P)	Preparation	2012-10-23		
Metals by ICP	Analysis	2012-10-23		
E-A-EN-ÉN-CHI-PC-MD017 (REF: MA. 200 - Mét 1.2, CEAEQ)	Sequential No.	405250		
Phosphorus	hа	< 100		

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Certificate of Analysis No. 514408 - Revision 2 - Page 13 of 23



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Client: Exova		Request Number:	12-508329	
P.O. Number	Your Project	I ID.	Projec	t Manager
NA	R12-089		M. Christ	ian St-Pierre
			Sample(s)	
	Lab. No.	2233469		
	Your Reference	12089-3888 (100ml)		
	Matrix	Bian K Air		
	Sampled by	Exova St-Bruno		
	Site sampled	Meadowbank		
Incinerat		Imp		
TUCING Late		NA 2012 10 10		
Parameter(s) Method Reference	Date received	2012-10-19		
Potassium (K)	Preparation	2012-10-23		
Metals by ICP	Analysis	2012-10-23		
-A-EN-EN-CHI-PC-M0017 (REF; MA. 200 - Mét 1.2, (CEAEQ) Sequential No.	405250		
Potassium	hā	< 500		
Selenium (Se)	Preparation	2012-10-22		
letals by ICP A-EN-EN-CHI-PC-MD017 (REF: MA, 200 - Mét 1.2, I	Analysis	2012-10-25		
	Ocquorda 110.	405250		
Selenium	µд Preparation	< 1 2012-10-23		
Silicon extractable (Si)	Analysis	2012-10-23		
Metals by ICP E-A-EN-EN-CHI-PC-MD017 (REF: MA. 200 - Mét 1.2, (-	405250		
Silicium	hā	< 50		
Silver (Ag)	Preparation	2012-10-22		
Metals by ICP	Analysis	2012-10-25		
-A-EN-EN-CHI-PC-M0017 (REF: MA. 200 - Mét 1.2,	CEAEQ) Sequential No.	405250		
Silver	μg	< 0.5		
Sodium (Na)	Preparation	2012-10-23		
fetals by ICP	Analysis	2012-10-23		
:-A-EN-ÉN-CHI-PC-MD017 (RES: MA, 200 - Mét 1.2. :	Geguerniai 140.	405250		
Sodium	μg	< 500		
Strontium (Sr)	Preparation	2012-10-22		
letais by ICP -A-EN-EN-CHI-PC-MD017 (REF: MA. 200 - Mét 1,2,	Analysis CEAEQ) Sequential No.	2012-10-25 405250		
Strontium	μg	< 1		
Fellurium (Te)	Preparation	2012-10-22		
Metals by ICP E-A-EN-EN-CHI-PC-MD017 (REF: MA, 200 - Mét 1.2,	Analysis CEAEQ) Sequential No.	2012-10-25 405250		
Fellurium	Sequential No.	405250		

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Certificate of Analysis No. 514408 - Revision 2 - Page 14 of 23



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Client: Exova			Request Number:	12-508329		
P.O. Number	Your Project	ID.	Project	Manager		
NA	R12-089		M. Christian St-Pierre			
,			Sample(s)			
	Lab. No.	2233469				
	Your	12089-3888				
	Reference	(100ml)				
		Blank				
	Matrix	Air				
	Sampled by	Exova St-Bruno				
	Site sampled	Meadowbank				
		Imp				
Incinerator	Date sampled	NA				
	Date received	2012-10-19				
Parameter(s) ^{Aethod}						
Reference	Preparation	2012-10-22				
Thallium (TI)	Analysis	2012-10-25				
tetals by ICP -A-EN-EN-CHt-PC-MD017 (REF: MA. 200 - Mét 1.2, CEAEQ)	Sequential No.	405250				
- hallium	рд	< 1				
Fin (Sn)	Preparation	2012-10-22				
Netals by ICP	Analysis	2012-10-25				
E-A-EN-EN-CHI-PC-MD017 (REF: MA, 200 - Mét 1.2, CEAEQ)	Sequential No.	405250				
ĩn	μg	9				
Fitanium (Ti)	Preparation	2012-10-22				
fetals by ICP	Analysis	2012-10-25				
-A-EN-EN-CHI-PC-MD017 (REF: MA. 200 - Mét 1,2, CEAEQ)	Sequential No.	405250				
itanium	µд	< 1				
Jranium (U)	Preparation	2012-10-22				
Metals by ICP	Analysis	2012-10-25				
E-A-EN-ÉN-CHI-PC-MD017 (REF: MA. 200 - Mét 1.2, CEAEQ)	Sequential No.	405250				
Jranium	hа	< 1				
/anadium (V)	Preparation	2012-10-23				
Metals by ICP	Analysis	2012-10-23				
E-A-EN-ÉN-CHI-PC-MD017 (REF: MA, 200 - Mét 1.2, CEAEQ)	Sequential No.	405250				
Vanadium	hā	< 1				
Zinc (Zn)	Preparation	2012-10-23				
Metals by ICP	Analysis	2012-10-23				
E-A-EN-EN-CHI-PC-MD017 (REF: MA, 200 - Mét 1.2, CEAEQ)	Sequential No.	405250				
Zinc	ha	< 7				

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Certificate of Analysis No. 514408 - Revision 2 - Page 15 of 23



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Client: Exova			Request Nu	mber:	12-508329	
P.O. Number	Your Projec	t ID.		Project Mai	nager	
NA ;	R12-089			M. Christian S	St-Pierre	
	Sample(s)					
	Lab. No.	2233441	2233461	2233467		
	Your Reference	12089- 3861+3862+3863	12089- 3877+3878+3879	12089-3885+3886	5	
		:22:	43	Blank	, 	
	Matrix	Filtre	Filtre	Filtre		
	Sampled by	Exova St-Bruno	Exova St-Bruno	Exova St-Bruno		
	Site sampled	Meadowbank	Meadowbank	Meadowbank		
ŧ.		F+3	F+S	F+S		
Incinerator	Date sampled Date received	NA 2012-10-19	NA 2012-10-19	NA 2012-10-19		
Parameter(s) Method Reference	<u>Date received</u>	2012 10 10				
Aluminum (Al)	Preparation	2012-10-22	2012-10-22	2012-10-22		
letals by ICP	Analysis	2012-10-23	2012-10-23	2012-10-23		
-A-EN-EN-CHI-PC-MD017 (REF: MA, 200 - Mét 1.2, CEAEQ)	Sequential No.	405260	405260	405260		
duminum	hд	< 12	152	< 12		
Antimony (Sb)	Preparation	2012-10-22	2012-10-22	2012-10-23		
letais by ICP -A-EN-EN-CHI-PC-MD017 (REF: MA, 200 - Mét 1.2, CEAEQ)	Analysis	2012-10-23	2012-10-23	2012-10-25		
	Sequential No.	405260 1.6	405260 18.6	405260 < 0.5		
intimony	µg Preparation	2012-10-23	2012-10-23	2012-10-23		
Arsenic (As)	Analysis	2012-10-25	2012-10-25	2012-10-25		
letals by ICP A-EN-EN-CHI-PC-MD017 (REF: MA, 200 - Mét 1.2, CEAEQ)	Sequential No.	405260	405260	405260		
Arsenic	Hg.	0.9	1.6	< 0.5		
Barium (Ba)	Preparation	2012-10-22	2012-10-22	2012-10-22		
1etals by ICP	Analysis	2012-10-23	2012-10-23	2012-10-23		
-A-EN-ÉN-CHI-PC-MD017 (REF: MA. 200 - Mét 1.2, CEAEQ)	Sequential No.	405260	405260	405260		
Barium	hā	< 0.5	5.9	< 0.5		
Beryllium (Be)	Preparation	2012-10-23	2012-10-23	2012-10-23		
Aetals by ICP	Analysis	2012-10-23	2012-10-23	2012-10-23		
E-A-EN-EN-CHI-PC-MD017 (REF: MA. 200 - Mét 1.2. CEAEQ)	Sequential No.		405260	405260		
Beryllium	µg Broparation	< 0.2	< 0.2 2012-10-23	< 0.2 2012-10-23		
Bismuth (Bi)	Preparation	2012-10-23	2012-10-25	2012-10-25		
Metals by ICP E-A-EN-EN-CHI-PC-MD017 (REF: MA. 200 - Mét 1.2, CEAEQ)	Analysis Sequential No.	2012-10-25 405260	405260	405260		
Bismuth	µg	< 5	< 5	< 5		
Boron (B)	Preparation	2012-10-23	2012-10-23	2012-10-22		
Metals by ICP	Analysis	2012-10-23	2012-10-23	2012-10-23		
E-A-EN-EN-CHI-PC-MD017 (REF: MA. 200 - Mét 1.2. CEAEQ)	Sequential No.		405260	405260		
Boron	μд	< 20	< 20	< 20		

