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**Emission Summary and Dispersion Modelling Report
Public Version**

**Alternative Low-Carbon Fuel Application under Ontario
Regulation 79/15 to Amend an Environmental Compliance
Approval (Air) with Limited Operational Flexibility**

St. Marys Cement Inc. (Canada) – St. Marys Plant

Report to: Ministry of the Environment, Conservation
and Parks
Client Services and Permissions Branch
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Executive Summary

This Emission Summary and Dispersion Modelling (ESDM) Report is being submitted by St. Marys Cement Inc. [Canada] (SMC) in support of an Alternative Low Carbon Fuel (ALCF) Application under Ontario Regulation (O.Reg.) 79/05 to amend their Environmental Compliance Approval (ECA) with Limited Operational Flexibility (LOF), ECA number 4546-AQ9GMB, dated August 31, 2017 for their Portland cement manufacturing plant (Facility) located in St. Marys, Ontario.

The site-wide ESDM Report has been prepared in accordance with Section 26 of Ontario Regulation 419/05; the Ministry of the Environment, Conservation and Parks' (Ministry) *Procedure for Preparing an Emission Summary and Dispersion Modelling Report* (March 2018); the Ministry's *Air Dispersion Modelling Guideline for Ontario* (February 2017) and *Basic Comprehensive Certificates of Approval (Air) User Guide* (March 2011).

The Facility is located at 585 Water Street South, in St. Marys, Ontario. The plant produces Portland cement by combining materials bearing calcium carbonate, silica, alumina and iron oxide at high temperatures to produce cement clinker. The clinker is subsequently ground with finishing materials such as gypsum and limestone to produce cement.

The Facility is applying under O.Reg. 79/15 to amend their existing ECA (air) with LOF to support the regular use of ALCF up to 175 tonnes per day.

The proposed ALCFs may include the following ALCF materials and associated baskets:

- Material that is biomass fuel derived from harvested plant and forest sources, end of life agricultural sources, Woodwaste or Agricultural Waste, and includes but is not limited to sawdust, wood chips, wood, miscanthus grass, millet, sorghum, hemp, switch grass, and maize;
- Material that is comprised of non-recyclable plastics, including but not limited to manufacturing rejects, material resource recovery facility rejects, plastics bags and packaging;
- Material that is comprised of construction, renovation & demolition waste, including but not limited to scrap wood, treated lumber, carpets, textiles, sawdust, floor laminates and asphalt shingles;
- Material that is comprised of non-recyclable paper fiber/wood/plastic composites, including but not limited to single-serve coffee pods, printed papers, paper towels, rejects and trimmings from paper recycling facilities such as ragger tails (residue including plastic trimmings, staples, paper fibre and metal wire), end rolls and cores; and
- Material that is comprised of rubber (non-tire derived), including but not limited to shredded conveyor belt rubber.



In addition to ALCFs, the Facility is requesting approval to use hydrogen (H_2) as a fuel to reduce greenhouse gas emissions. The facility plans to evaluate the implementation of hydrogen technologies as they become available. H_2 can also be used to improve the efficiency of combustion of the kiln. There are already technologies available that can produce H_2 and oxygen (O_2) by hydrolysis. H_2 and O_2 are injected into the kiln in small quantities to improve the overall efficiency of combustion. The Facility is planning to install a technology (UC3 system) that will integrate an automatic electrolyte production unit which will produce H_2 and O_2 using fresh water through an electrolysis process. These gases will then be injected in the burning zone of the kiln.

The primary emissions from this Facility are particulate, nitrogen oxides, sulphur dioxide and carbon monoxide. These primary emissions along with trace amounts of metals/metal oxides and organic compounds as well as ammonia and hydrogen chloride are generated from the use/processing of raw materials and the combustion of fuel required for cement production.

Emissions of both primary and trace contaminants were estimated using a combination of published emission factors, stack test results, mass balance, and manufacturer's performance specifications.

Maximum emissions were modelled for all contaminants using the Ministry approved US EPA AERMOD system (Version 19191) and site-specific meteorological data provided by the Ministry. The resulting Point-of-Impingement (POI) concentrations were compared to the standards, guidelines and screening levels in the Ministry Air Contaminants Benchmark (ACB) List, dated April 2018.

The results of the AERMOD modelling exercises demonstrate that the maximum POI concentrations for all contaminants are below their respective limits as summarized in Table ES-1 below.

Table ES-1 Emission Summary Table

Contaminant Name	CAS #	Maximum Total Emission Rate (g/s)	Air Dispersion Model Used	Maximum POI Concentration (µg/m³)	Averaging Period - Emissions	Averaging Period - POI	Ministry POI Limit	Limiting Effect	Ministry Regulation Schedule #	Percentage of Ministry POI Limit (%)
Suspended Particulate Matter	PM	1.13E+01	AERMOD	6.63E+01	24 hr	24 hr	120	Visibility	3	55.2%
Respirable Crystalline Silica	14808-60-7	3.67E-01	AERMOD	2.53E+00	24 hr	24 hr	5	Health	G	50.5%
Gaseous Compounds										
Nitrogen Dioxide	10102-44-0	4.69E+01	AERMOD	1.95E+02	1 hr	1 hr	400	Health	3	48.8%
Nitrogen Dioxide	10102-44-0	4.69E+01	AERMOD	4.41E+01	24 hr	24 hr	200	Health	3	22.0%
Sulphur Dioxide	7446-09-5	3.45E+01	AERMOD	5.52E+01	1 hr	1 hr	690	Health & Vegetation	3	8.0%
Sulphur Dioxide	7446-09-5	3.45E+01	AERMOD	5.52E+01	1 hr	1 hr	100	Health	3 (July 2023)	55.2%
Sulphur Dioxide	7446-09-5	3.45E+01	AERMOD	8.46E+00	24 hr	24 hr	275	Health & Vegetation	3	3.1%
Sulphur Dioxide	7446-09-5	3.45E+01	AERMOD	1.03E+00	annual	annual	10	Vegetation	3 (July 2023)	10.3%
Carbon Monoxide	630-08-0	1.01E+02	AERMOD	1.98E+02	1 hr	30 minute	6000	Health	3	3.3%
Sulphur Compounds										
Total Reduced Sulphur	TRS	1.72E-02	AERMOD	4.20E-03	24 hr	24 hr	7	Health	3	<0.1%
Total Reduced Sulphur	TRS	1.72E-02	AERMOD	1.69E-02	24 hr	10 minute	13	Odour	3	0.1%
Carbon Disulphide	75-15-0	4.12E-01	AERMOD	1.01E-01	24 hr	24 hr	330	Odour	G	<0.1%
Carbonyl Sulphide	463-58-1	3.42E+00	AERMOD	8.34E-01	24 hr	24 hr	13	Health	JSL	6.4%
Metals										
Antimony	7440-36-0	1.44E-04	AERMOD	5.30E-04	24 hr	24 hr	25	Health	3	<0.1%
Arsenic	7440-38-2	1.83E-03	AERMOD	1.71E-02	24 hr	24 hr	0.3	Health	G	5.7%
Barium	7440-39-3	8.59E-03	AERMOD	2.85E-02	24 hr	24 hr	10	Health	G	0.3%
Beryllium	7440-41-7	2.47E-05	AERMOD	8.00E-05	24 hr	24 hr	0.01	Health	3	0.8%
Cadmium	7440-43-9	1.40E-04	AERMOD	6.50E-04	24 hr	24 hr	0.025	Health	3	2.6%
Chromium	7440-47-3	2.44E-03	AERMOD	1.86E-02	24 hr	24 hr	0.5	Health	3	3.7%
Cobalt	7440-48-4	6.66E-04	AERMOD	6.50E-03	24 hr	24 hr	0.1	Health	G	6.5%
Ferric Oxide	1309-37-1	9.00E-01	AERMOD	7.41E+00	24 hr	24 hr	25	Soiling	3	29.6%
Lead	7439-92-1	9.32E-03	AERMOD	2.44E-02	24 hr	30 day	0.2	Health	3	12.2%
Lead	7439-92-1	9.32E-03	AERMOD	6.32E-02	24 hr	24 hr	0.5	Health	3	12.6%
Manganese	7439-96-5	1.86E-02	AERMOD	6.12E-02	24 hr	24 hr	0.4	Health	3	15.3%
Mercury	7439-97-6	1.58E-03	AERMOD	3.90E-04	24 hr	24 hr	2	Health	3	<0.1%
Nickel	7440-02-0	1.99E-03	AERMOD	1.62E-02	24 hr	24 hr	0.2	Health	DAV/URT	8.1%
Nickel	7440-02-0	1.99E-03	AERMOD	1.66E-03	24 hr	Annual	0.4	Health	AAV	0.4%
Nickel	7440-02-0	1.99E-03	AERMOD	1.66E-03	Annual	Annual	0.04	Health	3	4.2%
Phosphorus	7723-14-0	3.03E-03	AERMOD	7.39E-04	24 hr	24 hr	0.5	Health	JSL	0.1%
Potassium	7440-09-7	1.20E-01	AERMOD	2.93E-02	24 hr	24 hr	1	Health	JSL	2.9%
Selenium	7782-49-2	4.23E-04	AERMOD	3.00E-04	24 hr	24 hr	10	Health	G	<0.1%
Silver	7440-22-4	1.35E-04	AERMOD	3.30E-04	24 hr	24 hr	1	Health	3	<0.1%
Tin	7440-31-5	7.83E-04	AERMOD	5.53E-03	24 hr	24 hr	10	Health	3	<0.1%
Vanadium	7440-62-2	1.04E-02	AERMOD	1.02E-01	24 hr	24 hr	2	Health	3	5.1%
Dioxin and Furans										
TOTAL Dioxin and Furans (TEQ)	CCD	3.17E-09	AERMOD	7.73E-10	24 hr	24 hr	0.0000001	Health	3	0.8%
Hydrogen Chloride and Ammonia										
Hydrogen Chloride	7647-01-0	1.23E+00	AERMOD	3.01E-01	24 hr	24 hr	20	Health	3	1.5%
Ammonia	7664-41-7	4.56E-01	AERMOD	1.11E-01	24 hr	24 hr	100	Health	3	0.1%
Polycyclic Aromatic Hydrocarbons (PAHs)										
Benzo(a)pyrene	50-32-8	7.00E-06	AERMOD	1.71E-06	24 hr	24 hr	0.005	Health	DAV/URT	<0.1%
Benzo(a)pyrene	50-32-8	7.00E-06	AERMOD	1.63E-07	24 hr	Annual	0.0001	Health	AAV	0.2%
Benzo(a)pyrene	50-32-8	7.00E-06	AERMOD	1.63E-07	Annual	Annual	0.00001	Health	3	1.6%
Naphthalene	91-20-3	4.30E-02	AERMOD	4.22E-02	24 hr	10 minute	50	Health	G	<0.1%
Naphthalene	91-20-3	4.30E-02	AERMOD	1.05E-02	24 hr	24 hr	22.5	Odour	G	<0.1%
Chloronated Organic Compounds										
Carbon Tetrachloride	56-23-5	1.70E-02	AERMOD	4.16E-03	24 hr	24 hr	2.4	Health	3	0.2%
Chloroform	67-66-3	1.15E-02	AERMOD	2.81E-03	24 hr	24 hr	1	Health	3	0.3%
Dibromochloromethane	124-48-1	9.37E-03	AERMOD	2.29E-03	24 hr	24 hr	0.2	Health	JSL	1.1%
Dichloroethane, 1,2-	107-06-2	7.39E-03	AERMOD	1.80E-03	24 hr	24 hr	2	Health	3	<0.1%
Dichloroethene, 1,1-	75-35-4	1.15E-02	AERMOD	2.81E-03	24 hr	24 hr	10	Health	3	<0.1%
Hexachlorobenzene	118-74-1	4.97E-05	AERMOD	1.21E-05	24 hr	24 hr	0.011	Health	JSL	0.1%
Tetrachloroethane, 1,1,1,2-	630-20-6	1.05E-02	AERMOD	2.56E-03	24 hr	24 hr	0.5	Health	JSL	0.5%
Tetrachloroethane, 1,1,2,2-	79-34-5	1.42E-02	AERMOD	3.47E-03	24 hr	24 hr	0.1	Health	JSL	3.5%
Trichloroethane, 1,1,2-	79-00-5	1.70E-02	AERMOD	4.16E-03	24 hr	24 hr	0.3	Health	JSL	1.4%
Trichloroethylene	79-01-6	1.15E-02	AERMOD	2.81E-03	24 hr	24 hr	12	Health	3	<0.1%
Vinyl Chloride	75-01-4	1.99E-02	AERMOD	4.85E-03	24 hr	24 hr	1	Health	3	0.5%
Volatile Organic Compounds										
Benzene	71-43-2	1.10E+00	AERMOD	2.68E-01	24 hr	24 hr	100	Health	DAV/URT	0.3%
Benzene	71-43-2	1.10E+00	AERMOD	2.56E-02	24 hr	Annual	4.5	Health	AAV	0.6%
Benzene	71-43-2	1.10E+00	AERMOD	2.56E-02	Annual	Annual	0.45	Health	3	5.7%
Dibromoethane, 1,2-	106-93-4	7.40E-03	AERMOD	1.81E-03	24 hr	24 hr	3	Health	G	<0.1%

Notes:

Modelling was completed using AERMOD Version 19191

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1.0 INTRODUCTION AND FACILITY DESCRIPTION

This Emission Summary and Dispersion Modelling (ESDM) Report is being submitted by St. Marys Cement Inc. [Canada] (SMC) in support of an Alternative Low Carbon Fuel (ALCF) Application under Ontario Regulation (O.Reg.) 79/05 to amend their Environmental Compliance Approval (ECA) with Limited Operational Flexibility (LOF), ECA number 4546-AQ9GMB, dated August 31, 2017 for their Portland cement manufacturing plant (Facility) located in St. Marys, Ontario.

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- Material that is biomass fuel derived from harvested plant and forest sources, end of life agricultural sources, Woodwaste or Agricultural Waste, and includes but is not limited to sawdust, wood chips, wood, miscanthus grass, millet, sorghum, hemp, switch grass, and maize;
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- Material that is comprised of non-recyclable paper fiber/wood/plastic composites, including but not limited to single-serve coffee pods, printed papers, paper towels, rejects and trimmings from paper recycling facilities such as ragger tails (residue including plastic trimmings, staples, paper fibre and metal wire), end rolls and cores; and
- Material that is comprised of rubber (non-tire derived), including but not limited to shredded conveyor belt rubber.

In addition to ALCFs, the Facility is requesting approval to use hydrogen (H₂) as a fuel to reduce greenhouse gas emissions. The facility plans to evaluate the implementation of hydrogen technologies as they become available. H₂ can also be used to improve the efficiency of combustion of the kiln. There are already technologies available that can produce H₂ and oxygen (O₂) by hydrolysis. H₂ and O₂ are injected into the kiln in small quantities to improve the overall efficiency of combustion. The Facility is planning to install a technology (UC3 system) that will

integrate an automatic electrolyte production unit which will produce H₂ and O₂ using fresh water through an electrolysis process. These gases will then be injected in the burning zone of the kiln.

The Facility's primary North American Industry Classification System (NAICS) code is 327310 – Cement Manufacturing.

1.1 Environmental Activity and Sector Registry Eligibility

O. Reg. 1/17 details the eligibility for registration in the Environmental Activity and Sector Registry (EASR) for activities requiring assessment of air emissions (Air Emissions EASR).

Section 2(2) of O. Reg. 1/17 describes facility activities and/or operations that are not eligible for the Air Emissions EASR, thereby requiring the facility to obtain an Environmental Compliance Approval (ECA) under Section 9 of the Environmental Protection Act.

The primary NAICS code for SMC's facility is 327310 – Cement Manufacturing. Per Section 2(2) item 1 of O. Reg. 1/17 facilities with a primary NAICS code of 32731 are not eligible for the Air Emissions EASR. Therefore, SMC's St. Marys facility must continue to be permitted under an ECA.

1.2 Facility Description

The Facility is a Portland cement manufacturing facility consisting of the following processes and support units:

- Quarry operations – limestone extraction, processing and shipping;
- Raw material and fuel processing, storage and handling;
- Clinker production – kiln operations; and
- Cement production including ball mills, cement storage and shipping.

The Facility typically operates 24 hours per day, 7 days per week, and 12 months per year (except during plant shutdowns). The zoning map is provided in Appendix A.

In addition to the cement plant, Canada Building Materials Company (CBM), a Division of St. Marys Cement, operates a separate high calcium dried limestone manufacturing process under ECA No. 8517-AQCJUK dated August 31, 2017 at the Facility. Laidlaw Bulk Carriers LP (Laidlaw) operates a dual-fuel fired (i.e. propane and natural gas) truck heating system on site under ECA no. 9917-ASXMEQ, dated December 21, 2017 for the purpose of facilitating raw material handling during winter.

Since SMC, CBM and Laidlaw share roads and emit common contaminants, the three parties have been deemed one single property for the purpose of assessing air compliance under O. Reg. 419/05. A copy of the Section 4((2)(a) letters are presented in Appendix B. All contaminants for all three parties have been included in this site-wide ESDM report.

1.3 Facility Production Limit

The approved facility production limit is 1.1 million tonnes of clinker per year.

1.4 Process Description

The simplified process flow diagrams and site layouts are included in Appendix A. The major processes are described in the sections below, and colour coded to match the figures and tables within this report.

1.4.1 Cement Manufacturing Operations

The cement plant produces Portland cement by combining materials bearing calcium carbonate, silica, alumina and iron oxide at high temperatures to produce cement clinker. The clinker is subsequently ground with finishing materials such as gypsum and limestone to produce cement. A simplified process flow diagram is included in Appendix C (Figure 1A).

1.4.1.1 Raw Material /Conventional Fuel Delivery and Storage

The main raw material (limestone) is supplied to the plant's limestone storage pile via a conveyor belt from a separate limestone quarry (Thomas St. Quarry) located north-west of the plant. Limestone is transferred from the storage pile via an enclosed conveyor system which originates below grade (under the storage pile) to a secondary crusher and screen system which are housed inside two separate buildings, each controlled by a baghouse. Processed limestone is then fed via enclosed conveyors to a limestone storage silo.

Other raw materials (e.g. sand, silica, alumina, iron, clay, and fly ash), and additives (gypsum) are delivered by truck, and as appropriate, are stored in silos, sheds, domes, or stockpiles. When needed, the received found sand is screened by a mobile screener on site.

As required, clay is extracted on-site by a scraper and stored in stockpiles.

Conventional fuel (e.g. petroleum coke and coal) is delivered by tanker from which it is pneumatically fed directly into fuel storage silos or by truck where it is deposited on to stockpiles. These silos are recharged as necessary from the stockpiles via a fuel feed hopper.

1.4.1.2 ALCF Delivery and Storage (Proposed)

ALCF will be delivered to the Facility by enclosed trucks, which will enter a new ALCF storage building which will be located east of the cement plant's main building (see Figure 2C). The unloading of ALCF will be a completely enclosed process.

Other than a reduction in conventional fuel consumption, there will be no changes to any other operations at the Facility through the use of ALCF as described in the following sections.

1.4.1.3 Raw Material Preparation

Raw materials (i.e. limestone, sand, clay, silica, alumina, and iron oxide sources) are fed in controlled proportions from the raw material storage silos and storage building via an enclosed conveyor belt system to a raw mill. In the raw mill, the raw materials are ground and mixed to control particle size distribution and are dried using the hot exhaust gases from the pre-heater tower/kiln system. During start-ups, the raw mill is pre-heated by a natural gas-fired raw mill furnace. The raw mill furnace is not used during normal operations.

Emissions from the raw mill are controlled by the main kiln baghouse which vents through the main kiln stack.

1.4.1.4 Solid Fuel Preparation and Feed System

Conventional fuel for the kiln system is fed from the storage silos by enclosed screw conveyors into the fuel milling system. Emissions are controlled by the fuel mill baghouse which vents through the fuel mill stack. Milled fuel (fuel meal) is pneumatically fed to the main kiln burner or the back-end firing system burner through the conventional fuel feed system.

When ALCF will be used, the homogenized fuel from the ALCF fuel building will be fed via a series of conveyors that feed the main kiln burner and the back-end firing system burner.

The ALCF feed system will be fully integrated with the plant control system to regulate and limit the fuel substitution rates into the kiln to maintain the required temperature profile and system conditions. ALCF will not be used during kiln start-up or shut down.

As hydrogen technologies become available, the Facility is proposing to use H₂ as a fuel to reduce greenhouse emissions from the Facility. The Facility is planning to install a technology (UC3 system) that will integrate an automatic electrolyte production unit which will produce H₂ and O₂ using fresh water through an electrolysis process. These gases will then be injected in the burning zone of the kiln during normal clinker production to improve the combustion efficiency of the kiln.

1.4.1.5 Clinker Production

Calcination (Preheater Tower and Kiln)

The ground, mixed and dried raw material (raw meal) is stored in the kiln feed silos. Raw meal from the silos is fed, via air slides and bucket elevators, up to a dual string pre-heater tower consisting of a series of cyclones. As the raw meal progressively passes through a pre-heater string and its cyclones, it is preheated using the hot gases from the kiln prior to being directed into the kiln. These gases are the same gases that subsequently pass through the raw mill and main baghouse and exhaust via the main kiln stack.

In the kiln¹, the flame temperature reaches 1600°C to 1800°C, the gas temperature is above 1200°C and the raw meal temperature is raised to 950°C. Heat input required for the calcination process is currently provided by the main kiln burner using conventional fuels (i.e. petroleum coke) and the dual fuel-fired (solid fuel or natural gas) back-end firing system (located at the feed input end of the kiln) using natural gas. The purpose of the back-end firing system is to achieve a more stable temperature profile in the kiln system which can improve the quality of the product.

The rotation speed of the kiln is controlled to gradually move the raw materials towards the burning zone/backend which provides a long residence time ensuring complete combustion/calcination.

The chemical reactions and physical processes under high temperatures and with a long residence time transform the raw meal into clinker inside the cement kiln. The high temperatures, long residence times and the oxidizing atmosphere in the kiln system result in the complete destruction of the organic components of the fuels (conventional/ALCF) and raw materials. The clinker formed inside the kiln retains the majority of the inorganic components of the fuels and raw materials including heavy metals.

Under normal operating conditions, approximately 90% of the flue gases from the kiln pass through the pre-heater strings and raw mill to the kiln baghouse, while the remaining 10% of the kiln flue gases goes through the bypass system (i.e. “bypassing” the preheater strings and the raw mill) which includes the bypass precipitator. The purpose of the bypass system is to remove fines containing alkalis (e.g. sodium and potassium oxides), chlorine and sulphur from the kiln system to ensure compliance with the concrete ASTM and CSA standards.

Flue gases from the pre-heater strings are cooled by the conditioning towers (high pressure water sprays) before being treated by the main baghouse for particulate control. The temperature of the flue gases is rapidly reduced to prevent damage to the baghouse and the formation of organics. Both the kiln baghouse and the bypass electrostatic precipitator exhaust to the atmosphere via the main kiln stack.

The Facility also uses a Selective Non-Catalytic NO_x Reduction (SNCR) ammonia solution injection system to reduce NO_x emissions from the kiln stack.

Continuous Process Monitoring and Continuous Emissions Monitoring for the Kiln System

Process parameters including burning zone temperature, residence time and residual O₂ in the kiln and pressure differential in the kiln, preheater tower and raw mill are monitored through the Facility’s continuous process monitoring system (CPM) to maintain optimal process conditions and product quality. Raw material, natural gas, conventional fuel, H₂ and ALCF feed rates and clinker production rates are/will be also monitored by the CPM.

¹ The cement kiln is pre-heated by natural gas during start-ups and is currently fired by conventional fuel and natural gas for the clinker production process. The proposed use of ALCF will not be used during start up or shut down.

In addition, the Facility uses a continuous emissions monitoring (CEM) system to monitor kiln stack emissions including nitrogen oxides (NO_x), sulphur dioxide (SO₂) and opacity at all times.

Clinker Cooling

The clinker product is cooled by passing ambient air across the product in the clinker cooler. Part of this pre-heated air is then directed into the kiln for use as combustion air. The air passes through the clinker cooler baghouse prior to being exhausted to the atmosphere through the cooler stack.

Clinker exits the clinker cooler at an average temperature of 350°C onto an enclosed conveyor system. The clinker is then sent for storage in the fully enclosed clinker storage building (tee-pee). Clinker may also be shipped, without further processing from the cooler conveying system or from the tee-pee storage building.

The cement kiln dust (CKD) is periodically removed from the main kiln baghouse and temporarily stored at the onsite CKD stockpile.

1.4.1.6 Cement Production

Clinker from the tee-pee that is to be further processed on site into cement product is transferred to the finish mill building located below grade via a fully enclosed conveyor. Cement finishing is accomplished in the finish mill where clinker, limestone, gypsum and silica fume are milled together to produce Portland cement. Wet additives stored in tanks are also added in this process. Emissions from the finish mill are controlled by a baghouse which vents through the finish mill stack.

The finished cement product is transferred into product storage silos above grade. Product is either dispatched via tanker truck in bulk or packaged in bags at the packaging plant prior to being shipped off-site. Emissions associated with product bulk filling and packaging are controlled by baghouses.

1.4.1.7 Other Associated Equipment/Operations

On occasion the plant may produce “off-spec” clinker. This material is wholly recycled back into the process. Typically, the “off-spec” clinker is stored in the tee pee and transferred to the clinker recycling system at the inlet end of the kiln when required. To facilitate recycling the plant occasionally uses a portable crusher which is located to the east of the tee pee. The crusher is powered by a diesel-fired engine.

The plant is permitted to receive a range of raw materials. Some materials, particularly silica sources (e.g., sand) require screening. The plant, therefore, operates a screen which is located south east of the plant building when required. The screen is powered by a diesel fired engine.

1.4.1.8 Other Ancillary Operations

At the SMC cement plant, ancillary operations include:

- Natural gas-fired comfort heating units;
- Two (2) emergency diesel generators;
- Maintenance shop; and
- Sixteen (16) QA/QC laboratory fume hoods.

1.4.2 CBM's High Calcium Dried Limestone Manufacturing Operations

A simplified process flow diagram is included in Appendix C (Figure 1B).

CBM receives washed and wet aggregate (i.e. limestone screening) by truck. The material is deposited onto an open stockpile or directly into the hopper feeding a drying system. The wet aggregate from this hopper is gravity fed onto an inclined conveyor which transfers the material into a buffer silo adjacent to the CBM dryer building. The wet aggregate from the buffer silo is gravity fed onto an inclined conveyor and transferred into the natural gas-fired aggregate dryer inside the dryer building. The dryer exhaust is controlled by a pulse-air type baghouse. In addition to moisture removal, the aggregate dryer also serves as an air classifier to remove any remaining fines from the aggregate material.

The fines from the dryer baghouse are pneumatically transferred into a dust silo which is controlled a filter baghouse dust collector. The fines stored in the dust silo is periodically emptied into a tanker truck via a sealed sock.

The dried aggregate (product) exiting the dryer is screened to remove any oversized material prior to being transferred into the product building via a conveyor. Inside the product building, a sizing screen separates the dried products into two categories, fine products and coarse products.

The fine products are transferred from the screen to one of five product silos by an enclosed bucket elevator. The filling of the product silos is controlled by the dryer baghouse. The fine products are discharged from the bottom of the storage silos into shipping trucks.

The coarse products are transferred from the screen to one of two stockpiles via stackers inside the product building. When required, a front-end loader transfers the material from the product stockpiles into shipping trucks. The product building remains fully enclosed during product processing and stockpiling. The loading bay doors are only open during product shipping.

1.4.3 Laidlaw Truck Heating System

A simplified process flow diagram is included in Appendix C (Figure 1C).

Laidlaw operates a dual-fuel fired (propane and natural gas) truck heating system on site. The purpose of this system is to unfreeze incoming aggregate materials for the cement plant prior to unloading during the winter months.

2.0 INITIAL IDENTIFICATION OF SOURCES AND CONTAMINANTS

Table 1 provides a summary of sources and contaminants on site. Negligible sources are discussed in Section 3.0. Significant sources are discussed in Section 4.0.

Table 1: Source and Contaminant Identification Table

Source Information						Expected Contaminants	Significant? (Yes or No)	Included in Modelling?	Calculation Sheet
Modelling Source I.D.	ESDM Source I.D.	Source Description	Materials	Process	General Location				
St. Marys Plant - SMC Operations									
A_16_4	A-16-4	Baghouse serving the secondary crusher (A-16-4)	Limestone	Limestone Extraction & Processing	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C2-BHs
A_15_5	A-15-5	Baghouse serving the secondary screen (A-15-5)	Limestone	Limestone Extraction & Processing	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C2-BHs
PPILE	PPILE	Transfer of limestone onto primary surge pile	Limestone	Limestone Extraction & Processing	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C3-Drops
PILES	PILES-1	Delivery and transfer of conventional fuel	Conventional Fuel	Raw Material / Conventional Fuel Delivery and Storage	See Figure 2	PM Metals	Yes Yes	Yes Yes	C3-Drops
	PILES-2	Delivery and transfer of raw materials	Raw Feed	Raw Material / Conventional Fuel Delivery and Storage	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C3-Drops
PITV	PITV	Fugitive VOC emissions from raw materials and fuels stored in the yard	Raw Feed & Conventional Fuel	Raw Material / Conventional Fuel Delivery and Storage	See Figure 2	PAHs, VOCs	Yes	Yes	C7-Internal Source Summary
K1P51	K1P51	Conventional fuel storage silo baghouse (K1P51)	Conventional Fuel	Raw Material / Conventional Fuel Delivery and Storage	See Figure 2	PM Metals	Yes Yes	Yes Yes	C2-BHs
RAWS	04-1-401	Raw material storage silo baghouse (04-1-401)	Raw Feed	Raw Material / Conventional Fuel Delivery and Storage	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C2-BHs
CLPT	CLPT-1	Scraper from face onto a pile	Clay/Momentive	Raw Material / Conventional Fuel Delivery and Storage	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C3-Drops
	CLPT-2	Front end loader transfer into truck	Clay/Momentive	Raw Material / Conventional Fuel Delivery and Storage	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C3-Drops
FSSCD	FSSC-1	Front-end Loader to Feed Hopper for raw material screen	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C3-Drops
FSSC	FSSC-2	Feed Hopper to raw material screener	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C4-Mat. Transfer/Processing
	FSSC-3	Raw material screening	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C4-Mat. Transfer/Processing
	FSSC-4	Raw material transfer from Screener to Conveyor	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C4-Mat. Transfer/Processing
	FSSC-5	Raw material transfer from Conveyor to Stacker	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C4-Mat. Transfer/Processing
FSSCD	FSSC-6	Drop of raw material from Stacker to Stockpile	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C3-Drops
FSSC	FSSC-DG	Diesel-fired engine servicing the raw material screener	-	Raw Material / Conventional Fuel Delivery and Storage	See Figure 2	PM NO ₂ SO ₂ CO	Yes Yes Yes Yes	Yes Yes Yes Yes	C5I-Internal Combustion
-	PITV	VOC emissions from raw material and fuel delivery and handling	Raw material/Fuel	Raw Material / Conventional Fuel Delivery and Storage	See Figure 2	VOCs	Yes	No - insignificant (MECP Negligibel Screening)	C7V- Internal Source Summary (VOCs)
-	A-DEL	ALCF delivery	-	Alternative Fuel Delivery and Storage	See Figure 2	PM	No	No - insignificant (delivery into enclosed building)	NA
PIT11	04-1-411	Baghouse serving the raw material storage silos for raw mill (04-1-411)	Raw Feed	Raw Material Preparation	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C2-BHs
	04-1-412	Baghouse serving the raw material storage silos for raw mill (04-1-412)	Raw Feed	Raw Material Preparation	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C2-BHs
HSILOS	H1P41	Baghouse serving kiln feed silos (H1P41)	Raw Feed	Raw Material Preparation	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C2-BHs
	H1P51	Baghouse serving kiln feed silos (H1P51)	Raw Feed	Raw Material Preparation	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C2-BHs
	H1P61	Baghouse serving kiln feed silos (H1P61)	Raw Feed	Raw Material Preparation	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C2-BHs
K1P11	K1P11	Fuel mill baghouse (K1P11)	Conventional Fuel	Conventional Fuel Preparation and Feed	See Figure 2	PM Metals	Yes Yes	Yes Yes	C2-BHs
K1P31	K1P31	Fuel meal storage silo baghouse (K1P31)	Conventional Fuel	Conventional Fuel Preparation and Feed	See Figure 2	PM Metals	Yes Yes	Yes Yes	C2-BHs
K1P41	K1P41	Baghouse serving the north auxiliary fuel silo (K1P41)	Conventional Fuel	Conventional Fuel Preparation and Feed	See Figure 2	PM Metals	Yes Yes	Yes Yes	C2-BHs
GHOPPER	G1P01	Gypsum Feed Hopper Baghouse (G1P01)	Gypsum/Silica Fume	Conventional Fuel Preparation and Feed	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C2-BHs

Table 1: Source and Contaminant Identification Table - continued

Source Information						Expected Contaminants	Significant? (Yes or No)	Included in Modelling?	Calculation Sheet
Modelling Source I.D.	ESDM Source I.D.	Source Description	Materials	Process	General Location				
St. Marys Plant - SMC Operations									
05_1_412	05-1-412	Baghouse serving the kiln feed transfer to preheater tower (05-1-412)	Raw Feed	Clinker Production	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C2-BHs
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production	See Figure 2	PM, NO2, SO2, CO, Metals, PAHs, VOCs, D&F, HCl, TRS, NH3	Yes	Yes	C1-Kiln
KILNOFF	KILNOFF	Kiln stack - Raw Mill Off	-	Clinker Production	See Figure 2	PM, NO2, SO2, CO, Metals, PAHs, VOCs, D&F, HCl, TRS, NH3	Yes	Yes	C1-Kiln
-	KILN-A	Natural gas-fired raw mill furnace	-	Clinker Production	See Figure 2	NO2	Yes	No - not part of max emission scenario, used during start-up only.	NA
KILNON/ OFF	KILN-B	Natural gas-fired back-end firing system	-	Clinker Production	See Figure 2	NO2	Yes	No - Exhasuting through main kiln stack	C5E-External Combustion
-	05-1-401	Kiln dust storage silo baghouse (05-1-401)	Cement Kiln Dust	Clinker Production	See Figure 2	PM Metals	Yes Yes	No - Exhasuting through main kiln stack No - Exhasuting through main kiln stack	NA
CKD	CKD	Delivery and shipping of Cement Kiln Dust (CKD) to/from storage piles	Cement Kiln Dust	Clinker Production	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C3-Drops
PIT11	07-1-421	Baghouse serving south transfer tower (07-1-421)	Clinker	Clinker Production	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C2-BHs
07_1_441	07-1-441	Baghouse serving north transfer tower (07-1-441)	Clinker	Clinker Production	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C2-BHs
07_1_450	07-1-450	Baghouse serving north transfer tower (07-1-450)	Clinker	Clinker Production	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C2-BHs
CBH	W1P51	Clinker cooler baghouse (W1P51)	Clinker	Clinker Production	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C2-BHs
W1P91	W1P91	Clinker reclaim hopper baghouse (W1P91)	Clinker	Clinker Production	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C2-BHs
PIT11	W1P101	Baghouse serving clinker truck loading/shipping (W1P101)	Clinker	Clinker Production	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C2-BHs
PIT11D	PIT11-22	Transfer of clinker into Tee-Pee storage area	Clinker	Clinker Production	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C3-Drops
PIT11D	PIT11-23	Clinker transfer into a hopper	Clinker	Clinker Production	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C3-Drops
PIT11D	OFC-1	Loading Point to Truck (offspec clinker)	Clinker	Clinker Production	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C3-Drops
PIT11D	OFC-2	Truck to Pre-Crushing Stockpiles (offspec clinker)	Wet Clinker	Clinker Production	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C3-Drops
PIT11D	OFC-3	Front-end Loader to Feed Hopper (offspec clinker)	Wet Clinker	Clinker Production	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C3-Drops
PIT11	OFC-4	Feeder to Crusher (offspec clinker)	Wet Clinker	Clinker Production	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C4-Mat. Transfer/Processing
PIT11	OFC-5	Crushing (offspec clinker)	Wet Clinker	Clinker Production	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C4-Mat. Transfer/Processing
PIT11	OFC-6	Crusher to Discharge Conveyor (offspec clinker)	Wet Clinker	Clinker Production	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C4-Mat. Transfer/Processing
PIT11D	OFC-7	Discharge Conveyor to Crushed Stockpile (offspec clinker)	Wet Clinker	Clinker Production	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C3-Drops
PIT11D	OFC-8	Front-end Loader to Storage Stockpile (offspec clinker)	Wet Clinker	Clinker Production	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C3-Drops
PIT11	OFC-DG	Diesel-fired engine servicing the off-spec clinker crusher	-	Clinker Production	See Figure 2	PM NO ₂ SO ₂ CO	Yes Yes Yes Yes	Yes Yes Yes Yes	C5I-Internal Combustion
BLSI	Z1P01	Baghouse serving additive storage silos in finish mill building (Z1P01)	Gypsum/Silica Fume	Cement Production	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C2-BHs
	Z1P11	Baghouse serving additive storage silos in finish mill building (Z1P11)	Gypsum/Silica Fume	Cement Production	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C2-BHs
	Z1P21	Baghouse serving additive storage silos in finish mill building (Z1P21)	Gypsum/Silica Fume	Cement Production	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C2-BHs
PIT11	07-1-491	Baghouse serving additive storage silos in finish mill building (07-1-491)	Gypsum/Silica Fume	Cement Production	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C2-BHs
PIT11	07-1-492	Baghouse serving additive storage silos in finish mill building (07-1-492)	Gypsum/Silica Fume	Cement Production	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C2-BHs
PIT11	Z1P191	Baghouse serving transfer of additive in finish mill building (Z1P191)	Cement	Cement Production	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C2-BHs
Z1P31	Z1P31	Baghouse serving transfer into finish mill (Z1P31)	Cement	Cement Production	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C2-BHs
BAML	Z1P51	Finish mill baghouse (Z1P51)	Cement	Cement Production	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C2-BHs
BAML	Z1P61	Baghouse for transfer of cement to storage silo in finish mill building (Z1P61)	Cement	Cement Production	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C2-BHs
Z1P41	Z1P41	Baghouse serving transfer from finish mill (Z1P41)	Cement	Cement Production	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C2-BHs
S200S	Z1P71	Baghouse serving transfer from finish mill (Z1P71)	Cement	Cement Production	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C2-BHs



Table 1: Source and Contaminant Identification Table – continued

Source Information						Expected Contaminants	Significant? (Yes or No)	Included in Modelling?	Calculation Sheet
Modelling Source I.D.	ESDM Source I.D.	Source Description	Materials	Process	General Location				
St. Marys Plant - SMC Operations									
S200N	Z1P81	Baghouse serving 200 series cement storage silos (Z1P81)	Cement	Cement Production	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C2-BHs
	Z1P91	Baghouse serving 200 series cement storage silos (Z1P91)	Cement	Cement Production	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C2-BHs
	Z1P101	Baghouse serving 200 series cement storage silos (Z1P101)	Cement	Cement Production	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C2-BHs
	Z1P141	Baghouse serving 200 series cement storage silos (Z1P141)	Cement	Cement Production	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C2-BHs
	Z1P151	Baghouse serving 200 series cement storage silos (Z1P151)	Cement	Cement Production	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C2-BHs
	Z1P171	Baghouse serving 200 series cement storage silos (Z1P171)	Cement	Cement Production	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C2-BHs
	Z1P181	Baghouse serving 200 series cement storage silos (Z1P181)	Cement	Cement Production	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C2-BHs
-	Z1P111	Baghouse serving 200 series cement storage silos (Z1P111)	Cement	Cement Production	See Figure 2	PM RCS Metals	Yes Yes Yes	No - not part of max emission scenario No - not part of max emission scenario	NA
-	Z1P121	Baghouse serving 200 series cement storage silos (Z1P121)	Cement	Cement Production	See Figure 2	PM RCS Metals	Yes Yes Yes	No - not part of max emission scenario No - not part of max emission scenario	NA
-	Z1P131	Baghouse serving 200 series cement storage silos (Z1P131)	Cement	Cement Production	See Figure 2	PM RCS Metals	Yes Yes Yes	No - not part of max emission scenario No - not part of max emission scenario	NA
S500	09-1-148	Baghouse serving 200 series cement storage silos (09-1-148)	Cement	Cement Production	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C2-BHs
	09-1-158	Baghouse serving 200 series cement storage silos (09-1-158)	Cement	Cement Production	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C2-BHs
	09-1-168	Baghouse serving 200 series cement storage silos (I09-1-168)	Cement	Cement Production	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C2-BHs
S200N	09-1-189	Baghouse serving 200 series cement storage silos (09-1-189)	Cement	Cement Production	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C2-BHs
	09-1-192	Baghouse serving 200 series cement storage silos (09-1-192)	Cement	Cement Production	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C2-BHs
	09-1-193	Baghouse serving 200 series cement storage silos (09-1-193)	Cement	Cement Production	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C2-BHs
	1-17-4	Baghouse serving 200 series cement storage silos (I-1704)	Cement	Cement Production	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C2-BHs
S200S	I-10-3	Baghouse serving 200 series cement storage silos (I-10-3)	Cement	Cement Production	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C2-BHs
S200S	I-10-4	Baghouse serving 200 series cement storage silos (I-10-4)	Cement	Cement Production	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C2-BHs
S200S	I-22	Baghouse serving 200 series cement storage silos (I-22)	Cement	Cement Production	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C2-BHs
-	I-59-5	Baghouse serving 200 series cement storage silos (I-59-5)	Cement	Cement Production	See Figure 2	PM RCS Metals	Yes Yes Yes	No - not part of max emission scenario No - not part of max emission scenario	NA
-	I-59-1	Baghouse serving 300/400 series cement storage silos (I-59-1)	Cement	Cement Production	See Figure 2	PM RCS Metals	Yes Yes Yes	No - not part of max emission scenario No - not part of max emission scenario	NA
-	I-59-4	Baghouse serving 300/400 series cement storage silos (I-59-4)	Cement	Cement Production	See Figure 2	PM RCS Metals	Yes Yes Yes	No - not part of max emission scenario No - not part of max emission scenario	NA
S340	Z1P161	Baghouse serving 300/400 series cement storage silos (Z1P161)	Cement	Cement Production	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C2-BHs
	I-59-3	Baghouse serving 300/400 series cement storage silos (I-59-3)	Cement	Cement Production	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C2-BHs
	09-1-075	Baghouse serving 300/400 series cement storage silos (09-1-075)	Cement	Cement Production	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C2-BHs
S500	09-1-301	Baghouse serving 300/400 series cement storage silos (09-1-301)	Cement	Cement Production	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C2-BHs
S500D	S500-CL	Cement loading from silo into a shipping tanker	Cement	Cement Production	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C3-Drops
S340	CPV-1	Baghouse serving packhouse 3 screw conveyor	Cement	Cement Production	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C2-BHs
-	09-1-305	Baghouse serving packhouse cement storage silos (09-1-305)	Cement	Cement Production	See Figure 2	PM RCS Metals	Yes Yes Yes	No - not part of max emission scenario No - not part of max emission scenario	NA

Table 1: Source and Contaminant Identification Table – continued

Source Information						Expected Contaminants	Significant? (Yes or No)	Included in Modelling?	Calculation Sheet
Modelling Source I.D.	ESDM Source I.D.	Source Description	Materials	Process	General Location				
St. Marys Plant - SMC Operations									
PACK	09-1-497	Baghouse serving packhouse cement storage silos (09-1-497)	Cement	Cement Production	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C2-BHs
	09-1-407	Baghouse serving packhouse cement storage silos (09-1-407)	Cement	Cement Production	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C2-BHs
	09-1-670	Baghouse serving packhouse cement storage silos (09-1-670)	Cement	Cement Production	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C2-BHs
	09-1-311	Baghouse serving packhouse cement storage silos (09-1-311)	Cement	Cement Production	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C2-BHs
	PACK-NGH	Packhouse natural gas fired heaters	-	Cement Production	See Figure 2	NO2	Yes	Yes	C5E-External Combustion
THS	THS-1	Natural gas/Propane fired raw material delivery truck heating system	-	Laidlaw Operations	See Figure 2	NO2	Yes Yes	Yes Yes	C5E-External Combustion
PIT11	CNGB	Natural gas-fired boilers (x3) in Core Building	-	Ancillary Operations	See Figure 2	NO2	Yes	Yes	C5E-External Combustion
CBBOI	CBBOI	Dual fuel-fired Boiler	-	Ancillary Operations	See Figure 2	PM NO ₂ SO ₂ CO	Yes Yes Yes Yes	Yes Yes Yes Yes	C5E-External Combustion
JCBOI	JCBOI	No.2 fuel-fired boiler	-	Ancillary Operations	See Figure 2	PM NO ₂ SO ₂ CO	Yes Yes Yes Yes	Yes Yes Yes Yes	C5E-External Combustion
TRBOI	TRBOI	Dual fuel-fired boiler	-	Ancillary Operations	See Figure 2	PM NO ₂ SO ₂ CO	Yes Yes Yes Yes	Yes Yes Yes Yes	C5E-External Combustion
-	EDG-1	Emergency diesel generator	-	Ancillary Operations	See Figure 2	NO2	Yes	No - Negligible per Ministry Procedure Section 7.2.2	C5I-Internal Combustion
-	EDG-2	Emergency diesel generator	-	Ancillary Operations	See Figure 2	NO2	Yes	No - Negligible per Ministry Procedure Section 7.2.2	C5I-Internal Combustion
St. Marys Plant - CBM Operations									
-	CBM-1	Truck/front-end loader transfer to wet aggregate stockpile	CBM Product	CBM Operations	See Figure 2	PM RCS	No No	No - wet/washed material No - wet/washed material	NA
-	CBM-2	Truck transfer from wet aggregate stockpile to dryer hopper	CBM Product	CBM Operations	See Figure 2	PM RCS	No No	No - wet/washed material No - wet/washed material	NA
-	CBM-3	Transfer from dryer hopper to buffer silo via inclined conveyor	CBM Product	CBM Operations	See Figure 2	PM RCS	No No	No - wet/washed material No - wet/washed material	NA
-	CBM-4	Conveyor transfer into dryer/fluidized bed	CBM Product	CBM Operations	See Figure 2	PM RCS	No No	No - wet/washed material No - wet/washed material	NA
CBMST	CBM-5A	Natural gas-fired aggregate dryer controlled by a baghouse dust collector	CBM Product	CBM Operations	See Figure 2	PM RCS	Yes Yes	Yes Yes	C2-BHs
	CBM-5B	Natural gas-fired aggregate dryer controlled by a baghouse dust collector	CBM Product	CBM Operations	See Figure 2	NO2	Yes	Yes	C5E-External Combustion
CBMFS	CBM-6	Fines transfer from dryer to fines silo controlled by a bin vent filter	CBM Product	CBM Operations	See Figure 2	PM RCS	Yes Yes	Yes Yes	C2-BHs
-	CBM-7	Fines silo load out into shipping truck	CBM Product	CBM Operations	See Figure 2	PM RCS	Yes Yes	No - Not part of max emissions scenario No - Not part of max emissions scenario	NA
CBMDTENT	CBM-8	Screening (no sizing, security screen, dryer tent)	CBM Product	CBM Operations	See Figure 2	PM RCS	Yes Yes	Yes Yes	C4-Mat. Transfer/Processing
CBMDTENT	CBM-9	Product screening (sizing, product tent)	CBM Product	CBM Operations	See Figure 2	PM RCS	Yes Yes	Yes Yes	C4-Mat. Transfer/Processing
CBMPTENT D	CBM-10	Product transfer from stacker to product stockpiles	CBM Product	CBM Operations	See Figure 2	PM RCS	Yes Yes	Yes Yes	C3-Drops
CBMPTENT D	CBM-11	Product transfer from stockpile into shipping truck	CBM Product	CBM Operations	See Figure 2	PM RCS	Yes Yes	Yes Yes	C3-Drops
-	CBM-12	Product transfer from screen to bucket elevator	CBM Product	CBM Operations	See Figure 2	PM RCS	No No	No - enclosed No - enclosed	NA
-	CBM-13	Product silo filling	CBM Product	CBM Operations	See Figure 2	PM RCS	Yes Yes	No - venting through dryer baghouse No - venting through dryer baghouse	NA
CBMLO	CBM-14	Product silo load out into shipping truck	CBM Product	CBM Operations	See Figure 2	PM RCS	Yes Yes	Yes Yes	C3-Drops
Other Common Activities									
-	MC	Material conveying	-	Ancillary Operations	See Figure 2	PM Metals	No No	No - BMP Plan	NA
-	VT	Vehicles travelling on on-site roads	-	Ancillary Operations	See Figure 2	PM Metals	No No	No - Procedure Section 7.4.1	NA
-	VF	Onsite vehicle fuelling	-	Ancillary Operations	See Figure 2	PM Metals	No No	No - Procedure Table B-3	NA
-	ST	Vehicle fuel storage tanks	-	Ancillary Operations	See Figure 2	PM Metals	No No	No - Procedure Table B-3	NA
-	LAB	QA/QC Laboratory fume hoods	-	Ancillary Operations	See Figure 2	PM Metals	No No	No - Procedure Table B-3	NA
-	MAINT	Maintenance activities	-	Ancillary Operations	See Figure 2	PM Metals	No No	No - EPA Section 9(3)(a)	NA

Notes:

Notes:
PM - Suspended Particulate Matter; NO2 - Nitrogen Dioxide; SO2 - Sulphur Dioxide; CO - Carbon MoNO2ide; VOCs - Volatile Organic Compounds; PAHs - Polycyclic Aromatic Hydrocarbons; HCl - Hydrogen Chloride
BMP Plan - Best Management Practices Plan for Fugitive Dust



3.0 ASSESSMENT OF SIGNIFICANCE OF CONTAMINANTS AND SOURCES

As identified in Table 1, some sources/contaminants are expected to be negligible and are, therefore, not included in the emission summary or source summary tables. The rationale for defining these sources/contaminants as insignificant is presented in this section.

