APPENDIX A

Ministry of the Environment | Ministère de l'Environnement

Ontario

ACOUSTIC ASSESSMENT REPORT CHECK-LIST

Company Name: Waste Management of Canada Corporation

Company Address: R.R.#6 Beechwood Road
Napanee, ON L5C 1T7

Location of Facility: 1271 Beechwood Road
Napanee, ON

The attached Acoustic Assessment Report was prepared in accordance with the guidance in the ministry document "Information to be Submitted for Approval of Stationary Sources of Sound" (NPC 233) dated October 1995 and the minimum required information identified in the check-list on the reverse of this sheet has been submitted.

Company Contact:
Name: REID CLELAND
Title: DIRECTOR OF DISPOSAL OPERATIONS
Phone Number: 519 849 5810
Signature:
Date: 2011/09/19

Technical Contact:
Name: Mr. Brad Bergeron
Representing: RWDI AIR Inc.
Phone Number: 519-823-1311
Signature: Brad Bg
Date: 09/16/2011

PIBS 5356e

ACOUSTIC ASSESSMENT REPORT CHECKLIST

	Required Information		
		Submitted	Explanation/Reference
1.0	**Introduction** (Project Background and Overview)	☒ Yes	Section 1
2.0	**Facility Description**		
	2.1 Operating hours of facility and significant Noise Sources	☒ Yes	Section 2
	2.2 Site Plan identifying all significant Noise Sources	☒ Yes	Figure 1
3.0	**Noise Source Summary**		
	3.1 ***Noise Source Summary Table***	☒ Yes	Table 1
	3.2 Source noise emissions specifications	☒ Yes	Section 3
	3.3 Source power/capacity ratings	☒ Yes	Appendix C
	3.4 Noise control equipment description and acoustical specifications	☐ Yes	N/A
4.0	**Point of Reception Noise Impact Calculations**		
	4.1 ***Point of Reception Noise Impact Table***	☒ Yes	Table 2
	4.2 Point(s) of Reception (POR) list and description	☒ Yes	Section 4
	4.3 Land-use Zoning Plan	☒ Yes	Appendix B
	4.4 Scaled Area Location Plan	☒ Yes	Figure 2
	4.5 Procedure used to assess noise impacts at each POR	☒ Yes	Section 4
	4.6 List of parameters/assumptions used in calculations	☒ Yes	Section 4
5.0	**Acoustic Assessment Summary**		
	5.1 ***Acoustic Assessment Summary Table***	☒ Yes	Table 3
	5.2 Rationale for selecting applicable noise guideline limits	☒ Yes	Section 5
	5.3 Predictable Worst Case Impacts Operating Scenario	☒ Yes	Section 3
6.0	**Conclusions**		
	6.1 Statement of compliance with the selected noise performance limits	☒ Yes	Section 7
7.0	**Appendices** (Provide details such as)	☐ Yes	
	Listing of Insignificant Noise Sources	☒ Yes	Appendix D
	Manufacture's Noise Specifications	☐ Yes	N/A
	Calculations	☒ Yes	Appendix C, Appendix E
	Instrumentation	☒ Yes	Appendix F
	Meteorology during Sound Level Measurements	☒ Yes	Appendix F
	Raw Data from Measurements	☒ Yes	Appendix C
	Drawings (Facility / Equipment)	☒ Yes	Figures Section

Ministry of the Environment | Ministère de l'Environnement

Ontario

NOISE SCREENING PROCESS FOR S.9 APPLICATIONS SUPPLEMENT TO APPLICATION FOR APPROVAL

In order to obtain an approval under Section 9 of the EPA, applicants are, as a minimum, required to assess and document the impacts of all noise emissions from their facility on any noise sensitive locations defined as a Point of Reception. In order to facilitate this assessment, the ministry has developed a Noise Screening Process.

The Noise Screening Process has been developed for mining, utilities and manufacturing operations that are being reviewed by the Air and Noise Unit of the Environmental Assessment and Approvals Branch. *Other facilities that require Section 9 approval can not use this Noise Screening Process. Applications for equipment identified as candidates for the Streamline Review Unit (SRU) should not complete this process, rather they should follow specific directions from the SRU. For more information about the types of applications that may be reviewed by the SRU, please refer to the Guide to Applying for Approval (Air & Noise) dated February, 2005.*

The Noise Screening Process consists of the following Steps:

Step 1:	Identify the closest Point of Reception to the facility. (Zoning Plan)
Step 2:	Determine the actual separation distance from the Point of Reception to the facility. (Scaled Area Location Plan)
Step 3:	Calculate the minimum required separation distance by completing the questionnaire on using the facility's North American Industrial Classification System Code and generic assumptions regarding the actual noise sources present at the facility.
Step 4:	Compare the actual separation distance determined in Step 2 with the minimum required separation distance calculated in Step 3 and sign the form.

The Noise Screening Process is based on the fact that the noise emissions from any noise sources at a facility will not exceed ministry noise guidelines at the closest Point of Reception provided there is a sufficient separation distance between the facility's noise sources and the Point of Reception. Using conservative assumptions regarding the likely noise sources present at a facility, a procedure was developed for calculating the minimum required separation distance to achieve compliance with the ministry noise guidelines. If the actual separation distance from the facility to the closest Point of Reception is greater than the calculated minimum required separation distance, then no further action is required. The signed Noise Screening Process form would provide sufficient supporting information for the noise assessment required by the application process.

If the closest Point of Reception is closer than the minimum required separation distance calculated in Step 3 then further assessment is required. The application may still be approved as proposed and noise control measures may not be necessary; however, a more detailed noise impact assessment using site specific information on the noise sources present at the facility must be completed. The Zoning Plan and Scaled Area Location Plan required by the Noise Screening Process will form part of the required assessment outlined in the ministry publication NPC 233 "Information to be Submitted for Approval of Stationary Sources of Sound." See the Guide to Applying for Approval (Air and Noise) dated February, 2005 for more information on the minimum required supporting information to be included with an application that is unable to pass the Noise Screening Process.

1. Applicant Information

Company Name	Site Name	North American Industry Classification System (NAICS) Code
Waste Management of Canada	Richmond Landfill	562210

Site Address - Street Information *(applies to an address that has civic numbering and street information - includes street number, name, type and direction)*	Unit Identifier *(identifies type of unit, such as suite & number)*
1271 Beechwood Road	

Survey Address *(used for a rural location specified for a subdivided township, an unsubdivided township or unsurveyed territory)*

Non Address Information *(includes any additional information to clarify clients' physical location)*

Municipality/Unorganized Township	County/District	Postal Code
Napanee	Lennox and Addington	L5C 1T7

2. Noise Screening Process *(please refer to the attached Noise Screening Process – Information & Instructions)*

Step 1

Identify Closest Point of Reception (POR) (attach Land Use Zoning Designation Plan)

POR Description residential dwelling POR Acoustical Class (as per NPC-205 & NPC-232) ☐1 ☐2 ☒3

Step 2

Determine Actual Separation Distance (attach Scaled Area Location Plan) 310 m

Step 3

Calculate Minimum Separation Distance (complete attached Noise Screening Process Questionnaire) 1000 m

Step 4

By signing this statement you are verifying that:

- I am the applicant or have been retained by the applicant, for the purposes of completing this Noise Screening Process;
- The closest Point of Reception has been identified and the Land Use Zoning Designation Plan provided by the Local Municipality is attached (Step 1);
- A Scaled Area Location Plan, prepared by myself, that identifies the facility, the closest Point of Reception and the actual minimum separation distance is attached (Step 2);
- I have accurately completed the Noise Screening Process questionnaire and identified all noise sources as required (Step 3);
- The actual separation distance from the facility to the closest Point of Reception, as determined in Steps 1 and 2, is greater than the minimum required separation distance determined in Step 3; and
- The facility belongs to one of the sectors for which the ministry has indicated the Noise Screening Process is applicable.

Name of Signing Authority *(please print)*	Title:	Company: *(if different from the Applicant)*
REID CLELAND	DIR OF DISPOSAL	

Civic Address - Street Information *(includes street number, name, type and direction)* ☐ Same as Site Address — Unit Identifier *(identifies type of unit, such as suite & number)*

8039 ZION LINE

Municipality	Postal Station	Province/State	Country	Postal Code
WATFORD	NOM2S0	ON	CANADA	NOM2S0

Telephone Number *(including area code & extension)*	Fax Number *(including area code)*	E-mail Address
519 849 5810	519 849 5811	RCLELAND@WM.COM

Signature [signature] Date *(y/m/d)* 2011/09/19

Noise Screening Process Questionnaire

Question 1

1 (a) - Is your facility NAICS Code Listed on Table 1.1 below?