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Certificate of Analysis No. 514408 - Revision 2 - Page 16 of 23



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Client: Exova			Request Nu	mber:	12-508329	
P.O. Number	Your Projec	t ID.		Project Ma	nager	
NA NA	R12-089	l.		M. Christian	St-Pierre	
	Sample(s)					
	Lab. No.	2233441	2233461	2233467		
	Your Reference	12089- 3861+3862+3863	12089- 3877+3878+3879	12089-3885+388	6	
		II	= 3	Blank	ı	
	Matrix	Filtre	Filtre	Filtre		
	Sampled by	Exova St-Bruno	Exova St-Bruno	Exova St-Bruno		
	Site sampled	Meadowbank	Meadowbank	Meadowbank		
		F+S	F+5	Ft5		
Incinerator	Date sampled	NA	NA	NA		
	Date received	2012-10-19	2012-10-19	2012-10-19		
Parameter(s)						
deference						
Cadmium (Cd)	Preparation	2012-10-22	2012-10-22	2012-10-22		
letals by ICP	Analysis	2012-10-23	2012-10-23	2012-10-23		
-A-EN-EN-CHI-PC-MD017 (REF: MA. 200 - Mét 1.2, CEAEQ)	Sequential No.	405260	405260	405260		
admium	hā	1.2	4.5	< 0.5		
Calcium (Ca)	Preparation	2012-10-22	2012-10-22	2012-10-22		
letals by ICP -A-EN-EN-CHI-PC-MD017 (REF: MA. 200 - Mét 1.2, CEAEQ)	Analysis Seguential No.	2012-10-23	2012-10-23	2012-10-23		
Calcium	pg µg	405260 73	405260 1680	405260 13		
Chromium (Cr)	Preparation	2012-10-22	2012-10-22	2012-10-22		
letals by ICP	Analysis	2012-10-23	2012-10-23	2012-10-23		
-A-EN-EN-CHI-PC-MD017 (REF: MA. 200 - Mét 1.2, CEAEQ)	Sequential No.	405260	405260	405260		
Chromium	μg	2.8	12.7	0.9		
Cobalt (Co)	Preparation	2012-10-23	2012-10-23	2012-10-23		
letats by ICP	Analysis	2012-10-25	2012-10-25	2012-10-25		
-A-EN-EN-CHI-PC-MD017 (REF: MA. 260 - Mét 1,2, CEAEQ)	Sequential No.	405260	405260	405260		
Cobalt	hд	< 0.5	< 0.5	< 0.5		
Copper (Cu)	Preparation	2012-10-22	2012-10-22	2012-10-23		
letais by ICP -A-EN-EN-CHI-PC-MD017 (REF: MA. 200 - Mét 1.2, CEAEQ)	Analysis	2012-10-23	2012-10-23	2012-10-25		
	Sequential No.	405260	405260	405260		
Copper (Fo)	μg Preparation	14.5 2012-10-22	85.2 2012-10-22	< 0.5 2012-10-22		
ron (Fe)	Analysis	2012-10-23	2012-10-23	2012-10-23		
letals by ICP -A-EN-EN-CHI-PC-MD017 (REF: MA, 200 - Mêt 1.2, CEAEQ)	Sequential No.	405260	405260	405260		
ron	рд	33.0	528	11.5		
ead (Pb)	Preparation	2012-10-22	2012-10-22	2012-10-23		
Metals by ICP	Analysis	2012-10-23	2012-10-23	2012-10-25		
E-A-EN-EN-CHI-PC-MD017 (REF: MA. 200 - Mét 1.2. CEAEQ)	Sequential No.	405260	405260	405260		
Lead	μg	29.5	147	0.7		

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Certificate of Analysis No. 514408 - Revision 2 - Page 17 of 23



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T +1 (514) 697-3273 E ventesCaxova.com W: www.exeva.ca



Client: Exova			Request Nu	mber:	12-508329
P.O. Number	Your Projec	t ID.		Project Ma	ınager
NA	R12-089			M. Christian	St-Pierre
\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \			Sam	ple(s)	
	Lab. No.	2233441	2233461	2233467	
	Your Reference	12089- 3861+3862+3863	12089- 3877+3878+3879	12089-3885+388	86
		# (#3	Blank	_
	Matrix	Filtre	Filtre	Filtre	
	Sampled by	Exova St-Bruno	Exova St-Bruno	Exova St-Bruno)
	Site sampled	Meadowbank	Meadowbank	Meadowbank	
		F+S	FtS	F+5	
Incinerator	Date sampled	NA	NA	NA	
	Date received	2012-10-19	2012-10-19	2012-10-19	
Parameter(s)					
tethod Reference					
ithium (Li)	Preparation	2012-10-22	2012-10-22	2012-10-23	
etals by ICP	Analysis	2012-10-23	2012-10-23	2012-10-25	
-A-EN-EN-CHI-PC-M0017 (REF: MA, 200 - Mét 1.2, CEAEQ	Sequential No.	405260	405260	405260	
ithium	hд	2.6	10.2	< 0.5	
lagnesium (Mg)	Preparation	2012-10-22	2012-10-22	2012-10-22	
letals by ICP -A-EN-EN-CHI-PC-MD017 (REF: MA, 200 - Mét 1,2, CEAEQ	Analysis	2012-10-23	2012-10-23	2012-10-23	
	Ocquentia. 110.	405260 10.4	405260 78.3	405260 < 2.6	
fagnesium	µg Preparation	2012-10-22	2012-10-22	2012-10-22	
flanganese (Mn)	Analysis	2012-10-23	2012-10-23	2012-10-23	
letais by ICP -A-EN-EN-CHI-PC-MD017 (REF: MA. 200 - Mét 1,2, CEAEQ	•	405260	405260	405260	
Manganese	hā	1.1	11.0	< 0.3	
Mercury (Hg)	Preparation	2012-10-23	2012-10-23	2012-10-23	
letals by ICP-MS	Analysis	2012-10-25	2012-10-25	2012-10-25	
-A-EN-EN-CHt-PC-MD025 (REF: MA. 200 - Mét 1.2, CEAEC	Sequential No.	405260	405260	405260	
1ercury	μg	< 0.1	< 0.1	< 0.1	
Nolybdenum (Mo)	Preparation	2012-10-22	2012-10-22	2012-10-22	
letals by ICP -A-EN-EN-CHI-PC-MD017 (REF: MA. 200 - Mét 1.2, CEAEC	Analysis	2012-10-23	2012-10-23	2012-10-23 405260	
	3) Sequential No. µg	405260 1	405260 7	405260 < 1	
lolybdenum lickel (Ni)	Preparation	2012-10-23	2012-10-23	2012-10-23	
letais by ICP	Analysis	2012-10-25	2012-10-25	2012-10-25	
retars by IGP E-A-EN-EN-CHI-PC-MD017 (REF: MA, 200 - Mét 1.2, CEAEC	•	405260	405260	405260	
Nickel	hâ	1.1	3.5	< 0.5	
Phosphorus (P)	Preparation	2012-10-22	2012-10-22	2012-10-23	
Netals by ICP	Analysis	2012-10-23	2012-10-23	2012-10-23	
E-A-EN-ÉN-CHI-PC-MD017 (REF: MA, 200 - Mét 1.2. CÉAÉC	Sequential No.		405260	405260	
Phosphorus	hа	< 100	1200	< 100	,

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Certificate of Analysis No. 514408 - Revision 2 - Page 18 of 23