3.1 Sources Exempt from Requiring an ECA (Air & Noise)

Section 9 (3) of the Environmental Protection Act identifies equipment and operations which are exempt from requiring an ECA (Air & Noise). Item (a) identifies routine maintenance carried out on any plant, structure, equipment, apparatus, mechanism or thing to be exempt. Maintenance shop activities at the Facility are, therefore, considered exempt.

3.2 Screening Out Sources that Emit Contaminants in Negligible Amounts

Combustion of Natural Gas/Propane

Section 7.1.1 of the Ministry Procedure identifies that “The significant contaminant from the combustion of natural gas and propane may be nitrogen oxides. Other contaminants, for this type of source are generally emitted in negligible amounts”. As such, only emissions of nitrogen oxides are calculated for the SMC cement plant’s comfort heaters, CBM natural gas-fired aggregate dryer and Laidlaw’s truck heating system.

QA/QC Laboratory with Fume Hood

Table B-3A in Appendix B of the Ministry Procedure identifies fume hoods for laboratories that are used for quality control and quality assurance purposes at industrial facilities as a specific example of sources that emit contaminants in negligible amounts.

Emergency Diesel Generators

SMC performs regular testing on two emergency diesel generators. The nitrogen oxide emissions from emergency diesel generator testing are less than 5% of the total site-wide nitrogen oxide emissions. As per Section 7.2.2 of the Ministry Procedure, these sources are, therefore, considered negligible and not modelled. Details of the emission calculations are presented in Calculation Sheet 5I (Appendix G).

Fugitive Volatile Organic Compounds (VOC) Emissions

Minimal fugitive VOC emissions are expected from the raw material and conventional fuel storage piles. For VOCs that are emitted also from the kiln stack, fugitive emissions from the storage piles consists of less than 5% of the total side-wide emissions. As per Section 7.2.2 of the Ministry Procedure, fugitive emissions from the storage piles for these VOCs are, therefore, considered negligible and not modelled. Details of the emissions are presented in Table H1A (Appendix H).

For VOCs that are only emitted from the storage piles, the screening procedure is described in Section 3.4.

3.3 Fugitive Dust Emissions from Onsite Roads and Storage Piles

Fugitive dust emissions from onsite roadways and storage piles may be excluded from the assessment of compliance with Ministry POI Limits where:

1. the nature of the fugitive dust emissions is such that they are not likely to pose a health risk to humans; and
2. the emissions are relatively small or have been minimized through effective implementation of a fugitive dust control plan, consistent with best management practices.

In Table 7-3 of the Ministry Procedure, the Ministry identifies Cement Manufacturing (NAICS Code 327310) as an industry sector where fugitive particulate from onsite roadways and storage piles must be included in the ESDM report unless an effective best management practices plan for fugitive particulate is implemented.

Per Condition 6 of their existing ECA, SMC has developed and implemented a best management practice plan for fugitive particulate at this site as presented in Appendix E. Fugitive sources of dust from travel along onsite roadways and wind erosion of storage piles are, therefore, considered insignificant at this site.

3.4 Contaminants below an Emission Threshold

The Ministry Procedure, Section 7.1.2 states that contaminants can be considered if the emissions from the site using the distance to the property line from the closest emission source is less than the emission threshold developed with the Emission Threshold formula below.

$$\text{Emission Threshold (g/s)} = \frac{0.5 \times \text{Ministry POI Limit or JSL } [\mu\text{g}/\text{m}^3]}{\text{Dispersion Factor } [\mu\text{g}/\text{m}^3 \text{ per g/s emission}]}$$

The Emission Threshold screening exercise was performed for:

- (a) contaminants that have a 1-hour and/or 24-hour POI limit, and that are solely emitted from the kiln stack; and
- (b) VOCs, which have a 1-hour and/or 24-hour POI limit and are solely emitted from raw material/storage piles inside the former quarry.

Emissions of contaminants emitted from multiple sources (e.g., particulate, metals in Table 6, NO_x, SO₂ and CO) were assessed and modelled as significant contaminants as presented in Section 4 of this report. The detailed screening calculations and results are presented in Appendix H.

3.5 Sources and Contaminants to Be Modelled

The significant sources and contaminants listed in the Source Summary Tables (Tables 3A & 3B) in Appendix F were modelled.

4.0 OPERATING CONDITIONS, EMISSIONS ESTIMATION AND DATA QUALITY

Emission rate calculations for significant sources are described in the Source Summary Table (Table 3B) in Appendix F and the calculation sheets in Appendix G. The data quality rating and emission estimation technique are identified for significant sources in the Source Summary Table (Table 3B).

4.1 Maximum Emissions Scenario – Normal Operation

This maximum emission scenario is based on the facility's maximum raw materials handling and production capacities and operating schedules for all on-site activities during normal operation (see Table 2A).

4.1.1 Kiln Stack Emissions

The maximum emissions scenario is defined as the highest emission rate² from the following scenarios:

- Conventional fuel only; and
- Conventional fuel substituted with up to 175 tonnes per day of ALCF.

For contaminants that are dominated by process conditions and air pollution control equipment including, particulate, NO_x, CO, Ammonia, non-chlorinated VOCs and PAHs, kiln stack emissions during the use of ALCF are expected to stay within the normal range when only conventional fuel was used. As such, the maximum emission rates for these contaminants from all source tests, were used (see Calculation Sheet C1 in Appendix G). These tests include the 2011 ALCF demonstration test, the 2017 source test as per the ECA condition, and the annual voluntary source tests from 2019 to 2021.

For contaminants that are influenced by kiln input including trace metals, sulphur-based compounds including SO₂, chlorinated compounds (HCl, chlorinated organics including Dioxins and Furans), the kiln stack emissions were estimated using a mass balance approach as illustrated in the following diagram and described in Calculation Sheets C1 and C1A (Appendix G). The ALCF compositions used for the mass balance calculation were taken from SMC's Bowmanville plant and are representative of the proposed ALCF material baskets for this Facility. The maximum emission rate was scaled up based on the % increase in kiln input for that contaminant (Note: no scale down of emissions was assumed for those contaminants with a decrease in kiln input when ALCF is used).

² The use of hydrogen will not reduce the residence times, temperatures, or residual oxygen levels in the kiln system. As such, the use of hydrogen will not result in higher kiln stack emissions than when only conventional fuel and ALCF are used.

Raw Mill On/Off Conditions

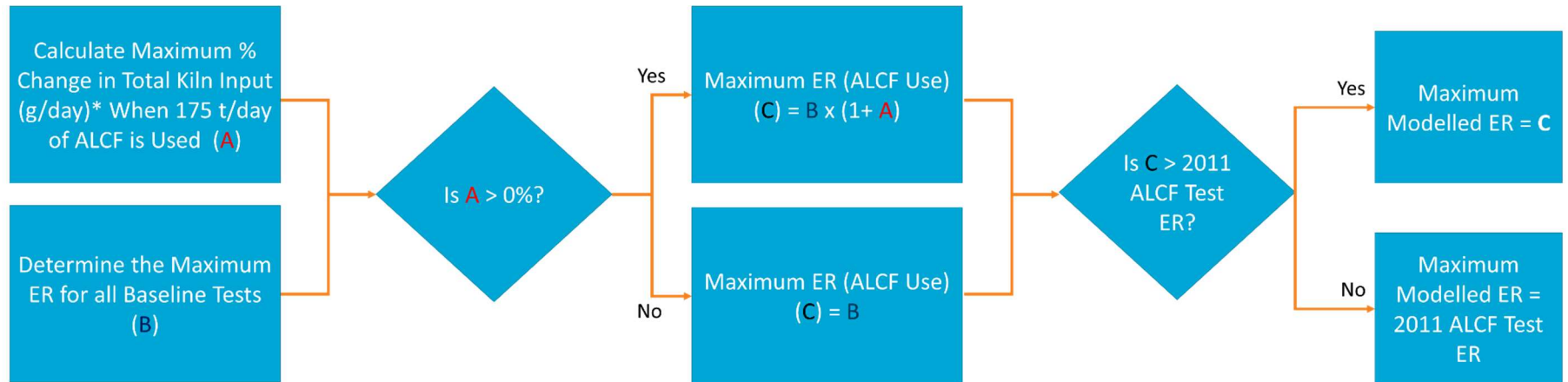
The raw mill is operating during normal operation most of the time. The raw mill may be offline when raw feed storage for the kiln system has reached its maximum capacity. Under the raw mill off condition, the temperature of the kiln stack is expected to be higher while the outlet flow rate of the kiln stack is expected to be lower.

With respect to carbon disulphide, carbonyl sulphide, ammonia, total reduced sulphur, nitrogen oxides and sulphur dioxide, Ministry validated source testing was completed for both the raw mill on and off conditions under normal operation. This source test was completed by RWDI Air Incl (RWDI) in December 2017 in accordance with Condition 12.1 of the Facility's ECA. Source testing data under the raw mill off condition was included in determining the emission rate for the maximum emission scenario for these compounds.

With respect to the remaining contaminants, source test data is not available for the raw mill off scenario. This operating condition is, however, not expected to significantly change the kiln stack emissions for these contaminants. The maximum emission rate for the raw mill off scenario was, therefore, assumed to be same as the emission rate for the raw mill on scenario for these compounds.

For all contaminants, modelling was completed for both the raw mill on and off conditions (using the representative kiln stack flow rates and the temperatures) using the highest emission rates for the maximum emission scenario.

Emission Estimation Methodology for Kiln Input Dominant Compounds



*For sulphurous compounds including SO₂, A is estimated based on sulphur content change. For chlorinated compounds, A is estimated based on chlorine content change.

4.3.2 Other Sources

The maximum emission scenario also assumes that all on-site equipment, with the exception of the SMC baghouses, the foundry sand screen and the CBM Process, operates at their respective maximum capacities, 24 hour per day, and 365 days per year.

For the SMC baghouses, a "worst case" set of baghouses was defined as described in Calculation Sheet #2 in Appendix G. These baghouses are assumed to operate at their respective maximum capacities, 24 hours per day, 365 days per year.

For the foundry sand screen and the CBM baghouse stack, the maximum emissions scenario assumes that these operations occur between 7am-7pm daily and all year round.

Emissions from drop points were calculated for each AERMOD Wind Category. The Source Summary Table (Table 3B) and AERMOD Modelling Parameters Table (Table 5) show the maximum emission rate for the Class F Wind Category. The Variable Emission Factor was calculated for each Wind Category (Appendix G).

4.3.3. Contaminants with 2016 Annual POI Standards

Nickel, benzo(a)pyrene and benzene have annual POI standards which came into effect on July 1, 2016. An annual standard assessment was performed for these contaminants as per the Ministry Technical Bulletin: Using assessment values for contaminants with annual air standards, dated March 8, 2017. The maximum emission scenario very conservatively assumes that the Facility is operating at its maximum daily rates, 7 days per week, all year round (i.e., annual emission rate is the same as the 24-hour emission rate).

Table 2A: Maximum Emission Scenario Assumptions

Activity	Hours	Modelled Source ID	Supporting Calculation Sheet
Kiln stack emissions	24 hours/day All year round	KILNON/KILNOFF	C1 & C1A
Product Shipping	24 hours/day All year round	S500	C2
Cement plant process emissions controlled by baghouses (i.e. finish mill, secondary crusher, screen, transfer towers, storage silos, fuel mill, clinker cooler, etc.)	24 hours/day All year round	CLPT, CBH, GHOPPER, BAML, RAW5, HSILOS, BLSI, PIT11, S200S/N, S340, S500, PACK, K1P51, A_15_5, A_16_4, 05_1_412, K1P31, W1P91, 07_1_441, 07_1_450, Z1P31, Z1P41	C2
Crushing of “off-spec” Clinker	12 hours/day (7am-7pm) All year round	OFC	C3 & C4
Foundry sand screening	12 hours/day (7am-7pm) All year round	FSSC/FSSCD	C3 & C4
CBM High calcium dried limestone manufacturing process	12 hours/day All year round	CBMST, CBMFS, CBMPTENT/ CBMPTENTD, CBMDTENT, CBMLO	C2, C3 & C4
Limestone delivery and transfer	24 hours/day All year round	PIT11/PIT11D	C4
Raw material delivery and transfer	24 hours/day All year round	PILES	C4
Conventional fuel delivery and transfer	24 hours/day All year round	PILES	C4
Transfer of clinker	24 hours/day All year round	PIT11/PIT11D	C4
Delivery/Shipping of CKD	24 hours/day All year round	PIT11/PIT11D	C4
Combustion equipment	24 hours/day All year round	CBBOI, JCBOI, TRBOI, PACK, FSSC, PIT11, THS	C5I & C5E
Laidlaw dual-fuel fired truck heating system	24 hours/day All year round	THS	C5L



4.2 Assessment of In-Stack Emission Limits for Equipment with Specific Operational Limits

The cement kiln will be subject to the in-stack limits set out in Guideline A-7 during the use of ALCF. An assessment of the A-7 in-stack emission limits was, therefore, completed.

This assessment conservatively estimated the in-stack concentrations for each contaminant using the maximum modelled kiln stack emission rate (see Calculation Sheet 1) for the maximum emission scenario divided by the normalized flow rate. The calculated prorated in-stack concentrations are summarized in Table 2B. The facility is expected to meet all in-stack limits when ALCF is used.

Table 2B: Compliance with In-Stack Emission Limits

Parameter	Maximum Modelled Emission Rate	Normalized Flow Rate	Average O ₂	Maximum Concentration		A-7 Limit		Percentage of Limit
	(g/s)	(m ³ /s)	(%)	Value	Units	Value	Units	
Particulate Matter	9.74E-01	88.04	10.08	11.1	mg/Rm ³	50	mg/Rm ³	22.1%
Cadmium	4.50E-05			0.5	µg/Rm ³	7	µg/Rm ³	7.3%
Lead	1.10E-03			12.5	µg/Rm ³	60	µg/Rm ³	20.9%
Mercury	1.58E-03			17.9	µg/Rm ³	20	µg/Rm ³	89.6%
Dioxins and Furans	3.17E-09			36.0	pg/Rm ³ as ITEQ	80	pg/Rm ³ as ITEQ	45.0%
Hydrochloric Acid	1.23E+00			14.0	mg/Rm ³	27	mg/Rm ³	51.9%

⁽¹⁾ The maximum modelled emission rate for all conditions (conventional fuel only and ALCF substitution) of each contaminant was conservatively used for this assessment. The average normalized flow rate (11% O₂, 25° C dry, 1atm) from the Facility's annual source tests (post stack extension) was used.

⁽²⁾ Concentrations were converted to reflect concentrations at 11% oxygen dry, 25°C and 1atm.

5.0 SOURCE SUMMARY TABLES

The Source Summary Tables (Tables 3A & 3B) in Appendix F shows the emission rate for each significant contaminant emitted from each significant source. The Ministry Procedure Appendix D-Format 1 – Sorted by Source and Format 2 – Sorted by Contaminant, are used. As required by O. Reg. 419/05 only significant sources and contaminants are listed in the Source Summary Tables.

6.0 AIR DISPERSION MODELLING

Air dispersion modelling for the maximum emissions scenario was undertaken using the US EPA AERMOD modelling system (Version 19191). This model was set up to calculate maximum hourly, 24-hour and annual concentrations using local meteorological data. Maximum concentrations in other averaging periods were estimated based on the modelled hourly concentrations using the conversion equation in Table 7-1 of the Ministry Procedure.

AERMOD is a Ministry approved steady-state Gaussian plume dispersion model that can be used to assess pollutant concentrations from a wide variety of complex industrial settings including multiple stacks, fugitive emissions, and building wake effects. The AERMOD modelling system was developed by the AMS/EPA Regulatory Model Improvement Committee (AERMIC) and consists of two pre-processors (AERMET and AERMAP) and the dispersion model, AERMOD.

AERMET is a general-purpose meteorological pre-processor which uses surface and upper air meteorological conditions together with surface characteristics to calculate the boundary layer parameters needed by AERMOD. AERMAP is the terrain pre-processor used to calculate a representative terrain-influenced height associated with each receptor within the modelling domain.

6.1 Dispersion Modelling Input Summary Table

To demonstrate compliance with O. Reg. 419/05, Table 4 provides a description of the way in which the approved dispersion model was used.

Table 4: Dispersion Modelling Input Summary Table

Relevant Section of O. Reg. 419/05	Section Title	Description of How the Approved Dispersion Model was Used
Section 6	Approved Dispersion Models	AERMOD Version 19191
Section 8	Negligible Sources of Contaminant	See Section 3.1
Section 9	Same Structure Contamination	Not Applicable
Section 10	Operating Conditions	See Section 4.1
Section 11	Source of Contaminant Emission Rate	See Appendix G, and Table 3B
Section 12	Combined Effect of Assumptions for Operating Conditions and Emission Rates	See Section 4
Section 13	Meteorological Conditions	See Section 6.5
Section 14	Area of Modelling Coverage	See Section 6.6
Section 15	Stack Height for Certain New Sources of Contaminant	Not Applicable
Section 16	Terrain Data	See Section 6.7
Section 17	Averaging Periods	½ hr, 1 hr, 24 hr, 30 days and annual

6.2 Dispersion Modelling Input and Output files

The maximum POI concentrations for each compound for each of the considered averaging periods are shown in the Emission Summary Table (Table 7).

6.3 Source Locations and Parameters

The source parameters used in the AERMOD input file are detailed in Table 5. Figure 3 shows the locations of all sources that emit contaminants in significant quantities under the maximum modelling scenarios.

A unit emission rate was used for contaminants that are emitted from the kiln stack only to determine the unit dispersion factor(s) as summarized in Table 6. The maximum kiln stack emission rate of each contaminant was then multiplied by this factor to obtain the maximum POI concentration.

As described in Section 1 of this report, the St. Marys cement plant is located inside a former quarry which has an average pit depth of 15m. For sources that are located within the perimeter of the former quarry (see Figures 2A-2D), modelling was completed using the following methodology:

- If the release height of a source is less than the average depth of the pit, emissions from this source is modelled as part of the open pit sources (PIT11 and PIT11D). Since the

significant sources within the open pit sources (PIT11 and PIT11D) are low fugitive sources (e.g., off-spec clinker crusher), a release height of 3 metres (above the bottom of the pit) was assumed for PIT11 and PIT11D. All material drop points, which vary with wind speed, are modelled as PIT11D. Other sources within the pit are modelled as PIT11. The particle size distribution tables for particulate bond emissions from the open pit sources are presented in Appendix I; and

- If the release height of a source is greater than the average depth of the pit, emissions from this source is modelled as a volume or point source depending on the source characteristics. More specifically, the primary surge pile has been modelled as a volume source and the standalone baghouses have been modelled as individual point sources.

6.4 Modelling Source Emissions

The modelling source emission rates are presented in Table 6.

6.5 AERMOD Meteorology

The following site-specific hourly surface and upper air meteorological data files processed and provided by the Ministry were used for the AERMOD dispersion model:

- StMarysCementCanada_StMarysPlant_StMarys_19191.SFC; and
- StMarysCementCanada_StMarysPlant_StMarys_19191.PFL.

The Ministry approval email to use this meteorological data and a wind rose produced from this data set are presented in Appendix I. The wind rose also shows the distribution of wind directions and wind speeds from the London surface data.

6.6 Modelling Domain and Receptor Grid

All modelling was undertaken in UTM coordinates as defined in AERMOD Modelling Source Physical Parameters Table (Table 5).

The model was based on a receptor grid entered in the site and extended out approximately 1 km from the property line in all directions. A tiered grid was used for receptor placements and was created based upon the receptor spacing guidelines in the Ministry ADMGO as presented in Figures 3A and 3B (Appendix C).

6.7 Terrain Data

The terrain data used, cdem_dem_040P.tif, Datum NAD83, was downloaded from Ontario Digital Elevation Model Data on the Ministry's website.

For sources and buildings located within the perimeters of the pit (see Figures 2A-2D), an elevation reduction of 15m has been applied to reflect the modified terrain for the open pit area.



Building dimensions also reflect the most recent aerial images and those modelled in the noise study.

6.8 Building Downwash

The onsite primary stacks were modelled as point sources. As such building downwash (BPIP PRIME) has been considered in the modelling exercise.

Table 5: AERMOD Modelling Source Parameters

Modelling Source Type	Stack Type	Modelling Source ID	Description	Base Elevation	Release Height	Stack Inner Diameter	Exit Velocity	Stack Exit Temperature	Initial Lateral Dimension	Initial Vertical Dimension	Length of the X side	Length of the Y side	Orientation Angle from the North	Volume of the Open Pit	X Coordinate	Y Coordinate	Pit Depth
				m	m	m	m/s	K	m	m	m	m	°	m³	m	m	m
POINT	VERTICAL	KILNON	Main Kiln Stack - RM ON	287.0	111.0	2.7	20.4	373.2	-	-	-	-	-	-	487856.8	4787702.4	-
POINT	VERTICAL	KILNOFF	Main Kiln Stack - RM OFF	287.0	111.0	2.7	13.6	453.2	-	-	-	-	-	-	487856.8	4787702.4	-
POINT	HORIZONTAL	CBMST	CBM Dryer Baghouse Exhaust Stack	311.0	7.6	1.3	21.2	338.7	-	-	-	-	-	-	488099.2	4788159.9	-
POINT	CAPPED	CBMFS	CBM Dryer Fines Silo Dust Collector	312.0	20.0	0.5	0.9	AMBIENT	-	-	-	-	-	-	488129.6	4788171.1	-
VOLUME	-	CBMDTENT	CBM dryer tent	312.0	3.0	-	-	-	2.1	2.8	9.0	-	-	-	488124.2	4788179.5	-
VOLUME	-	CBMPTENTD	CBM Product tent (drop ponits)	311.0	5.0	-	-	-	4.9	4.7	20.9	-	-	-	488114.0	4788193.3	-
VOLUME	-	CBMPTENT	CBM Product tent (transfers screening)	311.0	5.0	-	-	-	4.9	4.7	20.9	-	-	-	488114.0	4788193.3	-
VOLUME	-	CBMLO	CBM Silo Load Out - drive through	312.0	4.0	-	-	-	3.5	7.9	15.0	-	-	-	488129.6	4788171.1	-
POINT	VERTICAL	CBH	Clinker cooler baghouse	289.0	48.0	2.3	14.7	432.0	-	-	-	-	-	-	487845.9	4787588.6	-
POINT	VERTICAL	GHOPPER	Gypsum hopper baghouse	300.0	12.0	0.6	20.9	AMBIENT	-	-	-	-	-	-	488007.8	4787864.3	-
POINT	VERTICAL	BAML	finishing mill baghouse	288.0	43.5	2.5	12.8	373.0	-	-	-	-	-	-	487908.3	4787787.0	-
VOLUME	-	RAWS	raw materials silo baghouses	291.0	42.0	-	-	-	5.1	19.5	22.0	-	-	-	487835.1	4787811.3	-
VOLUME	-	HSILOS	Homogenizing-silos	287.0	27.0	-	-	-	7.0	20.0	30.1	-	-	-	487851.2	4787728.4	-
VOLUME	-	BLSI	silos next to the finishing mill.	292.0	6.0	-	-	-	6.8	10.2	29.3	-	-	-	487985.2	4787820.7	-
VOLUME	-	S200N	200 series cement silo baghouses (north)	310.0	42.0	-	-	-	9.7	19.5	41.7	-	-	-	487989.3	4787968.3	-
VOLUME	-	S200S	200 series cement silo baghouses (south)	309.0	10.0	-	-	-	13.6	9.3	58.5	-	-	-	488041.8	4787915.3	-
VOLUME	-	S340	300-400 series cement silo baghouses	308.0	19.5	-	-	-	9.4	8.6	40.6	-	-	-	487954.3	4787955.0	-
VOLUME	-	S500D	500 series cement silo load out	308.0	4.0	-	-	-	6.8	13.0	29.4	-	-	-	487983.2	4788046.6	-
VOLUME	-	S500	500 series cement silo baghouses	308.0	29.0	-	-	-	6.8	13.0	29.4	-	-	-	487983.2	4788046.6	-
VOLUME	-	PACK	packhouse baghouses	309.0	16.0	-	-	-	3.4	8.5	14.5	-	-	-	487969.5	4788071.8	-
POINT	HORIZONTAL	K1P51	Baghouse K1P51 (fuel silo)	291.0	38.7	0.5	14.3	293.2	-	-	-	-	-	-	487874.8	4787579.0	-
POINT	HORIZONTAL	A_15_5	Baghouse serving the secondary screen (A-15-5)	300.0	17.8	0.6	18.4	AMBIENT	-	-	-	-	-	-	487738.7	4787933.3	-
POINT	HORIZONTAL	A_16_4	Baghouse serving the secondary crusher (A-16-4)	305.0	12.2	0.6	41.7	AMBIENT	-	-	-	-	-	-	487814.4	4787935.7	-
POINT	HORIZONTAL	05_1_412	Baghouse serving the kiln feed transfer to preheater tower (05-1-412)	287.0	65.0	0.5	22.7	293.2	-	-	-	-	-	-	487864.0	4787695.0	-
POINT	HORIZONTAL	K1P31	Fuel meal storage silo basghouse (K1P31)	290.0	22.5	0.3	21.6	293.2	-	-	-	-	-	-	487854.5	4787584.1	-
POINT	HORIZONTAL	07_1_441	Baghouse serving north transfer tower (07-1-441)	290.0	20.0	0.4	21.3	293.2	-	-	-	-	-	-	487948.4	4787808.7	-
POINT	HORIZONTAL	07_1_450	Baghouse serving north transfer tower (07-1-450)	290.0	20.0	0.5	16.1	293.2	-	-	-	-	-	-	487948.4	4787810.7	-
POINT	HORIZONTAL	Z1P31	Baghouse serving transfer into finish mill (Z1P31)	289.0	22.6	0.2	63.3	293.2	-	-	-	-	-	-	487911.1	4787814.4	-
POINT	HORIZONTAL	Z1P41	Baghouse serving transfer from finish mill (Z1P41)	289.0	22.6	0.2	54.6	293.2	-	-	-	-	-	-	487925.0	4787794.0	-
POINT	HORIZONTAL	K1P41	Baghouse serving the north auxiliary fuel silo (K1P41)	291.0	26.0	0.3	7.5	293.2	-	-	-	-	-	-	487882.5	4787580.1	-
POINT	HORIZONTAL	K1P11	Fuel mill baghouse (K1P11)	290.0	22.5	0.3	14.4	293.2	-	-	-	-	-	-	487855.0	4787574.5	-
POINT	VERTICAL	W1P91	Clinker reclaim hopper baghouse (W1P91)	291.0	15.0	1.0	7.8	AMBIENT	-	-	-	-	-	-	488031.4	4787814.7	-
VOLUME	-	PPILE	Transfer of limestone onto primary surge pile	302.0	5.0	-	-	-	10.1	4.7	43.2	-	-	-	487699.4	4787918.8	-
AREA	-	CLPT	Clay pit	315.0	2.0	-	-	-	-	-	45.4	91.0	90.0	-	488414.1	4787818.7	-
VOLUME	-	FSSCD	Foundry Sand Screening Operations (drops)	320.0	6.0	-	-	-	9.3	2.8	40.0	-	-	-	488378.7	4787368.9	-
VOLUME	-	FSSC	Foundry Sand Screening Operations	320.0	6.0	-	-	-	9.3	2.8	40.0	-	-	-	488378.7	4787368.9	-
VOLUME	-	PILES	Conventional fuel and raw material stockpiles	315.0	4.0	-	-	-	61.1	1.9	262.9	-	-	-	488248.0	4787585.5	-
VOLUME	-	CKD	Delivery and shipping of Cement Kiln Dust	312.0	4.0	-	-	-	55.1	1.9	236.9	-	-	-	488102.6	4787298.3	-
VOLUME	-	THS	Raw material delivery truck heating system	313.0	1.5	-	-	-	2.3	1.4	10.0	-	-	-	488429.6	4787956.1	-
VOLUME	-	CBBOI	Boiler	308.0	10.0	-	-	-	2.8	4.7	12.0	-	-	-	488098.5	4788006.4	-
VOLUME	-	JCBOI	Boiler	308.0	10.0	-	-	-	4.2	4.7	18.1	-	-	-	488186.2	4788111.4	-
VOLUME	-	TRBOI	Boiler	307.0	15.0	-	-	-	7.0	7.0	30.1	-	-	-	488087.5	4788054.6	-
OPEN_PIT	-	PIT11D	Former quarry area - drops	307.0	3.0	-	-	-	-	-	400.0	600.0	121.7	3600000.0	487643.6	4788036.5	15.0
OPEN_PIT	-	PIT11	Former quarry area	307.0	3.0	-	-	-	-	-	400.0	600.0	121.7	3600000.0	487643.6	4788036.5	15.0

1 All sources are elevated (Release Height > 0).
2 Base elevations were extracted from AERMAP.
3 CBMST & FSSC: Modelled as 7am to 7pm operations.



Table 6: AERMOD Modelling – Maximum Emissions Summary

Source ID	Emission Rate (g/s)																										
	PM	Respirable Crystalline Silica	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Ferric Oxide	Lead	Manganese	Mercury	Nickel	Selenium	Silver	Tin	Vanadium	Nitrogen Dioxide	Nitrogen Dioxide	Nitrogen Dioxide	Sulphur Dioxide	Sulphur Dioxide	Sulphur Dioxide	Carbon Monoxide		
	24 hr	24 hr	24 hr	24 hr	24 hr	24 hr	24 hr	24 hr	24 hr	24 hr	24 hr	24 hr	24 hr	24 hr	24 hr	24 hr	24 hr	24 hr	1 hr	24 hr	annual	1 hr	24 hr	annual	1 hr		
KILNON	9.74E-01	0	7.00E-05	3.67E-05	2.13E-03	8.00E-06	4.50E-05	1.90E-04	3.80E-05	1.50E-02	1.10E-03	6.40E-03	1.58E-03	1.65E-04	3.70E-04	9.19E-05	2.00E-04	3.72E-04	4.60E+01	4.60E+01	4.60E+01	3.44E+01	3.44E+01	3.44E+01	1.01E+02		
KILNOFF	9.74E-01	0	7.00E-05	3.67E-05	2.13E-03	8.00E-06	4.50E-05	1.90E-04	3.80E-05	1.50E-02	1.10E-03	6.40E-03	1.58E-03	1.65E-04	3.70E-04	9.19E-05	2.00E-04	3.72E-04	4.60E+01	4.60E+01	4.60E+01	3.44E+01	3.44E+01	3.44E+01	1.01E+02		
CBMST	1.45E-01	1.45E-03	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.35E-01	2.35E-01	2.35E-01	0	0	0	0		
CBMFS	7.50E-04	7.50E-06	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
CBMDTENT	6.08E-03	2.09E-05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
CBMPTENTD	3.62E-01	1.59E-03	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
CBMPTENT	3.04E-03	1.05E-05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
CBMLO	1.73E-01	7.55E-04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
CBH	6.11E-01	2.60E-02	3.71E-06	7.04E-05	4.51E-04	1.21E-06	5.15E-06	1.05E-04	2.16E-05	3.97E-02	4.11E-04	7.53E-04	2.61E-07	7.57E-05	3.62E-06	2.10E-06	2.26E-05	3.46E-04	0	0	0	0	0	0	0		
GHOPPER	6.11E-02	1.22E-03	1.77E-07	1.34E-06	7.33E-06	3.06E-08	6.72E-08	4.89E-07	4.64E-07	2.76E-04	2.38E-06	1.72E-05	3.07E-07	1.96E-06	7.09E-07	3.06E-08	4.89E-07	2.18E-05	0	0	0	0	0	0	0		
BAML	1.28E+00	5.17E-02	7.40E-06	1.38E-04	8.84E-04	2.38E-06	1.00E-05	2.04E-04	4.23E-05	7.75E-02	7.97E-04	1.49E-03	7.67E-07	1.49E-04	7.67E-06	4.12E-06	4.44E-05	6.89E-04	0	0	0	0	0	0	0		
RAWS	4.25E-02	1.83E-03	2.60E-07	4.95E-06	3.17E-05	8.43E-08	3.62E-07	7.36E-06	1.52E-06	2.78E-03	2.89E-05	5.26E-05	1.83E-08	5.24E-06	2.53E-07	1.48E-07	1.58E-06	2.41E-05	0	0	0	0	0	0	0		
HSILOS	1.29E-01	5.54E-03	7.89E-07	1.50E-05	9.62E-05	2.56E-07	1.10E-06	2.24E-05	4.60E-06	8.44E-03	8.77E-05	1.60E-04	5.56E-08	1.59E-05	7.69E-07	4.49E-07	4.81E-06	7.32E-05	0	0	0	0	0	0	0		
BLSI	8.34E-02	1.67E-03	2.42E-07	1.83E-06	1.00E-05	4.17E-08	9.17E-08	6.67E-07	6.34E-07	3.77E-04	3.25E-06	2.35E-05	4.19E-07	2.67E-06	9.67E-07	4.17E-08	6.67E-07	2.98E-05	0	0	0	0	0	0	0		
S200N	1.69E-01	6.80E-03	9.72E-07	1.81E-05	1.16E-04	3.13E-07	1.32E-06	2.68E-05	5.56E-06	1.02E-02	1.05E-04	1.96E-04	1.01E-07	1.96E-05	1.01E-06	5.42E-07	5.83E-06	9.05E-05	0	0	0	0	0	0	0		
S200S	6.13E-02	2.47E-03	3.54E-07	6.57E-06	4.22E-05	1.14E-07	4.80E-07	9.74E-06	2.02E-06	3.70E-03	3.81E-05	7.11E-05	3.67E-08	7.12E-06	3.67E-07	1.97E-07	2.12E-06	3.29E-05	0	0	0	0	0	0	0		
S340	6.64E-02	2.68E-03	3.83E-07	7.11E-06	4.57E-05	1.23E-07	5.20E-07	1.05E-05	2.19E-06	4.01E-03	4.13E-05	7.70E-05	3.97E-08	7.71E-06	3.97E-07	2.13E-07	2.30E-06	3.56E-05	0	0	0	0	0	0	0		
S500D	5.88E-01	1.04E-02	3.39E-06	6.30E-05	4.05E-04	1.09E-06	4.60E-06	9.33E-05	1.94E-05	3.55E-02	3.65E-04	6.81E-04	3.51E-07	6.83E-05	3.51E-06	1.89E-06	2.03E-05	3.15E-04	0	0	0	0	0	0	0		
S500	1.01E-01	4.06E-03	5.80E-07	1.08E-05	6.93E-05	1.87E-07	7.88E-07	1.60E-05	3.32E-06	6.08E-03	6.26E-05	1.17E-04	6.02E-08	1.17E-05	6.02E-07	3.23E-07	3.48E-06	5.40E-05	0	0	0	0	0	0	0		
PACK	1.64E-01	6.60E-03	9.44E-07	1.76E-05	1.13E-04	3.04E-07	1.28E-06	2.60E-05	5.40E-06	9.89E-03	1.02E-04	1.90E-04	9.79E-08	1.90E-05	9.79E-07	5.26E-07	5.66E-06	8.79E-05	8.91E-03	8.91E-03	8.91E-03	0	0	0	0		
K1P51	2.80E-02	0	4.48E-08	1.20E-07	1.48E-06	2.58E-08	1.40E-08	1.12E-06	1.68E-07	7.84E-04	6.72E-07	2.55E-05	2.80E-09	5.60E-06	6.72E-08	1.40E-08	1.29E-07	1.48E-05	0	0	0	0	0	0	0		
A 15 5	5.19E-02	5.19E-04	8.30E-08	2.60E-07	6.33E-06	2.60E-08	2.60E-08	4.15E-07	1.61E-07	5.15E-04	8.30E-07	1.65E-05	5.19E-09	9.34E-07	8.30E-08	2.60E-08	3.11E-07	8.82E-07	0	0	0	0	0	0	0		
A 16 4	1.18E-01	1.18E-03	1.89E-07	5.90E-07	1.44E-05	5.90E-08	5.90E-08	9.44E-07	3.66E-07	1.17E-03	1.89E-06	3.74E-05	1.18E-08	2.12E-06	1.89E-07	5.90E-08	7.08E-07	2.01E-06	0	0	0	0	0	0	0		
05 1 412	3.78E-02	1.62E-03	2.31E-07	4.40E-06	2.82E-05	7.50E-08	3.22E-07	6.55E-06	1.35E-06	2.47E-03	2.57E-05	4.68E-05	1.63E-08	4.66E-06	2.25E-07	1.31E-07	1.41E-06	2.14E-05	0	0	0	0	0	0	0		
K1P31	1.53E-02	0	2.45E-08	6.58E-08	8.11E-07	1.41E-08	7.65E-09	6.12E-07	9.18E-08	4.28E-04	3.67E-07	1.39E-05	1.53E-09	3.06E-06	3.67E-08	7.65E-09	7.04E-08	8.11E-06	0	0	0	0	0	0	0		
07 1 441	2.81E-02	1.19E-03	1.71E-07	3.24E-06	2.07E-05	5.55E-08	2.37E-07	4.83E-06	9.94E-07	1.83E-03	1.89E-05	3.47E-05	1.20E-08	3.49E-06	1.66E-07	9.68E-08	1.04E-06	1.59E-05	0	0	0	0	0	0	0		
07 1 450	3.28E-02	1.39E-03	1.99E-07	3.78E-06	2.42E-05	6.47E-08	2.77E-07	5.64E-06	1.16E-06	2.13E-03	2.21E-05	4.05E-05	1.40E-08	4.07E-06	1.94E-07	1.13E-07	1.21E-06	1.86E-05	0	0	0	0	0	0	0		
Z1P31	1.61E-02	6.49E-04	9.28E-08	1.73E-06	1.11E-05	2.99E-08	1.26E-07	2.56E-06	5.31E-07	9.72E-04	1.00E-05	1.87E-05	9.63E-09	1.87E-06	9.62E-08	5.17E-08	5.57E-07	8.64E-06	0	0	0	0	0	0	0		
Z1P41	1.39E-02	5.60E-04	8.01E-08	1.49E-06	9.57E-06	2.58E-08	1.09E-07	2.21E-06	4.58E-07	8.39E-04	8.64E-06	1.61E-05	8.31E-09	1.61E-06	8.31E-08	4.46E-08	4.80E-07	7.46E-06	0	0	0	0	0	0	0		
K1P41	4.00E-03	0	6.40E-09	1.72E-08	2.12E-07	3.68E-09	2.00E-09	1.60E-07	2.40E-08	1.12E-04	9.60E-08	3.64E-06	4.00E-10	8.00E-07	9.60E-09	2.00E-09	1.84E-08	2.12E-06	0	0	0	0	0	0	0		
K1P11	1.02E-02	0	1.63E-08	4.39E-08	5.41E-07	9.38E-09	5.10E-09	4.08E-07	6.12E-08	2.86E-04	2.45E-07	9.28E-06	1.02E-09	2.04E-06	2.45E-08	5.10E-09	4.69E-08	5.41E-06	0	0	0	0	0	0	0		
W1P91	6.10E-02	2.59E-03	3.70E-07	7.03E-06	4.50E-05	1.20E-07	5.15E-07	1.05E-05	2.16E-06	3.96E-03	4.11E-05	7.53E-05	2.61E-08	7.57E-06	3.61E-07	2.10E-07	2.25E-06	3.46E-05	0	0	0	0	0	0	0		
PPILE	8.40E-01	3.67E-03	1.34E-06	4.20E-06	1.02E-04	4.20E-07	4.20E-07	6.72E-06	2.60E-06	8.33E-03	1.34E-05	2.66E-04	8.40E-08	1.51E-05	1.34E-06	4.20E-07	5.04E-06	1.43E-05	0	0	0	0	0	0	0		
CLPT	4.12E-02	5.41E-04	1.77E-07	1.57E-06	4.08E-05	8.24E-08	1.77E-07	3.83E-06	7.67E-07	2.09E-03	2.64E-06	4.29E-05	1.44E-08	2.31E-06	4.99E-07	8.65E-08	1.03E-06	3.50E-06	0	0	0	0	0	0	0		
FSSCD	1.33E+00	1.48E-01	2.78E-05	9.16E-04	1.22E-03	2.53E-06	3.43E-05	9.88E-04	3.48E-04	3.94E-01	3.35E-03	3.13E-03	2.25E-06	8.63E-04	7.58E-06	1.73E-05	2.95E-04	5.47E-03	0	0	0	0	0	0	0		
FSSC	1.54E-01	1.24E-02	3.04E-06	1.00E-04	1.34E-04	2.77E-07	3.76E-06	1.08E-04	3.81E-05	4.31E-02	3.67E-04	3.42E-04	2.46E-07	9.45E-05	8.30E-07	1.89E-06	3.23E-05	5.98E-04	9.10E-02	9.10E-02	9.10E-02	2.57E-02	2.57E-02	2.57E-02	1.02E-01		
PILES	9.98E-02	1.25E-03	4.60E-07	7.88E-06	5.13E-05	1.63E-07	5.83E-07	1.29E-05	2.57E-06	5.28E-03	4.60E-05	1.13E-04	3.20E-08	1.48E-05	4.76E-07	2.48E-07	2.63E-06	5.54E-05	0	0	0	0	0	0	0		
CKD	6.93E-03	1.29E-04	4.20E-08	7.99E-07	5.11E-06	1.37E-08	5.84E-08	1.19E-06	2.45E-07	4.50E-04	4.66E-06	8.55E-06	2.96E-09	8.59E-07	4.10E-08	2.39E-08	2.56E-07	3.93E-06	0	0	0	0	0	0	0		
THS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.24E-02	1.24E-02	1.24E-02	0	0	0	0			
CBBOI	5.00E-03	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.03E-02	3.03E-02	3.03E-02	2.15E-02	2.15E-02	2.15E-02	7.58E-03			
JCBOI	1.67E-03	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.01E-02	1.01E-02	1.01E-02	2.17E-03	2.17E-03	2.17E-03	2.53E-03			
TRBOI	5.00E-03	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.03E-02	3.03E-02	3.03E-02	2.15E-02	2.15E-02	2.15E-02	7.58E-03			
PIT11D	3.18E+00	5.91E-02	1.93E-05	3.66E-04	2.35E-03	6.27E-06	2.68E-05	5.46E-04	1.12E-04	2.07E-01	2.14E-03	3.92E-03	1.36E-06	3.94E-04	1.88E-05	1.10E-05	1.17E-04	1.80E-03	0	0	0	0	0	0	0		
PIT11	2.30E-01	7.41E-03	1.15E-06	2.04E-05	1.29E-04	3.54E-07	1.47E-06	2.92E-05	6.28E-06	1.11E-02	1.15E-04	2.20E-04	2.93E-07	2.22E-05	1.51E-06	6.02E-07	6.57E-06	1.11E-04	5.30E-01	5.30E-01	5.30E-01	4.11E-02	4.11E-02	4.11E-02	2.91E-01		
Total	1.13E+01	3.67E-01	1.44E-04	1.83E-03	8.59E-03	2.47E-																					

Emissions for material drop points (highlighted in blue) have been calculated for the six AERMOD wind categories. Emission rates for Category F are presented in this table. Variable emission multipliers are presented in Calculation Sheet 3. Note: Sources CBMST and FSSC only operate from 7am to 7pm (for contaminants with 1-hr limits only).



7.0 EMISSION SUMMARY TABLE AND CONCLUSIONS

The Emission Summary Table is provided as Table 7. The resulting Point-of-Impingement (POI) concentrations were compared to the standards, guidelines and screening levels in the Ministry Air Contaminants Benchmark (ACB) List, April 2018.

The results of the AERMOD modelling exercises demonstrate that the maximum POI concentrations for all contaminants are below their respective POI limits, JSL list levels or Acceptable Point-Of-Impingement Concentrations (APOICs) as summarized in Table 7.

