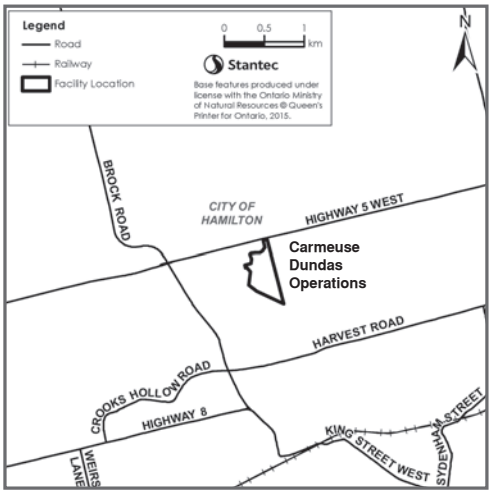
WELCOME

Welcome to the Carmeuse Lime Canada Limited (Carmeuse) – Dundas Operations Public Open House as part of the Site Specific Standard Process.

Carmeuse invites you to learn about us, our operations, regulatory requirements, our plan to reduce air emissions, to ask questions and to provide your input and comments.



Carmeuse Lime Canada Limited
Dundas Operations

About Carmeuse

Carmeuse Lime Canada Limited (Carmeuse) is an international producer of calcium and dolomitic lime, chemical grade limestone and crushed limestone aggregate products that are a vital part of important industries in steel manufacturing, energy, environmental services, and construction.

Facts:

- Parent company in business over 150 years;
- Dundas facility operating since 1953;
- 28 production facilities, staffed by up to 2,000 employees in Canada, U.S.A..

> Carmeuse products make steel stronger, air cleaner, water more pure and roadways last longer — they are a vital ingredient in the materials that build and renew infrastructure around the world.

Lime and Limestone are an essential part of:

- **Water Treatment** — Municipal and Industrial water treatment processes
- **Remediation of Soils, Industrial Sludges and Animal Waste**
- **Chemical Processes** — Production of glue, sugar cubes, leather and more
- **Glass and Fiberglass Manufacturing**
- **Paper and Pulp** — Filler in paper to improve optical properties
- **Flue Gas Desulfurization** — Emissions control in the power generation industry
- **Masonry and Mortars** — Hydrated lime for mortars, stuccos, and finishing plaster
- **Road Construction** — Soil stabilization, soil modification and asphalt additive
- **Mining** — Refining copper, zinc, nickel, gold, silver, and aluminum
- **Steel Making** — Converting iron ore to pig iron; as flux agents in primary furnace operations, and refractory sustainability

Dundas Operations

The basic processes occurring at the Dundas facility are:

- Calcining (kiln heating and drying) limestone from the adjacent quarry operated by Lafarge;
- Fuel (Petcoke) milling;
- Processing (crushing/screening) the lime products; and,
- Storage, handling and truck loading operations.

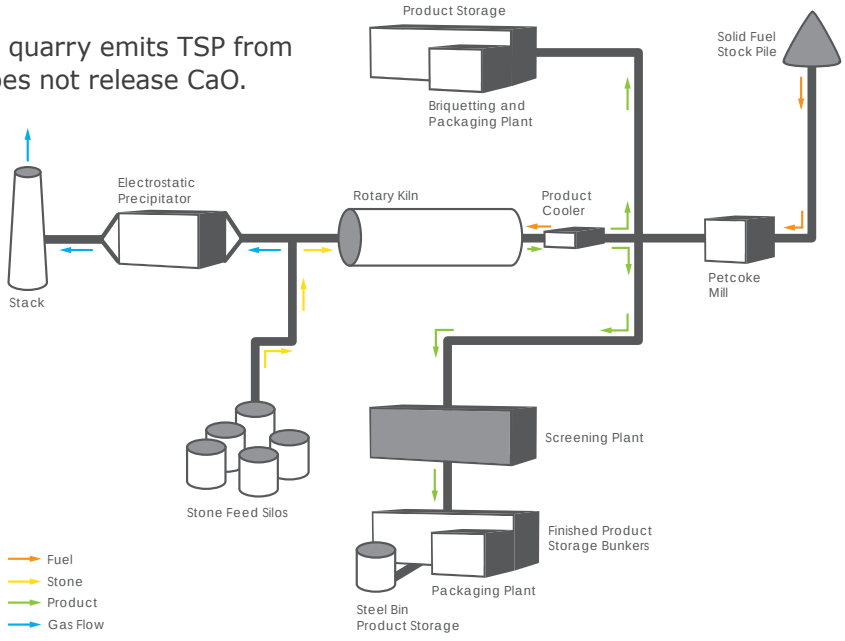
Facility highlights:

- Total capacity of the three kilns is 400,000 tonnes of Lime per year;
- Lime Kilns operate up to 24 hours per day for 365 days per year; and,
- Existing air pollution control devices:
  - An Electrostatic Precipitator (ESP) on each kiln
  - 23 existing Baghouses (fabric filters) reducing emissions on handling/loading and processing activities.

The sources of Calcium Oxide (CaO) and Total Suspended Particulate (TSP) in the Facility are:

- Point Sources - such as kiln ESPs and baghouse stacks;
- Process Fugitive Sources - truck loading of Lime products, transfer and handling of material and storage piles.

The adjacent Lafarge quarry emits TSP from its operations, but does not release CaO.



Regulatory Background

In Ontario, air quality is regulated under Ontario Regulation 419/05 Air Pollution – Local Air Quality (Regulation). The Regulation sets out air quality standards which have been developed by the Ministry of Environment and Climate Change (Ministry) to:

- Protect human health;
- Protect the environment; and,
- Prevent nuisance impacts.

Air Quality Standards:

- CaO - 10 µg/m^3 based on potential for corrosion impacts which are more stringent than health-based effects; and,
- TSP - 120 µg/m^3 based on visibility impacts which are more stringent than health-based effects.

The Regulation includes three compliance approaches:

- A facility can meet an air quality standard; or,
- A facility can request and meet a Site Specific Standard (SSS). To obtain an SSS the facility must reduce emissions as much as feasible with current technology; or,
- A facility can register and meet the requirements under a Technical Standard (if available).

When the Carmeuse Dundas facility is operating at full capacity, dispersion modelling predicts that the maximum off-property concentrations of Calcium Oxide (CaO also called Lime) and Total Suspended Particulate Matter (TSP) at times may not meet the applicable air quality standards. Carmeuse is in the process of completing the requirements to formally request a SSS for CaO and TSP including:

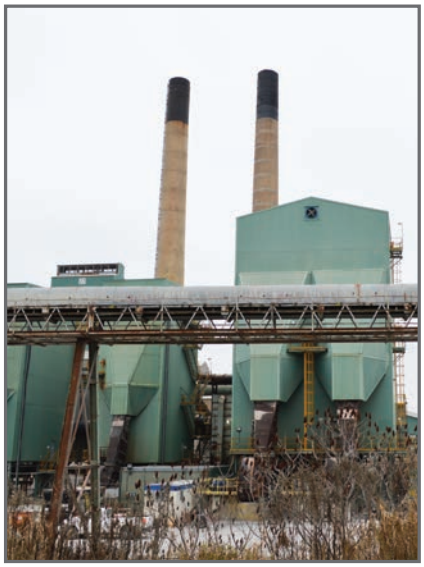
A: An Ambient Monitoring Program;

B: A Refined Emission Summary and Dispersion Modelling Report;

C: A Technology Benchmarking Report;

D: An Action Plan to REDUCE emissions; and,

E: Seeking stakeholder input through this Public Open House.



* µg = micrograms

A – Ambient Monitoring Program

Ambient monitoring was conducted to refine/confirm dispersion model prediction. The Ambient Monitoring Program included:

- Sampling every 3 days from September to December 2014;
- Two samplers were setup in predominantly downwind locations;
- Laboratory quantification of TSP;
- Microscopic visual and analytical quantification of CaO;
- Meteorological monitoring station to log wind speed and direction;
- The Ministry co-located a sampler at Location B and sampled every 6 days; and,
- Results were used to validate the air dispersion modeling.