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Client: Exova		Request Number:		12-508329	
P.O. Number	Your Projec	t ID.	Project Manager		
NA	R12-089			M. Christian S	St-Pierre
<u> </u>		,,,,	Sam	ple(s)	
	Lab. No.	2233441	2233461	2233467	
	Your Reference	12089- 3861+3862+3863	12089- 3877+3878+3879	12089-3885+388	6
	, 10,0,0	# 1	* 3	Blank	
	Matrix	Filtre	Filtre	Filtre	
	Sampled by	Exova St-Bruno	Exova St-Bruno	Exova St-Bruno	
	Site sampled	Meadowbank	Meadowbank	Meadowbank	
ì		Fis	F+5	F+5	
Incinerator	Date sampled	NA	NA	NA	
	Date received	2012-10-19	2012-10-19	2012-10-19	
Parameter(s) lethod seference					
otassium (K)	Preparation	2012-10-22	2012-10-22	2012-10-22	
etals by ICP	Analysis	2012-10-23	2012-10-23	2012-10-23	
-A-EN-EN-CHI-PC-MD017 (REF: MA. 200 - Mét 1.2, CEAEQ)	Sequential No.	405260	405260	405260	
otassium	þg	4510	19100	< 25	
elenium (Se)	Preparation	2012-10-23	2012-10-23	2012-10-23	
letals by ICP	Analysis	2012-10-25	2012-10-25	2012-10-25	
-A-EN-EN-CHI-PC-MD017 (REF: MA, 200 - Mét 1.2, CEAEQ)	Sequential No.	405260	405260	405260	
elenium	hа	< 0.5	0.7	< 0.5	
ilicon (Si)	Preparation	2012-10-23	2012-10-23	2012-10-23	
letals by ICP	Analysis	2012-10-23	2012-10-23	2012-10-23	
-A-EN-ÈN-CHI-PC-MD017 (REF: MA. 200 - Mét 1.2, CEAEQ)	Sequential No.	405260	405260	405260 7 3	
ilicon	μg	74	315 2012-10-23	2012-10-23	
iilver (Ag)	Preparation	2012-10-23 2012-10-25	2012-10-25	2012-10-25	
letals by ICP -A-EN-EN-CHI-PC-MD017 (REF: MA. 200 - Mét 1.2, CEAEQ)	Analysis Sequential No.	405260	405260	405260	
Silver	pg pequential No.	0.9	1.4	< 0.5	
Sodium (Na)	Preparation	2012-10-22	2012-10-22	2012-10-22	
	Analysis	2012-10-23	2012-10-23	2012-10-23	
Metals by ICP A-EN-EN-CHI-PC-MD017 (REF: MA. 200 - Mét 1.2, CEAEQ)	Sequential No.		405260	405260	
Sodium	рд	3220	10600	61	,
Strontium (Sr)	Preparation	2012-10-22	2012-10-22	2012-10-22	
tetals by ICP	Analysis	2012-10-23	2012-10-23	2012-10-23	
-A-EN-EN-CHI-PC-MD017 (REF: MA. 200 - Mét 1.2, CEAEQ)	Sequential No.	405260	405260	405260	
Strontium	hа	< 0.7	1.6	< 0.7	
Геllurium (Те)	Preparation	2012-10-23	2012-10-23	2012-10-23	
Metals by ICP E-A-EN-EN-CHI-PC-MD017 (REF: MA, 200 - Mét 1.2, CEAEQ)	Analysis Sequential No.	2012-10-25 405260	2012-10-25 405260	2012-10-25 405260	
Tellurium	μg	< 1	< 1	< 1	

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Certificate of Analysis No. 514408 - Revision 2 - Page 19 of 23



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Client: Exova			Request Nu	mber:	12-508329
P.O. Number	Your Projec	t ID.		Project Ma	nager
NA	R12-089			M. Christian	St-Pierre
			Sam	ple(s)	
	Lab. No.	2233441	2233461	2233467	
	Your Reference	12089- 3861+3862+3863	12089- 3877+3878+3879	12089-3885+388	6
		# (#1.3	Blank	
	Matrix	Filtre	Filtre	Filtre	
	Sampled by	Exova St-Bruno	Exova St-Bruno	Exova St-Bruno	
	Site sampled	Meadowbank	Meadowbank	Meadowbank	
		F+5	F+5	F+S	
Incinerator	Date sampled	NA	NA	NA	
Tr(CHIE Lafor,	Date received	2012-10-19	2012-10-19	2012-10-19	
Parameter(s) Method Reference					
Thallium (TI)	Preparation	2012-10-23	2012-10-23	2012-10-23	
Metals by ICP	Analysis	2012-10-25	2012-10-25	2012-10-25	
E-A-EN-ÉN-CHI-PC-MD017 (REF: MA. 200 - Mét 1.2, CEAEQ)	Sequential No.	405260	405260	405260	
Thallium	hā	< 3	< 3	< 3	
Tin (Sn)	Preparation	2012-10-22	2012-10-22	2012-10-22	
Metals by ICP	Analysis	2012-10-23	2012-10-23	2012-10-23	
E-A-EN-CHI-PC-MD017 (REF: MA. 200 - Mét 1.2. CEAEQ)	Sequential No.	405260	405260	405260	
Tin	hд	7.9	74.7	< 0.5	
Titanium (Ti)	Preparation	2012-10-22	2012-10-22	2012-10-23	
Metals by ICP	Analysis	2012-10-23	2012-10-23	2012-10-25	
E-A-EN-ÉN-CHI-PC-MD017 (REF: MA. 200 - Mét 1.2, CEAEQ)	Sequential No.	405260	405260	405260	
Titanium	þд	< 0.5	4.3	< 0.5	
Uranium (U)	Preparation	2012-10-23	2012-10-23	2012-10-23	
Metals by ICP-MS	Analysis	2012-10-25	2012-10-25	2012-10-25	
E-A-EN-ÉN-CHI-PC-MD025 (REF: MA, 200 - Mét 1.2, CEAEQ)	Sequential No.	405260	405260	405260	
Uranium	μg	< 0.05	< 0.05	< 0.05	
Vanadium (V)	Preparation	2012-10-23	2012-10-22	2012-10-23	
Metals by ICP	Analysis	2012-10-25	2012-10-23	2012-10-25	
E-A-EN-ÊN-CHI-PC-MD017 (REF: MA. 200 - Mét 1.2, CEAEQ)	Sequential No.	405260	405260	405260	
Vanadium (V)	μg	0.2	< 0.3	< 0.1	
Zinc (Zn)	Preparation	2012-10-22	2012-10-22	2012-10-23	
Metals by ICP	Analysis	2012-10-23	2012-10-23	2012-10-23	
E-A-EN-EN-CHI-PC-MD017 (REF: MA, 200 - Mét 1.2, CEAEQ)	Sequential No.	405260	405260	405260	
Zinc	hд	69.7	1390	1.0	

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Certificate of Analysis No. 514408 - Revision 2 - Page 20 of 23



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Client: Exova			Request Nu	ımber:	12-508329
P.O. Number	Your Project		Project M	lanager	
NA	R12-089			M. Christian	St-Pierre
			Sam	ple(s)	
	Lab. No.	2233441	2233461	2233467	
	Your Reference	12089- 3861+3862+3863	12089- 3877+3878÷3879	12089-3885+38	86
	Matrix	Filtre	Filtre	Filtre	
	Sampled by	Exova St-Bruno	Exova St-Bruno	Exova St-Brun	o
	Site sampled	Meadowbank	Meadowbank	Meadowbank	i
	Date sampled	NA	NA	NA	
	Date received	2012-10-19	2012-10-19	2012-10-19	,

Parameter(s)

Method Reference

Note 1: Results and comments, if any, relate only to samples submitted for analysis at the Pointe-Claire laboratory.

David Catolat 2008-039 OUÉBEC (P David Cajolet, chemist

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Client: Exova			Request Nu	mber:	12-508329
P.O. Number	Your Project	Your Project ID.		Project Man	ager
NA	R12-089		:	M. Christian St	-Pierre
			Sam	ple(s)	
	Lab. No.	2233448	2233449	2233463	2233465
	Your Reference	12089-3865 (177ml)	12089-3866 (309ml)	12089-3881 (259ml)	12089-3882 (320ml)
	Matrix	Air	Air	Air	Air
	Sampled by	Exova St-Bruno	Exova St-Bruno	Exova St-Bruno	Exova St-Bruno
	Site sampled	Meadowbank	Meadowbank	Meadowbank	Meadowbank
	Date sampled	NA	NA	NA	NA
	Date received	2012-10-19	2012-10-19	2012-10-19	2012-10-19
Parameter(s) Method Reference					
Volume	Preparation	-		-	-
Not applicable	Analysis	_	-	-	~
Not applicable	Sequential No.	NA	NA	NA	NA
Volume	mL.	177	309	259	320

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化油罐等 医动脉管 法人 医乳质多层点

Client: Exova			Request Number:	12-508329
P.O. Number	Your Project ID.		Ргојес	t Manager
NA	R12-089		M. Christ	ian St-Pierre
			Sample(s)	
	Lab. No.	2233469		
	Your 1 Reference	2089-3888 (100ml)		
	Matrix	Air		
	Sampled by Ex	ova St-Bruno		
	Site sampled M	leadowbank		
	Date sampled	NA		
	Date received	2012-10-19		
Parameter(s) Method Reference				
Volume	Preparation	-		
Not applicable	Analysis	-		
Not applicable	Sequential No.	NA		
Volume	mL	100		

Note 1: Results and comments, if any, relate only to samples submitted for analysis at the Pointe-Claire laboratory.