Table 1.1 Industry with significant noise sources

NAICS Code	Industry	Check all That Apply
21	Mining and Oil and Gas Extraction	☐
22111	Electrical Power Generation	☐
324	Petroleum and Coal Products Manufacturing	☐
3251	Basic Chemical Manufacturing	☐
32731	Cement Manufacturing	☐
32741	Lime Manufacturing	☐
3311	Iron and Steel Mills and Ferro-Alloy Manufacturing	☐
3313	Alumina and Aluminium Production and Processing	☐

1 (b) - Is any of the following equipment Listed on Table 1.2 below present at the facility?

Table 1.2 Equipment with significant noise emissions

Equipment	Check all That Apply
Flares	☒
Gas Turbines, Cogeneration Facilities or any other continuous or peak shaving electrical power generation equipment	☐
Arc Furnaces	☐
Asphalt Plants	☐
High velocity or pressure atmospheric vents such as Gas Process Blow Down Devices	☐
Rock, Concrete or Aggregate Crushing Operations	☐
Individual Fans with flow rates in excess of 47 m^3/s	☐
Individual Pressure Blowers or Positive Displacement Blowers with static pressures in excess of 1.25 kilopascal	☐

Did you answer "Yes" to Question 1(a) or 1 (b)? ☒ Yes ☐ No

If Yes, the minimum required separation distance is 1,000 m.
You have completed Step 3 of the Noise Screening Process, proceed to Step 4.

If No, proceed to Question 2

Proceed to Question 2

Question 2

2 - Is your facility NAICS Code Listed on Table 2 below?

Table 2 Industries with a 500 m Radius		
NAICS Code	Industry	Check all That Apply
22112	Electrical Power Transmission, Control and Distribution	☐
2213	Water Sewage and Other Systems	☐
321	Wood Product Manufacturing	☐
322	Paper Manufacturing	☐
325	Chemical Manufacturing (except 3251 as noted in Table 1.1 above)	☐
326	Plastics and Rubber Products Manufacturing	☐
327	Non-Metallic Mineral Product Manufacturing (except 32731 and 32741 as noted in Table 1.1 above)	☐
331	Primary Metal Manufacturing (except 3311 as noted in Table 1.1 above)	☐
332	Fabricated Metal Product Manufacturing (except 33271 and 3328)	☐
333	Machinery Manufacturing	☐
335	Electrical Equipment, Appliance and Component Manufacturing	☐
336	Transportation Equipment Manufacturing	☐

Did you answer "Yes" to Question 2? ☐ Yes ☒ No

If Yes, the minimum required separation distance is as follows:

	Minimum Separation	Check the One That Applies
For Class 1:		
Daytime Operation Only (between 7:00 am and 7:00 pm)	300 m	☐ N/A
Daytime and Afternoon shift only (between 7:00 am and 11:00 pm)	400 m	☐ N/A
Other times (outside the hours of 7:00 am to 11:00 pm)	500 m	☐ N/A
For Class 2:		
Daytime Operation Only (between 7:00 am and 7:00 pm)	300 m	☐ N/A
Multi shifts (outside the hours of 7:00 am to 7:00 pm)	500 m	☐ N/A
For Class 3:		
Any Operation	500 m	☐

You have completed Step 3 of the Noise Screening Process, proceed to Step 4

If No, proceed to Question 3

Proceed to Question 3

Question 3

3 - Provide information on the facility and any noise sources that may be present by answering the following questions to determine a Score for noise sources located at the facility:

			Check one for each question	Value	Score
(a)	What is the area of the enclosed buildings of the facility?				
	< 650 m^2	< 7,000 ft^2	☐	20	
	650 m^2 to < 2,300 m^2	7,000 ft^2 to < 25,000 ft^2	☐	25	
	2,300 m^2 to 9,300 m^2	25,000 ft^2 to 100,000 ft^2	☐	30	
	> 9,300 m^2	> 100,000 ft^2	☐	40	
	multi building		☐	40	
(b)	Are any cooling towers located at the facility?				
	Yes				
	- Total of all cooling towers less than 20 horsepower	< 15 kW	☐	10	
	- Total of all cooling towers from 20 to 100 horsepower	15 to 75 kW	☐	20	
	- Total of all cooling towers greater than 100 horsepower	> 75 kW	☐	40	
	No		☐	0	
(c)	Are any outdoor air cooled chillers located at the facility?				
	Yes				
	- Total of all chillers less than 150 ton	< 530 kW	☐	10	
	- Total of all chillers from 150 to 1,000 ton	530 to 3,500 kW	☐	20	
	- Total of all chillers greater than 1,000 ton	> 3,500 kW	☐	40	
	No		☐	0	
(d)	Are any air compressors used to provide process air or for pneumatic conveying systems located at the facility?				
	Yes				
	- Total of all compressors less than 10 horsepower	< 7.5 kW	☐	10	
	- Total of all compressors from 10 to 75 horsepower	7.5 to 56 kW	☐	20	
	- Total of all compressors greater than 75 horsepower	> 56 kW	☐	40	
	No		☐	0	
(e)	Is a boiler located at the facility?				
	Yes				
	- Total heat input of all boilers less than 10 million BTU/hr	< 2,930 kW	☐	10	
	- Total heat input of all boilers from 10 to 67 million BTU/hr	2,930 to 19,600 kW	☐	20	
	- Total heat input of all boilers greater than 67 million BTU/hr	> 19,600 kW	☐	40	
	No		☐	0	
(f)	What is the total volumetric flow rate of all process exhaust and general ventilation fans?				
	< 5 m^3/s		☐	0	
	5 m^3/s to < 10 m^3/s		☐	10	
	10 m^3/s to < 15m^3/s		☐	20	
	15 m^3/s to < 20 m^3/s		☐	30	
	> 20 m^3/s		☐	40	
(g)	Are any of the above air compressors, fan or blower motors located outside the building envelope?				
	Yes		☐	10	
	No		☐	0	
			SUBTOTAL - *Add Score from (a) to (g)*		

Question 3 (continued)

Adjustments for Hours of Operation		Check one	Value	Score
Class 1	Daytime Operation Only (between 7:00 am and 7:00 pm) *	☒	-20	
	Daytime and Afternoon shift only (between 7:00 am and 11:00 pm) **	N/A	-15	
	Other times (outside the hours of 7:00 am to 11:00 pm)	N/A	-10	
Class2	Daytime Operation Only (between 7:00 am and 7:00 pm)*	N/A	-20	
	Multi shifts (outside the hours of 7:00 am to 7:00 pm)	N/A	-10	
Class 3	Daytime Operation Only (between 7:00 am and 7:00 pm)	☐	-10	
	Multi shifts (outside the hours of 7:00 am to 7:00 pm)	☐	0	
			TOTAL ADJUSTMENT (A)	

Adjustments for Elevated Background Noise at Point of Reception (POR)***		Check one	Value	Score
Class 1	POR within 100 m of a 400 Series Freeway (e.g. 401)	☒	-10	
	POR within 30 m of a Provincial Highway or Arterial Road (eg HWY 27, Keele St)	N/A	-10	
	POR at other locations	N/A	0	
Class2	POR within 100 m of a 400 Series Freeway (e.g. 401)	N/A	-10	
	POR within 30 m of a Provincial Highway or Arterial Road (eg HWY 27, Keele St)	N/A	-10	
	POR at other locations	N/A	0	
Class 3	All locations	☐	0	
			TOTAL ADJUSTMENT (B)	
			TOTAL SCORE - *SUBTOTAL + TOTAL ADJUSTMENT (A) + TOTAL ADJUSTMENT (B)*	

* Note: the largest minimum separation distance for Daytime Operation only in Class 1 or 2 is 300 m.

** Note: the largest minimum separation distance for Evening and Daytime Operation only in Class 1 is 400 m.

*** Note: if Adjustments for Elevated Background Noise are used then the applicant must identify the next closest receptor outside the area of influence of the roadway and show that the actual separation distance to the next closest receptor is greater than the minimum required separation distance without adjustments.

Minimum Separation Distances – Based on Total Score (above)

Total Score	Minimum Separation Distance	Check the distance that applies
< 0 points	50 m	☐
< 5 points	75 m	☐
< 10 points	100 m	☐
< 20 points	200 m	☐
< 30 points	300 m	☐
< 40 points	400 m	☐
40 or more points	500 m	☐
	Distance:	m

NOISE SCREENING PROCESS – INFORMATION & INSTRUCTIONS

STEP 1: IDENTIFY CLOSEST POINT OF RECEPTION

The applicant must identify and locate the closest Point of Reception (POR) affected by any noise emissions that may arise from the operations at the facility. A Point of Reception is defined as "any point on the premises of a person where sound or vibration originating from other than those premises is received".