Summary of Ambient Monitoring Program

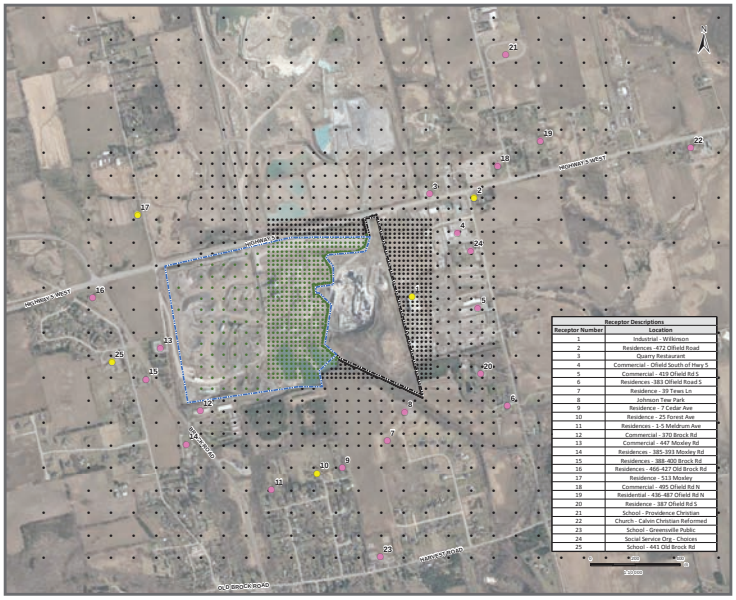
Parameter	Minimum Concentration (µg/m³)[1]	Maximum Concentration (µg/m³)	Average Concentration (µg/m³)	Applicable 24-hour Standard[2] (µg/m³)
Calcium Oxide (CaO also called Lime)				
Location A	0.9	32	9.8	10
Location B	0.8	27	7.2	
Total Suspended Particulate Matter (TSP)				
Location A	9.1	224	102	120
Location B	14.9	316	127	

Notes:
1. µg/m³ means micrograms of substance per cubic meter of air.
2. Applicable 24-hour Standard is the Schedule 3 Standard of Ontario Regulation 419/05.

B – Emission Summary and Dispersion Modelling Approach

Dispersion models:

- An air quality modelling study first requires developing an emissions inventory for the facility. Emissions inventories are developed following guidance and methodologies provided by the Ministry.
- The Ministry requires that a series of conservative assumptions (e.g. all processes operating at maximum capacity concurrently with sources burning fuels that result in the highest emission rates, etc.) be used to develop a maximum operating emissions scenario.
- Under normal conditions, emissions from the Facility would be less than those estimated by the Ministry mandated maximum methodologies.
- The maximum emissions estimates are then used in an air quality dispersion model to predict conservative CaO and TSP concentrations in ambient air due to the facility emissions.
- A dispersion model provides a link between emissions from a source and air quality changes by simulating the transport and dispersion of the emissions as they are carried downwind of the source. Ambient air quality levels were predicted using the US EPA AERMOD dispersion model, which is the model required to be used by the Ministry.
- The locations where a dispersion model predicts air quality downwind of an emissions source are called "receptors". Air quality predictions were made at 2,700 receptors over a 10-km by 10-km modelling domain and at 25 discrete locations.



Modelling Receptor Locations

C – Technology Benchmarking Report

The Site Specific Standard Process requires a Technology Benchmarking Report (TBR) be prepared to identify technically feasible emission control options to reduce the emissions of Calcium Oxide (CaO) and Total Particulate Matter (TSP). The following categories of options to reduce emissions were reviewed:

- Material Substitution – no feasible options identified;
- Process Change – modification of operations which will result in lower emissions; and,
- Add-on Controls – such as air pollution control equipment (i.e., fabric filtration/ baghouse) to reduce emissions.