Devid Carson 2006-0-9

David Cajolet, chemist

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Client: Exova			Request Nu	mber:	12-508329
P.O. Number	Your Project	ID.		anager	
NA	R12-089			M. Christian	St-Pierre
	Quality Con	trol Resu	ılts (CQ)		
Parameters (Sequential ID No.)	Units	RDL	Blank	Cert Result	ified Control Expected Range
Chlorides (IC) Sequential ID No.: 405298				, , , , , , , , , , , , , , , , , , ,	
Chloride	μg	< 100	< 100	510	446 - 604
Silver (Ag) Sequential ID No.: 405250					
Silver	μg	< 0.5	< 0.5	102	80 - 120
Silver (Ag) Sequential ID No.: 405260					
Silver	hâ	< 0.5	< 0.5	NA	NA
Aluminum (Al) Sequential ID No.: 405250					
Aluminum	hā	< 10	< 10	105	80 - 120
Aluminum (Al) Sequential ID No.: 405260					
Aluminum	µg	< 10	< 10	NA	NA
Arsenic (As) Sequential ID No.: 405250					
Arsenic	μg	< 1	< 1	97	80 - 120
Arsenic (As) Sequential ID No.: 405260					
Arsenic	μg	< 0.5	< 0.5	NA	NA
Barium (Ba) Sequential ID No.: 405250					
Barium	μg	< 10	< 10	99	80 - 120
Barium (Ba) Sequential ID No.: 405260					
Barium	μg	< 0.5	< 0.5	NA	NA
Boron (B) Sequential ID No.: 405250					
Boron	μg	< 20	< 20	100	80 - 120
Beryllium (Be) Sequential ID No.: 405250					
Beryllium	pg	< 1	< 1	86	80 - 120
Beryllium (Be) Sequential ID No.: 405260					
Beryllium	hâ	< 0.2	< 0.2	NA	NA
RDL : Reported Detection Limit			Appendix	1 of Certificate	no.514408 - Page 1 of

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Roughten out that a to the Life of the

Client: Exova			Request	Number:	12-508329
P.O. Number	Your F	Project ID.		Project Ma	anager
NA	R1	12-089		M. Christian	St-Pierre
	Quality (Control Res	sults (CQ)		
				Certi	fied Control
Parameters (Sequential ID No.)	Unit	ts RDL	Blank	Result	Expected Range
Boron (B) Sequential ID No.: 405260					
Boron	μg	< 20	< 20	NA	NA
Bismuth (Bi) Sequential ID No.: 405250					
Bismuth	μς	, <1	< 1	102	80 - 120
Bismuth (Bi) Sequential ID No.: 405260					
Bismuth	μς	< 5	< 5	NA	NA
Calcium (Ca) Sequential ID No.: 405250					
Calcium	μζ	3 < 20	< 20	476	400 - 600
Calcium (Ca) Sequential ID No.: 405260					
Calcium	μς	g < 1	< 3	. NA	NA
Cadmium (Cd) Sequential ID No.: 405250					
Cadmium	μζ	< 0.5	< 0.5	98.1	80 - 120
Cadmium (Cd) Sequential ID No.: 405260					
Cadmium	μç	g < 0.5	< 0.5	NA.	NA
Cobalt (Co) Sequential ID No.: 405250					
Cobalt	նո	g < 1	< 1	104	80 - 120
Cobalt (Co) Sequential ID No.: 405260					
Cobalt	μί	g < 0.5	< 0.5	NA	NA
Chromium (Cr) Sequential ID No.: 405250					
Chromium	μι	g < 1	< 1	104	80 - 120
Chromium (Cr) Sequential ID No.: 405260					
Chromium	hi	g < 0.5	< 0.5	NA	NA
Copper (Cu) Sequential ID No.: 405250					
Copper	μί	g < 1	< 1	120	80 - 120
mmi m			A	andiu 1 of Contificate -	o 611409 Page 2 of

RDL: Reported Detection Limit

Appendix 1 of Certificate no.514408 - Page 2 of 6

This certificate must not be reproduced, except in its entirety, without written consent from the laboratory. The official version of this certificate is protected and cannot be modified. The above-mentioned samples will be retained for a period of 30 days following the issue of this certificate with the exception of microbiology samples or as instructed by the client. Results pertain only to the samples submitted for analysis.

Al-66

Exova 237 rue de liverpool Saint-Augustin-de-Desmaures Québec Canada G3A 2C8

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Excyc 12" Boulevard Hymus Pointe-Claire Quebec Canada H9R 1E6

T #1 (514) 597-8273 F: +1 (514) 697-2090 E: venteziřexova.com M. MARWAXOAGICO



Client: Exova			Request Nu	mber:	12-508329
P.O. Number	Your Project	D.		Project M	
NA	R12-089			M. Christian	St-Pierre
	Quality Con	trol Resu	Its (CQ)		
Parameters (Sequential ID No.)	Units	RDL	Blank	Cert Result	ified Control Expected Range
Copper (Cu) Sequential ID No.: 405260					
Copper ron (Fe)	hâ	< 0.5	< 0.5	NA	NA
Sequential ID No.: 405250		50	5.0	60	00 400
lron	hā	< 50	< 50	99	80 - 120
Iron (Fe) Sequential ID No.: 405260					
Iron	hâ	< 0.5	< 0.5	NA	NA
Mercury (Hg) Sequential ID No.: 405250					
Mercury	μg	< 0.1	< 0.1	0.3	0.24 - 0.36
Mercury (Hg) Sequential ID No.: 405260					
Mercury	μg	< 0.1	< 0.1	NA	NA
Potassium (K) Seguential ID No.: 405250					
Potassium	hã	< 500	< 500	466	400 - 600
Potassium (K) Sequential ID No.: 405260					
Potassium	þд	< 25	< 25	NA	NA
L ithium (Li) Sequential ID No.: 405250					
_ithium	hд	< 1	< 1	89	80 - 120
Lithium (Li) Sequential ID No.: 405260					
Lithium	hā	< 0.5	< 0.5	NA	NA
Magnesium (Mg) Sequential ID No.: 405250					
Magnesium	μg	< 1	< 1	454	400 - 600
Magnesium (Mg) Sequential ID No.: 405260					
Magnesium	hā	< 0.5	< 0.5	NA	NA
Manganese (Mn) Sequential ID No.: 405250					
Manganese	μg	< 1	< 1	98	80 - 120
RDL : Reported Detection Limit			Appendi	x 1 of Certificate	no.514408 - Page 3 of

AI-67

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Parameter in the state of the

Client: Exova			Request Nu	ımber:	12-508329	
P.O. Number	Your Project	ID.	Project N			
NA	R12-089			M. Christian	ı St-Pierre	
	Quality Con	trol Resu	ılts (CQ)			
Parameters			D		ified Control	
Sequential ID No.)	Units	RDL	Blank	Result	Expected Range	
Manganese (Mn) Sequential ID No.: 405260						
Manganese	hâ	< 0.25	< 0.3	NA	NA	
Molybdenum (Mo) Sequential ID No.: 405250						
Molybdenum	hà	< 1	< 1	95	80 - 120	
Molybdenum (Mo) Sequential ID No.: 405260						
Molybdenum	μg	< 1	< 1	NA	NA	
Sodium (Na) Sequential ID No.: 405250						
Sodium	þg	< 500	< 500	449	400 - 600	
Sodium (Na) Sequential ID No.: 405260						
Sodium	μg	< 25	< 25	NA	NA	
Nickel (Ni) Sequential ID No.: 405250						
Nickel	μg	< 1	< 1	104	80 - 120	
Nickel (Ni) Sequential ID No.: 405260						
Nickel	μg	< 0.5	< 0.5	NA	NA	
Phosphorus (P) Sequential ID No.: 405250						
hosphorus	þg	< 100	< 100	95	80 - 120	
_ead (Pb) Sequential ID No.: 405250						
ead	hā	< 1	< 1	99	80 - 120	
_ead (Pb) Seguential ID No.: 405260						
_ead	рд	< 0.5	< 0.5	NA	NA	
Phosphorus (P) Sequential ID No.: 405260						
Phosphorus	hā	< 100	< 100	NA	NA	
Antimony (Sb) Sequential ID No.: 405250						