Table 7: Emission Summary Table

Contaminant Name	CAS #	Maximum Total Emission Rate (g/s)	Air Dispersion Model Used	Maximum POI Concentration (µg/m³)	Averaging Period - Emissions	Averaging Period - POI	Ministry POI Limit	Limiting Effect	Ministry Regulation Schedule #	Percentage of Ministry POI Limit (%)
Suspended Particulate Matter	PM	1.13E+01	AERMOD	6.63E+01	24 hr	24 hr	120	Visibility	3	55.2%
Respirable Crystalline Silica	14808-60-7	3.67E-01	AERMOD	2.53E+00	24 hr	24 hr	5	Health	G	50.5%
Gaseous Compounds										
Nitrogen Dioxide	10102-44-0	4.69E+01	AERMOD	1.95E+02	1 hr	1 hr	400	Health	3	48.8%
Nitrogen Dioxide	10102-44-0	4.69E+01	AERMOD	4.41E+01	24 hr	24 hr	200	Health	3	22.0%
Sulphur Dioxide	7446-09-5	3.45E+01	AERMOD	5.52E+01	1 hr	1 hr	690	Health & Vegetation	3	8.0%
Sulphur Dioxide	7446-09-5	3.45E+01	AERMOD	5.52E+01	1 hr	1 hr	100	Health	3 (July 2023)	55.2%
Sulphur Dioxide	7446-09-5	3.45E+01	AERMOD	8.46E+00	24 hr	24 hr	275	Health & Vegetation	3	3.1%
Sulphur Dioxide	7446-09-5	3.45E+01	AERMOD	1.03E+00	annual	annual	10	Vegetation	3 (July 2023)	10.3%
Carbon Monoxide	630-08-0	1.01E+02	AERMOD	1.98E+02	1 hr	30 minute	6000	Health	3	3.3%
Sulphur Compounds										
Total Reduced Sulphur	TRS	1.72E-02	AERMOD	4.20E-03	24 hr	24 hr	7	Health	3	<0.1%
Total Reduced Sulphur	TRS	1.72E-02	AERMOD	1.69E-02	24 hr	10 minute	13	Odour	3	0.1%
Carbon Disulphide	75-15-0	4.12E-01	AERMOD	1.01E-01	24 hr	24 hr	330	Odour	G	<0.1%
Carbonyl Sulphide	463-58-1	3.42E+00	AERMOD	8.34E-01	24 hr	24 hr	13	Health	JSL	6.4%
Metals										
Antimony	7440-36-0	1.44E-04	AERMOD	5.30E-04	24 hr	24 hr	25	Health	3	<0.1%
Arsenic	7440-38-2	1.83E-03	AERMOD	1.71E-02	24 hr	24 hr	0.3	Health	G	5.7%
Barium	7440-39-3	8.59E-03	AERMOD	2.85E-02	24 hr	24 hr	10	Health	G	0.3%
Beryllium	7440-41-7	2.47E-05	AERMOD	8.00E-05	24 hr	24 hr	0.01	Health	3	0.8%
Cadmium	7440-43-9	1.40E-04	AERMOD	6.50E-04	24 hr	24 hr	0.025	Health	3	2.6%
Chromium	7440-47-3	2.44E-03	AERMOD	1.86E-02	24 hr	24 hr	0.5	Health	3	3.7%
Cobalt	7440-48-4	6.66E-04	AERMOD	6.50E-03	24 hr	24 hr	0.1	Health	G	6.5%
Ferric Oxide	1309-37-1	9.00E-01	AERMOD	7.41E+00	24 hr	24 hr	25	Soiling	3	29.6%
Lead	7439-92-1	9.32E-03	AERMOD	2.44E-02	24 hr	30 day	0.2	Health	3	12.2%
Lead	7439-92-1	9.32E-03	AERMOD	6.32E-02	24 hr	24 hr	0.5	Health	3	12.6%
Manganese	7439-96-5	1.86E-02	AERMOD	6.12E-02	24 hr	24 hr	0.4	Health	3	15.3%
Mercury	7439-97-6	1.58E-03	AERMOD	3.90E-04	24 hr	24 hr	2	Health	3	<0.1%
Nickel	7440-02-0	1.99E-03	AERMOD	1.62E-02	24 hr	24 hr	0.2	Health	DAV/URT	8.1%
Nickel	7440-02-0	1.99E-03	AERMOD	1.66E-03	24 hr	Annual	0.4	Health	AAV	0.4%
Nickel	7440-02-0	1.99E-03	AERMOD	1.66E-03	Annual	Annual	0.04	Health	3	4.2%
Phosphorus	7723-14-0	3.03E-03	AERMOD	7.39E-04	24 hr	24 hr	0.5	Health	JSL	0.1%
Potassium	7440-09-7	1.20E-01	AERMOD	2.93E-02	24 hr	24 hr	1	Health	JSL	2.9%
Selenium	7782-49-2	4.23E-04	AERMOD	3.00E-04	24 hr	24 hr	10	Health	G	<0.1%
Silver	7440-22-4	1.35E-04	AERMOD	3.30E-04	24 hr	24 hr	1	Health	3	<0.1%
Tin	7440-31-5	7.83E-04	AERMOD	5.53E-03	24 hr	24 hr	10	Health	3	<0.1%
Vanadium	7440-62-2	1.04E-02	AERMOD	1.02E-01	24 hr	24 hr	2	Health	3	5.1%
Dioxin and Furans										
TOTAL Dioxin and Furans (TEQ)	CCD	3.17E-09	AERMOD	7.73E-10	24 hr	24 hr	0.0000001	Health	3	0.8%
Hydrogen Chloride and Ammonia										
Hydrogen Chloride	7647-01-0	1.23E+00	AERMOD	3.01E-01	24 hr	24 hr	20	Health	3	1.5%
Ammonia	7664-41-7	4.56E-01	AERMOD	1.11E-01	24 hr	24 hr	100	Health	3	0.1%
Polycyclic Aromatic Hydrocarbons (PAHs)										
Benzo(a)pyrene	50-32-8	7.00E-06	AERMOD	1.71E-06	24 hr	24 hr	0.005	Health	DAV/URT	<0.1%
Benzo(a)pyrene	50-32-8	7.00E-06	AERMOD	1.63E-07	24 hr	Annual	0.0001	Health	AAV	0.2%
Benzo(a)pyrene	50-32-8	7.00E-06	AERMOD	1.63E-07	Annual	Annual	0.00001	Health	3	1.6%
Naphthalene	91-20-3	4.30E-02	AERMOD	4.22E-02	24 hr	10 minute	50	Health	G	<0.1%
Naphthalene	91-20-3	4.30E-02	AERMOD	1.05E-02	24 hr	24 hr	22.5	Odour	G	<0.1%
Chloronated Organic Compounds										
Carbon Tetrachloride	56-23-5	1.70E-02	AERMOD	4.16E-03	24 hr	24 hr	2.4	Health	3	0.2%
Chloroform	67-66-3	1.15E-02	AERMOD	2.81E-03	24 hr	24 hr	1	Health	3	0.3%
Dibromochloromethane	124-48-1	9.37E-03	AERMOD	2.29E-03	24 hr	24 hr	0.2	Health	JSL	1.1%
Dichloroethane, 1,2-	107-06-2	7.39E-03	AERMOD	1.80E-03	24 hr	24 hr	2	Health	3	<0.1%
Dichloroethene, 1,1-	75-35-4	1.15E-02	AERMOD	2.81E-03	24 hr	24 hr	10	Health	3	<0.1%
Hexachlorobenzene	118-74-1	4.97E-05	AERMOD	1.21E-05	24 hr	24 hr	0.011	Health	JSL	0.1%
Tetrachloroethane, 1,1,1,2-	630-20-6	1.05E-02	AERMOD	2.56E-03	24 hr	24 hr	0.5	Health	JSL	0.5%
Tetrachloroethane, 1,1,2,2-	79-34-5	1.42E-02	AERMOD	3.47E-03	24 hr	24 hr	0.1	Health	JSL	3.5%
Trichloroethane, 1,1,2-	79-00-5	1.70E-02	AERMOD	4.16E-03	24 hr	24 hr	0.3	Health	JSL	1.4%
Trichloroethylene	79-01-6	1.15E-02	AERMOD	2.81E-03	24 hr	24 hr	12	Health	3	<0.1%
Vinyl Chloride	75-01-4	1.99E-02	AERMOD	4.85E-03	24 hr	24 hr	1	Health	3	0.5%
Volatile Organic Compounds										
Benzene	71-43-2	1.10E+00	AERMOD	2.68E-01	24 hr	24 hr	100	Health	DAV/URT	0.3%
Benzene	71-43-2	1.10E+00	AERMOD	2.56E-02	24 hr	Annual	4.5	Health	AAV	0.6%
Benzene	71-43-2	1.10E+00	AERMOD	2.56E-02	Annual	Annual	0.45	Health	3	5.7%
Dibromoethane, 1,2-	106-93-4	7.40E-03	AERMOD	1.81E-03	24 hr	24 hr	3	Health	G	<0.1%

Notes:

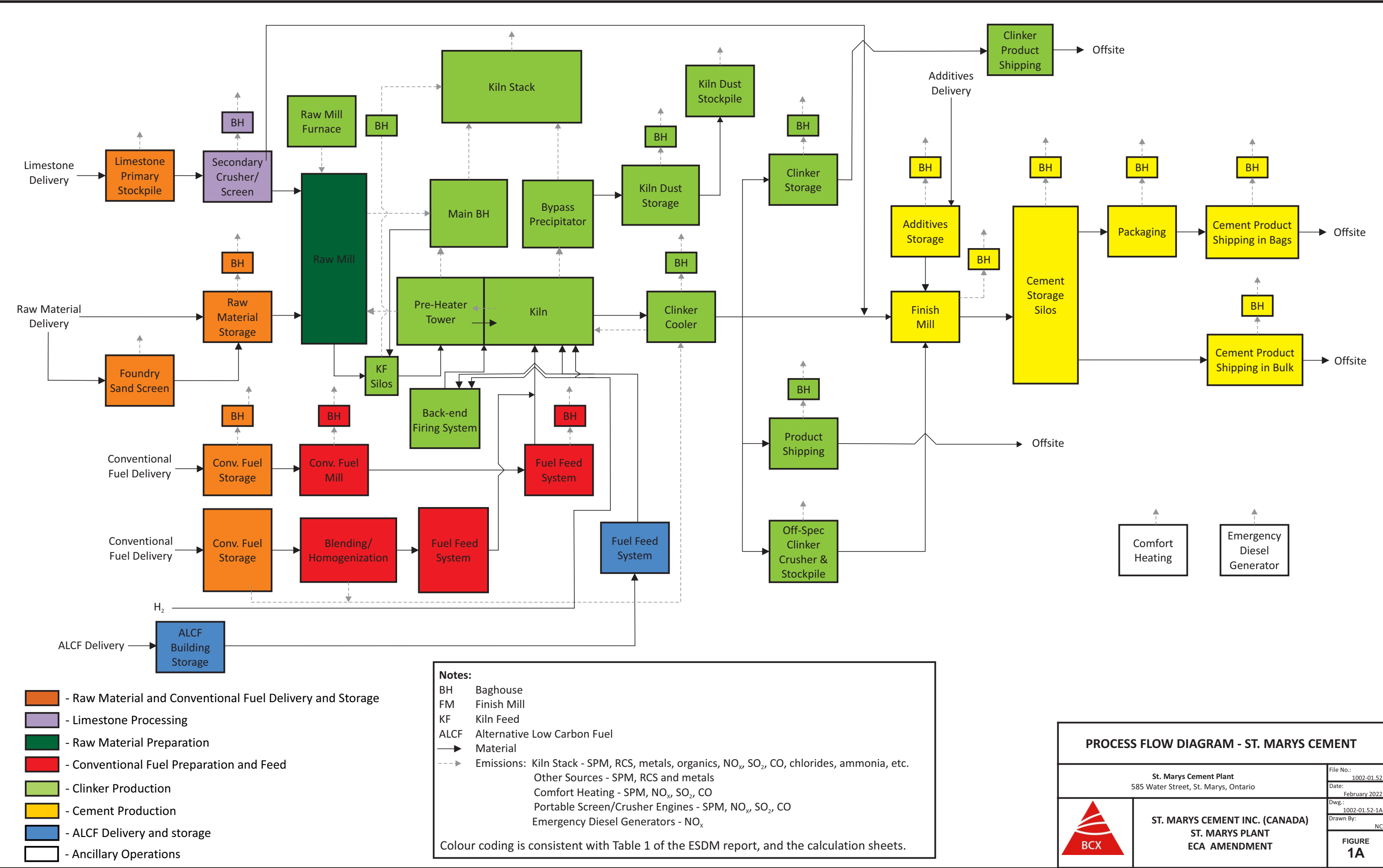
- Highlighted contaminants

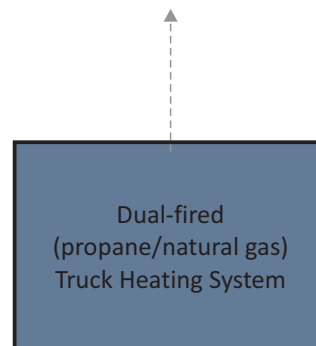
Emissions are from the kiln stack only. The maximum POI concentrations were calculated using the unit emisison dispersion factors below.
- ⁽¹⁾ Insignificant contaminants emitted from the kiln stack have been screened out using the screening procedure as set out in Section 7.1.2 of the Ministry Procedure for Preparing an ESDM Report (March 2018).
- ⁽²⁾ G = Ministry Guideline, JSL = Jurisdictional Screening Level, URI - Upper Risk Threshold, APOIC - Acceptable Point-Of-Impingement Concentration, DAV - Daily Assessment Value; AAV - Annual Assessment Value
- ⁽³⁾ To be conservative, it was assumed the daily emission rate is equal to the annual emission rate for nickel, benzo(a)pyrene and benzene emissions.
- ⁽⁴⁾ Modelling was completed for both raw mill on and raw mill off conditions using the same maximum emission rate for each contaminant.
- ⁽⁵⁾ For each annual assessment value and annual standards, modelling was performed for each of the 5 meteorological years, and the maximum result of the 5 years was compared to the appropriate assessment value and POI standard (as per Ministry's Technical Bulletin Methodology for Using "Assessment Values" for Contaminants with Annual Air Standards (March, 2017)).

	1 hr	24 hr
Unit Dispersion Factor - RM ON	1.57E+00	2.35E-01
Unit Dispersion Factor - RM OFF	1.59E+00	2.44E-01

Appendix A
Figures and Zoning Map







Notes:

---► Emissions: NO_x

Colour coding is consistent with Table 1 of the ESDM report, and the calculation sheets.

PROCESS FLOW DIAGRAM - LAIDLAW BULK CARRIERS

St. Marys Cement Plant
585 Water Street, St. Marys, Ontario

File No.:
1002-01.52

Date:
February 2022

Dwg.:
1002-01.52-1C

Drawn by:
NC



ST. MARYS CEMENT INC. (CANADA)
ST. MARYS PLANT
ECA AMENDMENT

FIGURE
1C



LEGEND

Property Line

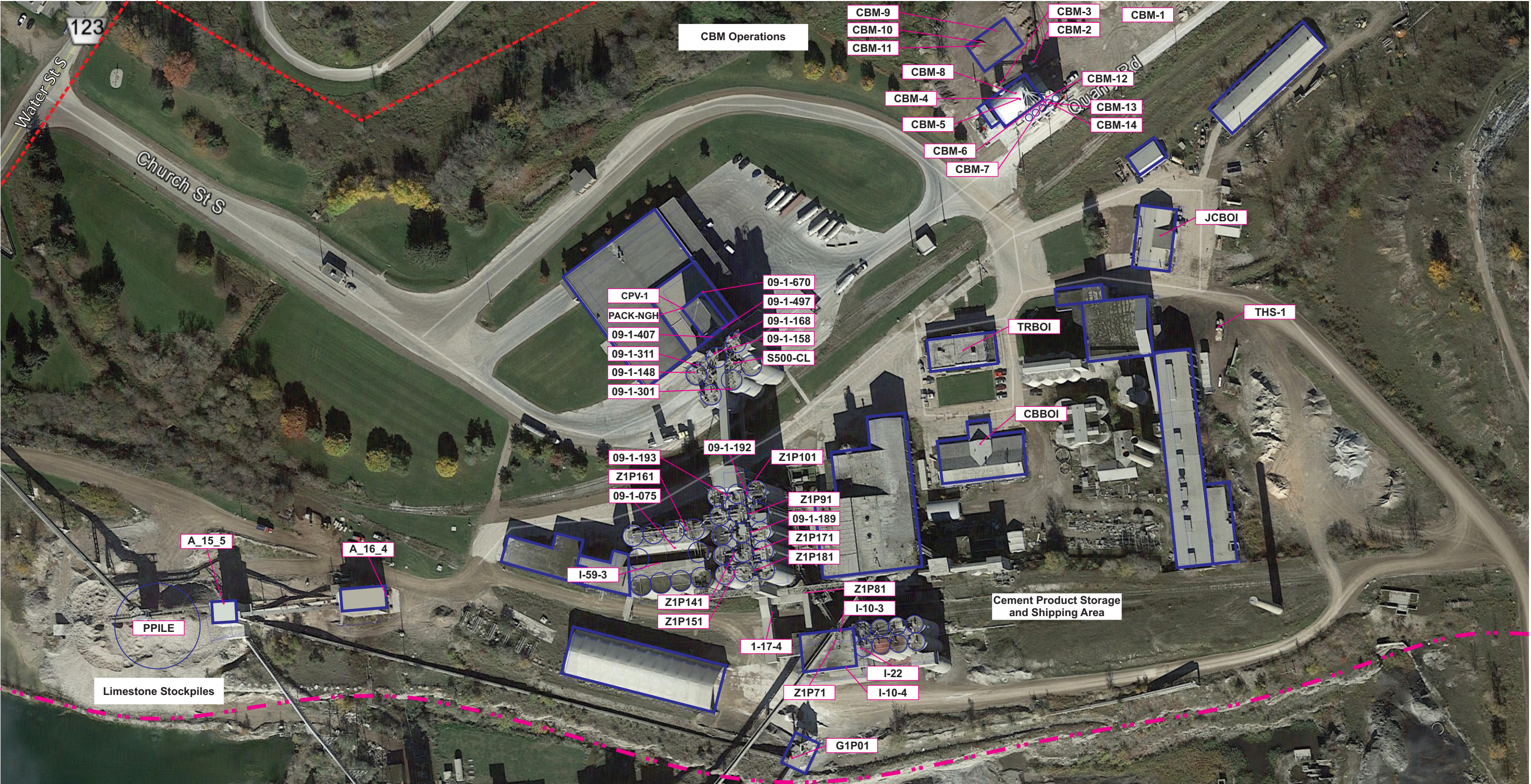
Figure Border

Former Quarry Perimeter

0 m

500 m

SITE LAYOUT - OVERVIEW		
St. Marys Cement Plant 585 Water Street, St. Marys, Ontario		File No.: 1002-01.52
		Date: February 2022
	ST. MARYS CEMENT INC. (CANADA) ST. MARYS PLANT ECA AMENDMENT	Dwg.: 1002-01.52_2A
		Drawn By: MO
		FIGURE 2A



LEGEND

ST01

Source ID

Property Line

Former Quarry Perimeter

0 m 100 m

SITE LAYOUT - NORTH

St. Marys Cement Plant

585 Water Street, St. Marys, Ontario

ST. MARYS CEMENT INC. (CANADA)

ST. MARYS PLANT

ECA AMENDMENT

File No.: 1002-01.52

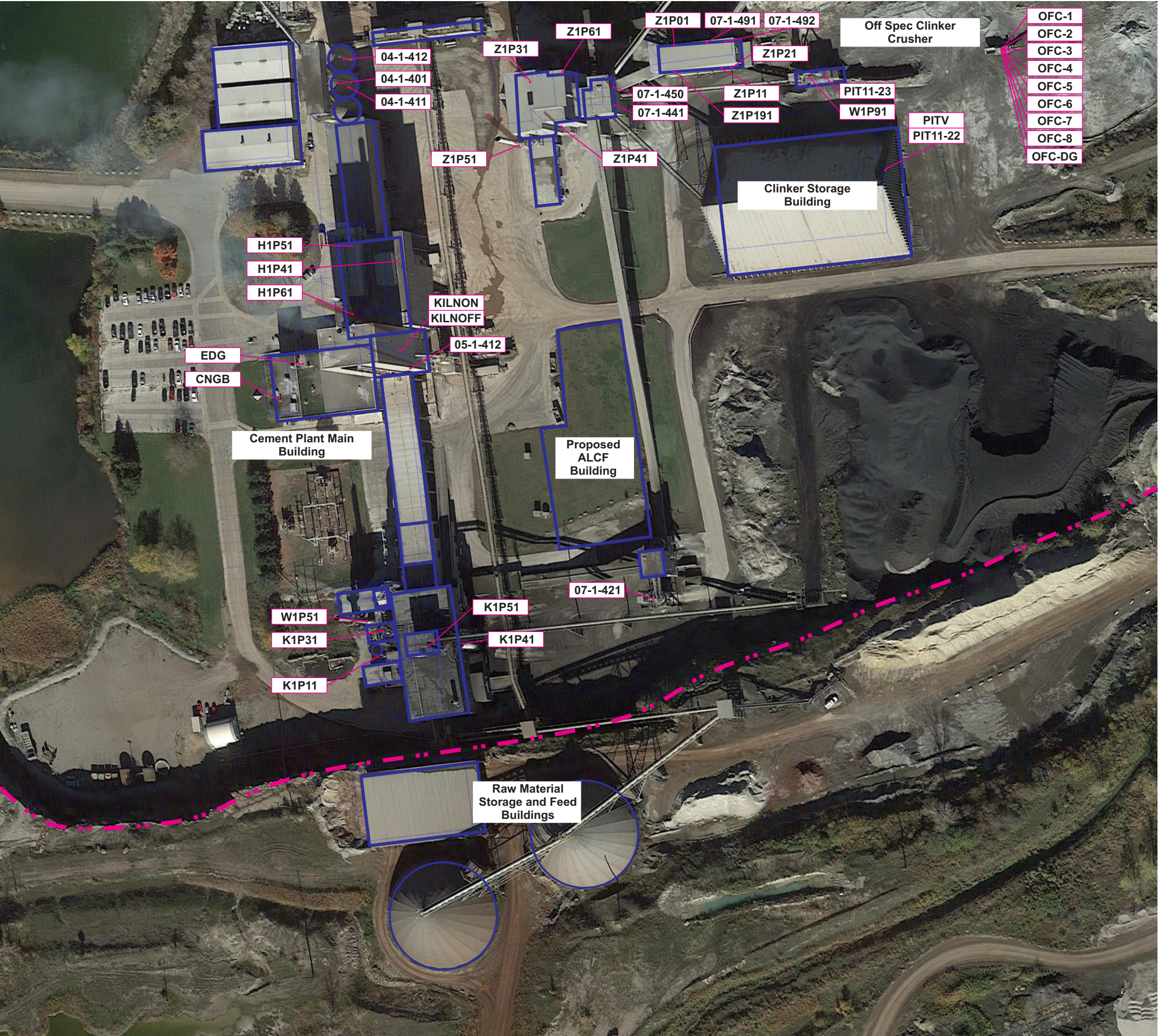
Date: February 2022

Dwg.: 1002-01.52_2B

Drawn By: MO

FIGURE

2B



LEGEND

ST01

Source ID

Former Quarry Perimeter

0 m

100 m

SITE LAYOUT - SOUTH		<div><div></div><div>N</div></div>
St. Marys Cement Plant 585 Water Street, St. Marys, Ontario		File No.: 1002-01.52 Date: February 2022
<div><div></div><div>BCX</div></div>	ST. MARYS CEMENT INC. (CANADA) ST. MARYS PLANT ECA AMENDMENT	Dwg.: 1002-01.52_2C Drawn By: MO
		FIGURE 2C



LEGEND

ST01

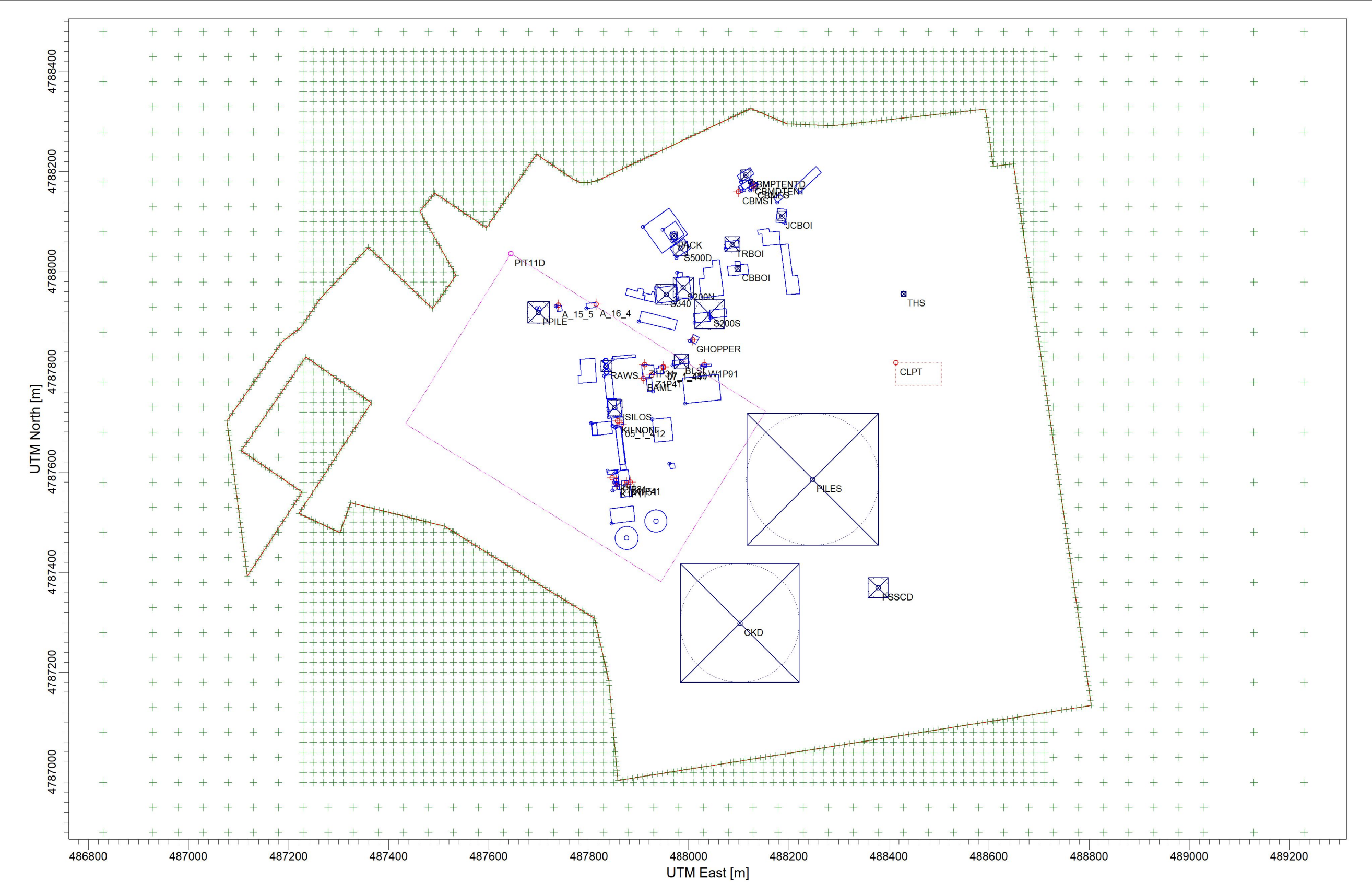
Source ID

— · —

Former Quarry Perimeter



SITE LAYOUT - STOCKPILES		
<div>St. Marys Cement Plant</div> <div>585 Water Street, St. Marys, Ontario</div>		File No.: 1002-01.52
		Date: February 2022
	ST. MARYS CEMENT INC. (CANADA) ST. MARYS PLANT ECA AMENDMENT	Dwg.: 1002-01.57_2D
		Drawn By: MO
		FIGURE 2D



SOURCES:
44

RECEPTORS:
4105

COMPANY NAME:
BCX Environmental Consulting

MODELER:
JS

DATE:
2022-02-24

SCALE: 1:7,889
0 0.2 km



PROJECT NO.:
1002-01.55

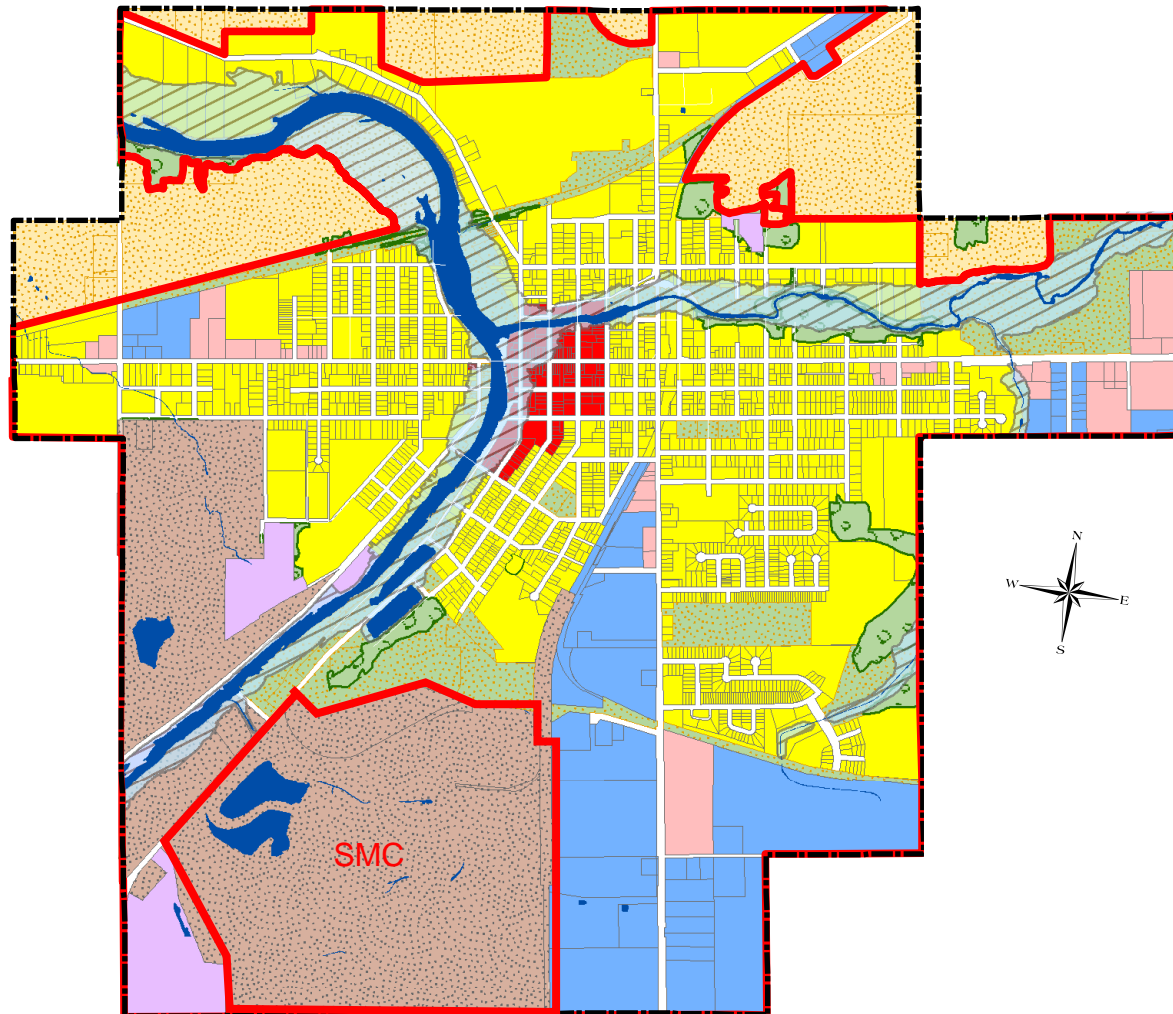
Town of St Marys Official Plan Schedule 'A' Land Use Plan

Designation

-  Settlement Area Boundary
-  Town Boundary
-  Water
-  Residential
-  Central Commercial
-  Highway Commercial
-  General Industrial
-  Extractive Industrial
-  Environmental Constraint
-  Recreational
-  Flood Plain
-  Natural Heritage
-  Agriculture



October 2007



0 125 250 500 750 1,000
Metres

Appendix B

Section 4(2) (a) Letters



Ministry of
the Environment

Environmental Approvals
Branch

2 St. Clair Avenue West
Floor 12A
Toronto ON M4V 1L5
Tél.: 416 314-8001
Fax: 416 314-8452

Ministère de
l'Environnement

Direction des autorisations
environnementales

2, avenue St. Clair Ouest
Étage 12A
Toronto ON M4V 1L5
Tél.: 416 314-8001
Téléc.: 416 314-8452



August 31, 2017

Matt Novada, Environmental Coordinator
St. Marys Cement Inc. (Canada)
585 Water Street South
St. Marys, Ontario
N4X 1B6

Dear Sir:

**Re: O. Reg. 419 Section 4 Request for Adjacent Properties to be Deemed a Single
Property for Dispersion Modelling
MOECC Reference Number : 5642-AQKP4U**

This letter is to notify you that I have received the request submitted by St. Marys Cement Inc. (Canada) made pursuant to clause 4(2)(a) of O. Reg. 419/05. The request was that the property on which certain companies are operating be deemed to be a single property for the purpose of assessing compliance with O. Reg. 419/05, with respect to all contaminants.

St. Marys Cement Inc. (Canada) operates a cement manufacturing facility on the property 585 Water Street South, St. Marys Separated Town, County of Perth N4X 1B6. Two other facilities (a) the high calcium dried limestone manufacturing facility operated by Canada Building Materials Co. (a St. Marys Cement Inc. Canada company), and (b) the dual-fuel truck heating system operated by Laidlaw Carriers Bulk (a 3rd party operator), are operating on the same property 585 Water Street South, St. Marys Separated Town, County of Perth N4X 1B6.

The above three facilities: St. Marys Cement Inc. (Canada); Canada Building Materials Co. and Laidlaw Carriers Bulk, shall be deemed to be operating on a single property.

I have received the above request and will not be giving notice under subsection 4(2.2) of O.Reg 419/05 at this time. If you have any questions regarding the above, please contact Sushant Agarwal, P.Eng., Senior Air Engineer at (416) 314-7281.

Yours truly,

A handwritten signature in black ink, appearing to read 'Rudolf Wan', with a stylized flourish at the end.

Rudolf Wan P. Eng.,
Director

Section 4 of Regulation 419/05 made under the Environmental Protection Act

Cc: Ray Fillion, Laidlaw Carriers Bulk
Colin Evans, Canada Building Materials Co.
Fernando Circelli, MOECC, London
Winnie Song, BCX Environmental Consulting

**Ministry of
the Environment**

Environmental Approvals
Branch

2 St. Clair Avenue West
Floor 12A
Toronto ON M4V 1L5
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**Ministère de
l'Environnement**

Direction des autorisations
environnementales

2, avenue St. Clair Ouest
Étage 12A
Toronto ON M4V 1L5
Tél : 416 314-8001
Téléc. : 416 314-8452



August 31, 2017

Colin Evans, Environmental Manager
CBM Aggregates, A Division of St Marys Cement Inc. (Canada)
55 Industrial Street
Toronto, Ontario
M4G 3W9

Dear Sir:

**Re: O. Reg. 419 Section 4 Request for Adjacent Properties to be Deemed a Single
Property for Dispersion Modelling
MOECC Reference Number: 5642-AQKP4U**

This letter is to notify you that I have received the request submitted by St. Marys Cement Inc. (Canada) made pursuant to clause 4(2)(a) of O. Reg. 419/05. The request was that the property on which certain companies are operating be deemed to be a single property for the purpose of assessing compliance with O. Reg. 419/05, with respect to all contaminants.

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I have received the above request and will not be giving notice under subsection 4(2.2) of O.Reg 419/05 at this time. If you have any questions regarding the above, please contact Sushant Agarwal, P.Eng., Senior Air Engineer at (416) 314-7281.

Yours truly,

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Rudolf Wan P. Eng.,
Director
Section 4 of Regulation 419/05 made under the Environmental Protection Act

Cc: Ray Fillion, Laidlaw Carriers Bulk
Matt Novada, St. Marys Cement Inc. (Canada)
Fernando Circelli, MOECC, London
Winnie Song, BCX Environmental Consulting

Appendix D

Source Summary Tables



Table 3A - Source Summary Table - Source Data

Modelled Source	ESDM Source I.D.	Source Description	Materials	Process	Source Data					
					Stack Volumetric Flow Rate (m³/s)	Stack Exit Gas Temperature (°C)	Stack Inner Diameter (m)	Stack Height Above Grade (m)	Stack Height Above Roof (m)	Source Coordinates (x,y) (m)
St. Marys Plant - SMC Operations										
A_16_4	A-16-4	Baghouse serving the secondary crusher (A-16-4)	Limestone	Limestone Extraction & Processing	11.8	AMBIENT	0.6	12.2	n/a	see Table 5
A_15_5	A-15-5	Baghouse serving the secondary screen (A-15-5)	Limestone	Limestone Extraction & Processing	5.2	AMBIENT	0.6	17.8	n/a	see Table 5
PPILE	PPILE	Transfer of limestone onto primary surge pile	Limestone	Limestone Extraction & Processing	n/a	n/a	n/a	5.0	n/a	see Table 5
PILES	PILES-1	Delivery and transfer of conventional fuel	Conventional Fuel	Raw Material / Conventional Fuel Delivery and Storage	n/a	n/a	n/a	4.0	n/a	see Table 5
PILES	PILES-2	Delivery and transfer of raw materials	Raw Feed	Raw Material / Conventional Fuel Delivery and Storage	n/a	n/a	n/a	4.0	n/a	see Table 5
K1P51	K1P51	Conventional fuel storage silo baghouse (K1P51)	Conventional Fuel	Raw Material / Conventional Fuel Delivery and Storage	2.8	20.0	0.5	38.7	n/a	see Table 5
RAWS	04-1-401	Raw material storage silo baghouse (04-1-401)	Raw Feed	Raw Material / Conventional Fuel Delivery and Storage	n/a	n/a	n/a	42.0	n/a	see Table 5
CLPT	CLPT-1	Scraper from face onto a pile	Clay/Momentive	Raw Material / Conventional Fuel Delivery and Storage	n/a	n/a	n/a	2.0	n/a	see Table 5
CLPT	CLPT-2	Front end loader transfer into truck	Clay/Momentive	Raw Material / Conventional Fuel Delivery and Storage	n/a	n/a	n/a	2.0	n/a	see Table 5
FSSCD	FSSC-1	Front-end Loader to Feed Hopper for raw material screen	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	n/a	n/a	n/a	6.0	n/a	see Table 5
FSSC	FSSC-2	Feed Hopper to raw material screener	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	n/a	n/a	n/a	6.0	n/a	see Table 5
FSSC	FSSC-3	Raw material screening	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	n/a	n/a	n/a	6.0	n/a	see Table 5
FSSC	FSSC-4	Raw material transfer from Screener to Conveyor	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	n/a	n/a	n/a	n/a	n/a	see Table 5
FSSC	FSSC-5	Raw material transfer from Conveyor to Stacker	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	n/a	n/a	n/a	6.0	n/a	see Table 5
FSSCD	FSSC-6	Drop of raw material from Stacker to Stockpile	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	n/a	n/a	n/a	6.0	n/a	see Table 5
FSSC	FSSC-DG	Diesel-fired engine servicing the raw material screener	-	Raw Material / Conventional Fuel Delivery and Storage	n/a	n/a	n/a	6.0	n/a	see Table 5
PIT11	04-1-411	Baghouse serving the raw material storage silos for raw mill (04-1-411)	Raw Feed	Raw Material Preparation	n/a	n/a	n/a	3.0	n/a	see Table 5
PIT11	04-1-412	Baghouse serving the raw material storage silos for raw mill (04-1-412)	Raw Feed	Raw Material Preparation	n/a	n/a	n/a	3.0	n/a	see Table 5
HSILOS	H1P41	Baghouse serving kiln feed silos (H1P41)	Raw Feed	Raw Material Preparation	n/a	n/a	n/a	27.0	n/a	see Table 5
HSILOS	H1P51	Baghouse serving kiln feed silos (H1P51)	Raw Feed	Raw Material Preparation	n/a	n/a	n/a	27.0	n/a	see Table 5
HSILOS	H1P61	Baghouse serving kiln feed silos (H1P61)	Raw Feed	Raw Material Preparation	n/a	n/a	n/a	27.0	n/a	see Table 5
K1P11	K1P11	Fuel mill baghouse (K1P11)	Conventional Fuel	Conventional Fuel Preparation and Feed	1.0	20.0	0.3	22.5	n/a	see Table 5
K1P31	K1P31	Fuel meal storage silo baghouse (K1P31)	Conventional Fuel	Conventional Fuel Preparation and Feed	1.5	20.0	0.3	22.5	n/a	see Table 5
K1P41	K1P41	Baghouse serving the north auxiliary fuel silo (K1P41)	Conventional Fuel	Conventional Fuel Preparation and Feed	0.4	20.0	0.3	26.0	n/a	see Table 5
GHOPPER	G1P01	Gypsum Feed Hopper Baghouse (G1P01)	Gypsum/Silica Fume	Conventional Fuel Preparation and Feed	6.1	AMBIENT	0.6	12.0	n/a	see Table 5
05_1_412	05-1-412	Baghouse serving the kiln feed transfer to preheater tower (05-1-412)	Raw Feed	Clinker Production	3.8	20.0	0.5	65.0	n/a	see Table 5
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production	120.0	100.0	2.7	111.0	n/a	see Table 5
KILNOFF	KILNOFF	Kiln stack - Raw Mill Off	-	Clinker Production	80.0	180.0	2.7	111.0	n/a	see Table 5
KILNON	KILN-B	Natural gas-fired back-end firing system	-	Clinker Production	120.0	100.0	2.7	111.0	n/a	see Table 5
KILNOFF	KILN-B	Natural gas-fired back-end firing system	-	Clinker Production	80.0	180.0	2.7	111.0	n/a	see Table 5
CKD	CKD	Delivery and shipping of Cement Kiln Dust (CKD) to/from storage piles	Cement Kiln Dust	Clinker Production	n/a	n/a	n/a	4.0	n/a	see Table 5
PIT11	07-1-421	Baghouse serving south transfer tower (07-1-421)	Clinker	Clinker Production	n/a	n/a	n/a	3.0	n/a	see Table 5
07_1_441	07-1-441	Baghouse serving north transfer tower (07-1-441)	Clinker	Clinker Production	2.8	20.0	0.4	20.0	n/a	see Table 5
07_1_450	07-1-450	Baghouse serving north transfer tower (07-1-450)	Clinker	Clinker Production	3.3	20.0	0.5	20.0	n/a	see Table 5
CBH	W1P51	Clinker cooler baghouse (W1P51)	Clinker	Clinker Production	61.1	158.9	2.3	48.0	n/a	see Table 5
W1P91	W1P91	Clinker reclaim hopper baghouse (W1P91)	Clinker	Clinker Production	6.1	AMBIENT	1.0	15.0	n/a	see Table 5
PIT11	W1P101	Baghouse serving clinker truck loading/shipping (W1P101)	Clinker	Clinker Production	n/a	n/a	n/a	3.0	n/a	see Table 5
PIT11D	PIT11-22	Transfer of clinker into Tee-Pee storage area	Clinker	Clinker Production	n/a	n/a	n/a	3.0	n/a	see Table 5
PIT11D	PIT11-23	Clinker transfer into a hopper	Clinker	Clinker Production	n/a	n/a	n/a	3.0	n/a	see Table 5
PIT11D	OFC-1	Loading Point to Truck (offspec clinker)	Clinker	Clinker Production	n/a	n/a	n/a	3.0	n/a	see Table 5
PIT11D	OFC-2	Truck to Pre-Crushing Stockpiles (offspec clinker)	Wet Clinker	Clinker Production	n/a	n/a	n/a	3.0	n/a	see Table 5
PIT11D	OFC-3	Front-end Loader to Feed Hopper (offspec clinker)	Wet Clinker	Clinker Production	n/a	n/a	n/a	3.0	n/a	see Table 5
PIT11	OFC-4	Feeder to Crusher (offspec clinker)	Wet Clinker	Clinker Production	n/a	n/a	n/a	3.0	n/a	see Table 5
PIT11	OFC-5	Crushing (offspec clinker)	Wet Clinker	Clinker Production	n/a	n/a	n/a	3.0	n/a	see Table 5
PIT11	OFC-6	Crusher to Discharge Conveyor (offspec clinker)	Wet Clinker	Clinker Production	n/a	n/a	n/a	3.0	n/a	see Table 5
PIT11D	OFC-7	Discharge Conveyor to Crushed Stockpile (offspec clinker)	Wet Clinker	Clinker Production	n/a	n/a	n/a	3.0	n/a	see Table 5
PIT11D	OFC-8	Front-end Loader to Storage Stockpile (offspec clinker)	Wet Clinker	Clinker Production	n/a	n/a	n/a	3.0	n/a	see Table 5
PIT11	OFC-DG	Diesel-fired engine servicing the off-spec clinker crusher	-	Clinker Production	n/a	n/a	n/a	3.0	n/a	see Table 5
BSL	Z1P01	Baghouse serving additive storage silos in finish mill building (Z1P01)	Gypsum/Silica Fume	Cement Production	n/a	n/a	n/a	6.0	n/a	see Table 5
BSL	Z1P11	Baghouse serving additive storage silos in finish mill building (Z1P11)	Gypsum/Silica Fume	Cement Production	n/a	n/a	n/a	6.0	n/a	see Table 5
BSL	Z1P21	Baghouse serving additive storage silos in finish mill building (Z1P21)	Gypsum/Silica Fume	Cement Production	n/a	n/a	n/a	6.0	n/a	see Table 5
PIT11	07-1-491	Baghouse serving additive storage silos in finish mill building (07-1-491)	Gypsum/Silica Fume	Cement Production	n/a	n/a	n/a	3.0	n/a	see Table 5
PIT11	07-1-492	Baghouse serving additive storage silos in finish mill building (07-1-492)	Gypsum/Silica Fume	Cement Production	n/a	n/a	n/a	3.0	n/a	see Table 5
PIT11	Z1P191	Baghouse serving transfer of additive in finish mill building (Z1P191)	Cement	Cement Production	n/a	n/a	n/a	3.0	n/a	see Table 5
Z1P31	Z1P31	Baghouse serving transfer into finish mill (Z1P31)	Cement	Cement Production	1.6	20.0	0.2	22.6	n/a	see Table 5
BAML	Z1P51	Finish mill baghouse (Z1P51)	Cement	Cement Production	62.8	99.9	2.5	43.5	n/a	see Table 5
BAML	Z1P61	Baghouse for transfer of cement to storage silo in finish mill building (Z1P61)	Cement	Cement Production	62.8	99.9	2.5	43.5	n/a	see Table 5
Z1P41	Z1P41	Baghouse serving transfer from finish mill (Z1P41)	Cement	Cement Production	1.4	20.0	0.2	22.6	n/a	see Table 5
S200S	Z1P71	Baghouse serving transfer from finish mill (Z1P71)	Cement	Cement Production	n/a	n/a	n/a	10.0	n/a	see Table 5
S200N	Z1P81	Baghouse serving 200 series cement storage silos (Z1P81)	Cement	Cement Production	n/a	n/a	n/a	42.0	n/a	see Table 5
S200N	Z1P91	Baghouse serving 200 series cement storage silos (Z1P91)	Cement	Cement Production	n/a	n/a	n/a	42.0	n/a	see Table 5
S200N	Z1P101	Baghouse serving 200 series cement storage silos (Z1P101)	Cement	Cement Production	n/a	n/a	n/a	42.0	n/a	see Table 5
S200N	Z1P141	Baghouse serving 200 series cement storage silos (Z1P141)	Cement	Cement Production	n/a	n/a	n/a	42.0	n/a	see Table 5
S200N	Z1P151	Baghouse serving 200 series cement storage silos (Z1P151)	Cement	Cement Production	n/a	n/a	n/a	42.0	n/a	see Table 5
S200N	Z1P171	Baghouse serving 200 series cement storage silos (Z1P171)	Cement	Cement Production	n/a	n/a	n/a	42.0	n/a	see Table 5
S200N	Z1P181	Baghouse serving 200 series cement storage silos (Z1P181)	Cement	Cement Production	n/a	n/a	n/a	42.0	n/a	see Table 5
S500	09-1-148	Baghouse serving 200 series cement storage silos (09-1-148)	Cement	Cement Production	n/a	n/a	n/a	29.0	n/a	see Table 5
S500	09-1-158	Baghouse serving 200 series cement storage silos (09-1-158)	Cement	Cement Production	n/a	n/a	n/a	29.0	n/a	see Table 5
S500	09-1-168	Baghouse serving 200 series cement storage silos (09-1-168)	Cement	Cement Production	n/a	n/a	n/a	29.0	n/a	see Table 5
S200N	09-1-189	Baghouse serving 200 series cement storage silos (09-1-189)	Cement	Cement Production	n/a	n/a	n/a	42.0	n/a	see Table 5
S200N	09-1-192	Baghouse serving 200 series cement storage silos (09-1-192)	Cement	Cement Production	n/a	n/a	n/a	42.0	n/a	see Table 5
S200N	09-1-193	Baghouse serving 200 series cement storage silos (09-1-193)	Cement	Cement Production	n/a	n/a	n/a	42.0	n/a	see Table 5
S200N	1-17-4	Baghouse serving 200 series cement storage silos (1-1704)	Cement	Cement Production	n/a	n/a	n/a	42.0	n/a	see Table 5
S200S	1-10-3	Baghouse serving 200 series cement storage silos (1-10-3)	Cement	Cement Production	n/a	n/a	n/a	10.0	n/a	see Table 5
S200S	1-10-4	Baghouse serving 200 series cement storage silos (1-10-4)	Cement	Cement Production	n/a	n/a	n/a	10.0	n/a	see Table 5
S200S	1-22	Baghouse serving 200 series cement storage silos (1-22)	Cement	Cement Production	n/a	n/a	n/a	10.0	n/a	see Table 5
S340	Z1P161	Baghouse serving 300/400 series cement storage silos (Z1P161)	Cement	Cement Production	n/a	n/a	n/a	19.5	n/a	see Table 5
S340	1-59-3	Baghouse serving 300/400 series cement storage silos (1-59-3)	Cement	Cement Production	n/a	n/a	n/a	19.5	n/a	see Table 5
S340	09-1-075	Baghouse serving 300/400 series cement storage silos (09-1-075)	Cement	Cement Production	n/a	n/a	n/a	19.5	n/a	see Table 5
S500	09-1-301	Baghouse serving 300/400 series cement storage silos (09-1-301)	Cement	Cement Production	n/a	n/a	n/a	29.0	n/a	see Table 5
S500D	S500-CL	Cement loading from silo into a shipping tanker	Cement	Cement Production	n/a	n/a	n/a	4.0	n/a	see Table 5
S340	CPV-1	Baghouse serving packhouse 3 screw conveyor	Cement	Cement Production	n/a	n/a	n/a	19.5	n/a	see Table 5
PACK	09-1-497	Baghouse serving packhouse cement storage silos (09-1-497)	Cement	Cement Production	n/a	n/a	n/a	16.0	n/a	see Table 5
PACK	09-1-407	Baghouse serving packhouse cement storage silos (09-1-407)	Cement	Cement Production	n/a	n/a	n/a	16.0	n/a	see Table 5
PACK	09-1-670	Baghouse serving packhouse cement storage silos (09-1-670)	Cement	Cement Production	n/a	n/a	n/a	16.0	n/a	see Table 5
PACK	09-1-311	Baghouse serving packhouse cement storage silos (09-1-311)	Cement	Cement Production	n/a	n/a	n/a	16.0	n/a	see Table 5
PACK	PACK-NGH	Packhouse natural gas fired heaters	-	Cement Production	n/a	n/a	n/a	16.0	n/a	see Table 5
THS	THS-1	Natural gas/Propane fired raw material delivery truck heating system	-	Laidlaw Operations	n/a	n/a	n/a	1.5	n/a	see Table 5
PIT11	CNG8	Natural gas-fired boilers (x3) in Core Building	-	Ancillary Operations	n/a	n/a	n/a	3.0	n/a	see Table 5
CBBOI	CBBOI	Dual fuel-fired Boiler	-	Ancillary Operations	n/a	n/a	n/a	10.0	n/a	see Table 5
JCBOI	JCBOI	No.2 fuel-fired boiler	-	Ancillary Operations	n/a	n/a	n/a	10.0	n/a	see Table 5
TRBOI	TRBOI	Dual fuel-fired boiler	-	Ancillary Operations	n/a	n/a	n/a	15.0	n/a	see Table 5
St. Marys Plant - CBM Operations										
CBMST	CBM-5A	Natural gas-fired aggregate dryer controlled by a baghouse dust collector	CBM Product	CBM Operations	29.0	65.6	1.3	7.6	n/a	see Table 5
CBMST	CBM-5B	Natural gas-fired aggregate dryer controlled by a baghouse dust collector	CBM Product	CBM Operations	29.0	65.6	1.3	7.6	n/a	see Table 5
CBMFS	CBM-6	Fines transfer from dryer to fines silo controlled by a bin vent filter	CBM Product	CBM Operations	0.2	AMBIENT	0.5	20.0	n/a	see Table 5
CBMDTENT	CBM-8	Screening (no sizing, security screen, dryer tent)	CBM Product	CBM Operations	n/a	n/a	n/a	3.0	n/a	see Table 5
CBMPTENT	CBM-9	Product screening (sizing, product tent)	CBM Product	CBM Operations	n/a	n/a	n/a	5.0	n/a	see Table 5
CBMPTENTD	CBM-10	Product transfer from stacker to product stockpiles	CBM Product	CBM Operations	n/a	n/a	n/a	5.0	n/a	see Table 5
CBMPTENTD	CBM-11	Product transfer from stockpile into shipping truck	CBM Product	CBM Operations	n/a	n/a	n/a	5.0	n/a	see Table 5
CBMLO	CBM-14	Product silo load out into shipping truck	CBM Product	CBM Operations	n/a	n/a	n/a	4.0	n/a	see Table 5