From the dispersion modelling it was determined that fugitive sources within the pit such as: storage piles, material handling, loading operations, and Baghouses (with shorter stacks) contribute more than 90% to the CaO and TSP exceedances.

Control of fugitive sources therefore provides the greatest opportunity for reduction of off-site concentrations of CaO and TSP.

Best control technologies that will be applied to the fugitive sources will include:

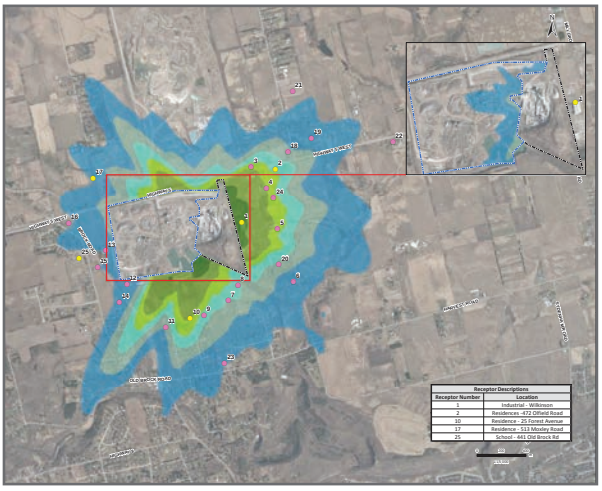
- Removal or reduction of the size of storage piles;
- Partial or full enclosure of the dust generating source/activity;
- Dust extraction (vacuum); and,
- Dust control with fabric filtration (also called baghouses).

Kiln Stacks

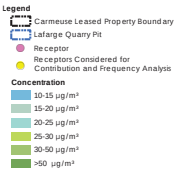
Steel Bin Loadout

Results - Calcium Oxide

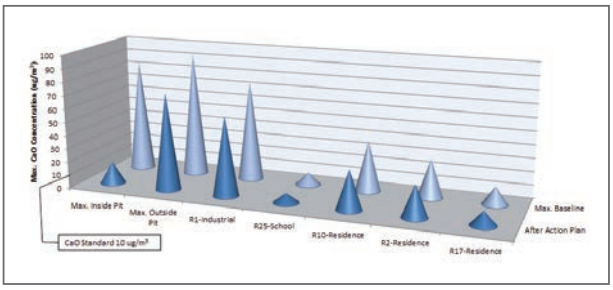
Maximum Predicted Ground Level CaO Concentrations for the Facility Maximum Operating Scenario



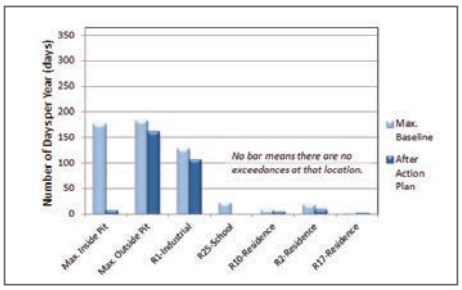
Maximum Predicted Ground Level CaO Concentrations after Implementation of Action Plan



Reduction in Maximum Predicted CaO Concentrations After Implementation of Action Plan to Reduce Emissions