RDL: Reported Detection Limit

A1-68

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Contacts to the

Client: Exova			Request Nu	ımber:	12-508329
P.O. Number	Your Project		Project M	anager	
NA	R12-089			M. Christian	St-Pierre
	Quality Con	trol Result	ts (CQ)		
D				Cert	ified Control
Parameters (Sequential ID No.)	Units	RDL	Blank	Result	Expected Range
Antimony	hâ	< 1	< 1	104	80 - 120
Antimony (Sb) Sequential ID No.: 405260					
Antimony	μg	< 0.5	< 0.5	NA	NA
Selenium (Se) Sequential ID No.: 405250					
Selenium	μġ	< 1	< 1	96	80 - 120
Selenium (Se) Sequential ID No.: 405260					
Selenium	μg	< 0.5	< 0.5	NA	NA
Silicon extractable (Si) Sequential ID No.: 405250					
Silicium	hд	< 50	< 50	441	400 - 600
Silicon (Si) Sequential ID No.: 405260					
Silicon	hâ	< 1	< 1	NA	NA
Tin (Sn) Sequential ID No.: 405250					
Tin	μg	< 1	< 1	99	80 - 120
Tin (Sn) Sequential ID No.: 405260					
Tin	ha	< 0.5	< 0.5	NA	NA
Strontium (Sr) Sequential ID No.: 405250					
Strontium	hã	< 1	< 1	96	80 - 120
Strontium (Sr) Sequential ID No.: 405260		,			
Strontium	hâ	< 0.5	< 0.7	NA	NA
Tellurium (Te) Sequential ID No.: 405250					
Tellurium	hâ	< 1	< 1	94	80 - 120
Tellurium (Te) Sequential ID No.: 405260					
Tellurium	µg	< 1	< 1	NA	NA

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Torstone our reserve

Client: Exova			Request Nu	mber:	12-508329
P.O. Number	Your Project	ID.		Project Ma	nager
NA	R12-089			M. Christian	St-Pierre
	Quality Con	trol Result	s (CQ)		
Parameters	Units	RDL	Blank	Certii Result	fied Control Expected Range
(Sequential ID No.)	J.1110			. (3551	
Titanium (Ti) Sequential ID No.: 405250					
Titanium	hâ	< 1	< 1	100	80 - 120
Titanium (Ti) Sequential ID No.: 405260					
Titanium	μg	< 0.5	< 0.5	NA	NA
Thallium (TI) Sequential ID No.: 405250					
Thallium	μg	< 1	< 1	101	80 - 120
Thallium (TI) Sequential ID No.: 405260					
Thallium	hã	< 2.5	< 3	NA	NA
Uranium (U) Sequential ID No.: 405250					
Uranium	hâ	< 1	< 1	96	80 - 120
Uranium (U) Sequential ID No.: 405260					
Uranium	μg	< 0.05	< 0.05	NA	NA
Vanadium (V) Sequential ID No.: 405250					
Vanadium	µg	< 1	< 1	90	80 - 120
Vanadium (V) Sequential ID No.: 405260					
Vanadium (V)	hâ	< 0.1	< 0.1	NA	NA
Zinc (Zn) Sequential ID No.: 405250					
Zinc	þg	< 7	< 7	96	80 - 120
Zinc (Zn) Sequential ID No.: 405260				,,	
Zinc	μg	< 0.5	< 0.5	NA	NA

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exova 121 Boulevard Hymus Pointe-Clarie Québec Canada H9R 186 1, +1 (514) 697-3273 F +1 (514) 697-2090 E: ventes#exova.com W: www.exova.co





Client: Exova		Re	equest Number:	12-508329
P.O. Number	Your Project ID.			Manager
NA :	R12-089		M. Christia	n St-Pierre
	Quality Control R	esults - F	Part 2	,,,,,,
Parameters Sequential ID No.)	Units	V-lu- 4	Duplicate	Difference (9/)
Numinum (Al)		Value 1	Value 2	Difference (%)
Sequential ID No: 405250	(Sample no)		(2233448)	
luminum	hâ	26	25	3.9
ntimony (Sb)				
equential ID No: 405250	(Sample no)		(2233448)	
ntimony	þg	< 2	< 2	<u>-</u>
ursenic (As)				
equential ID No: 405250	(Sample no)		(2233448)	
rsenic	hâ	< 2	< 2	-
Barium (Ba)			(0000 110)	
Sequential ID No: 405250	(Sample no)	- 40	(2233448)	
Barium 	hā	< 18	< 18	
Beryllium (Be)	(0		(0000448)	
Sequential ID No: 405250	(Sample no)	< 2	(2233448) < 2	_
Beryllium	hâ			
Sismuth (Bi)	(0,		(0000440)	
Sequential ID No: 405250 Bismuth	(Sample no) µg	< 2	(2233448) < 2	_
	в ч			
Boron (B) Sequential ID No: 405250	(Cample act)		(2233448)	
Boron	(Sample no) µg	< 35	(2233446) < 35	_
	P9			
Cadmium (Cd) Sequential ID No: 405250	(Sample no)		(2233448)	
Sequential ID No. 405250 Cadmium	μg (Sample no)	< 0.9	(2233446)	-
	ru			
Calcium (Ca) Sequential ID No: 405250	(Sample no)		(2233448)	
Calcium	ha (gauble up)	77	75	2.6
	ru			
Chlorides (IC) Sequential ID No: 405298	(Sample no)		(2233446)	
Chloride	(Sample no)	285000	310000	8.4
thromium (Cr)	i.T			
Chromium (Cr) Sequential ID No: 405250	(Sample no)		(2233448)	
Chromium	Pa (earling)	2	2	0.0

Exova 237 rue de Everpool Saint-Augustin-de-Desmaures F:+1 (418) 871-9556 Québec Canada G3A 2C8

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T: +1 (514) 597-3273 F: +1 (514) 697-2090 E: ventexexova.com W. www.exova.co



Client: Exova		Re	quest Number:	12-508329
P.O. Number	Your Project ID.		Project	Manager
NA	R12-089		M. Christia	n St-Pierre
	Quality Control R	esults - P	art 2	
Parameters Sequential ID No.)	Units	Value 1	Duplicate Value 2	Difference (%)
Cobalt (Co) Sequential ID No: 405250 Cobalt	(Sample no) μg	< 2	(2233448)	-
Copper (Cu) Sequential ID No: 405250 Copper	(Sample no) µg	< 2	(2233448) < 2	<u>-</u>
ron (Fe) Sequential ID No: 405250 ron	(Sample no) µg	< 89	(2233448) < 89	-
.ead (Pb) Sequential ID No: 405250 ead	(Sample no) μg	2	(2233448) 2	0.0
Lithium (Li) Sequential ID No: 405250 Lithium	(Sample no) µg	< 2	(2233448) < 2	
Magnesium (Mg) Sequential ID No: 405250 Magnesium	(Sample no) μg	15	(2233448) 15	0.0
Manganese (Mn) Sequential ID No: 405250 Manganese	(Sample no) μg	133	(2233448) 132	0.8
Mercury (Hg) Sequential ID No: 405250 Mercury	(Sample no) µg	< 0.2	(2233448) < 0.2	-
Molybdenum (Mo) Sequential ID No: 405250 Molybdenum	(Sample no) µg	< 2	(2233448) < 2	-
lickel (Ni) Sequential ID No: 405250 Nickel	(Sample no) μg	30	(2233448) 30	0.0
Phosphorus (P) Sequential ID No: 405250 Phosphorus	(Sample no) μg	< 177	(2233448) < 177	-