Table 3B - Source Summary Table - Emissions Data

Modelled Source	ESDM Source I.D.	Source Description	Materials	Process	Contaminant	CAS #	Maximum Emission Rate (g/s)	Averaging Period	Estimating Technique	Emission Data Quality	Percentage of Overall Emissions (%)
							RM ON				RMON
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production	Acenaphthene	83-32-9	5.20E-04	24 hr	ST	Above Average	100.0%
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production	Acenaphthylene	208-96-8	1.80E-03	24 hr	ST	Above Average	100.0%
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production	Ammonia	7664-41-7	4.56E-01	24 hr	ST	Above Average	100.0%
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production	Anthracene	120-12-7	9.40E-04	24 hr	ST	Above Average	100.0%
A_16_4	A-16-4	Baghouse serving the secondary crusher (A-16-4)	Limestone	Limestone Extraction & Processing	Antimony	7440-36-0	1.89E-07	24 hr	MB	Above Average	0.1%
A_15_5	A-15-5	Baghouse serving the secondary screen (A-15-5)	Limestone	Limestone Extraction & Processing	Antimony	7440-36-0	8.30E-08	24 hr	MB	Above Average	<0.1%
PPILE	PPILE	Transfer of limestone onto primary surge pile	Limestone	Limestone Extraction & Processing	Antimony	7440-36-0	1.34E-06	24 hr	MB	Above Average	0.9%
PILES	PILES-1	Delivery and transfer of conventional fuel	Conventional Fuel	Raw Material / Conventional Fuel Delivery and Storage	Antimony	7440-36-0	5.32E-08	24 hr	MB	Above Average	<0.1%
PILES	PILES-2	Delivery and transfer of raw materials	Raw Feed	Raw Material / Conventional Fuel Delivery and Storage	Antimony	7440-36-0	4.07E-07	24 hr	MB	Above Average	0.3%
K1P51	K1P51	Conventional fuel storage silo baghouse (K1P51)	Conventional Fuel	Raw Material / Conventional Fuel Delivery and Storage	Antimony	7440-36-0	4.48E-08	24 hr	MB	Above Average	<0.1%
RAWS	04-1-401	Raw material storage silo baghouse (04-1-401)	Raw Feed	Raw Material / Conventional Fuel Delivery and Storage	Antimony	7440-36-0	2.60E-07	24 hr	MB	Above Average	0.2%
CLPT	CLPT-1	Scraper from face onto a pile	Clay/Momentive	Raw Material / Conventional Fuel Delivery and Storage	Antimony	7440-36-0	8.86E-08	24 hr	MB	Above Average	<0.1%
CLPT	CLPT-2	Front end loader transfer into truck	Clay/Momentive	Raw Material / Conventional Fuel Delivery and Storage	Antimony	7440-36-0	8.86E-08	24 hr	MB	Above Average	<0.1%
FSSCD	FSSC-1	Front-end Loader to Feed Hopper for raw material screen	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Antimony	7440-36-0	1.39E-05	24 hr	MB	Above Average	9.7%
FSSC	FSSC-2	Feed Hopper to raw material screener	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Antimony	7440-36-0	1.63E-07	24 hr	MB	Above Average	0.1%
FSSC	FSSC-3	Raw material screening	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Antimony	7440-36-0	2.55E-06	24 hr	MB	Above Average	1.8%
FSSC	FSSC-4	Raw material transfer from Screener to Conveyor	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Antimony	7440-36-0	1.63E-07	24 hr	MB	Above Average	0.1%
FSSC	FSSC-5	Raw material transfer from Conveyor to Stacker	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Antimony	7440-36-0	1.63E-07	24 hr	MB	Above Average	0.1%
FSSCD	FSSC-6	Drop of raw material from Stacker to Stockpile	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Antimony	7440-36-0	1.39E-05	24 hr	MB	Above Average	9.7%
PIT11	04-1-411	Baghouse serving the raw material storage silos for raw mill (04-1-411)	Raw Feed	Raw Material Preparation	Antimony	7440-36-0	8.68E-08	24 hr	MB	Above Average	<0.1%
PIT11	04-1-412	Baghouse serving the raw material storage silos for raw mill (04-1-412)	Raw Feed	Raw Material Preparation	Antimony	7440-36-0	1.01E-07	24 hr	MB	Above Average	<0.1%
KILNON	H1P41	Baghouse serving kiln feed silos (H1P41)	Raw Feed	Raw Material Preparation	Antimony	7440-36-0	2.63E-07	24 hr	MB	Above Average	0.2%
KILNOFF	H1P51	Baghouse serving kiln feed silos (H1P51)	Raw Feed	Raw Material Preparation	Antimony	7440-36-0	2.63E-07	24 hr	MB	Above Average	0.2%
HSILOS	H1P61	Baghouse serving kiln feed silos (H1P61)	Raw Feed	Raw Material Preparation	Antimony	7440-36-0	2.63E-07	24 hr	MB	Above Average	0.2%
K1P11	K1P11	Fuel mill baghouse (K1P11)	Conventional Fuel	Conventional Fuel Preparation and Feed	Antimony	7440-36-0	1.63E-08	24 hr	MB	Above Average	<0.1%
K1P31	K1P31	Fuel meal storage silo baghouse (K1P31)	Conventional Fuel	Conventional Fuel Preparation and Feed	Antimony	7440-36-0	2.45E-08	24 hr	MB	Above Average	<0.1%
K1P41	K1P41	Baghouse serving the north auxiliary fuel silo (K1P41)	Conventional Fuel	Conventional Fuel Preparation and Feed	Antimony	7440-36-0	6.40E-09	24 hr	MB	Above Average	<0.1%
GHOPPER	G1P01	Gypsum Feed Hopper Baghouse (G1P01)	Gypsum/Silica Fume	Conventional Fuel Preparation and Feed	Antimony	7440-36-0	1.77E-07	24 hr	MB	Above Average	0.1%
05_1_412	05-1-412	Baghouse serving the kiln feed transfer to preheater tower (05-1-412)	Raw Feed	Clinker Production	Antimony	7440-36-0	2.31E-07	24 hr	MB	Above Average	0.2%
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production	Antimony	7440-36-0	7.00E-05	24 hr	ST	Above Average	48.6%
CKD	CKD	Delivery and shipping of Cement Kiln Dust (CKD) to/from storage piles	Cement Kiln Dust	Clinker Production	Antimony	7440-36-0	4.20E-08	24 hr	MB	Above Average	<0.1%
PIT11	07-1-421	Baghouse serving south transfer tower (07-1-421)	Clinker	Clinker Production	Antimony	7440-36-0	2.84E-07	24 hr	MB	Above Average	0.2%
07_1_441	07-1-441	Baghouse serving north transfer tower (07-1-441)	Clinker	Clinker Production	Antimony	7440-36-0	1.71E-07	24 hr	MB	Above Average	0.1%
07_1_450	07-1-450	Baghouse serving north transfer tower (07-1-450)	Clinker	Clinker Production	Antimony	7440-36-0	1.99E-07	24 hr	MB	Above Average	0.1%
CBH	W1P51	Clinker cooler baghouse (W1P51)	Clinker	Clinker Production	Antimony	7440-36-0	3.71E-06	24 hr	MB	Above Average	2.6%
W1P91	W1P91	Clinker reclaim hopper baghouse (W1P91)	Clinker	Clinker Production	Antimony	7440-36-0	3.70E-07	24 hr	MB	Above Average	0.3%
PIT11	W1P101	Baghouse serving clinker truck loading/shipping (W1P101)	Clinker	Clinker Production	Antimony	7440-36-0	2.37E-07	24 hr	MB	Above Average	0.2%
PIT11D	PIT11-22	Transfer of clinker into Tee-Pee storage area	Clinker	Clinker Production	Antimony	7440-36-0	9.94E-07	24 hr	MB	Above Average	0.7%
PIT11D	PIT11-23	Clinker transfer into a hopper	Clinker	Clinker Production	Antimony	7440-36-0	5.10E-07	24 hr	MB	Above Average	0.4%
PIT11D	OFC-1	Loading Point to Truck (offspec clinker)	Clinker	Clinker Production	Antimony	7440-36-0	1.27E-05	24 hr	MB	Above Average	8.8%
PIT11D	OFC-2	Truck to Pre-Crushing Stockpile (offspec clinker)	Wet Clinker	Clinker Production	Antimony	7440-36-0	1.26E-06	24 hr	MB	Above Average	0.9%
PIT11D	OFC-3	Front-end Loader to Feed Hopper (offspec clinker)	Wet Clinker	Clinker Production	Antimony	7440-36-0	1.26E-06	24 hr	MB	Above Average	0.9%
PIT11	OFC-4	Feeder to Crusher (offspec clinker)	Wet Clinker	Clinker Production	Antimony	7440-36-0	1.48E-08	24 hr	MB	Above Average	<0.1%
PIT11	OFC-5	Crushing (offspec clinker)	Wet Clinker	Clinker Production	Antimony	7440-36-0	1.26E-07	24 hr	MB	Above Average	<0.1%
PIT11	OFC-6	Crusher to Discharge Conveyor (offspec clinker)	Wet Clinker	Clinker Production	Antimony	7440-36-0	1.48E-08	24 hr	MB	Above Average	<0.1%
PIT11D	OFC-7	Discharge Conveyor to Crushed Stockpile (offspec clinker)	Wet Clinker	Clinker Production	Antimony	7440-36-0	1.26E-06	24 hr	MB	Above Average	0.9%
PIT11D	OFC-8	Front-end Loader to Storage Stockpile (offspec clinker)	Wet Clinker	Clinker Production	Antimony	7440-36-0	1.26E-06	24 hr	MB	Above Average	0.9%
BSI	Z1P01	Baghouse serving additive storage silos in finish mill building (Z1P01)	Gypsum/Silica Fume	Cement Production	Antimony	7440-36-0	8.06E-08	24 hr	MB	Above Average	<0.1%
BSI	Z1P11	Baghouse serving additive storage silos in finish mill building (Z1P11)	Gypsum/Silica Fume	Cement Production	Antimony	7440-36-0	8.06E-08	24 hr	MB	Above Average	<0.1%
BSI	Z1P21	Baghouse serving additive storage silos in finish mill building (Z1P21)	Gypsum/Silica Fume	Cement Production	Antimony	7440-36-0	8.06E-08	24 hr	MB	Above Average	<0.1%
PIT11	07-1-491	Baghouse serving additive storage silos in finish mill building (07-1-491)	Gypsum/Silica Fume	Cement Production	Antimony	7440-36-0	7.66E-08	24 hr	MB	Above Average	<0.1%
PIT11	07-1-492	Baghouse serving additive storage silos in finish mill building (07-1-492)	Gypsum/Silica Fume	Cement Production	Antimony	7440-36-0	4.79E-08	24 hr	MB	Above Average	<0.1%
PIT11	Z1P191	Baghouse serving transfer of additive in finish mill building (Z1P191)	Cement	Cement Production	Antimony	7440-36-0	1.60E-07	24 hr	MB	Above Average	0.1%
Z1P31	Z1P31	Baghouse serving transfer into finish mill (Z1P31)	Cement	Cement Production	Antimony	7440-36-0	9.28E-08	24 hr	MB	Above Average	<0.1%
BAML	Z1P51	Finish mill baghouse (Z1P51)	Cement	Cement Production	Antimony	7440-36-0	7.24E-06	24 hr	MB	Above Average	5.0%
BAML	Z1P61	Baghouse for transfer of cement to storage silo in finish mill building (Z1P61)	Cement	Cement Production	Antimony	7440-36-0	1.60E-07	24 hr	MB	Above Average	0.1%
Z1P41	Z1P41	Baghouse serving transfer from finish mill (Z1P41)	Cement	Cement Production	Antimony	7440-36-0	8.01E-08	24 hr	MB	Above Average	<0.1%
S200S	Z1P71	Baghouse serving transfer from finish mill (Z1P71)	Cement	Cement Production	Antimony	7440-36-0	2.42E-08	24 hr	MB	Above Average	<0.1%
S200N	Z1P81	Baghouse serving 200 series cement storage silos (Z1P81)	Cement	Cement Production	Antimony	7440-36-0	2.54E-08	24 hr	MB	Above Average	<0.1%
S200N	Z1P91	Baghouse serving 200 series cement storage silos (Z1P91)	Cement	Cement Production	Antimony	7440-36-0	2.54E-08	24 hr	MB	Above Average	<0.1%
S200N	Z1P101	Baghouse serving 200 series cement storage silos (Z1P101)	Cement	Cement Production	Antimony	7440-36-0	2.54E-08	24 hr	MB	Above Average	<0.1%
S200N	Z1P141	Baghouse serving 200 series cement storage silos (Z1P141)	Cement	Cement Production	Antimony	7440-36-0	1.28E-07	24 hr	MB	Above Average	<0.1%
S200N	Z1P151	Baghouse serving 200 series cement storage silos (Z1P151)	Cement	Cement Production	Antimony	7440-36-0	1.28E-07	24 hr	MB	Above Average	<0.1%
S200N	Z1P171	Baghouse serving 200 series cement storage silos (Z1P171)	Cement	Cement Production	Antimony	7440-36-0	1.28E-07	24 hr	MB	Above Average	<0.1%
S200N	Z1P181	Baghouse serving 200 series cement storage silos (Z1P181)	Cement	Cement Production	Antimony	7440-36-0	8.07E-08	24 hr	MB	Above Average	<0.1%
S500	09-1-148	Baghouse serving 200 series cement storage silos (09-1-148)	Cement	Cement Production	Antimony	7440-36-0	1.62E-07	24 hr	MB	Above Average	0.1%
S500	09-1-158	Baghouse serving 200 series cement storage silos (09-1-158)	Cement	Cement Production	Antimony	7440-36-0	1.62E-07	24 hr	MB	Above Average	0.1%
S500	09-1-168	Baghouse serving 200 series cement storage silos (09-1-168)	Cement	Cement Production	Antimony	7440-36-0	1.62E-07	24 hr	MB	Above Average	0.1%
S200N	09-1-189	Baghouse serving 200 series cement storage silos (09-1-189)	Cement	Cement Production	Antimony	7440-36-0	1.08E-07	24 hr	MB	Above Average	<0.1%
S200N	09-1-192	Baghouse serving 200 series cement storage silos (09-1-192)	Cement	Cement Production	Antimony	7440-36-0	1.63E-07	24 hr	MB	Above Average	0.1%
S200N	09-1-193	Baghouse serving 200 series cement storage silos (09-1-193)	Cement	Cement Production	Antimony	7440-36-0	9.45E-08	24 hr	MB	Above Average	<0.1%
S200N	I-17-4	Baghouse serving 200 series cement storage silos (I-1704)	Cement	Cement Production	Antimony	7440-36-0	6.74E-08	24 hr	MB	Above Average	<0.1%
S200S	I-10-3	Baghouse serving 200 series cement storage silos (I-10-3)	Cement	Cement Production	Antimony	7440-36-0	5.42E-09	24 hr	MB	Above Average	<0.1%
S200S	I-10-4	Baghouse serving 200 series cement storage silos (I-10-4)	Cement	Cement Production	Antimony	7440-36-0	5.42E-08	24 hr	MB	Above Average	<0.1%
S200S	I-22	Baghouse serving 200 series cement storage silos (I-22)	Cement	Cement Production	Antimony	7440-36-0	2.70E-07	24 hr	MB	Above Average	0.2%
S340	Z1P161	Baghouse serving 300/400 series cement storage silos (Z1P161)	Cement	Cement Production	Antimony	7440-36-0	1.28E-07	24 hr	MB	Above Average	<0.1%
S340	I-59-3	Baghouse serving 300/400 series cement storage silos (I-59-3)	Cement	Cement Production	Antimony	7440-36-0	2.02E-07	24 hr	MB	Above Average	0.1%
S340	09-1-075	Baghouse serving 300/400 series cement storage silos (09-1-075)	Cement	Cement Production	Antimony	7440-36-0	3.34E-08	24 hr	MB	Above Average	<0.1%
S500	09-1-301	Baghouse serving 300/400 series cement storage silos (09-1-301)	Cement	Cement Production	Antimony	7440-36-0	9.45E-08	24 hr	MB	Above Average	<0.1%
S500D	S500-CL	Cement loading from silo into a shipping tanker	Cement	Cement Production	Antimony	7440-36-0	3.39E-06	24 hr	MB	Above Average	2.4%
S340	CPV-1	Baghouse serving packhouse 3 screw conveyor	Cement	Cement Production	Antimony	7440-36-0	1.90E-08	24 hr	MB	Above Average	<0.1%
PACK	09-1-497	Baghouse serving packhouse cement storage silos (09-1-497)	Cement	Cement Production	Antimony	7440-36-0	1.35E-07	24 hr	MB	Above Average	<0.1%
PACK	09-1-407	Baghouse serving packhouse cement storage silos (09-1-407)	Cement	Cement Production	Antimony	7440-36-0	1.35E-07	24 hr	MB	Above Average	<0.1%
PACK	09-1-670	Baghouse serving packhouse cement storage silos (09-1-670)	Cement	Cement Production	Antimony	7440-36-0	5.40E-07	24 hr	MB	Above Average	0.4%
PACK	09-1-311	Baghouse serving packhouse cement storage silos (09-1-311)	Cement	Cement Production	Antimony	7440-36-0	1.35E-07	24 hr	MB	Above Average	<0.1%
A_16_4	A-16-4	Baghouse serving the secondary crusher (A-16-4)	Limestone	Limestone Extraction & Processing	Arsenic	7440-38-2	5.90E-07	24 hr	MB	Above Average	<0.1%
A_15_5	A-15-5	Baghouse serving the secondary screen (A-15-5)	Limestone	Limestone Extraction & Processing	Arsenic	7440-38-2	2.60E-07	24 hr	MB	Above Average	<0.1%
PPILE	PPILE	Transfer of limestone onto primary surge pile	Limestone	Limestone Extraction & Processing	Arsenic	7440-38-2	4.20E-06	24 hr	MB	Above Average	0.2%
PILES	PILES-1	Delivery and transfer of conventional fuel	Conventional Fuel	Raw Material / Conventional Fuel Delivery and Storage	Arsenic	7440-38-2	1.43E-07	24 hr	MB	Above Average	<0.1%
PILES	PILES-2	Delivery and transfer of raw materials	Raw Feed	Raw Material / Conventional Fuel Delivery and Storage	Arsenic	7440-38-2	7.74E-06	24 hr	MB	Above Average	0.4%
K1P51	K1P51	Conventional fuel storage silo baghouse (K1P51)	Conventional Fuel	Raw Material / Conventional Fuel Delivery and Storage	Arsenic	7440-38-2	1.20E-07	24 hr	MB	Above Average	<0.1%
RAWS	04-1-401	Raw material storage silo baghouse (04-1-401)	Raw Feed	Raw Material / Conventional Fuel Delivery and Storage	Arsenic	7440-38-2	4.95E-06	24 hr	MB	Above Average	0.3%
CLPT	CLPT-1	Scraper from face onto a pile	Clay/Momentive	Raw Material / Conventional Fuel Delivery and Storage	Arsenic	7440-38-2	7.83E-07	24 hr	MB	Above Average	<0.1%
CLPT	CLPT-2	Front end loader transfer into truck	Clay/Momentive	Raw Material / Conventional Fuel Delivery and Storage	Arsenic	7440-38-2	7.83E-07	24 hr	MB	Above Average	<0.1%
FSSCD	FSSC-1	Front-end Loader to Feed Hopper for raw material screen	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Arsenic	7440-38-2	4.58E-04	24 hr	MB	Above Average	25.0%
FSSC	FSSC-2	Feed Hopper to raw material screener	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Arsenic	7440-38-2	5.36E-06	24 hr	MB	Above Average	0.3%
FSSC	FSSC-3	Raw material screening	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Arsenic	7440-38-2	8.42E-05	24 hr	MB	Above Average	4.6%
FSSC	FSSC-4	Raw material transfer from Screener to Conveyor	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Arsenic	7440-38-2	5.36E-06	24 hr	MB	Above Average	0.3%
FSSC	FSSC-5	Raw material transfer from Conveyor to Stacker	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Arsenic	7440-38-2	5.36E-06	24 hr			

Modelled Source	ESDM Source I.D.	Source Description	Materials	Process	Contaminant	CAS #	Maximum Emission Rate (g/s)	Averaging Period	Estimating Technique	Emission Data Quality	Percentage of Overall Emissions (%)
K1P31	K1P31	Fuel meal storage silo baghouse (K1P31)	Conventional Fuel	Conventional Fuel Preparation and Feed	Arsenic	7440-38-2	6.58E-08	24 hr	MB	Above Average	<0.1%
K1P41	K1P41	Baghouse serving the north auxiliary fuel silo (K1P41)	Conventional Fuel	Conventional Fuel Preparation and Feed	Arsenic	7440-38-2	1.72E-08	24 hr	MB	Above Average	<0.1%
GHOPPER	G1P01	Gypsum Feed Hopper Baghouse (G1P01)	Gypsum/Silica Fume	Conventional Fuel Preparation and Feed	Arsenic	7440-38-2	1.34E-06	24 hr	MB	Above Average	<0.1%
05_1_412	05-1-412	Baghouse serving the kiln feed transfer to preheater tower (05-1-412)	Raw Feed	Clinker Production	Arsenic	7440-38-2	4.40E-06	24 hr	MB	Above Average	0.2%
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production	Arsenic	7440-38-2	3.67E-05	24 hr	ST	Above Average	2.0%
CKD	CKD	Delivery and shipping of Cement Kiln Dust (CKD) to/from storage piles	Cement Kiln Dust	Clinker Production	Arsenic	7440-38-2	7.99E-07	24 hr	MB	Above Average	<0.1%
PIT11	07-1-421	Baghouse serving south transfer tower (07-1-421)	Clinker	Clinker Production	Arsenic	7440-38-2	5.40E-06	24 hr	MB	Above Average	0.3%
07_1_441	07-1-441	Baghouse serving north transfer tower (07-1-441)	Clinker	Clinker Production	Arsenic	7440-38-2	3.24E-06	24 hr	MB	Above Average	0.2%
07_1_450	07-1-450	Baghouse serving north transfer tower (07-1-450)	Clinker	Clinker Production	Arsenic	7440-38-2	3.78E-06	24 hr	MB	Above Average	0.2%
CBH	W1P51	Clinker cooler baghouse (W1P51)	Clinker	Clinker Production	Arsenic	7440-38-2	7.04E-05	24 hr	MB	Above Average	3.8%
W1P91	W1P91	Clinker reclaim hopper baghouse (W1P91)	Clinker	Clinker Production	Arsenic	7440-38-2	7.03E-06	24 hr	MB	Above Average	0.4%
PIT11	W1P101	Baghouse serving clinker truck loading/shipping (W1P101)	Clinker	Clinker Production	Arsenic	7440-38-2	4.50E-06	24 hr	MB	Above Average	0.2%
PIT11D	PIT11-22	Transfer of clinker into Tee-Pee storage area	Clinker	Clinker Production	Arsenic	7440-38-2	1.89E-05	24 hr	MB	Above Average	1.0%
PIT11D	PIT11-23	Clinker transfer into a hopper	Clinker	Clinker Production	Arsenic	7440-38-2	9.68E-06	24 hr	MB	Above Average	0.5%
PIT11D	OFC-1	Loading Point to Truck (offspec clinker)	Clinker	Clinker Production	Arsenic	7440-38-2	2.42E-04	24 hr	MB	Above Average	13.2%
PIT11D	OFC-2	Truck to Pre-Crushing Stockpiles (offspec clinker)	Wet Clinker	Clinker Production	Arsenic	7440-38-2	2.40E-05	24 hr	MB	Above Average	1.3%
PIT11D	OFC-3	Front-end Loader to Feed Hopper (offspec clinker)	Wet Clinker	Clinker Production	Arsenic	7440-38-2	2.40E-05	24 hr	MB	Above Average	1.3%
PIT11	OFC-4	Feeder to Crusher (offspec clinker)	Wet Clinker	Clinker Production	Arsenic	7440-38-2	2.80E-07	24 hr	MB	Above Average	<0.1%
PIT11	OFC-5	Crushing (offspec clinker)	Wet Clinker	Clinker Production	Arsenic	7440-38-2	2.40E-06	24 hr	MB	Above Average	0.1%
PIT11	OFC-6	Crusher to Discharge Conveyor (offspec clinker)	Wet Clinker	Clinker Production	Arsenic	7440-38-2	2.80E-07	24 hr	MB	Above Average	<0.1%
PIT11D	OFC-7	Discharge Conveyor to Crushed Stockpile (offspec clinker)	Wet Clinker	Clinker Production	Arsenic	7440-38-2	2.40E-05	24 hr	MB	Above Average	1.3%
PIT11D	OFC-8	Front-end Loader to Storage Stockpile (offspec clinker)	Wet Clinker	Clinker Production	Arsenic	7440-38-2	2.40E-05	24 hr	MB	Above Average	1.3%
BLSI	Z1P01	Baghouse serving additive storage silos in finish mill building (Z1P01)	Gypsum/Silica Fume	Cement Production	Arsenic	7440-38-2	6.12E-07	24 hr	MB	Above Average	<0.1%
BLSI	Z1P11	Baghouse serving additive storage silos in finish mill building (Z1P11)	Gypsum/Silica Fume	Cement Production	Arsenic	7440-38-2	6.12E-07	24 hr	MB	Above Average	<0.1%
BLSI	Z1P21	Baghouse serving additive storage silos in finish mill building (Z1P21)	Gypsum/Silica Fume	Cement Production	Arsenic	7440-38-2	6.12E-07	24 hr	MB	Above Average	<0.1%
PIT11	07-1-491	Baghouse serving additive storage silos in finish mill building (07-1-491)	Gypsum/Silica Fume	Cement Production	Arsenic	7440-38-2	5.81E-07	24 hr	MB	Above Average	<0.1%
PIT11	07-1-492	Baghouse serving additive storage silos in finish mill building (07-1-492)	Gypsum/Silica Fume	Cement Production	Arsenic	7440-38-2	3.63E-07	24 hr	MB	Above Average	<0.1%
PIT11	Z1P191	Baghouse serving transfer of additive in finish mill building (Z1P191)	Cement	Cement Production	Arsenic	7440-38-2	2.98E-06	24 hr	MB	Above Average	0.2%
Z1P31	Z1P31	Baghouse serving transfer into finish mill (Z1P31)	Cement	Cement Production	Arsenic	7440-38-2	1.73E-06	24 hr	MB	Above Average	<0.1%
BAML	Z1P51	Finish mill baghouse (Z1P51)	Cement	Cement Production	Arsenic	7440-38-2	1.35E-04	24 hr	MB	Above Average	7.3%
BAML	Z1P61	Baghouse for transfer of cement to storage silo in finish mill building (Z1P61)	Cement	Cement Production	Arsenic	7440-38-2	2.98E-06	24 hr	MB	Above Average	0.2%
Z1P41	Z1P41	Baghouse serving transfer from finish mill (Z1P41)	Cement	Cement Production	Arsenic	7440-38-2	1.49E-06	24 hr	MB	Above Average	<0.1%
S200S	Z1P71	Baghouse serving transfer from finish mill (Z1P71)	Cement	Cement Production	Arsenic	7440-38-2	4.50E-07	24 hr	MB	Above Average	<0.1%
S200N	Z1P81	Baghouse serving 200 series cement storage silos (Z1P81)	Cement	Cement Production	Arsenic	7440-38-2	4.71E-07	24 hr	MB	Above Average	<0.1%
S200N	Z1P91	Baghouse serving 200 series cement storage silos (Z1P91)	Cement	Cement Production	Arsenic	7440-38-2	4.71E-07	24 hr	MB	Above Average	<0.1%
S200N	Z1P101	Baghouse serving 200 series cement storage silos (Z1P101)	Cement	Cement Production	Arsenic	7440-38-2	4.71E-07	24 hr	MB	Above Average	<0.1%
S200N	Z1P141	Baghouse serving 200 series cement storage silos (Z1P141)	Cement	Cement Production	Arsenic	7440-38-2	2.38E-06	24 hr	MB	Above Average	0.1%
S200N	Z1P151	Baghouse serving 200 series cement storage silos (Z1P151)	Cement	Cement Production	Arsenic	7440-38-2	2.38E-06	24 hr	MB	Above Average	0.1%
S200N	Z1P171	Baghouse serving 200 series cement storage silos (Z1P171)	Cement	Cement Production	Arsenic	7440-38-2	2.38E-06	24 hr	MB	Above Average	0.1%
S200N	Z1P181	Baghouse serving 200 series cement storage silos (Z1P181)	Cement	Cement Production	Arsenic	7440-38-2	1.50E-06	24 hr	MB	Above Average	<0.1%
S500	09-1-148	Baghouse serving 200 series cement storage silos (09-1-148)	Cement	Cement Production	Arsenic	7440-38-2	3.01E-06	24 hr	MB	Above Average	0.2%
S500	09-1-158	Baghouse serving 200 series cement storage silos (09-1-158)	Cement	Cement Production	Arsenic	7440-38-2	3.01E-06	24 hr	MB	Above Average	0.2%
S500	09-1-168	Baghouse serving 200 series cement storage silos (09-1-168)	Cement	Cement Production	Arsenic	7440-38-2	3.01E-06	24 hr	MB	Above Average	0.2%
S200N	09-1-189	Baghouse serving 200 series cement storage silos (09-1-189)	Cement	Cement Production	Arsenic	7440-38-2	2.00E-06	24 hr	MB	Above Average	0.1%
S200N	09-1-192	Baghouse serving 200 series cement storage silos (09-1-192)	Cement	Cement Production	Arsenic	7440-38-2	3.01E-06	24 hr	MB	Above Average	0.2%
S200N	09-1-193	Baghouse serving 200 series cement storage silos (09-1-193)	Cement	Cement Production	Arsenic	7440-38-2	1.76E-06	24 hr	MB	Above Average	<0.1%
S200N	1-17-4	Baghouse serving 200 series cement storage silos (1-1704)	Cement	Cement Production	Arsenic	7440-38-2	1.25E-06	24 hr	MB	Above Average	<0.1%
S200S	1-10-3	Baghouse serving 200 series cement storage silos (1-10-3)	Cement	Cement Production	Arsenic	7440-38-2	1.01E-07	24 hr	MB	Above Average	<0.1%
S200S	1-10-4	Baghouse serving 200 series cement storage silos (1-10-4)	Cement	Cement Production	Arsenic	7440-38-2	1.01E-06	24 hr	MB	Above Average	<0.1%
S200S	1-22	Baghouse serving 200 series cement storage silos (1-22)	Cement	Cement Production	Arsenic	7440-38-2	5.01E-06	24 hr	MB	Above Average	0.3%
S340	Z1P161	Baghouse serving 300/400 series cement storage silos (Z1P161)	Cement	Cement Production	Arsenic	7440-38-2	2.38E-06	24 hr	MB	Above Average	0.1%
S340	1-59-3	Baghouse serving 300/400 series cement storage silos (1-59-3)	Cement	Cement Production	Arsenic	7440-38-2	3.76E-06	24 hr	MB	Above Average	0.2%
S340	09-1-075	Baghouse serving 300/400 series cement storage silos (09-1-075)	Cement	Cement Production	Arsenic	7440-38-2	6.21E-07	24 hr	MB	Above Average	<0.1%
S500	09-1-301	Baghouse serving 300/400 series cement storage silos (09-1-301)	Cement	Cement Production	Arsenic	7440-38-2	1.76E-06	24 hr	MB	Above Average	<0.1%
S500D	S500-CL	Cement loading from silo into a shipping tanker	Cement	Cement Production	Arsenic	7440-38-2	6.30E-05	24 hr	MB	Above Average	3.4%
S340	CPV-1	Baghouse serving packhouse 3 screw conveyor	Cement	Cement Production	Arsenic	7440-38-2	3.54E-07	24 hr	MB	Above Average	<0.1%
PACK	09-1-497	Baghouse serving packhouse cement storage silos (09-1-497)	Cement	Cement Production	Arsenic	7440-38-2	2.51E-06	24 hr	MB	Above Average	0.1%
PACK	09-1-407	Baghouse serving packhouse cement storage silos (09-1-407)	Cement	Cement Production	Arsenic	7440-38-2	2.51E-06	24 hr	MB	Above Average	0.1%
PACK	09-1-670	Baghouse serving packhouse cement storage silos (09-1-670)	Cement	Cement Production	Arsenic	7440-38-2	1.00E-05	24 hr	MB	Above Average	0.5%
PACK	09-1-311	Baghouse serving packhouse cement storage silos (09-1-311)	Cement	Cement Production	Arsenic	7440-38-2	2.51E-06	24 hr	MB	Above Average	0.1%
A_16_4	A-16-4	Baghouse serving the secondary crusher (A-16-4)	Limestone	Limestone Extraction & Processing	Barium	7440-39-3	1.44E-05	24 hr	MB	Above Average	0.2%
A_15_5	A-15-5	Baghouse serving the secondary screen (A-15-5)	Limestone	Limestone Extraction & Processing	Barium	7440-39-3	6.33E-06	24 hr	MB	Above Average	<0.1%
PPILE	PPILE	Transfer of limestone onto primary surge pile	Limestone	Limestone Extraction & Processing	Barium	7440-39-3	1.02E-04	24 hr	MB	Above Average	1.2%
PILES	PILES-1	Delivery and transfer of conventional fuel	Conventional Fuel	Raw Material / Conventional Fuel Delivery and Storage	Barium	7440-39-3	1.76E-06	24 hr	MB	Above Average	<0.1%
PILES	PILES-2	Delivery and transfer of raw materials	Raw Feed	Raw Material / Conventional Fuel Delivery and Storage	Barium	7440-39-3	4.95E-05	24 hr	MB	Above Average	0.6%
K1P51	K1P51	Conventional fuel storage silo baghouse (K1P51)	Conventional Fuel	Raw Material / Conventional Fuel Delivery and Storage	Barium	7440-39-3	1.48E-06	24 hr	MB	Above Average	<0.1%
RAWS	04-1-401	Raw material storage silo baghouse (04-1-401)	Raw Feed	Raw Material / Conventional Fuel Delivery and Storage	Barium	7440-39-3	3.17E-05	24 hr	MB	Above Average	0.4%
CLPT	CLPT-1	Scraper from face onto a pile	Clay/Momentive	Raw Material / Conventional Fuel Delivery and Storage	Barium	7440-39-3	2.04E-05	24 hr	MB	Above Average	0.2%
CLPT	CLPT-2	Front end loader transfer into truck	Clay/Momentive	Raw Material / Conventional Fuel Delivery and Storage	Barium	7440-39-3	2.04E-05	24 hr	MB	Above Average	0.2%
FSSCD	FSSC-1	Front-end Loader to Feed Hopper for raw material screen	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Barium	7440-39-3	6.12E-04	24 hr	MB	Above Average	7.1%
FSSC	FSSC-2	Feed Hopper to raw material screener	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Barium	7440-39-3	7.16E-06	24 hr	MB	Above Average	<0.1%
FSSC	FSSC-3	Raw material screening	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Barium	7440-39-3	1.12E-04	24 hr	MB	Above Average	1.3%
FSSC	FSSC-4	Raw material transfer from Screener to Conveyor	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Barium	7440-39-3	7.16E-06	24 hr	MB	Above Average	<0.1%
FSSC	FSSC-5	Raw material transfer from Conveyor to Stackler	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Barium	7440-39-3	7.16E-06	24 hr	MB	Above Average	<0.1%
FSSCD	FSSC-6	Drop of raw material from Stackler to Stockpile	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Barium	7440-39-3	6.12E-04	24 hr	MB	Above Average	7.1%
PIT11	04-1-411	Baghouse serving the raw material storage silos for raw mill (04-1-411)	Raw Feed	Raw Material Preparation	Barium	7440-39-3	1.06E-05	24 hr	MB	Above Average	0.1%
PIT11	04-1-412	Baghouse serving the raw material storage silos for raw mill (04-1-412)	Raw Feed	Raw Material Preparation	Barium	7440-39-3	1.23E-05	24 hr	MB	Above Average	0.1%
HSILOS	H1P41	Baghouse serving kiln feed silos (H1P41)	Raw Feed	Raw Material Preparation	Barium	7440-39-3	3.21E-05	24 hr	MB	Above Average	0.4%
HSILOS	H1P51	Baghouse serving kiln feed silos (H1P51)	Raw Feed	Raw Material Preparation	Barium	7440-39-3	3.21E-05	24 hr	MB	Above Average	0.4%
HSILOS	H1P61	Baghouse serving kiln feed silos (H1P61)	Raw Feed	Raw Material Preparation	Barium	7440-39-3	3.21E-05	24 hr	MB	Above Average	0.4%
K1P11	K1P11	Fuel mill baghouse (K1P11)	Conventional Fuel	Conventional Fuel Preparation and Feed	Barium	7440-39-3	5.41E-07	24 hr	MB	Above Average	<0.1%
K1P31	K1P31	Fuel meal storage silo baghouse (K1P31)	Conventional Fuel	Conventional Fuel Preparation and Feed	Barium	7440-39-3	8.11E-07	24 hr	MB	Above Average	<0.1%
K1P41	K1P41	Baghouse serving the north auxiliary fuel silo (K1P41)	Conventional Fuel	Conventional Fuel Preparation and Feed	Barium	7440-39-3	2.12E-07	24 hr	MB	Above Average	<0.1%
GHOPPER	G1P01	Gypsum Feed Hopper Baghouse (G1P01)	Gypsum/Silica Fume	Conventional Fuel Preparation and Feed	Barium	7440-39-3	7.33E-06	24 hr	MB	Above Average	<0.1%
05_1_412	05-1-412	Baghouse serving the kiln feed transfer to preheater tower (05-1-412)	Raw Feed	Clinker Production	Barium	7440-39-3	2.82E-05	24 hr	MB	Above Average	0.3%
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production	Barium	7440-39-3	2.13E-03	24 hr	ST	Above Average	24.8%
CKD	CKD	Delivery and shipping of Cement Kiln Dust (CKD) to/from storage piles	Cement Kiln Dust	Clinker Production	Barium	7440-39-3	5.11E-06	24 hr	MB	Above Average	<0.1%
PIT11	07-1-421	Baghouse serving south transfer tower (07-1-421)	Clinker	Clinker Production	Barium	7440-39-3	3.45E-05	24 hr	MB	Above Average	0.4%
07_1_441	07-1-441	Baghouse serving north transfer tower (07-1-441)	Clinker	Clinker Production	Barium	7440-39-3	2.07E-05	24 hr	MB	Above Average	0.2%
07_1_450	07-1-450	Baghouse serving north transfer tower (07-1-450)	Clinker	Clinker Production	Barium	7440-39-3	2.42E-05	24 hr	MB	Above Average	0.3%
CBH	W1P51	Clinker cooler baghouse (W1P51)	Clinker	Clinker Production	Barium	7440-39-3	4.51E-04	24 hr	MB	Above Average	5.2%
W1P91	W1P91	Clinker reclaim hopper baghouse (W1P91)	Clinker	Clinker Production	Barium	7440-39-3	4.50E-05	24 hr	MB	Above Average	0.5%
PIT11	W1P101	Baghouse serving clinker truck loading/shipping (W1P101)	Clinker	Clinker Production	Barium	7440-39-3	2.88E-05	24 hr	MB	Above Average	0.3%
PIT11D	PIT11-22	Transfer of clinker into Tee-Pee storage area	Clinker	Clinker Production	Barium	7440-39-3	1.21E-04	24 hr	MB	Above Average	1.4%
PIT11D	PIT11-23	Clinker transfer into a hopper	Clinker	Clinker Production	Barium	7440-39-3	6.20E-05	24 hr	MB	Above Average	0.7%
PIT11D	OFC-1	Loading Point to Truck (offspec clinker)	Clinker	Clinker Production	Barium	7440-39-3	1.55E-03	24 hr	MB	Above Average	18.0%
PIT11D	OFC-2	Truck to Pre-Crushing Stockpiles (offspec clinker)	Wet Clinker	Clinker Production	Barium	7440-39-3	1.53E-04	24 hr	MB	Above Average	1.8%
PIT11D	OFC-3	Front-end Loader to Feed Hopper (offspec clinker)	Wet Clinker	Clinker Production	Barium	7440-39-3	1.53E-04	24 hr	MB	Above Average	1.8%
PIT11	OFC-4	Feeder to Crusher (offspec clinker)	Wet Clinker	Clinker Production	Barium	7440-39-3	1.79E-06	24 hr	MB	Above Average	<0.1%
PIT11	OFC-5	Crushing (offspec clinker)	Wet Clinker	Clinker Production	Barium	7440-39-3	1.54E-05	24 hr	MB	Above Average	0.2%
PIT11	OFC-6	Crusher to Discharge Conveyor (offspec clinker)	Wet Clinker	Clinker Production	Barium	7440-					

