November 2020

REVISED AIR QUALITY ANALYSIS

In Support of An Air Quality Plan Approval Application

CEMEX Construction Materials Atlantic, LLC
Wampum Cement Plant
2001 Portland Park
Lawrence County, Wampum, PA 16157-3913

Submitted To:
Pennsylvania Department of Environmental Protection
Northwest Regional Office
230 Chestnut Street
Meadville, PA 16335

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1.0 INTRODUCTION

CEMEX Construction Materials Atlantic, LLC (CEMEX) proposes to modernize its Wampum Cement manufacturing plant (the Wampum Plant) located in Wampum, Lawrence County, Pennsylvania (the Project). The Project proposes to replace three existing long dry kilns with a single five stage preheater/calciner kiln system and a clinker cooler. Other ancillary processes include both new equipment as well as refurbishment of existing equipment. The Project triggers PSD review and the requirement to conduct an air quality impact analysis (i.e., dispersion modeling) for NO_X, CO, SO_2, PM_{10}, and $PM_{2.5}$.

This predicted modeling results demonstrate that emissions associated with the Project will not cause or contribute to an exceedance of the NAAQS, or PSD increment consumption limits. The project is not expected to cause any significant general, commercial, residential or industrial growth in the area. This analysis indicate this Project will not adversely impact visibility, soils and vegetation, and Federal Class I areas.

2.0 PROJECT IDENTIFICATION INFORMATION

This document presents an analysis of the predicted air quality impacts from the reactivation of the Wampum Cement Plant. This air quality analysis (AQA) is summitted in support of the *Air Quality Plan Approval Application, CEMEX Construction Materials Atlantic, LLC, Wampum Cement Plant, Lawrence County, Pennsylvania, January 2020.*

POWER Engineers, Inc. (POWER) has prepared this AQA following written methodologies and procedures of the United States Environmental Protection Agency (EPA).

Applicant:	CEMEX Construction Materials Atlantic, LLC
Facility:	Wampum Cement Plant
Nearest City:	Wampum
County in Which Plant is Located:	Lawrence
Applicant's Modeler:	POWER Engineers, Inc.

3.0 PLOT PLAN

Plot plans illustrating the locations of Wampum Plant emission points are provided as Appendix A. Select Wampum Plant structures are identified in the figure provided as Appendix B.

4.0 AREA MAP

The following maps and figures illustrate the area surrounding the proposed Project:

- An area map showing the plant's property boundaries is provided as Appendix C,
- There are Federal Class I areas within 300 kilometers as illustrated in the map included as Appendix D,
- A map showing the locations of the proposed ambient air monitoring sites is provided as Appendix E.

5.0 AIR QUALITY MONITORING DATA

Current ambient air concentrations representative of the proposed Project site may be required for two distinct and separate purposes: (1) to demonstrate that the ambient air concentrations of PSD-significant pollutants are currently in compliance with the NAAQS and (2) for use in a full impact NAAQS modeling analysis of the proposed Project. Based on the Preliminary Impact Determination results in Section 9.1.2, background ambient air concentration data are required for NO_2, SO_2, PM_{10}, and $PM_{2.5}$. CEMEX proposes to use ambient air quality data from an existing air quality monitoring station to establish representative background concentrations.

5.1 Representative Background Concentrations

In order to determine the cumulative impacts of the Project's emissions, the ambient background concentrations must be determined. The model-predicted impacts for the Project and offsite emission sources will be added to the ambient background concentration to determine the cumulative ambient impact for comparison against the NAAQS for each relevant criteria pollutant. The background concentrations must be representative of the Project site and were obtained from the most recent three years (2016 through 2018) of certified monitoring data from the most representative monitoring stations nearest to the Project site. The representativeness of each monitoring site to the Project site was justified based on EPA guidance provided in Section 8.3 (Background Concentrations) of the "*Guideline on Air Quality Models" (40 CFR Part 51, Appendix W)* and Section 2.4 (Use of Representative Air Quality Data) of the "*Ambient Monitoring Guidelines for Prevention of Significant Deterioration (PSD)*", *EPA-450/4-87-007*. Attention was given to EPA's May 20, 2014 memorandum "*Guidance for $PM_{2.5}$ Permit Modeling (EPA-454/B-14-001)*" for the justification of the $PM_{2.5}$ background monitoring site.

In general, three criteria are considered in evaluating the representativeness of ambient background data from ambient monitoring sites:

- Monitor location relative to the Project site and maximum impact areas;
- Quality of the data; and
- Timeliness of the data.

The ambient background monitors whose data were included in this analysis were selected based on quantitative and qualitative analyses using the three criteria listed above. Regarding timeliness, data for the most recent three complete calendar years (2016-2018) were evaluated.

In terms of quantitative analysis, county emissions estimates (for Lawrence County as well as nearby counties) for each criteria pollutant included in the modeling analysis were obtained from EPA's 2014 National Emission Inventory (NEI). Emissions estimates for the nearby counties were compared with the Lawrence County 2014 NEI emissions estimates on both a quantity of total emissions per county (annual tons) basis, as well as an "emissions density" (county-wide emissions in annual tons divided by the county area in square miles) basis. The total emissions and emissions density were typically lower for Lawrence County compared with surrounding counties.

The qualitative analysis involved a comparison of the areas immediately surrounding the monitoring sites and the Project site to determine which monitoring site was most representative of the Project site for each pollutant based on the commercial and industrial development density and significant topographical features.

Based on the review of candidate monitoring sites in Lawrence and nearby counties, the sites selected as representative of the Project site for each criteria pollutant are shown in Table 5-1.

TABLE 5-1 PROPOSED BACKGROUND CONCENTRATION

CONTAMINANT	MONITORING STATION	COUNTY/ STATE	DISTANCE TO PROJECT SITE (km)	AVERAGING PERIOD	BACKGROUND CONCENTRATION (µg/m³)	FORM[1]
NO_2	Beaver Falls (42-007-0014)	Beaver / PA	14.5	1-Hour	72	3-Year Average of 98th Percentiles of the Daily 1-Hour Maximums 2016-2018
				Annual	17	1st High, 2018
SO_2	New Castle (42-073-0015)	Lawrence / PA	13.1	1-Hour	39	3-Year Average of 99th Percentiles of the Daily 1-Hour Maximums 2016-2018
PM_{10}	Beaver Falls (42-007-0014)	Beaver / PA	14.5	24-Hour	107	1st High, , 2016-2018
$PM_{2.5}$	Beaver Falls (42-007-0014)	Beaver / PA	14.5	24-Hour	19.3	3-Year Average of 98th Percentiles of the Daily Maximums 2016-2018
				Annual	9	3-Year Average of 1st Highs 2016-2018

[1]. EPA's website of "monitor values reports", https://www.epa.gov/outdoor-air-quality-data/monitor-values-report (accessed October 21, 2019).

The ambient background concentrations measured at these monitoring sites that were used in this analysis are presented in Table 5-1 and also included as a map, of monitor locations as Appendix E. The concentration data were obtained from EPA's website of "monitor values reports", https://www.epa.gov/outdoor-air-quality-data/monitor-values-report (accessed October 21, 2019). Note that the selected monitoring sites are located in areas with similar land use to the area around the Project site. Data from these monitors are anticipated to be conservative due to the presence of more emission sources (both point and area) in the region around the monitors.

5.2 PSD Ambient Monitoring Requirement

The *New Source Review Workshop Manual-Prevention of Significant Deterioration and Nonattainment Area Permitting; USEPA, Draft October 1990* (page C.16) states that continuous ambient monitoring data may be required unless "either (1) the predicted ambient impact, i.e., the highest modeled concentration for the applicable averaging time, caused by the proposed significant emissions increase (or significant net emissions increase), or (2) the existing ambient pollutant concentrations, are less than the prescribed significant monitoring value" (i.e., SMC value).

On January 22, 2013, the United States Court of Appeals for the District of Columbia Circuit granted a request from the EPA to vacate and remand to the EPA the portions of two PSD $PM_{2.5}$ rules [40 CFR 51.166(k)(2) and 40 CFR 52.21(k)(2)] addressing select provisions of the $PM_{2.5}$ Significant Impact Levels (SILs) so that the EPA could voluntarily correct an error in these provisions. The EPA amended its regulations and removed the vacated the $PM_{2.5}$ SMC effective December 9, 2013.

6.0 MODELING EMISSIONS INVENTORY

6.1 On-Property Sources

The proposed Project emission sources are discussed in previous sections of this plan approval application. Emissions from the proposed new equipment are based on PTE. Emissions from the refurbished equipment are also conservatively based on PTE. There are no contemporaneous changes to the Plant being considered for the Project.

A copy of the emissions table for this Project is included as Appendix F. This table includes the project sources and their emissions (in metric units). The stack parameters for the modeled Project sources are summarized in Appendix G (in metric units). The table cross-references between the modeling identification numbers and the emission point numbers listed in the plan approval application.

6.2 Stack Parameter Justification

Each source was modeled at its physical release height or at the BPIP-calculated GEP stack height, whichever is lower.

6.2.1 Stack Parameters - Wampum Plant Sources

The emission release parameters for the Wampum Plant sources are presented below.

6.2.1.1 Point Sources

Point sources were modeled with exhaust parameter values (i.e., velocities, diameters, and temperatures) properly identified to calculate the buoyancy and momentum rise of their emissions. The stack parameter values were based on engineering design information.

6.2.1.2 Area Sources

Fugitive material storage and handling sources were modeled as area sources with appropriate release height. Haul roads segments located near the fence line of the property were also modeled as an area source as stated in the following EPA Memo on "*Haul Road Workgroup Final Report Submission to EPA-QAQPS" March 2, 2012*. Roads also were restricted to emit during early morning to late evening hours (see Section 6.2.8). The various road segments are depicted in Appendix H.

6.2.1.3 Volume Sources

Emissions from onsite road sources were modeled using volume sources and following the EPA Memo on "*Haul Road Workgroup Final Report Submission to EPA-QAQPS" March 2, 2012*. Providence/ORIS, LLC's "BEE-Line BEEST for Windows" was used to place the volume sources appropriately along the road segment. Roads also were restricted to emit during early morning to late evening hours (see Section 6.2.8). The various road segments are depicted in Appendix H.

6.2.2 Plant Operating Conditions

The cement manufacturing process is a continuous, steady-state operation throughout the year (with infrequent planned outages, typically occurring more than a year apart). Process emissions associated with these infrequent outages are not greater than during normal operation.

6.2.3 Emergency Equipment Emissions

The Wampum Plant includes a diesel fuel-fired emergency engine onsite. Emissions associated with the emergency readiness testing of this engine were modeled.

CEMEX tests the emergency equipment according to the manufacturer recommended testing schedules. A typical testing schedule for emergency engines is testing the engine once per month for a period less than 60 minutes. The modeling will include a maximum of 60 minutes of testing emissions for the modeled 3-hour, 8- hour, and 24-hour averaging period. The 1-hour averaging period will not include emissions from the emergency engine per EPA guidance (i.e., *EPA's Additional Clarification Regarding Application of Appendix W Modeling Guidance for the 1-hour NO_2 National Ambient Air Quality Standard; March 1, 2011*).

6.2.4 Modeling Source Groups

The source group ALL was modeled for the Project sources.

6.2.5 NO_X-to-NO_2 Conversion

Following guidance included in the EPA's *Guideline on Air Quality Models; Appendix W to 40 CFR Part 51; January 17, 2017;* the Tier 2 default Ambient Ratio Method 2 (ARM2) NO_X-to-NO_2 conversion (in Section 4.2.3.4 of Appendix W) was utilized within the AERMOD model. The Appendix W default minimum ambient NO_2/NO_X ratio of 0.5 and the maximum ambient ratio of 0.9 were used.

6.2.6 $PM_{2.5}$ Emissions

Guidance from the 2018 EPA Regional, State, and Local Modelers' Workshop in Boston, Massachusetts, June 5, 2018 and the EPA's *Guidance on the Development of Modeled Emission Rates for Precursors (MERPs) as a Tier 1 Demonstration Tool for Ozone and $PM_{2.5}$ under the PSD Permitting Program, April 30, 2019* were used to estimate secondary $PM_{2.5}$ impacts. MERPs derived using the EPA's photochemical modeling results for hypothetical sources located in Pennsylvania were used to estimate the air quality $PM_{2.5}$ impacts associated with project-related emissions of NO_X and SO_2. These conservative secondary $PM_{2.5}$ impact estimates were included in the preliminary impact determination, full impact NAAQS and full impact PSD increment consumption analyses.

6.2.7 Scaling Factors

Road emissions at the Wampum Plant were restricted to hour of day usage. Therefore, the expected time trucks will be delivering and receiving is expected to be between 5:00 am and 9:00 pm. This restriction is applicable to road emissions only.

7.0 MODELS PROPOSED AND MODELING TECHNIQUES

The American Meteorological Society / Environmental Protection Agency Regulatory Model (AERMOD), Version 19191, was used to perform the dispersion modeling in this AQA. AERMOD is the latest generation of atmospheric dispersion models suitable for industrial sources and is the model preferred by the EPA for such applications. To facilitate the running of AERMOD, the Providence/ORIS, LLC's "BEE-Line BEEST for Windows" graphic user interface (Version 12.00) was used.

7.1 Model Options

The following model options were used in the application of AERMOD:

A. Regulatory default option
B. Elevated terrain
C. Rural dispersion
D. Adjusted U*
E. ARM2 NO_X to NO_2 conversion

7.2 Building Wake Effects

Building downwash effects were included in the modeling based on guidance provided in the EPA's *User's Guide to the Building Profile Input Program, October 1993, EPA-454/R-93-038.* The EPA currently requires that all building downwash be determined using the EPA Building Profile Input Program (BPIPPRM) subroutine. Providence/Oris LLC's "BEE-Line BEEST for Windows" was used for calculating downwash parameters for this analysis. This program includes downwash software which uses the latest BPIPPRM subroutine (version 04274) in its calculations.

Information regarding the Wampum Plant structures was entered into the BPIP-based software program. Wampum Plant downwash structures that may affect the dispersion of emissions are listed in the table included as Appendix I. The downwash parameter values were calculated for each point source by the software program and inserted into the AERMOD input files in the appropriate locations and formats.

Downwash summary tables created by the BPIP subroutines are included as part of the electronic files included in the AQA as Appendix M.

7.3 Receptor Grids

The receptor grids used in the preliminary and full impacts analyses followed the guidelines provided in EPA's Appendix W. The NAD83 datum was used for the receptor UTM coordinates. Providence/ORIS, LLC's "BEE-Line BEEST for Windows" was used to calculate the appropriate domain boundaries. The EPA AERMAP (Versions 11103 and 18081) program was used to calculate (interpolate) the terrain elevations and local terrain maximums using 1-arc-second (~30 meter) United States Geological Survey (USGS) National Elevation Dataset (NED) data.

Receptors were placed along the perimeter and the outside of the property that is owned and controlled by CEMEX. The property is situated in an area with limited access to the public. The eastern part of the property runs along the Beaver River in Lawrence County Pennsylvania. This natural barrier also sits

about 100 feet lower in elevation from the CEMEX Plant, and extends from the northern part of the property to the southern tip. Public access from the eastern part of the Plant is highly unlikely due to significant elevation change and the river. The western part of the property is 350 feet to over 1,000 feet from the public road. In between the property line and the public road, the land is naturally dense with trees and natural vegetation rendering it difficult for public access. CEMEX will post multiple clear signage restricting access to the general public along the western part of the property. CEMEX is also committed to routine security patrolling to confirm the area remains clear of any trespassers. The plant has personnel on site 24 hours per day seven days per week. EPA's December 2, 2019, memorandum, "Revised Policy on Exclusions from "Ambient Air," confirms that these practices are sufficient barriers that will protect the general public from gaining access. These receptor grids were designed to capture the maximum off-property ground-level concentrations for all pollutants.

The receptor coverage utilized for the preliminary impact analyses consisted of the following:

- 1,000-meter spaced receptors to a distance of 50 kilometers from the Wampum Plant fence line to ensure that (1) the maximum predicted concentration is located, (2) all locations with predicted concentrations greater than the SILs were identified and (3) that concentration gradients associated with the project related emissions clearly decrease in magnitude outside of the AOIs,
- 100-meter spaced receptors to a distance of 5 kilometers from the Wampum Plant fence line,
- 25-meter spaced receptors along the Wampum Plant fence line/property line.

Only receptors with predicted concentrations greater than or equal to the respective SILs were included in the full impact NAAQS and PSD increment consumption analyses. Full impact modeling receptor grids were developed using the preliminary modeling output.

The modeling output includes an ASCII formatted data file containing the maximum predicted concentration at each model receptor. Using electronic spreadsheets, the maximum predicted highest 1st- high (H1H) concentrations for the 3-modeled years of meteorological prognostic data was determined for each receptor for the annual NO_2, 1-hour CO, 8-hour CO, 24-hour PM_{10}, annual PM_{10} (increment), 24- hour $PM_{2.5}$ (increment), annual $PM_{2.5}$ (increment), 3-hour SO_2, 24-hour SO_2, and annual SO_2 concentrations. A similar analysis was conducted for the predicted 3-year average 1-hour NO_2, 1-hour SO_2, 24-hour $PM_{2.5}$ (NAAQS), and annual $PM_{2.5}$ (NAAQS) concentrations. Both H1H and 3-year average $PM_{2.5}$ analyses were conducted to match the (different) forms of the PSD increment consumption limit and NAAQS. These spreadsheet analyses were used to determine whether an individual receptor has "significant" concentrations at any time during the modeled (3-year) period. If so, the receptor was included in the full impact modeling analysis.

Tier 1 estimates of the secondary $PM_{2.5}$ impacts calculated using the project-related NO_X and SO_2 precursor emissions were added to the direct $PM_{2.5}$ modeling results for each individual modeling receptor for the significant receptor determination analyses. This is conservative since secondary $PM_{2.5}$ formed through chemical reactions will occur in the atmosphere gradually over time (hours or days depending on atmospheric conditions and other variables) and the estimated secondary $PM_{2.5}$ impact will not be likely to occur near the receptors with direct $PM_{2.5}$ impacts that are greater than the SILs.

7.4 Meteorological Data

The initial meteorological data proposed for input to the AERMOD modeling system consisted of five years (2013 to 2017) of surface meteorological data measured at the NWS ASOS station at the Youngstown-Warren Regional Airport in Trumbull County, Ohio (KYNG; WBAN 14852), and upper air meteorological data measured at the Pittsburgh radiosonde station (WBAN 94823) north of the Pittsburgh International Airport.

KYNG is the closest ASOS station to the Project site within the glaciated Allegheny Plateau, being approximately 32 miles NW of the Project site. The Pittsburgh PA radiosonde station is the closest upper air station to the Project site, being approximately 25 miles SSE of the Project site.

The height of the main kiln stack at the Project site is expected to be about 345 ft above grade. With expected plume rises (following AERMOD methodologies) on the order of 250 ft to 2,000 ft, the height of the main kiln stack plume (i.e., about 1,450 ft to 3,200 ft above sea level) should be above all the terrain features the plume may encounter within the modeling domain.

However, preliminary AERMOD modeling using these initial NWS meteorological data has suggested that emissions from stacks lower than the main kiln stack also may have important impacts. As a result, we shifted from the initial NWS meteorological data to prognostic meteorological data (as recommended by EPA's Guideline on Air Quality Models (40 CFR Part 51, Appendix W) to be more representative of the transport and dispersion of emissions from all sources at the proposed Project site.

The prognostic meteorological data consists of three years (2012 to 2014) of the Weather Research and Forecasting (WRF) model data developed by the Allegheny County Health Department (ACHD) for the recent SO_2 State Implementation Plan (SIP). The publicly available version of WRF, version 3.6.1, was used for the WRF modeling. A nested grid structure of three grids nested in a 3:1 nesting ratio (i.e., 36/12/4 km) was used in the WRF modeling. Data from the 4-km domain (which covered western Pennsylvania, including the location of the Project site, and portions of Ohio, West Virginia, Maryland and Virginia) was used as input to the AERMOD modeling system. The 4-km grid cell closest to the Project site is the most representative grid cell.

The 4-km grid cell containing the facility is centered on a latitude of 40.8910N and a longitude of 80.3330W, with a lower right corner (the closest corner) at 40.8700N, 80.3138W. The Wampum Plant is located approximately 1400 meters from the south-east corner of the grid cell, as shown in Figure 7-1.

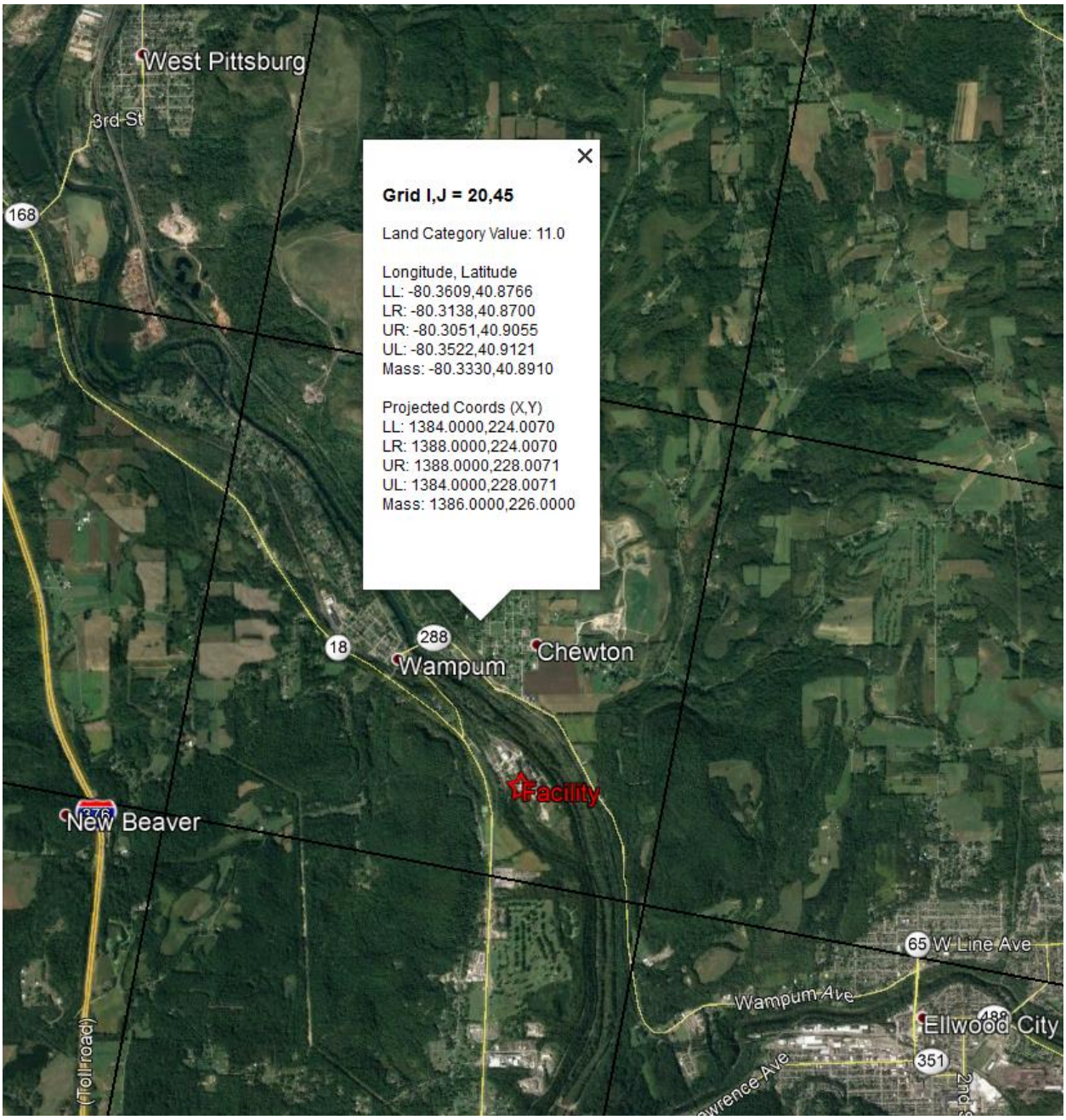


FIGURE 7-1 REPRESENTATIVE WRF 4-KM GRID CELL

The WRF prognostic meteorological data were processed using the Mesoscale Model Interface Program (MMIF; version 3.4.1 (2019-03-11). The MMIF was implemented to output appropriate ONSITE, UPPERAIR and AERSURFACE-like files to be used as input to AERMOD's meteorological preprocessor, AERMET. Also, the MMIF outputs a text file (the Useful Info File) that contains information suitable for inclusion in the ME section of the AERMOD control file. One piece of information is the base elevation above MSL for the potential temperature profile used for the PROFBASE keyword in AERMOD. Because MMIF uses the WRF values from the grid cell containing the output point (i.e., does not interpolate horizontally), all the scalar values are defined as the average over the grid cell. Thus, PROFBASE is taken by MMIF to be the average terrain elevation over the grid

cell. This MMIF and AERMET processing followed recommendations in the User's Manual – The Mesoscale Model Interface Program (MMIF) Version 3.4.1, 2019-03-11 (Ramboll US Corporation; 11 March 2019), EPA's Guidance on the Use of the Mesoscale Model Interface Program (MMIF) for AERMOD Applications (EPA-454/B-18-005; April 2018), and EPA's Guideline on Air Quality Models (40 CFR Part 51, Appendix W).

Finally, the output files from MMIF were processed by AERMET (version 19191) to generate the appropriate input files for AERMOD. Because peak impacts are likely to occur during low wind speed and stable conditions, the ADJ_U* option (in the METPREP pathway (Stage 3)) in AERMET was used. The ADJ_U* option in AERMET is a regulatory option for use in AERMOD for sources using prognostic meteorological inputs derived from prognostic meteorological models such as WRF (40 CFR Part51, Appendix W). Because the MMIF WRF extractions do not contain any turbulence parameters, turbulence parameters were not processed. In addition, the Bulk Richardson Number option (BULKRN; in the METPREP pathway (Stage 3)) in AERMET was used.

A prognostic model evaluation was performed as recommended under EPA's Guideline on Air Quality Models (40 CFR Part 51, Appendix W), Section 8.4.5.2. The model performance evaluation, prepared by Ramboll US Corporation, is included within Appendix M.

Meteorology files are also provided as part of the electronic files included in the AQA as Appendix M.

8.0 MODELING ANALYSIS

8.1 Modeling Approach – Preliminary Impact Determination

A preliminary impact determination was conducted to commence the AQA. The purpose of the preliminary analysis is to determine whether proposed emissions from the Project sources have a "significant" impact on the existing air quality. The various preliminary modeling analyses are described in the sections below.

8.1.1 Significant Impact Level Justification

On January 22, 2013, the U.S. Court of Appeals for the District of Columbia Circuit granted a request from the EPA to vacate and remand to the EPA portions of two PSD $PM_{2.5}$ rules [40 CFR 51.166(k)(2) and 40 CFR 52.21(k)(2)] addressing select provisions of the $PM_{2.5}$ SILs so that the EPA could voluntarily correct an error in these provisions. Accordingly, the EPA amended its regulations and removed the vacated $PM_{2.5}$ SILs effective December 9, 2013.

However, it should be noted that the Federal rule that defines when a major source or major modification is considered to cause or contribute to a violation of a NAAQS [40 CFR 51.165(b)(2)] was not vacated in the January 22, 2013 decision or December 9, 2013 amendment. Consistent with this definition, in the EPA's document entitled *Circuit Court Decision on $PM_{2.5}$ Significant Impact Levels and Significant Monitoring Concentrations, Questions and Answers, March 4, 2013*, the EPA states that applicants can continue to demonstrate that proposed $PM_{2.5}$ emissions do not contribute to existing violations of the NAAQS by demonstrating that the proposed source's $PM_{2.5}$ impacts do not "significantly" contribute to existing $PM_{2.5}$ NAAQS violations or PSD increment consumption violations.

EPA has recommended $PM_{2.5}$ SILs in the document entitled Guidance of Significant Impact Levels for Ozone and Fine Particles in the Prevention of Significant Deterioration Permitting Program, April 17,

2018. CEMEX proposes to use the EPA's recommended SILs in the NAAQS and PSD increment consumption analyses. These $PM_{2.5}$ SILs are summarized in Table 8-1.

TABLE 8-1 $PM_{2.5}$ SILS

POLLUTANT	AVERAGING PERIOD	SIL[1] (µg/m³)
$PM_{2.5}$	24-Hour	1.2
	Annual	0.2

[1].Technical Basis for the EPA's Development of the Significant Impact Thresholds for $PM_{2.5}$ and Ozone, EPA-454/R-18-001, April 2018.

The technical justification for the EPA's $PM_{2.5}$ SILs is provided in *Technical Basis for the EPA's Development of the Significant Impact Thresholds for $PM_{2.5}$ and Ozone, EPA-454/R-18-001, April 2018.* The legal justification for the EPA's $PM_{2.5}$ SILs is provided in the EPA document *Legal Memorandum, Application of Significant Impact Levels in the Air Quality Demonstration for Prevention of Significant Deterioration Permitting under the Clean Air Act, April 17,2018.*

8.1.2 Modeled Emission Rates for Precursors (MERPs) Analysis

The secondary $PM_{2.5}$ was estimated using guidance from the EPA's *Guidance on the Development of Modeled Emission Rates for Precursors (MERPs) as a Tier 1 Demonstration Tool for Ozone and $PM_{2.5}$ under the PSD Permitting Program, April 30, 2019, EPA-454/R-19-003*. MERPs were derived using the EPA's photochemical modeling results for hypothetical sources located in Pennsylvania and Ohio and were used to estimate the secondary $PM_{2.5}$ impacts associated with project-related emissions of NO_X, SO_2.

The EPA's final MERP guidance includes photochemical modeling results from four hypothetical sources that are located in eastern Ohio and southeastern Pennsylvania. As a conservative measure the MERPs analysis will include the nearest hypothetical source which is the Tuscarawas County source in Ohio. EPA conducted this analytical work by creating hypothetical emission sources for use in photochemical grid air quality models to predict the impacts of the hypothetical sources on downwind $PM_{2.5}$. The hypothetical sources were located throughout the U.S. and reflect different release heights (low-level (stacks 10 meters in height) and high-level (stacks 90 meters in height) and emission rates.

The Wampum plant includes long-term emissions of 861 tpy NO_X and 228 tpy SO_2. The vast majority of these emissions exhaust through an elevated stack. The emissions of SO_2 are closer to the modeled emissions for the EPA's 500 tpy hypothetical, and the NO_X emissions are closer to the modeled EPA's 1,000 tpy hypothetical. The 1,000 tpy and 500 tpy "High" hypothetical source modeling results for NO_X and SO_2, respectively, were used for this analysis. The distance of this hypothetical source is about 63 miles SW of the Wampum Cement plant. The nearby terrain is similar to the Tuscarawas County hypothetical source, each source is west of a river that generally runs north to south (Beaver River for the Wampum Plant and Tuscarawas River for Tuscarawas source). The Wampum Plant and the Tuscarawas source each have higher terrain to the east and west of their associated river valley. Along with terrain similarities, the Wampum Plant and the Tuscarawas source are situated at an elevation of 850 ft (mean sea level). Although each source is situated in a rural area the nearest town is roughly 3 miles east (Ellwood City for the Wampum Plant and Uhrichsville for Tuscarawas). Other hypothetical sources were considered but due to the stack height comparison and the emissions associated with the Wampum Cement Plant the Tuscarawas County in Ohia was deemed the most representative.

The conservative secondary $PM_{2.5}$ impacts estimated using the MERP analysis were included in the preliminary impact determination, full impact NAAQS and full impact PSD increment consumption analyses. The MERP analysis estimates are provided in Section 9.1.1. The MERP analysis calculations are provided in Appendix J.

8.1.3 Area of Significant Impact (AOI) Analysis

A preliminary impact determination is conducted to determine if the predicted off-property concentrations associated with the proposed PSD-significant emissions from onsite (project related) sources are greater than the EPA's SILs. No further modeling is required to demonstrate compliance if the maximum predicted concentration, from the preliminary impact analysis, is below the SIL. If the maximum predicted concentration is equal to or greater than the SIL, a full impact modeling analysis is required that includes impacts from onsite sources and off-site. In addition to the direct inclusion of off-site source emissions in the full impact modeling analysis, contributions from off-site sources that may impact the AOI are accounted for using ambient air monitoring data (ambient background concentrations). The AOI is defined as all locations with predicted concentrations that are equal to or greater than the established SILs.

Preliminary impact determination modeling was conducted for PSD-significant emissions of NO_2, CO, SO_2, PM_{10}, and $PM_{2.5}$ to determine whether a full impact modeling analysis is required. The modeling results were used to determine whether the predicted concentrations are greater than the SIL for each pollutant and averaging period.

The AOI analysis results are provided in Section 9.1.2.

8.1.4 PSD Pre-Application Analysis

For PSD analyses, a preliminary impact determination is conducted to determine if the predicted off-property concentrations associated with the proposed increase in PSD-significant emissions are greater than the EPA's SMCs. If the maximum predicted concentration is less than the SMC, the demonstration is complete. If the maximum concentration is equal to or greater than the SMC, preconstruction ambient monitoring may be required unless data that are representative of existing air quality for the area are available.

Preliminary impact determination modeling was conducted for PSD-significant emissions of NO_2, CO SO_2, PM_{10}, $PM_{2.5}$ for comparison with the SMCs. The PSD pre-application analysis results are provided in Section 9.1.3.

8.2 Modeling Approach – Full Impact Analysis

Full impact modeling analyses were conducted for comparison with the NAAQS and PSD increment consumption limits for pollutants and averaging periods with preliminary impacts equal to or greater than the SIL. These modeling analyses are described in the sections below.

8.2.1 NAAQS Analysis

As discussed in Section 1, PSD review applies for proposed emissions of NO_2, CO, SO_2, PM_{10}, and $PM_{2.5}$. NAAQS have been established for these pollutants. Compliance with the NAAQS must be demonstrated for emissions with PSD-significant emissions.

A preliminary impacts determination was first conducted using project related emissions to determine if a detailed NAAQS analysis is required. A full NAAQS impact analysis was then performed for applicable NO_2, SO_2, PM_{10}, and $PM_{2.5}$ emissions to predict ambient concentrations for comparison to the NAAQS. This analysis included emissions from the Wampum Plant and nearby offsite sources (see Section 8.2.3).

The full impact modeling analysis utilized only receptors with predicted concentrations equal to or greater than the SIL in the preliminary modeling analysis. Background concentrations were then added to the full impact modeling results.

The NAAQS analysis results are provided in Section 9.2.1.

8.2.2 PSD Increment Consumption Analysis

As discussed in Section 1, PSD review applies to the proposed emissions of NO_2, SO_2, PM_{10}, and $PM_{2.5}$. PSD increment consumption limits currently exist for these pollutants. Compliance with the PSD increment consumption limits must be demonstrated for emissions with PSD-significant emissions.

A preliminary impacts determination was first conducted using Project-related emissions to determine if a detailed PSD increment consumption analysis is required. A full increment impact analysis was then performed for applicable NO_2, PM_{10}, and $PM_{2.5}$ emissions to predict ambient concentrations for comparison to the PSD increment consumption limits. This analysis included PSD increment-consuming emissions from the Wampum Plant and nearby offsite sources (see Section 8.2.3).

The full impact modeling analysis utilized only receptors with predicted concentrations equal to or greater than the SIL in the preliminary modeling analysis.

The PSD increment consumption analysis results are provided in Section 9.2.2.

8.2.3 Off-Property Sources

Guidance from EPA's *Additional Clarification Regarding Application of Appendix W Modeling Guidance for the 1-hour NO_2 National Ambient Air Quality Standard, March 1, 2011, Clarification on the Use of AERMOD Dispersion Modeling for Demonstrating Compliance with the NO_2 National Ambient Air Quality Standard, September 30, 2014* and *Guidance for $PM_{2.5}$ Permit Modeling (EPA-450/4-87-007)* was followed to develop a cumulative NAAQS impact assessment that includes both monitored and modeled contributions. In the 2011 document, the EPA states that the Guideline on Air Quality Models (40 CFR 51 Appendix W) implies a preference for use of ambient air quality data to account for background concentrations where possible (i.e. instead of explicitly modeling off-property sources). Based on the locations of the proposed representative ambient air monitoring stations, CEMEX believes that explicit modeling of off-property sources is required in order to obtain conservative NAAQS modeling results.

A list of sources in Pennsylvania within 50-km of the Wampum Cement Plant (except for sources in Allegheny County) was provided by Pennsylvania Department of Environmental Protection (DEP) personnel, provided via email from Mr. Daniel Roble on October 4, 2019. The source data reports were obtained from DEPs Air Information Management System (AIMS) and provided actual reported emissions at the emission source and site levels, as well as stack parameters (release height, exit temperature, and flow rate for each emission source). The AIMS report also had UTM coordinates and a permit number for each site. Because a PSD NAAQS modeling demonstration requires maximum allowable or federally enforceable permit limits, the actual emissions data included in the AIMS report could not be used in the modeling analysis. Rather, an emissions inventory was developed by reviewing

permits and extracting permit mass limits and/or data needed to calculate maximum mass rates. These permits were obtained through PA portal files (http://files.dep.state.pa.us/Air/AirQuality/AQPortalFiles/Permits/PermitDocuments/).

Allegheny County sources were provided in a spreadsheet (via email from Mr. Jason Maranche on October 21, 2019) with the necessary information (stack parameters, locations, and maximum allowable emissions rates) to include in the model. The required information from Ohio sources was developed from permits for Ohio sources within the 50-km radius. (https://epa.ohio.gov/dapc/newpermits/issued).

Sources with NO_X emissions located within 43-km of the Wampum Cement Plant were included in the NAAQS demonstration, and sources with SO_2, PM_{10} and $PM_{2.5}$ located within 14-km of the Wampum Cement Plant were included in the NAAQs demonstration. The radius of modeled off-site sources was determined by the SIL demonstration for each pollutant and the addition of several kilometers as a buffer.

In order to assure that the off-property source inventory data would provide a reasonable representation of source emissions and associated potential predicted ambient air concentrations, before using the off-property inventory in the dispersion modeling analyses, the information was examined for completeness, issues and obvious errors. We reviewed stack parameters (as available) and made the following adjustments:

- Any source with a stack release height greater than 65 meters was revised to GEP stack height (i.e., 65 meters).
- Sources for which no stack parameters were provided were modeled with either pseudo point parameters or stack parameters based on those provided for other similar source types. Pseudo point parameters consist of stack height = 1 m, exit velocity = 0.001 m/s, diameter 0.001 m, and exhaust temperature = ambient.

After these adjustments to the inventory were made, a preliminary cumulative impact assessment was conducted. Some of the off-property sources showed unusually large concentrations to the predicted ambient concentrations. Those specific sources warranted further investigation for accuracy and representativeness of their emissions rates, locations, and stack parameters. The following types of adjustments were made to specific sources, as needed and appropriate: Some sources' UTM coordinates were clearly erroneous, so the locations of those sources were corrected.

- Sources that were determined to have been permanently removed, scrapped, shutdown, or phased-out based on the review of permit files or other publicly available information were not included in the modeling analysis.
- In cases where there was clear evidence that a particular fuel could no longer be used at a source, emissions were not based on that particular fuel (e.g., the New Castle power plant was retrofitted for gas in 2016, so emissions used in the modeling were based on gas, rather than coal).
- For a number of sources, the only regulatory requirement for SO_2 was the DEP limitation of a maximum concentration of 500 ppm SO_2 in the exhaust. When natural gas is burned, a 500 ppm SO_2 exhaust limit grossly over-estimates the emissions. In those cases, SO_2 emissions were calculated using the maximum capacity of the unit and the maximum allowable sulfur concentration in natural gas.
- Similarly, for a number of PM sources, the only regulatory requirement was the DEP limitation of 0.4 gr/dscf. When a baghouse is used (and required by the permit), a 0.4 gr/dscf over-estimates

the PM emissions. We used a 0.3 gr/dscf instead, which is still very conservative for baghouse-controlled PM emissions.

- For PM sources, in some cases the $PM_{2.5}$ and PM_{10} emissions were shown to be equal to PM emissions. This is a very conservative assumption. We re-calculated the PM_{10} and $PM_{2.5}$ emissions using factors widely accepted in AP-42 (84% of PM as PM_{10}, 45% of PM as $PM_{2.5}$).
- Sources operating less than 100 hours per year (such as emergency engines) were not included in the 1-hour NO_2 and 1-hour SO_2 NAAQS modeling analysis per EPA guidance (i.e., *EPA's Additional Clarification Regarding Application of Appendix W Modeling Guidance for the 1-hour NO_2 National Ambient Air Quality Standard; March 1, 2011*).

Tables summarizing the exhaust parameters of off-property sources included in the NAAQS and PSD increment analysis are provided in Appendix K. Tables summarizing the emissions of off-property sources included in the NAAQS and PSD increment analyses are provided in Appendix L.

9.0 MODELING RESULTS

The results of the AQA are included in this section. Guidance from the EPA's *Guideline on Air Quality Models* (40 CFR Part 51, Appendix W) and other relevant guidance, was followed in selecting the predicted concentrations used to determine compliance with the NAAQS. Copies of all modeling input and output files are included as part of the electronic files submitted as Appendix M.

9.1 Preliminary Impact Determination

9.1.1 Modeled Emission Rates for Precursors (MERPs) Analysis Results

As described in Sections 8.1.2, a Tier 1 approach was used to estimate the secondary $PM_{2.5}$ impacts associated with the precursor emissions. The calculation is provided as Appendix J. The estimated secondary $PM_{2.5}$ analysis results are summarized in Table 9-1.

TABLE 9-1 MERP ANALYSIS RESULTS

POLLUTANT	AVERAGING PERIOD	ESTIMATED MERP CONCENTRATION (µg/m³)[1]
$PM_{2.5}$	24-hour	0.116
	Annual	0.005

[1] Guidance on the Development of Modeled Emission Rates for Precursors (MERPs) as a Tier 1 Demonstration Tool for Ozone and $PM_{2.5}$ under the PSD Permitting Program April 2018. EPA 454/R-19-003.

These estimated impacts were included in the Area of Significant Impact analysis and in applicable full impact analyses.

9.1.2 Area of Significant Impact (AOI) Analysis Results

As described in Section 8.1.3, this modeling was conducted for Project emissions to determine whether full impact modeling is required and, if so, to determine the AOI. The modeling runs represent the preliminary impact analysis modeling conducted for the proposed allowable emissions of NO_2, CO, SO_2, PM_{10} and $PM_{2.5}$. The predicted ground-level concentrations and SILs are summarized in Table 9-2.