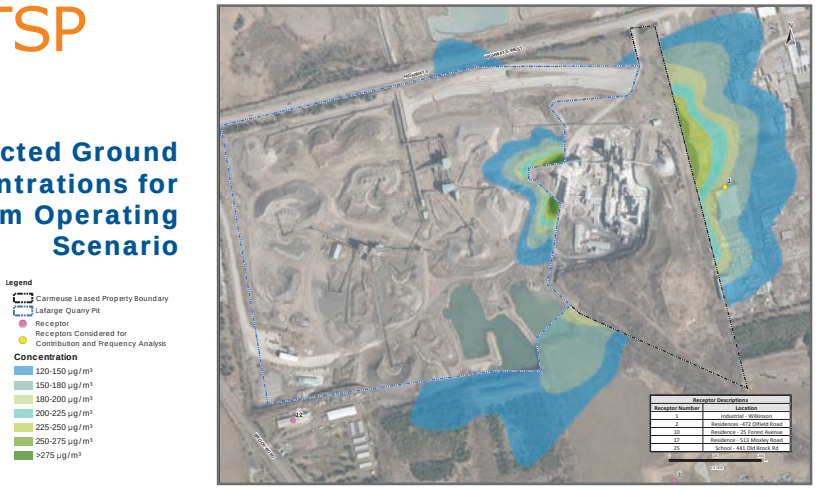


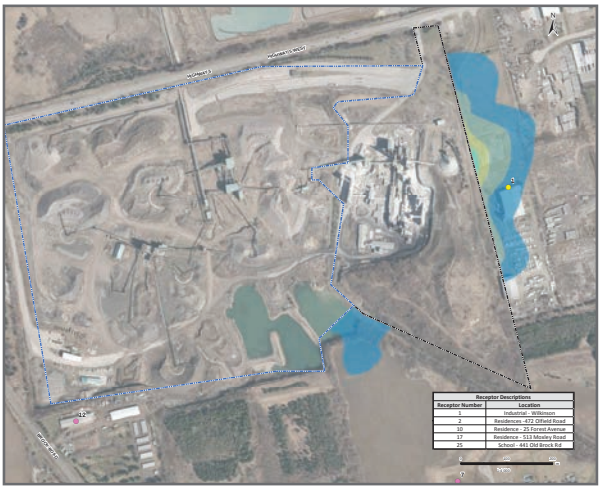
Predicted Number of Days in a Year Above the CaO Standard



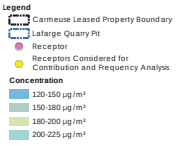
Results - TSP

Maximum Predicted Ground Level TSP Concentrations for the Facility Maximum Operating Scenario

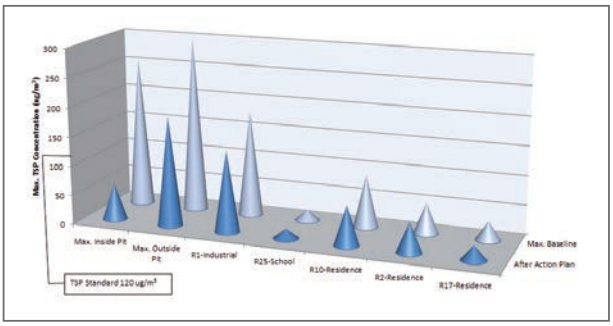




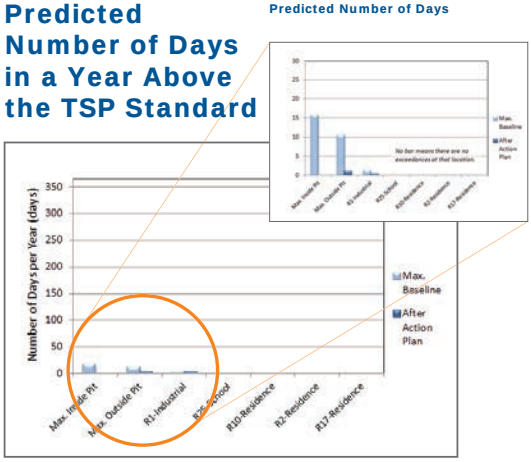
Maximum Predicted Ground Level TSP Concentrations after Implementation of Action Plan



Reduction in Maximum Predicted TSP Concentration After Implementation of Action Plan to Reduce Emissions