Modelled Source	ESDM Source I.D.	Source Description	Materials	Process	Contaminant	CAS #	Maximum Emission Rate (g/s)	Averaging Period	Estimating Technique	Emission Data Quality	Percentage of Overall Emissions (%)
S500	09-1-301	Baghouse serving 300/400 series cement storage silos (09-1-301)	Cement	Cement Production	Barium	7440-39-3	1.13E-05	24 hr	MB	Above Average	0.1%
S500D	S500-CL	Cement loading from silo into a shipping tanker	Cement	Cement Production	Barium	7440-39-3	4.05E-04	24 hr	MB	Above Average	4.7%
S340	CPV-1	Baghouse serving packhouse 3 screw conveyor	Cement	Cement Production	Barium	7440-39-3	2.27E-06	24 hr	MB	Above Average	<0.1%
PACK	09-1-497	Baghouse serving packhouse cement storage silos (09-1-497)	Cement	Cement Production	Barium	7440-39-3	1.61E-05	24 hr	MB	Above Average	0.2%
PACK	09-1-407	Baghouse serving packhouse cement storage silos (09-1-407)	Cement	Cement Production	Barium	7440-39-3	1.61E-05	24 hr	MB	Above Average	0.2%
PACK	09-1-670	Baghouse serving packhouse cement storage silos (09-1-670)	Cement	Cement Production	Barium	7440-39-3	6.44E-05	24 hr	MB	Above Average	0.8%
PACK	09-1-311	Baghouse serving packhouse cement storage silos (09-1-311)	Cement	Cement Production	Barium	7440-39-3	1.61E-05	24 hr	MB	Above Average	0.2%
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production	Benzene	71-43-2	5.50E-01	24 hr	ST	Above Average	50.0%
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production	Benzene	71-43-2	5.50E-01	24 hr	ST	Above Average	50.0%
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production	Benzo(a)fluorene	238-84-6	1.40E-04	24 hr	ST	Above Average	100.0%
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production	Benzo(a)pyrene	50-32-8	3.50E-06	24 hr	ST	Above Average	50.0%
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production	Benzo(a)pyrene	50-32-8	3.50E-06	24 hr	ST	Above Average	50.0%
A_16_4	A-16-4	Baghouse serving the secondary crusher (A-16-4)	Limestone	Limestone Extraction & Processing	Beryllium	7440-41-7	5.90E-08	24 hr	MB	Above Average	0.2%
A_15_5	A-15-5	Baghouse serving the secondary screen (A-15-5)	Limestone	Limestone Extraction & Processing	Beryllium	7440-41-7	2.60E-08	24 hr	MB	Above Average	0.1%
PPILE	PPILE	Transfer of limestone onto primary surge pile	Limestone	Limestone Extraction & Processing	Beryllium	7440-41-7	4.20E-07	24 hr	MB	Above Average	1.7%
PILES	PILES-1	Delivery and transfer of conventional fuel	Conventional Fuel	Raw Material / Conventional Fuel Delivery and Storage	Beryllium	7440-41-7	3.06E-08	24 hr	MB	Above Average	0.1%
PILES	PILES-2	Delivery and transfer of raw materials	Raw Feed	Raw Material / Conventional Fuel Delivery and Storage	Beryllium	7440-41-7	1.32E-07	24 hr	MB	Above Average	0.5%
K1P51	K1P51	Conventional fuel storage silo baghouse (K1P51)	Conventional Fuel	Raw Material / Conventional Fuel Delivery and Storage	Beryllium	7440-41-7	2.58E-08	24 hr	MB	Above Average	0.1%
RAWS	04-1-401	Raw material storage silo baghouse (04-1-401)	Raw Feed	Raw Material / Conventional Fuel Delivery and Storage	Beryllium	7440-41-7	8.43E-08	24 hr	MB	Above Average	0.3%
CLPT	CLPT-1	Scraper from face onto a pile	Clay/Momentive	Raw Material / Conventional Fuel Delivery and Storage	Beryllium	7440-41-7	4.12E-08	24 hr	MB	Above Average	0.2%
CLPT	CLPT-2	Front end loader transfer into truck	Clay/Momentive	Raw Material / Conventional Fuel Delivery and Storage	Beryllium	7440-41-7	4.12E-08	24 hr	MB	Above Average	0.2%
FSSCD	FSSC-1	Front-end Loader to Feed Hopper for raw material screen	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Beryllium	7440-41-7	1.26E-06	24 hr	MB	Above Average	5.1%
FSSC	FSSC-2	Feed Hopper to raw material screener	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Beryllium	7440-41-7	1.48E-08	24 hr	MB	Above Average	<0.1%
FSSC	FSSC-3	Raw material screening	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Beryllium	7440-41-7	2.32E-07	24 hr	MB	Above Average	0.9%
FSSC	FSSC-4	Raw material transfer from Screener to Conveyor	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Beryllium	7440-41-7	1.48E-08	24 hr	MB	Above Average	<0.1%
FSSC	FSSC-5	Raw material transfer from Conveyor to Stacker	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Beryllium	7440-41-7	1.48E-08	24 hr	MB	Above Average	<0.1%
FSSCD	FSSC-6	Drop of raw material from Stacker to Stockpile	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Beryllium	7440-41-7	1.26E-06	24 hr	MB	Above Average	5.1%
PIT11	04-1-411	Baghouse serving the raw material storage silos for raw mill (04-1-411)	Raw Feed	Raw Material Preparation	Beryllium	7440-41-7	2.82E-08	24 hr	MB	Above Average	0.1%
PIT11	04-1-412	Baghouse serving the raw material storage silos for raw mill (04-1-412)	Raw Feed	Raw Material Preparation	Beryllium	7440-41-7	3.27E-08	24 hr	MB	Above Average	0.1%
HSILOS	H1P41	Baghouse serving kiln feed silos (H1P41)	Raw Feed	Raw Material Preparation	Beryllium	7440-41-7	8.54E-08	24 hr	MB	Above Average	0.3%
HSILOS	H1P51	Baghouse serving kiln feed silos (H1P51)	Raw Feed	Raw Material Preparation	Beryllium	7440-41-7	8.54E-08	24 hr	MB	Above Average	0.3%
HSILOS	H1P61	Baghouse serving kiln feed silos (H1P61)	Raw Feed	Raw Material Preparation	Beryllium	7440-41-7	8.54E-08	24 hr	MB	Above Average	0.3%
K1P11	K1P11	Fuel mill baghouse (K1P11)	Conventional Fuel	Conventional Fuel Preparation and Feed	Beryllium	7440-41-7	9.38E-09	24 hr	MB	Above Average	<0.1%
K1P31	K1P31	Fuel meal storage silo baghouse (K1P31)	Conventional Fuel	Conventional Fuel Preparation and Feed	Beryllium	7440-41-7	1.41E-08	24 hr	MB	Above Average	<0.1%
K1P41	K1P41	Baghouse serving the north auxiliary fuel silo (K1P41)	Conventional Fuel	Conventional Fuel Preparation and Feed	Beryllium	7440-41-7	3.68E-09	24 hr	MB	Above Average	<0.1%
GHOPPER	G1P01	Gypsum Feed Hopper Baghouse (G1P01)	Gypsum/Silica Fume	Conventional Fuel Preparation and Feed	Beryllium	7440-41-7	3.06E-08	24 hr	MB	Above Average	0.1%
05_1_412	05-1-412	Baghouse serving the kiln feed transfer to preheater tower (05-1-412)	Raw Feed	Clinker Production	Beryllium	7440-41-7	7.50E-08	24 hr	MB	Above Average	0.3%
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production	Beryllium	7440-41-7	8.00E-06	24 hr	ST	Above Average	32.3%
CKD	CKD	Delivery and shipping of Cement Kiln Dust (CKD) to/from storage piles	Cement Kiln Dust	Clinker Production	Beryllium	7440-41-7	1.37E-08	24 hr	MB	Above Average	<0.1%
PIT11	07-1-421	Baghouse serving south transfer tower (07-1-421)	Clinker	Clinker Production	Beryllium	7440-41-7	9.24E-08	24 hr	MB	Above Average	0.4%
07_1_441	07-1-441	Baghouse serving north transfer tower (07-1-441)	Clinker	Clinker Production	Beryllium	7440-41-7	5.55E-08	24 hr	MB	Above Average	0.2%
07_1_450	07-1-450	Baghouse serving north transfer tower (07-1-450)	Clinker	Clinker Production	Beryllium	7440-41-7	6.47E-08	24 hr	MB	Above Average	0.3%
CBH	W1P51	Clinker cooler baghouse (W1P51)	Clinker	Clinker Production	Beryllium	7440-41-7	1.21E-06	24 hr	MB	Above Average	4.9%
W1P91	W1P91	Clinker reclaim hopper baghouse (W1P91)	Clinker	Clinker Production	Beryllium	7440-41-7	1.20E-07	24 hr	MB	Above Average	0.5%
PIT11	W1P101	Baghouse serving clinker truck loading/shipping (W1P101)	Clinker	Clinker Production	Beryllium	7440-41-7	7.70E-08	24 hr	MB	Above Average	0.3%
PIT11D	PIT11-22	Transfer of clinker into Tee-Pee storage area	Clinker	Clinker Production	Beryllium	7440-41-7	3.23E-07	24 hr	MB	Above Average	1.3%
PIT11D	PIT11-23	Clinker transfer into a hopper	Clinker	Clinker Production	Beryllium	7440-41-7	1.66E-07	24 hr	MB	Above Average	0.7%
PIT11D	OFC-1	Loading Point to Truck (offspec clinker)	Clinker	Clinker Production	Beryllium	7440-41-7	4.14E-06	24 hr	MB	Above Average	16.7%
PIT11D	OFC-2	Truck to Pre-Crushing Stockpiles (offspec clinker)	Wet Clinker	Clinker Production	Beryllium	7440-41-7	4.10E-07	24 hr	MB	Above Average	1.7%
PIT11D	OFC-3	Front-end Loader to Feed Hopper (offspec clinker)	Wet Clinker	Clinker Production	Beryllium	7440-41-7	4.10E-07	24 hr	MB	Above Average	1.7%
PIT11	OFC-4	Feeder to Crusher (offspec clinker)	Wet Clinker	Clinker Production	Beryllium	7440-41-7	4.80E-09	24 hr	MB	Above Average	<0.1%
PIT11	OFC-5	Crushing (offspec clinker)	Wet Clinker	Clinker Production	Beryllium	7440-41-7	4.11E-08	24 hr	MB	Above Average	0.2%
PIT11	OFC-6	Crusher to Discharge Conveyor (offspec clinker)	Wet Clinker	Clinker Production	Beryllium	7440-41-7	4.80E-09	24 hr	MB	Above Average	<0.1%
PIT11D	OFC-7	Discharge Conveyor to Crushed Stockpile (offspec clinker)	Wet Clinker	Clinker Production	Beryllium	7440-41-7	4.10E-07	24 hr	MB	Above Average	1.7%
PIT11D	OFC-8	Front-end Loader to Storage Stockpile (offspec clinker)	Wet Clinker	Clinker Production	Beryllium	7440-41-7	4.10E-07	24 hr	MB	Above Average	1.7%
BSI	Z1P01	Baghouse serving additive storage silos in finish mill building (Z1P01)	Gypsum/Silica Fume	Cement Production	Beryllium	7440-41-7	1.39E-08	24 hr	MB	Above Average	<0.1%
BSI	Z1P11	Baghouse serving additive storage silos in finish mill building (Z1P11)	Gypsum/Silica Fume	Cement Production	Beryllium	7440-41-7	1.39E-08	24 hr	MB	Above Average	<0.1%
BSI	Z1P21	Baghouse serving additive storage silos in finish mill building (Z1P21)	Gypsum/Silica Fume	Cement Production	Beryllium	7440-41-7	1.39E-08	24 hr	MB	Above Average	<0.1%
PIT11	07-1-491	Baghouse serving additive storage silos in finish mill building (07-1-491)	Gypsum/Silica Fume	Cement Production	Beryllium	7440-41-7	1.32E-08	24 hr	MB	Above Average	<0.1%
PIT11	07-1-492	Baghouse serving additive storage silos in finish mill building (07-1-492)	Gypsum/Silica Fume	Cement Production	Beryllium	7440-41-7	8.25E-09	24 hr	MB	Above Average	<0.1%
PIT11	Z1P191	Baghouse serving transfer of additive in finish mill building (Z1P191)	Cement	Cement Production	Beryllium	7440-41-7	5.16E-08	24 hr	MB	Above Average	0.2%
Z1P31	Z1P31	Baghouse serving transfer into finish mill (Z1P31)	Cement	Cement Production	Beryllium	7440-41-7	2.99E-08	24 hr	MB	Above Average	0.1%
BAML	Z1P51	Finish mill baghouse (Z1P51)	Cement	Cement Production	Beryllium	7440-41-7	2.33E-06	24 hr	MB	Above Average	9.4%
BAML	Z1P61	Baghouse for transfer of cement to storage silo in finish mill building (Z1P61)	Cement	Cement Production	Beryllium	7440-41-7	5.16E-08	24 hr	MB	Above Average	0.2%
Z1P41	Z1P41	Baghouse serving transfer from finish mill (Z1P41)	Cement	Cement Production	Beryllium	7440-41-7	2.58E-08	24 hr	MB	Above Average	0.1%
S200S	Z1P71	Baghouse serving transfer from finish mill (Z1P71)	Cement	Cement Production	Beryllium	7440-41-7	7.79E-09	24 hr	MB	Above Average	<0.1%
S200N	Z1P81	Baghouse serving 200 series cement storage silos (Z1P81)	Cement	Cement Production	Beryllium	7440-41-7	8.16E-09	24 hr	MB	Above Average	<0.1%
S200N	Z1P91	Baghouse serving 200 series cement storage silos (Z1P91)	Cement	Cement Production	Beryllium	7440-41-7	8.16E-09	24 hr	MB	Above Average	<0.1%
S200N	Z1P101	Baghouse serving 200 series cement storage silos (Z1P101)	Cement	Cement Production	Beryllium	7440-41-7	8.16E-09	24 hr	MB	Above Average	<0.1%
S200N	Z1P141	Baghouse serving 200 series cement storage silos (Z1P141)	Cement	Cement Production	Beryllium	7440-41-7	4.12E-08	24 hr	MB	Above Average	0.2%
S200N	Z1P151	Baghouse serving 200 series cement storage silos (Z1P151)	Cement	Cement Production	Beryllium	7440-41-7	4.12E-08	24 hr	MB	Above Average	0.2%
S200N	Z1P171	Baghouse serving 200 series cement storage silos (Z1P171)	Cement	Cement Production	Beryllium	7440-41-7	4.12E-08	24 hr	MB	Above Average	0.2%
S200N	Z1P181	Baghouse serving 200 series cement storage silos (Z1P181)	Cement	Cement Production	Beryllium	7440-41-7	2.60E-08	24 hr	MB	Above Average	0.1%
S500	09-1-148	Baghouse serving 200 series cement storage silos (09-1-148)	Cement	Cement Production	Beryllium	7440-41-7	5.21E-08	24 hr	MB	Above Average	0.2%
S500	09-1-158	Baghouse serving 200 series cement storage silos (09-1-158)	Cement	Cement Production	Beryllium	7440-41-7	5.21E-08	24 hr	MB	Above Average	0.2%
S500	09-1-168	Baghouse serving 200 series cement storage silos (09-1-168)	Cement	Cement Production	Beryllium	7440-41-7	5.21E-08	24 hr	MB	Above Average	0.2%
S200N	09-1-189	Baghouse serving 200 series cement storage silos (09-1-189)	Cement	Cement Production	Beryllium	7440-41-7	3.47E-08	24 hr	MB	Above Average	0.1%
S200N	09-1-192	Baghouse serving 200 series cement storage silos (09-1-192)	Cement	Cement Production	Beryllium	7440-41-7	5.21E-08	24 hr	MB	Above Average	0.2%
S200N	09-1-193	Baghouse serving 200 series cement storage silos (09-1-193)	Cement	Cement Production	Beryllium	7440-41-7	3.04E-08	24 hr	MB	Above Average	0.1%
S200N	I-17-4	Baghouse serving 200 series cement storage silos (I-1704)	Cement	Cement Production	Beryllium	7440-41-7	2.17E-08	24 hr	MB	Above Average	<0.1%
S200S	I-10-3	Baghouse serving 200 series cement storage silos (I-10-3)	Cement	Cement Production	Beryllium	7440-41-7	1.74E-09	24 hr	MB	Above Average	<0.1%
S200S	I-10-4	Baghouse serving 200 series cement storage silos (I-10-4)	Cement	Cement Production	Beryllium	7440-41-7	1.74E-08	24 hr	MB	Above Average	<0.1%
S200S	I-22	Baghouse serving 200 series cement storage silos (I-22)	Cement	Cement Production	Beryllium	7440-41-7	8.68E-08	24 hr	MB	Above Average	0.4%
S340	Z1P161	Baghouse serving 300/400 series cement storage silos (Z1P161)	Cement	Cement Production	Beryllium	7440-41-7	4.12E-08	24 hr	MB	Above Average	0.2%
S340	I-59-3	Baghouse serving 300/400 series cement storage silos (I-59-3)	Cement	Cement Production	Beryllium	7440-41-7	6.51E-08	24 hr	MB	Above Average	0.3%
S340	09-1-075	Baghouse serving 300/400 series cement storage silos (09-1-075)	Cement	Cement Production	Beryllium	7440-41-7	1.08E-08	24 hr	MB	Above Average	<0.1%
S500	09-1-301	Baghouse serving 300/400 series cement storage silos (09-1-301)	Cement	Cement Production	Beryllium	7440-41-7	3.04E-08	24 hr	MB	Above Average	0.1%
S500D	S500-CL	Cement loading from silo into a shipping tanker	Cement	Cement Production	Beryllium	7440-41-7	1.09E-06	24 hr	MB	Above Average	4.4%
S340	CPV-1	Baghouse serving packhouse 3 screw conveyor	Cement	Cement Production	Beryllium	7440-41-7	6.13E-09	24 hr	MB	Above Average	<0.1%
PACK	09-1-497	Baghouse serving packhouse cement storage silos (09-1-497)	Cement	Cement Production	Beryllium	7440-41-7	4.34E-08	24 hr	MB	Above Average	0.2%
PACK	09-1-407	Baghouse serving packhouse cement storage silos (09-1-407)	Cement	Cement Production	Beryllium	7440-41-7	4.34E-08	24 hr	MB	Above Average	0.2%
PACK	09-1-670	Baghouse serving packhouse cement storage silos (09-1-670)	Cement	Cement Production	Beryllium	7440-41-7	1.74E-07	24 hr	MB	Above Average	0.7%
PACK	09-1-311	Baghouse serving packhouse cement storage silos (09-1-311)	Cement	Cement Production	Beryllium	7440-41-7	4.34E-08	24 hr	MB	Above Average	0.2%
A_16_4	A-16-4	Baghouse serving the secondary crusher (A-16-4)	Limestone	Limestone Extraction & Processing	Cadmium	7440-43-9	5.90E-08	24 hr	MB	Above Average	<0.1%
A_15_5	A-15-5	Baghouse serving the secondary screen (A-15-5)	Limestone	Limestone Extraction & Processing	Cadmium	7440-43-9	2.60E-08	24 hr	MB	Above Average	<0.1%
PPILE	PPILE	Transfer of limestone onto primary surge pile	Limestone	Limestone Extraction & Processing	Cadmium	7440-43-9	4.20E-07	24 hr	MB	Above Average	0.3%
PILES	PILES-1	Delivery and transfer of conventional fuel	Conventional Fuel	Raw Material / Conventional Fuel Delivery and Storage	Cadmium	7440-43-9	1.66E-08	24 hr	MB	Above Average	<0.1%
PILES	PILES-2	Delivery and transfer of raw materials	Raw Feed	Raw Material / Conventional Fuel Delivery and Storage	Cadmium	7440-43-9	5.66E-07	24 hr	MB	Above Average	0.4%
K1P51	K1P51	Conventional fuel storage silo baghouse (K1P51)	Conventional Fuel	Raw Material / Conventional Fuel Delivery and Storage	Cadmium	7440-43-9	1.40E-08	24 hr	MB	Above Average	<0.1%
RAWS	04-1-401	Raw material storage silo baghouse (04-1-401)	Raw Feed	Raw Material / Conventional Fuel Delivery and Storage	Cadmium	7440-43-9	3.62E-07	24 hr	MB	Above Average	0.3%
CLPT	CLPT-1	Scraper from face onto a pile	Clay/Momentive	Raw Material / Conventional Fuel Delivery and Storage	Cadmium						

Modelled Source	ESDM Source I.D.	Source Description	Materials	Process	Contaminant	CAS #	Maximum Emission Rate (g/s)	Averaging Period	Estimating Technique	Emission Data Quality	Percentage of Overall Emissions (%)
HSILOS	H1P41	Baghouse serving kiln feed silos (H1P41)	Raw Feed	Raw Material Preparation	Cadmium	7440-43-9	3.66E-07	24 hr	MB	Above Average	0.3%
HSILOS	H1P51	Baghouse serving kiln feed silos (H1P51)	Raw Feed	Raw Material Preparation	Cadmium	7440-43-9	3.66E-07	24 hr	MB	Above Average	0.3%
HSILOS	H1P61	Baghouse serving kiln feed silos (H1P61)	Raw Feed	Raw Material Preparation	Cadmium	7440-43-9	3.66E-07	24 hr	MB	Above Average	0.3%
K1P11	K1P11	Fuel mill baghouse (K1P11)	Conventional Fuel	Conventional Fuel Preparation and Feed	Cadmium	7440-43-9	5.10E-09	24 hr	MB	Above Average	<0.1%
K1P31	K1P31	Fuel meal storage silo baghouse (K1P31)	Conventional Fuel	Conventional Fuel Preparation and Feed	Cadmium	7440-43-9	7.65E-09	24 hr	MB	Above Average	<0.1%
K1P41	K1P41	Baghouse serving the north auxiliary fuel silo (K1P41)	Conventional Fuel	Conventional Fuel Preparation and Feed	Cadmium	7440-43-9	2.00E-09	24 hr	MB	Above Average	<0.1%
GHOPPER	G1P01	Gypsum Feed Hopper Baghouse (G1P01)	Gypsum/Silica Fume	Conventional Fuel Preparation and Feed	Cadmium	7440-43-9	6.72E-08	24 hr	MB	Above Average	<0.1%
05_1_412	05-1-412	Baghouse serving the kiln feed transfer to preheater tower (05-1-412)	Raw Feed	Clinker Production	Cadmium	7440-43-9	3.22E-07	24 hr	MB	Above Average	0.2%
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production	Cadmium	7440-43-9	4.50E-05	24 hr	ST	Above Average	32.1%
CKD	CKD	Delivery and shipping of Cement Kiln Dust (CKD) to/from storage piles	Cement Kiln Dust	Clinker Production	Cadmium	7440-43-9	5.84E-08	24 hr	MB	Above Average	<0.1%
PIT11	07-1-421	Baghouse serving south transfer tower (07-1-421)	Clinker	Clinker Production	Cadmium	7440-43-9	3.95E-07	24 hr	MB	Above Average	0.3%
07_1_441	07-1-441	Baghouse serving north transfer tower (07-1-441)	Clinker	Clinker Production	Cadmium	7440-43-9	2.37E-07	24 hr	MB	Above Average	0.2%
07_1_450	07-1-450	Baghouse serving north transfer tower (07-1-450)	Clinker	Clinker Production	Cadmium	7440-43-9	2.77E-07	24 hr	MB	Above Average	0.2%
CBH	W1P51	Clinker cooler baghouse (W1P51)	Clinker	Clinker Production	Cadmium	7440-43-9	5.15E-06	24 hr	MB	Above Average	3.7%
W1P91	W1P91	Clinker reclaim hopper baghouse (W1P91)	Clinker	Clinker Production	Cadmium	7440-43-9	5.15E-07	24 hr	MB	Above Average	0.4%
PIT11	W1P101	Baghouse serving clinker truck loading/shipping (W1P101)	Clinker	Clinker Production	Cadmium	7440-43-9	3.29E-07	24 hr	MB	Above Average	0.2%
PIT11D	PIT11-22	Transfer of clinker into Tee-Pee storage area	Clinker	Clinker Production	Cadmium	7440-43-9	1.38E-06	24 hr	MB	Above Average	1.0%
PIT11D	PIT11-23	Clinker transfer into a hopper	Clinker	Clinker Production	Cadmium	7440-43-9	7.08E-07	24 hr	MB	Above Average	0.5%
PIT11D	OFC-1	Loading Point to Truck (offspec clinker)	Clinker	Clinker Production	Cadmium	7440-43-9	1.77E-05	24 hr	MB	Above Average	12.6%
PIT11D	OFC-2	Truck to Pre-Crushing Stockpiles (offspec clinker)	Wet Clinker	Clinker Production	Cadmium	7440-43-9	1.75E-06	24 hr	MB	Above Average	1.3%
PIT11D	OFC-3	Front-end Loader to Feed Hopper (offspec clinker)	Wet Clinker	Clinker Production	Cadmium	7440-43-9	1.75E-06	24 hr	MB	Above Average	1.3%
PIT11	OFC-4	Feeder to Crusher (offspec clinker)	Wet Clinker	Clinker Production	Cadmium	7440-43-9	2.05E-08	24 hr	MB	Above Average	<0.1%
PIT11	OFC-5	Crushing (offspec clinker)	Wet Clinker	Clinker Production	Cadmium	7440-43-9	1.76E-07	24 hr	MB	Above Average	0.1%
PIT11	OFC-6	Crusher to Discharge Conveyor (offspec clinker)	Wet Clinker	Clinker Production	Cadmium	7440-43-9	2.05E-08	24 hr	MB	Above Average	<0.1%
PIT11D	OFC-7	Discharge Conveyor to Crushed Stockpile (offspec clinker)	Wet Clinker	Clinker Production	Cadmium	7440-43-9	1.75E-06	24 hr	MB	Above Average	1.3%
PIT11D	OFC-8	Front-end Loader to Storage Stockpile (offspec clinker)	Wet Clinker	Clinker Production	Cadmium	7440-43-9	1.75E-06	24 hr	MB	Above Average	1.3%
BLSI	Z1P01	Baghouse serving additive storage silos in finish mill building (Z1P01)	Gypsum/Silica Fume	Cement Production	Cadmium	7440-43-9	3.06E-08	24 hr	MB	Above Average	<0.1%
BLSI	Z1P11	Baghouse serving additive storage silos in finish mill building (Z1P11)	Gypsum/Silica Fume	Cement Production	Cadmium	7440-43-9	3.06E-08	24 hr	MB	Above Average	<0.1%
BLSI	Z1P21	Baghouse serving additive storage silos in finish mill building (Z1P21)	Gypsum/Silica Fume	Cement Production	Cadmium	7440-43-9	3.06E-08	24 hr	MB	Above Average	<0.1%
PIT11	07-1-491	Baghouse serving additive storage silos in finish mill building (07-1-491)	Gypsum/Silica Fume	Cement Production	Cadmium	7440-43-9	2.90E-08	24 hr	MB	Above Average	<0.1%
PIT11	07-1-492	Baghouse serving additive storage silos in finish mill building (07-1-492)	Gypsum/Silica Fume	Cement Production	Cadmium	7440-43-9	1.82E-08	24 hr	MB	Above Average	<0.1%
PIT11	Z1P191	Baghouse serving transfer of additive in finish mill building (Z1P191)	Cement	Cement Production	Cadmium	7440-43-9	2.18E-07	24 hr	MB	Above Average	0.2%
Z1P31	Z1P31	Baghouse serving transfer into finish mill (Z1P31)	Cement	Cement Production	Cadmium	7440-43-9	1.26E-07	24 hr	MB	Above Average	<0.1%
BAML	Z1P51	Finish mill baghouse (Z1P51)	Cement	Cement Production	Cadmium	7440-43-9	9.83E-06	24 hr	MB	Above Average	7.0%
BAML	Z1P61	Baghouse for transfer of cement to storage silo in finish mill building (Z1P61)	Cement	Cement Production	Cadmium	7440-43-9	2.18E-07	24 hr	MB	Above Average	0.2%
Z1P41	Z1P41	Baghouse serving transfer from finish mill (Z1P41)	Cement	Cement Production	Cadmium	7440-43-9	1.09E-07	24 hr	MB	Above Average	<0.1%
S200S	Z1P71	Baghouse serving transfer from finish mill (Z1P71)	Cement	Cement Production	Cadmium	7440-43-9	3.29E-08	24 hr	MB	Above Average	<0.1%
S200N	Z1P81	Baghouse serving 200 series cement storage silos (Z1P81)	Cement	Cement Production	Cadmium	7440-43-9	3.44E-08	24 hr	MB	Above Average	<0.1%
S200N	Z1P91	Baghouse serving 200 series cement storage silos (Z1P91)	Cement	Cement Production	Cadmium	7440-43-9	3.44E-08	24 hr	MB	Above Average	<0.1%
S200N	Z1P101	Baghouse serving 200 series cement storage silos (Z1P101)	Cement	Cement Production	Cadmium	7440-43-9	3.44E-08	24 hr	MB	Above Average	<0.1%
S200N	Z1P141	Baghouse serving 200 series cement storage silos (Z1P141)	Cement	Cement Production	Cadmium	7440-43-9	1.74E-07	24 hr	MB	Above Average	0.1%
S200N	Z1P151	Baghouse serving 200 series cement storage silos (Z1P151)	Cement	Cement Production	Cadmium	7440-43-9	1.74E-07	24 hr	MB	Above Average	0.1%
S200N	Z1P171	Baghouse serving 200 series cement storage silos (Z1P171)	Cement	Cement Production	Cadmium	7440-43-9	1.74E-07	24 hr	MB	Above Average	0.1%
S200N	Z1P181	Baghouse serving 200 series cement storage silos (Z1P181)	Cement	Cement Production	Cadmium	7440-43-9	1.10E-07	24 hr	MB	Above Average	<0.1%
S500	09-1-148	Baghouse serving 200 series cement storage silos (09-1-148)	Cement	Cement Production	Cadmium	7440-43-9	2.20E-07	24 hr	MB	Above Average	0.2%
S500	09-1-158	Baghouse serving 200 series cement storage silos (09-1-158)	Cement	Cement Production	Cadmium	7440-43-9	2.20E-07	24 hr	MB	Above Average	0.2%
S500	09-1-168	Baghouse serving 200 series cement storage silos (09-1-168)	Cement	Cement Production	Cadmium	7440-43-9	2.20E-07	24 hr	MB	Above Average	0.2%
S200N	09-1-189	Baghouse serving 200 series cement storage silos (09-1-189)	Cement	Cement Production	Cadmium	7440-43-9	1.46E-07	24 hr	MB	Above Average	0.1%
S200N	09-1-192	Baghouse serving 200 series cement storage silos (09-1-192)	Cement	Cement Production	Cadmium	7440-43-9	2.20E-07	24 hr	MB	Above Average	0.2%
S200N	09-1-193	Baghouse serving 200 series cement storage silos (09-1-193)	Cement	Cement Production	Cadmium	7440-43-9	1.28E-07	24 hr	MB	Above Average	<0.1%
S200N	I-17-4	Baghouse serving 200 series cement storage silos (I-1704)	Cement	Cement Production	Cadmium	7440-43-9	9.16E-08	24 hr	MB	Above Average	<0.1%
S200S	I-10-3	Baghouse serving 200 series cement storage silos (I-10-3)	Cement	Cement Production	Cadmium	7440-43-9	7.36E-09	24 hr	MB	Above Average	<0.1%
S200S	I-10-4	Baghouse serving 200 series cement storage silos (I-10-4)	Cement	Cement Production	Cadmium	7440-43-9	7.36E-08	24 hr	MB	Above Average	<0.1%
S200S	I-22	Baghouse serving 200 series cement storage silos (I-22)	Cement	Cement Production	Cadmium	7440-43-9	3.66E-07	24 hr	MB	Above Average	0.3%
S340	Z1P161	Baghouse serving 300/400 series cement storage silos (Z1P161)	Cement	Cement Production	Cadmium	7440-43-9	1.74E-07	24 hr	MB	Above Average	0.1%
S340	I-59-3	Baghouse serving 300/400 series cement storage silos (I-59-3)	Cement	Cement Production	Cadmium	7440-43-9	2.75E-07	24 hr	MB	Above Average	0.2%
S340	09-1-075	Baghouse serving 300/400 series cement storage silos (09-1-075)	Cement	Cement Production	Cadmium	7440-43-9	4.54E-08	24 hr	MB	Above Average	<0.1%
S500	09-1-301	Baghouse serving 300/400 series cement storage silos (09-1-301)	Cement	Cement Production	Cadmium	7440-43-9	1.28E-07	24 hr	MB	Above Average	<0.1%
S500D	S500-CL	Cement loading from silo into a shipping tanker	Cement	Cement Production	Cadmium	7440-43-9	4.60E-06	24 hr	MB	Above Average	3.3%
S340	CPV-1	Baghouse serving packhouse 3 screw conveyor	Cement	Cement Production	Cadmium	7440-43-9	2.59E-08	24 hr	MB	Above Average	<0.1%
PACK	09-1-497	Baghouse serving packhouse cement storage silos (09-1-497)	Cement	Cement Production	Cadmium	7440-43-9	1.83E-07	24 hr	MB	Above Average	0.1%
PACK	09-1-407	Baghouse serving packhouse cement storage silos (09-1-407)	Cement	Cement Production	Cadmium	7440-43-9	1.83E-07	24 hr	MB	Above Average	0.1%
PACK	09-1-670	Baghouse serving packhouse cement storage silos (09-1-670)	Cement	Cement Production	Cadmium	7440-43-9	7.32E-07	24 hr	MB	Above Average	0.5%
PACK	09-1-311	Baghouse serving packhouse cement storage silos (09-1-311)	Cement	Cement Production	Cadmium	7440-43-9	1.83E-07	24 hr	MB	Above Average	0.1%
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production	Carbon Disulphide	75-15-0	4.12E-01	24 hr	ST	Above Average	100.0%
FSSC	FSSC-DG	Diesel-fired engine servicing the raw material screener	-	Raw Material / Conventional Fuel Delivery and Storage	Carbon Monoxide	630-08-0	1.02E-01	1 hr	MB	Above Average	0.1%
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production	Carbon Monoxide	630-08-0	1.01E+02	1 hr	ST	Above Average	99.6%
PIT11	OFC-DG	Diesel-fired engine servicing the off-spec clinker crusher	-	Clinker Production	Carbon Monoxide	630-08-0	2.91E-01	1 hr	MB	Above Average	0.3%
CBBOI	CBBOI	Dual fuel-fired Boiler	-	Ancillary Operations	Carbon Monoxide	630-08-0	7.58E-03	1 hr	MB	Above Average	<0.1%
JCBOI	JCBOI	No.2 fuel-fired boiler	-	Ancillary Operations	Carbon Monoxide	630-08-0	2.53E-03	1 hr	MB	Above Average	<0.1%
TRBOI	TRBOI	Dual fuel-fired boiler	-	Ancillary Operations	Carbon Monoxide	630-08-0	7.58E-03	1 hr	MB	Above Average	<0.1%
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production	Carbon Tetrachloride	56-23-5	1.70E-02	24 hr	ST	Above Average	100.0%
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production	Carbonyl Sulphide	463-58-1	3.42E+00	24 hr	ST	Above Average	100.0%
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production	Chloroform	67-66-3	1.15E-02	24 hr	ST	Above Average	100.0%
A_16_4	A-16-4	Baghouse serving the secondary crusher (A-16-4)	Limestone	Limestone Extraction & Processing	Chromium	7440-47-3	9.44E-07	24 hr	MB	Above Average	<0.1%
A_15_5	A-15-5	Baghouse serving the secondary screen (A-15-5)	Limestone	Limestone Extraction & Processing	Chromium	7440-47-3	4.15E-07	24 hr	MB	Above Average	<0.1%
PPILE	PPILE	Transfer of limestone onto primary surge pile	Limestone	Limestone Extraction & Processing	Chromium	7440-47-3	6.72E-06	24 hr	MB	Above Average	0.3%
PILE5	PILE5-1	Delivery and transfer of conventional fuel	Conventional Fuel	Raw Material / Conventional Fuel Delivery and Storage	Chromium	7440-47-3	1.33E-06	24 hr	MB	Above Average	<0.1%
PILE5	PILE5-2	Delivery and transfer of raw materials	Raw Feed	Raw Material / Conventional Fuel Delivery and Storage	Chromium	7440-47-3	1.15E-05	24 hr	MB	Above Average	0.5%
K1P51	K1P51	Conventional fuel storage silo baghouse (K1P51)	Conventional Fuel	Raw Material / Conventional Fuel Delivery and Storage	Chromium	7440-47-3	1.12E-06	24 hr	MB	Above Average	<0.1%
RAWS	04-1-401	Raw material storage silo baghouse (04-1-401)	Raw Feed	Raw Material / Conventional Fuel Delivery and Storage	Chromium	7440-47-3	7.36E-06	24 hr	MB	Above Average	0.3%
CLPT	CLPT-1	Scraper from face onto a pile	Clay/Momentive	Raw Material / Conventional Fuel Delivery and Storage	Chromium	7440-47-3	1.92E-06	24 hr	MB	Above Average	<0.1%
CLPT	CLPT-2	Front end loader transfer into truck	Clay/Momentive	Raw Material / Conventional Fuel Delivery and Storage	Chromium	7440-47-3	1.92E-06	24 hr	MB	Above Average	<0.1%
FSSCD	FSSC-1	Front-end Loader to Feed Hopper for raw material screen	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Chromium	7440-47-3	4.94E-04	24 hr	MB	Above Average	20.2%
FSSC	FSSC-2	Feed Hopper to raw material screener	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Chromium	7440-47-3	5.78E-06	24 hr	MB	Above Average	0.2%
FSSC	FSSC-3	Raw material screening	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Chromium	7440-47-3	9.08E-05	24 hr	MB	Above Average	3.7%
FSSC	FSSC-4	Raw material transfer from Screener to Conveyor	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Chromium	7440-47-3	5.78E-06	24 hr	MB	Above Average	0.2%
FSSC	FSSC-5	Raw material transfer from Conveyor to Stacker	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Chromium	7440-47-3	5.78E-06	24 hr	MB	Above Average	0.2%
FSSCD	FSSC-6	Drop of raw material from Stacker to Stockpile	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Chromium	7440-47-3	4.94E-04	24 hr	MB	Above Average	20.2%
PIT11	04-1-411	Baghouse serving the raw material storage silos for raw mill (04-1-411)	Raw Feed	Raw Material Preparation	Chromium	7440-47-3	2.46E-06	24 hr	MB	Above Average	0.1%
PIT11	04-1-412	Baghouse serving the raw material storage silos for raw mill (04-1-412)	Raw Feed	Raw Material Preparation	Chromium	7440-47-3	2.86E-06	24 hr	MB	Above Average	0.1%
HSILOS	H1P41	Baghouse serving kiln feed silos (H1P41)	Raw Feed	Raw Material Preparation	Chromium	7440-47-3	7.45E-06	24 hr	MB	Above Average	0.3%
HSILOS	H1P51	Baghouse serving kiln feed silos (H1P51)	Raw Feed	Raw Material Preparation	Chromium	7440-47-3	7.45E-06	24 hr	MB	Above Average	0.3%
HSILOS	H1P61	Baghouse serving kiln feed silos (H1P61)	Raw Feed	Raw Material Preparation	Chromium	7440-47-3	7.45E-06	24 hr	MB	Above Average	0.3%
K1P11	K1P11	Fuel mill baghouse (K1P11)	Conventional Fuel	Conventional Fuel Preparation and Feed	Chromium	7440-47-3	4.08E-07	24 hr	MB	Above Average	<0.1%
K1P31	K1P31	Fuel meal storage silo baghouse (K1P31)	Conventional Fuel	Conventional Fuel Preparation and Feed	Chromium	7440-47-3	6.12E-07	24 hr	MB	Above Average	<0.1%
K1P41	K1P41	Baghouse serving the north auxiliary fuel silo (K1P41)	Conventional Fuel	Conventional Fuel Preparation and Feed	Chromium	7440-47-3	1.60E-07	24 hr	MB	Above Average	<0.1%
GHOPPER	G1P01	Gypsum Feed Hopper Baghouse (G1P01)	Gypsum/Silica Fume	Conventional Fuel Preparation and Feed	Chromium	7440-47-3	4.89E-07	24 hr	MB	Above Average	<0.1%
05_1_412	05-1-412	Baghouse serving the kiln feed transfer to preheater tower (05-1-412)	Raw Feed	Clinker Production	Chromium	7440-47-3	6.55E-06	24 hr	MB	Above Average	0.3%
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production	Chromium	7440-47-3	1.90E-04	24 hr			