TABLE 9-2 AOI ANALYSIS RESULTS

POLLUTANT	AVERAGING PERIOD	MAXIMUM PREDICTED CONCENTRATIONS AT EACH RECEPTOR (ug/m³)		SIGNIFICANT IMPACT LEVEL (SIL) (µg/m³)
NO_2 [1,2,5]	1-Hour	3-Year Average of 1st High	31.3	7.5
	Annual	1st High (of 3 Years)	2.3	1
CO [2,5]	1-Hour	1st High (of 3 Years)	512.5	2,000
	8-Hour	1st High (of 3 Years)	31.4	500
SO_2 [2,3,5]	1-Hour	3-Year Average of 1st High	9.3	7.8
	3-Hour	1st High (of 3 Years)	5.1	25
	24-Hour	1st High (of 3 Years)	2.1	5
	Annual	1st High (of 3 Years)	0.1	1
PM_{10} [5]	24-Hour	1st High (of 3 Years)	18.3	5
	Annual	1st High (of 3 Years)	3.2	1
$PM_{2.5}$ [4] (Increment)	24-Hour	1st High (of 3 Years)	8.9*	1.2
	Annual	1st High (of 3 Years)	1.5*	0.2
$PM_{2.5}$ [4] (NAAQS)	24-Hour	3-Year Average of 1st High	8.3*	1.2
	Annual	3-Year Average of 1st High	1.5*	0.2

* Includes estimated secondary $PM_{2.5}$ impact from Section 9.1.1 MERP analysis

[1] Additional Clarification Regarding Application of Appendix W Modeling Guidance for the 1-hour NO_2 National Ambient Air Quality Standard; March 1, 2011.

[2] New Source Review Workshop Manual Prevention of Significant Deterioration and Nonattainment Area Permitting (Draft), October 1990, U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Research Triangle Park, NC 27711.

[3] Guidance Concerning the Implementation of the 1-hour SO_2 NAAQS for the Prevention of Significant Deterioration Program August 2010. U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards.

[4] Guidance on Significant Impact Levels for Ozone and Fine Particles in the Prevention of Significant Deterioration, EPA MEMO April 2018, and Technical Basis for the EPA's Development of the Significant Impact Thresholds for $PM_{2.5}$ and Ozone, EPA-454/R-18-001, April 2018.

[5] 40 CFR § 51.165(b)(2) – Permit Requirements.

The predicted 1-hour CO, 8-hour CO, 3-hour SO_2, 24-hour SO_2, and annual SO_2 concentrations are less than their respective SILs. No additional modeling is required for these pollutants and averaging periods. The predicted 1-hour NO_2, annual NO_2, 1-hour SO_2, 24-hour PM_{10}, annual PM_{10}, 24-hour $PM_{2.5}$, and annual $PM_{2.5}$ concentrations are greater than their respective SILs. Therefore, full impact modeling analyses were conducted for these pollutants.

9.1.3 PSD Pre-Application Analysis Results

As described in Section 8.1.4, this modeling was conducted to determine whether the project is exempt from the pre-construction ambient monitoring data gathering requirements. The preliminary modeling was conducted for the proposed PSD-significant project emissions of NO_2, CO, SO_2, PM_{10} and $PM_{2.5}$. The predicted ground-level concentrations and SMC are summarized in Table 9-3.

TABLE 9-3 PSD PRE-CONSTRUCTION MONITORING REQUIREMENT ANALYSIS RESULTS

POLLUTANT	AVERAGING PERIOD	MAXIMUM PREDICTED CONCENTRATIONS AT EACH RECEPTOR (ug/m³)		SIGNIFICANT MONITORING CONCENTRATION (µg/m³)[1]
NO_2	Annual	1st High (of 3 Years)	2.3	14
CO	8-Hour	1st High (of 3 Years)	31.4	575
SO_2	24-Hour	1st High (of 3 Years)	2.1	13
PM_{10}	24-Hour	1st High (of 3 Years)	18.3	10
$PM_{2.5}$	24-Hour	1st High (of 3 Years)	8.9	0 [2]

[1] Ambient Monitoring Guidelines for Prevention of Significant Deterioration (PSD) May 1987, EPA -450/4/87/007
[2] On January 22, 2013, the United States Court of Appeals for the District of Columbia Circuit granted a request from the EPA to vacate and remand to the EPA the portions of two PSD $PM_{2.5}$ rules [40 CFR 51.166(k)(2) and 40 CFR 52.21(k)(2)]

The predicted PM_{10} and $PM_{2.5}$ concentrations are greater than the SMC. CEMEX proposes the use of existing ambient air monitoring data from a representative monitor to meet the PM_{10} and $PM_{2.5}$ pre-construction monitoring data requirement.

A summary of the existing PM_{10} and $PM_{2.5}$ ambient air monitoring data is provided in Table 5-1.

9.2 Full Impact Analysis

9.2.1 NAAQS Analysis Results

Based on the results of the preliminary impact determination, full impact NAAQS modeling analyses are required for 1-hour NO_2, annual NO_2, 1-hour SO_2, 24-hour PM_{10}, annual PM_{10}, 24-hour $PM_{2.5}$, and annual $PM_{2.5}$. The analyses for SO_2, PM_{10}, and $PM_{2.5}$ include off property sources within 14-km of the Wampum Plant; while, the analyses for NO_2 include off property sources within 43-km of the Wampum Plant. The inclusion of off-property sources was determined by the area of impact (with several kilometers as a buffer).

The form of the predicted ground-level concentrations from the NAAQS modeling, the form of the background concentrations and the NAAQS are summarized in Table 9-4. The predicted ground-level concentrations from the NAAQS modeling (project sources plus off-property sources), the representative background concentrations and the total impacts (sum of the two values) are summarized in Table 9-5. The predicted total concentrations are conservative because the background concentration includes contributions from the modeled sources (i.e., modeled existing sources are being double-counted). The total impacts are compared to the NAAQS in Table 9-5.

TABLE 9-4 NAAQS ANALYSIS – FORM OF MODELING RESULTS AND BACKGROUND CONCENTRATION

POLLUTANT	AVERAGING PERIOD	MAXIMUM PREDICTED CONCENTRATIONS AT EACH RECEPTOR (µg/m³)	BACKGROUND CONCENTRATION (µg/m³) [5]	NAAQS (µg/m³)
NO_2	1-Hour	3-Year Average of 98th Percentiles of the Daily 1-Hour Maximums [1]	3-Year Average of 98th Percentiles of the Daily 1-Hour Maximums, 2016-2018	188
	Annual	1st High (of 3 Years)[1]	1st High, 2018	100
SO_2	1-Hour	3-Year Average of 99th Percentiles of the Daily 1-Hour Maximums [2]	3-Year Average of 99th Percentiles of the Daily 1-Hour Maximums, 2016-2018	196
PM_{10}	24-Hour	6th High (of Single 3-Year Period) [3]	2nd High, 2016-2018	150
$PM_{2.5}$	24-Hour	3-Year Average of 98th Percentiles of the Daily Maximums [4]	3-Year Average of 98th Percentiles of the Daily Maximums 2016-2018	35
	Annual	3-Year Average of 1st Highs [4]	3-Year Average of 1st Highs 2016-2018	12

[1]. Additional Clarification Regarding Application of Appendix W Modeling Guidance for the 1-hour NO_2 National Ambient Air Quality Standard; March 1, 2011.
[2]. Guidance Concerning the Implementation of the 1-hour SO_2 NAAQS for the Prevention of Significant Deterioration Program August 2010. U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards.
[3]. New Source Review Workshop Manual Prevention of Significant Deterioration and Nonattainment Area Permitting (Draft), October 1990, U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Research Triangle Park, NC 27711.
[4]. Technical Basis for the EPA's Development of the Significant Impact Thresholds for $PM_{2.5}$ and Ozone, EPA-454/R-18-001, April 2018.
[5]. EPA's website of "monitor values reports", https://www.epa.gov/outdoor-air-quality-data/monitor-values-report (accessed October 21, 2019).

TABLE 9-5 NAAQS ANALYSIS RESULTS

POLLUTANT	AVERAGING PERIOD	MAXIMUM PREDICTED CONCENTRATIONS (µg/m³)[1]	BACKGROUND CONCENTRATION (µg/m³)	TOTAL (µg/m³)	NAAQS (µg/m³)
NO_2	1-Hour	101.8	72.0	173.8	188
	Annual	5.1	16.8	21.9	100
SO_2	1-Hour	136.2	39.2	175.5	196
PM_{10}	24-Hour	17.1	107.0	124.1	150
$PM_{2.5}$	24-Hour	8.3*	19.3	27.1	35
	Annual	2.2*	9.0	11.2	12

* Includes estimated secondary $PM_{2.5}$ impact from Section 9.1.1 MERP analysis
[1] Maximum concentrations are based on a 50m spacing localized cartesian grid.

The predicted total NO_2, SO_2, PM_{10}, and $PM_{2.5}$, concentrations are less than the NAAQS for all applicable averaging periods.

9.2.2 PSD Increment Consumption Analysis Results

Based on the results of the preliminary impact determination, full impact PSD Increment Consumption modeling analyses are required for annual NO_2, 24-hour PM_{10}, annual PM_{10}, 24-hour $PM_{2.5}$, and annual $PM_{2.5}$. The analyses for PM_{10}, PM_{10}, and $PM_{2.5}$, include off property sources within 14-km of the

Wampum Plant. The analysis for NO_2 include off property sources within 43-km of the Wampum Plant. The inclusion of off-property sources was determined by the area of impact (with several kilometers as a buffer). Using the NAAQS inventory of allowable emissions to conservatively estimate increment, the predicted ground-level concentrations and PSD increment consumption limits are summarized in Table 9-6.

TABLE 9-6 PSD INCREMENT CONSUMPTION ANALYSIS RESULTS

POLLUTANT	AVERAGING PERIOD	MAXIMUM PREDICTED CONCENTRATIONS AT EACH RECEPTOR (µg/m³)[1]		PSD INCREMENT CONSUMPTION LIMIT (µg/m³) [2]
NO_2	Annual	1st High (of 3 Years)	5.1	25
PM_{10}	24-Hour	2nd High (of 3 Years)	19.6	30
	Annual	1st High (of 3 Years)	4.1	17
$PM_{2.5}$	24-Hour	2nd High (of 3 Years)	8.8*	9
	Annual	1st High (of 3 Years)	1.8*	4

* Includes estimated secondary $PM_{2.5}$ impact from Section 9.1.1 MERP analysis
[1] Maximum concentrations are based on a 50m spacing localized cartesian grid.
[2] New Source Review Workshop Manual Prevention of Significant Deterioration and Nonattainment Area Permitting (Draft), October 1990, U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Research Triangle Park, NC 27711.

The predicted NO_2, PM_{10} and $PM_{2.5}$ concentrations are less than the PSD increment consumption limits for all applicable averaging periods.

10.0 ADDITIONAL IMPACT ANALYSIS

10.1.1 Growth Analysis

Pursuant to federal PSD regulations, CEMEX is required to conduct an analysis of general commercial, residential, industrial, and other growth in the area associated with the Project. The Project is not anticipated to have significant impacts on secondary growth in the Wampum/Lawrence County area. The construction phase of the Project will generate up to several hundred jobs; however, these jobs will be temporary. Many of the temporary positions will be filled by local residents, as according to the Lawrence County profile provided by the Pennsylvania Department of Labor and Industry, approximately 2,131 county residents worked in the construction industry in 2018, *Lawrence County Employment Profile. Pennsylvania Department of Labor and Industry, Center for Workforce Information and Analysis (www.workstats.dli.pa.gov). September 2019*. A portion of the construction workforce may be filled by workers commuting to the Project site from other nearby communities (e.g., Elwood City). There is sufficient short-term housing in these other nearby communities, as well as other services available to accommodate the temporary workforce.

Once the Project is completed, CEMEX will employ approximately 150 full-time staff at the plant. This represents a relatively small portion of the local population, conservatively assuming that all full-time employees would be considered new residents of the area. In addition, there are adequate commercial services (including services available in Elwood City) to support this potential permanent increase in the workforce in at the plant.

The new industrial jobs at the CEMEX plant may lead to a small number of local support jobs; however, the relatively small number of permanent positions is not expected to cause significant commercial or industrial growth in Wampum or the nearby communities

10.1.2 Visibility Impairment Analysis

A screening visibility analysis was performed to determine any potential impacts on visibility that the proposed stack emissions (i.e., plume blight) could have at the McConnell's Mill State Park. McConnell's Mill State Park is the closest State Park to the project site being approximately 13-km to the east-northeast of the proposed project site. The screening analysis indicates no potential for visibility impairment at the State Park.

The screening visibility analysis followed the procedures and recommendations given in the U.S. EPA document entitled *Workbook for Plume Visual Impact Screening and Analysis (Revised) (EPA-454/R-92-023; October 1992)*.

PM_{10} and NO_X emissions are key to the visual impact of a plume. Short-term emissions for the proposed stack plume at the project site (3.23 g/s, and 24.57 g/s for PM_{10}, and NO_X, respectively) were input to VISCREEN. Following guidance given in the Workbook for Plume Visual Impact Screening and Analysis (Revised), the VISCREEN default emission rate of 0 g/s was input for primary NO_2, soot and sulfate. In addition, a background visual range of 20-km (from Figure 9 of the Workbook for Plume Visual Impact Screening and Analysis (Revised)), representative of the region, was input to VISCREEN.

First, a Level-1 screening analysis was performed to provide a very conservative estimate of potential plume visual impact. The conservatism results in part by assuming worst-case meteorological conditions during plume transport and dispersion. Specifically, extremely stable (stability class F (or 6)) atmospheric conditions coupled with a very low wind speed (1 m/s) are used in the VISCREEN model for the Level-1 screening analysis. The default input parameters of VISCREEN were invoked to accomplish the Level-1 analysis. The results of the very conservative Level-1 analysis, presented in Table 10-1, suggest that there may be a potential for visibility impairment at the State Park. The specific results correspond to the output of the VISCREEN model (see Appendix M).

TABLE 10-1 LEVEL-1 SCREENING ANALYSIS FOR THE MCCONNELL'S MILL STATE PARK

BACKGROUND	SUN WITH RESPECT TO OBSERVER	DISTANCE FROM SOURCE TO OBSERVED PLUME (km)	ΔE		CONTRAST	
			CRITERIA	PLUME*	CRITERIA	PLUME*
Sky	In front of	10.0	2.00	**5.530**	0.05	-0.005
Sky	Behind	10.0	2.00	1.751	0.05	-0.026
Terrain	In front of	10.0	2.00	**2.244**	0.05	0.024
Terrain	Behind	10.0	2.00	0.661	0.05	0.018

* Absolute value of modeled estimate is compared to the visibility screening criteria.

Since the Level-1 results exceed a screening criterion, a Level-2 screening analysis was performed. Section 4 (Level-2 Screening) of the Workbook for Plume Visual Impact Screening and Analysis (Revised) describes the Level-2 screening analysis as basically identical to the Level-1 screening analysis but using more realistic inputs representative of the source and the sensitive Class II area. Section 4 of the VISCREEN guidance emphasizes that the most important input specification for a Level-2 screening analysis is the determination of the representative, worst-case plume dispersion condition.

In determining the representative, worst-case plume dispersion condition, potential plume dispersion conditions were calculated, then ranked from most severe with respect to the effect on plume visibility (i.e., lowest plume dispersion potential) to least severe with respect to the effect on plume visibility (i.e., highest plume dispersion potential). Section 4 of the guidance specifies the dispersion condition (in the

units of m^3/s) as the product of the horizontal dispersion parameter (σ_y (m)), the vertical dispersion parameter (σ_z (m)) and the wind speed (u (m/s)). As this product increases, plume dispersion increases. Appendix E of the guidance is used to calculate σ_y and σ_z, as suggested in the guidance. Table 10-2 presents the ranking of dispersion conditions from most severe to least severe, as well as the corresponding plume travel times from the stack to an observer, for the McConnell's Mill State Park.

TABLE 10-2 RANKING OF POTENTIAL PLUME DISPERSION CONDITIONS FOR THE MCCONNELL'S MILL STATE PARK

DISPERSION CONDITION (STABILITY, WIND SPEED)	SY*SZ*U (M^3/S)	TRANSPORT TIME (HR)
F,1	1.77E+04	7.2
F,2	3.54E+04	2.4
E,1	4.59E+04	7.2
F,3	5.31E+04	1.4
E,2	9.19E+04	2.4
D,1	1.07E+05	7.2
E,3	1.38E+05	1.4
E,4	1.84E+05	1.0
D,2	2.15E+05	2.4
E,5	2.30E+05	0.8
D,3	3.22E+05	1.4
D,4	4.30E+05	1.0
D,5	5.37E+05	0.8
D,6	6.44E+05	0.7
D,7	7.52E+05	0.6
D,8	8.59E+05	0.5

To identify the representative, worst-case dispersion condition, Section 4 of the guidance recommends focusing on the wind direction sector which would be responsible for transporting the stack plume to the Class II area of interest. For this wind direction sector, the Section 4 guidance recommends evaluating the joint frequency of occurrence of stability class and wind speed relating to the potential dispersion conditions, then evaluate the cumulative frequency as you progress down the dispersion condition rankings. The representative, worst-case dispersion condition would be selected such that the sum of all frequency of occurrence of dispersion conditions worse than the selection totals 1 percent (over a time period such as a 6-hr block over the year). However, in this Level-2 screening analysis a conservative representative, worst-case dispersion condition is used.

Since the Park is only open during daylight hours, the focus is on stability classes A through D because these stability conditions are defined to occur when the sun is above the horizon (i.e., during the day). Note stability class D also can occur during the night (along with the stable stability classes E and F which are defined to occur at night). As identified in Table 10-2, the most conservative dispersion condition representative of daytime-defined stability conditions is the condition relating to stability class D (neutral stability) with a very low wind speed of 1 m/s. This dispersion condition is considered the conservative representative, worst-case dispersion condition since the actual wind direction and the joint frequency of occurrence of stability and wind speed were not factors in the worst-case determination. This conservative representative, worst-case dispersion condition was input to VISCREEN for the Level-2 screening analysis. The other input parameters for this specific Level-2 screening analysis were the same as those used in the Level-1 analysis.

Table 10-3 presents the summary results of the Level-2 visibility screening analysis for the McConnell's Mill State Park. The specific results correspond to the output of the VISCREEN model (see Appendix M).

TABLE 10-3 LEVEL-2 SCREENING ANALYSIS FOR THE MCCONNELL'S MILL STATE PARK

BACKGROUND	SUN WITH RESPECT TO OBSERVER	DISTANCE FROM SOURCE TO OBSERVED PLUME (km)	ΔE		CONTRAST	
			CRITERIA	PLUME*	CRITERIA	PLUME*
Sky	In front of	10.0	3.34	2.039	0.05	-0.002
Sky	Behind	10.0	2.00	0.650	0.05	-0.009
Terrain	In front of	10.0	2.98	0.813	0.05	0.008
Terrain	Behind	10.0	2.00	0.238	0.05	0.006

* Absolute value of modeled estimate is compared to the visibility screening criteria.

The Level-2 analysis results indicate that the plume perceptibility screening criteria (total color contrast – Delta E (ΔE) – and the green contrast – Contrast) are not exceeded for both a sky and terrain background. Thus, no visibility impairment is expected at the McConnell's Mill State Park, the closest State Park to the proposed project.

10.1.3 Soils and Vegetation Analysis

Pursuant to federal PSD regulations, CEMEX is required to conduct an analysis of ambient impacts to sensitive vegetation types with significant commercial or recreational value, as well as sensitive soil types. The analysis of vegetation types was performed by comparing the maximum model-predicted impacts from the Project to secondary NAAQS and the AQRV screening concentrations provided in EPA's A Screening Procedure for the Impacts of Air Pollution Sources on Plants, Soils, and Animals, *U.S. EPA. A Screening Procedure for the Impacts of Air Pollution Sources on Plants, Soils, and Animals. U.S. EPA, Research Triangle Park, NC. December 12, 1980. EPA 450/2-81-078*. Table 10-2 gives the screening levels and NAAQS applicable to the analysis of sensitive vegetation types.

TABLE 10-2 SECONDARY NAAQS ANALYSIS RESULTS

POLLUTANT	AVERAGING PERIOD	AQRV SCREENING LEVELS (µg/m³)	SECONDARY NAAQS (µg/m³) [1]
SO_2	1-hour	917	-
	3-hour	783	1,300
	24-hour	-	-
	Annual	18	-
PM_{10}	24-hour	-	150
	Annual	-	-
$PM_{2.5}$	24-hour	-	35
	Annual	-	15
NO_2	1-hour	-	-
	4-hour	3,760	-
	8-hour	3,760	-
	1-month	564	-
	Annual	94	100

POLLUTANT	AVERAGING PERIOD	AQRV SCREENING LEVELS (µg/m³)	SECONDARY NAAQS (µg/m³) [1]
CO	1-hour	-	-
	8-hour	-	-
	Weekly	1,800,000	-

[1]. U.S. EPA. A Screening Procedure for the Impacts of Air Pollution Sources on Plants, Soils, and Animals. U.S. EPA, Research Triangle Park, NC. December 12, 1980. EPA 450/2-81-078

The maximum model-predicted impacts for the Project, as shown in Section 9 (Table 9-2), are below the screening levels and NAAQS. Therefore, sensitive vegetation types in the region around the Project location will not be adversely affected by Project emissions.

The U.S. Department of Agriculture Natural Resources Conservation Service's Web Soil Survey (WSS) tool, https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx (accessed October 18, 2019), was used to determine the predominant soil types in the region around the Project site. The WSS review area was centered on the Project site and comprised an area of approximately 10,000 acres. The predominant soil types in the region are a variety of silt and gravelly loams.

The most notable potential effect from the air pollutants emitted by the Project is the modification of soil chemistry through acidic deposition. However, the soil types identified by the WSS analysis have a moderate to high buffering capacity, which act to mitigate the effect of acidic deposition. Also, hydrated lime injection and SNCR control systems on the kiln will reduce NO_X and SO_X emissions that can form acidic compounds in the atmosphere.

In addition to criteria pollutants, the Project results in emissions of several non-criteria pollutants, including various metals, mercury, organics including dioxins and furans, and hydrochloric acid. Cemex also investigated the potential impact of these pollutants on soils and vegetation. As described below, these pollutants are regulated under the National Emissions Standards for Hazardous Air Pollutants (NESHAP) program.

The Clean Air Act (CAA) Amendments of 1990 required EPA to develop a two-stage regulatory process for the NESHAP program to address hazardous air pollutants (HAPs) from industrial sources. The NESHAP program initially requires technology-based standards, which are called Maximum Achievable Control Technology (MACT) standards. In the second stage, the CAA requires a Risk and Technology Review (RTR), which evaluates the risk after application of the technology-based standards to determine if the standard prevents adverse environmental effects. The MACT regulation for Portland Cement plants was initially promulgated on June 14, 1999 under 40 CFR 63, Subpart LLL. The rule has been amended several times. The RTR for this rule was proposed on September 21, 2017 and finalized on July 25, 2018. In order to determine the potential for adverse environmental effects (as defined by 112(f)(2)(A)) of the CAA), EPA conducted an environmental assessment, using ecological assessment endpoints and benchmarks, focusing on six pollutants. These HAPs included one acid gas HAPs (HCl) and five HAPs known to be persistent and bioaccumulative in the environment (PB-HAP)_(mercury, arsenic, cadmium, lead, dioxin/furan). The acid gas HAP was included due to its well-documented potential to cause direct damage to terrestrial plants. PB HAPs were included in the environmental assessment because they accumulate in the soil, sediment and water. In the final rule, EPA concluded that, based on the results of the environmental assessment, there was not an adverse environmental effect from the Portland Cement Manufacturing Industry. (83 Fed. Reg. 35128 (July 25, 2018)). The Project is subject to the emissions standards, and as a result of the findings of RTR, the non-criteria pollutants will be controlled such that

their ambient concentrations will not cause adverse environmental effects, including the impacts to soils and vegetation.

11.0 CLASS I AREAS

With any AQA analysis Class I areas must be reviewed and analyzed for potential impacts. Class I areas are designated Federal lands such as national parks and wildlife refuges, considered the most pristine areas where a minimal amount of ambient air impacts is allowed. The *Federal Land Managers' Air Quality Related Values Work Group (FLAG) Phase I Report Revised 2010, NPA.NRPC,NRR- 2010/232,* guidance suggests that a source located greater than 50-km from a Class I area is considered to have a negligible impact on the Class I area if its total SO_2, NO_X, PM_{10}, and H_2SO_4 annual potential emissions (in tons per year) divided by the distance from the source to the Class I area (in kilometers) is less than 10. This analysis is commonly known as the "Q/d" analysis, where the total annual emissions of SO_2, NO_X, PM_{10}, and H_2SO_4 (based on 24-hour maximum allowable emissions), see Table 11-1, are designated as "Q," and the distance from the source to the Class I area is designated as "d".

TABLE 11-1 SITEWISE EMISSIONS "Q" IN TONS PER YEAR

PLANT	PM_{10}	SO_2	NO_X	H_2SO_4	TOTAL
Wampum Cement Plant	245.9	227.8	861.0	6.3	1,397

The nearby Class I areas to the Wampum Plant and the "Q/d" analysis are provided in Table 11-2.

TABLE 11-2 CLASS I "Q/D" ANALYSIS

CLASS I AREA	DISTANCE FROM PROJECT SITE (KM) "D"	TOTAL SITEWIDE EMISSIONS (TPY) "Q"	Q/D
Otter Creek Wilderness	209	1,397	6.7
Dolly Sods Wilderness	215	1,397	6.5
Shenandoah National Park	284	1,397	4.9

As indicated by the "Q/d" analysis, no further air quality analysis of Class I AQRVs (including visibility) is required. A map of the Class I areas is provided as Appendix D.

11.1 Class I PSD Increments

A Class I SIL analysis was completed for receptors located at the Otter Creek Wilderness, Dolly Sods Wilderness, and Shenandoah National Park Class I areas, the closest Class I areas to the project site. Receptors at the aforementioned Class I areas were used in the model and results were compared to the Class I PSD SILs. Receptors for the Class I areas were retrieved from National Park Service, https://www.nps.gov/subjects/air/permitresources.htm (Accessed November 2019 and https://irma.nps.gov/DataStore/Reference/Profile/2249830 (Accessed July 2020).

TABLE 11-3 CLASS I PSD SIL ANALYSIS RESULTS

POLLUTANT	AVERAGING PERIOD	MAXIMUM PREDICTED CONCENTRATIONS AT EACH RECEPTOR (ug/m³)		CLASS I SIGNIFICANT IMPACT LEVEL (SIL) (µg/m³)
NO_2 [1]	Annual	1st High (of 3 Years)	0.0057	0.1
SO_2 [1]	3-Hour	1st High (of 3 Years)	0.1806	1
	24-Hour	1st High (of 3 Years)	0.0271	0.2
	Annual	1st High (of 3 Years)	0.0015	0.1
PM_{10} [1]	24-Hour	1st High (of 3 Years)	0.0138	0.3
	Annual	1st High (of 3 Years)	0.0009	0.2
$PM_{2.5}$ [2]	24-Hour	1st High (of 3 Years)	0.1278*	0.27
	Annual	1st High (of 3 Years)	0.0056*	0.05

* Includes estimated secondary $PM_{2.5}$ impact from Section 9.1.1 MERP analysis
[1] Proposed Class I PSD Increment SILs published July 23, 1996 Federal Register.
[2] Guidance on Significant Impact Levels for Ozone and Fine Particles in the Prevention of Significant Deterioration, EPA MEMO April 2018.

Based on the Class I PSD SIL analysis results, the Wampum Plant has demonstrated that its emissions will not cause or contribute to violations of Class I PSD Increment Standards for NO_2, SO_2, PM_{10}, and $PM_{2.5}$.

12.0 MODELING INPUT AND OUTPUT FILES

As required, electronic copies of the following items are provided in the AQA submitted to the DEP as Appendix M:

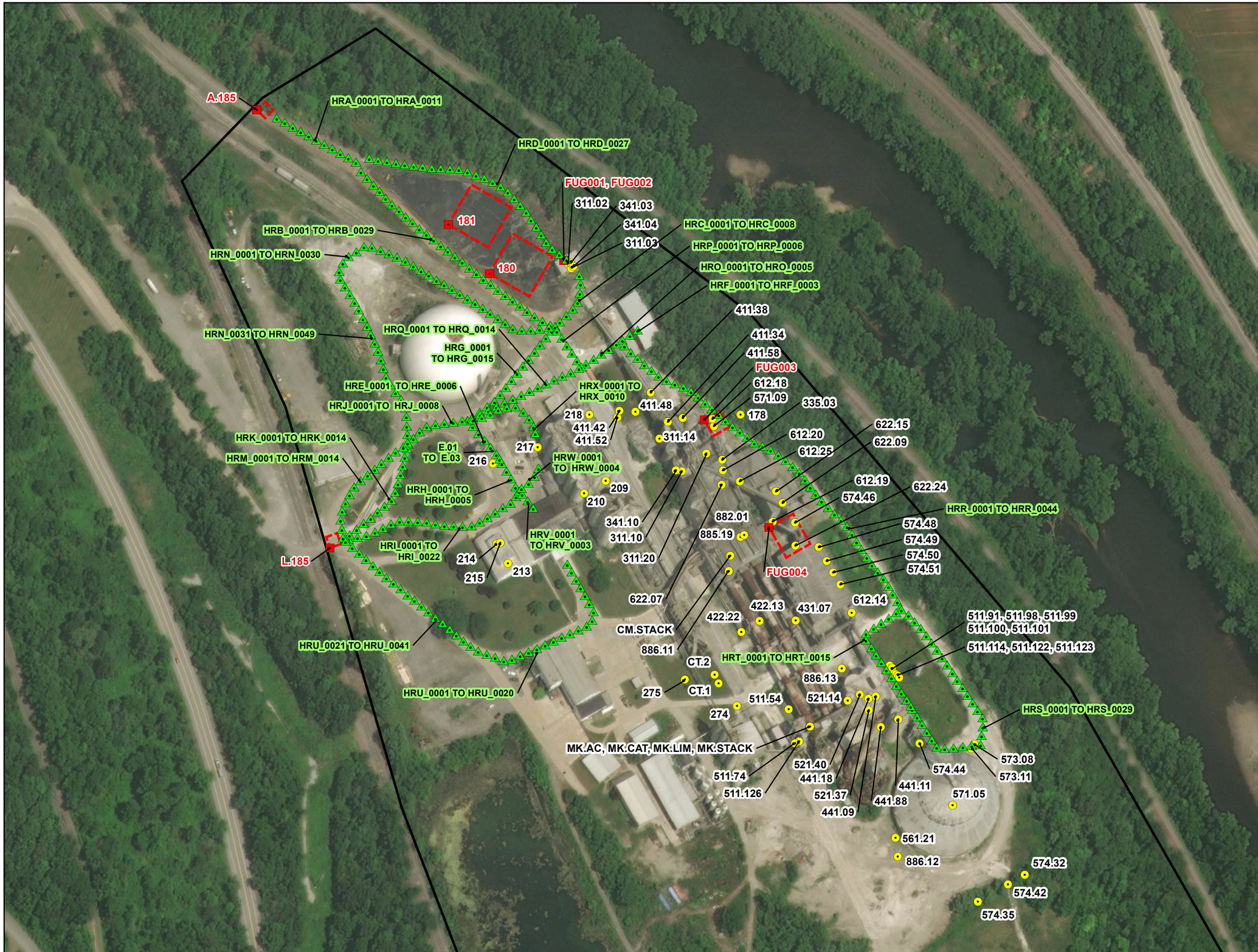
- Input and output modeling files,
- Files produced by a software entry program,
- Automatic downwash program input and output files,
- Meteorological data files and model performance evaluation,
- Boundary property files,
- Spreadsheet files used for to determine air of impact.

APPENDIX A PLOT PLAN - REVISED

CEMEX - WAMPUM CEMENT PLANT

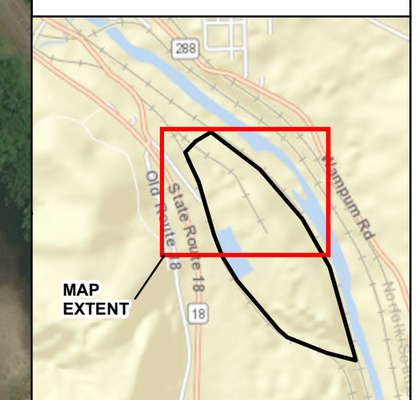
MODELING PLOT PLAN ROADS 02

Lawrence County Pennsylvania



Legend

- Point Source
- Area Source
- Volume Source
- Area Source
- Property Boundary



0 100 200 300

Feet

POWER ENGINEERS

Date: 10/27/2020

Path: C:\Users\jknowles\OneDrive - POWER Engineers, Inc\Desktop\CEMEX_Wampum GIS\2020_Modeling_Updates\Modeling_Plot_Plan_02.mxd Basemap Layers: ESRI- Streets and World Topographic Map

APPENDIX B PLANT STRUCTURES

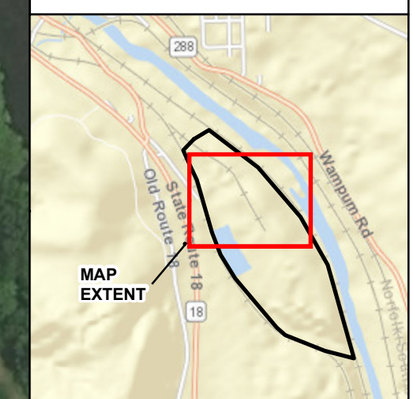
CEMEX - WAMPUM
CEMENT PLANT

DOWNWASH STRUCTURES

Lawrence County
Pennsylvania

Legend

- Downwash Structure
- Property Boundary



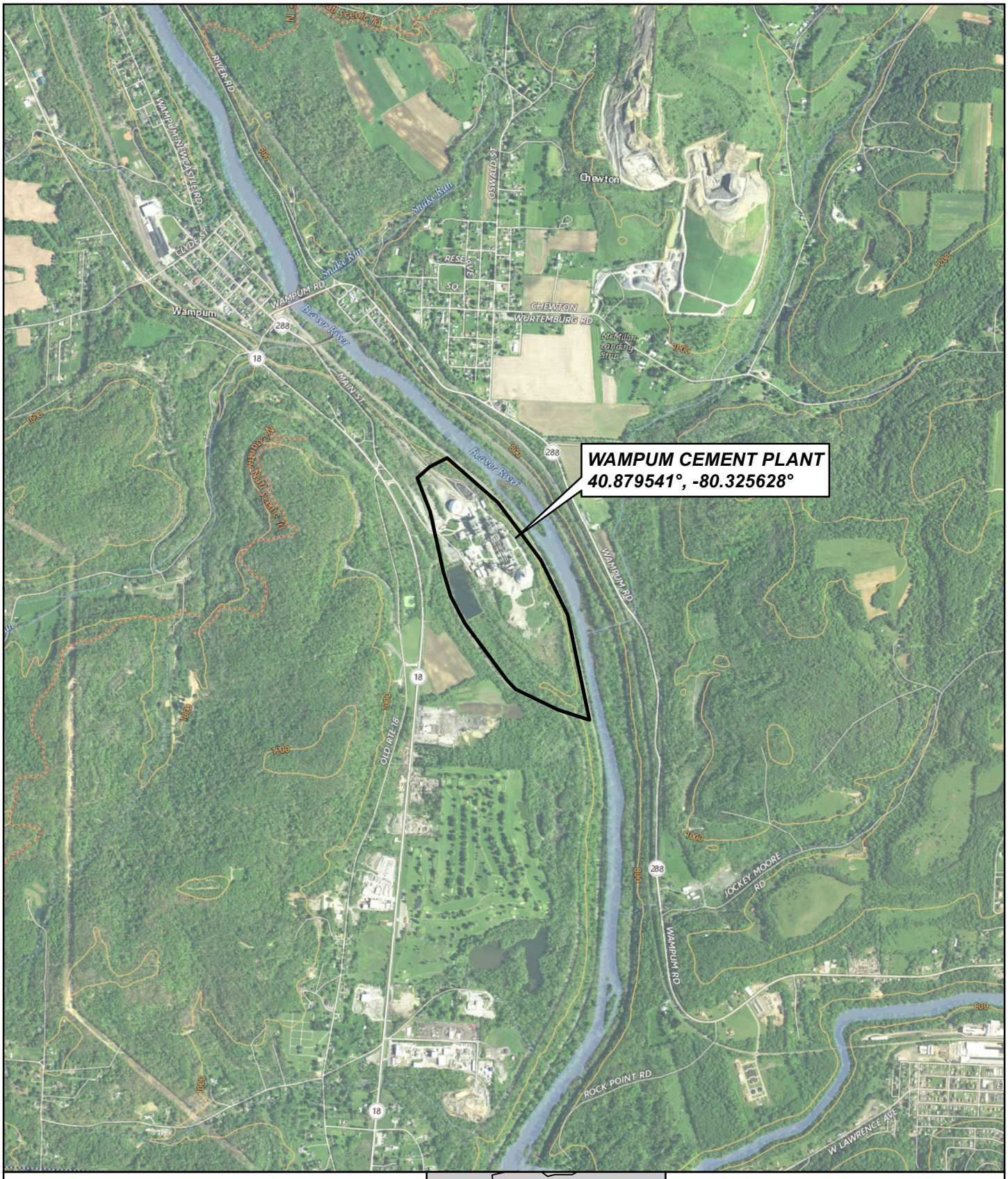
0 100 200 300
Feet

POWER ENGINEERS

Date: 12/4/2019

Path: H:\Cemex\Wampum GIS\Downwash_Structures.mxd Basemap Layers: ESRI- Streets and World Topographic Map

APPENDIX C AREA MAP



Legend

Property Boundary

0 1,000 2,000
Feet

CEMEX - WAMPUM CEMENT PLANT

AREA MAP

LAWRENCE COUNTY, PA

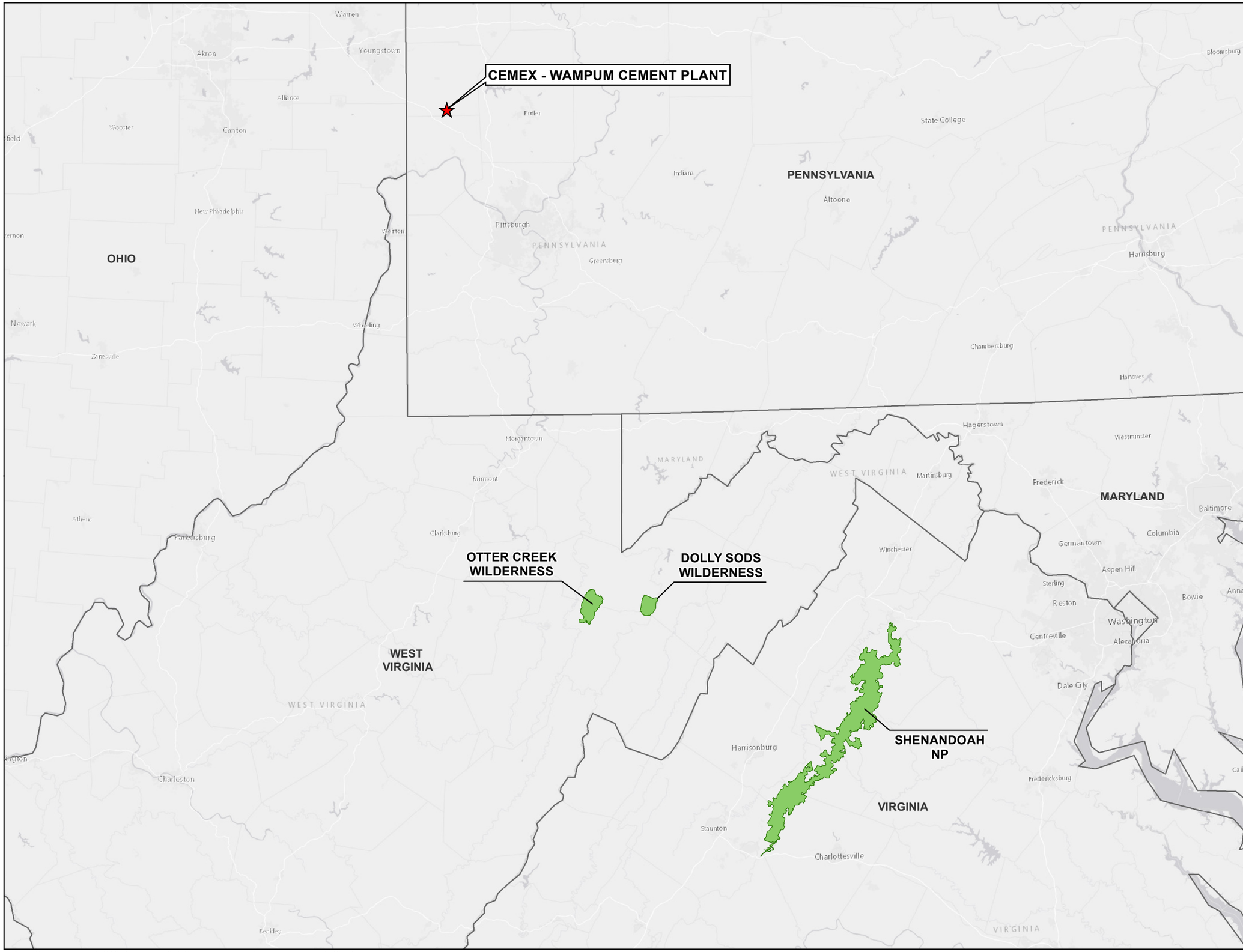
Map Source: USGS Topographic Map

POWER ENGINEERS

Date: 11/1/2019

Path: H:\Cemex\Wampum GIS\Area_Map.mxd

APPENDIX D PSD CLASS I AREAS



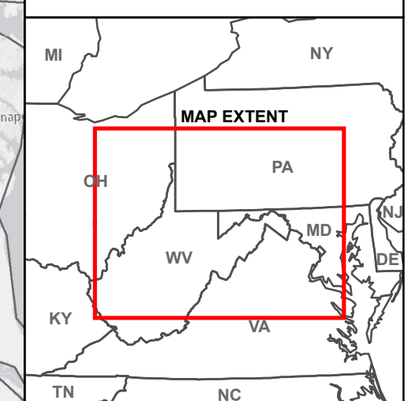
CEMEX - WAMPUM CEMENT PLANT

NEAREST CLASS I AREAS

Lawrence County Pennsylvania

Legend

- Mandatory Class I Federal Area
- State Boundary



0 25 50
Miles

POWER ENGINEERS

Date: 12/4/2019

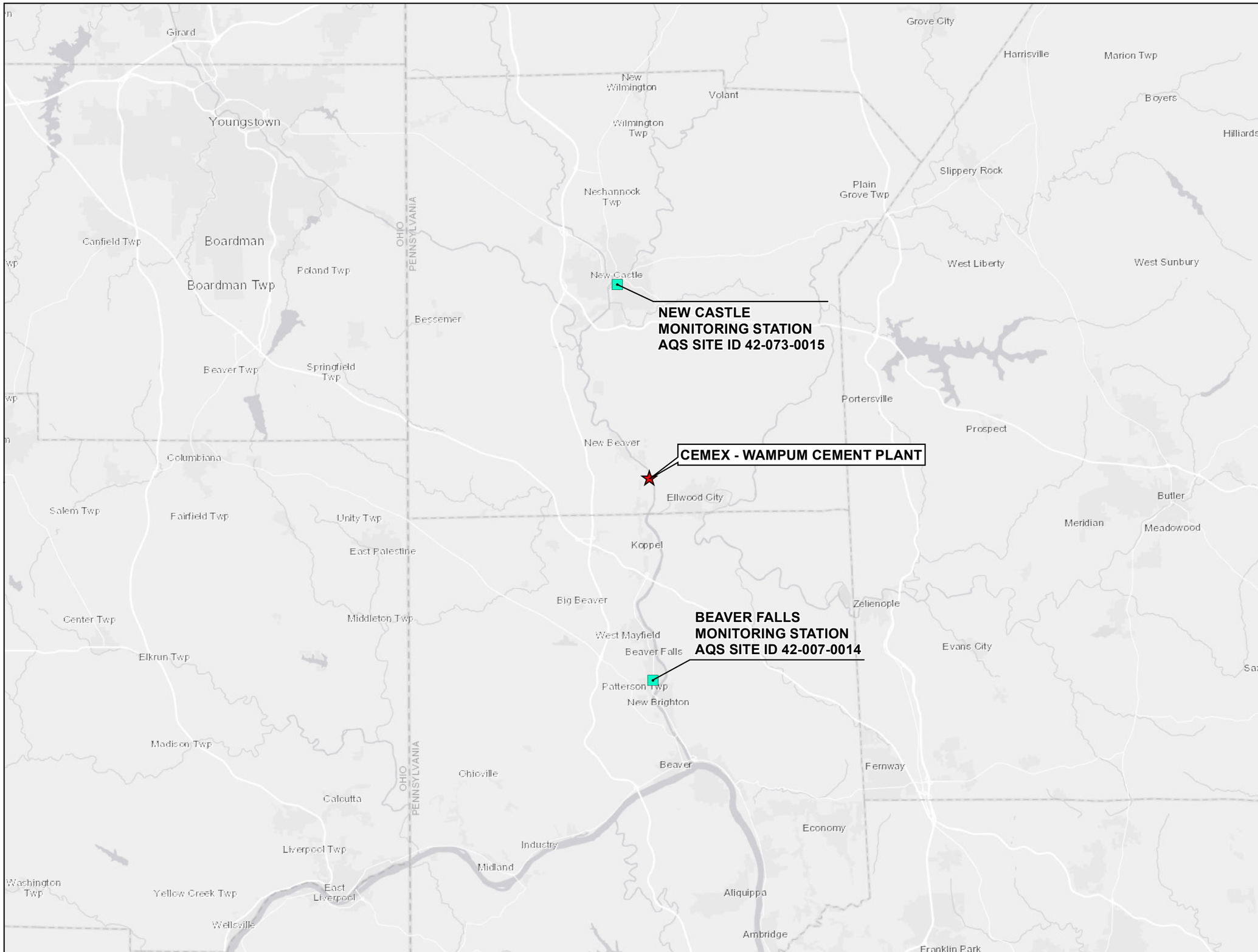
Path: H:\Cemex\Wampum GIS\2019_Modeling\PSD_ClassI_Areas.mxd Basemap Layers: ESRI- Streets and World Topographic Map