Exava 237 rue de Liverpool Saint-Augustin-de-Desmaures Quebec Canada G3A 2C8

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Continue to the continue of

Client: Exova		Requ	ıest Number:	12-508329
P.O. Number	Your Project ID.		Project	Manager
NA	R12-089		M. Christia	ın St-Pierre
	Quality Control R	esults - Pa	rt 2	
Parameters			Duplicate	
Sequential ID No.)	Units	Value 1	Value 2	Difference (%)
Potassium (K)				
Sequential ID No: 405250	(Sample no)		(2233448)	
otassium	hâ	< 885	< 885	=
Selenium (Se)				
Sequential ID No: 405250	(Sample no)		(2233448)	
elenium	hâ	< 2	< 2	-
Silicon extractable (Si)				
Sequential ID No: 405250	(Sample no)		(2233448)	
Silicium	μg	< 89	(2233448) < 89	
	84 			
iilver (Ag)				
Sequential ID No: 405250	(Sample no)		(2233448)	
ilver	hâ	< 0.9	< 0.9	
odíum (Na)				
Sequential ID No: 405250	(Sample no)		(2233448)	
odium	μg	< 885	< 885	-
4(C-)				
Strontium (Sr) Sequential ID No: 405250	(Sample no)		(2233448)	
Strontium	μg	< 2	< 2	-
	79		· · · · · · · · · · · · · · · · · · ·	
ellurium (Te)				
Sequential ID No: 405250	(Sample no)		(2233448)	
ellurium	þд	< 2	< 2	
haliium (TI)				
Sequential ID No: 405250	(Sample no)		(2233448)	
hallium	µg	< 2	< 2	-
:_ (C_)				
F in (Sn) Sequential ID No: 405250	(Sample no)		(2233448)	
in	μg	< 2	(2233448)	-
•••••••••••••••••••••••••••••••••••••••		- 4-	· 	
itanium (Ti)				
Sequential ID No: 405250	(Sample no)		(2233448)	
itanium	hд	< 2	< 2	-
ranium (U)				
equential ID No: 405250	(Sample no)		(2233448)	
Iranium	μg	< 2	< 2	_

EXCIVA 237 rue de Everpool T +1 (418) 871-8722 Saint-Augustin-de-Desmaures F +1 (418) 871-9555 Québec Canada G3A 2C8

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121 Soutevard Hymus F: +1 (514) 897-2090 Pointe-Claire Sedéus Canada H-98 1E6

T. +1 (514) 697-3273 Et ventes/expyd.com W www.gxovalga





Client: Exova		Req	uest Number:	12-508329
P.O. Number	Your Project ID.		Project	Manager
NA	R12-089		M. Christia	an St-Pierre
	Quality Control F	Results - Pa	art 2	
Parameters			Duplicate	
(Sequential ID No.)	Units	Value 1	Value 2	Difference (%)
Vanadium (V)				
Sequential ID No: 405250	(Sample no)		(2233448)	
Vanadium	ha	< 2	< 2	-
Zinc (Zn)				
Sequential ID No: 405250	(Sample no)		(2233448)	
Zinc	ша	< 12	< 12	-



2350, Chemin du Lac Longueuil, Québec J4N 1G8
Tél. (514) 332-5066
Tél. (514) 332-5066

740, Galt Ouest, 2e étage Sherbrooke, Québec — J1H 1Z3 Tél (819) 566-8855 Téléc (819) 566-0224 3705, boul. Industriel Sherbrooke, Québec J1L 1X8 Tél. (819) 566-8855 Téléc. (819) 566-0224

Certificat d'analyse

No M691465, version 1

Émis le: 2012-11-28

Client: EXOVA (St-Bruno)

Mme Geneviève Sévigny 1390 rue Hocquart

St-Bruno de Montarville, Québec

J3V 6E1

No client: 12323

Tél.: Télec: No projet:

Bon de commande: CT-040753

No dossier MDDEP:

Projet:			Nature de l'é	chantillon: Liquid	е	
No éch.	/ Description	,	Résultat	Unité	Norme	Analysé le
1762068 北(nt Reçu le: 2012-10-23	<0.1	mg/L	**************************************	2012-10-23
Remarques:	Les résultats sont expimés en ug total					
1762070 #3	/ 2233466 In P Prélevé le: - Par: Clie Mercure (Hg)	ゔ - 〜 ・ ′ ′ nt Reçu le: 2012-10-23	<0.10	mg/L		2012-10-23
Remarques:	Les résultats sont exprimée en ug tota	al. Le volume total=540ml.				
1762071	/ 2233471 Slam Prélevé le: - Par: Clie Mercure (Hg)	K nt Reçu le: 2012-10-23	<0.02	mg/L		2012-10-23
Remarques:	Les résultats sont exprimée en ug tota	ii. Łe volume total=100ml.				
Méthode d'as	aalyse	Description	R	éférence externe	Pro	cédure interne
Mercure	in and the contraction of the co	Vapeur froide et AA	N	1A.203-Hg 1.0	VI (200 1 - 20	ILCE-032

France Luneau, Chimisté, chargée de projet

Nader Daoud, Chimiste, superviseur

- Ce certificat ne doit pas être reproduit, sinon en entier, sans l'autorisation écrite des Laboratoires d'analyses S.M. inc.

Les résultats ne se rapportent qu'aux objets soumis à l'essai.
 (PNA) indique un Paramètre Non Accrédité.



2350, Chemin du Lac Longueuil, Québec J4N 1G8 Tél. (514) 332-5001 Téléc (514) 332-5066

740. Galt Ouest, 2e étage 3705, boul Industriel
Sherbrooke, Québec J1H 1Z3 5herbrooke, Ouébec J1 L 1X8
Tél. (819) 566-8855 Téléc. (819) 566-0224 Tél. (819) 566-8855 Téléc. (819) 566-0224

Annexe au certificat d'analyses

M691465	version	1
101001-000	V G1 31011	- 1

Description	Unités	Limite de	Blanc	Matériaux d	le référence	Récup	ération	Dup	licata
e. The control of the		détection		% obtenu	limites (%)	% obtenu	limites (%)	% écart	limites (%)
**************************************	***************************************	······					Date d	'analyse:	2012-10-23
Méthode d'analyse: Vapeu	r froide et AA / MA.20	03-Hg 1.0 / ILCE	-032				No s	séquence:	CS321769
		Blanc					-		-



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

NOM DU CLIENT: EXOVA

1390 RUE HOCQUART

ST-BRUNO DE DE MONTARVILLE, QC J3V6E1

(450) 441-5880

À L'ATTENTION DE: CHRISTIAN ST-PIERRE

N° DE PROJET: R12-089

N° BON DE TRAVAIL: 12M653120

HAUTE RÉSOLUTION VÉRIFIÉ PAR: Marc-André Desjardins, chimiste

DATE DU RAPPORT: 2012-10-31

VERSION*: 2

NOMBRE DE PAGES: 7

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

VERSION 2:Transfert des resultats sur bon de travail 12M666925 selon demande du client. 2012-11-23.	
	46.77

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

*NOTES



NOM DU CLIENT: EXOVA

PRÉLEVÉ PAR:

Certificat d'analyse

N° BON DE TRAVAIL: 12M653120 N° DE PROJET: R12-089

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À L'ATTENTION DE: CHRISTIAN ST-PIERRE