The Point of Reception may be located on any of the following existing or zoned for future use premises:

- permanent or seasonal residences;
- hotels/motels;
- nursing/retirement homes;
- rental residences;
- hospitals;
- campgrounds; and
- noise sensitive buildings such as schools and places of worship.

For the Screening Process it is only required to identify the closest Point of Reception to the facility or any outdoor noise sources. For a more detailed assessment additional Point(s) or Reception may be required to be identified in other directions based on site specific conditions.

The closest Point of Reception must be selected using a **Land Use Zoning Designation Plan.** This plan indicates the approved local land use and nature of the neighbourhood for the area surrounding the facility. The plan must be based on up-to-date Zoning information provided by the Local Municipality. Zoning Designation Plans may be obtained from the planning department of the Local Municipality. This information may be in the form of hard copy zoning plans prepared by the municipality or electronic base maps showing local land use and features that may be available from the municipality to be printed by the applicant.

The Zoning information obtained from the Local Municipality must be detailed enough to clearly indicate the approved local land use for the individual properties surrounding the facility in a radius including the closest Point of Reception. The plan must include a scale and legend indicating the land use. The Zoning Information used to identify the closest Point of Reception must be attached to the Screening Process.

The Point of Reception Identification section should also describe the environmental noise climate at the Point of Reception in terms of the acoustical class, according to the following definitions:

- "Class 1 Area" means an area with an acoustical environment typical of a major population centre, where the background noise is dominated by the urban hum.

- "Class 2 Area" means an area with an acoustical environment that has qualities representative of both Class 1 and Class 3 Areas, and in which a low ambient sound level, normally occurring only between 23:00 and 07:00 hours in Class 1 Areas, will typically be realized as early as 19:00 hours.
  Other characteristics which may indicate the presence of a Class 2 Area include:
  - absence of urban hum between 19:00 and 23:00 hours;
  - evening background sound level defined by natural environment and infrequent human activity; and
  - no clearly audible sound from stationary sources other than from those under impact assessment.

- "Class 3 Area" means a rural area with an acoustical environment that is dominated by natural sounds having little or no road traffic, such as the following:
  - a small community with less than 1,000 population;
  - an agricultural area;
  - a rural recreational area such as a cottage or a resort area; or
  - a wilderness area.

STEP 2: DETERMINE ACTUAL SEPARATION DISTANCE

The location of the closest Point of Reception must be shown on a figure, prepared by the applicant, to determine the actual separation distance from the facility to the Point of Reception. The figure is referred to as a **Scaled Area Location Plan.**

For the Purposes of the Screening Process it may be possible to use the Zoning information provided by the Local Municipality as the Scaled Area Location Plan. However, the information is usually better presented in two separate figures because the scale of zoning plans available from the Local municipality is usually too small to sufficiently show the level of detail required by the Scaled Area Location Plan.

This figure, prepared by the applicant, must clearly indicate the location of the facility, the facility property line, all buildings on the facility and any noise sources at the facility that are located outside of the building envelope, such as dust collectors located beside a building. For the purposes of the Screening Process, it is not required to identify all noise sources, such as roof-mounted exhaust fans, on the Scaled Area Location Plan. The Scaled Area Location Plan must also show and name all local roads and features of the neighbourhood for the area surrounding the facility within a radius that includes the closest Point of Reception identified in Step 1. The figure must include a legend and scale.

The actual separation distance is calculated from the closest facility wall or outside noise source, such as a dust collector located outside the facility, to the Property Line of the selected Point of Reception. For rural receptors in Class 3 Areas, where properties may be larger and may include areas that would not be considered noise-sensitive, Points of Reception are limited to locations within 30 metres of a dwelling or a camping area, where sound or vibration originating from other than those premises is received. The location of the closest Point of Reception must be shown on the figure and the actual separation distance from the facility to the Property line of the closest Point of Reception must also be shown as a line on the figure, measured in metres.

Base maps showing the features of the surrounding neighbourhood may be obtained from the Local Municipality, Ministry of Natural Resources or other mapping companies.

The plan may include the location and features of all buildings surrounding the facility and include the topography of the surrounding area should it have an effect on the transmission of noise to a Point of Reception. However for the Screening Process this is usually not necessary. This information is required for a more detailed noise assessment.

Note: For larger facilities with outdoor noise sources, this process may have to be repeated for each outdoor noise source and different Points of Reception in order to identify the shortest actual separation distance to the closest Point of Reception.

STEP 3 – CALCULATE MINIMUM REQUIRED SEPARATION DISTANCE

Applicants are required to complete the Noise Screening Process questionnaire to calculate the minimum required separation distance that will result in compliance with the noise guidelines for the facility. Generic separation distances have been supplied that should provide a sufficient separation distance for a facility based on the type of operations conducted at the facility and the size and quantity of common noise sources associated with the type of facility under review. The minimum required distances have been provided from 1,000 m to 50 m. If a facility is closer to a Point of Reception than 50 m, you can not use this process. Conversely, if a facility is well sited, located more than 1,000m from a Point of Reception, then a detailed noise assessment is not required.

Applicants must use the North American Industry Classification System (NAICS) Code required by the application form to describe the facility. The NAICS code is determined in accordance with the Statistics Canada publication "North American Industry Classification System (NAICS) 2002 - Canada". For more information on determining the NAICS Code for a business please see www.statcan.ca. This screening process only applies to facilities with NAICS Codes starting with 21, 22, 31, 32 or 33. **If the NAICS code for the facility does not fall into one of these sectors then this step of the Screening Process can not be used.**

The following explanations are intended to assist with completing the Questionnaire:

Table 1.2 The presence of any one piece of equipment identified on this table should be indicated in the appropriate check box. The reference to fans and blowers is for individual large fans or blowers only. It is not required to sum the total volumetric flow rate or pressure drops across all fans or blowers at the facility. The applicant

must include any fans or blowers located on delivery trucks that supply or transport raw materials or products from the facility.

Table 1.2 — The applicant must identify large atmospheric vents that are associated with process pressure vessels, or piping such as natural gas blow down valves at pipeline compressor stations. This category of equipment is not intended to capture mandatory steam release valves from commercial boilers.

Question 3 — For each type of equipment identified on this table the total rating for all similar pieces of equipment should be summed and indicated in the appropriate question.

Question 3(f) — The applicant is required to sum the total maximum volumetric flow rate for all process or general ventilation fans or blowers at the facility that are not directly referenced elsewhere in the table. If fans are capable of operating at two speeds the higher volumetric flow rate should be used. It is not necessary to include fans associated with cooling towers or part of packaged HVAC equipment. Fans serving condensers or other cooling units should be included. The applicant must include any fans or blowers located on delivery trucks that supply or transport raw materials or products from the facility.

Question 3(g) — The applicant is required to identify if any motors powering any of the fans, blowers or air compressors are located outside the building envelope. For example if a fan serving a dust collector is located outside then the answer is yes. If the fan and dust collector are inside the building envelope the answer is no.

STEP 4: STATEMENT FACILITY MEETS SCREENING REQUIRMENTS

If an applicant can demonstrate through this screening process that the actual separation distance from the facility to the closest Point of Reception shown on the Scaled Area Location Plan is greater than the minimum required separation distance calculated in Step 3, then the person who conducted the Noise Screening Process must complete and sign off in Step 4.

Paul Bulla

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Ministry of the Environment / Ministère de l'Environnement

Ontario

CERTIFICATE OF APPROVAL
AIR
NUMBER 8-4078-99-006
Page 1 of 5

RECEIVED
JAN 06 2000

Canadian Waste Services Inc.
R.R. #6 Beechwood Road
Napanee, Ontario
L5C 1T7

Located at: Part of Lots 1,2 and 3,Concession 1V
Town of Greater Napanee (formerly the Township of Richmond)
County of Lennox and Addington, Ontario

You have applied in accordance with Section 9 of the Environmental Protection Act for approval of:

- one (1) enclosed flare system, used to incinerate the landfill gases from a landfill gas collection system at a maximum volumetric gas flow rate of 0.28 standard cubic metre per second with the combustible gas levels ranging from 30 to 55 percent by volume. The flare has a maximum heat input of 19 gigajoules per hour, exhausting into the atmosphere through a stack, having an exit diameter of 2.1 metres, extending 12.2 metres above grade;

all in accordance with the Application for Certificate of Approval, submitted by Canadian Waste Services Inc., signed by Michael Walters, dated June 11, 1999; an acoustical report prepared by Hugh Williamson, dated November 26, 1999. and the other supporting information prepared by Comcor Environmental.