APPENDIX E MAP OF MONITOR STATIONS

CEMEX - WAMPUM CEMENT PLANT

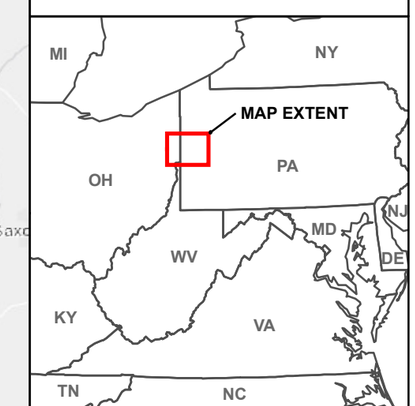
AIR MONITORING STATION LOCATIONS

Lawrence County
Pennsylvania



Legend

- Facility Location
- Monitor Station Location



0 2.5 5
Miles

POWER ENGINEERS

Date: 12/4/2019

Path: H:\Cemex\Wampum GIS\2019_Modeling\Monitor_Locations.mxd Basemap Layers: ESRI- Streets and World Topographic Map

APPENDIX F PROJECT MODELED EMISSIONS RATES - REVISED

MODELED EMISSION RATES - POINT SOURCES (grams/sec)
CEMEX
Wampum Cement Plant

Emission Point Identification Number	Modeling ID	Description	NOx		CO		PM10		PM2.5		SO2			
			ST01	ANN	ST01	ST08	ST24	ANN	ST24	ANN	ST01	ST03	ST24	ANN
CT	CT.1	Cooling Tower					1.3743E-04	1.3743E-04	5.9550E-07	5.9550E-07				
CT	CT.2	Cooling Tower					1.3743E-04	1.3743E-04	5.9550E-07	5.9550E-07				
274	274	Emergency Engine		0.1990	0.2733	0.0342	5.9028E-04	8.0860E-04	5.9028E-04	8.0860E-04		5.9212E-04	7.4015E-05	1.0139E-04
275	275	Fire Water Pump		0.0087	0.1322	0.0165	3.1771E-04	4.3522E-04	3.1771E-04	4.3522E-04		9.5049E-05	1.1881E-05	1.6276E-05
263	MK.CAT	Selective Non-Catalytic Reduction (SNCR)	24.5700	24.5700										
263	MK.LIM	Hydrated Lime Control System									6.5520	6.5520	6.5520	6.5520
263	MK.AC	Activated Carbon Control System												
263	MK.Stack	Kiln Exhaust Baghouse - 511-03-312-04			22.6044	22.6044	3.2236	3.2236	2.7889	2.7889				
259	431.07	Baghouse - 431-07-312-01					0.0153	0.0153	0.0082	0.0082				
260	441.09	Baghouse - 441-09-312-04					0.0514	0.0514	0.0275	0.0275				
260	441.11	Baghouse - 441-11-312-04					0.0377	0.0377	0.0202	0.0202				
260	441.18	Baghouse - 441-18-312-04					0.0291	0.0291	0.0156	0.0156				
260	441.88	Baghouse - 441-88-312-04					0.0136	0.0136	0.0073	0.0073				
265	511.54	Baghouse - 511-54-312-04					0.0075	0.0075	4.0202E-03	4.0202E-03				
263	511.114	Baghouse - 511-114-312-04					0.0059	0.0059	3.1862E-03	3.1862E-03				
263	511.122	Baghouse - 511-122-312-04					1.9958E-03	1.9958E-03	1.0692E-03	1.0692E-03				
263	511.123	Baghouse - 511-123-312-04					1.9958E-03	1.9958E-03	1.0692E-03	1.0692E-03				
265	511.126	Baghouse - 511-126-312-04					1.5168E-03	1.5168E-03	8.1259E-04	8.1259E-04				
261	521.14	Baghouse - 521-14-312-04					0.0335	0.0335	0.0180	0.0180				
261	521.37	Baghouse - 521-37-312-04					0.0099	0.0099	0.0053	0.0053				
260	521.40	Baghouse - 521-40-312-04					0.0150	0.0150	0.0080	0.0080				
265	511.74	Baghouse - 511-74-312-04					0.0105	0.0105	0.0056	0.0056				
263	511.91	Baghouse - 511-91-312-04					4.5106E-03	4.5106E-03	2.4164E-03	2.4164E-03				
263	511.98	Baghouse - 511-98-312-04					1.5168E-03	1.5168E-03	8.1259E-04	8.1259E-04				
263	511.99	Baghouse - 511-99-312-04					1.5168E-03	1.5168E-03	8.1259E-04	8.1259E-04				
263	511.100	Baghouse - 511-100-312-04					1.5168E-03	1.5168E-03	8.1259E-04	8.1259E-04				
263	511.101	Baghouse - 511-101-312-04					1.5168E-03	1.5168E-03	8.1259E-04	8.1259E-04				
271	622.07	Baghouse - 622-07-312-01					0.0725	0.0725	0.0388	0.0388				
271	612.25	Baghouse - 612-25-312-01					0.0220	0.0220	0.0118	0.0118				
273	622.09	Baghouse - 622-09-312-02					0.1550	0.1550	0.0830	0.0830				
272	622.24	Baghouse - 622-24-312-02					0.0057	0.0057	3.0793E-03	3.0793E-03				
273	622.15	Baghouse - 622-15-312-02					0.0329	0.0329	0.0177	0.0177				
262	CM.Stack	Coal Mill Baghouse - 885-11-312-01					0.1568	0.1568	0.0840	0.0840				
262	886.11	Baghouse - 886-11-312-01					0.0058	0.0058	3.1201E-03	3.1201E-03				
262	886.12	Baghouse - 886-12-312-01					0.0070	0.0070	3.7422E-03	3.7422E-03				
262	886.13	Baghouse - 886-13-312-01					3.1752E-03	3.1752E-03	1.7010E-03	1.7010E-03				
209	209	Baghouse - EAST CEMENT SILOS (18-29)					0.0465	0.0465	0.0249	0.0249				
210	210	Baghouse - WEST CEMENT SILOS (6-17)					0.0465	0.0465	0.0249	0.0249				
213	213	Baghouse - South Packer Baghouse					0.0598	0.0598	0.0321	0.0321				
214	214	Baghouse - North Packer Baghouse					0.0598	0.0598	0.0321	0.0321				
215	215	Baghouse - Masonry Packer Baghouse					0.0598	0.0598	0.0321	0.0321				
216	216	Baghouse - EAST/WEST TRUCK LOADING Baghouse					0.0176	0.0176	0.0094	0.0094				
217	217	Baghouse - NEW TRUCK LOADING Baghouse (Scale 3)					5.1662E-05	4.7416E-05	7.8231E-06	7.1801E-06				
218	218	Baghouse - RAILCAR LOADING Baghouse					0.0194	0.0194	0.0104	0.0104				
252	311.02	Baghouse/Transfer - 311-02-312-01												
252	311.03	Baghouse/Transfer - 311-03-312-01												
254	311.10	Baghouse/Transfer - 311-10-312-01					2.4217E-05	2.2227E-05	6.8441E-06	6.2815E-06				
254	311.14	Baghouse/Transfer - 311-14-312-01					2.9022E-06	2.6636E-06	8.2018E-07	7.5276E-07				
254	571.09	Baghouse/Transfer - 571-09-312-01					4.2062E-06	3.8605E-06	1.1887E-06	1.0910E-06				
254	311.20	Baghouse/Transfer - 311-20-312-01					5.8943E-06	5.4098E-06	1.6658E-06	1.5289E-06				
253	341.03	Baghouse/Transfer - 341-03-312-01												
253	341.04	Baghouse/Transfer - 341-04-312-01												
255	341.10	Baghouse/Transfer - 341-10-312-01					4.7372E-06	4.3478E-06	1.3388E-06	1.2287E-06				
255	335.03	Baghouse/Transfer - 335-03-312-01					4.3208E-07	3.9657E-07	1.2211E-07	1.1207E-07				
256	411.34	Baghouse/Transfer - 411-34-312-01					1.0820E-05	9.9302E-06	3.0577E-06	2.8064E-06				

MODELED EMISSION RATES - POINT SOURCES (grams/sec)
CEMEX
Wampum Cement Plant

Emission Point Identification Number	Modeling ID	Description	NOx		CO		PM10		PM2.5		SO2			
			ST01	ANN	ST01	ST08	ST24	ANN	ST24	ANN	ST01	ST03	ST24	ANN
257	411.48	Baghouse/Transfer - 411-48-312-01					5.6572E-06	5.1923E-06	1.5988E-06	1.4674E-06				
257	411.52	Baghouse/Transfer - 411-52-312-01					2.2583E-05	2.0727E-05	6.3821E-06	5.8575E-06				
256	411.58	Baghouse/Transfer - 411-58-312-01					3.7233E-06	3.4173E-06	1.0522E-06	9.6575E-07				
256	411.38	Baghouse/Transfer - 411-38-312-01					1.0338E-05	9.4879E-06	2.9215E-06	2.6814E-06				
256	411.42	Baghouse/Transfer - 411-42-312-01					1.0338E-05	9.4879E-06	2.9215E-06	2.6814E-06				
258	422.13	Baghouse/Transfer - 422-13-312-01					2.4490E-05	2.2477E-05	6.9212E-06	6.3523E-06				
258	422.22	Baghouse/Transfer - 422-22-312-01												
264	561.21	Baghouse/Transfer - 561-21-312-04												
264	571.05	Baghouse/Transfer - 571-05-312-01					1.6419E-05	1.5070E-05	4.6402E-06	4.2588E-06				
267	574.46	Baghouse/Transfer - 574-46-312-01					1.1165E-05	1.0247E-05	3.1553E-06	2.8960E-06				
268	574.48	Baghouse/Transfer - 574-48-312-01					9.8515E-07	9.0418E-07	2.7841E-07	2.5553E-07				
268	574.49	Baghouse/Transfer - 574-49-312-01					9.8515E-07	9.0418E-07	2.7841E-07	2.5553E-07				
268	574.50	Baghouse/Transfer - 574-50-312-01					9.8515E-07	9.0418E-07	2.7841E-07	2.5553E-07				
268	574.51	Baghouse/Transfer - 574-51-312-01					9.8515E-07	9.0418E-07	2.7841E-07	2.5553E-07				
266	573.08	Baghouse/Transfer - 573-08-312-01												
266	573.11	Baghouse/Transfer - 573-11-312-01												
266	574.44	Baghouse/Transfer - 574-44-312-01					2.7365E-06	2.5116E-06	7.7336E-07	7.0980E-07				
266	574.35	Baghouse/Transfer - 574-35-312-01					5.4730E-06	5.0232E-06	1.5467E-06	1.4196E-06				
266	574.42	Baghouse/Transfer - 574-42-312-01					5.4730E-06	5.0232E-06	1.5467E-06	1.4196E-06				
266	574.32	Baghouse/Transfer - 574-32-312-01					5.4730E-06	5.0232E-06	1.5467E-06	1.4196E-06				
270	612.18	Baghouse/Transfer - 612-18-312-01					5.2625E-08	4.8300E-08	1.4872E-08	1.3650E-08				
270	612.20	Baghouse/Transfer - 612-20-312-01					8.0439E-05	7.3827E-05	1.2432E-05	1.1410E-05				
272	612.14	Baghouse/Transfer - 612-14-312-02					3.1480E-04	2.8892E-04	4.7760E-05	4.3834E-05				
273	612.19	Baghouse/Transfer - 612-19-312-02					6.9133E-06	6.3451E-06	1.9538E-06	1.7932E-06				
254	885.19	Baghouse/Transfer - 885-19-312-01					1.3156E-06	1.2075E-06	3.7181E-07	3.4125E-07				
254	882.01	Baghouse/Transfer - 882-01-312-01					1.3156E-06	1.2075E-06	3.7181E-07	3.4125E-07				
178	178	Baghouse/Transfer Rail Car Loading - New Railcar Loading Baghouse (178)					3.0997E-05	2.8449E-05	4.6939E-06	4.3081E-06				

MODELED EMISSION RATES - AREA SOURCES (grams/sec)
CEMEX
Wampum Cement Plant

Emission Point Identification	Modeling ID	Description	NOx		CO		PM10		PM2.5		SO2			
			ST01	ANN	ST01	ST08	ST24	ANN	ST24	ANN	ST01	ST03	ST24	ANN
252	Fug001	Baghouse/Transfer - Fug001					1.8846E-04	1.7297E-04	5.3262E-05	4.8884E-05				
253	Fug002	Baghouse/Transfer - Fug002					3.5961E-05	3.3006E-05	1.0163E-05	9.3277E-06				
270	Fug003	Baghouse/Transfer - Fug003					5.2625E-06	4.8300E-06	1.4872E-06	1.3650E-06				
272	Fug004	Baghouse/Transfer - Fug004					2.1050E-05	1.9320E-05	5.9490E-06	5.4600E-06				
180	180	Limestone Storage Pile					2.2196E-03	2.2196E-03	3.3611E-04	3.3611E-04				
181	181	Coal Storage Pile					6.5086E-05	6.5086E-05	9.8559E-06	9.8559E-06				
185	L.185	Paved Road Segment L					1.0021E-03	3.5690E-04	2.4596E-04	8.7604E-05				
185	A.185	Paved Road Segment A					5.9665E-04	2.1251E-04	1.4645E-04	5.2161E-05				

MODELED EMISSION RATES - VOLUME SOURCES FOR TRUCK TRAFFIC ROUTES (grams/sec)
CEMEX
Wampum Cement Plant

Emission Point Identification Number	Modeling ID	Description	NOx		CO		PM10		PM2.5		SO2			
			ST01	ANN	ST01	ST08	ST24	ANN	ST24	ANN	ST01	ST03	ST24	ANN
185	HRA_0001	Paved Roads					5.9665E-04	2.1251E-04	1.4645E-04	5.2161E-05				
185	HRA_0002	Paved Roads					5.9665E-04	2.1251E-04	1.4645E-04	5.2161E-05				
185	HRA_0003	Paved Roads					5.9665E-04	2.1251E-04	1.4645E-04	5.2161E-05				
185	HRA_0004	Paved Roads					5.9665E-04	2.1251E-04	1.4645E-04	5.2161E-05				
185	HRA_0005	Paved Roads					5.9665E-04	2.1251E-04	1.4645E-04	5.2161E-05				
185	HRA_0006	Paved Roads					5.9665E-04	2.1251E-04	1.4645E-04	5.2161E-05				
185	HRA_0007	Paved Roads					5.9665E-04	2.1251E-04	1.4645E-04	5.2161E-05				
185	HRA_0008	Paved Roads					5.9665E-04	2.1251E-04	1.4645E-04	5.2161E-05				
185	HRA_0009	Paved Roads					5.9665E-04	2.1251E-04	1.4645E-04	5.2161E-05				
185	HRA_0010	Paved Roads					5.9665E-04	2.1251E-04	1.4645E-04	5.2161E-05				
185	HRA_0011	Paved Roads					5.9665E-04	2.1251E-04	1.4645E-04	5.2161E-05				
185	HRB_0001	Paved Roads					3.9498E-04	1.4068E-04	9.6950E-05	3.4530E-05				
185	HRB_0002	Paved Roads					3.9498E-04	1.4068E-04	9.6950E-05	3.4530E-05				
185	HRB_0003	Paved Roads					3.9498E-04	1.4068E-04	9.6950E-05	3.4530E-05				
185	HRB_0004	Paved Roads					3.9498E-04	1.4068E-04	9.6950E-05	3.4530E-05				
185	HRB_0005	Paved Roads					3.9498E-04	1.4068E-04	9.6950E-05	3.4530E-05				
185	HRB_0006	Paved Roads					3.9498E-04	1.4068E-04	9.6950E-05	3.4530E-05				
185	HRB_0007	Paved Roads					3.9498E-04	1.4068E-04	9.6950E-05	3.4530E-05				
185	HRB_0008	Paved Roads					3.9498E-04	1.4068E-04	9.6950E-05	3.4530E-05				
185	HRB_0009	Paved Roads					3.9498E-04	1.4068E-04	9.6950E-05	3.4530E-05				
185	HRB_0010	Paved Roads					3.9498E-04	1.4068E-04	9.6950E-05	3.4530E-05				
185	HRB_0011	Paved Roads					3.9498E-04	1.4068E-04	9.6950E-05	3.4530E-05				
185	HRB_0012	Paved Roads					3.9498E-04	1.4068E-04	9.6950E-05	3.4530E-05				
185	HRB_0013	Paved Roads					3.9498E-04	1.4068E-04	9.6950E-05	3.4530E-05				
185	HRB_0014	Paved Roads					3.9498E-04	1.4068E-04	9.6950E-05	3.4530E-05				
185	HRB_0015	Paved Roads					3.9498E-04	1.4068E-04	9.6950E-05	3.4530E-05				
185	HRB_0016	Paved Roads					3.9498E-04	1.4068E-04	9.6950E-05	3.4530E-05				
185	HRB_0017	Paved Roads					3.9498E-04	1.4068E-04	9.6950E-05	3.4530E-05				
185	HRB_0018	Paved Roads					3.9498E-04	1.4068E-04	9.6950E-05	3.4530E-05				
185	HRB_0019	Paved Roads					3.9498E-04	1.4068E-04	9.6950E-05	3.4530E-05				
185	HRB_0020	Paved Roads					3.9498E-04	1.4068E-04	9.6950E-05	3.4530E-05				
185	HRB_0021	Paved Roads					3.9498E-04	1.4068E-04	9.6950E-05	3.4530E-05				
185	HRB_0022	Paved Roads					3.9498E-04	1.4068E-04	9.6950E-05	3.4530E-05				
185	HRB_0023	Paved Roads					3.9498E-04	1.4068E-04	9.6950E-05	3.4530E-05				
185	HRB_0024	Paved Roads					3.9498E-04	1.4068E-04	9.6950E-05	3.4530E-05				
185	HRB_0025	Paved Roads					3.9498E-04	1.4068E-04	9.6950E-05	3.4530E-05				
185	HRB_0026	Paved Roads					3.9498E-04	1.4068E-04	9.6950E-05	3.4530E-05				
185	HRB_0027	Paved Roads					3.9498E-04	1.4068E-04	9.6950E-05	3.4530E-05				
185	HRB_0028	Paved Roads					3.9498E-04	1.4068E-04	9.6950E-05	3.4530E-05				
185	HRB_0029	Paved Roads					3.9498E-04	1.4068E-04	9.6950E-05	3.4530E-05				
185	HRC_0001	Paved Roads					4.6425E-04	1.6535E-04	1.1395E-04	4.0585E-05				
185	HRC_0002	Paved Roads					4.6425E-04	1.6535E-04	1.1395E-04	4.0585E-05				
185	HRC_0003	Paved Roads					4.6425E-04	1.6535E-04	1.1395E-04	4.0585E-05				
185	HRC_0004	Paved Roads					4.6425E-04	1.6535E-04	1.1395E-04	4.0585E-05				
185	HRC_0005	Paved Roads					4.6425E-04	1.6535E-04	1.1395E-04	4.0585E-05				
185	HRC_0006	Paved Roads					4.6425E-04	1.6535E-04	1.1395E-04	4.0585E-05				
185	HRC_0007	Paved Roads					4.6425E-04	1.6535E-04	1.1395E-04	4.0585E-05				
185	HRC_0008	Paved Roads					4.6425E-04	1.6535E-04	1.1395E-04	4.0585E-05				

MODELED EMISSION RATES - VOLUME SOURCES FOR TRUCK TRAFFIC ROUTES (grams/sec)
CEMEX
Wampum Cement Plant

Emission Point Identification Number	Modeling ID	Description	NOx		CO		PM10		PM2.5		SO2			
			ST01	ANN	ST01	ST08	ST24	ANN	ST24	ANN	ST01	ST03	ST24	ANN
185	HRD_0001	Paved Roads					1.6463E-04	5.8636E-05	4.0410E-05	1.4393E-05				
185	HRD_0002	Paved Roads					1.6463E-04	5.8636E-05	4.0410E-05	1.4393E-05				
185	HRD_0003	Paved Roads					1.6463E-04	5.8636E-05	4.0410E-05	1.4393E-05				
185	HRD_0004	Paved Roads					1.6463E-04	5.8636E-05	4.0410E-05	1.4393E-05				
185	HRD_0005	Paved Roads					1.6463E-04	5.8636E-05	4.0410E-05	1.4393E-05				
185	HRD_0006	Paved Roads					1.6463E-04	5.8636E-05	4.0410E-05	1.4393E-05				
185	HRD_0007	Paved Roads					1.6463E-04	5.8636E-05	4.0410E-05	1.4393E-05				
185	HRD_0008	Paved Roads					1.6463E-04	5.8636E-05	4.0410E-05	1.4393E-05				
185	HRD_0009	Paved Roads					1.6463E-04	5.8636E-05	4.0410E-05	1.4393E-05				
185	HRD_0010	Paved Roads					1.6463E-04	5.8636E-05	4.0410E-05	1.4393E-05				
185	HRD_0011	Paved Roads					1.6463E-04	5.8636E-05	4.0410E-05	1.4393E-05				
185	HRD_0012	Paved Roads					1.6463E-04	5.8636E-05	4.0410E-05	1.4393E-05				
185	HRD_0013	Paved Roads					1.6463E-04	5.8636E-05	4.0410E-05	1.4393E-05				
185	HRD_0014	Paved Roads					1.6463E-04	5.8636E-05	4.0410E-05	1.4393E-05				
185	HRD_0015	Paved Roads					1.6463E-04	5.8636E-05	4.0410E-05	1.4393E-05				
185	HRD_0016	Paved Roads					1.6463E-04	5.8636E-05	4.0410E-05	1.4393E-05				
185	HRD_0017	Paved Roads					1.6463E-04	5.8636E-05	4.0410E-05	1.4393E-05				
185	HRD_0018	Paved Roads					1.6463E-04	5.8636E-05	4.0410E-05	1.4393E-05				
185	HRD_0019	Paved Roads					1.6463E-04	5.8636E-05	4.0410E-05	1.4393E-05				
185	HRD_0020	Paved Roads					1.6463E-04	5.8636E-05	4.0410E-05	1.4393E-05				
185	HRD_0021	Paved Roads					1.6463E-04	5.8636E-05	4.0410E-05	1.4393E-05				
185	HRD_0022	Paved Roads					1.6463E-04	5.8636E-05	4.0410E-05	1.4393E-05				
185	HRD_0023	Paved Roads					1.6463E-04	5.8636E-05	4.0410E-05	1.4393E-05				
185	HRD_0024	Paved Roads					1.6463E-04	5.8636E-05	4.0410E-05	1.4393E-05				
185	HRD_0025	Paved Roads					1.6463E-04	5.8636E-05	4.0410E-05	1.4393E-05				
185	HRD_0026	Paved Roads					1.6463E-04	5.8636E-05	4.0410E-05	1.4393E-05				
185	HRD_0027	Paved Roads					1.6463E-04	5.8636E-05	4.0410E-05	1.4393E-05				
185	HRE_0001	Paved Roads					1.6004E-04	5.6999E-05	3.9281E-05	1.3991E-05				
185	HRE_0002	Paved Roads					1.6004E-04	5.6999E-05	3.9281E-05	1.3991E-05				
185	HRE_0003	Paved Roads					1.6004E-04	5.6999E-05	3.9281E-05	1.3991E-05				
185	HRE_0004	Paved Roads					1.6004E-04	5.6999E-05	3.9281E-05	1.3991E-05				
185	HRE_0005	Paved Roads					1.6004E-04	5.6999E-05	3.9281E-05	1.3991E-05				
185	HRE_0006	Paved Roads					1.6004E-04	5.6999E-05	3.9281E-05	1.3991E-05				
185	HRF_0001	Paved Roads					1.5098E-05	5.3772E-06	3.7058E-06	1.3199E-06				
185	HRF_0002	Paved Roads					1.5098E-05	5.3772E-06	3.7058E-06	1.3199E-06				
185	HRF_0003	Paved Roads					1.5098E-05	5.3772E-06	3.7058E-06	1.3199E-06				
185	HRG_0001	Paved Roads					2.4918E-05	8.8750E-06	6.1163E-06	2.1784E-06				
185	HRG_0002	Paved Roads					2.4918E-05	8.8750E-06	6.1163E-06	2.1784E-06				
185	HRG_0003	Paved Roads					2.4918E-05	8.8750E-06	6.1163E-06	2.1784E-06				
185	HRG_0004	Paved Roads					2.4918E-05	8.8750E-06	6.1163E-06	2.1784E-06				
185	HRG_0005	Paved Roads					2.4918E-05	8.8750E-06	6.1163E-06	2.1784E-06				
185	HRG_0006	Paved Roads					2.4918E-05	8.8750E-06	6.1163E-06	2.1784E-06				
185	HRG_0007	Paved Roads					2.4918E-05	8.8750E-06	6.1163E-06	2.1784E-06				
185	HRG_0008	Paved Roads					2.4918E-05	8.8750E-06	6.1163E-06	2.1784E-06				
185	HRG_0009	Paved Roads					2.4918E-05	8.8750E-06	6.1163E-06	2.1784E-06				
185	HRG_0010	Paved Roads					2.4918E-05	8.8750E-06	6.1163E-06	2.1784E-06				
185	HRG_0011	Paved Roads					2.4918E-05	8.8750E-06	6.1163E-06	2.1784E-06				
185	HRG_0012	Paved Roads					2.4918E-05	8.8750E-06	6.1163E-06	2.1784E-06				
185	HRG_0013	Paved Roads					2.4918E-05	8.8750E-06	6.1163E-06	2.1784E-06				

MODELED EMISSION RATES - VOLUME SOURCES FOR TRUCK TRAFFIC ROUTES (grams/sec)
CEMEX
Wampum Cement Plant

Emission Point Identification Number	Modeling ID	Description	NOx		CO		PM10		PM2.5		SO2			
			ST01	ANN	ST01	ST08	ST24	ANN	ST24	ANN	ST01	ST03	ST24	ANN
185	HRG_0014	Paved Roads					2.4918E-05	8.8750E-06	6.1163E-06	2.1784E-06				
185	HRG_0015	Paved Roads					2.4918E-05	8.8750E-06	6.1163E-06	2.1784E-06				
185	HRH_0001	Paved Roads					6.7795E-05	2.4146E-05	1.6641E-05	5.9268E-06				
185	HRH_0002	Paved Roads					6.7795E-05	2.4146E-05	1.6641E-05	5.9268E-06				
185	HRH_0003	Paved Roads					6.7795E-05	2.4146E-05	1.6641E-05	5.9268E-06				
185	HRH_0004	Paved Roads					6.7795E-05	2.4146E-05	1.6641E-05	5.9268E-06				
185	HRH_0005	Paved Roads					6.7795E-05	2.4146E-05	1.6641E-05	5.9268E-06				
185	HRI_0001	Paved Roads					7.8372E-05	2.7913E-05	1.9237E-05	6.8514E-06				
185	HRI_0002	Paved Roads					7.8372E-05	2.7913E-05	1.9237E-05	6.8514E-06				
185	HRI_0003	Paved Roads					7.8372E-05	2.7913E-05	1.9237E-05	6.8514E-06				
185	HRI_0004	Paved Roads					7.8372E-05	2.7913E-05	1.9237E-05	6.8514E-06				
185	HRI_0005	Paved Roads					7.8372E-05	2.7913E-05	1.9237E-05	6.8514E-06				
185	HRI_0006	Paved Roads					7.8372E-05	2.7913E-05	1.9237E-05	6.8514E-06				
185	HRI_0007	Paved Roads					7.8372E-05	2.7913E-05	1.9237E-05	6.8514E-06				
185	HRI_0008	Paved Roads					7.8372E-05	2.7913E-05	1.9237E-05	6.8514E-06				
185	HRI_0009	Paved Roads					7.8372E-05	2.7913E-05	1.9237E-05	6.8514E-06				
185	HRI_0010	Paved Roads					7.8372E-05	2.7913E-05	1.9237E-05	6.8514E-06				
185	HRI_0011	Paved Roads					7.8372E-05	2.7913E-05	1.9237E-05	6.8514E-06				
185	HRI_0012	Paved Roads					7.8372E-05	2.7913E-05	1.9237E-05	6.8514E-06				
185	HRI_0013	Paved Roads					7.8372E-05	2.7913E-05	1.9237E-05	6.8514E-06				
185	HRI_0014	Paved Roads					7.8372E-05	2.7913E-05	1.9237E-05	6.8514E-06				
185	HRI_0015	Paved Roads					7.8372E-05	2.7913E-05	1.9237E-05	6.8514E-06				
185	HRI_0016	Paved Roads					7.8372E-05	2.7913E-05	1.9237E-05	6.8514E-06				
185	HRI_0017	Paved Roads					7.8372E-05	2.7913E-05	1.9237E-05	6.8514E-06				
185	HRI_0018	Paved Roads					7.8372E-05	2.7913E-05	1.9237E-05	6.8514E-06				
185	HRI_0019	Paved Roads					7.8372E-05	2.7913E-05	1.9237E-05	6.8514E-06				
185	HRI_0020	Paved Roads					7.8372E-05	2.7913E-05	1.9237E-05	6.8514E-06				
185	HRI_0021	Paved Roads					7.8372E-05	2.7913E-05	1.9237E-05	6.8514E-06				
185	HRI_0022	Paved Roads					7.8372E-05	2.7913E-05	1.9237E-05	6.8514E-06				
185	HRJ_0001	Paved Roads					2.5491E-04	9.0789E-05	6.2569E-05	2.2285E-05				
185	HRJ_0002	Paved Roads					2.5491E-04	9.0789E-05	6.2569E-05	2.2285E-05				
185	HRJ_0003	Paved Roads					2.5491E-04	9.0789E-05	6.2569E-05	2.2285E-05				
185	HRJ_0004	Paved Roads					2.5491E-04	9.0789E-05	6.2569E-05	2.2285E-05				
185	HRJ_0005	Paved Roads					2.5491E-04	9.0789E-05	6.2569E-05	2.2285E-05				
185	HRJ_0006	Paved Roads					2.5491E-04	9.0789E-05	6.2569E-05	2.2285E-05				
185	HRJ_0007	Paved Roads					2.5491E-04	9.0789E-05	6.2569E-05	2.2285E-05				
185	HRJ_0008	Paved Roads					2.5491E-04	9.0789E-05	6.2569E-05	2.2285E-05				
185	HRK_0001	Paved Roads					2.3247E-04	8.2797E-05	5.7060E-05	2.0323E-05				
185	HRK_0002	Paved Roads					2.3247E-04	8.2797E-05	5.7060E-05	2.0323E-05				
185	HRK_0003	Paved Roads					2.3247E-04	8.2797E-05	5.7060E-05	2.0323E-05				
185	HRK_0004	Paved Roads					2.3247E-04	8.2797E-05	5.7060E-05	2.0323E-05				
185	HRK_0005	Paved Roads					2.3247E-04	8.2797E-05	5.7060E-05	2.0323E-05				
185	HRK_0006	Paved Roads					2.3247E-04	8.2797E-05	5.7060E-05	2.0323E-05				
185	HRK_0007	Paved Roads					2.3247E-04	8.2797E-05	5.7060E-05	2.0323E-05				
185	HRK_0008	Paved Roads					2.3247E-04	8.2797E-05	5.7060E-05	2.0323E-05				
185	HRK_0009	Paved Roads					2.3247E-04	8.2797E-05	5.7060E-05	2.0323E-05				
185	HRK_0010	Paved Roads					2.3247E-04	8.2797E-05	5.7060E-05	2.0323E-05				
185	HRK_0011	Paved Roads					2.3247E-04	8.2797E-05	5.7060E-05	2.0323E-05				
185	HRK_0012	Paved Roads					2.3247E-04	8.2797E-05	5.7060E-05	2.0323E-05				

MODELED EMISSION RATES - VOLUME SOURCES FOR TRUCK TRAFFIC ROUTES (grams/sec)
CEMEX
Wampum Cement Plant

Emission Point Identification Number	Modeling ID	Description	NOx		CO		PM10		PM2.5		SO2			
			ST01	ANN	ST01	ST08	ST24	ANN	ST24	ANN	ST01	ST03	ST24	ANN
185	HRK_0013	Paved Roads					2.3247E-04	8.2797E-05	5.7060E-05	2.0323E-05				
185	HRK_0014	Paved Roads					2.3247E-04	8.2797E-05	5.7060E-05	2.0323E-05				
184	HRM_0001	Unpaved Roads					3.5052E-04	1.2484E-04	3.5052E-05	1.2484E-05				
184	HRM_0002	Unpaved Roads					3.5052E-04	1.2484E-04	3.5052E-05	1.2484E-05				
184	HRM_0003	Unpaved Roads					3.5052E-04	1.2484E-04	3.5052E-05	1.2484E-05				
184	HRM_0004	Unpaved Roads					3.5052E-04	1.2484E-04	3.5052E-05	1.2484E-05				
184	HRM_0005	Unpaved Roads					3.5052E-04	1.2484E-04	3.5052E-05	1.2484E-05				
184	HRM_0006	Unpaved Roads					3.5052E-04	1.2484E-04	3.5052E-05	1.2484E-05				
184	HRM_0007	Unpaved Roads					3.5052E-04	1.2484E-04	3.5052E-05	1.2484E-05				
184	HRM_0008	Unpaved Roads					3.5052E-04	1.2484E-04	3.5052E-05	1.2484E-05				
184	HRM_0009	Unpaved Roads					3.5052E-04	1.2484E-04	3.5052E-05	1.2484E-05				
184	HRM_0010	Unpaved Roads					3.5052E-04	1.2484E-04	3.5052E-05	1.2484E-05				
184	HRM_0011	Unpaved Roads					3.5052E-04	1.2484E-04	3.5052E-05	1.2484E-05				
184	HRM_0012	Unpaved Roads					3.5052E-04	1.2484E-04	3.5052E-05	1.2484E-05				
184	HRM_0013	Unpaved Roads					3.5052E-04	1.2484E-04	3.5052E-05	1.2484E-05				
184	HRM_0014	Unpaved Roads					3.5052E-04	1.2484E-04	3.5052E-05	1.2484E-05				
184	HRN_0001	Unpaved Roads					2.0559E-04	7.3224E-05	2.0559E-05	7.3224E-06				
184	HRN_0002	Unpaved Roads					2.0559E-04	7.3224E-05	2.0559E-05	7.3224E-06				
184	HRN_0003	Unpaved Roads					2.0559E-04	7.3224E-05	2.0559E-05	7.3224E-06				
184	HRN_0004	Unpaved Roads					2.0559E-04	7.3224E-05	2.0559E-05	7.3224E-06				
184	HRN_0005	Unpaved Roads					2.0559E-04	7.3224E-05	2.0559E-05	7.3224E-06				
184	HRN_0006	Unpaved Roads					2.0559E-04	7.3224E-05	2.0559E-05	7.3224E-06				
184	HRN_0007	Unpaved Roads					2.0559E-04	7.3224E-05	2.0559E-05	7.3224E-06				
184	HRN_0008	Unpaved Roads					2.0559E-04	7.3224E-05	2.0559E-05	7.3224E-06				
184	HRN_0009	Unpaved Roads					2.0559E-04	7.3224E-05	2.0559E-05	7.3224E-06				
184	HRN_0010	Unpaved Roads					2.0559E-04	7.3224E-05	2.0559E-05	7.3224E-06				
184	HRN_0011	Unpaved Roads					2.0559E-04	7.3224E-05	2.0559E-05	7.3224E-06				
184	HRN_0012	Unpaved Roads					2.0559E-04	7.3224E-05	2.0559E-05	7.3224E-06				
184	HRN_0013	Unpaved Roads					2.0559E-04	7.3224E-05	2.0559E-05	7.3224E-06				
184	HRN_0014	Unpaved Roads					2.0559E-04	7.3224E-05	2.0559E-05	7.3224E-06				
184	HRN_0015	Unpaved Roads					2.0559E-04	7.3224E-05	2.0559E-05	7.3224E-06				
184	HRN_0016	Unpaved Roads					2.0559E-04	7.3224E-05	2.0559E-05	7.3224E-06				
184	HRN_0017	Unpaved Roads					2.0559E-04	7.3224E-05	2.0559E-05	7.3224E-06				
184	HRN_0018	Unpaved Roads					2.0559E-04	7.3224E-05	2.0559E-05	7.3224E-06				
184	HRN_0019	Unpaved Roads					2.0559E-04	7.3224E-05	2.0559E-05	7.3224E-06				
184	HRN_0020	Unpaved Roads					2.0559E-04	7.3224E-05	2.0559E-05	7.3224E-06				
184	HRN_0021	Unpaved Roads					2.0559E-04	7.3224E-05	2.0559E-05	7.3224E-06				
184	HRN_0022	Unpaved Roads					2.0559E-04	7.3224E-05	2.0559E-05	7.3224E-06				
184	HRN_0023	Unpaved Roads					2.0559E-04	7.3224E-05	2.0559E-05	7.3224E-06				
184	HRN_0024	Unpaved Roads					2.0559E-04	7.3224E-05	2.0559E-05	7.3224E-06				
184	HRN_0025	Unpaved Roads					2.0559E-04	7.3224E-05	2.0559E-05	7.3224E-06				
184	HRN_0026	Unpaved Roads					2.0559E-04	7.3224E-05	2.0559E-05	7.3224E-06				
184	HRN_0027	Unpaved Roads					2.0559E-04	7.3224E-05	2.0559E-05	7.3224E-06				
184	HRN_0028	Unpaved Roads					2.0559E-04	7.3224E-05	2.0559E-05	7.3224E-06				
184	HRN_0029	Unpaved Roads					2.0559E-04	7.3224E-05	2.0559E-05	7.3224E-06				
184	HRN_0030	Unpaved Roads					2.0559E-04	7.3224E-05	2.0559E-05	7.3224E-06				
184	HRN_0031	Unpaved Roads					2.0559E-04	7.3224E-05	2.0559E-05	7.3224E-06				
184	HRN_0032	Unpaved Roads					2.0559E-04	7.3224E-05	2.0559E-05	7.3224E-06				
184	HRN_0033	Unpaved Roads					2.0559E-04	7.3224E-05	2.0559E-05	7.3224E-06				

MODELED EMISSION RATES - VOLUME SOURCES FOR TRUCK TRAFFIC ROUTES (grams/sec)
CEMEX
Wampum Cement Plant