Predicted Number of Days in a Year Above the TSP Standard



D – Action Plan to reduce CaO & TSP Emissions

Bunkers Loadout

Fallout from Kiln #1 Smoke Chamber

New Concrete under Active Production Area

Action Item	Source Description	Description of Action to Reduce Emissions
A	Low Grade Lime Pile	Remove Low Grade Lime Fines piles.
		Low Grade Lime Fines directly loaded into a Truck and transported routinely to on site Slurry System.
		Build 3-sided enclosure with water spray for occasional temporary storage of small quantity of Low Grade Lime Fines.
B	Bunkers Loadout	Install extendable dustless loading chutes with dust collection system.
		Enclosure of Bunkers Loadout Area.
C	Bin Loadouts	Enclosure around loadout chutes.
D	Fallout from Kilns #1 and #2	Enclosure of Kilns #1 and #2 Smoke Chamber outfalls.
E	Kiln #3 Fallout	Adding chute and enclosed bin.
F	Fugitive dust around Active Production Area	Remove accumulated material and continuing with concrete and pavement under production areas.
G	Hoppers on Conveyor to Screening Plant	Partial enclosure of hoppers.
H	Buggy Hopper for Dumping Overload	Partial enclosure of hopper.
I	Limestone Feedstock Building	Enclosure of building.

It is anticipated that the Action Plan will be implemented over the next ten (10) years at an estimated total cost of about $3 million.

Site Specific Standard Request

The Site Specific Standard (SSS) request must consider the maximum ground-level concentrations predicted by the air dispersion modelling with the facility operating at maximum capacity. Carmeuse is therefore requesting the following SSS for a ten (10) year duration:

- 95 ug/m^3 for Calcium Oxide (CaO) based on a 24-hour averaging period; and,
- 300 ug/m^3 for Total Suspended Particulate Matter (TSP) based on a 24-hour averaging period.

The following table summarizes the predicted maximum modelled off-property ground-level concentrations of CaO and TSP before and after implementation of the Action Plan to reduce emissions.

Time	Description	Maximum Predicted Ground-Level Concentration (µg/m^3)					
		Off-Property		At Wilkinson Heavy Precast		At Maximum Residential Receptor	
		CaO	TSP	CaO	TSP	CaO	TSP
2016	Maximum Production	94	298	76	181	38	90
10 years After SSS Approval	After Action Plan Implemented	73	187	60	139	30	68
Overall Percent Reduction		**22%**	**37%**	**21%**	**24%**	**22%**	**25%**

Note: µg/m^3 means micrograms of substance per cubic meter of air.

The Site Specific Standard approval from the Ministry will require Carmeuse to reduce emissions of CaO and TSP through measures such as Best Dust Management Practices, process optimization, and additional feasible dust control measures. If necessary, before the close of the ten year duration of the Site Specific Standard, Carmeuse will apply for a renewal and will re-evaluate if there are any other new technologies or process options which could be implemented to further reduce CaO and TSP emissions.

Community Investment

Carmeuse is committed to providing financial and volunteering support to agencies whose primary emphasis is helping underprivileged children with educational, training, and mentoring opportunities.

Locally, Carmeuse has sponsored:

- Big Brothers and Sisters
  - "Promise Scholarship" for children's post-secondary education
  - Received an award from Hamilton Chapter and scholarship named after Carmeuse
- 12 local hockey and baseball minor teams in past 5 years
- Rockton Lion's Club Food Drive
- Flamborough Food Bank – Food Drive and Secret Santa.

Public Involvement

Information to be submitted to the Ministry of Environment and Climate Change (Ministry) as part of the application to request Site Specific Standards (SSS) can be made available to you upon request. A Public Consultation Report, summarizing the feedback received during this Open House and through the SSS process, will be provided to the Ministry as part of the application package.

You can participate by:

- Filling out a Questionnaire available at Welcome Table
  - All input will be summarized and incorporated into the Public Consultation Report
- Providing comments online through the Ontario Environmental Bill of Rights Registry (EBR Registry) after the application package has been submitted to the Ministry
  - EBR Registry website: http://www.ebr.gov.on.ca/ERS-WEB-External/
- Providing comments before **March 4th, 2016** directly to Stantec or Carmeuse

Note to Reader: Contact information has been redacted since no longer valid.