You are hereby notified that this approval is issued to you subject to the terms and conditions outlined below:

TERMS AND CONDITIONS

DEFINITIONS

1. For the purpose of this Certificate of Approval:

(1) "Act" means the Environmental Protection Act;

(2) "Certificate"means this Certificate of Approval,including Schedule "A",issued in accordance with Section 9 of the Act;

(3) "Company" means Canadian Waste Services Inc.;

(4) "CEM System" means the continuous monitoring and recording system used to optimize the operation of flare , as described in the

Company's application, this Certificate, including Schedule "A", and in the supporting documentation referred to herein, to the extent approved by this Certificate;

(5) "Equipment" means the flare system, described in the Company's application, this Certificate and in the supporting documentation referred to herein, to the extent approved by this Certificate;

(6) "Ministry" means the Ontario Ministry of the Environment; and

(7) "Publication NPC-232" means Publication NPC-232, Sound Level Limits for Stationary Sources in Class 3 Areas (Rural), October 1995.

2. The Company shall ensure that the noise emissions from the Equipment comply with the limits set in Publication NPC-232.

3. The Company shall operate the Equipment in such a manner that a minimum temperature, as recorded by CEM, shall be 900 degrees Celsius at a point representing a minimum retention time of 0.75 second, at all times the landfill gases are flowing to the flare system.

4. The Company shall ensure that the Equipment, including CEM, is properly operated and maintained at all times. The Company shall, as a minimum:

(1) prepare, not later than three (3) months after the issuance of the Certificate and update, as necessary, a manual outlining the operating procedures and a maintenance program for the Equipment, including:

(a) the routine and emergency operating and maintenance procedures recommended by the Equipment and CEM System suppliers;

(b) the calibration procedures of the CEM System;

(c) the operator training which is to be provided by an individual experienced with the Equipment;

(d) the procedures for optimizing the operation of the Equipment to minimize the emissions from the Equipment;

(e) the periodic inspection of the Equipment which is to be conducted by individuals experienced with the Equipment; and

(f) the procedures for recording and responding to complaints regarding the operation of the Equipment; and

(2) implement the recommendations of the operating and maintenance manual.

RECORD RETENTION

5. The Company shall retain for a minimum of two (2) years from the date of their creation, all records and information related to or resulting from the operation of the Equipment, and monitoring and recording activities required by this Certificate. These records shall be made available the Ministry upon request. The Company shall retain:

   (1) all records on maintenance, repair and inspection of the Equipment and the CEM System;

   (2) all records produced by the CEM System;

   (3) all records on operator training;

   (4) all records on the environmental complaints, including:

      (a) a description, time and date of the incident;

      (b) wind direction at the time of the incident;

      (c) a description of the measures taken to address the cause of the incident and to prevent a similar occurrence in the future; and

      (d) description of all upset conditions associated with the operation of the Equipment and remedial action taken.

The reasons for the imposition of these terms and conditions are as follows:

1. Condition No. 1 is included to define the special terms that are used throughout the Certificate.

2. Condition No. 2 is included to provide the minimum performance requirement considered necessary to prevent an adverse effect resulting from the operation of the Equipment.

3. Condition Nos. 3 and 4 are included on the Certificate to emphasize that the Equipment must be maintained and operated according to a procedure that will result in compliance with the Act, the regulations and this Certificate.

4. Condition No. 5 is included to require the Company to retain records and provide information to the Ministry so that the environmental impact and subsequent compliance with the Act, the regulations and this Certificate can verified.

In accordance with Section 139 of the Environmental Protection Act, R.S.O. 1990, Chapter E-19, as amended, you may by written Notice served upon me, the Environmental Appeal Board and in accordance with Section 47 of the Environmental Bill of Rights, S.O. 1993, Chapter 28, the Environmental Commissioner, within 15 days after receipt of this Notice, require a hearing by the Board. The Environmental Commissioner will place notice of your appeal on the Environmental Registry. Section 142 of the Environmental Protection Act, provides that the Notice requiring the hearing shall state:

1. The portions of the approval or each term or condition in the approval in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

The Notice should also include:

3. The name of the appellant;
4. The address of the appellant;
5. The Certificate of Approval number;
6. The date of the Certificate of Approval;
7. The name of the Director;
8. The municipality within which the works are located;

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary*,
Environmental Appeal Board,
2300 Yonge St., 12th Floor,
P.O. Box 2382,
Toronto, Ontario.
M4P 1E4

The Environmental Commissioner,
1075 Bay Street,
Suite 605,
6th Floor,
Toronto, Ontario.
M5S 2B1

The Director,
Section 9, *Environmental Protection Act*,
Ministry of the Environment,
2 St. Clair Avenue West, 12A Floor,
Toronto, Ontario.
M4V 1L5

* *Further information on the Environmental Appeal Board's requirements for an appeal can be obtained directly from the Board by: Tel: (416) 314-4600, Fax: (416) 314-4506 or Web Site: www.ert.gov.on.ca*

This instrument is subject to Section 38 of the Environmental Bill of Rights, that allows residents of Ontario to seek leave to appeal the decision on this instrument. Residents of Ontario may seek to appeal within 15 days from the date this decision is placed on the Environmental Registry. By accessing the Environmental Registry, you can determine when the leave to appeal period ends.

The above noted works are approved under Section 9 of the Environmental Protection Act.

DATED AT TORONTO this 21st *day of* December, 1999.

S. Klose, P.Eng.,
Director,
Section 9,
Environmental Protection Act.

AK/an

c:-District Manager, MOE Kingston District Office

SCHEDULE "A"

This Schedule "A" forms part of
Certificate of Approval (Air) No. 8-4078-99-006

PARAMETER: TEMPERATURE

LOCATION:

The sample point for the Continuous Temperature Monitor shall be located in the combustion chamber where the minimum retention time of the combustion gases at a minimum temperature of 900 degrees Celsius for at least 0.75 second is achieved.

PERFORMANCE:

The Continuous Temperature Monitor shall meet the following minimum performance specifications for the following parameters.

	PARAMETERS	SPECIFICATION
1.	Type:	shielded "K" type thermocouple, or equivalent
2.	Accuracy:	± 1.5 percent of the minimum gas temperature

DATA RECORDER:

The data recorder must be capable of registering continuously the measurement of the monitor without a significant loss of accuracy and with a time resolution of 1 minute or better.

RELIABILITY:

The monitor shall be operated and maintained so that accurate data is obtained during a minimum of 95 percent of the time for each calendar quarter.

APPENDIX B

SCHEDULE '4'
TO BY-LAW No. 02-22
TOWN OF GREATER NAPANEE

SCALE = 1:50,000

500m 0 500m 1000m 1500m 2000m 2500m

SEE SCHEDULE '1'

SEE SCHEDULE '3'

SEE SCHEDULE '5'

SEE SCHEDULE '6'

SEE SCHEDULE '7'

SEE SCHEDULE '8'

TYENDINAGA TOWNSHIP

STONE MILLS TOWNSHIP

CON 6

CON 5

CON 4

Approximate Landfill Location

ZONE LEGEND

- EP ENVIRONMENTAL PROTECTION
- OS OPEN SPACE
- PA PRIME AGRICULTURE
- RU RURAL
- RR RURAL RESIDENTIAL
- CF COMMUNITY FACILITY
- C2 ARTERIAL COMMERCIAL
- C4 RURAL COMMERCIAL
- M1 LIGHT INDUSTRIAL
- M3 RURAL INDUSTRIAL
- M4 EXTRACTIVE INDUSTRIAL
- M5 WASTE MANAGEMENT INDUSTRIAL
- SCHEDULE BOUNDARY
- MUNICIPAL BOUNDARY