Emission Point Identification Number	Modeling ID	Description	NOx		CO		PM10		PM2.5		SO2			
			ST01	ANN	ST01	ST08	ST24	ANN	ST24	ANN	ST01	ST03	ST24	ANN
184	HRN_0034	Unpaved Roads					2.0559E-04	7.3224E-05	2.0559E-05	7.3224E-06				
184	HRN_0035	Unpaved Roads					2.0559E-04	7.3224E-05	2.0559E-05	7.3224E-06				
184	HRN_0036	Unpaved Roads					2.0559E-04	7.3224E-05	2.0559E-05	7.3224E-06				
184	HRN_0037	Unpaved Roads					2.0559E-04	7.3224E-05	2.0559E-05	7.3224E-06				
184	HRN_0038	Unpaved Roads					2.0559E-04	7.3224E-05	2.0559E-05	7.3224E-06				
184	HRN_0039	Unpaved Roads					2.0559E-04	7.3224E-05	2.0559E-05	7.3224E-06				
184	HRN_0040	Unpaved Roads					2.0559E-04	7.3224E-05	2.0559E-05	7.3224E-06				
184	HRN_0041	Unpaved Roads					2.0559E-04	7.3224E-05	2.0559E-05	7.3224E-06				
184	HRN_0042	Unpaved Roads					2.0559E-04	7.3224E-05	2.0559E-05	7.3224E-06				
184	HRN_0043	Unpaved Roads					2.0559E-04	7.3224E-05	2.0559E-05	7.3224E-06				
184	HRN_0044	Unpaved Roads					2.0559E-04	7.3224E-05	2.0559E-05	7.3224E-06				
184	HRN_0045	Unpaved Roads					2.0559E-04	7.3224E-05	2.0559E-05	7.3224E-06				
184	HRN_0046	Unpaved Roads					2.0559E-04	7.3224E-05	2.0559E-05	7.3224E-06				
184	HRN_0047	Unpaved Roads					2.0559E-04	7.3224E-05	2.0559E-05	7.3224E-06				
184	HRN_0048	Unpaved Roads					2.0559E-04	7.3224E-05	2.0559E-05	7.3224E-06				
184	HRN_0049	Unpaved Roads					2.0559E-04	7.3224E-05	2.0559E-05	7.3224E-06				
185	HRO_0001	Paved Roads					2.3785E-05	8.4715E-06	5.8382E-06	2.0794E-06				
185	HRO_0002	Paved Roads					2.3785E-05	8.4715E-06	5.8382E-06	2.0794E-06				
185	HRO_0003	Paved Roads					2.3785E-05	8.4715E-06	5.8382E-06	2.0794E-06				
185	HRO_0004	Paved Roads					2.3785E-05	8.4715E-06	5.8382E-06	2.0794E-06				
185	HRO_0005	Paved Roads					2.3785E-05	8.4715E-06	5.8382E-06	2.0794E-06				
185	HRP_0001	Paved Roads					1.9093E-05	6.8002E-06	4.6864E-06	1.6691E-06				
185	HRP_0002	Paved Roads					1.9093E-05	6.8002E-06	4.6864E-06	1.6691E-06				
185	HRP_0003	Paved Roads					1.9093E-05	6.8002E-06	4.6864E-06	1.6691E-06				
185	HRP_0004	Paved Roads					1.9093E-05	6.8002E-06	4.6864E-06	1.6691E-06				
185	HRP_0005	Paved Roads					1.9093E-05	6.8002E-06	4.6864E-06	1.6691E-06				
185	HRP_0006	Paved Roads					1.9093E-05	6.8002E-06	4.6864E-06	1.6691E-06				
185	HRQ_0001	Paved Roads					2.4491E-06	8.7229E-07	6.0115E-07	2.1411E-07				
185	HRQ_0002	Paved Roads					2.4491E-06	8.7229E-07	6.0115E-07	2.1411E-07				
185	HRQ_0003	Paved Roads					2.4491E-06	8.7229E-07	6.0115E-07	2.1411E-07				
185	HRQ_0004	Paved Roads					2.4491E-06	8.7229E-07	6.0115E-07	2.1411E-07				
185	HRQ_0005	Paved Roads					2.4491E-06	8.7229E-07	6.0115E-07	2.1411E-07				
185	HRQ_0006	Paved Roads					2.4491E-06	8.7229E-07	6.0115E-07	2.1411E-07				
185	HRQ_0007	Paved Roads					2.4491E-06	8.7229E-07	6.0115E-07	2.1411E-07				
185	HRQ_0008	Paved Roads					2.4491E-06	8.7229E-07	6.0115E-07	2.1411E-07				
185	HRQ_0009	Paved Roads					2.4491E-06	8.7229E-07	6.0115E-07	2.1411E-07				
185	HRQ_0010	Paved Roads					2.4491E-06	8.7229E-07	6.0115E-07	2.1411E-07				
185	HRQ_0011	Paved Roads					2.4491E-06	8.7229E-07	6.0115E-07	2.1411E-07				
185	HRQ_0012	Paved Roads					2.4491E-06	8.7229E-07	6.0115E-07	2.1411E-07				
185	HRQ_0013	Paved Roads					2.4491E-06	8.7229E-07	6.0115E-07	2.1411E-07				
185	HRQ_0014	Paved Roads					2.4491E-06	8.7229E-07	6.0115E-07	2.1411E-07				
184	HRR_0001	Unpaved Roads					3.0023E-05	1.0693E-05	3.0023E-06	1.0693E-06				
184	HRR_0002	Unpaved Roads					3.0023E-05	1.0693E-05	3.0023E-06	1.0693E-06				
184	HRR_0003	Unpaved Roads					3.0023E-05	1.0693E-05	3.0023E-06	1.0693E-06				
184	HRR_0004	Unpaved Roads					3.0023E-05	1.0693E-05	3.0023E-06	1.0693E-06				
184	HRR_0005	Unpaved Roads					3.0023E-05	1.0693E-05	3.0023E-06	1.0693E-06				
184	HRR_0006	Unpaved Roads					3.0023E-05	1.0693E-05	3.0023E-06	1.0693E-06				
184	HRR_0007	Unpaved Roads					3.0023E-05	1.0693E-05	3.0023E-06	1.0693E-06				
184	HRR_0008	Unpaved Roads					3.0023E-05	1.0693E-05	3.0023E-06	1.0693E-06				

MODELED EMISSION RATES - VOLUME SOURCES FOR TRUCK TRAFFIC ROUTES (grams/sec)
CEMEX
Wampum Cement Plant

Emission Point Identification Number	Modeling ID	Description	NOx		CO		PM10		PM2.5		SO2			
			ST01	ANN	ST01	ST08	ST24	ANN	ST24	ANN	ST01	ST03	ST24	ANN
184	HRR_0009	Unpaved Roads					3.0023E-05	1.0693E-05	3.0023E-06	1.0693E-06				
184	HRR_0010	Unpaved Roads					3.0023E-05	1.0693E-05	3.0023E-06	1.0693E-06				
184	HRR_0011	Unpaved Roads					3.0023E-05	1.0693E-05	3.0023E-06	1.0693E-06				
184	HRR_0012	Unpaved Roads					3.0023E-05	1.0693E-05	3.0023E-06	1.0693E-06				
184	HRR_0013	Unpaved Roads					3.0023E-05	1.0693E-05	3.0023E-06	1.0693E-06				
184	HRR_0014	Unpaved Roads					3.0023E-05	1.0693E-05	3.0023E-06	1.0693E-06				
184	HRR_0015	Unpaved Roads					3.0023E-05	1.0693E-05	3.0023E-06	1.0693E-06				
184	HRR_0016	Unpaved Roads					3.0023E-05	1.0693E-05	3.0023E-06	1.0693E-06				
184	HRR_0017	Unpaved Roads					3.0023E-05	1.0693E-05	3.0023E-06	1.0693E-06				
184	HRR_0018	Unpaved Roads					3.0023E-05	1.0693E-05	3.0023E-06	1.0693E-06				
184	HRR_0019	Unpaved Roads					3.0023E-05	1.0693E-05	3.0023E-06	1.0693E-06				
184	HRR_0020	Unpaved Roads					3.0023E-05	1.0693E-05	3.0023E-06	1.0693E-06				
184	HRR_0021	Unpaved Roads					3.0023E-05	1.0693E-05	3.0023E-06	1.0693E-06				
184	HRR_0022	Unpaved Roads					3.0023E-05	1.0693E-05	3.0023E-06	1.0693E-06				
184	HRR_0023	Unpaved Roads					3.0023E-05	1.0693E-05	3.0023E-06	1.0693E-06				
184	HRR_0024	Unpaved Roads					3.0023E-05	1.0693E-05	3.0023E-06	1.0693E-06				
184	HRR_0025	Unpaved Roads					3.0023E-05	1.0693E-05	3.0023E-06	1.0693E-06				
184	HRR_0026	Unpaved Roads					3.0023E-05	1.0693E-05	3.0023E-06	1.0693E-06				
184	HRR_0027	Unpaved Roads					3.0023E-05	1.0693E-05	3.0023E-06	1.0693E-06				
184	HRR_0028	Unpaved Roads					3.0023E-05	1.0693E-05	3.0023E-06	1.0693E-06				
184	HRR_0029	Unpaved Roads					3.0023E-05	1.0693E-05	3.0023E-06	1.0693E-06				
184	HRR_0030	Unpaved Roads					3.0023E-05	1.0693E-05	3.0023E-06	1.0693E-06				
184	HRR_0031	Unpaved Roads					3.0023E-05	1.0693E-05	3.0023E-06	1.0693E-06				
184	HRR_0032	Unpaved Roads					3.0023E-05	1.0693E-05	3.0023E-06	1.0693E-06				
184	HRR_0033	Unpaved Roads					3.0023E-05	1.0693E-05	3.0023E-06	1.0693E-06				
184	HRR_0034	Unpaved Roads					3.0023E-05	1.0693E-05	3.0023E-06	1.0693E-06				
184	HRR_0035	Unpaved Roads					3.0023E-05	1.0693E-05	3.0023E-06	1.0693E-06				
184	HRR_0036	Unpaved Roads					3.0023E-05	1.0693E-05	3.0023E-06	1.0693E-06				
184	HRR_0037	Unpaved Roads					3.0023E-05	1.0693E-05	3.0023E-06	1.0693E-06				
184	HRR_0038	Unpaved Roads					3.0023E-05	1.0693E-05	3.0023E-06	1.0693E-06				
184	HRR_0039	Unpaved Roads					3.0023E-05	1.0693E-05	3.0023E-06	1.0693E-06				
184	HRR_0040	Unpaved Roads					3.0023E-05	1.0693E-05	3.0023E-06	1.0693E-06				
184	HRR_0041	Unpaved Roads					3.0023E-05	1.0693E-05	3.0023E-06	1.0693E-06				
184	HRR_0042	Unpaved Roads					3.0023E-05	1.0693E-05	3.0023E-06	1.0693E-06				
184	HRR_0043	Unpaved Roads					3.0023E-05	1.0693E-05	3.0023E-06	1.0693E-06				
184	HRR_0044	Unpaved Roads					3.0023E-05	1.0693E-05	3.0023E-06	1.0693E-06				
184	HRS_0001	Unpaved Roads					1.1137E-05	3.9664E-06	1.1137E-06	3.9664E-07				
184	HRS_0002	Unpaved Roads					1.1137E-05	3.9664E-06	1.1137E-06	3.9664E-07				
184	HRS_0003	Unpaved Roads					1.1137E-05	3.9664E-06	1.1137E-06	3.9664E-07				
184	HRS_0004	Unpaved Roads					1.1137E-05	3.9664E-06	1.1137E-06	3.9664E-07				
184	HRS_0005	Unpaved Roads					1.1137E-05	3.9664E-06	1.1137E-06	3.9664E-07				
184	HRS_0006	Unpaved Roads					1.1137E-05	3.9664E-06	1.1137E-06	3.9664E-07				
184	HRS_0007	Unpaved Roads					1.1137E-05	3.9664E-06	1.1137E-06	3.9664E-07				
184	HRS_0008	Unpaved Roads					1.1137E-05	3.9664E-06	1.1137E-06	3.9664E-07				
184	HRS_0009	Unpaved Roads					1.1137E-05	3.9664E-06	1.1137E-06	3.9664E-07				
184	HRS_0010	Unpaved Roads					1.1137E-05	3.9664E-06	1.1137E-06	3.9664E-07				
184	HRS_0011	Unpaved Roads					1.1137E-05	3.9664E-06	1.1137E-06	3.9664E-07				
184	HRS_0012	Unpaved Roads					1.1137E-05	3.9664E-06	1.1137E-06	3.9664E-07				
184	HRS_0013	Unpaved Roads					1.1137E-05	3.9664E-06	1.1137E-06	3.9664E-07				

MODELED EMISSION RATES - VOLUME SOURCES FOR TRUCK TRAFFIC ROUTES (grams/sec)
CEMEX
Wampum Cement Plant

Emission Point Identification Number	Modeling ID	Description	NOx		CO		PM10		PM2.5		SO2			
			ST01	ANN	ST01	ST08	ST24	ANN	ST24	ANN	ST01	ST03	ST24	ANN
184	HRS_0014	Unpaved Roads					1.1137E-05	3.9664E-06	1.1137E-06	3.9664E-07				
184	HRS_0015	Unpaved Roads					1.1137E-05	3.9664E-06	1.1137E-06	3.9664E-07				
184	HRS_0016	Unpaved Roads					1.1137E-05	3.9664E-06	1.1137E-06	3.9664E-07				
184	HRS_0017	Unpaved Roads					1.1137E-05	3.9664E-06	1.1137E-06	3.9664E-07				
184	HRS_0018	Unpaved Roads					1.1137E-05	3.9664E-06	1.1137E-06	3.9664E-07				
184	HRS_0019	Unpaved Roads					1.1137E-05	3.9664E-06	1.1137E-06	3.9664E-07				
184	HRS_0020	Unpaved Roads					1.1137E-05	3.9664E-06	1.1137E-06	3.9664E-07				
184	HRS_0021	Unpaved Roads					1.1137E-05	3.9664E-06	1.1137E-06	3.9664E-07				
184	HRS_0022	Unpaved Roads					1.1137E-05	3.9664E-06	1.1137E-06	3.9664E-07				
184	HRS_0023	Unpaved Roads					1.1137E-05	3.9664E-06	1.1137E-06	3.9664E-07				
184	HRS_0024	Unpaved Roads					1.1137E-05	3.9664E-06	1.1137E-06	3.9664E-07				
184	HRS_0025	Unpaved Roads					1.1137E-05	3.9664E-06	1.1137E-06	3.9664E-07				
184	HRS_0026	Unpaved Roads					1.1137E-05	3.9664E-06	1.1137E-06	3.9664E-07				
184	HRS_0027	Unpaved Roads					1.1137E-05	3.9664E-06	1.1137E-06	3.9664E-07				
184	HRS_0028	Unpaved Roads					1.1137E-05	3.9664E-06	1.1137E-06	3.9664E-07				
184	HRS_0029	Unpaved Roads					1.1137E-05	3.9664E-06	1.1137E-06	3.9664E-07				
184	HRT_0001	Unpaved Roads					1.6982E-05	6.0482E-06	1.6982E-06	6.0482E-07				
184	HRT_0002	Unpaved Roads					1.6982E-05	6.0482E-06	1.6982E-06	6.0482E-07				
184	HRT_0003	Unpaved Roads					1.6982E-05	6.0482E-06	1.6982E-06	6.0482E-07				
184	HRT_0004	Unpaved Roads					1.6982E-05	6.0482E-06	1.6982E-06	6.0482E-07				
184	HRT_0005	Unpaved Roads					1.6982E-05	6.0482E-06	1.6982E-06	6.0482E-07				
184	HRT_0006	Unpaved Roads					1.6982E-05	6.0482E-06	1.6982E-06	6.0482E-07				
184	HRT_0007	Unpaved Roads					1.6982E-05	6.0482E-06	1.6982E-06	6.0482E-07				
184	HRT_0008	Unpaved Roads					1.6982E-05	6.0482E-06	1.6982E-06	6.0482E-07				
184	HRT_0009	Unpaved Roads					1.6982E-05	6.0482E-06	1.6982E-06	6.0482E-07				
184	HRT_0010	Unpaved Roads					1.6982E-05	6.0482E-06	1.6982E-06	6.0482E-07				
184	HRT_0011	Unpaved Roads					1.6982E-05	6.0482E-06	1.6982E-06	6.0482E-07				
184	HRT_0012	Unpaved Roads					1.6982E-05	6.0482E-06	1.6982E-06	6.0482E-07				
184	HRT_0013	Unpaved Roads					1.6982E-05	6.0482E-06	1.6982E-06	6.0482E-07				
184	HRT_0014	Unpaved Roads					1.6982E-05	6.0482E-06	1.6982E-06	6.0482E-07				
184	HRT_0015	Unpaved Roads					1.6982E-05	6.0482E-06	1.6982E-06	6.0482E-07				
185	HRU_0001	Paved Roads					1.0544E-05	3.7554E-06	2.5881E-06	9.2179E-07				
185	HRU_0002	Paved Roads					1.0544E-05	3.7554E-06	2.5881E-06	9.2179E-07				
185	HRU_0003	Paved Roads					1.0544E-05	3.7554E-06	2.5881E-06	9.2179E-07				
185	HRU_0004	Paved Roads					1.0544E-05	3.7554E-06	2.5881E-06	9.2179E-07				
185	HRU_0005	Paved Roads					1.0544E-05	3.7554E-06	2.5881E-06	9.2179E-07				
185	HRU_0006	Paved Roads					1.0544E-05	3.7554E-06	2.5881E-06	9.2179E-07				
185	HRU_0007	Paved Roads					1.0544E-05	3.7554E-06	2.5881E-06	9.2179E-07				
185	HRU_0008	Paved Roads					1.0544E-05	3.7554E-06	2.5881E-06	9.2179E-07				
185	HRU_0009	Paved Roads					1.0544E-05	3.7554E-06	2.5881E-06	9.2179E-07				
185	HRU_0010	Paved Roads					1.0544E-05	3.7554E-06	2.5881E-06	9.2179E-07				
185	HRU_0011	Paved Roads					1.0544E-05	3.7554E-06	2.5881E-06	9.2179E-07				
185	HRU_0012	Paved Roads					1.0544E-05	3.7554E-06	2.5881E-06	9.2179E-07				
185	HRU_0013	Paved Roads					1.0544E-05	3.7554E-06	2.5881E-06	9.2179E-07				
185	HRU_0014	Paved Roads					1.0544E-05	3.7554E-06	2.5881E-06	9.2179E-07				
185	HRU_0015	Paved Roads					1.0544E-05	3.7554E-06	2.5881E-06	9.2179E-07				
185	HRU_0016	Paved Roads					1.0544E-05	3.7554E-06	2.5881E-06	9.2179E-07				
185	HRU_0017	Paved Roads					1.0544E-05	3.7554E-06	2.5881E-06	9.2179E-07				
185	HRU_0018	Paved Roads					1.0544E-05	3.7554E-06	2.5881E-06	9.2179E-07				

MODELED EMISSION RATES - VOLUME SOURCES FOR TRUCK TRAFFIC ROUTES (grams/sec)
CEMEX
Wampum Cement Plant

Emission Point Identification Number	Modeling ID	Description	NOx		CO		PM10		PM2.5		SO2			
			ST01	ANN	ST01	ST08	ST24	ANN	ST24	ANN	ST01	ST03	ST24	ANN
185	HRU_0019	Paved Roads					1.0544E-05	3.7554E-06	2.5881E-06	9.2179E-07				
185	HRU_0020	Paved Roads					1.0544E-05	3.7554E-06	2.5881E-06	9.2179E-07				
185	HRU_0021	Paved Roads					1.0544E-05	3.7554E-06	2.5881E-06	9.2179E-07				
185	HRU_0022	Paved Roads					1.0544E-05	3.7554E-06	2.5881E-06	9.2179E-07				
185	HRU_0023	Paved Roads					1.0544E-05	3.7554E-06	2.5881E-06	9.2179E-07				
185	HRU_0024	Paved Roads					1.0544E-05	3.7554E-06	2.5881E-06	9.2179E-07				
185	HRU_0025	Paved Roads					1.0544E-05	3.7554E-06	2.5881E-06	9.2179E-07				
185	HRU_0026	Paved Roads					1.0544E-05	3.7554E-06	2.5881E-06	9.2179E-07				
185	HRU_0027	Paved Roads					1.0544E-05	3.7554E-06	2.5881E-06	9.2179E-07				
185	HRU_0028	Paved Roads					1.0544E-05	3.7554E-06	2.5881E-06	9.2179E-07				
185	HRU_0029	Paved Roads					1.0544E-05	3.7554E-06	2.5881E-06	9.2179E-07				
185	HRU_0030	Paved Roads					1.0544E-05	3.7554E-06	2.5881E-06	9.2179E-07				
185	HRU_0031	Paved Roads					1.0544E-05	3.7554E-06	2.5881E-06	9.2179E-07				
185	HRU_0032	Paved Roads					1.0544E-05	3.7554E-06	2.5881E-06	9.2179E-07				
185	HRU_0033	Paved Roads					1.0544E-05	3.7554E-06	2.5881E-06	9.2179E-07				
185	HRU_0034	Paved Roads					1.0544E-05	3.7554E-06	2.5881E-06	9.2179E-07				
185	HRU_0035	Paved Roads					1.0544E-05	3.7554E-06	2.5881E-06	9.2179E-07				
185	HRU_0036	Paved Roads					1.0544E-05	3.7554E-06	2.5881E-06	9.2179E-07				
185	HRU_0037	Paved Roads					1.0544E-05	3.7554E-06	2.5881E-06	9.2179E-07				
185	HRU_0038	Paved Roads					1.0544E-05	3.7554E-06	2.5881E-06	9.2179E-07				
185	HRU_0039	Paved Roads					1.0544E-05	3.7554E-06	2.5881E-06	9.2179E-07				
185	HRU_0040	Paved Roads					1.0544E-05	3.7554E-06	2.5881E-06	9.2179E-07				
185	HRU_0041	Paved Roads					1.0544E-05	3.7554E-06	2.5881E-06	9.2179E-07				
185	HRV_0001	Paved Roads					2.4740E-05	8.8116E-06	6.0726E-06	2.1628E-06				
185	HRV_0002	Paved Roads					2.4740E-05	8.8116E-06	6.0726E-06	2.1628E-06				
185	HRV_0003	Paved Roads					2.4740E-05	8.8116E-06	6.0726E-06	2.1628E-06				
185	HRW_0001	Paved Roads					3.3774E-05	1.2029E-05	8.2900E-06	2.9526E-06				
185	HRW_0002	Paved Roads					3.3774E-05	1.2029E-05	8.2900E-06	2.9526E-06				
185	HRW_0003	Paved Roads					3.3774E-05	1.2029E-05	8.2900E-06	2.9526E-06				
185	HRW_0004	Paved Roads					3.3774E-05	1.2029E-05	8.2900E-06	2.9526E-06				
185	HRX_0001	Paved Roads					6.7170E-05	2.3923E-05	1.6487E-05	5.8721E-06				
185	HRX_0002	Paved Roads					6.7170E-05	2.3923E-05	1.6487E-05	5.8721E-06				
185	HRX_0003	Paved Roads					6.7170E-05	2.3923E-05	1.6487E-05	5.8721E-06				
185	HRX_0004	Paved Roads					6.7170E-05	2.3923E-05	1.6487E-05	5.8721E-06				
185	HRX_0005	Paved Roads					6.7170E-05	2.3923E-05	1.6487E-05	5.8721E-06				
185	HRX_0006	Paved Roads					6.7170E-05	2.3923E-05	1.6487E-05	5.8721E-06				
185	HRX_0007	Paved Roads					6.7170E-05	2.3923E-05	1.6487E-05	5.8721E-06				
185	HRX_0008	Paved Roads					6.7170E-05	2.3923E-05	1.6487E-05	5.8721E-06				
185	HRX_0009	Paved Roads					6.7170E-05	2.3923E-05	1.6487E-05	5.8721E-06				
185	HRX_0010	Paved Roads					6.7170E-05	2.3923E-05	1.6487E-05	5.8721E-06				

APPENDIX G PROJECT MODELED STACK PARAMETERS - REVISED

MODELING STACK PARAMETERS - POINT SOURCES
CEMEX
Wampum Cement Plant

Emission Point Identification Number	Modeling ID	Description	Location (m), NAD83		Elevation	Height	Temp	Velocity	Diameter
			Easting	Northing	(m)	(m)	(K)	(m/s)	(m)
CT	CT.1	Cooling Tower	556846.5	4525547.4	259.1	5.5	294	8.2	3.0
CT	CT.2	Cooling Tower	556843.8	4525553.2	259.1	5.5	294	8.2	3.0
274	274	Emergency Engine	556858.6	4525532.5	259.1	3.0	738	98.1	0.2
275	275	Fire Water Pump	556824.2	4525550.1	259.1	1.8	880	34.4	0.1
263	MK.CAT	Selective Non-Catalytic Reduction (SNCR)	556907.1	4525518.7	259.1	105.2	514	18.7	4.0
263	MK.LIM	Hydrated Lime Control System	556907.1	4525518.7	259.1	105.2	514	18.7	4.0
263	MK.AC	Activated Carbon Control System	556907.1	4525518.7	259.1	105.2	514	18.7	4.0
263	MK.Stack	Kiln Exhaust Baghouse - 511-03-312-04	556907.1	4525518.7	259.1	105.2	514	18.7	4.0
259	431.07	Baghouse - 431-07-312-01	556897.5	4525589.0	259.1	15.2	297	17.780	0.5
260	441.09	Baghouse - 441-09-312-04	556950.6	4525538.9	259.1	20.4	343	17.780	0.7
260	441.11	Baghouse - 441-11-312-04	556965.3	4525523.6	259.1	31.1	343	17.780	0.6
260	441.18	Baghouse - 441-18-312-04	556945.7	4525537.2	259.1	12.2	343	17.780	0.5
260	441.88	Baghouse - 441-88-312-04	556953.8	4525518.6	259.1	12.2	333	17.780	0.5
265	511.54	Baghouse - 511-54-312-04	556892.8	4525530.2	259.1	7.6	393	17.780	0.3
263	511.114	Baghouse - 511-114-312-04	556958.8	4525556.6	259.1	15.2	297	17.780	0.2
263	511.122	Baghouse - 511-122-312-04	556959.7	4525559.0	259.1	15.2	297	17.780	0.1
263	511.123	Baghouse - 511-123-312-04	556961.3	4525557.6	259.1	15.2	297	17.780	0.1
265	511.126	Baghouse - 511-126-312-04	556899.7	4525509.0	259.1	4.6	393	17.780	0.1
261	521.14	Baghouse - 521-14-312-04	556931.9	4525536.1	259.1	20.4	333	17.780	0.6
261	521.37	Baghouse - 521-37-312-04	556945.9	4525529.6	259.1	20.4	297	17.780	0.3
260	521.40	Baghouse - 521-40-312-04	556940.0	4525540.1	259.1	20.4	333	17.780	0.4
265	511.74	Baghouse - 511-74-312-04	556897.0	4525507.8	259.1	4.6	393	17.780	0.3
263	511.91	Baghouse - 511-91-312-04	556961.9	4525551.0	259.1	4.6	393	17.780	0.2
263	511.98	Baghouse - 511-98-312-04	556962.5	4525554.1	259.1	4.6	393	17.780	0.1
263	511.99	Baghouse - 511-99-312-04	556963.7	4525553.5	259.1	4.6	393	17.780	0.1
263	511.100	Baghouse - 511-100-312-04	556964.9	4525552.6	259.1	4.6	393	17.780	0.1
263	511.101	Baghouse - 511-101-312-04	556965.9	4525551.4	259.1	4.6	393	17.780	0.1
271	622.07	Baghouse - 622-07-312-01	556848.5	4525679.0	259.1	23.2	363	17.780	0.9
271	612.25	Baghouse - 612-25-312-01	556860.5	4525681.2	259.1	12.2	364	17.780	0.7
273	622.09	Baghouse - 622-09-312-02	556888.8	4525666.9	259.1	30.8	363	10.652	2.4
272	622.24	Baghouse - 622-24-312-02	556897.2	4525638.4	259.1	13.7	513	17.780	0.3
273	622.15	Baghouse - 622-15-312-02	556884.5	4525674.3	259.1	30.8	363	16.098	0.9
262	CM.Stack	Coal Mill Baghouse - 885-11-312-01	556854.1	4525631.9	259.1	27.4	358	34.352	0.9
262	886.11	Baghouse - 886-11-312-01	556853.1	4525621.8	259.1	12.2	297	17.780	0.3
262	886.12	Baghouse - 886-12-312-01	556965.0	4525432.8	259.1	6.1	297	17.780	0.2
262	886.13	Baghouse - 886-13-312-01	556927.9	4525557.1	259.1	12.2	297	17.780	0.2

MODELING STACK PARAMETERS - POINT SOURCES
CEMEX
Wampum Cement Plant

Emission Point Identification Number	Modeling ID	Description	Location (m), NAD83		Elevation	Height	Temp	Velocity	Diameter
			Easting	Northing	(m)	(m)	(K)	(m/s)	(m)
209	209	Baghouse - EAST CEMENT SILOS (18-29)	556771.6	4525681.3	259.1	35.1	294	14.7	0.7
210	210	Baghouse - WEST CEMENT SILOS (6-17)	556757.4	4525673.1	259.1	35.1	294	14.7	0.7
213	213	Baghouse - South Packer Baghouse	556707.1	4525626.6	259.1	19.8	294	14.5	1.2
214	214	Baghouse - North Packer Baghouse	556699.8	4525639.7	259.1	19.8	294	14.5	1.2
215	215	Baghouse - Masonry Packer Baghouse	556702.1	4525640.2	259.1	19.8	294	14.5	1.2
216	216	Baghouse - EAST/WEST TRUCK LOADING Baghouse	556697.2	4525692.9	259.1	15.2	294	5.9	1.0
217	217	Baghouse - NEW TRUCK LOADING Baghouse (Scale 3)	556726.8	4525703.4	259.1	11.0	294	16.0	0.3
218	218	Baghouse - RAILCAR LOADING Baghouse	556761.0	4525725.3	259.1	16.2	294	26.7	0.3
252	311.02	Baghouse/Transfer - 311-02-312-01	556746.9	4525824.8	259.1	0.0	297	17.780	0.2
252	311.03	Baghouse/Transfer - 311-03-312-01	556748.9	4525822.2	259.1	0.0	297	17.780	0.2
254	311.10	Baghouse/Transfer - 311-10-312-01	556822.0	4525687.7	259.1	21.9	297	17.780	0.4
254	311.14	Baghouse/Transfer - 311-14-312-01	556807.3	4525709.1	259.1	21.9	297	17.780	0.3
254	571.09	Baghouse/Transfer - 571-09-312-01	556843.4	4525717.7	259.1	7.6	333	17.780	0.3
254	311.20	Baghouse/Transfer - 311-20-312-01	556838.4	4525699.5	259.1	21.9	297	17.780	0.3
253	341.03	Baghouse/Transfer - 341-03-312-01	556748.6	4525825.5	259.1	0.0	297	17.780	0.2
253	341.04	Baghouse/Transfer - 341-04-312-01	556750.3	4525823.1	259.1	0.0	297	17.780	0.2
255	341.10	Baghouse/Transfer - 341-10-312-01	556818.3	4525688.3	259.1	21.9	297	17.780	0.3
255	335.03	Baghouse/Transfer - 335-03-312-01	556848.9	4525695.3	259.1	21.9	297	17.780	0.2
256	411.34	Baghouse/Transfer - 411-34-312-01	556813.0	4525720.6	259.1	7.0	297	17.780	0.4
257	411.48	Baghouse/Transfer - 411-48-312-01	556791.4	4525727.1	259.1	7.0	297	17.780	0.3
257	411.52	Baghouse/Transfer - 411-52-312-01	556779.4	4525723.5	259.1	7.0	297	17.780	0.3
256	411.58	Baghouse/Transfer - 411-58-312-01	556822.7	4525723.1	259.1	7.0	297	17.780	0.4
256	411.38	Baghouse/Transfer - 411-38-312-01	556801.5	4525739.6	259.1	7.0	297	17.780	0.4
256	411.42	Baghouse/Transfer - 411-42-312-01	556780.9	4525727.8	259.1	18.6	297	17.780	0.3
258	422.13	Baghouse/Transfer - 422-13-312-01	556873.6	4525588.6	259.1	27.4	297	17.780	0.5
258	422.22	Baghouse/Transfer - 422-22-312-01	556861.6	4525581.4	259.1	14.3	297	17.780	0.4
264	561.21	Baghouse/Transfer - 561-21-312-04	556963.5	4525445.3	259.1	6.1	333	17.780	0.4
264	571.05	Baghouse/Transfer - 571-05-312-01	557001.4	4525466.7	259.1	31.7	333	17.780	0.4
267	574.46	Baghouse/Transfer - 574-46-312-01	556897.1	4525653.7	259.1	7.6	297	17.780	0.5
268	574.48	Baghouse/Transfer - 574-48-312-01	556912.7	4525637.5	259.1	7.6	297	17.780	0.3
268	574.49	Baghouse/Transfer - 574-49-312-01	556917.9	4525628.3	259.1	7.6	297	17.780	0.3
268	574.50	Baghouse/Transfer - 574-50-312-01	556922.3	4525620.8	259.1	7.6	297	17.780	0.3
268	574.51	Baghouse/Transfer - 574-51-312-01	556927.0	4525612.9	259.1	7.6	297	17.780	0.3
266	573.08	Baghouse/Transfer - 573-08-312-01	557015.6	4525507.0	259.1	7.6	333	17.780	0.3

MODELING STACK PARAMETERS - POINT SOURCES
CEMEX
Wampum Cement Plant

Emission Point Identification Number	Modeling ID	Description	Location (m), NAD83		Elevation	Height	Temp	Velocity	Diameter
			Easting	Northing	(m)	(m)	(K)	(m/s)	(m)
266	573.11	Baghouse/Transfer - 573-11-312-01	557013.8	4525504.4	259.1	4.6	333	17.780	0.4
266	574.44	Baghouse/Transfer - 574-44-312-01	556979.3	4525507.8	259.1	7.6	297	17.780	0.5
266	574.35	Baghouse/Transfer - 574-35-312-01	557018.0	4525403.0	259.1	7.6	297	17.780	0.5
266	574.42	Baghouse/Transfer - 574-42-312-01	557037.8	4525414.4	259.1	7.6	297	17.780	0.3
266	574.32	Baghouse/Transfer - 574-32-312-01	557049.1	4525420.9	259.1	7.6	333	17.780	0.5
270	612.18	Baghouse/Transfer - 612-18-312-01	556842.5	4525722.1	259.1	7.6	297	17.780	0.2
270	612.20	Baghouse/Transfer - 612-20-312-01	556849.3	4525688.3	259.1	7.6	364	17.780	0.7
272	612.14	Baghouse/Transfer - 612-14-312-02	556934.4	4525594.0	259.1	7.6	297	17.780	0.4
273	612.19	Baghouse/Transfer - 612-19-312-02	556882.2	4525654.5	259.1	11.6	297	17.780	0.3
254	885.19	Baghouse/Transfer - 885-19-312-01	556860.9	4525644.2	259.1	6.1	297	17.780	0.2
254	882.01	Baghouse/Transfer - 882-01-312-01	556863.3	4525645.6	259.1	7.6	297	17.780	0.2
178	178	Baghouse/Transfer Rail Car Loading - New Railcar Loading	556861.0	4525725.3	259.1	4.0	297	17.780	0.2

MODELING STACK PARAMETERS - AREA SOURCES
CEMEX
Wampum Cement Plant

Emission Point Identification Number	Modeling ID	Description	Location (m), NAD83		Elevation	Height	Easterly Length	Notherly Length	Angle from North	Initial Vertical Dimension [2]
			(m)	(m)	(m)	(m)	(m)	(m)		(m)
252	Fug001	Baghouse/Transfer - Fug001	556744.1	4525827.3	259.1	1.8	4.57	3.05	60	
253	Fug002	Baghouse/Transfer - Fug002	556744.1	4525827.3	259.1	1.8	4.57	3.05	60	
270	Fug003	Baghouse/Transfer - Fug003	556836.9	4525721.5	259.1	1.8	12.19	12.19	60	
272	Fug004	Baghouse/Transfer - Fug004	556879.8	4525650.4	259.1	1.8	22.86	18.29	60	
180	180	Limestone Storage Pile	556694.8	4525818.6	259.1	0.9	30.48	30.48	30	
181	181	Coal Storage Pile	556667.6	4525851.0	259.1	0.9	30.48	30.48	30	
185	L.185	Paved Road Segment L	556589.3	4525637.0	259.1	4.3 [1]	7.62	7.62	340	1.977
185	A.185	Paved Road Segment A	556540.9	4525926.8	259.1	4.3 [1]	7.62	7.62	45	1.977

1. Release Height for the Road segment was calculated using the following equation: H = 0.5 x Top of the Plume
   (Top of the plume = 1.7 x Vehicle Height).
2. Initial Vertical Dimension for the Road segment was calculated using the following equation: Z = Top of the Plume / 2.15
   (Top of the plume = 1.7 x Vehicle Height).