LIEU DE PRÉLÈVEMENT: Exova St-Bruno

		Dioxi	nes et furane	s - Air (fr	Dioxines ef furanes - Air (train d'échantillonnage)	Honnag	(e	
DATE DE BÉCEPTION: 2012-10-16			يرم .		4		20.	DATE DII RAPPORT: 2012,10,31
DATE DE 11011. 2012-10-19							ra เกิน	DATE DO MAIT ONT. 2012-10-31
			2089.14.24.34.		12089,20+,21+.		12089.30+.31+.	
	DESCRIPTION D'ÉCHANTILLON:	CHANTILLON:	4+.5+.7		22+,23+,24+,26		32+,33+,34+,35	
		MATRICE:	Liquide		Liquide		Liquide	
	DATE D'ÉCHANTILLONNAGE:	TILLONNAGE:	2012-10-12		2012-10-12		2012-10-12	
Paramètre	Unités C/N	I LDR	3820598	LDR	3820606	LDR	3820612	
2,3,7,8-TCDD (pg total)	Бd	0.5	<0.5	0.5	4.5	0.4	<0.4	
1,2,3,7,8 PeCDD (pg total)	₿d.	0.8	28.5	6.0	17.3	7.0	<0.7	
1,2,3,4,7,8 HxCDD (pg total)	Bd	Υ-	22	6.0	13.1	9.0	9.0>	
1,2,3,6,7,8 HxCDD (pg total)	Бd	τ-	116	6.0	27.2	9.0	9′0>	
1,2,3,7,8,9 HxCDD (pg total)	Đơ.		185	6.0	45.7	9'0	1,0	
1,2,3,4,6,7,8 HpCDD (pg total)	Đđ.	6/1	399	τ	160		2	
OCDD (pg total)	<u>Bd</u>	τ-	217	-	273	6.0	4.4	
2,3,7,8 TCDF (pg total)	δd	0.5	17.7	2.0	36.4	0.5	<0.5	
1,2,3,7,8 PeCDF (pg total)	бd	0.8	19.7	₩.	42	0.7	<0.7	
2,3,4,7,8-PeCDF (pg total)	Đđ.	8.0	56.8	/	91	7.0	0.8	
1,2,3,4,7,8 HxCDF (pg total)	bd	0.7	100	/	185	0.7	1.8	
1,2,3,6,7,8 HxCDF (pg total)	бd	2.0	41.1	/	7.1	0.7	1,0	
2,3,4,6,7,8-HxCDF (pg total)	bd	0.7	83.6	<i>t-</i>	148	2.0	1.7	
1,2,3,7,8,9 HxCDF (pg total)	6d	0.8	14.5	, –	7	6.0	6.0>	
1,2,3,4,6,7,8 HpCDF (pg total)	Бd	۳-	137	2	275	τ-	√	
1,2,3,4,7,8,9 HpCDF (pg total)	5d	-	23	ო	38	2	<2	
OCDF (pg total)	5d	6.0	69.7	τ	130	0.8	2.1	
Sommation des Tétrachlorodibenzodioxines	Бd	0.5	463	0.5	159	9.0	1.5	
Sommation des Pentachlorodibenzodioxines	бd	8.0	1400	6.0	315	0.7	4.9	
Sommation des Hexachlorodibenzodioxines	Đđ.	·	2180	6.0	376	9.0	5.1	
Sommation des Heptachlorodibenzodioxínes	bd	64	1170	- -	327		Q	
Sommation des PCDOs	6d	7	5430	4	1450	ξ	22	
Sommation des Tétrachlorodibenzofuranes	бd	0.5	772	2.0	994	0.5	4.7	





Certifié par:

Toutes les signatures sur les certificats d'AGAT sont La procédure des Laboratoires AGAT concernant les signataires et les signataires se conforme strictement aux exigences d'accréditation ISO 17025,2005 comme le requient, lorsque applicable, CALA, CCN et MDDEP.



Certificat d'analyse

N° BON DE TRAVAIL: 12M653120 N° DE PROJET: R12-089

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

À L'ATTENTION DE: CHRISTIAN ST-PIERRE

LIEU DE PRÉLÈVEMENT: Exova St-Bruno NOM DU CLIENT: EXOVA PRÉLEVÉ PAR:

7 1/LLL V L 1 A1/.									
		Dioxi	nes et furan	es - Air (t	ines et furanes - Air (train d'échantillonnage)	lonnag	e)		
DATE DE RÉCEPTION: 2012-10-16			them.		# 20		Blank	DATE DU RAPPORT: 2012-10-31	
			12089.1+.2+.3+.		12089.20+.21+.		12089,30+,31+,	+	
	DESCRIPTION D'ÉCHANTILLON:		4+.5+.7		22+,23+,24+,26		32+.33+.34+.35	35	
		MATRICE:	Liquide		Liquide		Liquide		
	DATE D'ÉCHANTILLONNAGE:	ILLONNAGE:	2012-10-12		2012-10-12		2012-10-12		
Paramètre	Unités C/N	LDR	3820598	LDR	3820606	LDR	3820612		
Sommation des Pentachlorodibenzofuranes	6d	0.8	671	٣	913	7.0	3.9		-
Sommation des Hexachlorodibenzofuranes	6d	0.8	526		692	6.0	6.8		****
Sommation des Heptachlorocibenzofuranes	Бd	۲	248	ю	456	2	♡		
Sommation des PCDFs	Dd.	•	2290	m	3260	2	17		
2,3,7,8-Tetra CDD (TEF 1.0)	TEQ		0		4.50		0		
1,2,3,7,8-Penta CDD (TEF 0.5)	TEQ		14.2		8.65		0		
1,2,3,4,7,8-Hexa CDD (TEF 0.1)	TEQ		2.17		1.31		0		
1,2,3,6,7,8-Hexa CDD (TEF 0.1)	TEQ		11.6		2.72		0		
1,2,3,7,8,9-Hexa CDD (TEF 0.1)	TEO		18.5		4.57		0.0960		•
1,2,3,4,6,7,8-Hepta CDD (TEF 0.01)	TEQ		3.99		1.60		0.0238		
Octa CDD (TEF 0.001)	TEQ		0.217		0.273		0.00444		
2,3,7,8-Tetra CDF (TEF 0.1)	TEQ		1.77		3.64		0		
1,2,3,7,8-Penta CDF (TEF 0.05)	TEQ		0.985		2.12		0		
2,3,4,7,8-Penta CDF (TEF 0.5)	TEQ		28.4		45.6		0.380		
1,2,3,4,7,8-Hexa CDF (TEF 0.1)	TEQ		10.0		18.5		0.180		
1,2,3,6,7,8-Hexa CDF (TEF 0.1)	TEQ		4.11		7,05		0,0980		
2,3,4,6,7,8-Hexa CDF (TEF 0.1)	TEQ		8.36		14.8		0.166		
1,2,3,7,8,9-Hexa CDF (TEF 0.1)	TEQ		1.45		0.652		0		
1,2,3,4,6,7,8-Hepta CDF (TEF 0.01)	TEQ		1,37		2.75		0		
1,2,3,4,7,8,9-Hepta CDF (TEF 0.01)	TEQ		0.234		0.381		0		
Octa CDF (TEF 0.001)	TEQ		0.0697		0.130		0.00208		
Sommation des PCDDs et PCDFs			107		119		0.950		
(1EF)	``		4		7.7		7.7		
13C-2378-TCDF	%		D)		7)		1 1		
13C-12378-PeCDF	%		98		84		8/	***************************************	



Page 3 de 7





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A1-79



NOM DU CLIENT: EXOVA

PRÉLEVÉ PAR:

Certificat d'analyse

N° BON DE TRAVAIL: 12M653120 N° DE PROJET: R12-089

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

À L'ATTENTION DE: CHRISTIAN ST-PIERRE

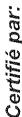
LIEU DE PRÉLÈVEMENT: Exova St-Bruno

		Dio	xines et furanes - Air (train d'échantillonnage)	38 - Air (t	rain d'échanti	llonnage	(;	
DATE DE RÉCEPTION: 2012-10-16			1		# 32		Blank	DATE DU RAPPORT: 2012-10-31
			12089,14,24,34,		12089.20+.21+.		12089.30+.31+.	
	DESCRIPTION	DESCRIPTION D'ÉCHANTILLON:	4+.5+.7		22+.23+.24+.26		32+,33+,34+,3	S
		MATRICE:			Liquide		Liquide	
	DATE D'ÉCI	DATE D'ÉCHANTILLONNAGE:	7		2012-10-12		2012-10-12	
Paramètre	Unités	C/N LDR	3820598	LDR	3820606	LDR	3820612	
13C-23478-PeCDF	%		88		88		94	
13C-123478-HxCDF	%		7.9		78		2.2	
13C-123678-HxCDF	%		99		99		29	
13C-234678-HxCDF	%		20		67		29	
13C-123789-HxCDF	%		75		7.4		76	
13C-1234678-HpCDF	%		99		68		65	
13C-1234789-HpCDF	%		73		73		7.0	
13C-2378-TCDD	%		80		7.5		82	
13C-12378-PeCDD	%		92		88		95	
13C-123478-HxCDD	%		77		78		76	
13C-123678-HxCDD	%		73		7.1		7.7	
13C-1234678-HxCDD	%		7.7		76		74	
13C-OCDD	%		62		59		60	

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

3820598-3820612 Le blanc a été soustrait de l'échantillon. Le résultat en pg total correspond au composite de chacune des parties du train d'échantillonnage.