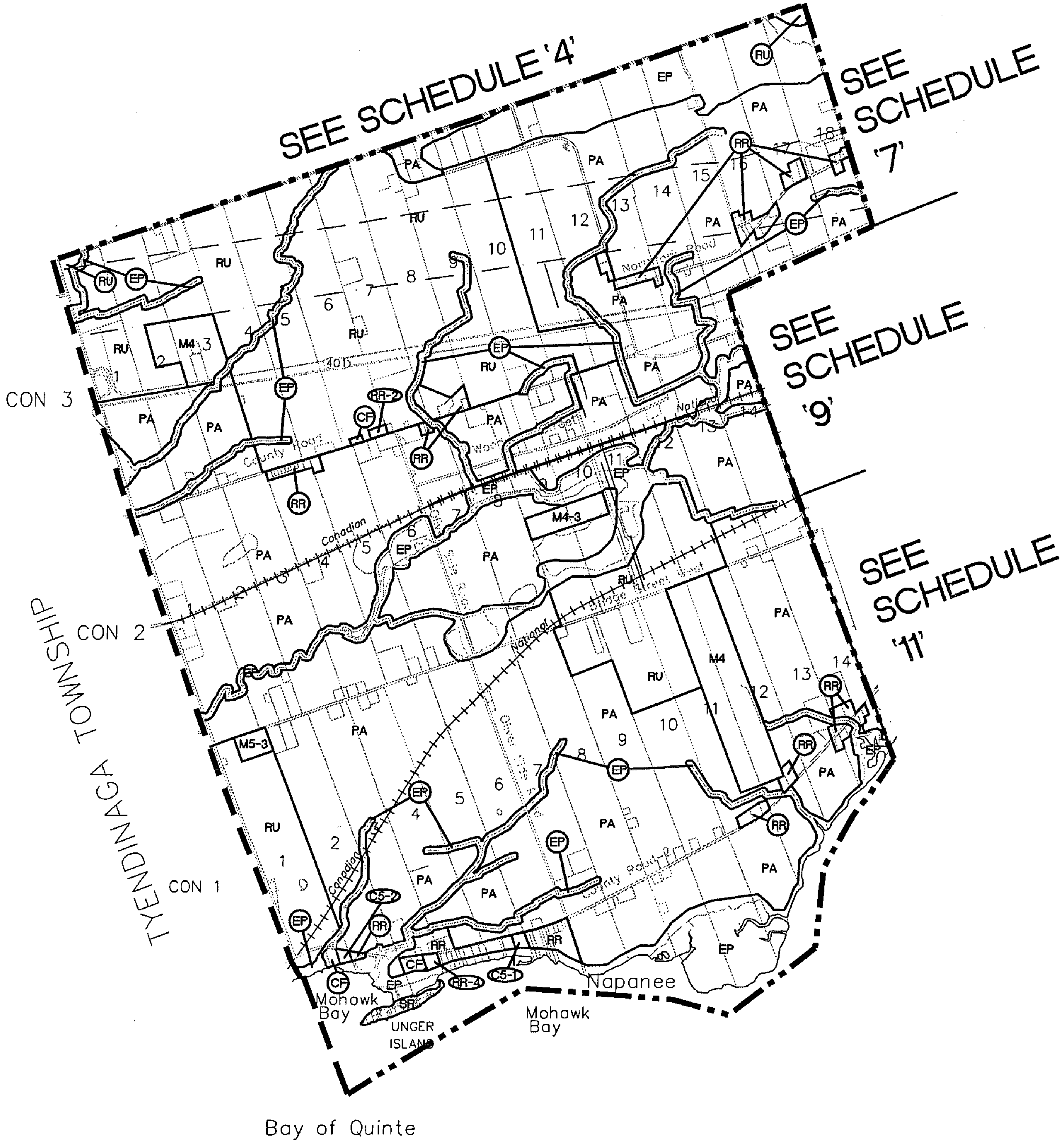
IBI GROUP
650 Dalton Avenue
Kingston, Ontario
Canada K7M 8N7
Tel (613)531-4440
FAX(613)531-7789

Project No. 8692-P | Cad File: 8692-SCHED04s | Date Issued: 01/11/07

SCHEDULE '6'
TO BY-LAW No. 02-22
TOWN OF GREATER NAPANEE

SCALE = 1:50,000

500m 0 500m 1000m 1500m 2000m 2500m



ZONE LEGEND

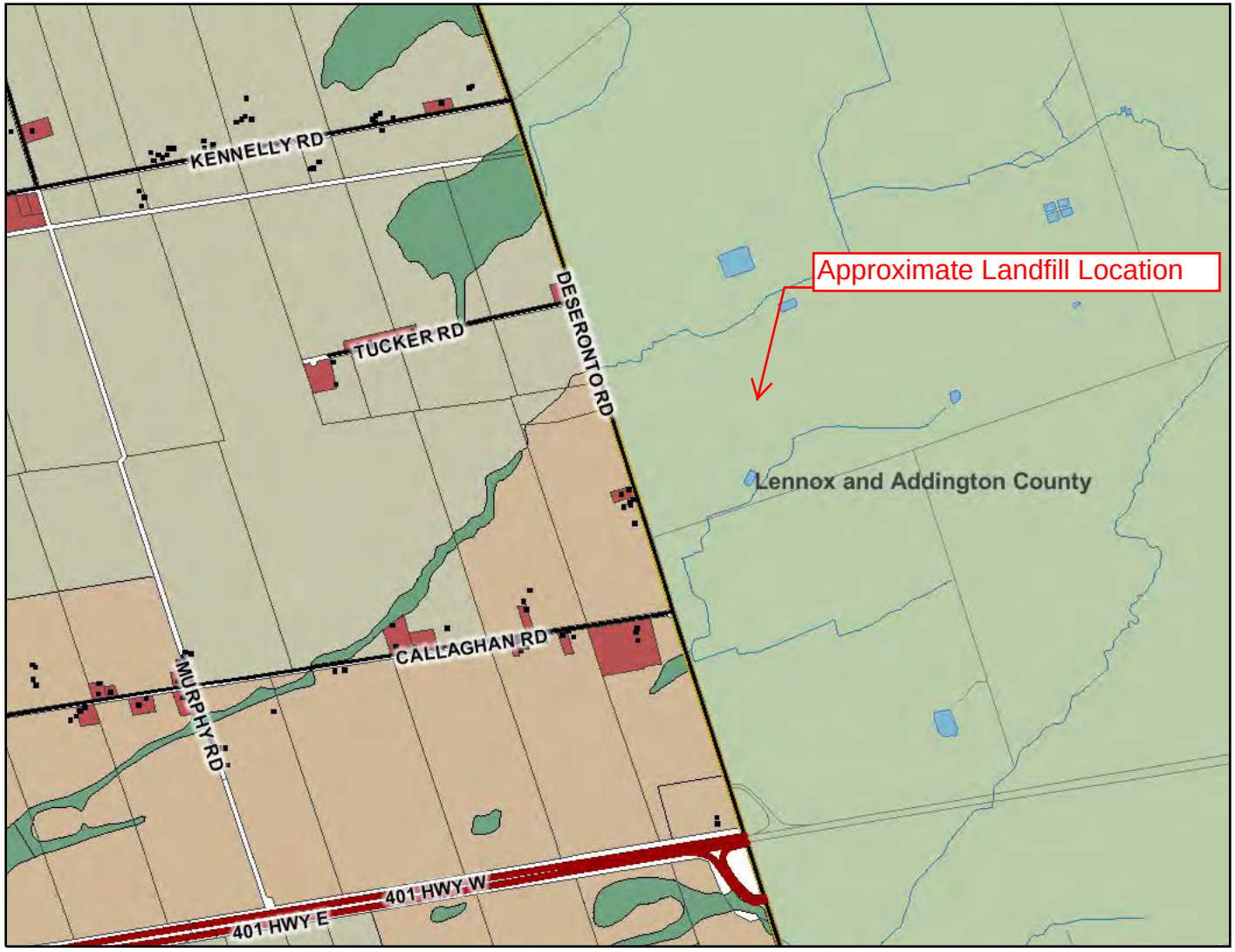
EP	ENVIRONMENTAL PROTECTION
OS	OPEN SPACE
PA	PRIME AGRICULTURE
RU	RURAL
SR	SHORELINE RESIDENTIAL
RR	RURAL RESIDENTIAL
CF	COMMUNITY FACILITY
C5	RECREATION COMMERCIAL
M3	RURAL INDUSTRIAL
M4	EXTRACTIVE INDUSTRIAL
M5	WASTE MANAGEMENT INDUSTRIAL
— · · —	SCHEDULE BOUNDARY
— —	MUNICIPAL BOUNDARY

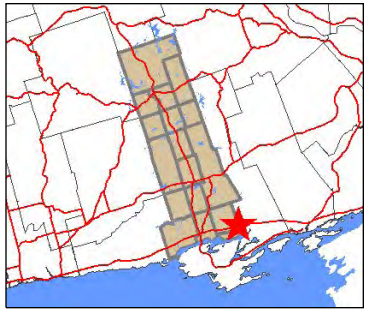
IBI GROUP
650 Dalton Avenue
Kingston, Ontario
Canada K7M 8N7
Tel (613)531-4440
FAX(613)531-7789

Project No. 8692-P | Cad File: 8692-SCHED06s | Date Issued: 10/17/05

Staff GIS

Empey Hill Area West





Legend

- Highway 401
- Road
- Ontario Road Network
- Structure
- Land Parcel
- Environmentally Sensitive Lands
- Tyendinaga Hamlet
- Aggregate Resource Area (Extractive Active)

Environmental Protection

- EP/Hazard Land
- EPW

Tyendinaga Zoning

- Unknown
- CF - Community Facility
- GH - Group Home
- LSR - Limited Service Residential
- MA - Marginal Agriculture
- MX - Mineral Extractive
- OS - Open Space
- PA - Permanent Agriculture
- R2 - Residential Second Density
- RA - Road Allowance
- RC - Rural Commercial
- RE - Rural Exception
- R1 - Residential Second Density
- RR - Rural Residential
- RRC - Recreation/Resort Commercial
- UC - Urban Commercial
- UI - Urban Industrial
- WD - Waste Disposal
- WR - Waterfront Residential
- Permanent Water

0 800 1600 2400 m.