Vehicle Height = 5m (16.4 ft)
Road Width = 6m (19.68 ft)

MODELING STACK PARAMETERS - VOLUME SOURCES FOR TRUCK TRAFFIC ROUTES
CEMEX
Wampum Cement Plant

Emission Point Identification Number	Modeling ID	Description	Location (m), NAD83		Base Elevation	Release Height[1]	Initial Horizontal Dimension[2]	Initial Vert. Dimension[3]
			(m)	(m)	(m)	(m)	(m)	(m)
185	HRA_0001	Paved Roads	556546.8	4525926.2	259.1	4.3	5.58	3.95
185	HRA_0002	Paved Roads	556551.9	4525923.3	259.1	4.3	5.58	3.95
185	HRA_0003	Paved Roads	556557.1	4525920.4	259.1	4.3	5.58	3.95
185	HRA_0004	Paved Roads	556562.3	4525917.5	259.1	4.3	5.58	3.95
185	HRA_0005	Paved Roads	556567.4	4525914.6	259.1	4.3	5.58	3.95
185	HRA_0006	Paved Roads	556572.6	4525911.7	259.1	4.3	5.58	3.95
185	HRA_0007	Paved Roads	556577.7	4525908.8	259.1	4.3	5.58	3.95
185	HRA_0008	Paved Roads	556582.9	4525905.9	259.1	4.3	5.58	3.95
185	HRA_0009	Paved Roads	556588.0	4525903.0	259.1	4.3	5.58	3.95
185	HRA_0010	Paved Roads	556593.2	4525900.1	259.1	4.3	5.58	3.95
185	HRA_0011	Paved Roads	556598.4	4525897.2	259.1	4.3	5.58	3.95
185	HRB_0001	Paved Roads	556607.7	4525888.5	259.1	4.3	5.58	3.95
185	HRB_0002	Paved Roads	556611.6	4525884.4	259.1	4.3	5.58	3.95
185	HRB_0003	Paved Roads	556615.4	4525880.3	259.1	4.3	5.58	3.95
185	HRB_0004	Paved Roads	556619.2	4525876.2	259.1	4.3	5.58	3.95
185	HRB_0005	Paved Roads	556623.1	4525872.2	259.1	4.3	5.58	3.95
185	HRB_0006	Paved Roads	556626.9	4525868.1	259.1	4.3	5.58	3.95
185	HRB_0007	Paved Roads	556630.7	4525864.0	259.1	4.3	5.58	3.95
185	HRB_0008	Paved Roads	556634.6	4525860.6	259.1	4.3	5.58	3.95
185	HRB_0009	Paved Roads	556638.5	4525857.1	259.1	4.3	5.58	3.95
185	HRB_0010	Paved Roads	556642.4	4525853.7	259.1	4.3	5.58	3.95
185	HRB_0011	Paved Roads	556646.4	4525850.2	259.1	4.3	5.58	3.95
185	HRB_0012	Paved Roads	556650.3	4525846.8	259.1	4.3	5.58	3.95
185	HRB_0013	Paved Roads	556654.4	4525843.6	259.1	4.3	5.58	3.95
185	HRB_0014	Paved Roads	556658.5	4525840.5	259.1	4.3	5.58	3.95
185	HRB_0015	Paved Roads	556662.6	4525837.3	259.1	4.3	5.58	3.95
185	HRB_0016	Paved Roads	556666.7	4525834.2	259.1	4.3	5.58	3.95
185	HRB_0017	Paved Roads	556670.8	4525831.0	259.1	4.3	5.58	3.95
185	HRB_0018	Paved Roads	556674.9	4525827.9	259.1	4.3	5.58	3.95
185	HRB_0019	Paved Roads	556679.1	4525824.8	259.1	4.3	5.58	3.95
185	HRB_0020	Paved Roads	556683.2	4525821.4	259.1	4.3	5.58	3.95
185	HRB_0021	Paved Roads	556687.4	4525818.1	259.1	4.3	5.58	3.95
185	HRB_0022	Paved Roads	556691.6	4525814.7	259.1	4.3	5.58	3.95
185	HRB_0023	Paved Roads	556695.8	4525811.4	259.1	4.3	5.58	3.95
185	HRB_0024	Paved Roads	556700.0	4525808.0	259.1	4.3	5.58	3.95
185	HRB_0025	Paved Roads	556704.4	4525804.9	259.1	4.3	5.58	3.95
185	HRB_0026	Paved Roads	556708.8	4525801.7	259.1	4.3	5.58	3.95
185	HRB_0027	Paved Roads	556713.2	4525798.5	259.1	4.3	5.58	3.95
185	HRB_0028	Paved Roads	556717.6	4525795.4	259.1	4.3	5.58	3.95
185	HRB_0029	Paved Roads	556722.0	4525792.2	259.1	4.3	5.58	3.95
185	HRC_0001	Paved Roads	556753.8	4525820.5	259.1	4.3	5.58	3.95
185	HRC_0002	Paved Roads	556754.5	4525814.7	259.1	4.3	5.58	3.95
185	HRC_0003	Paved Roads	556755.3	4525808.9	259.1	4.3	5.58	3.95
185	HRC_0004	Paved Roads	556754.1	4525803.8	259.1	4.3	5.58	3.95
185	HRC_0005	Paved Roads	556753.0	4525798.8	259.1	4.3	5.58	3.95
185	HRC_0006	Paved Roads	556749.2	4525794.9	259.1	4.3	5.58	3.95
185	HRC_0007	Paved Roads	556745.5	4525791.0	259.1	4.3	5.58	3.95
185	HRC_0008	Paved Roads	556741.8	4525787.1	259.1	4.3	5.58	3.95
185	HRD_0001	Paved Roads	556612.5	4525895.3	259.1	4.3	5.58	3.95
185	HRD_0002	Paved Roads	556617.3	4525894.5	259.1	4.3	5.58	3.95
185	HRD_0003	Paved Roads	556622.0	4525893.6	259.1	4.3	5.58	3.95
185	HRD_0004	Paved Roads	556626.8	4525892.8	259.1	4.3	5.58	3.95
185	HRD_0005	Paved Roads	556631.6	4525892.0	259.1	4.3	5.58	3.95
185	HRD_0006	Paved Roads	556636.3	4525891.1	259.1	4.3	5.58	3.95
185	HRD_0007	Paved Roads	556641.5	4525890.4	259.1	4.3	5.58	3.95
185	HRD_0008	Paved Roads	556646.8	4525889.7	259.1	4.3	5.58	3.95
185	HRD_0009	Paved Roads	556652.0	4525889.1	259.1	4.3	5.58	3.95
185	HRD_0010	Paved Roads	556657.2	4525888.4	259.1	4.3	5.58	3.95
185	HRD_0011	Paved Roads	556663.2	4525888.1	259.1	4.3	5.58	3.95

MODELING STACK PARAMETERS - VOLUME SOURCES FOR TRUCK TRAFFIC ROUTES
CEMEX
Wampum Cement Plant

Emission Point Identification Number	Modeling ID	Description	Location (m), NAD83		Base Elevation	Release Height[1]	Initial Horizontal Dimension[2]	Initial Vert. Dimension[3]
			(m)	(m)	(m)	(m)	(m)	(m)
185	HRD_0012	Paved Roads	556669.2	4525887.8	259.1	4.3	5.58	3.95
185	HRD_0013	Paved Roads	556675.2	4525887.5	259.1	4.3	5.58	3.95
185	HRD_0014	Paved Roads	556680.1	4525885.8	259.1	4.3	5.58	3.95
185	HRD_0015	Paved Roads	556685.1	4525884.0	259.1	4.3	5.58	3.95
185	HRD_0016	Paved Roads	556690.1	4525882.2	259.1	4.3	5.58	3.95
185	HRD_0017	Paved Roads	556695.1	4525880.5	259.1	4.3	5.58	3.95
185	HRD_0018	Paved Roads	556699.3	4525877.6	259.1	4.3	5.58	3.95
185	HRD_0019	Paved Roads	556703.6	4525874.7	259.1	4.3	5.58	3.95
185	HRD_0020	Paved Roads	556707.8	4525871.9	259.1	4.3	5.58	3.95
185	HRD_0021	Paved Roads	556711.2	4525868.2	259.1	4.3	5.58	3.95
185	HRD_0022	Paved Roads	556714.6	4525864.5	259.1	4.3	5.58	3.95
185	HRD_0023	Paved Roads	556718.1	4525860.8	259.1	4.3	5.58	3.95
185	HRD_0024	Paved Roads	556720.8	4525857.0	259.1	4.3	5.58	3.95
185	HRD_0025	Paved Roads	556723.6	4525853.1	259.1	4.3	5.58	3.95
185	HRD_0026	Paved Roads	556726.4	4525849.3	259.1	4.3	5.58	3.95
185	HRD_0027	Paved Roads	556728.8	4525845.3	259.1	4.3	5.58	3.95
185	HRE_0001	Paved Roads	556701.3	4525696.8	259.1	4.3	5.58	3.95
185	HRE_0002	Paved Roads	556697.7	4525700.9	259.1	4.3	5.58	3.95
185	HRE_0003	Paved Roads	556694.2	4525704.9	259.1	4.3	5.58	3.95
185	HRE_0004	Paved Roads	556690.6	4525709.0	259.1	4.3	5.58	3.95
185	HRE_0005	Paved Roads	556687.0	4525713.1	259.1	4.3	5.58	3.95
185	HRE_0006	Paved Roads	556683.5	4525717.2	259.1	4.3	5.58	3.95
185	HRF_0001	Paved Roads	556780.3	4525772.9	259.1	4.3	5.58	3.95
185	HRF_0002	Paved Roads	556784.8	4525775.8	259.1	4.3	5.58	3.95
185	HRF_0003	Paved Roads	556789.3	4525778.7	259.1	4.3	5.58	3.95
185	HRG_0001	Paved Roads	556738.1	4525783.2	259.1	4.3	5.58	3.95
185	HRG_0002	Paved Roads	556734.5	4525778.8	259.1	4.3	5.58	3.95
185	HRG_0003	Paved Roads	556730.9	4525774.4	259.1	4.3	5.58	3.95
185	HRG_0004	Paved Roads	556727.3	4525770.1	259.1	4.3	5.58	3.95
185	HRG_0005	Paved Roads	556723.7	4525765.7	259.1	4.3	5.58	3.95
185	HRG_0006	Paved Roads	556720.2	4525761.3	259.1	4.3	5.58	3.95
185	HRG_0007	Paved Roads	556716.6	4525756.9	259.1	4.3	5.58	3.95
185	HRG_0008	Paved Roads	556713.0	4525752.6	259.1	4.3	5.58	3.95
185	HRG_0009	Paved Roads	556709.4	4525748.2	259.1	4.3	5.58	3.95
185	HRG_0010	Paved Roads	556705.8	4525743.8	259.1	4.3	5.58	3.95
185	HRG_0011	Paved Roads	556702.2	4525739.4	259.1	4.3	5.58	3.95
185	HRG_0012	Paved Roads	556698.7	4525735.1	259.1	4.3	5.58	3.95
185	HRG_0013	Paved Roads	556694.1	4525731.6	259.1	4.3	5.58	3.95
185	HRG_0014	Paved Roads	556689.5	4525728.2	259.1	4.3	5.58	3.95
185	HRG_0015	Paved Roads	556684.9	4525724.8	259.1	4.3	5.58	3.95
185	HRH_0001	Paved Roads	556713.7	4525675.1	259.1	4.3	5.58	3.95
185	HRH_0002	Paved Roads	556711.2	4525679.3	259.1	4.3	5.58	3.95
185	HRH_0003	Paved Roads	556708.7	4525683.5	259.1	4.3	5.58	3.95
185	HRH_0004	Paved Roads	556706.3	4525687.7	259.1	4.3	5.58	3.95
185	HRH_0005	Paved Roads	556703.8	4525691.9	259.1	4.3	5.58	3.95
185	HRI_0001	Paved Roads	556599.1	4525642.8	259.1	4.3	5.58	3.95
185	HRI_0002	Paved Roads	556604.0	4525643.7	259.1	4.3	5.58	3.95
185	HRI_0003	Paved Roads	556608.9	4525644.6	259.1	4.3	5.58	3.95
185	HRI_0004	Paved Roads	556613.9	4525645.5	259.1	4.3	5.58	3.95
185	HRI_0005	Paved Roads	556617.5	4525647.2	259.1	4.3	5.58	3.95
185	HRI_0006	Paved Roads	556621.1	4525648.9	259.1	4.3	5.58	3.95
185	HRI_0007	Paved Roads	556624.8	4525650.7	259.1	4.3	5.58	3.95
185	HRI_0008	Paved Roads	556629.0	4525652.8	259.1	4.3	5.58	3.95
185	HRI_0009	Paved Roads	556633.3	4525654.9	259.1	4.3	5.58	3.95
185	HRI_0010	Paved Roads	556638.3	4525654.9	259.1	4.3	5.58	3.95
185	HRI_0011	Paved Roads	556643.3	4525654.9	259.1	4.3	5.58	3.95
185	HRI_0012	Paved Roads	556648.3	4525655.0	259.1	4.3	5.58	3.95
185	HRI_0013	Paved Roads	556653.3	4525654.2	259.1	4.3	5.58	3.95
185	HRI_0014	Paved Roads	556658.2	4525653.4	259.1	4.3	5.58	3.95

MODELING STACK PARAMETERS - VOLUME SOURCES FOR TRUCK TRAFFIC ROUTES
CEMEX
Wampum Cement Plant

Emission Point Identification Number	Modeling ID	Description	Location (m), NAD83		Base Elevation	Release Height[1]	Initial Horizontal Dimension[2]	Initial Vert. Dimension[3]
			(m)	(m)	(m)	(m)	(m)	(m)
185	HRI_0015	Paved Roads	556663.2	4525652.6	259.1	4.3	5.58	3.95
185	HRI_0016	Paved Roads	556668.2	4525651.8	259.1	4.3	5.58	3.95
185	HRI_0017	Paved Roads	556673.5	4525651.6	259.1	4.3	5.58	3.95
185	HRI_0018	Paved Roads	556678.9	4525651.5	259.1	4.3	5.58	3.95
185	HRI_0019	Paved Roads	556684.2	4525651.4	259.1	4.3	5.58	3.95
185	HRI_0020	Paved Roads	556689.3	4525654.6	259.1	4.3	5.58	3.95
185	HRI_0021	Paved Roads	556694.3	4525657.8	259.1	4.3	5.58	3.95
185	HRI_0022	Paved Roads	556698.3	4525660.2	259.1	4.3	5.58	3.95
185	HRJ_0001	Paved Roads	556679.9	4525721.6	259.1	4.3	5.58	3.95
185	HRJ_0002	Paved Roads	556674.6	4525720.9	259.1	4.3	5.58	3.95
185	HRJ_0003	Paved Roads	556669.3	4525720.2	259.1	4.3	5.58	3.95
185	HRJ_0004	Paved Roads	556664.9	4525719.7	259.1	4.3	5.58	3.95
185	HRJ_0005	Paved Roads	556660.6	4525719.2	259.1	4.3	5.58	3.95
185	HRJ_0006	Paved Roads	556656.4	4525718.1	259.1	4.3	5.58	3.95
185	HRJ_0007	Paved Roads	556652.2	4525716.9	259.1	4.3	5.58	3.95
185	HRJ_0008	Paved Roads	556649.9	4525715.0	259.1	4.3	5.58	3.95
185	HRK_0001	Paved Roads	556641.1	4525705.9	259.1	4.3	5.58	3.95
185	HRK_0002	Paved Roads	556639.8	4525700.8	259.1	4.3	5.58	3.95
185	HRK_0003	Paved Roads	556638.6	4525695.7	259.1	4.3	5.58	3.95
185	HRK_0004	Paved Roads	556637.5	4525692.1	259.1	4.3	5.58	3.95
185	HRK_0005	Paved Roads	556636.4	4525688.6	259.1	4.3	5.58	3.95
185	HRK_0006	Paved Roads	556635.8	4525685.5	259.1	4.3	5.58	3.95
185	HRK_0007	Paved Roads	556635.1	4525682.5	259.1	4.3	5.58	3.95
185	HRK_0008	Paved Roads	556633.9	4525678.5	259.1	4.3	5.58	3.95
185	HRK_0009	Paved Roads	556632.6	4525674.5	259.1	4.3	5.58	3.95
185	HRK_0010	Paved Roads	556631.4	4525671.4	259.1	4.3	5.58	3.95
185	HRK_0011	Paved Roads	556630.1	4525668.4	259.1	4.3	5.58	3.95
185	HRK_0012	Paved Roads	556627.7	4525666.2	259.1	4.3	5.58	3.95
185	HRK_0013	Paved Roads	556625.3	4525664.1	259.1	4.3	5.58	3.95
185	HRK_0014	Paved Roads	556621.9	4525661.9	259.1	4.3	5.58	3.95
184	HRM_0001	Unpaved Roads	556640.4	4525705.6	259.1	4.3	5.58	3.95
184	HRM_0002	Unpaved Roads	556635.6	4525702.5	259.1	4.3	5.58	3.95
184	HRM_0003	Unpaved Roads	556630.8	4525699.4	259.1	4.3	5.58	3.95
184	HRM_0004	Unpaved Roads	556627.7	4525696.8	259.1	4.3	5.58	3.95
184	HRM_0005	Unpaved Roads	556624.6	4525694.1	259.1	4.3	5.58	3.95
184	HRM_0006	Unpaved Roads	556621.6	4525691.4	259.1	4.3	5.58	3.95
184	HRM_0007	Unpaved Roads	556616.9	4525687.6	259.1	4.3	5.58	3.95
184	HRM_0008	Unpaved Roads	556612.3	4525683.9	259.1	4.3	5.58	3.95
184	HRM_0009	Unpaved Roads	556608.1	4525680.2	259.1	4.3	5.58	3.95
184	HRM_0010	Unpaved Roads	556604.0	4525676.5	259.1	4.3	5.58	3.95
184	HRM_0011	Unpaved Roads	556602.0	4525672.6	259.1	4.3	5.58	3.95
184	HRM_0012	Unpaved Roads	556600.0	4525668.8	259.1	4.3	5.58	3.95
184	HRM_0013	Unpaved Roads	556597.9	4525664.9	259.1	4.3	5.58	3.95
184	HRM_0014	Unpaved Roads	556597.2	4525660.5	259.1	4.3	5.58	3.95
184	HRN_0001	Unpaved Roads	556737.1	4525783.2	259.1	4.3	5.58	3.95
184	HRN_0002	Unpaved Roads	556731.9	4525782.5	259.1	4.3	5.58	3.95
184	HRN_0003	Unpaved Roads	556726.8	4525781.8	259.1	4.3	5.58	3.95
184	HRN_0004	Unpaved Roads	556721.6	4525781.1	259.1	4.3	5.58	3.95
184	HRN_0005	Unpaved Roads	556716.2	4525781.6	259.1	4.3	5.58	3.95
184	HRN_0006	Unpaved Roads	556710.9	4525782.0	259.1	4.3	5.58	3.95
184	HRN_0007	Unpaved Roads	556707.1	4525784.6	259.1	4.3	5.58	3.95
184	HRN_0008	Unpaved Roads	556703.4	4525787.3	259.1	4.3	5.58	3.95
184	HRN_0009	Unpaved Roads	556699.6	4525789.9	259.1	4.3	5.58	3.95
184	HRN_0010	Unpaved Roads	556695.8	4525792.5	259.1	4.3	5.58	3.95
184	HRN_0011	Unpaved Roads	556691.0	4525795.5	259.1	4.3	5.58	3.95
184	HRN_0012	Unpaved Roads	556686.2	4525798.5	259.1	4.3	5.58	3.95
184	HRN_0013	Unpaved Roads	556681.4	4525801.5	259.1	4.3	5.58	3.95
184	HRN_0014	Unpaved Roads	556676.7	4525804.5	259.1	4.3	5.58	3.95
184	HRN_0015	Unpaved Roads	556671.9	4525807.5	259.1	4.3	5.58	3.95

MODELING STACK PARAMETERS - VOLUME SOURCES FOR TRUCK TRAFFIC ROUTES
CEMEX
Wampum Cement Plant

Emission Point Identification Number	Modeling ID	Description	Location (m), NAD83		Base Elevation	Release Height[1]	Initial Horizontal Dimension[2]	Initial Vert. Dimension[3]
			(m)	(m)	(m)	(m)	(m)	(m)
184	HRN_0016	Unpaved Roads	556667.1	4525810.5	259.1	4.3	5.58	3.95
184	HRN_0017	Unpaved Roads	556662.3	4525813.5	259.1	4.3	5.58	3.95
184	HRN_0018	Unpaved Roads	556657.5	4525816.5	259.1	4.3	5.58	3.95
184	HRN_0019	Unpaved Roads	556652.7	4525819.5	259.1	4.3	5.58	3.95
184	HRN_0020	Unpaved Roads	556647.9	4525822.5	259.1	4.3	5.58	3.95
184	HRN_0021	Unpaved Roads	556643.2	4525825.4	259.1	4.3	5.58	3.95
184	HRN_0022	Unpaved Roads	556638.3	4525827.5	259.1	4.3	5.58	3.95
184	HRN_0023	Unpaved Roads	556633.4	4525829.6	259.1	4.3	5.58	3.95
184	HRN_0024	Unpaved Roads	556628.6	4525831.6	259.1	4.3	5.58	3.95
184	HRN_0025	Unpaved Roads	556623.7	4525833.7	259.1	4.3	5.58	3.95
184	HRN_0026	Unpaved Roads	556618.8	4525835.7	259.1	4.3	5.58	3.95
184	HRN_0027	Unpaved Roads	556614.0	4525837.8	259.1	4.3	5.58	3.95
184	HRN_0028	Unpaved Roads	556609.1	4525834.7	259.1	4.3	5.58	3.95
184	HRN_0029	Unpaved Roads	556604.3	4525831.6	259.1	4.3	5.58	3.95
184	HRN_0030	Unpaved Roads	556599.5	4525828.5	259.1	4.3	5.58	3.95
184	HRN_0031	Unpaved Roads	556596.9	4525823.6	259.1	4.3	5.58	3.95
184	HRN_0032	Unpaved Roads	556594.2	4525818.8	259.1	4.3	5.58	3.95
184	HRN_0033	Unpaved Roads	556597.1	4525813.9	259.1	4.3	5.58	3.95
184	HRN_0034	Unpaved Roads	556600.0	4525809.0	259.1	4.3	5.58	3.95
184	HRN_0035	Unpaved Roads	556602.8	4525804.1	259.1	4.3	5.58	3.95
184	HRN_0036	Unpaved Roads	556605.7	4525799.2	259.1	4.3	5.58	3.95
184	HRN_0037	Unpaved Roads	556608.6	4525794.3	259.1	4.3	5.58	3.95
184	HRN_0038	Unpaved Roads	556611.4	4525789.5	259.1	4.3	5.58	3.95
184	HRN_0039	Unpaved Roads	556613.5	4525784.8	259.1	4.3	5.58	3.95
184	HRN_0040	Unpaved Roads	556615.6	4525780.1	259.1	4.3	5.58	3.95
184	HRN_0041	Unpaved Roads	556617.7	4525775.4	259.1	4.3	5.58	3.95
184	HRN_0042	Unpaved Roads	556619.8	4525770.7	259.1	4.3	5.58	3.95
184	HRN_0043	Unpaved Roads	556621.6	4525765.3	259.1	4.3	5.58	3.95
184	HRN_0044	Unpaved Roads	556623.3	4525759.8	259.1	4.3	5.58	3.95
184	HRN_0045	Unpaved Roads	556625.1	4525754.4	259.1	4.3	5.58	3.95
184	HRN_0046	Unpaved Roads	556626.8	4525749.0	259.1	4.3	5.58	3.95
184	HRN_0047	Unpaved Roads	556629.9	4525744.2	259.1	4.3	5.58	3.95
184	HRN_0048	Unpaved Roads	556632.9	4525739.4	259.1	4.3	5.58	3.95
184	HRN_0049	Unpaved Roads	556636.0	4525734.6	259.1	4.3	5.58	3.95
185	HRO_0001	Paved Roads	556756.2	4525757.2	259.1	4.3	5.58	3.95
185	HRO_0002	Paved Roads	556760.8	4525760.3	259.1	4.3	5.58	3.95
185	HRO_0003	Paved Roads	556765.5	4525763.3	259.1	4.3	5.58	3.95
185	HRO_0004	Paved Roads	556770.1	4525766.3	259.1	4.3	5.58	3.95
185	HRO_0005	Paved Roads	556774.7	4525769.4	259.1	4.3	5.58	3.95
185	HRP_0001	Paved Roads	556737.6	4525783.2	259.1	4.3	5.58	3.95
185	HRP_0002	Paved Roads	556740.7	4525778.8	259.1	4.3	5.58	3.95
185	HRP_0003	Paved Roads	556743.8	4525774.4	259.1	4.3	5.58	3.95
185	HRP_0004	Paved Roads	556746.9	4525770.0	259.1	4.3	5.58	3.95
185	HRP_0005	Paved Roads	556750.0	4525765.6	259.1	4.3	5.58	3.95
185	HRP_0006	Paved Roads	556753.1	4525761.2	259.1	4.3	5.58	3.95
185	HRQ_0001	Paved Roads	556680.5	4525721.6	259.1	4.3	5.58	3.95
185	HRQ_0002	Paved Roads	556685.9	4525724.2	259.1	4.3	5.58	3.95
185	HRQ_0003	Paved Roads	556691.3	4525726.7	259.1	4.3	5.58	3.95
185	HRQ_0004	Paved Roads	556696.7	4525729.2	259.1	4.3	5.58	3.95
185	HRQ_0005	Paved Roads	556702.1	4525731.8	259.1	4.3	5.58	3.95
185	HRQ_0006	Paved Roads	556707.4	4525734.3	259.1	4.3	5.58	3.95
185	HRQ_0007	Paved Roads	556712.8	4525736.8	259.1	4.3	5.58	3.95
185	HRQ_0008	Paved Roads	556718.2	4525739.4	259.1	4.3	5.58	3.95
185	HRQ_0009	Paved Roads	556723.6	4525741.9	259.1	4.3	5.58	3.95
185	HRQ_0010	Paved Roads	556729.0	4525744.5	259.1	4.3	5.58	3.95
185	HRQ_0011	Paved Roads	556734.3	4525747.0	259.1	4.3	5.58	3.95
185	HRQ_0012	Paved Roads	556739.7	4525749.5	259.1	4.3	5.58	3.95
185	HRQ_0013	Paved Roads	556745.1	4525752.1	259.1	4.3	5.58	3.95
185	HRQ_0014	Paved Roads	556750.5	4525754.6	259.1	4.3	5.58	3.95

MODELING STACK PARAMETERS - VOLUME SOURCES FOR TRUCK TRAFFIC ROUTES
CEMEX
Wampum Cement Plant

Emission Point Identification Number	Modeling ID	Description	Location (m), NAD83		Base Elevation	Release Height[1]	Initial Horizontal Dimension[2]	Initial Vert. Dimension[3]
			(m)	(m)	(m)	(m)	(m)	(m)
184	HRR_0001	Unpaved Roads	556781.8	4525772.9	259.1	4.3	5.58	3.95
184	HRR_0002	Unpaved Roads	556785.3	4525769.5	259.1	4.3	5.58	3.95
184	HRR_0003	Unpaved Roads	556788.9	4525766.2	259.1	4.3	5.58	3.95
184	HRR_0004	Unpaved Roads	556792.4	4525762.8	259.1	4.3	5.58	3.95
184	HRR_0005	Unpaved Roads	556795.9	4525759.5	259.1	4.3	5.58	3.95
184	HRR_0006	Unpaved Roads	556800.2	4525756.1	259.1	4.3	5.58	3.95
184	HRR_0007	Unpaved Roads	556804.4	4525752.8	259.1	4.3	5.58	3.95
184	HRR_0008	Unpaved Roads	556808.6	4525749.4	259.1	4.3	5.58	3.95
184	HRR_0009	Unpaved Roads	556813.1	4525747.6	259.1	4.3	5.58	3.95
184	HRR_0010	Unpaved Roads	556817.6	4525745.9	259.1	4.3	5.58	3.95
184	HRR_0011	Unpaved Roads	556822.1	4525744.1	259.1	4.3	5.58	3.95
184	HRR_0012	Unpaved Roads	556826.6	4525742.3	259.1	4.3	5.58	3.95
184	HRR_0013	Unpaved Roads	556830.5	4525739.2	259.1	4.3	5.58	3.95
184	HRR_0014	Unpaved Roads	556834.4	4525736.1	259.1	4.3	5.58	3.95
184	HRR_0015	Unpaved Roads	556838.3	4525732.7	259.1	4.3	5.58	3.95
184	HRR_0016	Unpaved Roads	556842.2	4525729.4	259.1	4.3	5.58	3.95
184	HRR_0017	Unpaved Roads	556845.2	4525726.4	259.1	4.3	5.58	3.95
184	HRR_0018	Unpaved Roads	556848.1	4525723.3	259.1	4.3	5.58	3.95
184	HRR_0019	Unpaved Roads	556851.0	4525720.3	259.1	4.3	5.58	3.95
184	HRR_0020	Unpaved Roads	556854.8	4525717.9	259.1	4.3	5.58	3.95
184	HRR_0021	Unpaved Roads	556858.5	4525715.5	259.1	4.3	5.58	3.95
184	HRR_0022	Unpaved Roads	556862.2	4525713.1	259.1	4.3	5.58	3.95
184	HRR_0023	Unpaved Roads	556866.9	4525709.8	259.1	4.3	5.58	3.95
184	HRR_0024	Unpaved Roads	556871.5	4525706.4	259.1	4.3	5.58	3.95
184	HRR_0025	Unpaved Roads	556875.4	4525704.7	259.1	4.3	5.58	3.95
184	HRR_0026	Unpaved Roads	556879.3	4525703.0	259.1	4.3	5.58	3.95
184	HRR_0027	Unpaved Roads	556883.2	4525701.2	259.1	4.3	5.58	3.95
184	HRR_0028	Unpaved Roads	556887.8	4525697.6	259.1	4.3	5.58	3.95
184	HRR_0029	Unpaved Roads	556892.4	4525694.0	259.1	4.3	5.58	3.95
184	HRR_0030	Unpaved Roads	556895.5	4525691.2	259.1	4.3	5.58	3.95
184	HRR_0031	Unpaved Roads	556898.6	4525688.3	259.1	4.3	5.58	3.95
184	HRR_0032	Unpaved Roads	556901.7	4525685.4	259.1	4.3	5.58	3.95
184	HRR_0033	Unpaved Roads	556904.9	4525681.2	259.1	4.3	5.58	3.95
184	HRR_0034	Unpaved Roads	556908.1	4525677.0	259.1	4.3	5.58	3.95
184	HRR_0035	Unpaved Roads	556911.3	4525672.8	259.1	4.3	5.58	3.95
184	HRR_0036	Unpaved Roads	556914.4	4525668.6	259.1	4.3	5.58	3.95
184	HRR_0037	Unpaved Roads	556918.1	4525665.0	259.1	4.3	5.58	3.95
184	HRR_0038	Unpaved Roads	556921.8	4525661.4	259.1	4.3	5.58	3.95
184	HRR_0039	Unpaved Roads	556925.4	4525657.8	259.1	4.3	5.58	3.95
184	HRR_0040	Unpaved Roads	556929.1	4525654.2	259.1	4.3	5.58	3.95
184	HRR_0041	Unpaved Roads	556932.3	4525649.2	259.1	4.3	5.58	3.95
184	HRR_0042	Unpaved Roads	556935.5	4525644.2	259.1	4.3	5.58	3.95
184	HRR_0043	Unpaved Roads	556938.7	4525639.1	259.1	4.3	5.58	3.95
184	HRR_0044	Unpaved Roads	556941.9	4525634.1	259.1	4.3	5.58	3.95
184	HRS_0001	Unpaved Roads	556973.7	4525532.9	259.1	4.3	5.58	3.95
184	HRS_0002	Unpaved Roads	556976.8	4525528.1	259.1	4.3	5.58	3.95
184	HRS_0003	Unpaved Roads	556979.9	4525523.3	259.1	4.3	5.58	3.95
184	HRS_0004	Unpaved Roads	556983.0	4525518.5	259.1	4.3	5.58	3.95
184	HRS_0005	Unpaved Roads	556986.1	4525513.6	259.1	4.3	5.58	3.95
184	HRS_0006	Unpaved Roads	556989.2	4525508.8	259.1	4.3	5.58	3.95
184	HRS_0007	Unpaved Roads	556992.3	4525504.0	259.1	4.3	5.58	3.95
184	HRS_0008	Unpaved Roads	556998.1	4525504.3	259.1	4.3	5.58	3.95
184	HRS_0009	Unpaved Roads	557003.9	4525504.6	259.1	4.3	5.58	3.95
184	HRS_0010	Unpaved Roads	557009.4	4525505.5	259.1	4.3	5.58	3.95
184	HRS_0011	Unpaved Roads	557014.9	4525506.3	259.1	4.3	5.58	3.95
184	HRS_0012	Unpaved Roads	557020.4	4525507.2	259.1	4.3	5.58	3.95
184	HRS_0013	Unpaved Roads	557021.2	4525512.6	259.1	4.3	5.58	3.95
184	HRS_0014	Unpaved Roads	557021.9	4525518.1	259.1	4.3	5.58	3.95
184	HRS_0015	Unpaved Roads	557022.7	4525523.6	259.1	4.3	5.58	3.95

MODELING STACK PARAMETERS - VOLUME SOURCES FOR TRUCK TRAFFIC ROUTES
CEMEX
Wampum Cement Plant

Emission Point Identification Number	Modeling ID	Description	Location (m), NAD83		Base Elevation	Release Height[1]	Initial Horizontal Dimension[2]	Initial Vert. Dimension[3]
			(m)	(m)	(m)	(m)	(m)	(m)
184	HRS_0016	Unpaved Roads	557019.9	4525528.4	259.1	4.3	5.58	3.95
184	HRS_0017	Unpaved Roads	557017.1	4525533.2	259.1	4.3	5.58	3.95
184	HRS_0018	Unpaved Roads	557014.3	4525538.0	259.1	4.3	5.58	3.95
184	HRS_0019	Unpaved Roads	557011.2	4525542.5	259.1	4.3	5.58	3.95
184	HRS_0020	Unpaved Roads	557008.0	4525547.0	259.1	4.3	5.58	3.95
184	HRS_0021	Unpaved Roads	557004.8	4525551.6	259.1	4.3	5.58	3.95
184	HRS_0022	Unpaved Roads	557001.6	4525556.1	259.1	4.3	5.58	3.95
184	HRS_0023	Unpaved Roads	556998.4	4525560.6	259.1	4.3	5.58	3.95
184	HRS_0024	Unpaved Roads	556995.2	4525565.1	259.1	4.3	5.58	3.95
184	HRS_0025	Unpaved Roads	556992.0	4525569.6	259.1	4.3	5.58	3.95
184	HRS_0026	Unpaved Roads	556988.9	4525574.1	259.1	4.3	5.58	3.95
184	HRS_0027	Unpaved Roads	556985.7	4525578.6	259.1	4.3	5.58	3.95
184	HRS_0028	Unpaved Roads	556982.5	4525583.2	259.1	4.3	5.58	3.95
184	HRS_0029	Unpaved Roads	556978.7	4525586.9	259.1	4.3	5.58	3.95
184	HRT_0001	Unpaved Roads	556966.4	4525596.6	259.1	4.3	5.58	3.95
184	HRT_0002	Unpaved Roads	556961.6	4525593.2	259.1	4.3	5.58	3.95
184	HRT_0003	Unpaved Roads	556956.7	4525589.9	259.1	4.3	5.58	3.95
184	HRT_0004	Unpaved Roads	556951.9	4525586.6	259.1	4.3	5.58	3.95
184	HRT_0005	Unpaved Roads	556947.1	4525583.3	259.1	4.3	5.58	3.95
184	HRT_0006	Unpaved Roads	556942.3	4525580.0	259.1	4.3	5.58	3.95
184	HRT_0007	Unpaved Roads	556945.3	4525575.3	259.1	4.3	5.58	3.95
184	HRT_0008	Unpaved Roads	556948.4	4525570.6	259.1	4.3	5.58	3.95
184	HRT_0009	Unpaved Roads	556951.4	4525566.0	259.1	4.3	5.58	3.95
184	HRT_0010	Unpaved Roads	556954.4	4525561.3	259.1	4.3	5.58	3.95
184	HRT_0011	Unpaved Roads	556957.5	4525556.6	259.1	4.3	5.58	3.95
184	HRT_0012	Unpaved Roads	556960.5	4525552.0	259.1	4.3	5.58	3.95
184	HRT_0013	Unpaved Roads	556963.6	4525547.3	259.1	4.3	5.58	3.95
184	HRT_0014	Unpaved Roads	556966.6	4525542.7	259.1	4.3	5.58	3.95
184	HRT_0015	Unpaved Roads	556969.6	4525538.0	259.1	4.3	5.58	3.95
185	HRU_0001	Paved Roads	556746.0	4525629.6	259.1	4.3	5.58	3.95
185	HRU_0002	Paved Roads	556748.5	4525624.8	259.1	4.3	5.58	3.95
185	HRU_0003	Paved Roads	556751.0	4525619.9	259.1	4.3	5.58	3.95
185	HRU_0004	Paved Roads	556753.6	4525615.0	259.1	4.3	5.58	3.95
185	HRU_0005	Paved Roads	556756.1	4525610.1	259.1	4.3	5.58	3.95
185	HRU_0006	Paved Roads	556758.6	4525605.2	259.1	4.3	5.58	3.95
185	HRU_0007	Paved Roads	556761.2	4525600.4	259.1	4.3	5.58	3.95
185	HRU_0008	Paved Roads	556763.7	4525595.5	259.1	4.3	5.58	3.95
185	HRU_0009	Paved Roads	556763.2	4525591.9	259.1	4.3	5.58	3.95
185	HRU_0010	Paved Roads	556762.8	4525588.2	259.1	4.3	5.58	3.95
185	HRU_0011	Paved Roads	556758.9	4525585.5	259.1	4.3	5.58	3.95
185	HRU_0012	Paved Roads	556755.1	4525582.9	259.1	4.3	5.58	3.95
185	HRU_0013	Paved Roads	556749.7	4525580.7	259.1	4.3	5.58	3.95
185	HRU_0014	Paved Roads	556744.3	4525578.5	259.1	4.3	5.58	3.95
185	HRU_0015	Paved Roads	556738.9	4525576.3	259.1	4.3	5.58	3.95
185	HRU_0016	Paved Roads	556733.5	4525574.1	259.1	4.3	5.58	3.95
185	HRU_0017	Paved Roads	556728.1	4525572.0	259.1	4.3	5.58	3.95
185	HRU_0018	Paved Roads	556722.8	4525569.8	259.1	4.3	5.58	3.95
185	HRU_0019	Paved Roads	556717.4	4525567.6	259.1	4.3	5.58	3.95
185	HRU_0020	Paved Roads	556712.5	4525566.3	259.1	4.3	5.58	3.95
185	HRU_0021	Paved Roads	556707.7	4525564.9	259.1	4.3	5.58	3.95
185	HRU_0022	Paved Roads	556702.9	4525563.6	259.1	4.3	5.58	3.95
185	HRU_0023	Paved Roads	556698.4	4525565.5	259.1	4.3	5.58	3.95
185	HRU_0024	Paved Roads	556693.9	4525567.4	259.1	4.3	5.58	3.95
185	HRU_0025	Paved Roads	556689.4	4525569.3	259.1	4.3	5.58	3.95
185	HRU_0026	Paved Roads	556684.9	4525571.2	259.1	4.3	5.58	3.95
185	HRU_0027	Paved Roads	556680.3	4525574.9	259.1	4.3	5.58	3.95
185	HRU_0028	Paved Roads	556675.7	4525578.6	259.1	4.3	5.58	3.95
185	HRU_0029	Paved Roads	556671.1	4525582.3	259.1	4.3	5.58	3.95
185	HRU_0030	Paved Roads	556666.5	4525586.0	259.1	4.3	5.58	3.95

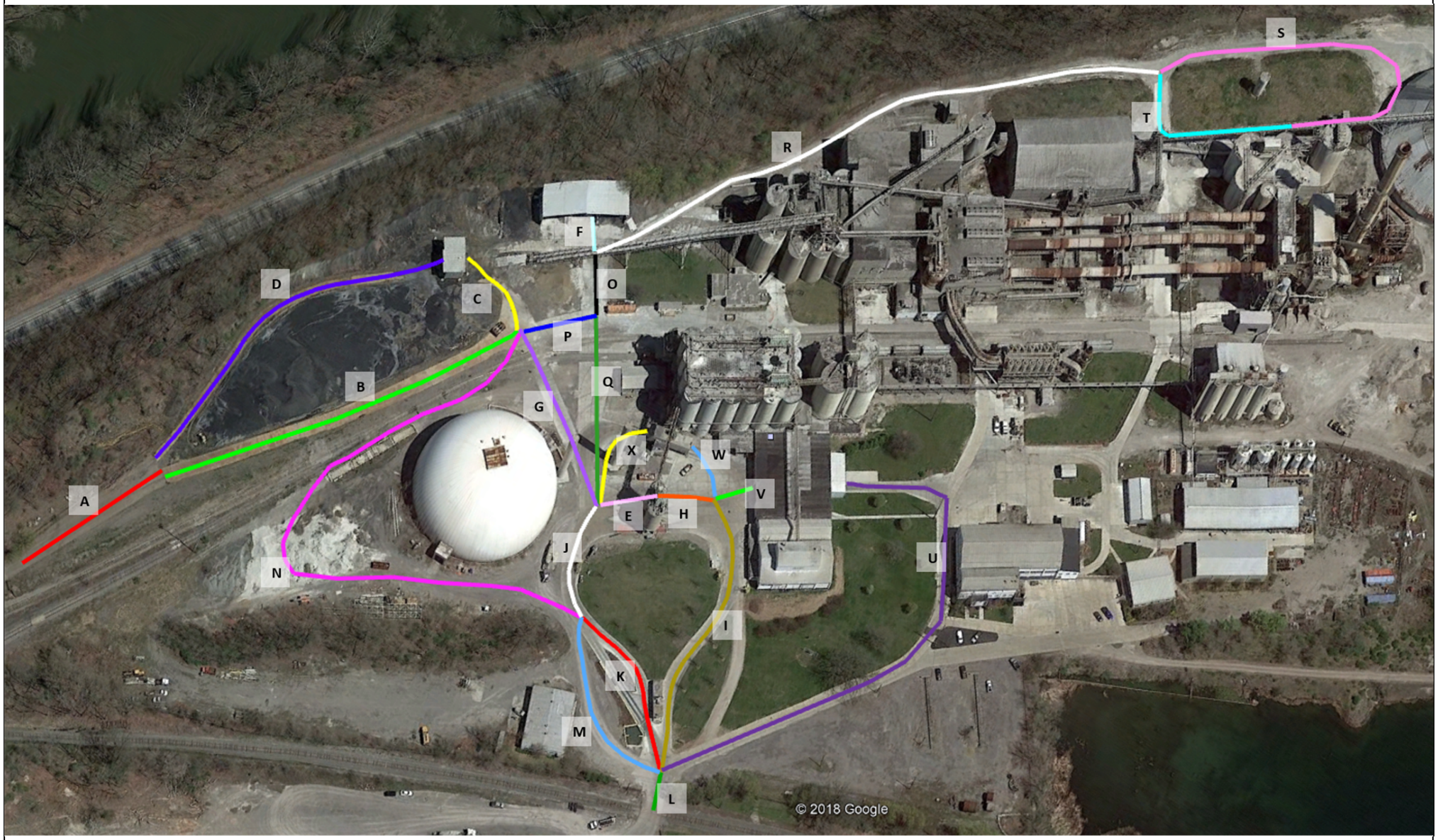
MODELING STACK PARAMETERS - VOLUME SOURCES FOR TRUCK TRAFFIC ROUTES
CEMEX
Wampum Cement Plant

Emission Point Identification Number	Modeling ID	Description	Location (m), NAD83		Base Elevation	Release Height[1]	Initial Horizontal Dimension[2]	Initial Vert. Dimension[3]
			(m)	(m)	(m)	(m)	(m)	(m)
185	HRU_0031	Paved Roads	556661.9	4525589.7	259.1	4.3	5.58	3.95
185	HRU_0032	Paved Roads	556657.2	4525593.4	259.1	4.3	5.58	3.95
185	HRU_0033	Paved Roads	556652.6	4525597.0	259.1	4.3	5.58	3.95
185	HRU_0034	Paved Roads	556648.2	4525600.8	259.1	4.3	5.58	3.95
185	HRU_0035	Paved Roads	556643.8	4525604.5	259.1	4.3	5.58	3.95
185	HRU_0036	Paved Roads	556639.3	4525608.2	259.1	4.3	5.58	3.95
185	HRU_0037	Paved Roads	556634.9	4525612.0	259.1	4.3	5.58	3.95
185	HRU_0038	Paved Roads	556630.5	4525615.7	259.1	4.3	5.58	3.95
185	HRU_0039	Paved Roads	556626.0	4525619.4	259.1	4.3	5.58	3.95
185	HRU_0040	Paved Roads	556621.6	4525623.2	259.1	4.3	5.58	3.95
185	HRU_0041	Paved Roads	556617.2	4525626.9	259.1	4.3	5.58	3.95
185	HRV_0001	Paved Roads	556714.6	4525675.3	259.1	4.3	5.58	3.95
185	HRV_0002	Paved Roads	556717.7	4525671.3	259.1	4.3	5.58	3.95
185	HRV_0003	Paved Roads	556720.8	4525667.3	259.1	4.3	5.58	3.95
185	HRW_0001	Paved Roads	556713.6	4525674.8	259.1	4.3	5.58	3.95
185	HRW_0002	Paved Roads	556717.0	4525677.4	259.1	4.3	5.58	3.95
185	HRW_0003	Paved Roads	556720.4	4525680.0	259.1	4.3	5.58	3.95
185	HRW_0004	Paved Roads	556723.7	4525682.6	259.1	4.3	5.58	3.95
185	HRX_0001	Paved Roads	556681.2	4525721.3	259.1	4.3	5.58	3.95
185	HRX_0002	Paved Roads	556685.2	4525722.4	259.1	4.3	5.58	3.95
185	HRX_0003	Paved Roads	556689.3	4525723.5	259.1	4.3	5.58	3.95
185	HRX_0004	Paved Roads	556693.4	4525724.6	259.1	4.3	5.58	3.95
185	HRX_0005	Paved Roads	556698.0	4525727.2	259.1	4.3	5.58	3.95
185	HRX_0006	Paved Roads	556702.7	4525729.8	259.1	4.3	5.58	3.95
185	HRX_0007	Paved Roads	556707.3	4525730.2	259.1	4.3	5.58	3.95
185	HRX_0008	Paved Roads	556712.0	4525730.5	259.1	4.3	5.58	3.95
185	HRX_0009	Paved Roads	556715.1	4525728.5	259.1	4.3	5.58	3.95
185	HRX_0010	Paved Roads	556718.1	4525726.4	259.1	4.3	5.58	3.95

1. Release Height was calculated using the following equation: H = 0.5 x Top of the Plume
   (Top of the plume = 1.7 x Vehicle Height).
2. Initial Horizontal Dimension was calculated using the following equation: Y = Road Width + 6m (19.68 ft) / 2.15
3. Initial Vertical Dimension was calculated using the following equation: Z = Top of the Plume / 2.15
   (Top of the plume = 1.7 x Vehicle Height).