Modelled Source	ESDM Source I.D.	Source Description	Materials	Process	Contaminant	CAS #	Maximum Emission Rate (g/s)	Averaging Period	Estimating Technique	Emission Data Quality	Percentage of Overall Emissions (%)
S200N	Z1P141	Baghouse serving 200 series cement storage silos (Z1P141)	Cement	Cement Production	Chromium	7440-47-3	3.53E-06	24 hr	MB	Above Average	0.1%
S200N	Z1P151	Baghouse serving 200 series cement storage silos (Z1P151)	Cement	Cement Production	Chromium	7440-47-3	3.53E-06	24 hr	MB	Above Average	0.1%
S200N	Z1P171	Baghouse serving 200 series cement storage silos (Z1P171)	Cement	Cement Production	Chromium	7440-47-3	3.53E-06	24 hr	MB	Above Average	0.1%
S200N	Z1P181	Baghouse serving 200 series cement storage silos (Z1P181)	Cement	Cement Production	Chromium	7440-47-3	2.22E-06	24 hr	MB	Above Average	<0.1%
S500	09-1-148	Baghouse serving 200 series cement storage silos (09-1-148)	Cement	Cement Production	Chromium	7440-47-3	4.46E-06	24 hr	MB	Above Average	0.2%
S500	09-1-158	Baghouse serving 200 series cement storage silos (09-1-158)	Cement	Cement Production	Chromium	7440-47-3	4.46E-06	24 hr	MB	Above Average	0.2%
S500	09-1-168	Baghouse serving 200 series cement storage silos (09-1-168)	Cement	Cement Production	Chromium	7440-47-3	4.46E-06	24 hr	MB	Above Average	0.2%
S200N	09-1-189	Baghouse serving 200 series cement storage silos (09-1-189)	Cement	Cement Production	Chromium	7440-47-3	2.97E-06	24 hr	MB	Above Average	0.1%
S200N	09-1-192	Baghouse serving 200 series cement storage silos (09-1-192)	Cement	Cement Production	Chromium	7440-47-3	4.46E-06	24 hr	MB	Above Average	0.2%
S200N	09-1-193	Baghouse serving 200 series cement storage silos (09-1-193)	Cement	Cement Production	Chromium	7440-47-3	2.60E-06	24 hr	MB	Above Average	0.1%
S200N	1-17-4	Baghouse serving 200 series cement storage silos (I-1704)	Cement	Cement Production	Chromium	7440-47-3	1.86E-06	24 hr	MB	Above Average	<0.1%
S200S	I-10-3	Baghouse serving 200 series cement storage silos (I-10-3)	Cement	Cement Production	Chromium	7440-47-3	1.49E-07	24 hr	MB	Above Average	<0.1%
S200S	I-10-4	Baghouse serving 200 series cement storage silos (I-10-4)	Cement	Cement Production	Chromium	7440-47-3	1.49E-06	24 hr	MB	Above Average	<0.1%
S200S	I-22	Baghouse serving 200 series cement storage silos (I-22)	Cement	Cement Production	Chromium	7440-47-3	7.43E-06	24 hr	MB	Above Average	0.3%
S340	Z1P161	Baghouse serving 300/400 series cement storage silos (Z1P161)	Cement	Cement Production	Chromium	7440-47-3	3.53E-06	24 hr	MB	Above Average	0.1%
S340	I-59-3	Baghouse serving 300/400 series cement storage silos (I-59-3)	Cement	Cement Production	Chromium	7440-47-3	5.57E-06	24 hr	MB	Above Average	0.2%
S340	09-1-075	Baghouse serving 300/400 series cement storage silos (09-1-075)	Cement	Cement Production	Chromium	7440-47-3	9.21E-07	24 hr	MB	Above Average	<0.1%
S500	09-1-301	Baghouse serving 300/400 series cement storage silos (09-1-301)	Cement	Cement Production	Chromium	7440-47-3	2.60E-06	24 hr	MB	Above Average	0.1%
S500D	S500-CL	Cement loading from silo into a shipping tanker	Cement	Cement Production	Chromium	7440-47-3	9.33E-05	24 hr	MB	Above Average	3.8%
S340	CPV-1	Baghouse serving packhouse 3 screw conveyor	Cement	Cement Production	Chromium	7440-47-3	5.25E-07	24 hr	MB	Above Average	<0.1%
PACK	09-1-497	Baghouse serving packhouse cement storage silos (09-1-497)	Cement	Cement Production	Chromium	7440-47-3	3.72E-06	24 hr	MB	Above Average	0.2%
PACK	09-1-407	Baghouse serving packhouse cement storage silos (09-1-407)	Cement	Cement Production	Chromium	7440-47-3	3.72E-06	24 hr	MB	Above Average	0.2%
PACK	09-1-670	Baghouse serving packhouse cement storage silos (09-1-670)	Cement	Cement Production	Chromium	7440-47-3	1.49E-05	24 hr	MB	Above Average	0.6%
PACK	09-1-311	Baghouse serving packhouse cement storage silos (09-1-311)	Cement	Cement Production	Chromium	7440-47-3	3.72E-06	24 hr	MB	Above Average	0.2%
A_16_4	A-16-4	Baghouse serving the secondary crusher (A-16-4)	Limestone	Limestone Extraction & Processing	Cobalt	7440-48-4	3.66E-07	24 hr	MB	Above Average	<0.1%
A_15_5	A-15-5	Baghouse serving the secondary screen (A-15-5)	Limestone	Limestone Extraction & Processing	Cobalt	7440-48-4	1.61E-07	24 hr	MB	Above Average	<0.1%
PPILE	PPILE	Transfer of limestone onto primary surge pile	Limestone	Limestone Extraction & Processing	Cobalt	7440-48-4	2.60E-06	24 hr	MB	Above Average	0.4%
PILES	PILES-1	Delivery and transfer of conventional fuel	Conventional Fuel	Raw Material / Conventional Fuel Delivery and Storage	Cobalt	7440-48-4	2.00E-07	24 hr	MB	Above Average	<0.1%
PILES	PILES-2	Delivery and transfer of raw materials	Raw Feed	Raw Material / Conventional Fuel Delivery and Storage	Cobalt	7440-48-4	2.37E-06	24 hr	MB	Above Average	0.4%
K1P51	K1P51	Conventional fuel storage silo baghouse (K1P51)	Conventional Fuel	Raw Material / Conventional Fuel Delivery and Storage	Cobalt	7440-48-4	1.68E-07	24 hr	MB	Above Average	<0.1%
RAWS	04-1-401	Raw material storage silo baghouse (04-1-401)	Raw Feed	Raw Material / Conventional Fuel Delivery and Storage	Cobalt	7440-48-4	1.52E-06	24 hr	MB	Above Average	0.2%
CLPT	CLPT-1	Scraper from face onto a pile	Clay/Momentive	Raw Material / Conventional Fuel Delivery and Storage	Cobalt	7440-48-4	3.83E-07	24 hr	MB	Above Average	<0.1%
CLPT	CLPT-2	Front end loader transfer into truck	Clay/Momentive	Raw Material / Conventional Fuel Delivery and Storage	Cobalt	7440-48-4	3.83E-07	24 hr	MB	Above Average	<0.1%
FSSCD	FSSC-1	Front-end Loader to Feed Hopper for raw material screen	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Cobalt	7440-48-4	1.74E-04	24 hr	MB	Above Average	26.2%
FSSC	FSSC-2	Feed Hopper to raw material screener	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Cobalt	7440-48-4	2.04E-06	24 hr	MB	Above Average	0.3%
FSSC	FSSC-3	Raw material screening	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Cobalt	7440-48-4	3.20E-05	24 hr	MB	Above Average	4.8%
FSSC	FSSC-4	Raw material transfer from Screener to Conveyor	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Cobalt	7440-48-4	2.04E-06	24 hr	MB	Above Average	0.3%
FSSC	FSSC-5	Raw material transfer from Conveyor to Stacker	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Cobalt	7440-48-4	2.04E-06	24 hr	MB	Above Average	0.3%
FSSCD	FSSC-6	Drop of raw material from Stacker to Stockpile	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Cobalt	7440-48-4	1.74E-04	24 hr	MB	Above Average	26.2%
PIT11	04-1-411	Baghouse serving the raw material storage silos for raw mill (04-1-411)	Raw Feed	Raw Material Preparation	Cobalt	7440-48-4	5.06E-07	24 hr	MB	Above Average	<0.1%
PIT11	04-1-412	Baghouse serving the raw material storage silos for raw mill (04-1-412)	Raw Feed	Raw Material Preparation	Cobalt	7440-48-4	5.88E-07	24 hr	MB	Above Average	<0.1%
HSILOS	H1P41	Baghouse serving kiln feed silos (H1P41)	Raw Feed	Raw Material Preparation	Cobalt	7440-48-4	1.53E-06	24 hr	MB	Above Average	0.2%
HSILOS	H1P51	Baghouse serving kiln feed silos (H1P51)	Raw Feed	Raw Material Preparation	Cobalt	7440-48-4	1.53E-06	24 hr	MB	Above Average	0.2%
HSILOS	H1P61	Baghouse serving kiln feed silos (H1P61)	Raw Feed	Raw Material Preparation	Cobalt	7440-48-4	1.53E-06	24 hr	MB	Above Average	0.2%
K1P11	K1P11	Fuel mill baghouse (K1P11)	Conventional Fuel	Conventional Fuel Preparation and Feed	Cobalt	7440-48-4	6.12E-08	24 hr	MB	Above Average	<0.1%
K1P31	K1P31	Fuel meal storage silo baghouse (K1P31)	Conventional Fuel	Conventional Fuel Preparation and Feed	Cobalt	7440-48-4	9.18E-08	24 hr	MB	Above Average	<0.1%
K1P41	K1P41	Baghouse serving the north auxiliary fuel silo (K1P41)	Conventional Fuel	Conventional Fuel Preparation and Feed	Cobalt	7440-48-4	2.40E-08	24 hr	MB	Above Average	<0.1%
GHOPPER	G1P01	Gypsum Feed Hopper Baghouse (G1P01)	Gypsum/Silica Fume	Conventional Fuel Preparation and Feed	Cobalt	7440-48-4	4.64E-07	24 hr	MB	Above Average	<0.1%
05_1_412	05-1-412	Baghouse serving the kiln feed transfer to preheater tower (05-1-412)	Raw Feed	Clinker Production	Cobalt	7440-48-4	1.35E-06	24 hr	MB	Above Average	0.2%
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production	Cobalt	7440-48-4	3.80E-05	24 hr	ST	Above Average	5.7%
CKD	CKD	Delivery and shipping of Cement Kiln Dust (CKD) to/from storage piles	Cement Kiln Dust	Clinker Production	Cobalt	7440-48-4	2.45E-07	24 hr	MB	Above Average	<0.1%
PIT11	07-1-421	Baghouse serving south transfer tower (07-1-421)	Clinker	Clinker Production	Cobalt	7440-48-4	1.65E-06	24 hr	MB	Above Average	0.2%
07_1_441	07-1-441	Baghouse serving north transfer tower (07-1-441)	Clinker	Clinker Production	Cobalt	7440-48-4	9.94E-07	24 hr	MB	Above Average	0.1%
07_1_450	07-1-450	Baghouse serving north transfer tower (07-1-450)	Clinker	Clinker Production	Cobalt	7440-48-4	1.16E-06	24 hr	MB	Above Average	0.2%
CBH	W1P51	Clinker cooler baghouse (W1P51)	Clinker	Clinker Production	Cobalt	7440-48-4	2.16E-05	24 hr	MB	Above Average	3.2%
W1P91	W1P91	Clinker reclaim hopper baghouse (W1P91)	Clinker	Clinker Production	Cobalt	7440-48-4	2.16E-06	24 hr	MB	Above Average	0.3%
PIT11	W1P101	Baghouse serving clinker truck loading/shipping (W1P101)	Clinker	Clinker Production	Cobalt	7440-48-4	1.38E-06	24 hr	MB	Above Average	0.2%
PIT11D	PIT11-22	Transfer of clinker into Tee-Pee storage area	Clinker	Clinker Production	Cobalt	7440-48-4	5.79E-06	24 hr	MB	Above Average	0.9%
PIT11D	PIT11-23	Clinker transfer into a hopper	Clinker	Clinker Production	Cobalt	7440-48-4	2.97E-06	24 hr	MB	Above Average	0.4%
PIT11D	OFC-1	Loading Point to Truck (offspec clinker)	Clinker	Clinker Production	Cobalt	7440-48-4	7.42E-05	24 hr	MB	Above Average	11.1%
PIT11D	OFC-2	Truck to Pre-Crushing Stockpiles (offspec clinker)	Wet Clinker	Clinker Production	Cobalt	7440-48-4	7.35E-06	24 hr	MB	Above Average	1.1%
PIT11D	OFC-3	Front-end Loader to Feed Hopper (offspec clinker)	Wet Clinker	Clinker Production	Cobalt	7440-48-4	7.35E-06	24 hr	MB	Above Average	1.1%
PIT11	OFC-4	Feeder to Crusher (offspec clinker)	Wet Clinker	Clinker Production	Cobalt	7440-48-4	8.59E-08	24 hr	MB	Above Average	<0.1%
PIT11	OFC-5	Crushing (offspec clinker)	Wet Clinker	Clinker Production	Cobalt	7440-48-4	7.37E-07	24 hr	MB	Above Average	0.1%
PIT11	OFC-6	Crusher to Discharge Conveyor (offspec clinker)	Wet Clinker	Clinker Production	Cobalt	7440-48-4	8.59E-08	24 hr	MB	Above Average	<0.1%
PIT11D	OFC-7	Discharge Conveyor to Crushed Stockpile (offspec clinker)	Wet Clinker	Clinker Production	Cobalt	7440-48-4	7.35E-06	24 hr	MB	Above Average	1.1%
PIT11D	OFC-8	Front-end Loader to Storage Stockpile (offspec clinker)	Wet Clinker	Clinker Production	Cobalt	7440-48-4	7.35E-06	24 hr	MB	Above Average	1.1%
BLSI	Z1P01	Baghouse serving additive storage silos in finish mill building (Z1P01)	Gypsum/Silica Fume	Cement Production	Cobalt	7440-48-4	2.11E-07	24 hr	MB	Above Average	<0.1%
BLSI	Z1P11	Baghouse serving additive storage silos in finish mill building (Z1P11)	Gypsum/Silica Fume	Cement Production	Cobalt	7440-48-4	2.11E-07	24 hr	MB	Above Average	<0.1%
BLSI	Z1P21	Baghouse serving additive storage silos in finish mill building (Z1P21)	Gypsum/Silica Fume	Cement Production	Cobalt	7440-48-4	2.11E-07	24 hr	MB	Above Average	<0.1%
PIT11	07-1-491	Baghouse serving additive storage silos in finish mill building (07-1-491)	Gypsum/Silica Fume	Cement Production	Cobalt	7440-48-4	2.01E-07	24 hr	MB	Above Average	<0.1%
PIT11	07-1-492	Baghouse serving additive storage silos in finish mill building (07-1-492)	Gypsum/Silica Fume	Cement Production	Cobalt	7440-48-4	1.25E-07	24 hr	MB	Above Average	<0.1%
PIT11	Z1P191	Baghouse serving transfer of additive in finish mill building (Z1P191)	Cement	Cement Production	Cobalt	7440-48-4	9.16E-07	24 hr	MB	Above Average	0.1%
Z1P31	Z1P31	Baghouse serving transfer into finish mill (Z1P31)	Cement	Cement Production	Cobalt	7440-48-4	5.31E-07	24 hr	MB	Above Average	<0.1%
BAML	Z1P51	Finish mill baghouse (Z1P51)	Cement	Cement Production	Cobalt	7440-48-4	4.14E-05	24 hr	MB	Above Average	6.2%
BAML	Z1P61	Baghouse for transfer of cement to storage silo in finish mill building (Z1P61)	Cement	Cement Production	Cobalt	7440-48-4	9.16E-07	24 hr	MB	Above Average	0.1%
Z1P41	Z1P41	Baghouse serving transfer from finish mill (Z1P41)	Cement	Cement Production	Cobalt	7440-48-4	4.58E-07	24 hr	MB	Above Average	<0.1%
S200S	Z1P71	Baghouse serving transfer from finish mill (Z1P71)	Cement	Cement Production	Cobalt	7440-48-4	1.38E-07	24 hr	MB	Above Average	<0.1%
S200N	Z1P81	Baghouse serving 200 series cement storage silos (Z1P81)	Cement	Cement Production	Cobalt	7440-48-4	1.45E-07	24 hr	MB	Above Average	<0.1%
S200N	Z1P91	Baghouse serving 200 series cement storage silos (Z1P91)	Cement	Cement Production	Cobalt	7440-48-4	1.45E-07	24 hr	MB	Above Average	<0.1%
S200N	Z1P101	Baghouse serving 200 series cement storage silos (Z1P101)	Cement	Cement Production	Cobalt	7440-48-4	1.45E-07	24 hr	MB	Above Average	<0.1%
S200N	Z1P141	Baghouse serving 200 series cement storage silos (Z1P141)	Cement	Cement Production	Cobalt	7440-48-4	7.32E-07	24 hr	MB	Above Average	0.1%
S200N	Z1P151	Baghouse serving 200 series cement storage silos (Z1P151)	Cement	Cement Production	Cobalt	7440-48-4	7.32E-07	24 hr	MB	Above Average	0.1%
S200N	Z1P171	Baghouse serving 200 series cement storage silos (Z1P171)	Cement	Cement Production	Cobalt	7440-48-4	7.32E-07	24 hr	MB	Above Average	0.1%
S200N	Z1P181	Baghouse serving 200 series cement storage silos (Z1P181)	Cement	Cement Production	Cobalt	7440-48-4	4.61E-07	24 hr	MB	Above Average	<0.1%
S500	09-1-148	Baghouse serving 200 series cement storage silos (09-1-148)	Cement	Cement Production	Cobalt	7440-48-4	9.26E-07	24 hr	MB	Above Average	0.1%
S500	09-1-158	Baghouse serving 200 series cement storage silos (09-1-158)	Cement	Cement Production	Cobalt	7440-48-4	9.26E-07	24 hr	MB	Above Average	0.1%
S500	09-1-168	Baghouse serving 200 series cement storage silos (09-1-168)	Cement	Cement Production	Cobalt	7440-48-4	9.26E-07	24 hr	MB	Above Average	0.1%
S200N	09-1-189	Baghouse serving 200 series cement storage silos (09-1-189)	Cement	Cement Production	Cobalt	7440-48-4	6.16E-07	24 hr	MB	Above Average	<0.1%
S200N	09-1-192	Baghouse serving 200 series cement storage silos (09-1-192)	Cement	Cement Production	Cobalt	7440-48-4	9.26E-07	24 hr	MB	Above Average	0.1%
S200N	09-1-193	Baghouse serving 200 series cement storage silos (09-1-193)	Cement	Cement Production	Cobalt	7440-48-4	5.41E-07	24 hr	MB	Above Average	<0.1%
S200N	1-17-4	Baghouse serving 200 series cement storage silos (I-1704)	Cement	Cement Production	Cobalt	7440-48-4	3.86E-07	24 hr	MB	Above Average	<0.1%
S200S	I-10-3	Baghouse serving 200 series cement storage silos (I-10-3)	Cement	Cement Production	Cobalt	7440-48-4	3.10E-08	24 hr	MB	Above Average	<0.1%
S200S	I-10-4	Baghouse serving 200 series cement storage silos (I-10-4)	Cement	Cement Production	Cobalt	7440-48-4	3.10E-07	24 hr	MB	Above Average	<0.1%
S200S	I-22	Baghouse serving 200 series cement storage silos (I-22)	Cement	Cement Production	Cobalt	7440-48-4	1.54E-06	24 hr	MB	Above Average	0.2%
S340	Z1P161	Baghouse serving 300/400 series cement storage silos (Z1P161)	Cement	Cement Production	Cobalt	7440-48-4	7.32E-07	24 hr	MB	Above Average	0.1%
S340	I-59-3	Baghouse serving 300/400 series cement storage silos (I-59-3)	Cement	Cement Production	Cobalt	7440-48-4	1.16E-06	24 hr	MB	Above Average	0.2%
S340	09-1-075	Baghouse serving 300/400 series cement storage silos (09-1-075)	Cement	Cement Production	Cobalt	7440-48-4	1.91E-07	24 hr	MB	Above Average	<0.1%
S500	09-1-301	Baghouse serving 300/400 series cement storage silos (09-1-301)	Cement	Cement Production	Cobalt	7440-48-4	5.41E-07	24 hr	MB	Above Average	<0.1%
S500D	S500-CL	Cement loading from silo into a shipping tanker	Cement	Cement Production	Cobalt	7440-48-4	1.94E-05</				

Modelled Source	ESDM Source I.D.	Source Description	Materials	Process	Contaminant	CAS #	Maximum Emission Rate (g/s)	Averaging Period	Estimating Technique	Emission Data Quality	Percentage of Overall Emissions (%)
FSSC	FSSC-2	Feed Hopper to raw material screener	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Ferric Oxide	1309-37-1	2.30E-03	24 hr	MB	Above Average	0.3%
FSSC	FSSC-3	Raw material screening	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Ferric Oxide	1309-37-1	3.62E-02	24 hr	MB	Above Average	4.0%
FSSC	FSSC-4	Raw material transfer from Screener to Conveyor	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Ferric Oxide	1309-37-1	2.30E-03	24 hr	MB	Above Average	0.3%
FSSC	FSSC-5	Raw material transfer from Conveyor to Stacker	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Ferric Oxide	1309-37-1	2.30E-03	24 hr	MB	Above Average	0.3%
FSSCD	FSSC-6	Drop of raw material from Stacker to Stockpile	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Ferric Oxide	1309-37-1	1.97E-01	24 hr	MB	Above Average	21.9%
PIT11	04-1-411	Baghouse serving the raw material storage silos for raw mill (04-1-411)	Raw Feed	Raw Material Preparation	Ferric Oxide	1309-37-1	9.28E-04	24 hr	MB	Above Average	0.1%
PIT11	04-1-412	Baghouse serving the raw material storage silos for raw mill (04-1-412)	Raw Feed	Raw Material Preparation	Ferric Oxide	1309-37-1	1.08E-03	24 hr	MB	Above Average	0.1%
HSILO5	H1P41	Baghouse serving kiln feed silos (H1P41)	Raw Feed	Raw Material Preparation	Ferric Oxide	1309-37-1	2.81E-03	24 hr	MB	Above Average	0.3%
HSILO5	H1P51	Baghouse serving kiln feed silos (H1P51)	Raw Feed	Raw Material Preparation	Ferric Oxide	1309-37-1	2.81E-03	24 hr	MB	Above Average	0.3%
HSILO5	H1P61	Baghouse serving kiln feed silos (H1P61)	Raw Feed	Raw Material Preparation	Ferric Oxide	1309-37-1	2.81E-03	24 hr	MB	Above Average	0.3%
K1P11	K1P11	Fuel mill baghouse (K1P11)	Conventional Fuel	Conventional Fuel Preparation and Feed	Ferric Oxide	1309-37-1	2.86E-04	24 hr	MB	Above Average	<0.1%
K1P31	K1P31	Fuel meal storage silo baghouse (K1P31)	Conventional Fuel	Conventional Fuel Preparation and Feed	Ferric Oxide	1309-37-1	4.28E-04	24 hr	MB	Above Average	<0.1%
K1P41	K1P41	Baghouse serving the north auxiliary fuel silo (K1P41)	Conventional Fuel	Conventional Fuel Preparation and Feed	Ferric Oxide	1309-37-1	1.12E-04	24 hr	MB	Above Average	<0.1%
GHOPPER	G1P01	Gypsum Feed Hopper Baghouse (G1P01)	Gypsum/Silica Fume	Conventional Fuel Preparation and Feed	Ferric Oxide	1309-37-1	2.76E-04	24 hr	MB	Above Average	<0.1%
05_1_412	05-1-412	Baghouse serving the kiln feed transfer to preheater tower (05-1-412)	Raw Feed	Clinker Production	Ferric Oxide	1309-37-1	2.47E-03	24 hr	MB	Above Average	0.3%
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production	Ferric Oxide	1309-37-1	1.50E-02	24 hr	ST	Above Average	1.7%
CKD	CKD	Delivery and shipping of Cement Kiln Dust (CKD) to/from storage piles	Cement Kiln Dust	Clinker Production	Ferric Oxide	1309-37-1	4.50E-04	24 hr	MB	Above Average	<0.1%
PIT11	07-1-421	Baghouse serving south transfer tower (07-1-421)	Clinker	Clinker Production	Ferric Oxide	1309-37-1	3.04E-03	24 hr	MB	Above Average	0.3%
07_1_441	07-1-441	Baghouse serving north transfer tower (07-1-441)	Clinker	Clinker Production	Ferric Oxide	1309-37-1	1.83E-03	24 hr	MB	Above Average	0.2%
07_1_450	07-1-450	Baghouse serving north transfer tower (07-1-450)	Clinker	Clinker Production	Ferric Oxide	1309-37-1	2.13E-03	24 hr	MB	Above Average	0.2%
CBH	W1P51	Clinker cooler baghouse (W1P51)	Clinker	Clinker Production	Ferric Oxide	1309-37-1	3.97E-02	24 hr	MB	Above Average	4.4%
W1P91	W1P91	Clinker reclaim hopper baghouse (W1P91)	Clinker	Clinker Production	Ferric Oxide	1309-37-1	3.96E-03	24 hr	MB	Above Average	0.4%
PIT11	W1P101	Baghouse serving clinker truck loading/shipping (W1P101)	Clinker	Clinker Production	Ferric Oxide	1309-37-1	2.53E-03	24 hr	MB	Above Average	0.3%
PIT11D	PIT11-22	Transfer of clinker into Tee-Pee storage area	Clinker	Clinker Production	Ferric Oxide	1309-37-1	1.06E-02	24 hr	MB	Above Average	1.2%
PIT11D	PIT11-23	Clinker transfer into a hopper	Clinker	Clinker Production	Ferric Oxide	1309-37-1	5.46E-03	24 hr	MB	Above Average	0.6%
PIT11D	OFC-1	Loading Point to Truck (offspec clinker)	Clinker	Clinker Production	Ferric Oxide	1309-37-1	1.36E-01	24 hr	MB	Above Average	15.2%
PIT11D	OFC-2	Truck to Pre-Crushing Stockpiles (offspec clinker)	Wet Clinker	Clinker Production	Ferric Oxide	1309-37-1	1.35E-02	24 hr	MB	Above Average	1.5%
PIT11D	OFC-3	Front-end Loader to Feed Hopper (offspec clinker)	Wet Clinker	Clinker Production	Ferric Oxide	1309-37-1	1.35E-02	24 hr	MB	Above Average	1.5%
PIT11	OFC-4	Feeder to Crusher (offspec clinker)	Wet Clinker	Clinker Production	Ferric Oxide	1309-37-1	1.58E-04	24 hr	MB	Above Average	<0.1%
PIT11	OFC-5	Crushing (offspec clinker)	Wet Clinker	Clinker Production	Ferric Oxide	1309-37-1	1.35E-03	24 hr	MB	Above Average	0.2%
PIT11	OFC-6	Crusher to Discharge Conveyor (offspec clinker)	Wet Clinker	Clinker Production	Ferric Oxide	1309-37-1	1.58E-04	24 hr	MB	Above Average	<0.1%
PIT11D	OFC-7	Discharge Conveyor to Crushed Stockpile (offspec clinker)	Wet Clinker	Clinker Production	Ferric Oxide	1309-37-1	1.35E-02	24 hr	MB	Above Average	1.5%
PIT11D	OFC-8	Front-end Loader to Storage Stockpile (offspec clinker)	Wet Clinker	Clinker Production	Ferric Oxide	1309-37-1	1.35E-02	24 hr	MB	Above Average	1.5%
BLSI	Z1P01	Baghouse serving additive storage silos in finish mill building (Z1P01)	Gypsum/Silica Fume	Cement Production	Ferric Oxide	1309-37-1	1.26E-04	24 hr	MB	Above Average	<0.1%
BLSI	Z1P11	Baghouse serving additive storage silos in finish mill building (Z1P11)	Gypsum/Silica Fume	Cement Production	Ferric Oxide	1309-37-1	1.26E-04	24 hr	MB	Above Average	<0.1%
BLSI	Z1P21	Baghouse serving additive storage silos in finish mill building (Z1P21)	Gypsum/Silica Fume	Cement Production	Ferric Oxide	1309-37-1	1.26E-04	24 hr	MB	Above Average	<0.1%
PIT11	07-1-491	Baghouse serving additive storage silos in finish mill building (07-1-491)	Gypsum/Silica Fume	Cement Production	Ferric Oxide	1309-37-1	1.19E-04	24 hr	MB	Above Average	<0.1%
PIT11	07-1-492	Baghouse serving additive storage silos in finish mill building (07-1-492)	Gypsum/Silica Fume	Cement Production	Ferric Oxide	1309-37-1	7.46E-05	24 hr	MB	Above Average	<0.1%
PIT11	Z1P191	Baghouse serving transfer of additive in finish mill building (Z1P191)	Cement	Cement Production	Ferric Oxide	1309-37-1	1.68E-03	24 hr	MB	Above Average	0.2%
Z1P31	Z1P31	Baghouse serving transfer into finish mill (Z1P31)	Cement	Cement Production	Ferric Oxide	1309-37-1	9.72E-04	24 hr	MB	Above Average	0.1%
BAML	Z1P51	Finish mill baghouse (Z1P51)	Cement	Cement Production	Ferric Oxide	1309-37-1	7.58E-02	24 hr	MB	Above Average	8.4%
BAML	Z1P61	Baghouse for transfer of cement to storage silo in finish mill building (Z1P61)	Cement	Cement Production	Ferric Oxide	1309-37-1	1.68E-03	24 hr	MB	Above Average	0.2%
Z1P41	Z1P41	Baghouse serving transfer from finish mill (Z1P41)	Cement	Cement Production	Ferric Oxide	1309-37-1	8.39E-04	24 hr	MB	Above Average	<0.1%
S2005	Z1P71	Baghouse serving transfer from finish mill (Z1P71)	Cement	Cement Production	Ferric Oxide	1309-37-1	2.54E-04	24 hr	MB	Above Average	<0.1%
S200N	Z1P81	Baghouse serving 200 series cement storage silos (Z1P81)	Cement	Cement Production	Ferric Oxide	1309-37-1	2.66E-04	24 hr	MB	Above Average	<0.1%
S200N	Z1P91	Baghouse serving 200 series cement storage silos (Z1P91)	Cement	Cement Production	Ferric Oxide	1309-37-1	2.66E-04	24 hr	MB	Above Average	<0.1%
S200N	Z1P101	Baghouse serving 200 series cement storage silos (Z1P101)	Cement	Cement Production	Ferric Oxide	1309-37-1	2.66E-04	24 hr	MB	Above Average	<0.1%
S200N	Z1P141	Baghouse serving 200 series cement storage silos (Z1P141)	Cement	Cement Production	Ferric Oxide	1309-37-1	1.34E-03	24 hr	MB	Above Average	0.1%
S200N	Z1P151	Baghouse serving 200 series cement storage silos (Z1P151)	Cement	Cement Production	Ferric Oxide	1309-37-1	1.34E-03	24 hr	MB	Above Average	0.1%
S200N	Z1P171	Baghouse serving 200 series cement storage silos (Z1P171)	Cement	Cement Production	Ferric Oxide	1309-37-1	1.34E-03	24 hr	MB	Above Average	0.1%
S200N	Z1P181	Baghouse serving 200 series cement storage silos (Z1P181)	Cement	Cement Production	Ferric Oxide	1309-37-1	8.45E-04	24 hr	MB	Above Average	<0.1%
S500	09-1-148	Baghouse serving 200 series cement storage silos (09-1-148)	Cement	Cement Production	Ferric Oxide	1309-37-1	1.70E-03	24 hr	MB	Above Average	0.2%
S500	09-1-158	Baghouse serving 200 series cement storage silos (09-1-158)	Cement	Cement Production	Ferric Oxide	1309-37-1	1.70E-03	24 hr	MB	Above Average	0.2%
S500	09-1-168	Baghouse serving 200 series cement storage silos (09-1-168)	Cement	Cement Production	Ferric Oxide	1309-37-1	1.70E-03	24 hr	MB	Above Average	0.2%
S200N	09-1-189	Baghouse serving 200 series cement storage silos (09-1-189)	Cement	Cement Production	Ferric Oxide	1309-37-1	1.13E-03	24 hr	MB	Above Average	0.1%
S200N	09-1-192	Baghouse serving 200 series cement storage silos (09-1-192)	Cement	Cement Production	Ferric Oxide	1309-37-1	1.70E-03	24 hr	MB	Above Average	0.2%
S200N	09-1-193	Baghouse serving 200 series cement storage silos (09-1-193)	Cement	Cement Production	Ferric Oxide	1309-37-1	9.90E-04	24 hr	MB	Above Average	0.1%
S200N	1-17-4	Baghouse serving 200 series cement storage silos (1-1704)	Cement	Cement Production	Ferric Oxide	1309-37-1	7.06E-04	24 hr	MB	Above Average	<0.1%
S2005	1-10-3	Baghouse serving 200 series cement storage silos (1-10-3)	Cement	Cement Production	Ferric Oxide	1309-37-1	5.68E-05	24 hr	MB	Above Average	<0.1%
S2005	1-10-4	Baghouse serving 200 series cement storage silos (1-10-4)	Cement	Cement Production	Ferric Oxide	1309-37-1	5.68E-04	24 hr	MB	Above Average	<0.1%
S2005	1-22	Baghouse serving 200 series cement storage silos (1-22)	Cement	Cement Production	Ferric Oxide	1309-37-1	2.83E-03	24 hr	MB	Above Average	0.3%
S340	Z1P161	Baghouse serving 300/400 series cement storage silos (Z1P161)	Cement	Cement Production	Ferric Oxide	1309-37-1	1.34E-03	24 hr	MB	Above Average	0.1%
S340	1-59-3	Baghouse serving 300/400 series cement storage silos (1-59-3)	Cement	Cement Production	Ferric Oxide	1309-37-1	2.12E-03	24 hr	MB	Above Average	0.2%
S340	09-1-075	Baghouse serving 300/400 series cement storage silos (09-1-075)	Cement	Cement Production	Ferric Oxide	1309-37-1	3.50E-04	24 hr	MB	Above Average	<0.1%
S500	09-1-301	Baghouse serving 300/400 series cement storage silos (09-1-301)	Cement	Cement Production	Ferric Oxide	1309-37-1	9.90E-04	24 hr	MB	Above Average	0.1%
S500D	S500-CL	Cement loading from silo into a shipping tanker	Cement	Cement Production	Ferric Oxide	1309-37-1	3.55E-02	24 hr	MB	Above Average	3.9%
S340	CPV-1	Baghouse serving packhouse 3 screw conveyor	Cement	Cement Production	Ferric Oxide	1309-37-1	1.99E-04	24 hr	MB	Above Average	<0.1%
PACK	09-1-497	Baghouse serving packhouse cement storage silos (09-1-497)	Cement	Cement Production	Ferric Oxide	1309-37-1	1.41E-03	24 hr	MB	Above Average	0.2%
PACK	09-1-407	Baghouse serving packhouse cement storage silos (09-1-407)	Cement	Cement Production	Ferric Oxide	1309-37-1	1.41E-03	24 hr	MB	Above Average	0.2%
PACK	09-1-670	Baghouse serving packhouse cement storage silos (09-1-670)	Cement	Cement Production	Ferric Oxide	1309-37-1	5.65E-03	24 hr	MB	Above Average	0.6%
PACK	09-1-311	Baghouse serving packhouse cement storage silos (09-1-311)	Cement	Cement Production	Ferric Oxide	1309-37-1	1.41E-03	24 hr	MB	Above Average	0.2%
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production	Fluoranthene	206-44-0	7.10E-05	24 hr	ST	Above Average	100.0%
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production	Fluorene	86-73-7	9.20E-04	24 hr	ST	Above Average	100.0%
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production	Hexachlorobenzene	118-74-1	4.97E-05	24 hr	ST	Above Average	100.0%
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production	Hydrogen Chloride	7647-01-0	1.23E+00	24 hr	ST	Above Average	100.0%
A_16_4	A-16-4	Baghouse serving the secondary crusher (A-16-4)	Limestone	Limestone Extraction & Processing	Lead	7439-92-1	1.89E-06	24 hr	MB	Above Average	<0.1%
A_15_5	A-15-5	Baghouse serving the secondary screen (A-15-5)	Limestone	Limestone Extraction & Processing	Lead	7439-92-1	8.30E-07	24 hr	MB	Above Average	<0.1%
PPILE	PPILE	Transfer of limestone onto primary surge pile	Limestone	Limestone Extraction & Processing	Lead	7439-92-1	1.34E-05	24 hr	MB	Above Average	0.1%
PILE5	PILE5-1	Delivery and transfer of conventional fuel	Conventional Fuel	Raw Material / Conventional Fuel Delivery and Storage	Lead	7439-92-1	7.98E-07	24 hr	MB	Above Average	<0.1%
PILE5	PILE5-2	Delivery and transfer of raw materials	Raw Feed	Raw Material / Conventional Fuel Delivery and Storage	Lead	7439-92-1	4.52E-05	24 hr	MB	Above Average	0.5%
K1P51	K1P51	Conventional fuel storage silo baghouse (K1P51)	Conventional Fuel	Raw Material / Conventional Fuel Delivery and Storage	Lead	7439-92-1	6.72E-07	24 hr	MB	Above Average	<0.1%
RAWS	04-1-401	Raw material storage silo baghouse (04-1-401)	Raw Feed	Raw Material / Conventional Fuel Delivery and Storage	Lead	7439-92-1	2.89E-05	24 hr	MB	Above Average	0.3%
CLPT	CLPT-1	Scraper from face onto a pile	Clay/Momentive	Raw Material / Conventional Fuel Delivery and Storage	Lead	7439-92-1	1.32E-06	24 hr	MB	Above Average	<0.1%
CLPT	CLPT-2	Front end loader transfer into truck	Clay/Momentive	Raw Material / Conventional Fuel Delivery and Storage	Lead	7439-92-1	1.32E-06	24 hr	MB	Above Average	<0.1%
FSSCD	FSSC-1	Front-end Loader to Feed Hopper for raw material screen	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Lead	7439-92-1	1.68E-03	24 hr	MB	Above Average	18.0%
FSSC	FSSC-2	Feed Hopper to raw material screener	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Lead	7439-92-1	1.96E-05	24 hr	MB	Above Average	0.2%
FSSC	FSSC-3	Raw material screening	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Lead	7439-92-1	3.08E-04	24 hr	MB	Above Average	3.3%
FSSC	FSSC-4	Raw material transfer from Screener to Conveyor	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Lead	7439-92-1	1.96E-05	24 hr	MB	Above Average	0.2%
FSSC	FSSC-5	Raw material transfer from Conveyor to Stacker	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Lead	7439-92-1	1.96E-05	24 hr	MB	Above Average	0.2%
FSSCD	FSSC-6	Drop of raw material from Stacker to Stockpile	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Lead	7439-92-1	1.68E-03	24 hr	MB	Above Average	18.0%
PIT11	04-1-411	Baghouse serving the raw material storage silos for raw mill (04-1-411)	Raw Feed	Raw Material Preparation	Lead	7439-92-1	9.65E-06	24 hr	MB	Above Average	0.1%
PIT11	04-1-412	Baghouse serving the raw material storage silos for raw mill (04-1-412)	Raw Feed	Raw Material Preparation	Lead	7439-92-1	1.12E-05	24 hr	MB	Above Average	0.1%
HSILO5	H1P41	Baghouse serving kiln feed silos (H1P41)	Raw Feed	Raw Material Preparation	Lead	7439-92-1	2.92E-05	24 hr	MB	Above Average	0.3%
HSILO5	H1P51	Baghouse serving kiln feed silos (H1P51)	Raw Feed	Raw Material Preparation	Lead	7439-92-1	2.92E-05	24 hr	MB	Above Average	0.3%
HSILO5	H1P61	Baghouse serving kiln feed silos (H1P61)	Raw Feed	Raw Material Preparation	Lead	7439-92-1	2.92E-05	24 hr	MB	Above Average	0.3%
K1P11	K1P11	Fuel mill baghouse (K1P11)	Conventional Fuel	Conventional Fuel Preparation and Feed	Lead	7439-92-1	2.45E-07	24 hr	MB	Above Average	<0.1%
K1P31	K1P31	Fuel meal storage silo baghouse (K1P31)	Conventional Fuel	Conventional Fuel Preparation and Feed	Lead	7439-92-1	3.67E-07	24 hr	MB	Above Average	<0.1%
K1P41	K1P41	Baghouse serving the north auxiliary fuel silo (K1P41)	Conventional Fuel	Conventional Fuel Preparation and Feed	Lead	7439-92-1	9.60E-08	24 hr	MB	Above Average	<0.1%
GHOPPER	G1P01	Gypsum Feed Hopper Baghouse (G1P01)	Gypsum/Silica Fume	Conventional Fuel Preparation and Feed	Lead	7439-92-1	2.38E-06	24 hr	MB	Above Average	<0.1%
05_1_412	05-1-412	Baghouse serving the kiln feed transfer to preheater tower (05-1-412)	Raw Feed	Clinker Production	Lead	7439-92-1					

Modelled Source	ESDM Source I.D.	Source Description	Materials	Process	Contaminant	CAS #	Maximum Emission Rate (g/s)	Averaging Period	Estimating Technique	Emission Data Quality	Percentage of Overall Emissions (%)
PIT11	Z1P191	Baghouse serving transfer of additive in finish mill building (Z1P191)	Cement	Cement Production	Lead	7439-92-1	1.73E-05	24 hr	MB	Above Average	0.2%
Z1P31	Z1P31	Baghouse serving transfer into finish mill (Z1P31)	Cement	Cement Production	Lead	7439-92-1	1.00E-05	24 hr	MB	Above Average	0.1%
BAML	Z1P51	Finish mill baghouse (Z1P51)	Cement	Cement Production	Lead	7439-92-1	7.80E-04	24 hr	MB	Above Average	8.4%
BAML	Z1P61	Baghouse for transfer of cement to storage silo in finish mill building (Z1P61)	Cement	Cement Production	Lead	7439-92-1	1.73E-05	24 hr	MB	Above Average	0.2%
Z1P41	Z1P41	Baghouse serving transfer from finish mill (Z1P41)	Cement	Cement Production	Lead	7439-92-1	8.64E-06	24 hr	MB	Above Average	<0.1%
S200S	Z1P71	Baghouse serving transfer from finish mill (Z1P71)	Cement	Cement Production	Lead	7439-92-1	2.61E-06	24 hr	MB	Above Average	<0.1%
S200N	Z1P81	Baghouse serving 200 series cement storage silos (Z1P81)	Cement	Cement Production	Lead	7439-92-1	2.73E-06	24 hr	MB	Above Average	<0.1%
S200N	Z1P91	Baghouse serving 200 series cement storage silos (Z1P91)	Cement	Cement Production	Lead	7439-92-1	2.73E-06	24 hr	MB	Above Average	<0.1%
S200N	Z1P101	Baghouse serving 200 series cement storage silos (Z1P101)	Cement	Cement Production	Lead	7439-92-1	2.73E-06	24 hr	MB	Above Average	<0.1%
S200N	Z1P141	Baghouse serving 200 series cement storage silos (Z1P141)	Cement	Cement Production	Lead	7439-92-1	1.38E-05	24 hr	MB	Above Average	0.1%
S200N	Z1P151	Baghouse serving 200 series cement storage silos (Z1P151)	Cement	Cement Production	Lead	7439-92-1	1.38E-05	24 hr	MB	Above Average	0.1%
S200N	Z1P171	Baghouse serving 200 series cement storage silos (Z1P171)	Cement	Cement Production	Lead	7439-92-1	1.38E-05	24 hr	MB	Above Average	0.1%
S200N	Z1P181	Baghouse serving 200 series cement storage silos (Z1P181)	Cement	Cement Production	Lead	7439-92-1	8.70E-06	24 hr	MB	Above Average	<0.1%
S500	09-1-148	Baghouse serving 200 series cement storage silos (09-1-148)	Cement	Cement Production	Lead	7439-92-1	1.75E-05	24 hr	MB	Above Average	0.2%
S500	09-1-158	Baghouse serving 200 series cement storage silos (09-1-158)	Cement	Cement Production	Lead	7439-92-1	1.75E-05	24 hr	MB	Above Average	0.2%
S500	09-1-168	Baghouse serving 200 series cement storage silos (09-1-168)	Cement	Cement Production	Lead	7439-92-1	1.75E-05	24 hr	MB	Above Average	0.2%
S200N	09-1-189	Baghouse serving 200 series cement storage silos (09-1-189)	Cement	Cement Production	Lead	7439-92-1	1.16E-05	24 hr	MB	Above Average	0.1%
S200N	09-1-192	Baghouse serving 200 series cement storage silos (09-1-192)	Cement	Cement Production	Lead	7439-92-1	1.75E-05	24 hr	MB	Above Average	0.2%
S200N	09-1-193	Baghouse serving 200 series cement storage silos (09-1-193)	Cement	Cement Production	Lead	7439-92-1	1.02E-05	24 hr	MB	Above Average	0.1%
S200N	1-17-4	Baghouse serving 200 series cement storage silos (1-1704)	Cement	Cement Production	Lead	7439-92-1	7.27E-06	24 hr	MB	Above Average	<0.1%
S200S	1-10-3	Baghouse serving 200 series cement storage silos (1-10-3)	Cement	Cement Production	Lead	7439-92-1	5.84E-07	24 hr	MB	Above Average	<0.1%
S200S	1-10-4	Baghouse serving 200 series cement storage silos (1-10-4)	Cement	Cement Production	Lead	7439-92-1	5.84E-06	24 hr	MB	Above Average	<0.1%
S200S	1-22	Baghouse serving 200 series cement storage silos (1-22)	Cement	Cement Production	Lead	7439-92-1	2.91E-05	24 hr	MB	Above Average	0.3%
S340	Z1P161	Baghouse serving 300/400 series cement storage silos (Z1P161)	Cement	Cement Production	Lead	7439-92-1	1.38E-05	24 hr	MB	Above Average	0.1%
S340	1-59-3	Baghouse serving 300/400 series cement storage silos (1-59-3)	Cement	Cement Production	Lead	7439-92-1	2.18E-05	24 hr	MB	Above Average	0.2%
S340	09-1-075	Baghouse serving 300/400 series cement storage silos (09-1-075)	Cement	Cement Production	Lead	7439-92-1	3.60E-06	24 hr	MB	Above Average	<0.1%
S500	09-1-301	Baghouse serving 300/400 series cement storage silos (09-1-301)	Cement	Cement Production	Lead	7439-92-1	1.02E-05	24 hr	MB	Above Average	0.1%
S500D	S500-CL	Cement loading from silo into a shipping tanker	Cement	Cement Production	Lead	7439-92-1	3.65E-04	24 hr	MB	Above Average	3.9%
S340	CPV-1	Baghouse serving packhouse 3 screw conveyor	Cement	Cement Production	Lead	7439-92-1	2.05E-06	24 hr	MB	Above Average	<0.1%
PACK	09-1-497	Baghouse serving packhouse cement storage silos (09-1-497)	Cement	Cement Production	Lead	7439-92-1	1.45E-05	24 hr	MB	Above Average	0.2%
PACK	09-1-407	Baghouse serving packhouse cement storage silos (09-1-407)	Cement	Cement Production	Lead	7439-92-1	1.45E-05	24 hr	MB	Above Average	0.2%
PACK	09-1-670	Baghouse serving packhouse cement storage silos (09-1-670)	Cement	Cement Production	Lead	7439-92-1	5.82E-05	24 hr	MB	Above Average	0.6%
PACK	09-1-311	Baghouse serving packhouse cement storage silos (09-1-311)	Cement	Cement Production	Lead	7439-92-1	1.45E-05	24 hr	MB	Above Average	0.2%
A_16_4	A-16-4	Baghouse serving the secondary crusher (A-16-4)	Limestone	Limestone Extraction & Processing	Manganese	7439-96-5	3.74E-05	24 hr	MB	Above Average	0.2%
A_15_5	A-15-5	Baghouse serving the secondary screen (A-15-5)	Limestone	Limestone Extraction & Processing	Manganese	7439-96-5	1.65E-05	24 hr	MB	Above Average	<0.1%
PPILE	PPILE	Transfer of limestone onto primary surge pile	Limestone	Limestone Extraction & Processing	Manganese	7439-96-5	2.66E-04	24 hr	MB	Above Average	1.4%
PILES	PILES-1	Delivery and transfer of conventional fuel	Conventional Fuel	Raw Material / Conventional Fuel Delivery and Storage	Manganese	7439-96-5	3.03E-05	24 hr	MB	Above Average	0.2%
PILES	PILES-2	Delivery and transfer of raw materials	Raw Feed	Raw Material / Conventional Fuel Delivery and Storage	Manganese	7439-96-5	8.23E-05	24 hr	MB	Above Average	0.4%
K1P51	K1P51	Conventional fuel storage silo baghouse (K1P51)	Conventional Fuel	Raw Material / Conventional Fuel Delivery and Storage	Manganese	7439-96-5	2.55E-05	24 hr	MB	Above Average	0.1%
RAWS	04-1-401	Raw material storage silo baghouse (04-1-401)	Raw Feed	Raw Material / Conventional Fuel Delivery and Storage	Manganese	7439-96-5	5.26E-05	24 hr	MB	Above Average	0.3%
CLPT	CLPT-1	Scraper from face onto a pile	Clay/Momentive	Raw Material / Conventional Fuel Delivery and Storage	Manganese	7439-96-5	2.14E-05	24 hr	MB	Above Average	0.1%
CLPT	CLPT-2	Front end loader transfer into truck	Clay/Momentive	Raw Material / Conventional Fuel Delivery and Storage	Manganese	7439-96-5	2.14E-05	24 hr	MB	Above Average	0.1%
FSSCD	FSSC-1	Front-end Loader to Feed Hopper for raw material screen	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Manganese	7439-96-5	1.56E-03	24 hr	MB	Above Average	8.4%
FSSC	FSSC-2	Feed Hopper to raw material screener	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Manganese	7439-96-5	1.83E-05	24 hr	MB	Above Average	<0.1%
FSSC	FSSC-3	Raw material screening	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Manganese	7439-96-5	2.87E-04	24 hr	MB	Above Average	1.5%
FSSC	FSSC-4	Raw material transfer from Screener to Conveyor	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Manganese	7439-96-5	1.83E-05	24 hr	MB	Above Average	<0.1%
FSSC	FSSC-5	Raw material transfer from Conveyor to Stackler	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Manganese	7439-96-5	1.83E-05	24 hr	MB	Above Average	<0.1%
FSSCD	FSSC-6	Drop of raw material from Stackler to Stockpile	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Manganese	7439-96-5	1.56E-03	24 hr	MB	Above Average	8.4%
PIT11	04-1-411	Baghouse serving the raw material storage silos for raw mill (04-1-411)	Raw Feed	Raw Material Preparation	Manganese	7439-96-5	1.76E-05	24 hr	MB	Above Average	<0.1%
PIT11	04-1-412	Baghouse serving the raw material storage silos for raw mill (04-1-412)	Raw Feed	Raw Material Preparation	Manganese	7439-96-5	2.04E-05	24 hr	MB	Above Average	0.1%
HSILSOS	H1P41	Baghouse serving kiln feed silos (H1P41)	Raw Feed	Raw Material Preparation	Manganese	7439-96-5	5.32E-05	24 hr	MB	Above Average	0.3%
HSILSOS	H1P51	Baghouse serving kiln feed silos (H1P51)	Raw Feed	Raw Material Preparation	Manganese	7439-96-5	5.32E-05	24 hr	MB	Above Average	0.3%
HSILSOS	H1P61	Baghouse serving kiln feed silos (H1P61)	Raw Feed	Raw Material Preparation	Manganese	7439-96-5	5.32E-05	24 hr	MB	Above Average	0.3%
K1P11	K1P11	Fuel mill baghouse (K1P11)	Conventional Fuel	Conventional Fuel Preparation and Feed	Manganese	7439-96-5	9.28E-06	24 hr	MB	Above Average	<0.1%
K1P31	K1P31	Fuel meal storage silo baghouse (K1P31)	Conventional Fuel	Conventional Fuel Preparation and Feed	Manganese	7439-96-5	1.39E-05	24 hr	MB	Above Average	<0.1%
K1P41	K1P41	Baghouse serving the north auxiliary fuel silo (K1P41)	Conventional Fuel	Conventional Fuel Preparation and Feed	Manganese	7439-96-5	3.64E-06	24 hr	MB	Above Average	<0.1%
GHOPPER	G1P01	Gypsum Feed Hopper Baghouse (G1P01)	Gypsum/Silica Fume	Conventional Fuel Preparation and Feed	Manganese	7439-96-5	1.72E-05	24 hr	MB	Above Average	<0.1%
05_1_412	05-1-412	Baghouse serving the kiln feed transfer to preheater tower (05-1-412)	Raw Feed	Clinker Production	Manganese	7439-96-5	4.68E-05	24 hr	MB	Above Average	0.3%
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production	Manganese	7439-96-5	6.40E-03	24 hr	ST	Above Average	34.4%
CKD	CKD	Delivery and shipping of Cement Kiln Dust (CKD) to/from storage piles	Cement Kiln Dust	Clinker Production	Manganese	7439-96-5	8.55E-06	24 hr	MB	Above Average	<0.1%
PIT11	07-1-421	Baghouse serving south transfer tower (07-1-421)	Clinker	Clinker Production	Manganese	7439-96-5	5.77E-05	24 hr	MB	Above Average	0.3%
07_1_441	07-1-441	Baghouse serving north transfer tower (07-1-441)	Clinker	Clinker Production	Manganese	7439-96-5	3.47E-05	24 hr	MB	Above Average	0.2%
07_1_450	07-1-450	Baghouse serving north transfer tower (07-1-450)	Clinker	Clinker Production	Manganese	7439-96-5	4.05E-05	24 hr	MB	Above Average	0.2%
CBH	W1P51	Clinker cooler baghouse (W1P51)	Clinker	Clinker Production	Manganese	7439-96-5	7.53E-04	24 hr	MB	Above Average	4.1%
W1P91	W1P91	Clinker reclaim hopper baghouse (W1P91)	Clinker	Clinker Production	Manganese	7439-96-5	7.53E-05	24 hr	MB	Above Average	0.4%
PIT11	W1P101	Baghouse serving clinker truck loading/shipping (W1P101)	Clinker	Clinker Production	Manganese	7439-96-5	4.81E-05	24 hr	MB	Above Average	0.3%
PIT11D	PIT11-22	Transfer of clinker into Tee-Pee storage area	Clinker	Clinker Production	Manganese	7439-96-5	2.02E-04	24 hr	MB	Above Average	1.1%
PIT11D	PIT11-23	Clinker transfer into a hopper	Clinker	Clinker Production	Manganese	7439-96-5	1.04E-04	24 hr	MB	Above Average	0.6%
PIT11D	OFC-1	Loading Point to Truck (offspec clinker)	Clinker	Clinker Production	Manganese	7439-96-5	2.59E-03	24 hr	MB	Above Average	13.9%
PIT11D	OFC-2	Truck to Pre-Crushing Stockpiles (offspec clinker)	Wet Clinker	Clinker Production	Manganese	7439-96-5	2.56E-04	24 hr	MB	Above Average	1.4%
PIT11D	OFC-3	Front-end Loader to Feed Hopper (offspec clinker)	Wet Clinker	Clinker Production	Manganese	7439-96-5	2.56E-04	24 hr	MB	Above Average	1.4%
PIT11	OFC-4	Feeder to Crusher (offspec clinker)	Wet Clinker	Clinker Production	Manganese	7439-96-5	3.00E-06	24 hr	MB	Above Average	<0.1%
PIT11	OFC-5	Crushing (offspec clinker)	Wet Clinker	Clinker Production	Manganese	7439-96-5	2.57E-05	24 hr	MB	Above Average	0.1%
PIT11	OFC-6	Crusher to Discharge Conveyor (offspec clinker)	Wet Clinker	Clinker Production	Manganese	7439-96-5	3.00E-06	24 hr	MB	Above Average	<0.1%
PIT11D	OFC-7	Discharge Conveyor to Crushed Stockpile (offspec clinker)	Wet Clinker	Clinker Production	Manganese	7439-96-5	2.56E-04	24 hr	MB	Above Average	1.4%
PIT11D	OFC-8	Front-end Loader to Storage Stockpile (offspec clinker)	Wet Clinker	Clinker Production	Manganese	7439-96-5	2.56E-04	24 hr	MB	Above Average	1.4%
BLS1	Z1P01	Baghouse serving additive storage silos in finish mill building (Z1P01)	Gypsum/Silica Fume	Cement Production	Manganese	7439-96-5	7.84E-06	24 hr	MB	Above Average	<0.1%
BLS1	Z1P11	Baghouse serving additive storage silos in finish mill building (Z1P11)	Gypsum/Silica Fume	Cement Production	Manganese	7439-96-5	7.84E-06	24 hr	MB	Above Average	<0.1%
BLS1	Z1P21	Baghouse serving additive storage silos in finish mill building (Z1P21)	Gypsum/Silica Fume	Cement Production	Manganese	7439-96-5	7.84E-06	24 hr	MB	Above Average	<0.1%
PIT11	07-1-491	Baghouse serving additive storage silos in finish mill building (07-1-491)	Gypsum/Silica Fume	Cement Production	Manganese	7439-96-5	7.44E-06	24 hr	MB	Above Average	<0.1%
PIT11	07-1-492	Baghouse serving additive storage silos in finish mill building (07-1-492)	Gypsum/Silica Fume	Cement Production	Manganese	7439-96-5	4.65E-06	24 hr	MB	Above Average	<0.1%
PIT11	Z1P191	Baghouse serving transfer of additive in finish mill building (Z1P191)	Cement	Cement Production	Manganese	7439-96-5	3.22E-05	24 hr	MB	Above Average	0.2%
Z1P31	Z1P31	Baghouse serving transfer into finish mill (Z1P31)	Cement	Cement Production	Manganese	7439-96-5	1.87E-05	24 hr	MB	Above Average	0.1%
BAML	Z1P51	Finish mill baghouse (Z1P51)	Cement	Cement Production	Manganese	7439-96-5	1.46E-03	24 hr	MB	Above Average	7.8%
BAML	Z1P61	Baghouse for transfer of cement to storage silo in finish mill building (Z1P61)	Cement	Cement Production	Manganese	7439-96-5	3.22E-05	24 hr	MB	Above Average	0.2%
Z1P41	Z1P41	Baghouse serving transfer from finish mill (Z1P41)	Cement	Cement Production	Manganese	7439-96-5	1.61E-05	24 hr	MB	Above Average	<0.1%
S200S	Z1P71	Baghouse serving transfer from finish mill (Z1P71)	Cement	Cement Production	Manganese	7439-96-5	4.87E-06	24 hr	MB	Above Average	<0.1%
S200N	Z1P81	Baghouse serving 200 series cement storage silos (Z1P81)	Cement	Cement Production	Manganese	7439-96-5	5.10E-06	24 hr	MB	Above Average	<0.1%
S200N	Z1P91	Baghouse serving 200 series cement storage silos (Z1P91)	Cement	Cement Production	Manganese	7439-96-5	5.10E-06	24 hr	MB	Above Average	<0.1%
S200N	Z1P101	Baghouse serving 200 series cement storage silos (Z1P101)	Cement	Cement Production	Manganese	7439-96-5	5.10E-06	24 hr	MB	Above Average	<0.1%
S200N	Z1P141	Baghouse serving 200 series cement storage silos (Z1P141)	Cement	Cement Production	Manganese	7439-96-5	2.57E-05	24 hr	MB	Above Average	0.1%
S200N	Z1P151	Baghouse serving 200 series cement storage silos (Z1P151)	Cement	Cement Production	Manganese	7439-96-5	2.57E-05	24 hr	MB	Above Average	0.1%
S200N	Z1P171	Baghouse serving 200 series cement storage silos (Z1P171)	Cement	Cement Production	Manganese	7439-96-5	2.57E-05	24 hr	MB	Above Average	0.1%
S200N	Z1P181	Baghouse serving 200 series cement storage silos (Z1P181)	Cement	Cement Production	Manganese	7439-96-5	1.62E-05	24 hr	MB	Above Average	<0.1%
S500	09-1-148	Baghouse serving 200 series cement storage silos (09-1-148)	Cement	Cement Production	Manganese	7439-96-5	3.26E-05	24 hr	MB	Above Average	0.2%
S500	09-1-158	Baghouse serving 200 series cement storage silos (09-1-158)	Cement	Cement Production	Manganese	7439-96-5	3.26E-05	24 hr	MB	Above Average	0.2%
S500	09-1-168	Baghouse serving 200 series cement storage silos (09-1-168)	Cement	Cement Production	Manganese	7439-96-5	3.26E-05	24 hr	MB	Above Average	0.2%
S200N	09-1-189	Baghouse serving 200 series cement storage silos (09-1-189)	Cement	Cement Production	Manganese	7439-96-5	2.17E-05	24 hr	MB	Above Average	0.1%
S200N	09-1-192	Baghouse serving 200 series cement storage silos (09-1-192)	Cement	Cement Production	Manganese	7439-96-5	3.26E-05	24 hr	MB	Above Average	0.2%
S200N	09-1-193	Baghouse serving 200 series cement storage silos (09-1-193)	Cement	Cement Production	Manganese	7439-96-5	1.90E-05	24 hr	MB	Above Average	0.1%
S200N	1-17-4	Baghouse serving 200 series cement storage silos (1-1704)	Cement	Cement Production	Manganese	7439-96-5	1.36E-05	24 hr	MB	Above Average	<0.1%