Scale: 1:27,676

Map center: 334696, 4902621

APPENDIX C

Table C.1: Noise Source Data

Waste Management of Canada Richmond Landfill Site - Napanee, Ontario

Notes to Table:

1. Wherever possible, the Source ID matches the identifiers used in the ESDM report.
2. Sound Power Levels of continuous noise sources, in dBA, do not include sound characteristic adjustments per NPC-104. Values are unadjusted, unmitigated PWLs. Sound Power Levels of impulsive noise sources, in dBAI, are A-weighted incorporating an impulsive time weighting.
3. Source Location: O = Outside of building, including the roof, I = Inside of building
4. Sound Characteristic, per NPC-104
   - S = Steady
   - Q = Quasi-Steady Impulsive
   - I = Impulsive
   - B = Buzzing
   - T = Tonal
   - C = Cyclic
5. Noise Control Measures
   - S = Silencer
   - A = Acoustic lining, plenum
   - B = Barrier
   - L = Lagging
   - E = Acoustic Enclosure
   - O = Other
   - U = Uncontrolled
6. Sound Power Level Data Source
   - Man = Manufacturer's Data
   - Mea = Measured Directly
   - Hist = Historical Data
   - EC = Engineering Calc based on specifications
   - Same ### = same type as source no. ###

A-Weighting Network								
-39	-26	-16	-9	-3	0	1	1	-1

Source ID [1]	Source Description	Sound Power Level [2] (dBA)	Source Location [3] (I or O)	Sound Characteristics [4] (S,Q,I,B,T,C)	Existing Noise Control Measures [5] (S,A,B,L,E,O,U)	1/1 Octave Band Sound Power Level Data (dB, if available)									PWL Data Source [6]	Height Above Roof (m)	Local Roof Height Ab. Grade (m)	Height Above Grade (m)	Source Co-ordinate (m)		
						31.5	63	125	250	500	1000	2000	4000	8000					X	Y	Z
C_FLARE_stk	Candlestick flare exhaust	95	O	S	U	103.1	102.4	96.5	91.8	90.4	91.0	88.8	81.6	77.7	Mea/Hist			10.4	18335211.1	4902818.5	10.4
C_FLARE_motor	Candlestick flare motor	94	O	S	U		88.2	80.3	79.6	84.2	92.4	81.8	81.1	77.3	Mea/Hist			1.0	18335215.6	4902822.3	1.0
E_FLARE_vent	Enclosed flare vent at base 425 cfm	71	O	S	U		81.4	74.0	67.3	68.4	67.0	62.7	59.1	54.2	Mea			0.9	18335216.9	4902814.1	0.9
BLWR_BLDG_sw	Blower enclosure south window	83	O	S	U		78.0	67.5	69.1	76.2	74.0	77.8	75.5	70.7	Mea			1.9	18335228.3	4902818.7	1.9
BLWR_BLDG_ww	Blower enclosure west window	82	O	S	U		77.0	69.8	68.4	75.5	72.8	77.3	74.8	68.7	Mea			1.9	18335225.5	4902818.4	1.9
BLWR_BLDG_nw	Blower enclosure north window	83	O	S	U		78.0	67.5	69.1	76.2	74.0	77.8	75.5	70.7	Mea			1.9	18335226.0	4902820.5	1.9

Table C.2: SOURCE LEVEL DATA AND SPL TO PWL CONVERSIONS

Waste Management of Canada Richmond Landfill Site - Napanee, Ontario

Notes to Table:

1. All measurements conducted on **July 4, 2011,** using Larson Davis LD-824 SLM's / RTA's.
2. All measurements were consistent with ISO 3744:1994(E) and ISO 3746:1995 measurement standards, and the applicable portions of the MOE Publication NPC-103.
3. Calc Type of C, A, or S refer to the source geometry, and represent Cylindrical, Area, or Spherical sources, respectively.
4. SPL Ref Distance refers to the radial distance from the microphone to the acoustic centre of a spherical source or the symmetrical axis of a cylindrical source.
5. Length refers to the length of a cylindrical source or line source. A length of 1.0 m may be used to define a PWL per metre.
6. Net surface area refers to surface area corrected for partition coefficient. Partition coefficient applies only to spherical and cylindrical geometries. Sound power level is estimated using an area correction 10 log A.
7. Refer to "Spectral Weighting" column for dB or dBA application information.
8. Where the radius of a spherical or cylindrical radiator is less than 1/4 wavelength of the octave band being measured, the estimated PWL will be left blank.

A-WEIGHTING (dB) - Applied to total PWL								
-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1

1/4 WAVELENGTH CRITERION (m)								
2.722	1.361	0.686	0.343	0.172	0.086	0.043	0.021	0.011

Measurement Reference	Source ID	Source Description	Calc Type [3] (A, C, or S)	SPL Ref Distance [4] (S or C) (m)	Length [5] (C only) (m)	Area (A only) (m^2)	Partition Coefficient (S or C) (%)	Net Surface Area [6] (m^2)	Spectral Weighting (A or Flat)	Octave Band Sound Pressure Level Data (dB or dBA) [7] 31.5	63	125	250	500	1000	2000	4000	8000	Total (dBA)	Sound Power Level Adjustment (dB)	Purpose	Octave Band Sound Power Level Data [8] (dB or dBA) [7] 31.5	63	125	250	500	1000	2000	4000	8000	Total (dBA)
110704_824_1_KAH_MJSK_1101776_001	E_FLARE_vent	Enclosed flare vent at base 425 cfm	S	1.6			25%	8.0	Flat	73.4	69.4	61.9	55.2	56.3	55.0	50.7	47.1	42.1	59.3	3.0	adjust for vent on opposite side		81.4	74.0	67.3	68.4	67.0	62.7	59.1	54.2	71.4
110704_824_1_KAH_MJSK_1101776_002	BLWR_BLDG_ww	Blower enclosure west window	S	1.9			50%	22.7	Flat	68.0	63.5	56.2	54.9	61.9	59.2	63.7	61.2	55.1	68.2				77.0	69.8	68.4	75.5	72.8	77.3	74.8	68.7	81.8
110704_824_1_KAH_MJSK_1101776_003	BLWR_BLDG_sw	Blower enclosure south window	S	1.8			50%	20.3	Flat	72.4	64.9	54.5	56.0	63.1	60.9	64.7	62.4	57.7	69.5				78.0	67.5	69.1	76.2	74.0	77.8	75.5	70.7	82.5

Table C.3: Power Level Data

Waste Management of Canada Richmond Landfill Site - Napanee, Ontario

Notes to Table:
1. Refer to "Spectral Weighting" column for spectral weighting information.

A-WEIGHTING (dB) - Applied to total PWL								
-39.4	-26.2	-16.1	-8.6	-3.2	0	1.2	1	-1.1

Power Level Data Source	Source ID	Source Description	Sound Power Level Adjustment (dB)	Sound Power Level Adjustment Purpose	Spectral Weighting (A or Flat)	Octave Band Sound Power Level Data (dB or dBA) [1] 31.5	63	125	250	500	1000	2000	4000	8000	Total dBA
110419 824 kit1 NTN PV 1100798 File_002	C_FLARE_stk	Candlestick flare exhaust 875 cfm			Flat	103.1	102.4	96.5	91.8	90.4	91.0	88.8	81.6	77.7	95.3
110419 824 kit1 NTN PV 1100798 File_003	C_FLARE_motor	Candlestick flare motor 875 cfm			Flat		88.2	80.3	79.6	84.2	92.4	81.8	81.1	77.3	93.6

Octave Band Sound Power Level Data (dB or dBA) [1] 31.5	63	125	250	500	1000	2000	4000	8000	Total dBA
103.1	102.4	96.5	91.8	90.4	91.0	88.8	81.6	77.7	95.3
	88.2	80.3	79.6	84.2	92.4	81.8	81.1	77.3	93.6

APPENDIX D

MEASUREMENT EQUIPMENT

Sound Level Meter 824 Kit 1

Sound Level Meter	
Make and Model	Larson-Davis Model 824 SLM and RTA
Serial No.	824A0450
Pre-amplifier	
Make and Model	Larson-Davis Model PRM902
Serial No.	0836
Microphone	
Make and Model	Larson-Davis Model 2559 precision air-condenser microphone
Serial No.	3020
Calibrator	
Make and Model	Larson-Davis CAL200 precision acoustic calibrator (1000 Hz)
Serial No.	3192

Environment Canada Environnement Canada

Canada

Hourly Data Report for July 04, 2011

All times are specified in Local Standard Time (LST). Add 1 hour to adjust for Daylight Saving Time where and when it is observed.