Vehicle Height = 5m (16.4 ft)
Road Width = 6m (19.68 ft)

APPENDIX H ROAD SEGMENT DIAGRAMS



POWER ENGINEERS	**Road Segment Diagram**			
	CEMEX Wampum Cement Plant Lawrence County, Pennsylvania			
	Drafted By: P. Guerrero	Reviewed By: R. Brower	Project No: 152066.02.01	Date: 12/18/2019

APPENDIX I LIST OF DOWNWASH STRUCTURES

DOWNWASH STRUCTURES - BUILDINGS
CEMEX
Wampum Cement Plant

Building Name	Comment	Base Elevation (m)	Number of Tiers	Tier Number	Tier Height (m)	Number of Corners
BLDG7	Building 7	259.08	1	1	4.57	4
Raw.MF	Raw Mill Feed	259.08	1	1	26.21	4
Raw.MC	Raw Mill Cyclones	259.08	1	1	23.16	4
Kiln.BH	Kiln Bag House	259.08	1	1	24.99	4
Pre.HT	Preheater Tower	259.08	1	1	92.05	4
Clink.C	Clinker Cooler	259.08	1	1	23.77	4
Regrind	Regrind Building	259.08	1	1	13.72	4
CM.E	Coal Mill East	259.08	1	1	13.72	4
CM.W	Coal Mill West	259.08	1	1	24.38	4
CM.BH	Coal Mill BH	259.08	1	1	18.29	4
FM1.1	FM1	259.08	2	1	15.85	4
				2	25.30	4
FM2.1	FM2	259.08	2	1	18.29	4
				2	25.30	4
MatStB.1	Material Storage Building	259.08	1	1	17.37	4
UnloadSt	Unload Station	259.08	1	1	8.23	4
MatShed	Material Storage Shed	259.08	1	1	6.10	4
PackHous	Packhouse	259.08	5	1	4.57	12
				2	7.62	4
				3	10.67	4
				4	12.19	4
				5	16.76	4
Office	Office	259.08	1	1	4.57	4
S.Office	South Office	259.08	2	1	4.57	4
				2	7.62	4
E.Office	East Office	259.08	1	1	5.49	4
Maint.Sh	Maintenance Shop	259.08	3	1	6.71	6
				2	12.80	6
				3	14.94	4
CT	Cooling Tower	259.08	1	1	5.49	4

DOWNWASH STRUCTURES - TANKS
CEMEX
Wampum Cement Plant

Tank Name	Description	Base Elevation	Center East (X)	Center North (Y)	Tank Height	Tank Diameter
		(m)	(m)	(m)	(m)	(m)
Dome.N	Storage Dome	259.08	556670.8	4525765.0	30.5	61.0
Dome.S	Clinker Storage Bldg Dome	259.08	557001.4	4525466.7	31.7	68.6
RM.S15	Raw Mat Silo 15	259.08	556894.6	4525652.3	28.3	11.0
Tank63	Truck Load East	259.08	556700.0	4525694.7	18.7	6.1
Tank64	Truck Load West	259.08	556694.3	4525691.5	18.7	6.1
Raw.MTK	Raw Mill Tank	259.08	556882.8	4525589.3	15.8	8.5
R.Silo1	Regrind Silo 1	259.08	556845.8	4525509.4	34.1	7.0
R.Silo2	Regrind Silo 2	259.08	556849.3	4525503.4	34.1	7.0
R.Silo3	Regrind Silo 3	259.08	556852.8	4525497.3	34.1	7.0
R.Silo4	Regrind Silo 4	259.08	556856.3	4525491.2	34.1	7.0
R.Silo5	Regrind Silo 5	259.08	556861.5	4525482.2	7.0	7.0
C.Silo6	Cement Silo6	259.08	556755.9	4525667.5	32.2	7.9
C.Silo7	Cement Silo7	259.08	556763.0	4525671.6	32.2	7.9
C.Silo18	Cement Silo18	259.08	556770.1	4525675.7	32.2	7.9
C.Silo19	Cement Silo19	259.08	556777.2	4525679.8	32.2	7.9
C.Silo8	Cement Silo8	259.08	556751.7	4525674.6	32.2	7.9
C.Silo9	Cement Silo9	259.08	556758.9	4525678.7	32.2	7.9
C.Silo20	Cement Silo20	259.08	556766.0	4525682.8	32.2	7.9
C.Silo21	Cement Silo21	259.08	556773.1	4525686.9	32.2	7.9
C.Silo10	Cement Silo10	259.08	556747.6	4525681.7	32.2	7.9
C.Silo11	Cement Silo11	259.08	556754.8	4525685.8	32.2	7.9
C.Silo22	Cement Silo22	259.08	556761.9	4525689.9	32.2	7.9
C.Silo23	Cement Silo23	259.08	556769.0	4525694.1	32.2	7.9
C.Silo12	Cement Silo12	259.08	556743.5	4525688.8	32.2	7.9
C.Silo13	Cement Silo13	259.08	556750.6	4525692.9	32.2	7.9
C.Silo24	Cement Silo24	259.08	556757.8	4525697.1	32.2	7.9
C.Silo25	Cement Silo25	259.08	556764.9	4525701.2	32.2	7.9
C.Silo14	Cement Silo14	259.08	556739.4	4525696.0	32.2	7.9
C.Silo15	Cement Silo15	259.08	556746.5	4525700.1	32.2	7.9
C.Silo26	Cement Silo26	259.08	556753.7	4525704.2	32.2	7.9
C.Silo27	Cement Silo27	259.08	556760.8	4525708.3	32.2	7.9
C.Silo16	Cement Silo16	259.08	556735.3	4525703.1	32.2	7.9
C.Silo17	Cement Silo17	259.08	556742.4	4525707.2	32.2	7.9
C.Silo28	Cement Silo28	259.08	556749.5	4525711.3	32.2	7.9
C.Silo29	Cement Silo29	259.08	556756.7	4525715.4	32.2	7.9
REC.CB	Receiving coal bin	259.08	556862.1	4525644.9	18.3	5.5
RM.S12	Raw Mat Silo 12	259.08	556822.5	4525679.2	22.3	9.6
RM.S9	Raw Mat Silo 9	259.08	556830.8	4525684.0	22.3	9.6
RM.S6	Raw Mat Silo 6	259.08	556839.1	4525688.8	22.3	9.6
RM.S3	Raw Mat Silo 3	259.08	556847.4	4525693.6	22.3	9.6
RM.S11	Raw Mat Silo 11	259.08	556817.7	4525687.5	22.3	9.6
RM.S8	Raw Mat Silo 8	259.08	556826.0	4525692.3	22.3	9.6
RM.S5	Raw Mat Silo 5	259.08	556834.3	4525697.1	22.3	9.6
RM.S2	Raw Mat Silo 2	259.08	556842.6	4525701.9	22.3	9.6
RM.S10	Raw Mat Silo 10	259.08	556812.9	4525695.8	22.3	9.6
RM.S7	Raw Mat Silo 7	259.08	556821.2	4525700.6	22.3	9.6
RM.S4	Raw Mat Silo 4	259.08	556829.5	4525705.4	22.3	9.6
RM.S1	Raw Mat Silo 1	259.08	556837.8	4525710.2	22.3	9.6
RM.S14	Raw Mat Silo 14	259.08	556812.6	4525710.7	25.3	12.8
RM.S13	Raw Mat Silo 13	259.08	556823.8	4525715.3	28.3	9.6
Bld.S2	Blend Silo 2	259.08	556935.6	4525539.6	19.8	12.8
Bld.S4	Blend Silo 4	259.08	556943.5	4525525.9	19.8	12.8
Bld.S1	Blend Silo 1	259.08	556946.7	4525546.0	19.8	12.8
Bld.S3	Blend Silo 3	259.08	556954.6	4525532.3	19.8	12.8
Bld.S5	Blend Silo 5	259.08	556964.2	4525515.6	29.6	12.8
D.SILO	DustSilo	259.08	556900.5	4525642.0	15.8	6.9
CSilo.4	Cement Silo 4	259.08	556771.3	4525653.5	25.9	12.8
CSilo.2	Cement Silo 2	259.08	556782.4	4525659.9	25.9	12.8

DOWNWASH STRUCTURES - TANKS
CEMEX
Wampum Cement Plant

Tank Name	Description	Base Elevation	Center East (X)	Center North (Y)	Tank Height	Tank Diameter
		(m)	(m)	(m)	(m)	(m)
CSilo.3	Cement Silo 3	259.08	556777.7	4525642.4	25.9	12.8
CSilo.1	Cement Silo 1	259.08	556788.8	4525648.8	25.9	12.8
TK19	Tank 19	259.08	556833.4	4525485.1	12.2	7.6
TK18	Tank 18	259.08	556838.0	4525477.2	12.2	7.6
TK17	Tank 17	259.08	556839.9	4525468.4	8.2	3.7
TK12	Tank 12	259.08	556844.6	4525471.2	8.2	3.7
TK16	Tank 16	259.08	556842.6	4525463.7	8.2	3.7
TK13	Tank 13	259.08	556847.4	4525466.4	8.2	3.7
TK15	Tank 15	259.08	556845.4	4525458.9	8.2	3.7
TK14	Tank 14	259.08	556850.1	4525461.7	8.2	3.7
Rail.W	West Rail Loadout	259.08	556759.3	4525724.3	13.1	3.7
Rail.E	East Rail Loadout	259.08	556762.7	4525726.3	13.1	3.7
Calciner	Calciner	259.08	556927.9	4525557.2	19.2	5.5
K.BURN	KilnBurner	259.08	556964.8	4525433.2	19.2	5.5
AC	Activated Carbon	259.08	556958.5	4525556.5	9.1	3.7
HL	Hydrated Lime	259.08	556961.7	4525551.0	6.1	3.7
K.DHOP	Kiln Dust Hopper	259.08	556898.3	4525508.4	27.7	5.0
S.CLINK	Special Clinker Bin	259.08	557014.8	4525505.6	20.4	6.7

APPENDIX J MERPS ANALYSIS

MERPS ANALYSIS
CEMEX
Wampum Cement Plant

Precursor	Project Emissions Increases		
	Short		Long
	(lb/hr)	(TPY)	(TPY)
NOX	222.7	975	861
SO2	52.01	227.8	227.8

ID		Height	Emissions	Photochemical Modeling Impacts (µg/m3)				MERP (TPY)			
				PM2.5				PM2.5			
				24-Hour		Annual		24-Hour		Annual	
			(TPY)	NOX	SO2	NOX	SO2	NOX	SO2	NOX	SO2
Hypothetical Source [1]	EUS 8, PA-Adams	H	500	0.1	0.365	0.00986	0.009187	5,977	1,643	10,142	10,885
		L	500	0.043	0.103	0.002901	0.003041	13,992	5,845	34,469	32,884
		H	1000	0.086	0.202	0.00563	0.005921	14,035	5,937	35,951	33,779
		H	3000	0.256	0.56	0.015151	0.016419	14,044	6,428	39,602	36,544
	EUS 12, OH-Tuscarawas	L	500	0.085	0.254	0.005772	0.009209	7,053	2,366	17,325	10,859
		H	500	0.04	0.084	0.001761	0.004123	14,882	7,160	56,772	24,253
		H	1000	0.08	0.161	0.003426	0.008024	15,041	7,435	58,370	24,924
		H	3000	0.229	0.431	0.009748	0.022065	15,736	8,362	61,549	27,193

1. Information was retrieved from the MERPs View Qlik Database, https://www.epa.gov/scram/merps-view-qlik#Modeled_Impacts, accessed December 2019.

Determination Analysis

Analysis		Averaging Period	Precursor	Project Emissions	MERP	Project Emissions / MERP	Precursor Impact, Individual	Precursor Impact, Total
				(TPY)	(TPY)		(µg/m3)	(µg/m3)
Hypothetical Source:	PM2.5	24-Hour	NOX	975	15,041	0.065	0.078	0.1160
			SO2	227.8	7,160	0.032	0.038	
		Annual	NOX	861	58,370	0.015	0.003	0.00483
			SO2	228	24,253	0.009	0.002	

APPENDIX K OFF-PROPERTY SOURCES – EXHAUST PARAMETERS

OFFSITE INVENTORY - EXHAUST PARAMETERS (POINT SOURCES)
CEMEX
Wampum Cement Plant

Model ID	Facility Name	Source Description	Easting (m)	Northing (m)	Base Elevation (m)	Stack Height (m)	Temperature (K)	Exit Velocity (m/s)	Stack Diameter (m)
FILE0001	Universal Refractor Wampum	DRYING OVEN STACKS (11)	555224.0	4526920.0	235.9	12.2	422	12.997	0.610
FILE0002	Universal Refractor Wampum	MGO PROCESSING STACK	555224.0	4526920.0	235.9	12.2	422	12.997	0.610
FILE0003	Universal Refractor Wampum	BULK BLENDING STACK	555224.0	4526920.0	235.9	12.2	422	12.997	0.610
FILE0004	Universal Refractor Wampum	MISC. NAT. GAS USAGE STACK-NEW OVEN	555224.0	4526920.0	235.9	12.2	422	12.997	0.610
FILE0005	Universal Refractor Wampum	MISC. NAT. GAS USAGE STACK-OLD OVEN	555224.0	4526920.0	235.9	12.2	422	12.997	0.610
FILE0006	Universal Refractor Wampum	MISC. NAT. GAS USAGE FUGITIVES	555224.0	4526920.0	235.9	1.0	ambient	0.001	0.001
FILE0007	Universal Refractor Wampum	REFRACTORY FINISHING STACK	555224.0	4526920.0	235.9	12.2	422	12.997	0.610
FILE0008	Ellwood City Forge Ellwood City	BOILER STACK	559518.0	4523532.0	271.6	7.6	366	13.000	0.213
FILE0009	Ellwood City Forge Ellwood City	MISC N G USE FUGITIVE	559518.0	4523532.0	271.6	12.2	311	12.802	0.610
FILE0010	Ellwood City Forge Ellwood City	B PRESS FURNACES STK	559518.0	4523532.0	271.6	53.3	922	70.714	1.158
FILE0011	Ellwood City Forge Ellwood City	C PRESS FURNACE STACK	559518.0	4523532.0	271.6	25.3	422	2.441	0.792
FILE0012	Ellwood City Forge Ellwood City	B HEAT TREAT FURNACES STK	559518.0	4523532.0	271.6	11.6	478	5.169	0.914
FILE0013	Ellwood City Forge Ellwood City	B HEAT TREAT FURNACES STK	559518.0	4523532.0	271.6	11.6	1033	52.959	0.610
FILE0020	Ellwood City Forge Ellwood City	8 KW EMERGENCY GENERATOR	559518.0	4523532.0	271.6	1.0	310	0.001	0.001
FILE0021	Ellwood City Forge Ellwood City	FUGITIVE EMISSIONS - SOURCE ID: 620	559518.0	4523532.0	271.6	1.0	ambient	0.001	0.001
FILE0022	Ellwood City Forge Ellwood City	40 KW EMERGENCY DIESEL GENERATOR	559518.0	4523532.0	271.6	1.0	310	0.001	0.001
FILE0023	Ellwood City Forge Ellwood City	Source added from Permit, Emergency Generator	559518.0	4523532.0	271.6	1.0	ambient	0.001	0.001
FILE0024	Ellwood City Forge Ellwood City	Source added from Permit	559518.0	4523532.0	271.6	1.0	ambient	0.001	0.001
FILE0025	INMETCO Ellwood City	PELLET DISC BGHSE	560998.0	4523212.0	275.9	18.0	311	7.501	0.823
FILE0026	INMETCO Ellwood City	MISC PLANT PROCESSES USING NAT'L GAS	560998.0	4523212.0	275.9	12.2	311	12.802	0.610
FILE0027	INMETCO Ellwood City	INPLANT MATERIALS HANDLING BAGHOUSE STACK	560998.0	4523212.0	275.9	18.6	311	15.981	1.524

OFFSITE INVENTORY - EXHAUST PARAMETERS (POINT SOURCES)
CEMEX
Wampum Cement Plant

Model ID	Facility Name	Source Description	Easting (m)	Northing (m)	Base Elevation (m)	Stack Height (m)	Temperature (K)	Exit Velocity (m/s)	Stack Diameter (m)
FILE0028	INMETCO Ellwood City	FROM ROTARY HEARTH FURNACE SCRUBBER	560998.0	4523212.0	275.9	21.0	330	19.340	1.006
FILE0029	INMETCO Ellwood City	EAF BAGHOUSE #1 STACK	560998.0	4523212.0	275.9	22.3	347	21.879	1.463
FILE0030	INMETCO Ellwood City	EAF BAGHOUSE #2 STACK	560998.0	4523212.0	275.9	21.9	403	11.000	3.048
FILE0031	INMETCO Ellwood City	COMFORT-HEATING UNITS (9) - MISC COMBUST UNITS	560998.0	4523212.0	275.9	12.2	311	12.802	0.610
FILE0032	INMETCO Ellwood City	CADMIUM RECOVERY BAGHOUSE STACK	560998.0	4523212.0	275.9	21.9	400	12.802	0.610
FILE0034	INMETCO Ellwood City	ROTARY THERMAL OXIDIZER FURNACE	560998.0	4523212.0	275.9	21.0	330	19.340	1.006
FILE0036	INMETCO Ellwood City	EMERGENCY DIESEL GENERATOR	560998.0	4523212.0	275.9	1.0	310	0.001	0.001
FILE0039	IPSCO Koppel Tubulars LLC / Ambridge	ROTARY HEARTH FURNACE STACK	565068.0	4495454.0	228.7	38.1	700	0.171	3.292
FILE0040	IPSCO Koppel Tubulars LLC / Ambridge	QUENCH FURNACE STACK	565068.0	4495454.0	228.7	16.5	755	0.040	1.219
FILE0042	IPSCO Koppel Tubulars LLC / Ambridge	TEMPER FURNACE	565068.0	4495454.0	228.7	16.5	755	0.040	1.219
FILE0043	IPSCO Koppel Tubulars LLC / Ambridge	REHEAT FURNACE	565068.0	4495454.0	228.7	16.5	919	0.040	1.219
FILE0049	IPSCO Koppel Tubulars LLC / Ambridge	Source added from Permit, Space Heaters	565068.0	4495454.0	228.7	16.5	755	4.289	1.219
FILE0050	IPSCO Koppel Tubulars LLC / Koppel PLT	TEST FORGE STACK	557468.0	4520732.0	269.9	1.0	311	0.001	0.001
FILE0051	IPSCO Koppel Tubulars LLC / Koppel PLT	#4 BAGHOUSE STACK (10 SNUB STACKS)	557468.0	4520732.0	269.9	30.5	339	17.432	3.048
FILE0053	IPSCO Koppel Tubulars LLC / Koppel PLT	VARIOUS HEATERS & FURNACES	557468.0	4520732.0	269.9	16.5	755	4.289	1.219
FILE0054	IPSCO Koppel Tubulars LLC / Koppel PLT	AUSTENTIZING FURNACE STACK	557468.0	4520732.0	269.9	16.5	755	3.100	1.219
FILE0055	IPSCO Koppel Tubulars LLC / Koppel PLT	TEMPER FURNACE STACK	557468.0	4520732.0	269.9	16.5	755	4.289	1.219
FILE0056	IPSCO Koppel Tubulars LLC / Koppel PLT	ACID ETCH BATH	557468.0	4520732.0	269.9	18.3	293	84.771	0.061
FILE0057	IPSCO Koppel Tubulars LLC / Koppel PLT	MELT SHOP LIME SILOS (2)	557468.0	4520732.0	269.9	18.3	293	84.771	0.061
FILE0058	IPSCO Koppel Tubulars LLC / Koppel PLT	Source added from Permit	557468.0	4520732.0	269.9	1.0	ambient	0.001	0.001
FILE0060	IPSCO Koppel Tubulars LLC / Koppel PLT	Source added from Permit, Emergency Generator	557468.0	4520732.0	269.9	1.0	ambient	0.001	0.001

OFFSITE INVENTORY - EXHAUST PARAMETERS (POINT SOURCES)
CEMEX
Wampum Cement Plant

Model ID	Facility Name	Source Description	Easting (m)	Northing (m)	Base Elevation (m)	Stack Height (m)	Temperature (K)	Exit Velocity (m/s)	Stack Diameter (m)
FILE0061	IPSCO Koppel Tubulars LLC / Koppel PLT	Source added from Permit	557468.0	4520732.0	269.9	1.0	ambient	0.001	0.001
FILE0062	IPSCO Koppel Tubulars LLC / Koppel PLT	Source added from Permti, Small gas heaters	557468.0	4520732.0	269.9	16.5	366	4.289	0.610
FILE0063	IPSCO Koppel Tubulars LLC / Koppel PLT	Source added from Permit	557468.0	4520732.0	269.9	1.0	ambient	0.001	0.001
FILE0064	IPSCO Koppel Tubulars LLC / Koppel PLT	Source added from Permit, Emergency Generator	557468.0	4520732.0	269.9	1.0	ambient	0.001	0.001
FILE0067	IPSCO Koppel Tubulars LLC / Koppel PLT	Source added from Permit	557468.0	4520732.0	269.9	1.0	ambient	0.001	0.001
FILE0068	NALCO Co. North/South Plants	Source added from Permit	561165.0	4522487.0	265.7	1.0	ambient	0.001	0.001
FILE0071	NALCO Co. North/South Plants	NORTH PLANT BOILER ROOM STACKS (2)	561165.0	4522487.0	265.7	7.6	366	13.000	0.213
FILE0073	NALCO Co. North/South Plants	LINE 7: THERMAL OXIDIZER STACK	561165.0	4522487.0	265.7	1.0	366	0.001	0.001
FILE0075	NALCO Co. North/South Plants	LINE 7: THERMAL OXIDIZER STACK	561165.0	4522487.0	265.7	1.0	366	0.001	0.001
FILE0076	NALCO Co. North/South Plants	SOUTH PLANT BOILER ROOM STACKS	561169.0	4521433.0	268.5	7.6	366	13.000	0.213
FILE0078	NALCO Co. North/South Plants	FURNACE ROOM PROCESS: FURNACE #1 BAGHOUSE STACK	561169.0	4521433.0	268.5	7.6	366	13.000	0.213
FILE0079	NALCO Co. North/South Plants	FURNACE ROOM PROCESS: FURNACE #2 BAGHOUSE STACK	561169.0	4521433.0	268.5	7.6	366	13.000	0.213
FILE0080	NALCO Co. North/South Plants	FURNACE ROOM PROCESS: SIZER BAGHOUSE STACK	561169.0	4521433.0	268.5	7.6	311	13.000	0.213
FILE0082	Lindy Paving Inc. / KoppelFAC	BAGHOUSE STACK	553473.0	4521245.0	366.1	12.2	436	20.117	1.219
FILE0083	Lindy Paving Inc. / KoppelFAC	RAP CRUSHER FUGITIVE EMISSIONS	553473.0	4521245.0	366.1	1.0	ambient	0.001	0.001
FILE0084	Lindy Paving Inc. / KoppelFAC	FUGITIVES - HOT MIX ASPHALT STORAGE SILO 1	553473.0	4521245.0	366.1	1.0	ambient	0.001	0.001
FILE0085	Lindy Paving Inc. / KoppelFAC	FUGITIVES - HOT MIX ASPHALT STORAGE SILO 2	553473.0	4521245.0	366.1	1.0	ambient	0.001	0.001
FILE0086	Lindy Paving Inc. / KoppelFAC	FUGITIVES - HOT MIX ASPHALT STORAGE SILO 3	553473.0	4521245.0	366.1	1.0	ambient	0.001	0.001
FILE0087	Lindy Paving Inc. / KoppelFAC	FUGITIVES - HOT MIX ASPHALT STORAGE SILO 4	553473.0	4521245.0	366.1	1.0	ambient	0.001	0.001
FILE0091	Lindy Paving Inc. / KoppelFAC	FUGITIVES - ASPHALT CEMENT TANK HOT OIL HEATER	553473.0	4521245.0	366.1	1.0	ambient	0.001	0.001
FILE0094	Dominion Trans Inc. / Beaver	DRESSER RAND ENGINE - STACK 1	558671.0	4518753.0	375.7	15.8	644	7.190	0.914

OFFSITE INVENTORY - EXHAUST PARAMETERS (POINT SOURCES)
CEMEX
Wampum Cement Plant

Model ID	Facility Name	Source Description	Easting (m)	Northing (m)	Base Elevation (m)	Stack Height (m)	Temperature (K)	Exit Velocity (m/s)	Stack Diameter (m)
FILE0095	Dominion Trans Inc. / Beaver	DRESSER RAND ENGINE - STACK 2	558671.0	4518753.0	375.7	15.8	644	7.190	0.914
FILE0096	Dominion Trans Inc. / Beaver	DRESSER RAND ENGINE - STACK 3	558671.0	4518753.0	375.7	15.8	644	7.190	0.914
FILE0097	Dominion Trans Inc. / Beaver	DRESSER RAND ENGINE STACK - 4	558671.0	4518753.0	375.7	15.8	644	7.190	0.914
FILE0100	Dominion Trans Inc. / Beaver	AUXILIARY GENERATOR - STACK	558671.0	4518753.0	375.7	1.0	644	0.001	0.001
FILE0101	Dominion Trans Inc. / Beaver	Source added from Permit	558671.0	4518753.0	375.7	1.0	ambient	0.001	0.001
FILE0102	Dominion Trans Inc. / Beaver	BOILER UNIT 1 - STACK	558671.0	4518753.0	375.7	1.0	ambient	0.001	0.001
FILE0103	Dominion Trans Inc. / Beaver	BOILER UNIT 2 - STACK	558671.0	4518753.0	375.7	1.0	ambient	0.001	0.001
FILE0104	Dominion Trans Inc. / Beaver	HOT WATER HEATER - STACK	558671.0	4518753.0	375.7	1.0	ambient	0.001	0.001
FILE0105	Geopetro Patterson Compressor Station	CAT. G3508BLE STACK - 690 BHP COMPRESSOR ENGINE	549729.0	4526823.0	338.7	0.3	293	0.009	0.305
FILE0106	Geopetro Patterson Compressor Station	HEATERS/REBOILERS STACK	549729.0	4526823.0	338.7	0.3	293	0.009	0.305
FILE0113	New Castle Power	BABCOCK & WILCOX - BOILER 3	553209.0	4532062.0	244.5	228.6	422	46.680	5.822
FILE0114	New Castle Power	BABCOCK & WILCOX - BOILER 4	553209.0	4532062.0	244.5	228.6	422	46.680	5.822
FILE0115	New Castle Power	BABCOCK & WILCOX - BOILER 5	553209.0	4532062.0	244.5	228.6	422	46.680	5.822
FILE0116	New Castle Power	ELECTROMOTIVE DIESEL A	553209.0	4532062.0	244.5	5.8	670	30.800	1.067
FILE0122	New Castle Power	STACK FROM AUXILIARY BOILER	553209.0	4532062.0	244.5	16.5	478	5.240	0.549
FILE0123	New Castle Power	STACK FROM DIESEL GENERATORS (2)	553209.0	4532062.0	244.5	1.0	311	0.001	0.001
FILE0125	New Castle Power	NATURAL GAS PIPELINE HEATER STACK VENT	553209.0	4532062.0	244.5	5.8	478	5.240	0.549
FILE0126	Columbia Gas Trans Corp / Ellwood City	Source added from Permit, Boiler	562988.0	4520462.0	262.5	1.0	ambient	0.001	0.001
FILE0127	Columbia Gas Trans Corp / Ellwood City	RECIP.ENGINE/INTEGRAL COMPRESSOR (500HP)	562988.0	4520462.0	262.5	12.2	533	34.747	0.610
FILE0128	Columbia Gas Trans Corp / Ellwood City	RECIP.ENGINE/INTEGRAL COMPRESSOR (500HP)	562988.0	4520462.0	262.5	12.2	533	34.747	0.610
FILE0129	Columbia Gas Trans Corp / Ellwood City	RECIP.ENGINE/GENERATOR (125HP)	562988.0	4520462.0	262.5	1.0	366	0.001	0.001

OFFSITE INVENTORY - EXHAUST PARAMETERS (POINT SOURCES)
CEMEX
Wampum Cement Plant

Model ID	Facility Name	Source Description	Easting (m)	Northing (m)	Base Elevation (m)	Stack Height (m)	Temperature (K)	Exit Velocity (m/s)	Stack Diameter (m)
FILE0132	Columbia Gas Trans Corp / Ellwood City	HEATERS/REBOILERS STACK	562988.0	4520462.0	262.5	0.3	293	0.009	0.305
FILE0139	Beaver Falls Tubular ProdLLC/ Beaver Falls PLT	FUGITIVES - NORMALIZER FURNACE 1	556288.0	4514679.0	281.3	1.0	ambient	0.001	0.001
FILE0140	Beaver Falls Tubular ProdLLC/ Beaver Falls PLT	BOILER 1 STACK	556288.0	4514679.0	281.3	1.0	366	0.001	0.001
FILE0141	Beaver Falls Tubular ProdLLC/ Beaver Falls PLT	BOILER 2 STACK	556288.0	4514679.0	281.3	1.0	366	0.001	0.001
FILE0142	Beaver Falls Tubular ProdLLC/ Beaver Falls PLT	BAF FURNACE STACK	556288.0	4514679.0	281.3	1.0	366	0.001	0.001
FILE0143	Beaver Falls Tubular ProdLLC/ Beaver Falls PLT	FUGITIVES - NORMALIZER FURNACE 2	556288.0	4514679.0	281.3	1.0	ambient	0.001	0.001
FILE0144	The Sherwin Williams Co.	STACK	561878.0	4514962.0	359.6	1.0	344	0.001	0.001
FILE0146	The Sherwin Williams Co.	BOILER STACKS	561878.0	4514962.0	359.6	9.1	450	0.290	0.457
FILE0149	The Sherwin Williams Co.	EMERGENCY GENERATOR STACKS	561878.0	4514962.0	359.6	1.0	366	0.001	0.001
FILE0150	Ellwood Quality Steeld Co.	ELECTRIC ARC FURNACE	554606.0	4538045.0	236.6	23.5	339	25.500	2.743
FILE0151	Ellwood Quality Steeld Co.	ANNEALING FURNACES STACK	554606.0	4538045.0	236.6	30.5	325	14.679	2.438
FILE0152	Ellwood Quality Steeld Co.	LADLE PREHEATERS (2)	554606.0	4538045.0	236.6	1.5	548	0.001	0.001
FILE0153	Ellwood Quality Steeld Co.	BOILER STACKS (4)	554606.0	4538045.0	236.6	11.0	528	4.060	0.701
FILE0154	Ellwood Quality Steeld Co.	MISC HEATER UNITS (< 2.5 MMBTU/HR)	554606.0	4538045.0	236.6	1.0	ambient	0.001	0.001
FILE0155	Ellwood Quality Steeld Co.	SCRAP TORCHING	554606.0	4538045.0	236.6	1.0	ambient	0.001	0.001
FILE0156	Ellwood Quality Steeld Co.	GAS CUTTER	554606.0	4538045.0	236.6	1.0	ambient	0.001	0.001
FILE0158	Ellwood Quality Steeld Co.	INGOT GRINDING	554606.0	4538045.0	236.6	1.0	ambient	0.001	0.001
FILE0159	Ellwood Quality Steeld Co.	ELECTRIC LADLE FURNACE	554606.0	4538045.0	236.6	1.0	ambient	0.001	0.001
FILE0162	Ellwood Quality Steeld Co.	MOLD GRINDING	554606.0	4538045.0	236.6	1.0	ambient	0.001	0.001
FILE0164	Ellwood Quality Steeld Co.	EAF PRE-HEATER	554606.0	4538045.0	236.6	23.5	339	25.500	2.743
FILE0165	Ellwood Quality Steeld Co.	LIME SILO BIN VENT FILTER EXHAUST	554606.0	4538045.0	236.6	1.0	ambient	0.001	0.001

OFFSITE INVENTORY - EXHAUST PARAMETERS (POINT SOURCES)
CEMEX
Wampum Cement Plant

Model ID	Facility Name	Source Description	Easting (m)	Northing (m)	Base Elevation (m)	Stack Height (m)	Temperature (K)	Exit Velocity (m/s)	Stack Diameter (m)
FILE0166	Ellwood Quality Steeld Co.	BACKUP EMERGENCY DIESEL PUMP EXHAUST	554606.0	4538045.0	236.6	1.0	ambient	0.001	0.001
FILE0167	Ellwood Quality Steeld Co.	Source added from Permit, Emergency Generator	554606.0	4538045.0	236.6	1.0	ambient	0.001	0.001
FILE0168	Ellwood Quality Steeld Co.	Source added from Permit, Emergency Generator	554606.0	4538045.0	236.6	1.0	ambient	0.001	0.001
FILE0170	Ellwood Mill Prod Co.	INSIDE VENTED FURNACE STACKS	554922.0	4538219.0	239.7	1.0	ambient	0.001	0.001
FILE0172	Ellwood Mill Prod Co.	FORGE SHOP	554922.0	4538219.0	239.7	12.2	366	12.802	0.610
FILE0173	Ellwood Mill Prod Co.	RINGMILL MILLING MACHINE COLLECTOR STACK	554922.0	4538219.0	239.7	1.2	294	18.279	0.396
FILE0174	Ellwood Mill Prod Co.	KOEHLER EMERGENCY GENERATOR STACK	554922.0	4538219.0	239.7	0.3	778	48.561	0.061
FILE0175	Ellwood Mill Prod Co.	FURNACE 2538 STACK	554922.0	4538219.0	239.7	1.0	ambient	0.001	0.001
FILE0176	Ellwood Mill Prod Co.	RINGMILL MILLING MACHINE (4603)	554922.0	4538219.0	239.7	1.0	ambient	0.001	0.001
FILE0179	Ellwood Mill Prod Co.	Source added from Permit, Furnace	554922.0	4538219.0	239.7	1.0	ambient	0.001	0.001
FILE0180	BUCKEYE PIPELINE CORAOPOLIS	GARAGE BOILER-NATURAL GAS	569590.0	4486476.0	215.8	10.7	295	6.550	0.430
FILE0181	BUCKEYE PIPELINE CORAOPOLIS	CP Combustion Unit	569590.0	4486476.0	215.8	13.7	1272	21.081	0.203
FILE0218	BNZ MATERIALS INC/ZELIENOPLE	HOT WATER HEATER	571798.0	4516012.0	273.1	1.5	478	0.001	0.001
FILE0228	BNZ MATERIALS INC/ZELIENOPLE	#3 KILN	571798.0	4516012.0	273.1	1.5	464	0.001	0.001
FILE0229	BNZ MATERIALS INC/ZELIENOPLE	#3 KILN STACK #2	571798.0	4516012.0	273.1	10.1	464	6.471	0.305
FILE0243	BNZ MATERIALS INC/ZELIENOPLE	EMERGENCY LIGHTING GENERATOR	571798.0	4516012.0	273.1	1.0	ambient	0.001	0.001
FILE0244	BNZ MATERIALS INC/ZELIENOPLE	#4 KILN CONTROL PANEL EMERGENCY GENERATOR	571798.0	4516012.0	273.1	1.0	ambient	0.001	0.001
FILE0248	SENECA LANDFILL INC/SENECA	WASTEWATER TREATMENT PLANT STEAM BOILER	577711.0	4518290.0	295.4	0.9	505	0.001	0.001
FILE0256	SENECA LANDFILL INC/SENECA	335 KW LANDFILL GAS ENGINE/GENERATOR	577711.0	4518290.0	295.4	0.3	311	0.001	0.001
FILE0258	SENECA LANDFILL INC/SENECA	350 HP CATERPILLAR DIESEL ENGINE FOR EXTEC C12 STONE CRUSHER	577711.0	4518290.0	295.4	6.1	366	34.747	0.457
FILE0271	SENECA LANDFILL INC/SENECA	STACK	577711.0	4518290.0	295.4	1.0	ambient	0.001	0.001

OFFSITE INVENTORY - EXHAUST PARAMETERS (POINT SOURCES)
CEMEX
Wampum Cement Plant

Model ID	Facility Name	Source Description	Easting (m)	Northing (m)	Base Elevation (m)	Stack Height (m)	Temperature (K)	Exit Velocity (m/s)	Stack Diameter (m)
FILE0273	SENECA LANDFILL INC/SENECA	STACK	577711.0	4518290.0	295.4	1.0	ambient	0.001	0.001
FILE0275	SENECA LANDFILL INC/SENECA	STACK	577711.0	4518290.0	295.4	1.0	ambient	0.001	0.001
FILE0277	SENECA LANDFILL INC/SENECA	STACK	577711.0	4518290.0	295.4	1.5	ambient	169.164	0.001
FILE0279	SENECA LANDFILL INC/SENECA	DIESEL TIPPER ENG. JOHN DEERE MODEL:JD6068HF286	577711.0	4518290.0	295.4	1.0	564	0.001	0.001
FILE0286	BASF CORP/MONACA PLT	THERMAL OXIDATION UNIT	555299.0	4501271.0	229.9	5.8	1255	0.001	0.001
FILE0294	BASF CORP/MONACA PLT	#1 CLEAVER BROOKS BOILER (31.83 MMBTU/HR)	555299.0	4501271.0	229.9	5.2	513	0.001	0.001
FILE0296	BASF CORP/MONACA PLT	#2 CLEAVER BROOKS BOILER (31.83 MMBTU/HR)	555299.0	4501271.0	229.9	5.2	513	0.001	0.001
FILE0298	BASF CORP/MONACA PLT	Firewater pump, 197 HP	555299.0	4501271.0	229.9	1.0	ambient	0.001	0.001
FILE0299	BASF CORP/MONACA PLT	Emergency Generator, 207 HP	555299.0	4501271.0	229.9	1.0	ambient	0.001	0.001
FILE0331	NOVA CHEM CO/BEAVER	BOILER 1 STACK	554449.0	4500531.0	231.6	1.0	383	0.001	0.001
FILE0333	NOVA CHEM CO/BEAVER	BOILER 2 STACK	554449.0	4500531.0	231.6	1.0	383	0.001	0.001
FILE0335	NOVA CHEM CO/BEAVER	BOILER 3 STACK	554449.0	4500531.0	231.6	1.0	383	0.001	0.001
FILE0337	NOVA CHEM CO/BEAVER	BOILER 4 STACK	554449.0	4500531.0	231.6	1.0	383	0.001	0.001
FILE0339	NOVA CHEM CO/BEAVER	BOILER 5 STACK	554449.0	4500531.0	231.6	1.0	383	0.001	0.001
FILE0341	NOVA CHEM CO/BEAVER	BOILER 6 STACK	554449.0	4500531.0	231.6	1.0	383	0.001	0.001
FILE0343	NOVA CHEM CO/BEAVER	BOILER 7 STACK	554449.0	4500531.0	231.6	1.0	383	0.001	0.001
FILE0345	NOVA CHEM CO/BEAVER	BOILER 8 STACK	554449.0	4500531.0	231.6	1.0	383	0.001	0.001
FILE0347	NOVA CHEM CO/BEAVER	BOILER 9 STACK	554449.0	4500531.0	231.6	1.0	383	0.001	0.001
FILE0349	NOVA CHEM CO/BEAVER	BOILER 10 STACK	554449.0	4500531.0	231.6	1.0	383	0.001	0.001
FILE0351	NOVA CHEM CO/BEAVER	BOILER 11 STACK	554449.0	4500531.0	231.6	1.0	383	0.001	0.001
FILE0353	NOVA CHEM CO/BEAVER	BOILER 12 STACK	554449.0	4500531.0	231.6	1.0	383	0.001	0.001

OFFSITE INVENTORY - EXHAUST PARAMETERS (POINT SOURCES)
CEMEX
Wampum Cement Plant

Model ID	Facility Name	Source Description	Easting (m)	Northing (m)	Base Elevation (m)	Stack Height (m)	Temperature (K)	Exit Velocity (m/s)	Stack Diameter (m)
FILE0354	NOVA CHEM CO/BEAVER	BOILER 13 (11.67 MMBTU/HR)	554449.0	4500531.0	231.6	1.0	ambient	0.001	0.001
FILE0355	NOVA CHEM CO/BEAVER	BOILER 14 (11.67 MMBTU/HR)	554449.0	4500531.0	231.6	1.0	ambient	0.001	0.001
FILE0356	NOVA CHEM CO/BEAVER	BOILER 15 (11.67 MMBTU/HR)	554449.0	4500531.0	231.6	1.0	ambient	0.001	0.001
FILE0357	NOVA CHEM CO/BEAVER	BOILER 16 (11.67 MMBTU/HR)	554449.0	4500531.0	231.6	1.0	ambient	0.001	0.001
FILE0362	KAWNEER COMMERCIAL WINDOWS LLC/CRANBERRY TWP	COATED-EXTRUSION BAKE OVEN	574998.0	4506211.0	315.2	1.0	447	0.001	0.001
FILE0368	KAWNEER COMMERCIAL WINDOWS LLC/CRANBERRY TWP	1800 TON EXTRUSION PRESS & PREHEATERS	574998.0	4506211.0	315.2	1.0	476	0.001	0.001
FILE0370	KAWNEER COMMERCIAL WINDOWS LLC/CRANBERRY TWP	EXTRUSION AGING OVENS (2)	574998.0	4506211.0	315.2	1.0	420	0.001	0.001
FILE0372	KAWNEER COMMERCIAL WINDOWS LLC/CRANBERRY TWP	CAUSTIC ANODIZING TANK	574998.0	4506211.0	315.2	1.0	294	0.001	0.001
FILE0377	KAWNEER COMMERCIAL WINDOWS LLC/CRANBERRY TWP	FACILITY SPACE HEATING (& HVAC SYSTEM)	574998.0	4506211.0	315.2	1.5	322	0.001	0.001
FILE0380	KAWNEER COMMERCIAL WINDOWS LLC/CRANBERRY TWP	EXTRUSION PREHEATER STACK	574998.0	4506211.0	315.2	10.4	700	15.670	0.244
FILE0381	KAWNEER COMMERCIAL WINDOWS LLC/CRANBERRY TWP	MISC NATURAL GAS USAGE	574998.0	4506211.0	315.2	1.8	322	0.001	0.001
FILE0393	KAWNEER COMMERCIAL WINDOWS LLC/CRANBERRY TWP	Emergency Generator, 315 HP	574998.0	4506211.0	315.2	1.0	ambient	0.001	0.001
FILE0395	US GYPSUM CO/ALIQUIPPA	BOARD KILN/END SEAL STACK	564369.0	4497719.0	227.7	16.5	368	15.310	2.591
FILE0396	US GYPSUM CO/ALIQUIPPA	A KETTLE	564369.0	4497719.0	227.7	4.9	589	0.001	0.001
FILE0398	US GYPSUM CO/ALIQUIPPA	B KETTLE	564369.0	4497719.0	227.7	4.9	589	0.001	0.001
FILE0400	US GYPSUM CO/ALIQUIPPA	A DRYER MILL	564369.0	4497719.0	227.7	4.0	378	0.001	0.001
FILE0403	US GYPSUM CO/ALIQUIPPA	GAUGING WATER HEATER STACK	564369.0	4497719.0	227.7	7.6	589	15.968	0.274
FILE0412	US GYPSUM CO/ALIQUIPPA	B DRYER MILL	564369.0	4497719.0	227.7	4.0	378	0.001	0.001
FILE0430	ALLEGHENY & TSINGSHAN STAINLESS LLC MIDLAND FAC	DRAP LINE - BOILER # 1 (29.3 MMBTU/HR)	545579.0	4498791.0	234.8	1.0	ambient	0.001	0.001
FILE0432	ALLEGHENY & TSINGSHAN STAINLESS LLC MIDLAND FAC	DRAP LINE - BOILER # 2 (33.5 MMBTU/HR)	545579.0	4498791.0	234.8	1.0	ambient	0.001	0.001
FILE0438	ALLEGHENY & TSINGSHAN STAINLESS LLC MIDLAND FAC	TWO Linde Boilers (9.5 MMBtu/hr each)	545579.0	4498791.0	234.8	1.0	ambient	0.001	0.001