Modelled Source	ESDM Source I.D.	Source Description	Materials	Process	Contaminant	CAS #	Maximum Emission Rate (g/s)	Averaging Period	Estimating Technique	Emission Data Quality	Percentage of Overall Emissions (%)
CLPT	CLPT-2	Front end loader transfer into truck	Clay/Momentive	Raw Material / Conventional Fuel Delivery and Storage	Mercury	7439-97-6	7.21E-09	24 hr	MB	Above Average	<0.1%
FSSCD	FSSC-1	Front-end Loader to Feed Hopper for raw material screen	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Mercury	7439-97-6	1.12E-06	24 hr	MB	Above Average	<0.1%
FSSC	FSSC-2	Feed Hopper to raw material screener	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Mercury	7439-97-6	1.31E-08	24 hr	MB	Above Average	<0.1%
FSSC	FSSC-3	Raw material screening	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Mercury	7439-97-6	2.07E-07	24 hr	MB	Above Average	<0.1%
FSSC	FSSC-4	Raw material transfer from Screener to Conveyor	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Mercury	7439-97-6	1.31E-08	24 hr	MB	Above Average	<0.1%
FSSC	FSSC-5	Raw material transfer from Conveyor to Stacker	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Mercury	7439-97-6	1.31E-08	24 hr	MB	Above Average	<0.1%
FSSCD	FSSC-6	Drop of raw material from Stacker to Stockpile	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Mercury	7439-97-6	1.12E-06	24 hr	MB	Above Average	<0.1%
PIT11	04-1-411	Baghouse serving the raw material storage silos for raw mill (04-1-411)	Raw Feed	Raw Material Preparation	Mercury	7439-97-6	6.11E-09	24 hr	MB	Above Average	<0.1%
PIT11	04-1-412	Baghouse serving the raw material storage silos for raw mill (04-1-412)	Raw Feed	Raw Material Preparation	Mercury	7439-97-6	7.10E-09	24 hr	MB	Above Average	<0.1%
HSILO5	H1P41	Baghouse serving kiln feed silos (H1P41)	Raw Feed	Raw Material Preparation	Mercury	7439-97-6	1.85E-08	24 hr	MB	Above Average	<0.1%
HSILO5	H1P51	Baghouse serving kiln feed silos (H1P51)	Raw Feed	Raw Material Preparation	Mercury	7439-97-6	1.85E-08	24 hr	MB	Above Average	<0.1%
HSILO5	H1P61	Baghouse serving kiln feed silos (H1P61)	Raw Feed	Raw Material Preparation	Mercury	7439-97-6	1.85E-08	24 hr	MB	Above Average	<0.1%
K1P11	K1P11	Fuel mill baghouse (K1P11)	Conventional Fuel	Conventional Fuel Preparation and Feed	Mercury	7439-97-6	1.02E-09	24 hr	MB	Above Average	<0.1%
K1P31	K1P31	Fuel meal storage silo baghouse (K1P31)	Conventional Fuel	Conventional Fuel Preparation and Feed	Mercury	7439-97-6	1.53E-09	24 hr	MB	Above Average	<0.1%
K1P41	K1P41	Baghouse serving the north auxiliary fuel silo (K1P41)	Conventional Fuel	Conventional Fuel Preparation and Feed	Mercury	7439-97-6	4.00E-10	24 hr	MB	Above Average	<0.1%
GHOPPER	G1P01	Gypsum Feed Hopper Baghouse (G1P01)	Gypsum/Silica Fume	Conventional Fuel Preparation and Feed	Mercury	7439-97-6	3.07E-07	24 hr	MB	Above Average	<0.1%
05_1_412	05-1-412	Baghouse serving the kiln feed transfer to preheater tower (05-1-412)	Raw Feed	Clinker Production	Mercury	7439-97-6	1.63E-08	24 hr	MB	Above Average	<0.1%
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production	Mercury	7439-97-6	1.58E-03	24 hr	ST	Above Average	99.6%
CKD	CKD	Delivery and shipping of Cement Kiln Dust (CKD) to/from storage piles	Cement Kiln Dust	Clinker Production	Mercury	7439-97-6	2.96E-09	24 hr	MB	Above Average	<0.1%
PIT11	07-1-421	Baghouse serving south transfer tower (07-1-421)	Clinker	Clinker Production	Mercury	7439-97-6	2.00E-08	24 hr	MB	Above Average	<0.1%
07_1_441	07-1-441	Baghouse serving north transfer tower (07-1-441)	Clinker	Clinker Production	Mercury	7439-97-6	1.20E-08	24 hr	MB	Above Average	<0.1%
07_1_450	07-1-450	Baghouse serving north transfer tower (07-1-450)	Clinker	Clinker Production	Mercury	7439-97-6	1.40E-08	24 hr	MB	Above Average	<0.1%
CBH	W1P51	Clinker cooler baghouse (W1P51)	Clinker	Clinker Production	Mercury	7439-97-6	2.61E-07	24 hr	MB	Above Average	<0.1%
W1P91	W1P91	Clinker reclaim hopper baghouse (W1P91)	Clinker	Clinker Production	Mercury	7439-97-6	2.61E-08	24 hr	MB	Above Average	<0.1%
PIT11	W1P101	Baghouse serving clinker truck loading/shipping (W1P101)	Clinker	Clinker Production	Mercury	7439-97-6	1.67E-08	24 hr	MB	Above Average	<0.1%
PIT11D	PIT11-22	Transfer of clinker into Tee-Pee storage area	Clinker	Clinker Production	Mercury	7439-97-6	7.00E-08	24 hr	MB	Above Average	<0.1%
PIT11D	PIT11-23	Clinker transfer into a hopper	Clinker	Clinker Production	Mercury	7439-97-6	3.59E-08	24 hr	MB	Above Average	<0.1%
PIT11D	OFC-1	Loading Point to Truck (offspec clinker)	Clinker	Clinker Production	Mercury	7439-97-6	8.97E-07	24 hr	MB	Above Average	<0.1%
PIT11D	OFC-2	Truck to Pre-Crushing Stockpiles (offspec clinker)	Wet Clinker	Clinker Production	Mercury	7439-97-6	8.88E-08	24 hr	MB	Above Average	<0.1%
PIT11D	OFC-3	Front-end Loader to Feed Hopper (offspec clinker)	Wet Clinker	Clinker Production	Mercury	7439-97-6	8.88E-08	24 hr	MB	Above Average	<0.1%
PIT11	OFC-4	Feeder to Crusher (offspec clinker)	Wet Clinker	Clinker Production	Mercury	7439-97-6	1.04E-09	24 hr	MB	Above Average	<0.1%
PIT11	OFC-5	Crushing (offspec clinker)	Wet Clinker	Clinker Production	Mercury	7439-97-6	8.90E-09	24 hr	MB	Above Average	<0.1%
PIT11	OFC-6	Crusher to Discharge Conveyor (offspec clinker)	Wet Clinker	Clinker Production	Mercury	7439-97-6	1.04E-09	24 hr	MB	Above Average	<0.1%
PIT11D	OFC-7	Discharge Conveyor to Crushed Stockpile (offspec clinker)	Wet Clinker	Clinker Production	Mercury	7439-97-6	8.88E-08	24 hr	MB	Above Average	<0.1%
PIT11D	OFC-8	Front-end Loader to Storage Stockpile (offspec clinker)	Wet Clinker	Clinker Production	Mercury	7439-97-6	8.88E-08	24 hr	MB	Above Average	<0.1%
BSI	Z1P01	Baghouse serving additive storage silos in finish mill building (Z1P01)	Gypsum/Silica Fume	Cement Production	Mercury	7439-97-6	1.40E-07	24 hr	MB	Above Average	<0.1%
BSI	Z1P11	Baghouse serving additive storage silos in finish mill building (Z1P11)	Gypsum/Silica Fume	Cement Production	Mercury	7439-97-6	1.40E-07	24 hr	MB	Above Average	<0.1%
BSI	Z1P21	Baghouse serving additive storage silos in finish mill building (Z1P21)	Gypsum/Silica Fume	Cement Production	Mercury	7439-97-6	1.40E-07	24 hr	MB	Above Average	<0.1%
PIT11	07-1-491	Baghouse serving additive storage silos in finish mill building (07-1-491)	Gypsum/Silica Fume	Cement Production	Mercury	7439-97-6	1.33E-07	24 hr	MB	Above Average	<0.1%
PIT11	07-1-492	Baghouse serving additive storage silos in finish mill building (07-1-492)	Gypsum/Silica Fume	Cement Production	Mercury	7439-97-6	8.28E-08	24 hr	MB	Above Average	<0.1%
PIT11	Z1P191	Baghouse serving transfer of additive in finish mill building (Z1P191)	Cement	Cement Production	Mercury	7439-97-6	1.66E-08	24 hr	MB	Above Average	<0.1%
Z1P31	Z1P31	Baghouse serving transfer into finish mill (Z1P31)	Cement	Cement Production	Mercury	7439-97-6	9.63E-09	24 hr	MB	Above Average	<0.1%
BAML	Z1P51	Finish mill baghouse (Z1P51)	Cement	Cement Production	Mercury	7439-97-6	7.51E-07	24 hr	MB	Above Average	<0.1%
BAML	Z1P61	Baghouse for transfer of cement to storage silo in finish mill building (Z1P61)	Cement	Cement Production	Mercury	7439-97-6	1.66E-08	24 hr	MB	Above Average	<0.1%
Z1P41	Z1P41	Baghouse serving transfer from finish mill (Z1P41)	Cement	Cement Production	Mercury	7439-97-6	8.31E-09	24 hr	MB	Above Average	<0.1%
S200S	Z1P71	Baghouse serving transfer from finish mill (Z1P71)	Cement	Cement Production	Mercury	7439-97-6	2.51E-09	24 hr	MB	Above Average	<0.1%
S200N	Z1P81	Baghouse serving 200 series cement storage silos (Z1P81)	Cement	Cement Production	Mercury	7439-97-6	2.63E-09	24 hr	MB	Above Average	<0.1%
S200N	Z1P91	Baghouse serving 200 series cement storage silos (Z1P91)	Cement	Cement Production	Mercury	7439-97-6	2.63E-09	24 hr	MB	Above Average	<0.1%
S200N	Z1P101	Baghouse serving 200 series cement storage silos (Z1P101)	Cement	Cement Production	Mercury	7439-97-6	2.63E-09	24 hr	MB	Above Average	<0.1%
S200N	Z1P141	Baghouse serving 200 series cement storage silos (Z1P141)	Cement	Cement Production	Mercury	7439-97-6	1.33E-08	24 hr	MB	Above Average	<0.1%
S200N	Z1P151	Baghouse serving 200 series cement storage silos (Z1P151)	Cement	Cement Production	Mercury	7439-97-6	1.33E-08	24 hr	MB	Above Average	<0.1%
S200N	Z1P171	Baghouse serving 200 series cement storage silos (Z1P171)	Cement	Cement Production	Mercury	7439-97-6	1.33E-08	24 hr	MB	Above Average	<0.1%
S200N	Z1P181	Baghouse serving 200 series cement storage silos (Z1P181)	Cement	Cement Production	Mercury	7439-97-6	8.37E-09	24 hr	MB	Above Average	<0.1%
S500	09-1-148	Baghouse serving 200 series cement storage silos (09-1-148)	Cement	Cement Production	Mercury	7439-97-6	1.68E-08	24 hr	MB	Above Average	<0.1%
S500	09-1-158	Baghouse serving 200 series cement storage silos (09-1-158)	Cement	Cement Production	Mercury	7439-97-6	1.68E-08	24 hr	MB	Above Average	<0.1%
S500	09-1-168	Baghouse serving 200 series cement storage silos (09-1-168)	Cement	Cement Production	Mercury	7439-97-6	1.68E-08	24 hr	MB	Above Average	<0.1%
S200N	09-1-189	Baghouse serving 200 series cement storage silos (09-1-189)	Cement	Cement Production	Mercury	7439-97-6	1.12E-08	24 hr	MB	Above Average	<0.1%
S200N	09-1-192	Baghouse serving 200 series cement storage silos (09-1-192)	Cement	Cement Production	Mercury	7439-97-6	1.68E-08	24 hr	MB	Above Average	<0.1%
S200N	09-1-193	Baghouse serving 200 series cement storage silos (09-1-193)	Cement	Cement Production	Mercury	7439-97-6	9.81E-09	24 hr	MB	Above Average	<0.1%
S200N	1-17-4	Baghouse serving 200 series cement storage silos (1-1704)	Cement	Cement Production	Mercury	7439-97-6	7.00E-09	24 hr	MB	Above Average	<0.1%
S200S	1-10-3	Baghouse serving 200 series cement storage silos (1-10-3)	Cement	Cement Production	Mercury	7439-97-6	5.62E-10	24 hr	MB	Above Average	<0.1%
S200S	1-10-4	Baghouse serving 200 series cement storage silos (1-10-4)	Cement	Cement Production	Mercury	7439-97-6	5.62E-09	24 hr	MB	Above Average	<0.1%
S200S	1-22	Baghouse serving 200 series cement storage silos (1-22)	Cement	Cement Production	Mercury	7439-97-6	2.80E-08	24 hr	MB	Above Average	<0.1%
S340	Z1P161	Baghouse serving 300/400 series cement storage silos (Z1P161)	Cement	Cement Production	Mercury	7439-97-6	1.33E-08	24 hr	MB	Above Average	<0.1%
S340	1-59-3	Baghouse serving 300/400 series cement storage silos (1-59-3)	Cement	Cement Production	Mercury	7439-97-6	2.10E-08	24 hr	MB	Above Average	<0.1%
S340	09-1-075	Baghouse serving 300/400 series cement storage silos (09-1-075)	Cement	Cement Production	Mercury	7439-97-6	3.47E-09	24 hr	MB	Above Average	<0.1%
S500	09-1-301	Baghouse serving 300/400 series cement storage silos (09-1-301)	Cement	Cement Production	Mercury	7439-97-6	9.81E-09	24 hr	MB	Above Average	<0.1%
S500D	S500-CL	Cement loading from silo into a shipping tanker	Cement	Cement Production	Mercury	7439-97-6	3.51E-07	24 hr	MB	Above Average	<0.1%
S340	CPV-1	Baghouse serving packhouse 3 screw conveyor	Cement	Cement Production	Mercury	7439-97-6	1.98E-09	24 hr	MB	Above Average	<0.1%
PACK	09-1-497	Baghouse serving packhouse cement storage silos (09-1-497)	Cement	Cement Production	Mercury	7439-97-6	1.40E-08	24 hr	MB	Above Average	<0.1%
PACK	09-1-407	Baghouse serving packhouse cement storage silos (09-1-407)	Cement	Cement Production	Mercury	7439-97-6	1.40E-08	24 hr	MB	Above Average	<0.1%
PACK	09-1-670	Baghouse serving packhouse cement storage silos (09-1-670)	Cement	Cement Production	Mercury	7439-97-6	5.60E-08	24 hr	MB	Above Average	<0.1%
PACK	09-1-311	Baghouse serving packhouse cement storage silos (09-1-311)	Cement	Cement Production	Mercury	7439-97-6	1.40E-08	24 hr	MB	Above Average	<0.1%
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production	Methylnaphthalene, 1-	90-12-0	1.20E-02	24 hr	ST	Above Average	100.0%
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production	Methylnaphthalene, 2-	91-57-6	1.50E-02	24 hr	ST	Above Average	100.0%
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production	Methylphenanthrene, 1-	832-69-9	1.80E-04	24 hr	ST	Above Average	100.0%
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production	Naphthalene	91-20-3	4.30E-02	24 hr	ST	Above Average	100.0%
A_16_4	A-16-4	Baghouse serving the secondary crusher (A-16-4)	Limestone	Limestone Extraction & Processing	Nickel	7440-02-0	2.12E-06	24 hr	MB	Above Average	0.1%
A_15_5	A-15-5	Baghouse serving the secondary screen (A-15-5)	Limestone	Limestone Extraction & Processing	Nickel	7440-02-0	9.34E-07	24 hr	MB	Above Average	<0.1%
PPILE	PPILE	Transfer of limestone onto primary surge pile	Limestone	Limestone Extraction & Processing	Nickel	7440-02-0	1.51E-05	24 hr	MB	Above Average	0.8%
PILES	PILES-1	Delivery and transfer of conventional fuel	Conventional Fuel	Raw Material / Conventional Fuel Delivery and Storage	Nickel	7440-02-0	6.65E-06	24 hr	MB	Above Average	0.3%
PILES	PILES-2	Delivery and transfer of raw materials	Raw Feed	Raw Material / Conventional Fuel Delivery and Storage	Nickel	7440-02-0	8.20E-06	24 hr	MB	Above Average	0.4%
K1P51	K1P51	Conventional fuel storage silo baghouse (K1P51)	Conventional Fuel	Raw Material / Conventional Fuel Delivery and Storage	Nickel	7440-02-0	5.60E-06	24 hr	MB	Above Average	0.3%
RAWS	04-1-401	Raw material storage silo baghouse (04-1-401)	Raw Feed	Raw Material / Conventional Fuel Delivery and Storage	Nickel	7440-02-0	5.24E-06	24 hr	MB	Above Average	0.3%
CLPT	CLPT-1	Scraper from face onto a pile	Clay/Momentive	Raw Material / Conventional Fuel Delivery and Storage	Nickel	7440-02-0	1.15E-06	24 hr	MB	Above Average	<0.1%
CLPT	CLPT-2	Front end loader transfer into truck	Clay/Momentive	Raw Material / Conventional Fuel Delivery and Storage	Nickel	7440-02-0	1.15E-06	24 hr	MB	Above Average	<0.1%
FSSCD	FSSC-1	Front-end Loader to Feed Hopper for raw material screen	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Nickel	7440-02-0	4.32E-04	24 hr	MB	Above Average	21.6%
FSSC	FSSC-2	Feed Hopper to raw material screener	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Nickel	7440-02-0	5.05E-06	24 hr	MB	Above Average	0.3%
FSSC	FSSC-3	Raw material screening	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Nickel	7440-02-0	7.93E-05	24 hr	MB	Above Average	4.0%
FSSC	FSSC-4	Raw material transfer from Screener to Conveyor	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Nickel	7440-02-0	5.05E-06	24 hr	MB	Above Average	0.3%
FSSC	FSSC-5	Raw material transfer from Conveyor to Stacker	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Nickel	7440-02-0	5.05E-06	24 hr	MB	Above Average	0.3%
FSSCD	FSSC-6	Drop of raw material from Stacker to Stockpile	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Nickel	7440-02-0	4.32E-04	24 hr	MB	Above Average	21.6%
PIT11	04-1-411	Baghouse serving the raw material storage silos for raw mill (04-1-411)	Raw Feed	Raw Material Preparation	Nickel	7440-02-0	1.75E-06	24 hr	MB	Above Average	<0.1%
PIT11	04-1-412	Baghouse serving the raw material storage silos for raw mill (04-1-412)	Raw Feed	Raw Material Preparation	Nickel	7440-02-0	2.03E-06	24 hr	MB	Above Average	0.1%
HSILO5	H1P41	Baghouse serving kiln feed silos (H1P41)	Raw Feed	Raw Material Preparation	Nickel	7440-02-0	5.30E-06	24 hr	MB	Above Average	0.3%
HSILO5	H1P51	Baghouse serving kiln feed silos (H1P51)	Raw Feed	Raw Material Preparation	Nickel	7440-02-0	5.30E-06	24 hr	MB	Above Average	0.3%
HSILO5	H1P61	Baghouse serving kiln feed silos (H1P61)	Raw Feed	Raw Material Preparation	Nickel	7440-02-0	5.30E-06	24 hr	MB	Above Average	0.3%
K1P11	K1P11	Fuel mill baghouse (K1P11)	Conventional Fuel	Conventional Fuel Preparation and Feed	Nickel	7440-02-0	2.04E-06	24 hr	MB	Above Average	0.1%
K1P31	K1P31	Fuel meal storage silo baghouse (K1P31)	Conventional Fuel	Conventional Fuel Preparation and Feed	Nickel	7440-02-0	3.06E-06	24 hr	MB	Above Average	0.2%
K1P41	K1P41	Baghouse serving the north auxiliary fuel silo (K1P41)	Conventional Fuel	Conventional Fuel Preparation and Feed	Nickel	7440-02-0	8.00E-07	24 hr	MB	Above Average	<0.1%</

Modelled Source	ESDM Source I.D.	Source Description	Materials	Process	Contaminant	CAS #	Maximum Emission Rate (g/s)	Averaging Period	Estimating Technique	Emission Data Quality	Percentage of Overall Emissions (%)
PIT11D	OFC-8	Front-end Loader to Storage Stockpile (offspec clinker)	Wet Clinker	Clinker Production	Nickel	7440-02-0	2.58E-05	24 hr	MB	Above Average	1.3%
BLSI	Z1P01	Baghouse serving additive storage silos in finish mill building (Z1P01)	Gypsum/Silica Fume	Cement Production	Nickel	7440-02-0	8.90E-07	24 hr	MB	Above Average	<0.1%
BLSI	Z1P11	Baghouse serving additive storage silos in finish mill building (Z1P11)	Gypsum/Silica Fume	Cement Production	Nickel	7440-02-0	8.90E-07	24 hr	MB	Above Average	<0.1%
BLSI	Z1P21	Baghouse serving additive storage silos in finish mill building (Z1P21)	Gypsum/Silica Fume	Cement Production	Nickel	7440-02-0	8.90E-07	24 hr	MB	Above Average	<0.1%
PIT11	07-1-491	Baghouse serving additive storage silos in finish mill building (07-1-491)	Gypsum/Silica Fume	Cement Production	Nickel	7440-02-0	8.45E-07	24 hr	MB	Above Average	<0.1%
PIT11	07-1-492	Baghouse serving additive storage silos in finish mill building (07-1-492)	Gypsum/Silica Fume	Cement Production	Nickel	7440-02-0	5.28E-07	24 hr	MB	Above Average	<0.1%
PIT11	Z1P191	Baghouse serving transfer of additive in finish mill building (Z1P191)	Cement	Cement Production	Nickel	7440-02-0	3.23E-06	24 hr	MB	Above Average	0.2%
Z1P31	Z1P31	Baghouse serving transfer into finish mill (Z1P31)	Cement	Cement Production	Nickel	7440-02-0	1.87E-06	24 hr	MB	Above Average	<0.1%
BAML	Z1P51	Finish mill baghouse (Z1P51)	Cement	Cement Production	Nickel	7440-02-0	1.46E-04	24 hr	MB	Above Average	7.3%
BAML	Z1P61	Baghouse for transfer of cement to storage silo in finish mill building (Z1P61)	Cement	Cement Production	Nickel	7440-02-0	3.23E-06	24 hr	MB	Above Average	0.2%
Z1P41	Z1P41	Baghouse serving transfer from finish mill (Z1P41)	Cement	Cement Production	Nickel	7440-02-0	1.61E-06	24 hr	MB	Above Average	<0.1%
S200S	Z1P71	Baghouse serving transfer from finish mill (Z1P71)	Cement	Cement Production	Nickel	7440-02-0	4.88E-07	24 hr	MB	Above Average	<0.1%
S200N	Z1P81	Baghouse serving 200 series cement storage silos (Z1P81)	Cement	Cement Production	Nickel	7440-02-0	5.11E-07	24 hr	MB	Above Average	<0.1%
S200N	Z1P91	Baghouse serving 200 series cement storage silos (Z1P91)	Cement	Cement Production	Nickel	7440-02-0	5.11E-07	24 hr	MB	Above Average	<0.1%
S200N	Z1P101	Baghouse serving 200 series cement storage silos (Z1P101)	Cement	Cement Production	Nickel	7440-02-0	5.11E-07	24 hr	MB	Above Average	<0.1%
S200N	Z1P141	Baghouse serving 200 series cement storage silos (Z1P141)	Cement	Cement Production	Nickel	7440-02-0	2.58E-06	24 hr	MB	Above Average	0.1%
S200N	Z1P151	Baghouse serving 200 series cement storage silos (Z1P151)	Cement	Cement Production	Nickel	7440-02-0	2.58E-06	24 hr	MB	Above Average	0.1%
S200N	Z1P171	Baghouse serving 200 series cement storage silos (Z1P171)	Cement	Cement Production	Nickel	7440-02-0	2.58E-06	24 hr	MB	Above Average	0.1%
S200N	Z1P181	Baghouse serving 200 series cement storage silos (Z1P181)	Cement	Cement Production	Nickel	7440-02-0	1.63E-06	24 hr	MB	Above Average	<0.1%
S500	09-1-148	Baghouse serving 200 series cement storage silos (09-1-148)	Cement	Cement Production	Nickel	7440-02-0	3.26E-06	24 hr	MB	Above Average	0.2%
S500	09-1-158	Baghouse serving 200 series cement storage silos (09-1-158)	Cement	Cement Production	Nickel	7440-02-0	3.26E-06	24 hr	MB	Above Average	0.2%
S500	09-1-168	Baghouse serving 200 series cement storage silos (09-1-168)	Cement	Cement Production	Nickel	7440-02-0	3.26E-06	24 hr	MB	Above Average	0.2%
S200N	09-1-189	Baghouse serving 200 series cement storage silos (09-1-189)	Cement	Cement Production	Nickel	7440-02-0	2.17E-06	24 hr	MB	Above Average	0.1%
S200N	09-1-192	Baghouse serving 200 series cement storage silos (09-1-192)	Cement	Cement Production	Nickel	7440-02-0	3.26E-06	24 hr	MB	Above Average	0.2%
S200N	09-1-193	Baghouse serving 200 series cement storage silos (09-1-193)	Cement	Cement Production	Nickel	7440-02-0	1.90E-06	24 hr	MB	Above Average	<0.1%
S200N	I-17-4	Baghouse serving 200 series cement storage silos (I-1704)	Cement	Cement Production	Nickel	7440-02-0	1.36E-06	24 hr	MB	Above Average	<0.1%
S200S	I-10-3	Baghouse serving 200 series cement storage silos (I-10-3)	Cement	Cement Production	Nickel	7440-02-0	1.09E-07	24 hr	MB	Above Average	<0.1%
S200S	I-10-4	Baghouse serving 200 series cement storage silos (I-10-4)	Cement	Cement Production	Nickel	7440-02-0	1.09E-06	24 hr	MB	Above Average	<0.1%
S200S	I-22	Baghouse serving 200 series cement storage silos (I-22)	Cement	Cement Production	Nickel	7440-02-0	5.43E-06	24 hr	MB	Above Average	0.3%
S340	Z1P161	Baghouse serving 300/400 series cement storage silos (Z1P161)	Cement	Cement Production	Nickel	7440-02-0	2.58E-06	24 hr	MB	Above Average	0.1%
S340	I-59-3	Baghouse serving 300/400 series cement storage silos (I-59-3)	Cement	Cement Production	Nickel	7440-02-0	4.08E-06	24 hr	MB	Above Average	0.2%
S340	09-1-075	Baghouse serving 300/400 series cement storage silos (09-1-075)	Cement	Cement Production	Nickel	7440-02-0	6.73E-07	24 hr	MB	Above Average	<0.1%
S500	09-1-301	Baghouse serving 300/400 series cement storage silos (09-1-301)	Cement	Cement Production	Nickel	7440-02-0	1.90E-06	24 hr	MB	Above Average	<0.1%
S500D	S500-CL	Cement loading from silo into a shipping tanker	Cement	Cement Production	Nickel	7440-02-0	6.83E-05	24 hr	MB	Above Average	3.4%
S340	CPV-1	Baghouse serving packhouse 3 screw conveyor	Cement	Cement Production	Nickel	7440-02-0	3.84E-07	24 hr	MB	Above Average	<0.1%
PACK	09-1-497	Baghouse serving packhouse cement storage silos (09-1-497)	Cement	Cement Production	Nickel	7440-02-0	2.72E-06	24 hr	MB	Above Average	0.1%
PACK	09-1-407	Baghouse serving packhouse cement storage silos (09-1-407)	Cement	Cement Production	Nickel	7440-02-0	2.72E-06	24 hr	MB	Above Average	0.1%
PACK	09-1-670	Baghouse serving packhouse cement storage silos (09-1-670)	Cement	Cement Production	Nickel	7440-02-0	1.09E-05	24 hr	MB	Above Average	0.5%
PACK	09-1-311	Baghouse serving packhouse cement storage silos (09-1-311)	Cement	Cement Production	Nickel	7440-02-0	2.72E-06	24 hr	MB	Above Average	0.1%
A_16_4	A-16-4	Baghouse serving the secondary crusher (A-16-4)	Limestone	Limestone Extraction & Processing	Nickel	7440-02-0	2.12E-06	Annual	MB	Above Average	0.1%
A_15_5	A-15-5	Baghouse serving the secondary screen (A-15-5)	Limestone	Limestone Extraction & Processing	Nickel	7440-02-0	9.34E-07	Annual	MB	Above Average	<0.1%
PPILE	PPILE	Transfer of limestone onto primary surge pile	Limestone	Limestone Extraction & Processing	Nickel	7440-02-0	1.51E-05	Annual	MB	Above Average	0.8%
PILES	PILES-1	Delivery and transfer of conventional fuel	Conventional Fuel	Raw Material / Conventional Fuel Delivery and Storage	Nickel	7440-02-0	6.65E-06	Annual	MB	Above Average	0.3%
PILES	PILES-2	Delivery and transfer of raw materials	Raw Feed	Raw Material / Conventional Fuel Delivery and Storage	Nickel	7440-02-0	8.20E-06	Annual	MB	Above Average	0.4%
K1P51	K1P51	Conventional fuel storage silo baghouse (K1P51)	Conventional Fuel	Raw Material / Conventional Fuel Delivery and Storage	Nickel	7440-02-0	5.60E-06	Annual	MB	Above Average	0.3%
RAWS	04-1-401	Raw material storage silo baghouse (04-1-401)	Raw Feed	Raw Material / Conventional Fuel Delivery and Storage	Nickel	7440-02-0	5.24E-06	Annual	MB	Above Average	0.3%
CLPT	CLPT-1	Scraper from face onto a pile	Clay/Momentive	Raw Material / Conventional Fuel Delivery and Storage	Nickel	7440-02-0	1.15E-06	Annual	MB	Above Average	<0.1%
CLPT	CLPT-2	Front end loader transfer into truck	Clay/Momentive	Raw Material / Conventional Fuel Delivery and Storage	Nickel	7440-02-0	1.15E-06	Annual	MB	Above Average	<0.1%
FSSCD	FSSC-1	Front-end Loader to Feed Hopper for raw material screen	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Nickel	7440-02-0	4.32E-04	Annual	MB	Above Average	21.6%
FSSC	FSSC-2	Feed Hopper to raw material screener	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Nickel	7440-02-0	5.05E-06	Annual	MB	Above Average	0.3%
FSSC	FSSC-3	Raw material screening	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Nickel	7440-02-0	7.93E-05	Annual	MB	Above Average	4.0%
FSSC	FSSC-4	Raw material transfer from Screener to Conveyor	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Nickel	7440-02-0	5.05E-06	Annual	MB	Above Average	0.3%
FSSC	FSSC-5	Raw material transfer from Conveyor to Stacker	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Nickel	7440-02-0	5.05E-06	Annual	MB	Above Average	0.3%
FSSCD	FSSC-6	Drop of raw material from Stacker to Stockpile	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Nickel	7440-02-0	4.32E-04	Annual	MB	Above Average	21.6%
PIT11	04-1-411	Baghouse serving the raw material storage silos for raw mill (04-1-411)	Raw Feed	Raw Material Preparation	Nickel	7440-02-0	1.75E-06	Annual	MB	Above Average	<0.1%
PIT11	04-1-412	Baghouse serving the raw material storage silos for raw mill (04-1-412)	Raw Feed	Raw Material Preparation	Nickel	7440-02-0	2.03E-06	Annual	MB	Above Average	0.1%
HSILO5	H1P41	Baghouse serving kiln feed silos (H1P41)	Raw Feed	Raw Material Preparation	Nickel	7440-02-0	5.30E-06	Annual	MB	Above Average	0.3%
HSILO5	H1P51	Baghouse serving kiln feed silos (H1P51)	Raw Feed	Raw Material Preparation	Nickel	7440-02-0	5.30E-06	Annual	MB	Above Average	0.3%
HSILO5	H1P61	Baghouse serving kiln feed silos (H1P61)	Raw Feed	Raw Material Preparation	Nickel	7440-02-0	5.30E-06	Annual	MB	Above Average	0.3%
K1P11	K1P11	Fuel mill baghouse (K1P11)	Conventional Fuel	Conventional Fuel Preparation and Feed	Nickel	7440-02-0	2.04E-06	Annual	MB	Above Average	0.1%
K1P31	K1P31	Fuel meal storage silo baghouse (K1P31)	Conventional Fuel	Conventional Fuel Preparation and Feed	Nickel	7440-02-0	3.06E-06	Annual	MB	Above Average	0.2%
K1P41	K1P41	Baghouse serving the north auxiliary fuel silo (K1P41)	Conventional Fuel	Conventional Fuel Preparation and Feed	Nickel	7440-02-0	8.00E-07	Annual	MB	Above Average	<0.1%
GHOPPER	G1P01	Gypsum Feed Hopper Baghouse (G1P01)	Gypsum/Silica Fume	Conventional Fuel Preparation and Feed	Nickel	7440-02-0	1.96E-06	Annual	MB	Above Average	<0.1%
05_1_412	05-1-412	Baghouse serving the kiln feed transfer to preheater tower (05-1-412)	Raw Feed	Clinker Production	Nickel	7440-02-0	4.66E-06	Annual	MB	Above Average	0.2%
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production	Nickel	7440-02-0	1.65E-04	Annual	ST	Above Average	8.3%
CKD	CKD	Delivery and shipping of Cement Kiln Dust (CKD) to/from storage piles	Cement Kiln Dust	Clinker Production	Nickel	7440-02-0	8.59E-07	Annual	MB	Above Average	<0.1%
PIT11	07-1-421	Baghouse serving south transfer tower (07-1-421)	Clinker	Clinker Production	Nickel	7440-02-0	5.80E-06	Annual	MB	Above Average	0.3%
07_1_441	07-1-441	Baghouse serving north transfer tower (07-1-441)	Clinker	Clinker Production	Nickel	7440-02-0	3.49E-06	Annual	MB	Above Average	0.2%
07_1_450	07-1-450	Baghouse serving north transfer tower (07-1-450)	Clinker	Clinker Production	Nickel	7440-02-0	4.07E-06	Annual	MB	Above Average	0.2%
CBH	W1P51	Clinker cooler baghouse (W1P51)	Clinker	Clinker Production	Nickel	7440-02-0	7.57E-05	Annual	MB	Above Average	3.8%
W1P91	W1P91	Clinker reclaim hopper baghouse (W1P91)	Clinker	Clinker Production	Nickel	7440-02-0	7.57E-06	Annual	MB	Above Average	0.4%
PIT11	W1P101	Baghouse serving clinker truck loading/shipping (W1P101)	Clinker	Clinker Production	Nickel	7440-02-0	4.84E-06	Annual	MB	Above Average	0.2%
PIT11D	PIT11-22	Transfer of clinker into Tee-Pee storage area	Clinker	Clinker Production	Nickel	7440-02-0	2.03E-05	Annual	MB	Above Average	1.0%
PIT11D	PIT11-23	Clinker transfer into a hopper	Clinker	Clinker Production	Nickel	7440-02-0	1.04E-05	Annual	MB	Above Average	0.5%
PIT11D	OFC-1	Loading Point to Truck (offspec clinker)	Clinker	Clinker Production	Nickel	7440-02-0	2.60E-04	Annual	MB	Above Average	13.1%
PIT11D	OFC-2	Truck to Pre-Crushing Stockpiles (offspec clinker)	Wet Clinker	Clinker Production	Nickel	7440-02-0	2.58E-05	Annual	MB	Above Average	1.3%
PIT11D	OFC-3	Front-end Loader to Feed Hopper (offspec clinker)	Wet Clinker	Clinker Production	Nickel	7440-02-0	2.58E-05	Annual	MB	Above Average	1.3%
PIT11	OFC-4	Feeder to Crusher (offspec clinker)	Wet Clinker	Clinker Production	Nickel	7440-02-0	3.01E-07	Annual	MB	Above Average	<0.1%
PIT11	OFC-5	Crushing (offspec clinker)	Wet Clinker	Clinker Production	Nickel	7440-02-0	2.58E-06	Annual	MB	Above Average	0.1%
PIT11	OFC-6	Crusher to Discharge Conveyor (offspec clinker)	Wet Clinker	Clinker Production	Nickel	7440-02-0	3.01E-07	Annual	MB	Above Average	<0.1%
PIT11D	OFC-7	Discharge Conveyor to Crushed Stockpile (offspec clinker)	Wet Clinker	Clinker Production	Nickel	7440-02-0	2.58E-05	Annual	MB	Above Average	1.3%
PIT11D	OFC-8	Front-end Loader to Storage Stockpile (offspec clinker)	Wet Clinker	Clinker Production	Nickel	7440-02-0	2.58E-05	Annual	MB	Above Average	1.3%
BLSI	Z1P01	Baghouse serving additive storage silos in finish mill building (Z1P01)	Gypsum/Silica Fume	Cement Production	Nickel	7440-02-0	8.90E-07	Annual	MB	Above Average	<0.1%
BLSI	Z1P11	Baghouse serving additive storage silos in finish mill building (Z1P11)	Gypsum/Silica Fume	Cement Production	Nickel	7440-02-0	8.90E-07	Annual	MB	Above Average	<0.1%
BLSI	Z1P21	Baghouse serving additive storage silos in finish mill building (Z1P21)	Gypsum/Silica Fume	Cement Production	Nickel	7440-02-0	8.90E-07	Annual	MB	Above Average	<0.1%
PIT11	07-1-491	Baghouse serving additive storage silos in finish mill building (07-1-491)	Gypsum/Silica Fume	Cement Production	Nickel	7440-02-0	8.45E-07	Annual	MB	Above Average	<0.1%
PIT11	07-1-492	Baghouse serving additive storage silos in finish mill building (07-1-492)	Gypsum/Silica Fume	Cement Production	Nickel	7440-02-0	5.28E-07	Annual	MB	Above Average	<0.1%
PIT11	Z1P191	Baghouse serving transfer of additive in finish mill building (Z1P191)	Cement	Cement Production	Nickel	7440-02-0	3.23E-06	Annual	MB	Above Average	0.2%
Z1P31	Z1P31	Baghouse serving transfer into finish mill (Z1P31)	Cement	Cement Production	Nickel	7440-02-0	1.87E-06	Annual	MB	Above Average	<0.1%
BAML	Z1P51	Finish mill baghouse (Z1P51)	Cement	Cement Production	Nickel	7440-02-0	1.46E-04	Annual	MB	Above Average	7.3%
BAML	Z1P61	Baghouse for transfer of cement to storage silo in finish mill building (Z1P61)	Cement	Cement Production	Nickel	7440-02-0	3.23E-06	Annual	MB	Above Average	0.2%
Z1P41	Z1P41	Baghouse serving transfer from finish mill (Z1P41)	Cement	Cement Production	Nickel	7440-02-0	1.61E-06	Annual	MB	Above Average	<0.1%
S200S	Z1P71	Baghouse serving transfer from finish mill (Z1P71)	Cement	Cement Production	Nickel	7440-02-0	4.88E-07	Annual	MB	Above Average	<0.1%
S200N	Z1P81	Baghouse serving 200 series cement storage silos (Z1P81)	Cement	Cement Production	Nickel	7440-02-0	5.11E-07	Annual	MB	Above Average	<0.1%
S200N	Z1P91	Baghouse serving 200 series cement storage silos (Z1P91)	Cement	Cement Production	Nickel	7440-02-0	5.11E-07	Annual	MB	Above Average	<0.1%
S200N	Z1P101	Baghouse serving 200 series cement storage silos (Z1P101)	Cement	Cement Production	Nickel	7440-02-0	5.11E-07	Annual	MB	Above Average	<0.1%
S200N	Z1P141	Baghouse serving 200 series cement storage silos (Z1P141)	Cement	Cement Production	Nickel	7440-02-0	2.58E-06	Annual	MB	Above Average	0.1%
S200N	Z1P151	Baghouse serving 200 series cement storage silos (Z1P151)	Cement	Cement Production	Nickel	7440-02-0	2.58E-06	Annual	MB	Above Average	0.1%
S200N	Z1P171	Baghouse serving 200 series cement storage silos (Z1P171)	Cement	Cement Production	Nickel	7440-02-0	2.58E-06	Annual	MB	Above Average	0.1%
S200N	Z1P181	Baghouse serving 200 series cement storage silos (Z1P181)	Cement	Cement Production	Nickel	7440-02-0	1.63E-06	Annual	MB	Above Average	<0.1%
S500	09-1-148	Baghouse serving 200 series cement storage silos (09-1-148)	Cement	Cement Production	Nickel	7440-02-0	3.26E-06	Annual	MB	Above Average	0.2%
S500	09-1-158	Baghouse serving 200 series									