KINGSTON CLIMATE
ONTARIO

Latitude: 44°13'24.000" N Longitude: 76°35'58.000" W Elevation: 93.00 m
Climate ID: 6104142 WMO ID: 71820 TC ID: TKG

Hourly Data Report for July 4, 2011

Time	Temp °C	Dew Point Temp °C	Rel Hum %	Wind Dir 10's deg	Wind Spd km/h	Visibility km	Stn Press kPa	Hmdx	Wind Chill	Weather
00:00	21.1	14.1	64	27	11		99.84			NA
01:00	20.1	13.5	66	28	15		99.84			NA
02:00	18.9	13.3	70	28	11		99.83			NA
03:00	18.6	13.3	71	29	11		99.81			NA
04:00	17.3	13.5	78	30	7		99.81			NA
05:00	17.0	13.8	81	29	6		99.85			NA
06:00	17.7	14.4	81	15	4		99.89			NA
07:00	20.2	16.1	77	24	4		99.94			NA
08:00	21.5	16.7	74	27	4		99.98			NA
09:00	23.0	16.4	66	26	6		99.97	28		NA
10:00	21.6	16.5	73	18	13		99.98			NA
11:00	22.6	17.2	72	18	15		100.00			NA
12:00	22.9	16.6	68	17	15		99.99			NA
13:00	24.6	17.0	63	19	17		99.94	30		NA
14:00	23.9	18.4	71	17	17		99.92	30		NA
15:00	27.4	16.1	50	23	20		99.90	32		NA
16:00	26.7	14.3	47	24	22		99.85			NA
17:00	26.0	14.6	49	24	22		99.85			NA
18:00	24.8	14.8	54	24	19		99.85			NA
19:00	23.6	14.9	58	24	15		99.86			NA
20:00	21.8	15.7	68	25	13		99.86			NA
21:00	21.1	14.4	66	25	9		99.93			NA
22:00	20.7	13.1	62	24	9		99.94			NA
23:00	20.1	13.7	67	25	7		99.97			NA

Legend
M = Missing
E = Estimated
NA = Not Available

‡ = Partner data that is not subject to review by the National Climate Archives

We'd like to hear from you! Please click "Contact Us" to share your comments and suggestions.

Date Modified: 2011-05-18

APPENDIX E

Table E.1: Summary of Insignificant Noise Sources

Waste Management of Canada Richmond Landfill Site - Napanee, Ontario

Source ID	Source Description
--	Air conditioner in Control Building

APPENDIX F

Table F.1: Key Parameters Included in the Cadna/A Noise Modelling

Waste Management of Canada Richmond Landfill Site - Napanee, Ontario

Parameter	Value	Rationale
Ground Absorption(s)	0.6	Accounts for soft (e.g., grass) surfaces between facility and receptors of interest
Temperature	10 °C	Ontario standard conditions
Relative Humidity	70%	Ontario standard conditions
Max. Order of Reflection	0	Reflections from on-site buildings are not considered to be significant
Absorption Coefficient Alpha	0	Not applicable

Cadna/A ISO-9613 Calculation Protocol - Definitions

Parameter	Unit	Definition
X	**(m)**	X-axis Cartesian coordinate
Y	**(m)**	Y-axis Cartesian coordinate
Z	**(m)**	Z-axis Cartesian coordinate
Refl.	**order**	Order of reflection
Freq.	**(Hz)**	1/1-Octave Frequency Band Centre Frequency
LxT	**(dBA)**	Daytime Sound Power Level
LxN	**(dBA)**	Night-time Sound Power Level
K0	**(dB)**	D_omega in ISO-9613 (correction for radiation into solid angles less than 4 Pi)
Dc	**(dB)**	Attenuation due to Directivity Effects
Adiv	**(dB)**	Attenuation Due to Divergence
Aatm	**(dB)**	Atmospheric Attenuation
Agr	**(dB)**	Ground Attenuation
Afol	**(dB)**	Attenuation due to foliage
Ahous	**(dB)**	Attenuation from houses
Abar	**(dB)**	Barrier Attenuation
Cmet	**(dB)**	Meteorological Correction
RL	**(dB)**	Reflection Loss
LrT	**(dBA)**	Resulting Daytime Noise Impacts at the receptor - Leq(1hr)
LrN	**(dBA)**	Resulting Night-time Noise Impacts at the receptor - Leg(1hr)

Receiver
Name: 2-storey Home at 1254 Beechwood Road
ID: NR2
X: 18335396.89
Y: 4902557.23
Z: 4.50

Point Source, ISO 9613, Name: "Candlestick flare exhaust", ID: "C_FLARE_stk"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
1	18335211.10	4902818.47	10.40	0	32	63.7	63.7	0.0	0.0	61.1	0.0	-3.0	0.0	0.0	0.0	0.0	-0.0	5.6	5.6
2	18335211.10	4902818.47	10.40	0	63	76.2	76.2	0.0	0.0	61.1	0.0	-3.0	0.0	0.0	0.0	0.0	-0.0	18.1	18.1
3	18335211.10	4902818.47	10.40	0	125	80.4	80.4	0.0	0.0	61.1	0.1	0.7	0.0	0.0	0.0	0.0	-0.0	18.4	18.4
4	18335211.10	4902818.47	10.40	0	250	83.2	83.2	0.0	0.0	61.1	0.3	-0.4	0.0	0.0	0.0	0.0	-0.0	22.1	22.1
5	18335211.10	4902818.47	10.40	0	500	87.2	87.2	0.0	0.0	61.1	0.6	-1.2	0.0	0.0	0.0	0.0	-0.0	26.7	26.7
6	18335211.10	4902818.47	10.40	0	1000	91.0	91.0	0.0	0.0	61.1	1.2	-1.2	0.0	0.0	0.0	0.0	-0.0	29.9	29.9
7	18335211.10	4902818.47	10.40	0	2000	90.0	90.0	0.0	0.0	61.1	3.1	-1.2	0.0	0.0	0.0	0.0	-0.0	27.0	27.0
8	18335211.10	4902818.47	10.40	0	4000	82.6	82.6	0.0	0.0	61.1	10.5	-1.2	0.0	0.0	0.0	0.0	-0.0	12.2	12.2
9	18335211.10	4902818.47	10.40	0	8000	76.6	76.6	0.0	0.0	61.1	37.5	-1.2	0.0	0.0	0.0	0.0	-0.0	-20.8	-20.8

Point Source, ISO 9613, Name: "Candlestick flare motor", ID: "C_FLARE_motor"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
1	18335215.61	4902822.29	1.00	0	32	-39.4	-39.4	0.0	0.0	61.1	0.0	-4.5	0.0	0.0	0.0	0.0	-0.0	-96.1	-96.1
2	18335215.61	4902822.29	1.00	0	63	62.0	62.0	0.0	0.0	61.1	0.0	-4.5	0.0	0.0	0.0	0.0	-0.0	5.3	5.3
3	18335215.61	4902822.29	1.00	0	125	64.2	64.2	0.0	0.0	61.1	0.1	1.2	0.0	0.0	0.0	0.0	-0.0	1.8	1.8
4	18335215.61	4902822.29	1.00	0	250	71.0	71.0	0.0	0.0	61.1	0.3	3.8	0.0	0.0	0.0	0.0	-0.0	5.8	5.8
5	18335215.61	4902822.29	1.00	0	500	81.0	81.0	0.0	0.0	61.1	0.6	3.5	0.0	0.0	0.0	0.0	-0.0	15.7	15.7
6	18335215.61	4902822.29	1.00	0	1000	92.4	92.4	0.0	0.0	61.1	1.2	-0.6	0.0	0.0	0.0	0.0	-0.0	30.7	30.7
7	18335215.61	4902822.29	1.00	0	2000	83.0	83.0	0.0	0.0	61.1	3.1	-1.8	0.0	0.0	0.0	0.0	-0.0	20.6	20.6
8	18335215.61	4902822.29	1.00	0	4000	82.1	82.1	0.0	0.0	61.1	10.5	-1.8	0.0	0.0	0.0	0.0	-0.0	12.2	12.2
9	18335215.61	4902822.29	1.00	0	8000	76.2	76.2	0.0	0.0	61.1	37.5	-1.8	0.0	0.0	0.0	0.0	-0.0	-20.7	-20.7