OFFSITE INVENTORY - EXHAUST PARAMETERS (POINT SOURCES)
CEMEX
Wampum Cement Plant

Model ID	Facility Name	Source Description	Easting (m)	Northing (m)	Base Elevation (m)	Stack Height (m)	Temperature (K)	Exit Velocity (m/s)	Stack Diameter (m)
FILE0439	PA STATE SYS OF HIGHER ED/SLIPPERY ROCK UNIV PA	BOILER 1	579828.0	4545832.0	409.0	1.0	ambient	0.001	0.001
FILE0441	PA STATE SYS OF HIGHER ED/SLIPPERY ROCK UNIV PA	BOILER 2	579828.0	4545832.0	409.0	1.0	ambient	0.001	0.001
FILE0443	PA STATE SYS OF HIGHER ED/SLIPPERY ROCK UNIV PA	BOILER 4	579828.0	4545832.0	409.0	1.0	ambient	0.001	0.001
FILE0445	PA STATE SYS OF HIGHER ED/SLIPPERY ROCK UNIV PA	EMERGENCY ENGINES BUILT PRIOR TO 1/1/2009	579828.0	4545832.0	409.0	1.0	ambient	0.001	0.001
FILE0447	PA STATE SYS OF HIGHER ED/SLIPPERY ROCK UNIV PA	BOILER 3	579828.0	4545832.0	409.0	1.0	ambient	0.001	0.001
FILE0458	AK STEEL CORP/BUTLER WORKS	BOILER 10 (MP)	589148.0	4520342.0	297.3	6.1	505	0.001	0.001
FILE0462	AK STEEL CORP/BUTLER WORKS	ELECTRIC ARC FURNACE 2	589148.0	4520342.0	297.3	0.3	370	0.001	0.001
FILE0479	AK STEEL CORP/BUTLER WORKS	SLAB HEATING FURNACE 5	589148.0	4520342.0	297.3	3.4	1066	0.001	0.001
FILE0481	AK STEEL CORP/BUTLER WORKS	SLAB HEATING FURNACE 6	589148.0	4520342.0	297.3	4.3	1066	0.001	0.001
FILE0483	AK STEEL CORP/BUTLER WORKS	SLAB HEATING FURNACE 7	589148.0	4520342.0	297.3	4.0	1080	0.001	0.001
FILE0503	AK STEEL CORP/BUTLER WORKS	AOD REACTOR	589148.0	4520342.0	297.3	1.5	394	0.001	0.001
FILE0505	AK STEEL CORP/BUTLER WORKS	SLAB HEATING FURNACE 8	589148.0	4520342.0	297.3	0.3	922	0.001	0.001
FILE0507	AK STEEL CORP/BUTLER WORKS	#2 CONTINUOUS CASTER	589148.0	4520342.0	297.3	3.0	322	0.001	0.001
FILE0509	AK STEEL CORP/BUTLER WORKS	#3 CONTINUOUS CASTER	589148.0	4520342.0	297.3	3.0	322	0.001	0.001
FILE0511	AK STEEL CORP/BUTLER WORKS	DECARB FURNACE 1	589148.0	4520342.0	297.3	0.9	294	0.001	0.001
FILE0513	AK STEEL CORP/BUTLER WORKS	SILICON DRYING FURNACE 1	589148.0	4520342.0	297.3	0.9	294	0.001	0.001
FILE0515	AK STEEL CORP/BUTLER WORKS	DECARB FURNACE 6	589148.0	4520342.0	297.3	0.9	294	0.001	0.001
FILE0517	AK STEEL CORP/BUTLER WORKS	SILICON DRYING FURNACE 6	589148.0	4520342.0	297.3	0.9	294	0.001	0.001
FILE0519	AK STEEL CORP/BUTLER WORKS	PREHEAT FURNACE 11	589148.0	4520342.0	297.3	0.9	366	0.001	0.001
FILE0521	AK STEEL CORP/BUTLER WORKS	SILICON DRYING FURNACE 11	589148.0	4520342.0	297.3	0.9	366	0.001	0.001
FILE0523	AK STEEL CORP/BUTLER WORKS	PREHEAT FURNACE 19	589148.0	4520342.0	297.3	0.9	366	0.001	0.001

OFFSITE INVENTORY - EXHAUST PARAMETERS (POINT SOURCES)
CEMEX
Wampum Cement Plant

Model ID	Facility Name	Source Description	Easting (m)	Northing (m)	Base Elevation (m)	Stack Height (m)	Temperature (K)	Exit Velocity (m/s)	Stack Diameter (m)
FILE0525	AK STEEL CORP/BUTLER WORKS	SILICON DRYING FURNACE 19	589148.0	4520342.0	297.3	0.9	366	0.001	0.001
FILE0529	AK STEEL CORP/BUTLER WORKS	LADLE PREHEATER/DRYER #1	589148.0	4520342.0	297.3	1.5	333	0.001	0.001
FILE0531	AK STEEL CORP/BUTLER WORKS	LADLE PREHEATER/DRYER # 2	589148.0	4520342.0	297.3	1.5	333	0.001	0.001
FILE0533	AK STEEL CORP/BUTLER WORKS	LADLE PREHEATER/DRYER # 3	589148.0	4520342.0	297.3	1.5	333	0.001	0.001
FILE0535	AK STEEL CORP/BUTLER WORKS	LADLE PREHEATER/DRYER # 4	589148.0	4520342.0	297.3	1.5	333	0.001	0.001
FILE0537	AK STEEL CORP/BUTLER WORKS	LADLE PREHEATER/DRYER # 5	589148.0	4520342.0	297.3	1.5	333	0.001	0.001
FILE0551	AK STEEL CORP/BUTLER WORKS	2.5 MMBTU/HR < SPACEHEATERS < 10 MMBTU/HR	589148.0	4520342.0	297.3	1.5	394	0.001	0.001
FILE0553	AK STEEL CORP/BUTLER WORKS	CRNO LINE ANNEAL FURNACE	589148.0	4520342.0	297.3	1.5	505	0.001	0.001
FILE0565	AK STEEL CORP/BUTLER WORKS	ANNEAL FURNACE 4	589148.0	4520342.0	297.3	1.5	422	0.001	0.001
FILE0567	AK STEEL CORP/BUTLER WORKS	ANNEAL FURNACE 7	589148.0	4520342.0	297.3	1.5	416	0.001	0.001
FILE0569	AK STEEL CORP/BUTLER WORKS	ANNEAL FURNACE 12	589148.0	4520342.0	297.3	1.5	1005	0.001	0.001
FILE0573	AK STEEL CORP/BUTLER WORKS	CARLITE LINE DRY FURNACE 20	589148.0	4520342.0	297.3	1.5	422	0.001	0.001
FILE0575	AK STEEL CORP/BUTLER WORKS	CARLITE LINE DRY FURNACE 26	589148.0	4520342.0	297.3	1.5	422	0.001	0.001
FILE0579	AK STEEL CORP/BUTLER WORKS	LADLE PREHEATER/DRYER # 6	589148.0	4520342.0	297.3	1.5	311	0.001	0.001
FILE0585	AK STEEL CORP/BUTLER WORKS	MGO DRYING FURNACE	589148.0	4520342.0	297.3	1.5	422	0.001	0.001
FILE0589	AK STEEL CORP/BUTLER WORKS	BOILER 21 (HTP)	589148.0	4520342.0	297.3	1.0	ambient	0.001	0.001
FILE0593	AK STEEL CORP/BUTLER WORKS	#7 LADLE DRYING STATION	589148.0	4520342.0	297.3	1.0	ambient	0.001	0.001
FILE0595	AK STEEL CORP/BUTLER WORKS	SPACE HEATERS < 2.5 MMBTU	589148.0	4520342.0	297.3	1.0	ambient	0.001	0.001
FILE0597	AK STEEL CORP/BUTLER WORKS	MISC. PROCESS HEATERS	589148.0	4520342.0	297.3	1.0	ambient	0.001	0.001
FILE0599	AK STEEL CORP/BUTLER WORKS	STANDBY GENERATORS (NATURAL GAS/PROPANE)	589148.0	4520342.0	297.3	1.0	ambient	0.001	0.001
FILE0601	AK STEEL CORP/BUTLER WORKS	STANDBY GENERATORS/PUMPS (DIESEL) <500 HP	589148.0	4520342.0	297.3	1.0	ambient	0.001	0.001

OFFSITE INVENTORY - EXHAUST PARAMETERS (POINT SOURCES)
CEMEX
Wampum Cement Plant

Model ID	Facility Name	Source Description	Easting (m)	Northing (m)	Base Elevation (m)	Stack Height (m)	Temperature (K)	Exit Velocity (m/s)	Stack Diameter (m)
FILE0613	AK STEEL CORP/BUTLER WORKS	MAIN PLANT BOILER #22	589148.0	4520342.0	297.3	1.0	ambient	0.001	0.001
FILE0623	AK STEEL CORP/BUTLER WORKS	LADLE PREHEATER/DRYER # 9	589148.0	4520342.0	297.3	1.0	ambient	0.001	0.001
FILE0625	AK STEEL CORP/BUTLER WORKS	#3 BAGHOUSE STACK	589148.0	4520342.0	297.3	25.9	370	3.880	15.240
FILE0637	AK STEEL CORP/BUTLER WORKS	EMERGENCY DIESEL PUMP (340 HP)	589148.0	4520342.0	297.3	1.0	ambient	0.001	0.001
FILE0641	AK STEEL CORP/BUTLER WORKS	LADLE PREHEATER/DRYER #8	589148.0	4520342.0	297.3	1.0	ambient	0.001	0.001
FILE0665	AK STEEL CORP/BUTLER WORKS	STANDBY GENERATOR (DIESEL) >500 HP	589148.0	4520342.0	297.3	1.0	ambient	0.001	0.001
FILE0667	AK STEEL CORP/BUTLER WORKS	BACKUP BOILER (HTP)	589148.0	4520342.0	297.3	1.0	ambient	0.001	0.001
FILE0669	GE TRANS GROVE CITY ENGINE	BOILER - 400 HP - 13.4 MILLION BTU/HR NAT. GAS	574821.0	4557829.0	390.0	1.5	411	0.001	0.001
FILE0687	GE TRANS GROVE CITY ENGINE	DIESEL ENGINE TEST CELL 3 STACK (OLD S04)	574821.0	4557829.0	390.0	22.9	563	18.011	0.762
FILE0688	GE TRANS GROVE CITY ENGINE	DIESEL ENGINE TEST CELL 1 STACK (OLD S02)	574821.0	4557829.0	390.0	22.9	563	10.659	1.006
FILE0689	GE TRANS GROVE CITY ENGINE	DIESEL ENGINE TEST CELL 2 STACK (OLD S03)	574821.0	4557829.0	390.0	22.9	563	18.011	0.762
FILE0690	GE TRANS GROVE CITY ENGINE	DIESEL ENGINE TEST CELL 4 STACK (OLD S05)	574821.0	4557829.0	390.0	22.9	575	14.640	1.006
FILE0691	GE TRANS GROVE CITY ENGINE	DIESEL ENGINE TEST CELL 5 STACK (OLD S06)	574821.0	4557829.0	390.0	22.9	390	26.700	1.006
FILE0692	GE TRANS GROVE CITY ENGINE	BOILER - 800 HP - 26.8 MILLION BTU/HR NAT. GAS	574821.0	4557829.0	390.0	0.3	505	0.001	0.001
FILE0694	GE TRANS GROVE CITY ENGINE	EMERGENCY DIESEL FIRE PUMP 185 HP	574821.0	4557829.0	390.0	1.0	ambient	0.001	0.001
FILE0696	GE TRANS GROVE CITY ENGINE	MISC NATURAL GAS FIRED SOURCES	574821.0	4557829.0	390.0	0.9	294	0.001	0.001
FILE0702	GE TRANS GROVE CITY ENGINE	DIESEL ENGINE TEST CELL 6	574821.0	4557829.0	390.0	22.9	563	18.011	0.762
FILE0705	GE TRANS GROVE CITY ENGINE	Emerg Fire Pump 185 HP	574821.0	4557829.0	390.0	1.0	ambient	0.001	0.001
FILE0706	WHEATLAND TUBE CO DI/WHEATLAND TUBE DIV	CONTINUOUS WELD FURNACE	542449.0	4560512.0	255.8	0.6	811	0.001	0.001
FILE0710	WHEATLAND TUBE CO DI/WHEATLAND TUBE DIV	#2 GALVANIZING KETTLE	542449.0	4560512.0	255.8	1.5	294	0.001	0.001
FILE0717	WHEATLAND TUBE CO DI/WHEATLAND TUBE DIV	600HP BOILER	542449.0	4560512.0	255.8	1.5	322	0.001	0.001

OFFSITE INVENTORY - EXHAUST PARAMETERS (POINT SOURCES)
CEMEX
Wampum Cement Plant

Model ID	Facility Name	Source Description	Easting (m)	Northing (m)	Base Elevation (m)	Stack Height (m)	Temperature (K)	Exit Velocity (m/s)	Stack Diameter (m)
FILE0719	WHEATLAND TUBE CO DI/WHEATLAND TUBE DIV	400HP BOILER	542449.0	4560512.0	255.8	1.5	322	0.001	0.001
FILE0747	WHEATLAND TUBE CO DI/WHEATLAND TUBE DIV	MISC HEATERS	542449.0	4560512.0	255.8	0.9	256	0.001	0.001
FILE0749	WHEATLAND TUBE CO DI/WHEATLAND TUBE DIV	1000HP NAT. GAS FIRED BOILER	542449.0	4560512.0	255.8	6.1	366	0.001	0.001
FILE0763	WHEATLAND TUBE CO DI/WHEATLAND TUBE DIV	NATURAL GAS FUELED EMERGENCY GENERATORS (2)	542449.0	4560512.0	255.8	1.0	ambient	0.001	0.001
FILE0769	NLMK PENNSYLVANIA LLC/FARRELL PLT	SLAB REHEAT FURNACE 1	541099.0	4562512.0	260.0	0.9	533	0.001	0.001
FILE0771	NLMK PENNSYLVANIA LLC/FARRELL PLT	SLAB REHEAT FURNACE 2	541099.0	4562512.0	260.0	0.9	533	0.001	0.001
FILE0785	NLMK PENNSYLVANIA LLC/FARRELL PLT	#21 ANNEAL FURNACES (10 FURNACES)	541099.0	4562512.0	260.0	1.0	ambient	0.001	0.001
FILE0791	NLMK PENNSYLVANIA LLC/FARRELL PLT	#22 ANNEAL FURNACES (12 FURNACES)	541099.0	4562512.0	260.0	1.0	ambient	0.001	0.001
FILE0797	NLMK PENNSYLVANIA LLC/FARRELL PLT	STEAM BOILERS (2)	541099.0	4562512.0	260.0	0.9	530	0.001	0.001
FILE0799	NLMK PENNSYLVANIA LLC/FARRELL PLT	SLAB REHEAT FURNACE 3	541099.0	4562512.0	260.0	1.0	ambient	0.001	0.001
FILE0840	JONES PERFORMANCE PR/WEST MIDDLESEX	CURING OVEN	546089.0	4565732.0	323.1	0.9	450	0.001	0.001
FILE0844	JONES PERFORMANCE PR/WEST MIDDLESEX	AIR MAKE-UP & OTHER MISC. HEATERS	546089.0	4565732.0	323.1	0.3	316	0.001	0.001
FILE0848	TENNESSEE GAS PIPELINE CO LLC/MERCER STA 219	1-A	560798.0	4568712.0	397.2	8.2	603	45.101	0.335
FILE0850	TENNESSEE GAS PIPELINE CO LLC/MERCER STA 219	2-A	560798.0	4568712.0	397.2	8.2	603	45.101	0.335
FILE0852	TENNESSEE GAS PIPELINE CO LLC/MERCER STA 219	3-A	560798.0	4568712.0	397.2	8.2	603	45.101	0.335
FILE0854	TENNESSEE GAS PIPELINE CO LLC/MERCER STA 219	4-A	560798.0	4568712.0	397.2	8.2	603	45.101	0.335
FILE0856	TENNESSEE GAS PIPELINE CO LLC/MERCER STA 219	5-A	560798.0	4568712.0	397.2	8.2	603	45.101	0.335
FILE0858	TENNESSEE GAS PIPELINE CO LLC/MERCER STA 219	6-A	560798.0	4568712.0	397.2	8.2	603	45.101	0.335
FILE0860	TENNESSEE GAS PIPELINE CO LLC/MERCER STA 219	7-A	560798.0	4568712.0	397.2	8.2	628	41.700	0.396
FILE0862	TENNESSEE GAS PIPELINE CO LLC/MERCER STA 219	8-A	560798.0	4568712.0	397.2	8.5	628	41.700	0.396
FILE0864	TENNESSEE GAS PIPELINE CO LLC/MERCER STA 219	9-A	560798.0	4568712.0	397.2	9.1	589	43.900	0.396

OFFSITE INVENTORY - EXHAUST PARAMETERS (POINT SOURCES)
CEMEX
Wampum Cement Plant

Model ID	Facility Name	Source Description	Easting (m)	Northing (m)	Base Elevation (m)	Stack Height (m)	Temperature (K)	Exit Velocity (m/s)	Stack Diameter (m)
FILE0866	TENNESSEE GAS PIPELINE CO LLC/MERCER STA 219	10-A	560798.0	4568712.0	397.2	9.1	628	43.900	0.396
FILE0868	TENNESSEE GAS PIPELINE CO LLC/MERCER STA 219	11-A	560798.0	4568712.0	397.2	9.1	589	43.900	0.396
FILE0870	TENNESSEE GAS PIPELINE CO LLC/MERCER STA 219	12-A	560798.0	4568712.0	397.2	9.1	589	43.900	0.396
FILE0872	TENNESSEE GAS PIPELINE CO LLC/MERCER STA 219	13-A	560798.0	4568712.0	397.2	9.1	589	43.900	0.396
FILE0874	TENNESSEE GAS PIPELINE CO LLC/MERCER STA 219	1-B	560798.0	4568712.0	397.2	7.9	569	32.098	0.884
FILE0876	TENNESSEE GAS PIPELINE CO LLC/MERCER STA 219	A-1-A	560798.0	4568712.0	397.2	7.3	696	11.601	0.274
FILE0878	TENNESSEE GAS PIPELINE CO LLC/MERCER STA 219	A-2-A	560798.0	4568712.0	397.2	7.3	696	11.601	0.274
FILE0880	TENNESSEE GAS PIPELINE CO LLC/MERCER STA 219	A-3-A	560798.0	4568712.0	397.2	7.3	696	11.601	0.274
FILE0884	Hickory Run Energy Center	Combustion Turbine Stack 1	547917.8	4538356.3	301.2	22.8	453	5.666	1.673
FILE0885	Hickory Run Energy Center	Combustion Turbine Stack 2	547960.5	4538357.8	299.3	22.8	453	5.666	1.673
FILE0886	Hickory Run Energy Center	Auxiliary Boiler	547983.3	4538268.6	303.1	10.2	604	8.129	0.186
FILE0887	Hickory Run Energy Center	Emergency Generator	547973.1	4538268.6	303.6	1.9	673	12.143	0.091
FILE0888	Hickory Run Energy Center	Fire Water Pump	547698.5	4538415.0	313.9	1.9	696	5.401	0.091
FILE0889	Wampum Quarry	Facility Roadways	555026.8	4528652.0	305.0	1.0	ambient	0.001	0.001
FILE0890	Wampum Quarry	Dump Hopper	555000.1	4528619.0	298.5	1.0	ambient	0.001	0.001
FILE0891	Wampum Quarry	Apron Feeder	555000.1	4528619.0	298.5	1.0	ambient	0.001	0.001
FILE0892	Wampum Quarry	Wobbler Feeder	555000.1	4528619.0	298.5	1.0	ambient	0.001	0.001
FILE0893	Wampum Quarry	Impact Crusher	555000.1	4528619.0	298.5	6.1	297	0.001	0.713
FILE0894	Wampum Quarry	Impact Crusher	555000.1	4528619.0	298.5	1.0	ambient	0.001	0.001
FILE0895	Wampum Quarry	Conveyor System	555000.1	4528619.0	298.5	1.0	297	0.001	0.329
FILE0896	Wampum Quarry	Truck Loadout Silo	554864.6	4528455.7	239.1	17.4	297	0.001	0.329

OFFSITE INVENTORY - EXHAUST PARAMETERS (POINT SOURCES)
CEMEX
Wampum Cement Plant

Model ID	Facility Name	Source Description	Easting (m)	Northing (m)	Base Elevation (m)	Stack Height (m)	Temperature (K)	Exit Velocity (m/s)	Stack Diameter (m)
FILE0897	Wampum Quarry	Truck Loading	554864.6	4528455.7	239.1	1.0	ambient	0.001	0.001
FILE0917	BAIRD BROTHERS SAWMILL INC	Boiler	515930.4	4540597.6	337.8	1.0	ambient	0.001	0.001
FILE0918	BAIRD BROTHERS SAWMILL INC	P001 & P002	515930.4	4540597.6	337.8	1.0	ambient	0.001	0.001
FILE0919	BAIRD BROTHERS SAWMILL INC	P003, P004, P005	515930.4	4540597.6	337.8	1.0	ambient	0.001	0.001
FILE0921	CARBON LIMESTONE LANDFILL GAS POWER STATION	Thermal Oxidizer	540362.6	4538622.9	358.8	1.0	ambient	0.001	0.001
FILE0922	CARBON LIMESTONE LANDFILL GAS POWER STATION	P020, P021 (0.6 g/hp-hr)	540362.6	4538622.9	358.8	1.0	ambient	0.001	0.001
FILE0923	CARBON LIMESTONE LANDFILL GAS POWER STATION	P001 - P014 (0.36 lbMMBtu)	540362.6	4538622.9	358.8	1.0	ambient	0.001	0.001
FILE0924	CARBON LIMESTONE LANDFILL GAS POWER STATION	P018, P019	540362.6	4538622.9	358.8	1.0	ambient	0.001	0.001
FILE0927	CARBON LIMESTONE SANITARY LANDFILL	Combustion Source	540270.8	4539371.7	341.0	1.0	ambient	0.001	0.001
FILE0932	EAST FAIRFIELD COAL COMPANY	Generator	540080.8	4530324.9	329.4	1.0	ambient	0.001	0.001
FILE0935	MAHONING LANDFILL, INC.	Flare	535165.0	4529756.3	345.6	1.0	ambient	0.001	0.001
FILE0936	MAHONING LANDFILL, INC.	P001-P005	535165.0	4529756.3	345.6	1.0	ambient	0.001	0.001
FILE0941	PIONEER SITE SERVICES, LLC.	Air Burner	528072.2	4531478.8	338.6	1.0	ambient	0.001	0.001
FILE0942	POLYAIR CORP.	Extruder	530695.4	4548434.7	258.8	1.0	ambient	0.001	0.001
FILE0947	STEEL CITY CORP.	Oven	524214.8	4550671.4	326.3	1.0	ambient	0.001	0.001
FILE0952	VALLOUREC STAR, LP	Caster	526798.1	4552856.4	273.0	1.0	ambient	0.001	0.001
FILE0953	VALLOUREC STAR, LP	Furnace	526798.1	4552856.4	273.0	1.0	ambient	0.001	0.001
FILE0954	VALLOUREC STAR, LP	Furnace	526798.1	4552856.4	273.0	1.0	ambient	0.001	0.001
FILE0955	VALLOUREC STAR, LP	Furnace	526798.1	4552856.4	273.0	1.0	ambient	0.001	0.001
FILE0956	VALLOUREC STAR, LP	Furnace	526798.1	4552856.4	273.0	1.0	ambient	0.001	0.001
FILE0957	VALLOUREC STAR, LP	Furnace	526798.1	4552856.4	273.0	1.0	ambient	0.001	0.001

OFFSITE INVENTORY - EXHAUST PARAMETERS (POINT SOURCES)
CEMEX
Wampum Cement Plant

Model ID	Facility Name	Source Description	Easting (m)	Northing (m)	Base Elevation (m)	Stack Height (m)	Temperature (K)	Exit Velocity (m/s)	Stack Diameter (m)
FILE0958	VALLOUREC STAR, LP	Furnace	526798.1	4552856.4	273.0	1.0	ambient	0.001	0.001
FILE0964	YOUNGSTOWN THERMAL	Boiler	528807.6	4550578.4	267.1	1.0	ambient	0.001	0.001
FILE0972	BRINKER COMPRESSOR STATION	Natural Gas Dehydrator	520510.0	4519342.9	390.1	1.0	ambient	0.001	0.001
FILE0974	ELJER PLUMBINGWARE, INC.	Peak Generator	512030.4	4526837.8	356.7	1.0	ambient	0.001	0.001
FILE0978	HERITAGE THERMAL SERVICES	Boiler	538346.2	4497947.3	213.6	1.0	ambient	0.001	0.001
FILE0979	HERITAGE THERMAL SERVICES	Incinerator	538346.2	4497947.3	213.6	1.0	ambient	0.001	0.001

OFFSITE INVENTORY - EXHAUST PARAMETERS (AREA SOURCES)
CEMEX
Wampum Cement Plant

Model ID	Facility Name	Source Description	Easting (m)	Northing (m)	Base Elevation (m)	Stack Height (m)	Easterly Length (m)	Notherly Length (m)	Angle from North	Initial Vertical Dimension (m)
FILE0898	Wampum Quarry	Limestone Storage Pile	554983.4	4528639.1	300.4	0.9	95.0	100.0	320.0	
FILE0899	Wampum Quarry	Limestone Storage Pile	554983.4	4528639.1	300.4	0.9	95.0	100.0	320.0	

APPENDIX L OFF-PROPERTY SOURCES – MODELED EMISSIONS

OFFSITE INVENTORY - MODELED EMISSIONS
CEMEX
Wampum Cement Plant

			NO_2		PM_{10}			$PM_{2.5}$				SO_2
			NO2	99NO2	PM10	24PM10	99PM10	PM25	PM2.5	24PM25	99PM25	SO2
			NQS	NQS/Inc.	NQS	INC.	INC.	NQS	NQS	INC.	INC.	NQS
Model ID	Facility Name	Source Description	1-hr (g/s)	Annual (g/s)	24-hr (g/s)	24-hr (g/s)	Annual (g/s)	24-hr (g/s)	Annual (g/s)	24-hr (g/s)	Annual (g/s)	1-hr (g/s)
FILE0001	Universal Refractor Wampum	DRYING OVEN STACKS (11)	0.4410	0.4410	0.0335	0.0335	0.0335	0.0335	0.0335			2.6460E-03
FILE0002	Universal Refractor Wampum	MGO PROCESSING STACK			0.5266	0.5266	0.5266	0.2821	0.2821			
FILE0003	Universal Refractor Wampum	BULK BLENDING STACK			0.2667	0.2667	0.2667	0.1429	0.1429			
FILE0004	Universal Refractor Wampum	MISC. NAT. GAS USAGE STACK-NEW OVEN	0.0708	0.0708	0.0054	0.0054	0.0054	0.0054	0.0054			4.2498E-04
FILE0005	Universal Refractor Wampum	MISC. NAT. GAS USAGE STACK-OLD OVEN	0.0708	0.0708	0.0054	0.0054	0.0054	0.0054	0.0054			4.2498E-04
FILE0006	Universal Refractor Wampum	MISC. NAT. GAS USAGE FUGITIVES	8.7229E-05	8.7229E-05	6.6294E-06	6.6294E-06	6.6294E-06	6.6294E-06	6.6294E-06			5.2338E-07
FILE0007	Universal Refractor Wampum	REFRACTORY FINISHING STACK			0.0736	0.0736	0.0736	0.0394	0.0394			
FILE0008	Ellwood City Forge Ellwood City	BOILER STACK	0.0778	0.0778	0.0059	0.0059	0.0059	0.0059	0.0059	0.0059	0.0059	4.6693E-04
FILE0009	Ellwood City Forge Ellwood City	MISC N G USE FUGITIVE	0.0126	0.0126	9.5758E-04	9.5758E-04	9.5758E-04	9.5758E-04	9.5758E-04	9.5758E-04	9.5758E-04	0.5040
FILE0010	Ellwood City Forge Ellwood City	B PRESS FURNACES STK	0.3059	0.3059	0.0468	0.0468	0.0468	0.0468	0.0468	0.0468	0.0468	2.1168E-03
FILE0011	Ellwood City Forge Ellwood City	C PRESS FURNACE STACK	0.2349	0.2349	0.0359	0.0359	0.0359	0.0359	0.0359	0.0359	0.0359	1.6254E-03
FILE0012	Ellwood City Forge Ellwood City	B HEAT TREAT FURNACES STK	0.4195	0.4195	0.0642	0.0642	0.0642	0.0642	0.0642	0.0642	0.0642	2.9030E-03
FILE0013	Ellwood City Forge Ellwood City	B HEAT TREAT FURNACES STK	0.7428	0.7428	0.1136	0.1136	0.1136	0.1136	0.1136	0.1136	0.1136	0.0051
FILE0020	Ellwood City Forge Ellwood City	8 KW EMERGENCY GENERATOR		2.1138E-03	1.6572E-04	1.6572E-04	2.2702E-04	1.6572E-04	2.2702E-04	1.6572E-04	2.2702E-04	
FILE0021	Ellwood City Forge Ellwood City	FUGITIVE EMISSIONS - SOURCE ID: 620			4.3199E-05	4.3199E-05	4.3199E-05	4.3199E-05	4.3199E-05	4.3199E-05	4.3199E-05	
FILE0022	Ellwood City Forge Ellwood City	40 KW EMERGENCY DIESEL GENERATOR		0.0148	1.6572E-04	1.6572E-04	2.2702E-04	1.6572E-04	2.2702E-04	1.6572E-04	2.2702E-04	
FILE0023	Ellwood City Forge Ellwood City	Source added from Permit, Emergency Generator		0.0089	1.6572E-04	1.6572E-04	2.2702E-04	1.6572E-04	2.2702E-04	1.6572E-04	2.2702E-04	
FILE0024	Ellwood City Forge Ellwood City	Source added from Permit			4.3199E-05	4.3199E-05	4.3199E-05	4.3199E-05	4.3199E-05	4.3199E-05	4.3199E-05	
FILE0025	INMETCO Ellwood City	PELLET DISC BGHSE			0.2784	0.2784	0.2784	0.1491	0.1491			
FILE0026	INMETCO Ellwood City	MISC PLANT PROCESSES USING NAT'L GAS	0.0570	0.0570	0.0780	0.0780	0.0780	0.0780	0.0780			1.1295
FILE0027	INMETCO Ellwood City	INPLANT MATERIALS HANDLING BAGHOUSE STACK			1.0115	1.0115	1.4383	0.5419	0.5419			
FILE0028	INMETCO Ellwood City	FROM ROTARY HEARTH FURNACE SCRUBBER	0.4241	2.8767	0.4851	0.4851	0.4851	0.4851	0.4851			0.3856
FILE0029	INMETCO Ellwood City	EAF BAGHOUSE #1 STACK	0.2772	4.1855	0.5911	0.5911	4.5164	0.5911	4.5164			0.2520
FILE0030	INMETCO Ellwood City	EAF BAGHOUSE #2 STACK	0.2772	4.1855	1.2369	1.2369	4.5164	1.2369	4.5164			0.2520

OFFSITE INVENTORY - MODELED EMISSIONS
CEMEX
Wampum Cement Plant

			NO_2		PM_{10}			$PM_{2.5}$				SO_2
			NO2	99NO2	PM10	24PM10	99PM10	PM25	PM2.5	24PM25	99PM25	SO2
			NQS	NQS/Inc.	NQS	INC.	INC.	NQS	NQS	INC.	INC.	NQS
Model ID	Facility Name	Source Description	1-hr (g/s)	Annual (g/s)	24-hr (g/s)	24-hr (g/s)	Annual (g/s)	24-hr (g/s)	Annual (g/s)	24-hr (g/s)	Annual (g/s)	1-hr (g/s)
FILE0031	INMETCO Ellwood City	COMFORT-HEATING UNITS (9) - MISC COMBUST UNITS	0.0290	0.0290	0.1159	0.1159	0.1159	0.1159	0.1159			1.1592
FILE0032	INMETCO Ellwood City	CADMIUM RECOVERY BAGHOUSE STACK			0.2390	0.2390	0.2390	0.2390	0.2390			
FILE0034	INMETCO Ellwood City	ROTARY THERMAL OXIDIZER FURNACE	0.0567	0.0567	4.3091E-03	4.3091E-03	4.3091E-03	4.3091E-03	4.3091E-03			3.4019E-04
FILE0036	INMETCO Ellwood City	EMERGENCY DIESEL GENERATOR		0.0521	1.6572E-04	1.6572E-04	2.2702E-04	1.6572E-04	2.2702E-04			
FILE0039	IPSCO Koppel Tubulars LLC / Ambridge	ROTARY HEARTH FURNACE STACK	3.9702	3.8835								
FILE0040	IPSCO Koppel Tubulars LLC / Ambridge	QUENCH FURNACE STACK	0.4370	0.4370								
FILE0042	IPSCO Koppel Tubulars LLC / Ambridge	TEMPER FURNACE	0.4370	0.4370								
FILE0043	IPSCO Koppel Tubulars LLC / Ambridge	REHEAT FURNACE	0.4370	0.4370								
FILE0049	IPSCO Koppel Tubulars LLC / Ambridge	Source added from Permit, Space Heaters	0.5408	0.5408								
FILE0050	IPSCO Koppel Tubulars LLC / Koppel PLT	TEST FORGE STACK		0.1260	7.6949E-04	7.6949E-04	0.0185	7.6949E-04	0.0185	7.6949E-04	0.0185	
FILE0051	IPSCO Koppel Tubulars LLC / Koppel PLT	#4 BAGHOUSE STACK (10 SNUB STACKS)	7.5599	4.7321	0.6314	0.6314	0.6314	0.6314	0.6314	0.6314	0.6314	8.8198
FILE0053	IPSCO Koppel Tubulars LLC / Koppel PLT	VARIOUS HEATERS & FURNACES	0.3276	0.3276	0.0249	0.0249	0.0249	0.0249	0.0249	0.0249	0.0249	1.9656E-03
FILE0054	IPSCO Koppel Tubulars LLC / Koppel PLT	AUSTENTIZING FURNACE STACK	0.3780	0.3780	0.1166	0.1166	0.1166	0.1166	0.1166	0.1166	0.1166	1.6889
FILE0055	IPSCO Koppel Tubulars LLC / Koppel PLT	TEMPER FURNACE STACK	0.2142	0.2142	0.1612	0.1612	0.1612	0.1612	0.1612	0.1612	0.1612	2.3350
FILE0056	IPSCO Koppel Tubulars LLC / Koppel PLT	ACID ETCH BATH			0.0205	0.0205	0.0205	0.0205	0.0205	0.0205	0.0205	
FILE0057	IPSCO Koppel Tubulars LLC / Koppel PLT	MELT SHOP LIME SILOS (2)			0.0205	0.0205	0.0205	0.0205	0.0205	0.0205	0.0205	
FILE0058	IPSCO Koppel Tubulars LLC / Koppel PLT	Source added from Permit			0.0205	0.0205	0.0205	0.0205	0.0205	0.0205	0.0205	
FILE0060	IPSCO Koppel Tubulars LLC / Koppel PLT	Source added from Permit, Emergency Generator		0.0836	1.6200E-03	1.6200E-03	2.2191E-03	1.6200E-03	2.2191E-03	1.6200E-03	2.2191E-03	
FILE0061	IPSCO Koppel Tubulars LLC / Koppel PLT	Source added from Permit			0.0205	0.0205	0.0205	0.0205	0.0205	0.0205	0.0205	
FILE0062	IPSCO Koppel Tubulars LLC / Koppel PLT	Source added from Permti, Small gas heaters	0.3276	0.3276	0.0249	0.0249	0.0249	0.0249	0.0249	0.0249	0.0249	1.9656E-03
FILE0063	IPSCO Koppel Tubulars LLC / Koppel PLT	Source added from Permit			0.0778	0.0778	0.0778	0.0778	0.0778	0.0778	0.0778	
FILE0064	IPSCO Koppel Tubulars LLC / Koppel PLT	Source added from Permit, Emergency Generator		0.0970	1.6200E-03	1.6200E-03	2.2191E-03	1.6200E-03	2.2191E-03	1.6200E-03	2.2191E-03	
FILE0067	IPSCO Koppel Tubulars LLC / Koppel PLT	Source added from Permit			0.0778	0.0778	0.0778	0.0778	0.0778	0.0778	0.0778	
FILE0068	NALCO Co. North/South Plants	Source added from Permit			0.0205	0.0205	0.0205	0.0205	0.0205	0.0205	0.0205	

OFFSITE INVENTORY - MODELED EMISSIONS
CEMEX
Wampum Cement Plant

			NO_2		PM_{10}			$PM_{2.5}$				SO_2
			NO2	99NO2	PM10	24PM10	99PM10	PM25	PM2.5	24PM25	99PM25	SO2
			NQS	NQS/Inc.	NQS	INC.	INC.	NQS	NQS	INC.	INC.	NQS
Model ID	Facility Name	Source Description	1-hr (g/s)	Annual (g/s)	24-hr (g/s)	24-hr (g/s)	Annual (g/s)	24-hr (g/s)	Annual (g/s)	24-hr (g/s)	Annual (g/s)	1-hr (g/s)
FILE0071	NALCO Co. North/South Plants	NORTH PLANT BOILER ROOM STACKS (2)	0.2433	0.2433	0.0185	0.0185	0.0185	0.0185	0.0185	0.0185	0.0185	1.4601E-03
FILE0073	NALCO Co. North/South Plants	LINE 7: THERMAL OXIDIZER STACK	0.0121	0.0121	9.1928E-04	9.1928E-04	9.1928E-04	9.1928E-04	9.1928E-04	9.1928E-04	9.1928E-04	7.2575E-05
FILE0075	NALCO Co. North/South Plants	LINE 7: THERMAL OXIDIZER STACK	0.0121	0.0121	9.1928E-04	9.1928E-04	9.1928E-04	9.1928E-04	9.1928E-04	9.1928E-04	9.1928E-04	7.2575E-05
FILE0076	NALCO Co. North/South Plants	SOUTH PLANT BOILER ROOM STACKS	0.1606	0.1606	0.0122	0.0122	0.0122	0.0122	0.0122	0.0122	0.0122	9.6351E-04
FILE0078	NALCO Co. North/South Plants	FURNACE ROOM PROCESS: FURNACE #1 BAGHOUSE STACK	0.1235	0.1235	0.0779	0.0779	0.0779	0.0417	0.0417	0.0417	0.0417	7.4116E-04
FILE0079	NALCO Co. North/South Plants	FURNACE ROOM PROCESS: FURNACE #2 BAGHOUSE STACK	0.1235	0.1235	0.0779	0.0779	0.0779	0.0417	0.0417	0.0417	0.0417	7.4116E-04
FILE0080	NALCO Co. North/South Plants	FURNACE ROOM PROCESS: SIZER BAGHOUSE STACK			0.2587	0.2587	0.2587	0.1386	0.1386	0.1386	0.1386	
FILE0082	Lindy Paving Inc. / KoppelFAC	BAGHOUSE STACK	3.7799	2.5593	1.3230	1.3230	0.8958	0.7087	0.7087	0.7087	0.7087	0.1714
FILE0083	Lindy Paving Inc. / KoppelFAC	RAP CRUSHER FUGITIVE EMISSIONS			0.1210	0.1210	0.0449	0.1210	0.0449	0.1210	0.0449	
FILE0084	Lindy Paving Inc. / KoppelFAC	FUGITIVES - HOT MIX ASPHALT STORAGE SILO 1			0.0074	0.0074	2.7388E-03	0.0074	2.7388E-03	0.0074	2.7388E-03	
FILE0085	Lindy Paving Inc. / KoppelFAC	FUGITIVES - HOT MIX ASPHALT STORAGE SILO 2			0.0074	0.0074	2.7388E-03	0.0074	2.7388E-03	0.0074	2.7388E-03	
FILE0086	Lindy Paving Inc. / KoppelFAC	FUGITIVES - HOT MIX ASPHALT STORAGE SILO 3			0.0074	0.0074	2.7388E-03	0.0074	2.7388E-03	0.0074	2.7388E-03	
FILE0087	Lindy Paving Inc. / KoppelFAC	FUGITIVES - HOT MIX ASPHALT STORAGE SILO 4			0.0074	0.0074	2.7388E-03	0.0074	2.7388E-03	0.0074	2.7388E-03	
FILE0091	Lindy Paving Inc. / KoppelFAC	FUGITIVES - ASPHALT CEMENT TANK HOT OIL HEATER	0.0252	0.0252	1.9152E-03	1.9152E-03	1.9152E-03	1.9152E-03	1.9152E-03	1.9152E-03	1.9152E-03	1.5120E-04
FILE0094	Dominion Trans Inc. / Beaver	DRESSER RAND ENGINE - STACK 1	1.7766	1.7778	0.1974	0.1974	0.1974	0.1974	0.1974	0.1974	0.1974	2.8591
FILE0095	Dominion Trans Inc. / Beaver	DRESSER RAND ENGINE - STACK 2	1.7766	1.7778	0.1974	0.1974	0.1974	0.1974	0.1974	0.1974	0.1974	2.8591
FILE0096	Dominion Trans Inc. / Beaver	DRESSER RAND ENGINE - STACK 3	1.7766	1.7778	0.1974	0.1974	0.1974	0.1974	0.1974	0.1974	0.1974	2.8591
FILE0097	Dominion Trans Inc. / Beaver	DRESSER RAND ENGINE STACK - 4	1.7766	1.7778	0.1974	0.1974	0.1974	0.1974	0.1974	0.1974	0.1974	2.8591
FILE0100	Dominion Trans Inc. / Beaver	AUXILIARY GENERATOR - STACK		0.0245	0.0082	0.0082	0.0113	0.0082	0.0113	0.0082	0.0113	
FILE0101	Dominion Trans Inc. / Beaver	Source added from Permit	0.1890	0.1899	2.8727E-03	2.8727E-03	2.8727E-03	2.8727E-03	2.8727E-03	2.8727E-03	2.8727E-03	2.2680E-04
FILE0102	Dominion Trans Inc. / Beaver	BOILER UNIT 1 - STACK	0.0378	0.0378	0.1512	0.1512	0.1512	0.1512	0.1512	0.1512	0.1512	0.3780
FILE0103	Dominion Trans Inc. / Beaver	BOILER UNIT 2 - STACK	0.0189	0.0189	1.4364E-03	1.4364E-03	1.4364E-03	1.4364E-03	1.4364E-03	1.4364E-03	1.4364E-03	1.1340E-04
FILE0104	Dominion Trans Inc. / Beaver	HOT WATER HEATER - STACK	5.0399E-04	5.0399E-04	3.8303E-05	3.8303E-05	3.8303E-05	3.8303E-05	3.8303E-05	3.8303E-05	3.8303E-05	3.0239E-06
FILE0105	Geopetro Patterson Compressor Station	CAT. G3508BLE STACK - 690 BHP COMPRESSOR ENGINE	0.0958	0.0958	0.0063	0.0063	0.0063	0.0063	0.0063	0.0063	0.0063	3.7082E-04