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Page 4 de 7



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Contrôle de qualité

NOM DU CLIENT: EXOVA N° DE PROJET: R12-089

1,2,3,7,8,9 HxCDF (pg total)

1,2,3,4,6,7,8 HpCDF (pg total)

1,2,3,4,7,8,9 HpCDF (pg total)

OCDF (pg total)

PRÉLEVÉ PAR:

N° BON DE TRAVAIL: 12M653120

À L'ATTENTION DE: CHRISTIAN ST-PIERRE

70%

70%

70% 130%

70%

130%

130%

130%

NΑ

NA

NΑ

NΑ

70%

70%

70% 130%

70% 130%

130%

130%

LIEU DE PRÉLÈVEMENT: Exova St-Bruno

Analyse haute résolution ÉCH FORTIFIÉ DUPLICATA MATÉRIAU DE RÉFÉRENCE **BLANC FORTIFIÉ** Date du rapport: 2012-10-31 Limites Limites % Récup % Récub PARAMÈTRE Lot N° éch. Dup #1 Dup #2 % d'écar méthode Inf. Sup. Inf Sup. Inf. Sup. Dioxines et furanes - Air (train d'échantillonnage) 70% 130% 102% 130% NΑ 70% 130% NA NΑ 0.0 70% 2,3,7,8-TCDD (pg total) NA NΑ 70% 130% < 0.5 105% 70% 130% NΑ 70% 130% NΑ NΑ NA 0.0 1,2,3,7,8 PeCDD (pg total) NA 1 130% < 0.4 98% 70% 130% NA 70% 130% NA 70% 1.2.3,4.7.8 HxCDD (pg total) NΑ NΑ NA 0.0 1 130% 70% 70% NΑ 1,2,3,6,7,8 HxCDD (pg total) NΑ NΑ NA 0.0 < 0.4 100% 70% 130% NΑ 130% 1 70% 130% 70% 130% NΑ NΑ 0.0 < 0.4 101% 70% 130% NA 1,2,3,7,8,9 HxCDD (pg total) 1 NΑ NA 70% 130% NA 70% 130% 101% 130% NA 1.0 70% 1,2,3,4,6,7,8 HpCDD (pg total) 1 NA NA NA 0.0130% 98% 70% 130% NA 70% 130% NA 0.0 14 OCDD (pg total) NA NA NΑ 130% < 0.3 103% 70% 130% NA 70% 130% NA 0.0 2,3,7,8 TCDF (pg total) 1 NA NA NA 70% 130% NΑ 70% 130% 0.5 102% 70% 130% NA NA 0.0 1,2,3,7,8 PeCDF (pg total) 1 NΑ NΑ 70% 130% NΑ 70% 130% 0.0 < 0.3 101% 130% NA 2,3,4,7,8-PeCDF (pg total) NΑ NA 1 NA 130% 0.0 0.4 104% 70% 130% NA 70% 130% NA 70% 1,2,3,4,7,8 HxCDF (pg total) NA NΑ NΑ 70% 130% 1,2,3,6,7,8 HxCDF (pg total) NΑ NA NΑ 0.0 < 0.3 103% 70% 130% NA 70% 130% NΑ 70% 130% 70% 130% NA NΑ 0.0 < 0.3 108% 70% 130% NA 2.3,4,6,7,8-HxCDF (pg total) NΑ NA

0.0

0.0

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0.0

< 0.4

< 0.3

< 0.5

1.3

99%

101%

101%

100%

70%

70%

70%

70%

130%

130%

130%

130%

NΑ

NΑ

NA

NA

Certifié par:



AI-81

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

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

Sommaire de méthode

NOM DU CLIENT: EXOVA N° DE PROJET: R12-089 PRÉLEVÉ PAR: N° BON DE TRAVAIL: 12M653120 À L'ATTENTION DE: CHRISTIAN ST-PIERRE LIEU DE PRÉLÈVEMENT:Exova St-Bruno

PRELEVE PAR:					**************************************
PARAMÈTRE	PRÉPARÉ L	E ANALYSÉ LE	AGAT P.O.N.	RÉFÉRENCE DE LITTÉRATURE	TECHNIQUE ANALYTIQUE
Analyse haute résolution	<u> </u>		<u> </u>		
2,3,7,8-TCDD (pg total)	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
1,2,3,7,8 PeCDD (pg total)	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
1,2,3,4,7,8 HxCDD (pg total)	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
1,2,3,6,7,8 HxCDD (pg total)	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
1,2,3,7,8,9 HxCDD (pg total)	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
1,2,3,4,6,7,8 HpCDD (pg total)	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
OCDD (pg total)	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
2,3,7,8 TCDF (pg total)	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
1,2,3,7,8 PeCDF (pg total)	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
2,3,4,7,8-PeCDF (pg total)	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
1,2,3,4,7,8 HxCDF (pg total)	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
1,2,3,6,7,8 HxCDF (pg total)	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
2,3,4,6,7,8-HxCDF (pg total)	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
1.2,3,7,8,9 HxCDF (pg total)	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
1,2,3,4,6,7,8 HpCDF (pg total)	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
1,2,3,4,7,8,9 HpCDF (pg total)	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
OCDF (pg total)	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
Sommation des					LIDMO
Tétrachlorodibenzodioxines	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
Sommation des Pentachlorodibenzodioxines	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
Sommation des Hexachlorodibenzodioxines	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
Sommation des Heptachlorodibenzodioxines	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
Sommation des PCDDs	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
Sommation des Tétrachlorodibenzofuranes	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
Sommation des Pentachlorodibenzofuranes	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
Sommation des Hexachlorodibenzofuranes	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
Sommation des Heptachlorodibenzofuranes	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
Sommation des PCDFs	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
2,3,7,8-Tetra CDD (TEF 1.0)	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
1,2,3,7,8-Penta CDD (TEF 0.5)	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
1,2,3,4,7,8-Hexa CDD (TEF 0.1)	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
1,2,3,6,7,8-Hexa CDD (TEF 0.1)	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
1,2,3,7,8,9-Hexa CDD (TEF 0.1)	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
1,2,3,4,6,7,8-Hepta CDD (TEF 0.01)	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
Octa CDD (TEF 0.001)	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
2,3,7,8-Tetra CDF (TEF 0.1)	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
1,2,3,7,8-Penta CDF (TEF 0.05)	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
2,3,4,7,8-Penta CDF (TEF 0.5)	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
1,2,3,4,7,8-Hexa CDF (TEF 0.1)	2012-10-25	2012-10-27	HR_151-5400	CEAEQ MA.400 - DF 1.0	HRMS
1,2,3,6,7,8-Hexa CDF (TEF 0.1)	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
2,3,4,6,7,8-Hexa CDF (TEF 0.1)	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
1,2,3,7,8,9-Hexa CDF (TEF 0.1)	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
1,2,3,4,6,7,8-Hepta CDF (TEF 0.01)	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
1,2,3,4,7,8,9-Hepta CDF (TEF 0.01)	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS $\beta - \beta $

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Sommaire de méthode

NOM DU CLIENT: EXOVA N° DE PROJET: R12-089 PRÉLEVÉ PAR:

N° BON DE TRAVAIL: 12M653120 À L'ATTENTION DE: CHRISTIAN ST-PIERRE

LIEU DE PRÉLÈVEMENT: Exova St-Bruno

PRELEVE PAR.					
PARAMÈTRE	PRÉPARÉ LE	ANALYSÉ LE	AGAT P.O.N.	RÉFÉRENCE DE LITTÉRATURE	TECHNIQUE ANALYTIQUE
Octa CDF (TEF 0.001)	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
Sommation des PCDDs et PCDFs (TEF)	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
13C-2378-TCDF	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
13C-12378-PeCDF	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
13C-23478-PeCDF	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
13C-123478-HxCDF	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
13C-123678-HxCDF	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
13C-234678-HxCDF	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
13C-123789-HxCDF	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
13C-1234678-HpCDF	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
13C-1234789-HpCDF	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
13C-2378-TCDD	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
13C-12378-PeCDD	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
13C-123478-HxCDD	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
13C-123678-HxCDD	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
13C-1234678-HxCDD	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS
13C-OCDD	2012-10-25	2012-10-27	HR-151-5400	CEAEQ MA.400 - DF 1.0	HRMS