Point Source, ISO 9613, Name: "Enclosed flare vent at base 425 cfm", ID: "E_FLARE_vent"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
1	18335216.86	4902814.11	0.90	0	32	-39.4	-39.4	0.0	0.0	60.9	0.0	-4.5	0.0	0.0	0.0	0.0	-0.0	-95.9	-95.9
2	18335216.86	4902814.11	0.90	0	63	55.2	55.2	0.0	0.0	60.9	0.0	-4.5	0.0	0.0	0.0	0.0	-0.0	-1.3	-1.3
3	18335216.86	4902814.11	0.90	0	125	57.9	57.9	0.0	0.0	60.9	0.1	1.1	0.0	0.0	0.0	0.0	-0.0	-4.3	-4.3
4	18335216.86	4902814.11	0.90	0	250	58.7	58.7	0.0	0.0	60.9	0.3	3.8	0.0	0.0	0.0	0.0	-0.0	-6.4	-6.4
5	18335216.86	4902814.11	0.90	0	500	65.2	65.2	0.0	0.0	60.9	0.6	4.0	0.0	0.0	0.0	0.0	-0.0	-0.3	-0.3
6	18335216.86	4902814.11	0.90	0	1000	67.0	67.0	0.0	0.0	60.9	1.2	-0.3	0.0	0.0	0.0	0.0	-0.0	5.3	5.3
7	18335216.86	4902814.11	0.90	0	2000	63.9	63.9	0.0	0.0	60.9	3.0	-1.8	0.0	0.0	0.0	0.0	-0.0	1.7	1.7
8	18335216.86	4902814.11	0.90	0	4000	60.1	60.1	0.0	0.0	60.9	10.3	-1.8	0.0	0.0	0.0	0.0	-0.0	-9.3	-9.3
9	18335216.86	4902814.11	0.90	0	8000	53.1	53.1	0.0	0.0	60.9	36.7	-1.8	0.0	0.0	0.0	0.0	-0.0	-42.7	-42.7

Point Source, ISO 9613, Name: "Blower enclosure south window", ID: "BLWR_BLDG_sw"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
1	18335228.27	4902818.67	1.90	0	32	-39.4	-39.4	3.0	0.0	60.9	0.0	-4.1	0.0	0.0	0.0	0.0	-0.0	-93.1	-93.1
2	18335228.27	4902818.67	1.90	0	63	51.8	51.8	3.0	0.0	60.9	0.0	-4.1	0.0	0.0	0.0	0.0	-0.0	-2.0	-2.0
3	18335228.27	4902818.67	1.90	0	125	51.4	51.4	3.0	0.0	60.9	0.1	1.4	0.0	0.0	0.0	0.0	-0.0	-8.0	-8.0
4	18335228.27	4902818.67	1.90	0	250	60.5	60.5	3.0	0.0	60.9	0.3	2.9	0.0	0.0	0.0	0.0	-0.0	-0.6	-0.6
5	18335228.27	4902818.67	1.90	0	500	73.0	73.0	3.0	0.0	60.9	0.6	-0.1	0.0	0.0	0.0	0.0	-0.0	14.6	14.6
6	18335228.27	4902818.67	1.90	0	1000	74.0	74.0	3.0	0.0	60.9	1.1	-1.5	0.0	0.0	0.0	0.0	-0.0	16.6	16.6
7	18335228.27	4902818.67	1.90	0	2000	79.0	79.0	3.0	0.0	60.9	3.0	-1.7	0.0	0.0	0.0	0.0	-0.0	19.8	19.8
8	18335228.27	4902818.67	1.90	0	4000	76.5	76.5	3.0	0.0	60.9	10.2	-1.7	0.0	0.0	0.0	0.0	-0.0	10.1	10.1
9	18335228.27	4902818.67	1.90	0	8000	69.6	69.6	3.0	0.0	60.9	36.4	-1.7	0.0	0.0	0.0	0.0	-0.0	-23.0	-23.0

Point Source, ISO 9613, Name: "Blower enclosure west window", ID: "BLWR_BLDG_ww"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
1	18335225.51	4902818.44	1.90	0	32	-39.4	-39.4	3.0	0.0	60.9	0.0	-4.2	0.0	0.0	0.0	0.0	-0.0	-93.1	-93.1

Point Source, ISO 9613, Name: "Blower enclosure west window", ID: "BLWR_BLDG_ww"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
2	18335225.51	4902818.44	1.90	0	63	50.8	50.8	3.0	0.0	60.9	0.0	-4.2	0.0	0.0	0.0	0.0	-0.0	-3.0	-3.0
3	18335225.51	4902818.44	1.90	0	125	53.7	53.7	3.0	0.0	60.9	0.1	1.4	0.0	0.0	0.0	0.0	-0.0	-5.7	-5.7
4	18335225.51	4902818.44	1.90	0	250	59.8	59.8	3.0	0.0	60.9	0.3	2.9	0.0	0.0	0.0	0.0	-0.0	-1.3	-1.3
5	18335225.51	4902818.44	1.90	0	500	72.3	72.3	3.0	0.0	60.9	0.6	-0.1	0.0	0.0	0.0	0.0	-0.0	13.9	13.9
6	18335225.51	4902818.44	1.90	0	1000	72.8	72.8	3.0	0.0	60.9	1.1	-1.6	0.0	0.0	0.0	0.0	-0.0	15.3	15.3
7	18335225.51	4902818.44	1.90	0	2000	78.5	78.5	3.0	0.0	60.9	3.0	-1.7	0.0	0.0	0.0	0.0	-0.0	19.3	19.3
8	18335225.51	4902818.44	1.90	0	4000	75.8	75.8	3.0	0.0	60.9	10.2	-1.7	0.0	0.0	0.0	0.0	-0.0	9.3	9.3
9	18335225.51	4902818.44	1.90	0	8000	67.6	67.6	3.0	0.0	60.9	36.5	-1.7	0.0	0.0	0.0	0.0	-0.0	-25.2	-25.2

Point Source, ISO 9613, Name: "Blower enclosure north window", ID: "BLWR_BLDG_nw"																			
Nr.	X	Y	Z	Refl.	Freq.	LxT	LxN	K0	Dc	Adiv	Aatm	Agr	Afol	Ahous	Abar	Cmet	RL	LrT	LrN
	(m)	(m)	(m)		(Hz)	dB(A)	dB(A)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	dB(A)	dB(A)
1	18335226.02	4902820.49	1.90	0	32	-39.4	-39.4	3.0	0.0	60.9	0.0	-4.2	0.0	0.0	3.3	0.0	-0.0	-96.5	-96.5
2	18335226.02	4902820.49	1.90	0	63	51.8	51.8	3.0	0.0	60.9	0.0	-4.2	0.0	0.0	5.0	0.0	-0.0	-7.0	-7.0
3	18335226.02	4902820.49	1.90	0	125	51.4	51.4	3.0	0.0	60.9	0.1	1.4	0.0	0.0	6.2	0.0	-0.0	-14.3	-14.3
4	18335226.02	4902820.49	1.90	0	250	60.5	60.5	3.0	0.0	60.9	0.3	2.9	0.0	0.0	7.7	0.0	-0.0	-8.3	-8.3
5	18335226.02	4902820.49	1.90	0	500	73.0	73.0	3.0	0.0	60.9	0.6	-0.1	0.0	0.0	12.1	0.0	-0.0	2.5	2.5
6	18335226.02	4902820.49	1.90	0	1000	74.0	74.0	3.0	0.0	60.9	1.2	-1.6	0.0	0.0	14.9	0.0	-0.0	1.6	1.6
7	18335226.02	4902820.49	1.90	0	2000	79.0	79.0	3.0	0.0	60.9	3.0	-1.7	0.0	0.0	17.5	0.0	-0.0	2.2	2.2
8	18335226.02	4902820.49	1.90	0	4000	76.5	76.5	3.0	0.0	60.9	10.3	-1.7	0.0	0.0	18.6	0.0	-0.0	-8.6	-8.6
9	18335226.02	4902820.49	1.90	0	8000	69.6	69.6	3.0	0.0	60.9	36.7	-1.7	0.0	0.0	19.2	0.0	-0.0	-42.6	-42.6