OFFSITE INVENTORY - MODELED EMISSIONS
CEMEX
Wampum Cement Plant

			NO_2		PM_{10}			$PM_{2.5}$				SO_2
			NO2	99NO2	PM10	24PM10	99PM10	PM25	PM2.5	24PM25	99PM25	SO2
			NQS	NQS/Inc.	NQS	INC.	INC.	NQS	NQS	INC.	INC.	NQS
Model ID	Facility Name	Source Description	1-hr (g/s)	Annual (g/s)	24-hr (g/s)	24-hr (g/s)	Annual (g/s)	24-hr (g/s)	Annual (g/s)	24-hr (g/s)	Annual (g/s)	1-hr (g/s)
FILE0106	Geopetro Patterson Compressor Station	HEATERS/REBOILERS STACK	0.0126	0.0126	9.5758E-04	9.5758E-04	9.5758E-04	9.5758E-04	9.5758E-04	9.5758E-04	9.5758E-04	7.5599E-05
FILE0113	New Castle Power	BABCOCK & WILCOX - BOILER 3	12.9652	12.9652	0.9854	0.9854	0.9854	0.9854	0.9854	0.9854	0.9854	0.0778
FILE0114	New Castle Power	BABCOCK & WILCOX - BOILER 4	12.9652	12.9652	0.9854	0.9854	0.9854	0.9854	0.9854	0.9854	0.9854	0.0778
FILE0115	New Castle Power	BABCOCK & WILCOX - BOILER 5	19.7187	19.7187	1.4986	1.4986	1.4986	1.4986	1.4986	1.4986	1.4986	0.1183
FILE0116	New Castle Power	ELECTROMOTIVE DIESEL A	1.2398	0.0142	1.0434	1.0434	0.0119	1.0434	0.0119	1.0434	0.0119	2.6408
FILE0122	New Castle Power	STACK FROM AUXILIARY BOILER	0.1502	0.1502	0.4133	0.4133	0.4133	0.4133	0.4133	0.4133	0.4133	0.3199
FILE0123	New Castle Power	STACK FROM DIESEL GENERATORS (2)		0.0152	2.7604E-03	2.7604E-03	3.7814E-03	2.7604E-03	3.7814E-03	2.7604E-03	3.7814E-03	
FILE0125	New Castle Power	NATURAL GAS PIPELINE HEATER STACK VENT	0.0920	0.0920	0.3679	0.3679	0.3679	0.3679	0.3679	0.3679	0.3679	2.7594
FILE0126	Columbia Gas Trans Corp / Ellwood City	Source added from Permit, Boiler	0.0315	0.0315	2.3940E-03	2.3940E-03	2.3940E-03	2.3940E-03	2.3940E-03	2.3940E-03	2.3940E-03	1.8900E-04
FILE0127	Columbia Gas Trans Corp / Ellwood City	RECIP.ENGINE/INTEGRAL COMPRESSOR (500HP)	4.5611	1.3664	4.7188E-03	4.7188E-03	4.7188E-03	4.7188E-03	4.7188E-03	4.7188E-03	4.7188E-03	2.7783E-04
FILE0128	Columbia Gas Trans Corp / Ellwood City	RECIP.ENGINE/INTEGRAL COMPRESSOR (500HP)	4.5611	1.3664	4.7188E-03	4.7188E-03	4.7188E-03	4.7188E-03	4.7188E-03	4.7188E-03	4.7188E-03	2.7783E-04
FILE0129	Columbia Gas Trans Corp / Ellwood City	RECIP.ENGINE/GENERATOR (125HP)		0.0159	1.0190E-04	1.0190E-04	1.3959E-04	1.0190E-04	1.3959E-04	1.0190E-04	1.3959E-04	
FILE0132	Columbia Gas Trans Corp / Ellwood City	HEATERS/REBOILERS STACK	0.0126	0.0126	9.5758E-04	9.5758E-04	9.5758E-04	9.5758E-04	9.5758E-04	9.5758E-04	9.5758E-04	7.5599E-05
FILE0139	Beaver Falls Tubular ProdLLC/ Beaver Falls PLT	FUGITIVES - NORMALIZER FURNACE 1	0.2520	0.2520	4.3199E-05	4.3199E-05	4.3199E-05	4.3199E-05	4.3199E-05	4.3199E-05	4.3199E-05	6.2575E-04
FILE0140	Beaver Falls Tubular ProdLLC/ Beaver Falls PLT	BOILER 1 STACK	0.1260	0.1260	0.0096	0.0096	0.0096	0.0096	0.0096	0.0096	0.0096	7.5599E-04
FILE0141	Beaver Falls Tubular ProdLLC/ Beaver Falls PLT	BOILER 2 STACK	0.1260	0.1260	0.0096	0.0096	0.0096	0.0096	0.0096	0.0096	0.0096	7.5599E-04
FILE0142	Beaver Falls Tubular ProdLLC/ Beaver Falls PLT	BAF FURNACE STACK	0.2520	0.2520	0.2668	0.2668	0.2668	0.2668	0.2668	0.2668	0.2668	3.8640
FILE0143	Beaver Falls Tubular ProdLLC/ Beaver Falls PLT	FUGITIVES - NORMALIZER FURNACE 2	0.2520	0.2520	4.3199E-05	4.3199E-05	4.3199E-05	4.3199E-05	4.3199E-05	4.3199E-05	4.3199E-05	6.2575E-04
FILE0144	The Sherwin Williams Co.	STACK			0.2333	0.2333	0.2333	0.2333	0.2333	0.2333	0.2333	
FILE0146	The Sherwin Williams Co.	BOILER STACKS	0.4637	0.4637	0.0352	0.0352	0.0352	0.0352	0.0352	0.0352	0.0352	4.6367
FILE0149	The Sherwin Williams Co.	EMERGENCY GENERATOR STACKS		0.3020	1.7820E-06	1.7820E-06	2.4411E-06	1.7820E-06	2.4411E-06	1.7820E-06	2.4411E-06	
FILE0150	Ellwood Quality Steeld Co.	ELECTRIC ARC FURNACE	0.9576	0.6472	1.4364	1.4364	0.9709	1.4364	0.9709	1.4364	0.9709	4.3091
FILE0151	Ellwood Quality Steeld Co.	ANNEALING FURNACES STACK	1.0808	1.0808	1.9993E-04	1.9993E-04	1.9993E-04	1.9993E-04	1.9993E-04	1.9993E-04	1.9993E-04	0.0092
FILE0152	Ellwood Quality Steeld Co.	LADLE PREHEATERS (2)	0.1386	0.1875	0.1436	0.1436	0.1436	0.1436	0.1436	0.1436	0.1436	2.0806

OFFSITE INVENTORY - MODELED EMISSIONS
CEMEX
Wampum Cement Plant

			NO_2		PM_{10}			$PM_{2.5}$				SO_2
			NO2	99NO2	PM10	24PM10	99PM10	PM25	PM2.5	24PM25	99PM25	SO2
			NQS	NQS/Inc.	NQS	INC.	INC.	NQS	NQS	INC.	INC.	NQS
Model ID	Facility Name	Source Description	1-hr (g/s)	Annual (g/s)	24-hr (g/s)	24-hr (g/s)	Annual (g/s)	24-hr (g/s)	Annual (g/s)	24-hr (g/s)	Annual (g/s)	1-hr (g/s)
FILE0153	Ellwood Quality Steeld Co.	BOILER STACKS (4)	0.2520	0.1595	0.0383	0.0383	0.0383	0.0383	0.0383	0.0383	0.0383	3.0239E-03
FILE0154	Ellwood Quality Steeld Co.	MISC HEATER UNITS (< 2.5 MMBTU/HR)	0.1310	0.1310	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	3.9311
FILE0155	Ellwood Quality Steeld Co.	SCRAP TORCHING	0.0126	0.0126	0.1436	0.1436	0.1436	0.1436	0.1436	0.1436	0.1436	2.0806
FILE0156	Ellwood Quality Steeld Co.	GAS CUTTER	0.0126	0.0126	0.1436	0.1436	0.1436	0.1436	0.1436	0.1436	0.1436	2.0806
FILE0158	Ellwood Quality Steeld Co.	INGOT GRINDING			0.1436	0.1436	0.1436	0.1436	0.1436	0.1436	0.1436	
FILE0159	Ellwood Quality Steeld Co.	ELECTRIC LADLE FURNACE			0.1915	0.1915	0.1294	0.1915	0.1294	0.1915	0.1294	
FILE0162	Ellwood Quality Steeld Co.	MOLD GRINDING			0.1436	0.1436	0.1436	0.1436	0.1436	0.1436	0.1436	
FILE0164	Ellwood Quality Steeld Co.	EAF PRE-HEATER	0.0756	0.0603	0.0057	0.0057	0.0057	0.0057	0.0057	0.0057	0.0057	4.5359E-04
FILE0165	Ellwood Quality Steeld Co.	LIME SILO BIN VENT FILTER EXHAUST			4.1039E-05	4.1039E-05	4.1039E-05	4.1039E-05	4.1039E-05	4.1039E-05	4.1039E-05	
FILE0166	Ellwood Quality Steeld Co.	BACKUP EMERGENCY DIESEL PUMP EXHAUST		0.0174	1.1953E-03	1.1953E-03	1.6374E-03	1.1953E-03	1.6374E-03	1.1953E-03	1.6374E-03	
FILE0167	Ellwood Quality Steeld Co.	Source added from Permit, Emergency Generator		0.0122	1.1953E-03	1.1953E-03	1.6374E-03	1.1953E-03	1.6374E-03	1.1953E-03	1.6374E-03	
FILE0168	Ellwood Quality Steeld Co.	Source added from Permit, Emergency Generator		0.0159	1.1953E-03	1.1953E-03	1.6374E-03	1.1953E-03	1.6374E-03	1.1953E-03	1.6374E-03	
FILE0170	Ellwood Mill Prod Co.	INSIDE VENTED FURNACE STACKS	0.1247	0.1247	0.0068	0.0068	0.0068	0.0068	0.0068	0.0068	0.0068	0.0991
FILE0172	Ellwood Mill Prod Co.	FORGE SHOP	3.7686	3.7686	4.1903E-05	4.1903E-05	4.1903E-05	4.1903E-05	4.1903E-05	4.1903E-05	4.1903E-05	6.0698E-04
FILE0173	Ellwood Mill Prod Co.	RINGMILL MILLING MACHINE COLLECTOR STACK			0.2117	0.2117	0.2117	0.2117	0.2117	0.2117	0.2117	
FILE0174	Ellwood Mill Prod Co.	KOEHLER EMERGENCY GENERATOR STACK		0.1243	2.0777E-04	2.0777E-04	2.8462E-04	2.0777E-04	2.8462E-04	2.0777E-04	2.8462E-04	
FILE0175	Ellwood Mill Prod Co.	FURNACE 2538 STACK	0.1247	0.1247	4.2767E-05	4.2767E-05	4.2767E-05	4.2767E-05	4.2767E-05	4.2767E-05	4.2767E-05	6.1949E-04
FILE0176	Ellwood Mill Prod Co.	RINGMILL MILLING MACHINE (4603)			4.1903E-05	4.1903E-05	4.1903E-05	4.1903E-05	4.1903E-05	4.1903E-05	4.1903E-05	
FILE0179	Ellwood Mill Prod Co.	Source added from Permit, Furnace	0.2419	0.2419	0.2668	0.2668	0.2668	0.2668	0.2668	0.2668	0.2668	3.8640
FILE0180	BUCKEYE PIPELINE CORAOPOLIS	GARAGE BOILER-NATURAL GAS	0.0081	0.0081								
FILE0181	BUCKEYE PIPELINE CORAOPOLIS	CP Combustion Unit	0.6012	0.6012								
FILE0218	BNZ MATERIALS INC/ZELIENOPLE	HOT WATER HEATER	0.0265	0.0265								
FILE0228	BNZ MATERIALS INC/ZELIENOPLE	#3 KILN	0.1286	0.1286								
FILE0229	BNZ MATERIALS INC/ZELIENOPLE	#3 KILN STACK #2	0.0882	0.0882								

OFFSITE INVENTORY - MODELED EMISSIONS
CEMEX
Wampum Cement Plant

			NO_2		PM_{10}			$PM_{2.5}$				SO_2
			NO2	99NO2	PM10	24PM10	99PM10	PM25	PM2.5	24PM25	99PM25	SO2
			NQS	NQS/Inc.	NQS	INC.	INC.	NQS	NQS	INC.	INC.	NQS
Model ID	Facility Name	Source Description	1-hr (g/s)	Annual (g/s)	24-hr (g/s)	24-hr (g/s)	Annual (g/s)	24-hr (g/s)	Annual (g/s)	24-hr (g/s)	Annual (g/s)	1-hr (g/s)
FILE0243	BNZ MATERIALS INC/ZELIENOPLE	EMERGENCY LIGHTING GENERATOR		2.2438E-04								
FILE0244	BNZ MATERIALS INC/ZELIENOPLE	#4 KILN CONTROL PANEL EMERGENCY GENERATOR		8.0547E-05								
FILE0248	SENECA LANDFILL INC/SENECA	WASTEWATER TREATMENT PLANT STEAM BOILER	0.0479	0.0479								
FILE0256	SENECA LANDFILL INC/SENECA	335 KW LANDFILL GAS ENGINE/GENERATOR	0.0315	0.0315								
FILE0258	SENECA LANDFILL INC/SENECA	350 HP CATERPILLAR DIESEL ENGINE FOR EXTEC C12 STONE CRUSHER	12.5998	0.1899								
FILE0271	SENECA LANDFILL INC/SENECA	STACK	1.7186	0.0791								
FILE0273	SENECA LANDFILL INC/SENECA	STACK	1.9051	0.8889								
FILE0275	SENECA LANDFILL INC/SENECA	STACK	1.3671	0.0552								
FILE0277	SENECA LANDFILL INC/SENECA	STACK	0.7031	0.0618								
FILE0279	SENECA LANDFILL INC/SENECA	DIESEL TIPPER ENG. JOHN DEERE MODEL:JD6068HF286	0.7031	0.0618								
FILE0286	BASF CORP/MONACA PLT	THERMAL OXIDATION UNIT	0.3886	0.3886								
FILE0294	BASF CORP/MONACA PLT	#1 CLEAVER BROOKS BOILER (31.83 MMBTU/HR)	0.1310	0.1268								
FILE0296	BASF CORP/MONACA PLT	#2 CLEAVER BROOKS BOILER (31.83 MMBTU/HR)	0.1310	0.1268								
FILE0298	BASF CORP/MONACA PLT	Firewater pump, 197 HP	0.1642	0.0094								
FILE0299	BASF CORP/MONACA PLT	Emergency Generator, 207 HP		0.0439								
FILE0331	NOVA CHEM CO/BEAVER	BOILER 1 STACK	0.1470	0.1470								
FILE0333	NOVA CHEM CO/BEAVER	BOILER 2 STACK	0.1470	0.1470								
FILE0335	NOVA CHEM CO/BEAVER	BOILER 3 STACK	0.1470	0.1470								
FILE0337	NOVA CHEM CO/BEAVER	BOILER 4 STACK	0.1470	0.1470								
FILE0339	NOVA CHEM CO/BEAVER	BOILER 5 STACK	0.1470	0.1470								
FILE0341	NOVA CHEM CO/BEAVER	BOILER 6 STACK	0.1470	0.1470								
FILE0343	NOVA CHEM CO/BEAVER	BOILER 7 STACK	0.1470	0.1470								
FILE0345	NOVA CHEM CO/BEAVER	BOILER 8 STACK	0.1470	0.1470								
FILE0347	NOVA CHEM CO/BEAVER	BOILER 9 STACK	0.1470	0.1470								

OFFSITE INVENTORY - MODELED EMISSIONS
CEMEX
Wampum Cement Plant

			NO_2		PM_{10}			$PM_{2.5}$				SO_2
			NO2	99NO2	PM10	24PM10	99PM10	PM25	PM2.5	24PM25	99PM25	SO2
			NQS	NQS/Inc.	NQS	INC.	INC.	NQS	NQS	INC.	INC.	NQS
Model ID	Facility Name	Source Description	1-hr (g/s)	Annual (g/s)	24-hr (g/s)	24-hr (g/s)	Annual (g/s)	24-hr (g/s)	Annual (g/s)	24-hr (g/s)	Annual (g/s)	1-hr (g/s)
FILE0349	NOVA CHEM CO/BEAVER	BOILER 10 STACK	0.1470	0.1470								
FILE0351	NOVA CHEM CO/BEAVER	BOILER 11 STACK	0.1470	0.1470								
FILE0353	NOVA CHEM CO/BEAVER	BOILER 12 STACK	0.1470	0.1470								
FILE0354	NOVA CHEM CO/BEAVER	BOILER 13 (11.67 MMBTU/HR)	0.1470	0.1470								
FILE0355	NOVA CHEM CO/BEAVER	BOILER 14 (11.67 MMBTU/HR)	0.1470	0.1470								
FILE0356	NOVA CHEM CO/BEAVER	BOILER 15 (11.67 MMBTU/HR)	0.1470	0.1470								
FILE0357	NOVA CHEM CO/BEAVER	BOILER 16 (11.67 MMBTU/HR)	0.1470	0.1470								
FILE0362	KAWNEER COMMERCIAL WINDOWS LLC/CRANBERRY TWP	COATED-EXTRUSION BAKE OVEN	0.1096	0.1096								
FILE0368	KAWNEER COMMERCIAL WINDOWS LLC/CRANBERRY TWP	1800 TON EXTRUSION PRESS & PREHEATERS	0.0655	0.0655								
FILE0370	KAWNEER COMMERCIAL WINDOWS LLC/CRANBERRY TWP	EXTRUSION AGING OVENS (2)	0.0907	0.0907								
FILE0372	KAWNEER COMMERCIAL WINDOWS LLC/CRANBERRY TWP	CAUSTIC ANODIZING TANK	0.0630	0.0630								
FILE0377	KAWNEER COMMERCIAL WINDOWS LLC/CRANBERRY TWP	FACILITY SPACE HEATING (& HVAC SYSTEM)	0.9954	0.9954								
FILE0380	KAWNEER COMMERCIAL WINDOWS LLC/CRANBERRY TWP	EXTRUSION PREHEATER STACK	0.0353	0.0353								
FILE0381	KAWNEER COMMERCIAL WINDOWS LLC/CRANBERRY TWP	MISC NATURAL GAS USAGE	0.6300	0.6300								
FILE0393	KAWNEER COMMERCIAL WINDOWS LLC/CRANBERRY TWP	Emergency Generator, 315 HP		0.1899								
FILE0395	US GYPSUM CO/ALIQUIPPA	BOARD KILN/END SEAL STACK	0.9399	0.9395								
FILE0396	US GYPSUM CO/ALIQUIPPA	A KETTLE	0.5305	0.5307								
FILE0398	US GYPSUM CO/ALIQUIPPA	B KETTLE	0.5305	0.5307								
FILE0400	US GYPSUM CO/ALIQUIPPA	A DRYER MILL	0.2180	0.2181								
FILE0403	US GYPSUM CO/ALIQUIPPA	GAUGING WATER HEATER STACK	0.0630	0.0630								
FILE0412	US GYPSUM CO/ALIQUIPPA	B DRYER MILL	0.2180	0.2181								
FILE0430	ALLEGHENY & TSINGSHAN STAINLESS LLC MIDLAND FAC	DRAP LINE - BOILER # 1 (29.3 MMBTU/HR)	0.3692	0.3692								
FILE0432	ALLEGHENY & TSINGSHAN STAINLESS LLC MIDLAND FAC	DRAP LINE - BOILER # 2 (33.5 MMBTU/HR)	0.4221	0.4221								
FILE0438	ALLEGHENY & TSINGSHAN STAINLESS LLC MIDLAND FAC	TWO Linde Boilers (9.5 MMBtu/hr each)	0.2394	0.2394								

OFFSITE INVENTORY - MODELED EMISSIONS
CEMEX
Wampum Cement Plant

			NO_2		PM_{10}			$PM_{2.5}$				SO_2
			NO2	99NO2	PM10	24PM10	99PM10	PM25	PM2.5	24PM25	99PM25	SO2
			NQS	NQS/Inc.	NQS	INC.	INC.	NQS	NQS	INC.	INC.	NQS
Model ID	Facility Name	Source Description	1-hr (g/s)	Annual (g/s)	24-hr (g/s)	24-hr (g/s)	Annual (g/s)	24-hr (g/s)	Annual (g/s)	24-hr (g/s)	Annual (g/s)	1-hr (g/s)
FILE0439	PA STATE SYS OF HIGHER ED/SLIPPERY ROCK UNIV PA	BOILER 1	0.4410	0.4410								
FILE0441	PA STATE SYS OF HIGHER ED/SLIPPERY ROCK UNIV PA	BOILER 2	0.4410	0.4410								
FILE0443	PA STATE SYS OF HIGHER ED/SLIPPERY ROCK UNIV PA	BOILER 4	0.0718	1.4815								
FILE0445	PA STATE SYS OF HIGHER ED/SLIPPERY ROCK UNIV PA	EMERGENCY ENGINES BUILT PRIOR TO 1/1/2009		0.0378								
FILE0447	PA STATE SYS OF HIGHER ED/SLIPPERY ROCK UNIV PA	BOILER 3	0.1235	0.1234								
FILE0458	AK STEEL CORP/BUTLER WORKS	BOILER 10 (MP)	0.5292	0.5292								
FILE0462	AK STEEL CORP/BUTLER WORKS	ELECTRIC ARC FURNACE 2	0.5753	0.5753								
FILE0479	AK STEEL CORP/BUTLER WORKS	SLAB HEATING FURNACE 5	2.8979E-03	2.8979E-03								
FILE0481	AK STEEL CORP/BUTLER WORKS	SLAB HEATING FURNACE 6	2.6460E-03	2.6460E-03								
FILE0483	AK STEEL CORP/BUTLER WORKS	SLAB HEATING FURNACE 7	2.6460E-03	2.6460E-03								
FILE0503	AK STEEL CORP/BUTLER WORKS	AOD REACTOR	0.5753	0.5753								
FILE0505	AK STEEL CORP/BUTLER WORKS	SLAB HEATING FURNACE 8	2.6460	2.6460								
FILE0507	AK STEEL CORP/BUTLER WORKS	#2 CONTINUOUS CASTER	0.1008	0.1008								
FILE0509	AK STEEL CORP/BUTLER WORKS	#3 CONTINUOUS CASTER	0.1008	0.1008								
FILE0511	AK STEEL CORP/BUTLER WORKS	DECARB FURNACE 1	0.1890	0.1890								
FILE0513	AK STEEL CORP/BUTLER WORKS	SILICON DRYING FURNACE 1	0.1386	0.1386								
FILE0515	AK STEEL CORP/BUTLER WORKS	DECARB FURNACE 6	0.1638	0.1638								
FILE0517	AK STEEL CORP/BUTLER WORKS	SILICON DRYING FURNACE 6	0.1254	0.1254								
FILE0519	AK STEEL CORP/BUTLER WORKS	PREHEAT FURNACE 11	0.0838	0.0838								
FILE0521	AK STEEL CORP/BUTLER WORKS	SILICON DRYING FURNACE 11	0.0794	0.0794								
FILE0523	AK STEEL CORP/BUTLER WORKS	PREHEAT FURNACE 19	0.1134	0.1134								
FILE0525	AK STEEL CORP/BUTLER WORKS	SILICON DRYING FURNACE 19	0.1638	0.1638								
FILE0529	AK STEEL CORP/BUTLER WORKS	LADLE PREHEATER/DRYER #1	0.1260	0.1260								
FILE0531	AK STEEL CORP/BUTLER WORKS	LADLE PREHEATER/DRYER # 2	0.1260	0.1260								

OFFSITE INVENTORY - MODELED EMISSIONS
CEMEX
Wampum Cement Plant

			NO_2		PM_{10}			$PM_{2.5}$				SO_2
			NO2	99NO2	PM10	24PM10	99PM10	PM25	PM2.5	24PM25	99PM25	SO2
			NQS	NQS/Inc.	NQS	INC.	INC.	NQS	NQS	INC.	INC.	NQS
Model ID	Facility Name	Source Description	1-hr (g/s)	Annual (g/s)	24-hr (g/s)	24-hr (g/s)	Annual (g/s)	24-hr (g/s)	Annual (g/s)	24-hr (g/s)	Annual (g/s)	1-hr (g/s)
FILE0533	AK STEEL CORP/BUTLER WORKS	LADLE PREHEATER/DRYER # 3	0.1260	0.1260								
FILE0535	AK STEEL CORP/BUTLER WORKS	LADLE PREHEATER/DRYER # 4	0.1260	0.1260								
FILE0537	AK STEEL CORP/BUTLER WORKS	LADLE PREHEATER/DRYER # 5	0.1512	0.1512								
FILE0551	AK STEEL CORP/BUTLER WORKS	2.5 MMBTU/HR < SPACEHEATERS < 10 MMBTU/HR	0.2520	0.2520								
FILE0553	AK STEEL CORP/BUTLER WORKS	CRNO LINE ANNEAL FURNACE	0.3906	0.3906								
FILE0565	AK STEEL CORP/BUTLER WORKS	ANNEAL FURNACE 4	0.6174	0.6174								
FILE0567	AK STEEL CORP/BUTLER WORKS	ANNEAL FURNACE 7	0.4158	0.4158								
FILE0569	AK STEEL CORP/BUTLER WORKS	ANNEAL FURNACE 12	2.4948	2.4948								
FILE0573	AK STEEL CORP/BUTLER WORKS	CARLITE LINE DRY FURNACE 20	0.1134	0.1134								
FILE0575	AK STEEL CORP/BUTLER WORKS	CARLITE LINE DRY FURNACE 26	0.3377	0.3377								
FILE0579	AK STEEL CORP/BUTLER WORKS	LADLE PREHEATER/DRYER # 6	0.1260	0.1260								
FILE0585	AK STEEL CORP/BUTLER WORKS	MGO DRYING FURNACE	0.2142	0.2142								
FILE0589	AK STEEL CORP/BUTLER WORKS	BOILER 21 (HTP)	0.1449	0.1449								
FILE0593	AK STEEL CORP/BUTLER WORKS	#7 LADLE DRYING STATION	0.1247	0.1247								
FILE0595	AK STEEL CORP/BUTLER WORKS	SPACE HEATERS < 2.5 MMBTU	0.0315	0.0315								
FILE0597	AK STEEL CORP/BUTLER WORKS	MISC. PROCESS HEATERS	1.0307	1.0307								
FILE0599	AK STEEL CORP/BUTLER WORKS	STANDBY GENERATORS (NATURAL GAS/PROPANE)	0.1890	0.1890								
FILE0601	AK STEEL CORP/BUTLER WORKS	STANDBY GENERATORS/PUMPS (DIESEL) <500 HP	0.9765	0.0557								
FILE0613	AK STEEL CORP/BUTLER WORKS	MAIN PLANT BOILER #22	2.7216E-04	2.7216E-04								
FILE0623	AK STEEL CORP/BUTLER WORKS	LADLE PREHEATER/DRYER # 9	0.2066	0.2066								
FILE0625	AK STEEL CORP/BUTLER WORKS	#3 BAGHOUSE STACK	10.3200	10.3200								
FILE0637	AK STEEL CORP/BUTLER WORKS	EMERGENCY DIESEL PUMP (340 HP)		0.0159								
FILE0641	AK STEEL CORP/BUTLER WORKS	LADLE PREHEATER/DRYER #8	0.1008	0.1008								
FILE0665	AK STEEL CORP/BUTLER WORKS	STANDBY GENERATOR (DIESEL) >500 HP	1.9656	0.1122								

OFFSITE INVENTORY - MODELED EMISSIONS
CEMEX
Wampum Cement Plant

			NO_2		PM_{10}			$PM_{2.5}$				SO_2
			NO2	99NO2	PM10	24PM10	99PM10	PM25	PM2.5	24PM25	99PM25	SO2
			NQS	NQS/Inc.	NQS	INC.	INC.	NQS	NQS	INC.	INC.	NQS
Model ID	Facility Name	Source Description	1-hr (g/s)	Annual (g/s)	24-hr (g/s)	24-hr (g/s)	Annual (g/s)	24-hr (g/s)	Annual (g/s)	24-hr (g/s)	Annual (g/s)	1-hr (g/s)
FILE0667	AK STEEL CORP/BUTLER WORKS	BACKUP BOILER (HTP)	0.1256	0.1256								
FILE0669	GE TRANS GROVE CITY ENGINE	BOILER - 400 HP - 13.4 MILLION BTU/HR NAT. GAS	0.1688	0.1628								
FILE0687	GE TRANS GROVE CITY ENGINE	DIESEL ENGINE TEST CELL 3 STACK (OLD S04)	0.6398	12.5135								
FILE0688	GE TRANS GROVE CITY ENGINE	DIESEL ENGINE TEST CELL 1 STACK (OLD S02)	0.6398	11.8806								
FILE0689	GE TRANS GROVE CITY ENGINE	DIESEL ENGINE TEST CELL 2 STACK (OLD S03)	0.6398	11.8806								
FILE0690	GE TRANS GROVE CITY ENGINE	DIESEL ENGINE TEST CELL 4 STACK (OLD S05)	0.7736	12.9522								
FILE0691	GE TRANS GROVE CITY ENGINE	DIESEL ENGINE TEST CELL 5 STACK (OLD S06)	0.9576	1.0609								
FILE0692	GE TRANS GROVE CITY ENGINE	BOILER - 800 HP - 26.8 MILLION BTU/HR NAT. GAS	0.3377									
FILE0694	GE TRANS GROVE CITY ENGINE	EMERGENCY DIESEL FIRE PUMP 185 HP		0.0403								
FILE0696	GE TRANS GROVE CITY ENGINE	MISC NATURAL GAS FIRED SOURCES	1.2600	1.2600								
FILE0702	GE TRANS GROVE CITY ENGINE	DIESEL ENGINE TEST CELL 6	18.6250	0.2598								
FILE0705	GE TRANS GROVE CITY ENGINE	Emerg Fire Pump 185 HP		0.0403								
FILE0706	WHEATLAND TUBE CO DI/WHEATLAND TUBE DIV	CONTINUOUS WELD FURNACE	1.2600	1.3572								
FILE0710	WHEATLAND TUBE CO DI/WHEATLAND TUBE DIV	#2 GALVANIZING KETTLE	0.5002	0.5008								
FILE0717	WHEATLAND TUBE CO DI/WHEATLAND TUBE DIV	600HP BOILER	0.3175	0.3175								
FILE0719	WHEATLAND TUBE CO DI/WHEATLAND TUBE DIV	400HP BOILER	0.2117	0.2117								
FILE0747	WHEATLAND TUBE CO DI/WHEATLAND TUBE DIV	MISC HEATERS	0.3309	0.3309								
FILE0749	WHEATLAND TUBE CO DI/WHEATLAND TUBE DIV	1000HP NAT. GAS FIRED BOILER	0.5292	0.5292								
FILE0763	WHEATLAND TUBE CO DI/WHEATLAND TUBE DIV	NATURAL GAS FUELED EMERGENCY GENERATORS (2)		0.1899								
FILE0769	NLMK PENNSYLVANIA LLC/FARRELL PLT	SLAB REHEAT FURNACE 1	3.5783	3.5783								
FILE0771	NLMK PENNSYLVANIA LLC/FARRELL PLT	SLAB REHEAT FURNACE 2	3.5783	3.5783								
FILE0785	NLMK PENNSYLVANIA LLC/FARRELL PLT	#21 ANNEAL FURNACES (10 FURNACES)	0.2948	0.2948								
FILE0791	NLMK PENNSYLVANIA LLC/FARRELL PLT	#22 ANNEAL FURNACES (12 FURNACES)	0.4717	0.4717								
FILE0797	NLMK PENNSYLVANIA LLC/FARRELL PLT	STEAM BOILERS (2)	0.4221	0.4221								

OFFSITE INVENTORY - MODELED EMISSIONS
CEMEX
Wampum Cement Plant

			NO_2		PM_{10}			$PM_{2.5}$				SO_2
			NO2	99NO2	PM10	24PM10	99PM10	PM25	PM2.5	24PM25	99PM25	SO2
			NQS	NQS/Inc.	NQS	INC.	INC.	NQS	NQS	INC.	INC.	NQS
Model ID	Facility Name	Source Description	1-hr (g/s)	Annual (g/s)	24-hr (g/s)	24-hr (g/s)	Annual (g/s)	24-hr (g/s)	Annual (g/s)	24-hr (g/s)	Annual (g/s)	1-hr (g/s)
FILE0799	NLMK PENNSYLVANIA LLC/FARRELL PLT	SLAB REHEAT FURNACE 3	0.3982	0.3982								
FILE0840	JONES PERFORMANCE PR/WEST MIDDLESEX	CURING OVEN	0.0378	0.0378								
FILE0844	JONES PERFORMANCE PR/WEST MIDDLESEX	AIR MAKE-UP & OTHER MISC. HEATERS	0.1386	0.1386								
FILE0848	TENNESSEE GAS PIPELINE CO LLC/MERCER STA 219	1-A	2.8475	2.8393								
FILE0850	TENNESSEE GAS PIPELINE CO LLC/MERCER STA 219	2-A	2.8475	2.8393								
FILE0852	TENNESSEE GAS PIPELINE CO LLC/MERCER STA 219	3-A	2.8475	2.8393								
FILE0854	TENNESSEE GAS PIPELINE CO LLC/MERCER STA 219	4-A	2.8475	2.8393								
FILE0856	TENNESSEE GAS PIPELINE CO LLC/MERCER STA 219	5-A	2.8475	2.8393								
FILE0858	TENNESSEE GAS PIPELINE CO LLC/MERCER STA 219	6-A	2.8475	2.8393								
FILE0860	TENNESSEE GAS PIPELINE CO LLC/MERCER STA 219	7-A	1.4994	1.4987								
FILE0862	TENNESSEE GAS PIPELINE CO LLC/MERCER STA 219	8-A	1.4994	1.4987								
FILE0864	TENNESSEE GAS PIPELINE CO LLC/MERCER STA 219	9-A	3.3011	3.2967								
FILE0866	TENNESSEE GAS PIPELINE CO LLC/MERCER STA 219	10-A	3.3011	3.2967								
FILE0868	TENNESSEE GAS PIPELINE CO LLC/MERCER STA 219	11-A	3.3011	3.2967								
FILE0870	TENNESSEE GAS PIPELINE CO LLC/MERCER STA 219	12-A	3.3011	3.2967								
FILE0872	TENNESSEE GAS PIPELINE CO LLC/MERCER STA 219	13-A	3.3011	3.2967								
FILE0874	TENNESSEE GAS PIPELINE CO LLC/MERCER STA 219	1-B	4.5863	4.5825								
FILE0876	TENNESSEE GAS PIPELINE CO LLC/MERCER STA 219	A-1-A	0.1109	0.1109								
FILE0878	TENNESSEE GAS PIPELINE CO LLC/MERCER STA 219	A-2-A	0.1109	0.1109								
FILE0880	TENNESSEE GAS PIPELINE CO LLC/MERCER STA 219	A-3-A	0.1109	0.1109								
FILE0884	Hickory Run Energy Center	Combustion Turbine Stack 1	3.6773	3.6773								
FILE0885	Hickory Run Energy Center	Combustion Turbine Stack 2	3.6773	3.6773								
FILE0886	Hickory Run Energy Center	Auxiliary Boiler	0.0550	0.0550								
FILE0887	Hickory Run Energy Center	Emergency Generator		0.0150								

OFFSITE INVENTORY - MODELED EMISSIONS
CEMEX
Wampum Cement Plant

			NO_2		PM_{10}			$PM_{2.5}$				SO_2
			NO2	99NO2	PM10	24PM10	99PM10	PM25	PM2.5	24PM25	99PM25	SO2
			NQS	NQS/Inc.	NQS	INC.	INC.	NQS	NQS	INC.	INC.	NQS
Model ID	Facility Name	Source Description	1-hr (g/s)	Annual (g/s)	24-hr (g/s)	24-hr (g/s)	Annual (g/s)	24-hr (g/s)	Annual (g/s)	24-hr (g/s)	Annual (g/s)	1-hr (g/s)
FILE0888	Hickory Run Energy Center	Fire Water Pump	3.9971E-03	3.9971E-03								
FILE0889	Wampum Quarry	Facility Roadways			0.0164	0.0164	0.0155	1.6380E-03	1.4383E-03	1.6380E-03	1.4383E-03	
FILE0890	Wampum Quarry	Dump Hopper			3.9311E-04	3.9311E-04	3.9311E-04	5.9529E-05	5.9529E-05	5.9529E-05	5.9529E-05	
FILE0891	Wampum Quarry	Apron Feeder			0.0090	0.0090	0.0090	1.3642E-03	1.3642E-03	1.3642E-03	1.3642E-03	
FILE0892	Wampum Quarry	Wobbler Feeder			0.0180	0.0180	0.0180	2.7284E-03	2.7284E-03	2.7284E-03	2.7284E-03	
FILE0893	Wampum Quarry	Impact Crusher			7.4843E-04	7.4843E-04	7.4843E-04	2.2667E-04	2.2667E-04	2.2667E-04	2.2667E-04	
FILE0894	Wampum Quarry	Impact Crusher			1.6632E-03	1.6632E-03	1.6632E-03	2.5185E-04	2.5185E-04	2.5185E-04	2.5185E-04	
FILE0895	Wampum Quarry	Conveyor System			4.5044E-04	4.5044E-04	4.5044E-04	1.3642E-04	1.3642E-04	1.3642E-04	1.3642E-04	
FILE0896	Wampum Quarry	Truck Loadout Silo			4.5044E-04	4.5044E-04	4.5044E-04	1.3642E-04	1.3642E-04	1.3642E-04	1.3642E-04	
FILE0897	Wampum Quarry	Truck Loading			2.4570E-03	2.4570E-03	2.4570E-03	3.7205E-04	3.7205E-04	3.7205E-04	3.7205E-04	
FILE0898	Wampum Quarry	Limestone Storage Pile			0.2532	0.2532	0.0127	0.0383	1.9159E-03	0.0383	1.9159E-03	
FILE0899	Wampum Quarry	Limestone Storage Pile			2.9609E-03	2.9609E-03	2.9658E-03	4.5359E-04	4.4876E-04	4.5359E-04	4.4876E-04	
FILE0917	BAIRD BROTHERS SAWMILL INC	Boiler	1.0130	1.0126								
FILE0918	BAIRD BROTHERS SAWMILL INC	P001 & P002	0.2659	0.2664								
FILE0919	BAIRD BROTHERS SAWMILL INC	P003, P004, P005	0.5330	0.5328								
FILE0921	CARBON LIMESTONE LANDFILL GAS POWER STATION	Thermal Oxidizer	0.0907	0.0906								
FILE0922	CARBON LIMESTONE LANDFILL GAS POWER STATION	P020, P021 (0.6 g/hp-hr)	0.3722	0.3717								
FILE0923	CARBON LIMESTONE LANDFILL GAS POWER STATION	P001 - P014 (0.36 lbMMBtu)	0.6174	0.6185								
FILE0924	CARBON LIMESTONE LANDFILL GAS POWER STATION	P018, P019	0.6174	0.6185								
FILE0927	CARBON LIMESTONE SANITARY LANDFILL	Combustion Source	1.3419	1.3420								
FILE0932	EAST FAIRFIELD COAL COMPANY	Generator	4.8635	2.6638								
FILE0935	MAHONING LANDFILL, INC.	Flare	1.1335	1.1335								
FILE0936	MAHONING LANDFILL, INC.	P001-P005	0.4624	0.4620								
FILE0941	PIONEER SITE SERVICES, LLC.	Air Burner	0.0756	0.0184								

OFFSITE INVENTORY - MODELED EMISSIONS
CEMEX
Wampum Cement Plant

			NO_2		PM_{10}			$PM_{2.5}$				SO_2
			NO2	99NO2	PM10	24PM10	99PM10	PM25	PM2.5	24PM25	99PM25	SO2
			NQS	NQS/Inc.	NQS	INC.	INC.	NQS	NQS	INC.	INC.	NQS
Model ID	Facility Name	Source Description	1-hr (g/s)	Annual (g/s)	24-hr (g/s)	24-hr (g/s)	Annual (g/s)	24-hr (g/s)	Annual (g/s)	24-hr (g/s)	Annual (g/s)	1-hr (g/s)
FILE0942	POLYAIR CORP.	Extruder		0.0245								
FILE0947	STEEL CITY CORP.	Oven	0.0970	0.0969								
FILE0952	VALLOUREC STAR, LP	Caster	1.0836	1.0068								
FILE0953	VALLOUREC STAR, LP	Furnace	3.6539	2.5689								
FILE0954	VALLOUREC STAR, LP	Furnace	2.0462	1.1150								
FILE0955	VALLOUREC STAR, LP	Furnace	0.8870	0.4695								
FILE0956	VALLOUREC STAR, LP	Furnace	0.4826	0.2583								
FILE0957	VALLOUREC STAR, LP	Furnace	0.3604	0.1996								
FILE0958	VALLOUREC STAR, LP	Furnace	8.6686	8.0547								
FILE0964	YOUNGSTOWN THERMAL	Boiler	3.5594	3.5594								
FILE0972	BRINKER COMPRESSOR STATION	Natural Gas Dehydrator	0.0365	0.0365								
FILE0974	ELJER PLUMBINGWARE, INC.	Peak Generator	2.3058	0.6329								
FILE0978	HERITAGE THERMAL SERVICES	Boiler	0.3893	0.3889								
FILE0979	HERITAGE THERMAL SERVICES	Incinerator	3.5733	3.5737								

APPENDIX M ELECTRONIC FILES - REVISED

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