Modelled Source	ESDM Source I.D.	Source Description	Materials	Process	Contaminant	CAS #	Maximum Emission Rate (g/s)	Averaging Period	Estimating Technique	Emission Data Quality	Percentage of Overall Emissions (%)
TRBOI	TRBOI	Dual fuel-fired boiler	-	Ancillary Operations	Nitrogen Dioxide	10102-44-0	3.03E-02	1 hr	MB	Above Average	<0.1%
CBMST	CBM-5B	Natural gas-fired aggregate dryer controlled by a baghouse dust collector	CBM Product	CBM Operations	Nitrogen Dioxide	10102-44-0	2.35E-01	1 hr	MB	Above Average	0.3%
FSSC	FSSC-DG	Diesel-fired engine servicing the raw material screener	-	Raw Material / Conventional Fuel Delivery and Storage	Nitrogen Dioxide	10102-44-0	9.10E-02	1 hr	MB	Above Average	<0.1%
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production	Nitrogen Dioxide	10102-44-0	4.60E+01	1 hr	ST	Above Average	49.0%
PIT11	OFC-DG	Diesel-fired engine servicing the off-spec clinker crusher	-	Clinker Production	Nitrogen Dioxide	10102-44-0	5.03E-01	1 hr	MB	Above Average	0.5%
PACK	PACK-NGH	Packhouse natural gas fired heaters	-	Cement Production	Nitrogen Dioxide	10102-44-0	8.91E-03	1 hr	MB	Above Average	<0.1%
THS	THS-1	Natural gas/Propane fired raw material delivery truck heating system	-	Laidlaw Operations	Nitrogen Dioxide	10102-44-0	1.24E-02	1 hr	MB	Above Average	<0.1%
PIT11	CNGB	Natural gas-fired boilers (x3) in Core Building	-	Ancillary Operations	Nitrogen Dioxide	10102-44-0	2.69E-02	1 hr	MB	Above Average	<0.1%
CBBOI	CBBOI	Dual fuel-fired Boiler	-	Ancillary Operations	Nitrogen Dioxide	10102-44-0	3.03E-02	1 hr	MB	Above Average	<0.1%
JCBOI	JCBOI	No.2 fuel-fired boiler	-	Ancillary Operations	Nitrogen Dioxide	10102-44-0	1.01E-02	1 hr	MB	Above Average	<0.1%
TRBOI	TRBOI	Dual fuel-fired boiler	-	Ancillary Operations	Nitrogen Dioxide	10102-44-0	3.03E-02	1 hr	MB	Above Average	<0.1%
CBMST	CBM-5B	Natural gas-fired aggregate dryer controlled by a baghouse dust collector	CBM Product	CBM Operations	Nitrogen Dioxide	10102-44-0	2.35E-01	1 hr	MB	Above Average	0.3%
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production	Phenanthrene	85-01-8	1.30E-03	24 hr	ST	Above Average	100.0%
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production	Phosphorus	7723-14-0	3.03E-03	24 hr	ST	Above Average	100.0%
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production	Potassium	7440-09-7	1.20E-01	24 hr	ST	Above Average	100.0%
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production	Pyrene	129-00-0	4.90E-05	24 hr	ST	Above Average	100.0%
A_16_4	A-16-4	Baghouse serving the secondary crusher (A-16-4)	Limestone	Limestone Extraction & Processing	Respirable Crystalline Silica	14808-60-7	1.18E-03	24 hr	EC	Marginal	0.3%
A_15_5	A-15-5	Baghouse serving the secondary screen (A-15-5)	Limestone	Limestone Extraction & Processing	Respirable Crystalline Silica	14808-60-7	5.19E-04	24 hr	EC	Marginal	0.1%
PPILE	PPILE	Transfer of limestone onto primary surge pile	Limestone	Limestone Extraction & Processing	Respirable Crystalline Silica	14808-60-7	3.67E-03	24 hr	EC	Marginal	1.0%
PILES	PILES-2	Delivery and transfer of raw materials	Raw Feed	Raw Material / Conventional Fuel Delivery and Storage	Respirable Crystalline Silica	14808-60-7	1.25E-03	24 hr	EC	Marginal	0.3%
RAWS	04-1-401	Raw material storage silo baghouse (04-1-401)	Raw Feed	Raw Material / Conventional Fuel Delivery and Storage	Respirable Crystalline Silica	14808-60-7	1.83E-03	24 hr	EC	Marginal	0.5%
CLPT	CLPT-1	Scraper from face onto a pile	Clay/Momentive	Raw Material / Conventional Fuel Delivery and Storage	Respirable Crystalline Silica	14808-60-7	2.70E-04	24 hr	EC	Marginal	<0.1%
CLPT	CLPT-2	Front end loader transfer into truck	Clay/Momentive	Raw Material / Conventional Fuel Delivery and Storage	Respirable Crystalline Silica	14808-60-7	2.70E-04	24 hr	EC	Marginal	<0.1%
FSSCD	FSSC-1	Front-end Loader to Feed Hopper for raw material screen	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Respirable Crystalline Silica	14808-60-7	7.42E-02	24 hr	EC	Marginal	20.2%
FSSC	FSSC-2	Feed Hopper to raw material screener	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Respirable Crystalline Silica	14808-60-7	6.52E-04	24 hr	EC	Marginal	0.2%
FSSC	FSSC-3	Raw material screening	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Respirable Crystalline Silica	14808-60-7	1.05E-02	24 hr	EC	Marginal	2.9%
FSSC	FSSC-4	Raw material transfer from Screener to Conveyor	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Respirable Crystalline Silica	14808-60-7	6.52E-04	24 hr	EC	Marginal	0.2%
FSSC	FSSC-5	Raw material transfer from Conveyor to Stacker	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Respirable Crystalline Silica	14808-60-7	6.52E-04	24 hr	EC	Marginal	0.2%
FSSCD	FSSC-6	Drop of raw material from Stacker to Stockpile	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Respirable Crystalline Silica	14808-60-7	7.42E-02	24 hr	EC	Marginal	20.2%
PIT11	04-1-411	Baghouse serving the raw material storage silos for raw mill (04-1-411)	Raw Feed	Raw Material Preparation	Respirable Crystalline Silica	14808-60-7	6.10E-04	24 hr	EC	Marginal	0.2%
PIT11	04-1-412	Baghouse serving the raw material storage silos for raw mill (04-1-412)	Raw Feed	Raw Material Preparation	Respirable Crystalline Silica	14808-60-7	7.09E-04	24 hr	EC	Marginal	0.2%
HSILOS	H1P41	Baghouse serving kiln feed silos (H1P41)	Raw Feed	Raw Material Preparation	Respirable Crystalline Silica	14808-60-7	1.85E-03	24 hr	EC	Marginal	0.5%
HSILOS	H1P51	Baghouse serving kiln feed silos (H1P51)	Raw Feed	Raw Material Preparation	Respirable Crystalline Silica	14808-60-7	1.85E-03	24 hr	EC	Marginal	0.5%
HSILOS	H1P61	Baghouse serving kiln feed silos (H1P61)	Raw Feed	Raw Material Preparation	Respirable Crystalline Silica	14808-60-7	1.85E-03	24 hr	EC	Marginal	0.5%
GHOPPER	G1P01	Gypsum Feed Hopper Baghouse (G1P01)	Gypsum/Silica Fume	Conventional Fuel Preparation and Feed	Respirable Crystalline Silica	14808-60-7	1.22E-03	24 hr	EC	Marginal	0.3%
05_1_412	05-1-412	Baghouse serving the kiln feed transfer to preheater tower (05-1-412)	Raw Feed	Clinker Production	Respirable Crystalline Silica	14808-60-7	1.62E-03	24 hr	EC	Marginal	0.4%
CKD	CKD	Delivery and shipping of Cement Kiln Dust (CKD) to/from storage piles	Cement Kiln Dust	Clinker Production	Respirable Crystalline Silica	14808-60-7	1.29E-04	24 hr	EC	Marginal	<0.1%
PIT11	07-1-421	Baghouse serving south transfer tower (07-1-421)	Clinker	Clinker Production	Respirable Crystalline Silica	14808-60-7	1.99E-03	24 hr	EC	Marginal	0.5%
07_1_441	07-1-441	Baghouse serving north transfer tower (07-1-441)	Clinker	Clinker Production	Respirable Crystalline Silica	14808-60-7	1.19E-03	24 hr	EC	Marginal	0.3%
07_1_450	07-1-450	Baghouse serving north transfer tower (07-1-450)	Clinker	Clinker Production	Respirable Crystalline Silica	14808-60-7	1.39E-03	24 hr	EC	Marginal	0.4%
CBH	W1P51	Clinker cooler baghouse (W1P51)	Clinker	Clinker Production	Respirable Crystalline Silica	14808-60-7	2.60E-02	24 hr	EC	Marginal	7.1%
W1P91	W1P91	Clinker reclaim hopper baghouse (W1P91)	Clinker	Clinker Production	Respirable Crystalline Silica	14808-60-7	2.59E-03	24 hr	EC	Marginal	0.7%
PIT11	W1P101	Baghouse serving clinker truck loading/shipping (W1P101)	Clinker	Clinker Production	Respirable Crystalline Silica	14808-60-7	1.66E-03	24 hr	EC	Marginal	0.5%
PIT11D	PIT11-22	Transfer of clinker into Tee-Pee storage area	Clinker	Clinker Production	Respirable Crystalline Silica	14808-60-7	3.05E-03	24 hr	EC	Marginal	0.8%
PIT11D	PIT11-23	Clinker transfer into a hopper	Clinker	Clinker Production	Respirable Crystalline Silica	14808-60-7	1.56E-03	24 hr	EC	Marginal	0.4%
PIT11D	OFC-1	Loading Point to Truck (offspec clinker)	Clinker	Clinker Production	Respirable Crystalline Silica	14808-60-7	3.91E-02	24 hr	EC	Marginal	10.6%
PIT11D	OFC-2	Truck to Pre-Crushing Stockpiles (offspec clinker)	Wet Clinker	Clinker Production	Respirable Crystalline Silica	14808-60-7	3.87E-03	24 hr	EC	Marginal	1.1%
PIT11D	OFC-3	Front-end Loader to Feed Hopper (offspec clinker)	Wet Clinker	Clinker Production	Respirable Crystalline Silica	14808-60-7	3.87E-03	24 hr	EC	Marginal	1.1%
PIT11	OFC-4	Feeder to Crusher (offspec clinker)	Wet Clinker	Clinker Production	Respirable Crystalline Silica	14808-60-7	3.40E-05	24 hr	EC	Marginal	<0.1%
PIT11	OFC-5	Crushing (offspec clinker)	Wet Clinker	Clinker Production	Respirable Crystalline Silica	14808-60-7	3.99E-04	24 hr	EC	Marginal	0.1%
PIT11	OFC-6	Crusher to Discharge Conveyor (offspec clinker)	Wet Clinker	Clinker Production	Respirable Crystalline Silica	14808-60-7	3.40E-05	24 hr	EC	Marginal	<0.1%
PIT11D	OFC-7	Discharge Conveyor to Crushed Stockpile (offspec clinker)	Wet Clinker	Clinker Production	Respirable Crystalline Silica	14808-60-7	3.87E-03	24 hr	EC	Marginal	1.1%
PIT11D	OFC-8	Front-end Loader to Storage Stockpile (offspec clinker)	Wet Clinker	Clinker Production	Respirable Crystalline Silica	14808-60-7	3.87E-03	24 hr	EC	Marginal	1.1%
BLSI	Z1P01	Baghouse serving additive storage silos in finish mill building (Z1P01)	Gypsum/Silica Fume	Cement Production	Respirable Crystalline Silica	14808-60-7	5.56E-04	24 hr	EC	Marginal	0.2%
BLSI	Z1P11	Baghouse serving additive storage silos in finish mill building (Z1P11)	Gypsum/Silica Fume	Cement Production	Respirable Crystalline Silica	14808-60-7	5.56E-04	24 hr	EC	Marginal	0.2%
BLSI	Z1P21	Baghouse serving additive storage silos in finish mill building (Z1P21)	Gypsum/Silica Fume	Cement Production	Respirable Crystalline Silica	14808-60-7	5.56E-04	24 hr	EC	Marginal	0.2%
PIT11	07-1-491	Baghouse serving additive storage silos in finish mill building (07-1-491)	Gypsum/Silica Fume	Cement Production	Respirable Crystalline Silica	14808-60-7	5.28E-04	24 hr	EC	Marginal	0.1%
PIT11	07-1-492	Baghouse serving additive storage silos in finish mill building (07-1-492)	Gypsum/Silica Fume	Cement Production	Respirable Crystalline Silica	14808-60-7	3.30E-04	24 hr	EC	Marginal	<0.1%
PIT11	Z1P191	Baghouse serving transfer of additive in finish mill building (Z1P191)	Cement	Cement Production	Respirable Crystalline Silica	14808-60-7	1.12E-03	24 hr	EC	Marginal	0.3%
Z1P31	Z1P31	Baghouse serving transfer into finish mill (Z1P31)	Cement	Cement Production	Respirable Crystalline Silica	14808-60-7	6.49E-04	24 hr	EC	Marginal	0.2%
BAML	Z1P51	Finish mill baghouse (Z1P51)	Cement	Cement Production	Respirable Crystalline Silica	14808-60-7	5.06E-02	24 hr	EC	Marginal	13.8%
BAML	Z1P61	Baghouse for transfer of cement to storage silo in finish mill building (Z1P61)	Cement	Cement Production	Respirable Crystalline Silica	14808-60-7	1.12E-03	24 hr	EC	Marginal	0.3%
Z1P41	Z1P41	Baghouse serving transfer from finish mill (Z1P41)	Cement	Cement Production	Respirable Crystalline Silica	14808-60-7	5.60E-04	24 hr	EC	Marginal	0.2%
S200S	Z1P71	Baghouse serving transfer from finish mill (Z1P71)	Cement	Cement Production	Respirable Crystalline Silica	14808-60-7	1.69E-04	24 hr	EC	Marginal	<0.1%
S200N	Z1P81	Baghouse serving 200 series cement storage silos (Z1P81)	Cement	Cement Production	Respirable Crystalline Silica	14808-60-7	1.77E-04	24 hr	EC	Marginal	<0.1%
S200N	Z1P91	Baghouse serving 200 series cement storage silos (Z1P91)	Cement	Cement Production	Respirable Crystalline Silica	14808-60-7	1.77E-04	24 hr	EC	Marginal	<0.1%
S200N	Z1P101	Baghouse serving 200 series cement storage silos (Z1P101)	Cement	Cement Production	Respirable Crystalline Silica	14808-60-7	1.77E-04	24 hr	EC	Marginal	<0.1%
S200N	Z1P141	Baghouse serving 200 series cement storage silos (Z1P141)	Cement	Cement Production	Respirable Crystalline Silica	14808-60-7	8.95E-04	24 hr	EC	Marginal	0.2%
S200N	Z1P151	Baghouse serving 200 series cement storage silos (Z1P151)	Cement	Cement Production	Respirable Crystalline Silica	14808-60-7	8.95E-04	24 hr	EC	Marginal	0.2%
S200N	Z1P171	Baghouse serving 200 series cement storage silos (Z1P171)	Cement	Cement Production	Respirable Crystalline Silica	14808-60-7	8.95E-04	24 hr	EC	Marginal	0.2%
S200N	Z1P181	Baghouse serving 200 series cement storage silos (Z1P181)	Cement	Cement Production	Respirable Crystalline Silica	14808-60-7	5.64E-04	24 hr	EC	Marginal	0.2%
S500	09-1-148	Baghouse serving 200 series cement storage silos (09-1-148)	Cement	Cement Production	Respirable Crystalline Silica	14808-60-7	1.13E-03	24 hr	EC	Marginal	0.3%
S500	09-1-158	Baghouse serving 200 series cement storage silos (09-1-158)	Cement	Cement Production	Respirable Crystalline Silica	14808-60-7	1.13E-03	24 hr	EC	Marginal	0.3%
S500	09-1-168	Baghouse serving 200 series cement storage silos (09-1-168)	Cement	Cement Production	Respirable Crystalline Silica	14808-60-7	1.13E-03	24 hr	EC	Marginal	0.3%
S200N	09-1-189	Baghouse serving 200 series cement storage silos (09-1-189)	Cement	Cement Production	Respirable Crystalline Silica	14808-60-7	7.54E-04	24 hr	EC	Marginal	0.2%
S200N	09-1-192	Baghouse serving 200 series cement storage silos (09-1-192)	Cement	Cement Production	Respirable Crystalline Silica	14808-60-7	1.13E-03	24 hr	EC	Marginal	0.3%
S200N	09-1-193	Baghouse serving 200 series cement storage silos (09-1-193)	Cement	Cement Production	Respirable Crystalline Silica	14808-60-7	6.61E-04	24 hr	EC	Marginal	0.2%
S200N	I-17-4	Baghouse serving 200 series cement storage silos (I-1704)	Cement	Cement Production	Respirable Crystalline Silica	14808-60-7	4.72E-04	24 hr	EC	Marginal	0.1%
S200S	I-10-3	Baghouse serving 200 series cement storage silos (I-10-3)	Cement	Cement Production	Respirable Crystalline Silica	14808-60-7	3.79E-05	24 hr	EC	Marginal	<0.1%
S200S	I-10-4	Baghouse serving 200 series cement storage silos (I-10-4)	Cement	Cement Production	Respirable Crystalline Silica	14808-60-7	3.79E-04	24 hr	EC	Marginal	0.1%
S200S	I-22	Baghouse serving 200 series cement storage silos (I-22)	Cement	Cement Production	Respirable Crystalline Silica	14808-60-7	1.89E-03	24 hr	EC	Marginal	0.5%
S340	Z1P161	Baghouse serving 300/400 series cement storage silos (Z1P161)	Cement	Cement Production	Respirable Crystalline Silica	14808-60-7	8.95E-04	24 hr	EC	Marginal	0.2%
S340	I-59-3	Baghouse serving 300/400 series cement storage silos (I-59-3)	Cement	Cement Production	Respirable Crystalline Silica	14808-60-7	1.42E-03	24 hr	EC	Marginal	0.4%

Modelled Source	ESDM Source I.D.	Source Description	Materials	Process	Contaminant	CAS #	Maximum Emission Rate (g/s)	Averaging Period	Estimating Technique	Emission Data Quality	Percentage of Overall Emissions (%)
S340	09-1-075	Baghouse serving 300/400 series cement storage silos (09-1-075)	Cement	Cement Production	Respirable Crystalline Silica	14808-60-7	2.34E-04	24 hr	EC	Marginal	<0.1%
S500	09-1-301	Baghouse serving 300/400 series cement storage silos (09-1-301)	Cement	Cement Production	Respirable Crystalline Silica	14808-60-7	6.61E-04	24 hr	EC	Marginal	0.2%
S500D	S500-CL	Cement loading from silo into a shipping tanker	Cement	Cement Production	Respirable Crystalline Silica	14808-60-7	1.04E-02	24 hr	EC	Marginal	2.8%
S340	CPV-1	Baghouse serving packhouse 3 screw conveyor	Cement	Cement Production	Respirable Crystalline Silica	14808-60-7	1.33E-04	24 hr	EC	Marginal	<0.1%
PACK	09-1-497	Baghouse serving packhouse cement storage silos (09-1-497)	Cement	Cement Production	Respirable Crystalline Silica	14808-60-7	9.43E-04	24 hr	EC	Marginal	0.3%
PACK	09-1-407	Baghouse serving packhouse cement storage silos (09-1-407)	Cement	Cement Production	Respirable Crystalline Silica	14808-60-7	9.43E-04	24 hr	EC	Marginal	0.3%
PACK	09-1-670	Baghouse serving packhouse cement storage silos (09-1-670)	Cement	Cement Production	Respirable Crystalline Silica	14808-60-7	3.77E-03	24 hr	EC	Marginal	1.0%
PACK	09-1-311	Baghouse serving packhouse cement storage silos (09-1-311)	Cement	Cement Production	Respirable Crystalline Silica	14808-60-7	9.43E-04	24 hr	EC	Marginal	0.3%
CBMST	CBM-5A	Natural gas-fired aggregate dryer controlled by a baghouse dust collector	CBM Product	CBM Operations	Respirable Crystalline Silica	14808-60-7	1.45E-03	24 hr	EC	Marginal	0.4%
CBMFS	CBM-6	Fines transfer from dryer to fines silo controlled by a bin vent filter	CBM Product	CBM Operations	Respirable Crystalline Silica	14808-60-7	7.50E-06	24 hr	EC	Marginal	<0.1%
CBMDTENT	CBM-8	Screening (no sizing, security screen, dryer tent)	CBM Product	CBM Operations	Respirable Crystalline Silica	14808-60-7	2.09E-05	24 hr	EC	Marginal	<0.1%
CBMPTENT	CBM-9	Product screening (sizing, product tent)	CBM Product	CBM Operations	Respirable Crystalline Silica	14808-60-7	1.05E-05	24 hr	EC	Marginal	<0.1%
CBMPTENTD	CBM-10	Product transfer from stacker to product stockpiles	CBM Product	CBM Operations	Respirable Crystalline Silica	14808-60-7	7.55E-05	24 hr	EC	Marginal	<0.1%
CBMPTENTD	CBM-11	Product transfer from stockpile into shipping truck	CBM Product	CBM Operations	Respirable Crystalline Silica	14808-60-7	1.51E-03	24 hr	EC	Marginal	0.4%
CBMLO	CBM-14	Product silo load out into shipping truck	CBM Product	CBM Operations	Respirable Crystalline Silica	14808-60-7	7.55E-04	24 hr	EC	Marginal	0.2%
A_16_4	A-16-4	Baghouse serving the secondary crusher (A-16-4)	Limestone	Limestone Extraction & Processing	Selenium	7782-49-2	1.89E-07	24 hr	MB	Above Average	<0.1%
A_15_5	A-15-5	Baghouse serving the secondary screen (A-15-5)	Limestone	Limestone Extraction & Processing	Selenium	7782-49-2	8.30E-08	24 hr	MB	Above Average	<0.1%
PPILE	PPILE	Transfer of limestone onto primary surge pile	Limestone	Limestone Extraction & Processing	Selenium	7782-49-2	1.34E-06	24 hr	MB	Above Average	0.3%
PILE5	PILE5-1	Delivery and transfer of conventional fuel	Conventional Fuel	Raw Material / Conventional Fuel Delivery and Storage	Selenium	7782-49-2	7.98E-08	24 hr	MB	Above Average	<0.1%
PILE5	PILE5-2	Delivery and transfer of raw materials	Raw Feed	Raw Material / Conventional Fuel Delivery and Storage	Selenium	7782-49-2	3.96E-07	24 hr	MB	Above Average	<0.1%
K1P51	K1P51	Conventional fuel storage silo baghouse (K1P51)	Conventional Fuel	Raw Material / Conventional Fuel Delivery and Storage	Selenium	7782-49-2	6.72E-08	24 hr	MB	Above Average	<0.1%
RAWS	04-1-401	Raw material storage silo baghouse (04-1-401)	Raw Feed	Raw Material / Conventional Fuel Delivery and Storage	Selenium	7782-49-2	2.53E-07	24 hr	MB	Above Average	<0.1%
CLPT	CLPT-1	Scraper from face onto a pile	Clay/Momentive	Raw Material / Conventional Fuel Delivery and Storage	Selenium	7782-49-2	2.49E-07	24 hr	MB	Above Average	<0.1%
CLPT	CLPT-2	Front end loader transfer into truck	Clay/Momentive	Raw Material / Conventional Fuel Delivery and Storage	Selenium	7782-49-2	2.49E-07	24 hr	MB	Above Average	<0.1%
FSSCD	FSSC-1	Front-end Loader to Feed Hopper for raw material screen	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Selenium	7782-49-2	3.79E-06	24 hr	MB	Above Average	0.9%
FSSC	FSSC-2	Feed Hopper to raw material screener	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Selenium	7782-49-2	4.43E-08	24 hr	MB	Above Average	<0.1%
FSSC	FSSC-3	Raw material screening	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Selenium	7782-49-2	6.97E-07	24 hr	MB	Above Average	0.2%
FSSC	FSSC-4	Raw material transfer from Screener to Conveyor	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Selenium	7782-49-2	4.43E-08	24 hr	MB	Above Average	<0.1%
FSSC	FSSC-5	Raw material transfer from Conveyor to Stacker	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Selenium	7782-49-2	4.43E-08	24 hr	MB	Above Average	<0.1%
FSSCD	FSSC-6	Drop of raw material from Stacker to Stockpile	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Selenium	7782-49-2	3.79E-06	24 hr	MB	Above Average	0.9%
PIT11	04-1-411	Baghouse serving the raw material storage silos for raw mill (04-1-411)	Raw Feed	Raw Material Preparation	Selenium	7782-49-2	8.46E-08	24 hr	MB	Above Average	<0.1%
PIT11	04-1-412	Baghouse serving the raw material storage silos for raw mill (04-1-412)	Raw Feed	Raw Material Preparation	Selenium	7782-49-2	9.83E-08	24 hr	MB	Above Average	<0.1%
HSILO5	H1P41	Baghouse serving kiln feed silos (H1P41)	Raw Feed	Raw Material Preparation	Selenium	7782-49-2	2.56E-07	24 hr	MB	Above Average	<0.1%
HSILO5	H1P51	Baghouse serving kiln feed silos (H1P51)	Raw Feed	Raw Material Preparation	Selenium	7782-49-2	2.56E-07	24 hr	MB	Above Average	<0.1%
HSILO5	H1P61	Baghouse serving kiln feed silos (H1P61)	Raw Feed	Raw Material Preparation	Selenium	7782-49-2	2.56E-07	24 hr	MB	Above Average	<0.1%
K1P11	K1P11	Fuel mill baghouse (K1P11)	Conventional Fuel	Conventional Fuel Preparation and Feed	Selenium	7782-49-2	2.45E-08	24 hr	MB	Above Average	<0.1%
K1P31	K1P31	Fuel meal storage silo baghouse (K1P31)	Conventional Fuel	Conventional Fuel Preparation and Feed	Selenium	7782-49-2	3.67E-08	24 hr	MB	Above Average	<0.1%
K1P41	K1P41	Baghouse serving the north auxiliary fuel silo (K1P41)	Conventional Fuel	Conventional Fuel Preparation and Feed	Selenium	7782-49-2	9.60E-09	24 hr	MB	Above Average	<0.1%
GHOPPER	G1P01	Gypsum Feed Hopper Baghouse (G1P01)	Gypsum/Silica Fume	Conventional Fuel Preparation and Feed	Selenium	7782-49-2	7.09E-07	24 hr	MB	Above Average	0.2%
05_1_412	05-1-412	Baghouse serving the kiln feed transfer to preheater tower (05-1-412)	Raw Feed	Clinker Production	Selenium	7782-49-2	2.25E-07	24 hr	MB	Above Average	<0.1%
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production	Selenium	7782-49-2	3.70E-04	24 hr	ST	Above Average	87.4%
CKD	CKD	Delivery and shipping of Cement Kiln Dust (CKD) to/from storage piles	Cement Kiln Dust	Clinker Production	Selenium	7782-49-2	4.10E-08	24 hr	MB	Above Average	<0.1%
PIT11	07-1-421	Baghouse serving south transfer tower (07-1-421)	Clinker	Clinker Production	Selenium	7782-49-2	2.77E-07	24 hr	MB	Above Average	<0.1%
07_1_441	07-1-441	Baghouse serving north transfer tower (07-1-441)	Clinker	Clinker Production	Selenium	7782-49-2	1.66E-07	24 hr	MB	Above Average	<0.1%
07_1_450	07-1-450	Baghouse serving north transfer tower (07-1-450)	Clinker	Clinker Production	Selenium	7782-49-2	1.94E-07	24 hr	MB	Above Average	<0.1%
CBH	W1P51	Clinker cooler baghouse (W1P51)	Clinker	Clinker Production	Selenium	7782-49-2	3.62E-06	24 hr	MB	Above Average	0.9%
W1P91	W1P91	Clinker reclaim hopper baghouse (W1P91)	Clinker	Clinker Production	Selenium	7782-49-2	3.61E-07	24 hr	MB	Above Average	<0.1%
PIT11	W1P101	Baghouse serving clinker truck loading/shipping (W1P101)	Clinker	Clinker Production	Selenium	7782-49-2	2.31E-07	24 hr	MB	Above Average	<0.1%
PIT11D	PIT11-22	Transfer of clinker into Tee-Pee storage area	Clinker	Clinker Production	Selenium	7782-49-2	9.70E-07	24 hr	MB	Above Average	0.2%
PIT11D	PIT11-23	Clinker transfer into a hopper	Clinker	Clinker Production	Selenium	7782-49-2	4.97E-07	24 hr	MB	Above Average	0.1%
PIT11D	OFC-1	Loading Point to Truck (offspec clinker)	Clinker	Clinker Production	Selenium	7782-49-2	1.24E-05	24 hr	MB	Above Average	2.9%
PIT11D	OFC-2	Truck to Pre-Crushing Stockpiles (offspec clinker)	Wet Clinker	Clinker Production	Selenium	7782-49-2	1.23E-06	24 hr	MB	Above Average	0.3%
PIT11D	OFC-3	Front-end Loader to Feed Hopper (offspec clinker)	Wet Clinker	Clinker Production	Selenium	7782-49-2	1.23E-06	24 hr	MB	Above Average	0.3%
PIT11	OFC-4	Feeder to Crusher (offspec clinker)	Wet Clinker	Clinker Production	Selenium	7782-49-2	1.44E-08	24 hr	MB	Above Average	<0.1%
PIT11	OFC-5	Crushing (offspec clinker)	Wet Clinker	Clinker Production	Selenium	7782-49-2	1.23E-07	24 hr	MB	Above Average	<0.1%
PIT11	OFC-6	Crusher to Discharge Conveyor (offspec clinker)	Wet Clinker	Clinker Production	Selenium	7782-49-2	1.44E-08	24 hr	MB	Above Average	<0.1%
PIT11D	OFC-7	Discharge Conveyor to Crushed Stockpile (offspec clinker)	Wet Clinker	Clinker Production	Selenium	7782-49-2	1.23E-06	24 hr	MB	Above Average	0.3%
PIT11D	OFC-8	Front-end Loader to Storage Stockpile (offspec clinker)	Wet Clinker	Clinker Production	Selenium	7782-49-2	1.23E-06	24 hr	MB	Above Average	0.3%
BL5I	Z1P01	Baghouse serving additive storage silos in finish mill building (Z1P01)	Gypsum/Silica Fume	Cement Production	Selenium	7782-49-2	3.22E-07	24 hr	MB	Above Average	<0.1%
BL5I	Z1P11	Baghouse serving additive storage silos in finish mill building (Z1P11)	Gypsum/Silica Fume	Cement Production	Selenium	7782-49-2	3.22E-07	24 hr	MB	Above Average	<0.1%
BL5I	Z1P21	Baghouse serving additive storage silos in finish mill building (Z1P21)	Gypsum/Silica Fume	Cement Production	Selenium	7782-49-2	3.22E-07	24 hr	MB	Above Average	<0.1%
PIT11	07-1-491	Baghouse serving additive storage silos in finish mill building (07-1-491)	Gypsum/Silica Fume	Cement Production	Selenium	7782-49-2	3.06E-07	24 hr	MB	Above Average	<0.1%
PIT11	07-1-492	Baghouse serving additive storage silos in finish mill building (07-1-492)	Gypsum/Silica Fume	Cement Production	Selenium	7782-49-2	1.91E-07	24 hr	MB	Above Average	<0.1%
PIT11	Z1P191	Baghouse serving transfer of additive in finish mill building (Z1P191)	Cement	Cement Production	Selenium	7782-49-2	1.66E-07	24 hr	MB	Above Average	<0.1%
Z1P31	Z1P31	Baghouse serving transfer into finish mill (Z1P31)	Cement	Cement Production	Selenium	7782-49-2	9.62E-08	24 hr	MB	Above Average	<0.1%
BAML	Z1P51	Finish mill baghouse (Z1P51)	Cement	Cement Production	Selenium	7782-49-2	7.50E-06	24 hr	MB	Above Average	1.8%
BAML	Z1P61	Baghouse for transfer of cement to storage silo in finish mill building (Z1P61)	Cement	Cement Production	Selenium	7782-49-2	1.66E-07	24 hr	MB	Above Average	<0.1%
Z1P41	Z1P41	Baghouse serving transfer from finish mill (Z1P41)	Cement	Cement Production	Selenium	7782-49-2	8.31E-08	24 hr	MB	Above Average	<0.1%
S2005	Z1P71	Baghouse serving transfer from finish mill (Z1P71)	Cement	Cement Production	Selenium	7782-49-2	2.51E-08	24 hr	MB	Above Average	<0.1%
S200N	Z1P81	Baghouse serving 200 series cement storage silos (Z1P81)	Cement	Cement Production	Selenium	7782-49-2	2.63E-08	24 hr	MB	Above Average	<0.1%
S200N	Z1P91	Baghouse serving 200 series cement storage silos (Z1P91)	Cement	Cement Production	Selenium	7782-49-2	2.63E-08	24 hr	MB	Above Average	<0.1%
S200N	Z1P101	Baghouse serving 200 series cement storage silos (Z1P101)	Cement	Cement Production	Selenium	7782-49-2	2.63E-08	24 hr	MB	Above Average	<0.1%
S200N	Z1P141	Baghouse serving 200 series cement storage silos (Z1P141)	Cement	Cement Production	Selenium	7782-49-2	1.33E-07	24 hr	MB	Above Average	<0.1%
S200N	Z1P151	Baghouse serving 200 series cement storage silos (Z1P151)	Cement	Cement Production	Selenium	7782-49-2	1.33E-07	24 hr	MB	Above Average	<0.1%
S200N	Z1P171	Baghouse serving 200 series cement storage silos (Z1P171)	Cement	Cement Production	Selenium	7782-49-2	1.33E-07	24 hr	MB	Above Average	<0.1%
S200N	Z1P181	Baghouse serving 200 series cement storage silos (Z1P181)	Cement	Cement Production	Selenium	7782-49-2	8.37E-08	24 hr	MB	Above Average	<0.1%
S500	09-1-148	Baghouse serving 200 series cement storage silos (09-1-148)	Cement	Cement Production	Selenium	7782-49-2	1.68E-07	24 hr	MB	Above Average	<0.1%
S500	09-1-158	Baghouse serving 200 series cement storage silos (09-1-158)	Cement	Cement Production	Selenium	7782-49-2	1.68E-07	24 hr	MB	Above Average	<0.1%
S500	09-1-168	Baghouse serving 200 series cement storage silos (09-1-168)	Cement	Cement Production	Selenium	7782-49-2	1.68E-07	24 hr	MB	Above Average	<0.1%
S200N	09-1-189	Baghouse serving 200 series cement storage silos (09-1-189)	Cement	Cement Production	Selenium	7782-49-2	1.12E-07	24 hr	MB	Above Average	<0.1%
S200N	09-1-192	Baghouse serving 200 series cement storage silos (09-1-192)	Cement	Cement Production	Selenium	7782-49-2	1.68E-07	24 hr	MB	Above Average	<0.1%
S200N	09-1-193	Baghouse serving 200 series cement storage silos (09-1-193)	Cement	Cement Production	Selenium	7782-49-2	9.80E-08	24 hr	MB	Above Average	<0.1%
S200N	1-17-4	Baghouse serving 200 series cement storage silos (1-1704)	Cement	Cement Production	Selenium	7782-49-2	6.99E-08	24 hr	MB	Above Average	<0.1%
S2005	1-10-3	Baghouse serving 200 series cement storage silos (1-10-3)	Cement	Cement Production	Selenium	7782-49-2	5.62E-09	24 hr	MB	Above Average	<0.1%
S2005	1-10-4	Baghouse serving 200 series cement storage silos (1-10-4)	Cement	Cement Production	Selenium	7782-49-2	5.62E-08	24 hr	MB	Above Average	<0.1%
S2005	1-22	Baghouse serving 200 series cement storage silos (1-22)	Cement	Cement Production	Selenium	7782-49-2	2.80E-07	24 hr	MB	Above Average	<0.1%
S340	Z1P161	Baghouse serving 300/400 series cement storage silos (Z1P161)	Cement	Cement Production	Selenium	7782-49-2	1.33E-07	24 hr	MB	Above Average	<0.1%
S340	1-59-3	Baghouse serving 300/400 series cement storage silos (1-59-3)	Cement	Cement Production	Selenium	7782-49-2	2.10E-07	24 hr	MB	Above Average	<0.1%
S340	09-1-075	Baghouse serving 300/400 series cement storage silos (09-1-075)	Cement	Cement Production	Selenium	7782-49-2	3.47E-08	24 hr	MB	Above Average	<0.1%
S500	09-1-301	Baghouse serving 300/400 series cement storage silos (09-1-301)	Cement	Cement Production	Selenium	7782-49-2	9.80E-08	24 hr	MB	Above Average	<0.1%
S500D	S500-CL	Cement loading from silo into a shipping tanker	Cement	Cement Production	Selenium	7782-49-2	3.51E-06	24 hr	MB	Above Average	0.8%
S340	CPV-1	Baghouse serving packhouse 3 screw conveyor	Cement	Cement Production	Selenium	7782-49-2	1.97E-08	24 hr	MB	Above Average	<0.1%
PACK	09-1-497	Baghouse serving packhouse cement storage silos (09-1-497)	Cement	Cement Production	Selenium	7782-49-2	1.40E-07	24 hr	MB	Above Average	<0.1%
PACK	09-1-407	Baghouse serving packhouse cement storage silos (09-1-407)	Cement	Cement Production	Selenium	7782-49-2	1.40E-07	24 hr	MB	Above Average	<0.1%
PACK	09-1-670	Baghouse serving packhouse cement storage silos (09-1-670)	Cement	Cement Production	Selenium	7782-49-2	5.59E-07	24 hr	MB	Above Average	0.1%
PACK	09-1-311	Baghouse serving packhouse cement storage silos (09-1-311)	Cement	Cement Production	Selenium	7782-49-2	1.40E-07	24 hr	MB	Above Average	<0.1%
A_16_4	A-16-4	Baghouse serving the secondary crusher (A-16-4)	Limestone	Limestone Extraction & Processing	Silver	7440-22-4	5.90E-08	24 hr	MB	Above Average	<0.1%
A_15_5	A-15-5	Baghouse serving the secondary screen (A-15-5)	Limestone	Limestone Extraction & Processing	Silver	7440-22-4	2.60E-08	24 hr	MB	Above Average	<0.1%
PPILE	PPILE	Transfer of limestone onto primary surge pile	Limestone	Limestone Extraction & Processing	Silver	7440-22-4	4.20E-07	24 hr	MB	Above Average	

Modelled Source	ESDM Source I.D.	Source Description	Materials	Process	Contaminant	CAS #	Maximum Emission Rate (g/s)	Averaging Period	Estimating Technique	Emission Data Quality	Percentage of Overall Emissions (%)
FSSC	FSSC-2	Feed Hopper to raw material screener	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Silver	7440-22-4	1.01E-07	24 hr	MB	Above Average	<0.1%
FSSC	FSSC-3	Raw material screening	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Silver	7440-22-4	1.59E-06	24 hr	MB	Above Average	1.2%
FSSC	FSSC-4	Raw material transfer from Screener to Conveyor	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Silver	7440-22-4	1.01E-07	24 hr	MB	Above Average	<0.1%
FSSC	FSSC-5	Raw material transfer from Conveyor to Stacker	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Silver	7440-22-4	1.01E-07	24 hr	MB	Above Average	<0.1%
FSSCD	FSSC-6	Drop of raw material from Stacker to Stockpile	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Silver	7440-22-4	8.65E-06	24 hr	MB	Above Average	6.4%
PIT11	04-1-411	Baghouse serving the raw material storage silos for raw mill (04-1-411)	Raw Feed	Raw Material Preparation	Silver	7440-22-4	4.94E-08	24 hr	MB	Above Average	<0.1%
PIT11	04-1-412	Baghouse serving the raw material storage silos for raw mill (04-1-412)	Raw Feed	Raw Material Preparation	Silver	7440-22-4	5.74E-08	24 hr	MB	Above Average	<0.1%
HSILO5	H1P41	Baghouse serving kiln feed silos (H1P41)	Raw Feed	Raw Material Preparation	Silver	7440-22-4	1.50E-07	24 hr	MB	Above Average	0.1%
HSILO5	H1P51	Baghouse serving kiln feed silos (H1P51)	Raw Feed	Raw Material Preparation	Silver	7440-22-4	1.50E-07	24 hr	MB	Above Average	0.1%
HSILO5	H1P61	Baghouse serving kiln feed silos (H1P61)	Raw Feed	Raw Material Preparation	Silver	7440-22-4	1.50E-07	24 hr	MB	Above Average	0.1%
K1P11	K1P11	Fuel mill baghouse (K1P11)	Conventional Fuel	Conventional Fuel Preparation and Feed	Silver	7440-22-4	5.10E-09	24 hr	MB	Above Average	<0.1%
K1P31	K1P31	Fuel meal storage silo baghouse (K1P31)	Conventional Fuel	Conventional Fuel Preparation and Feed	Silver	7440-22-4	7.65E-09	24 hr	MB	Above Average	<0.1%
K1P41	K1P41	Baghouse serving the north auxiliary fuel silo (K1P41)	Conventional Fuel	Conventional Fuel Preparation and Feed	Silver	7440-22-4	2.00E-09	24 hr	MB	Above Average	<0.1%
GHOPPER	G1P01	Gypsum Feed Hopper Baghouse (G1P01)	Gypsum/Silica Fume	Conventional Fuel Preparation and Feed	Silver	7440-22-4	3.06E-08	24 hr	MB	Above Average	<0.1%
05_1_412	05-1-412	Baghouse serving the kiln feed transfer to preheater tower (05-1-412)	Raw Feed	Clinker Production	Silver	7440-22-4	1.31E-07	24 hr	MB	Above Average	<0.1%
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production	Silver	7440-22-4	9.19E-05	24 hr	ST	Above Average	68.2%
CKD	CKD	Delivery and shipping of Cement Kiln Dust (CKD) to/from storage piles	Cement Kiln Dust	Clinker Production	Silver	7440-22-4	2.39E-08	24 hr	MB	Above Average	<0.1%
PIT11	07-1-421	Baghouse serving south transfer tower (07-1-421)	Clinker	Clinker Production	Silver	7440-22-4	1.61E-07	24 hr	MB	Above Average	0.1%
07_1_441	07-1-441	Baghouse serving north transfer tower (07-1-441)	Clinker	Clinker Production	Silver	7440-22-4	9.68E-08	24 hr	MB	Above Average	<0.1%
07_1_450	07-1-450	Baghouse serving north transfer tower (07-1-450)	Clinker	Clinker Production	Silver	7440-22-4	1.13E-07	24 hr	MB	Above Average	<0.1%
CBH	W1P51	Clinker cooler baghouse (W1P51)	Clinker	Clinker Production	Silver	7440-22-4	2.10E-06	24 hr	MB	Above Average	1.6%
W1P91	W1P91	Clinker reclaim hopper baghouse (W1P91)	Clinker	Clinker Production	Silver	7440-22-4	2.10E-07	24 hr	MB	Above Average	0.2%
PIT11	W1P101	Baghouse serving clinker truck loading/shipping (W1P101)	Clinker	Clinker Production	Silver	7440-22-4	1.34E-07	24 hr	MB	Above Average	<0.1%
PIT11D	PIT11-22	Transfer of clinker into Tee-Pee storage area	Clinker	Clinker Production	Silver	7440-22-4	5.64E-07	24 hr	MB	Above Average	0.4%
PIT11D	PIT11-23	Clinker transfer into a hopper	Clinker	Clinker Production	Silver	7440-22-4	2.89E-07	24 hr	MB	Above Average	0.2%
PIT11D	OFC-1	Loading Point to Truck (offspec clinker)	Clinker	Clinker Production	Silver	7440-22-4	7.24E-06	24 hr	MB	Above Average	5.4%
PIT11D	OFC-2	Truck to Pre-Crushing Stockpiles (offspec clinker)	Wet Clinker	Clinker Production	Silver	7440-22-4	7.16E-07	24 hr	MB	Above Average	0.5%
PIT11D	OFC-3	Front-end Loader to Feed Hopper (offspec clinker)	Wet Clinker	Clinker Production	Silver	7440-22-4	7.16E-07	24 hr	MB	Above Average	0.5%
PIT11	OFC-4	Feeder to Crusher (offspec clinker)	Wet Clinker	Clinker Production	Silver	7440-22-4	8.38E-09	24 hr	MB	Above Average	<0.1%
PIT11	OFC-5	Crushing (offspec clinker)	Wet Clinker	Clinker Production	Silver	7440-22-4	7.18E-08	24 hr	MB	Above Average	<0.1%
PIT11	OFC-6	Crusher to Discharge Conveyor (offspec clinker)	Wet Clinker	Clinker Production	Silver	7440-22-4	8.38E-09	24 hr	MB	Above Average	<0.1%
PIT11D	OFC-7	Discharge Conveyor to Crushed Stockpile (offspec clinker)	Wet Clinker	Clinker Production	Silver	7440-22-4	7.16E-07	24 hr	MB	Above Average	0.5%
PIT11D	OFC-8	Front-end Loader to Storage Stockpile (offspec clinker)	Wet Clinker	Clinker Production	Silver	7440-22-4	7.16E-07	24 hr	MB	Above Average	0.5%
BLSI	Z1P01	Baghouse serving additive storage silos in finish mill building (Z1P01)	Gypsum/Silica Fume	Cement Production	Silver	7440-22-4	1.39E-08	24 hr	MB	Above Average	<0.1%
BLSI	Z1P11	Baghouse serving additive storage silos in finish mill building (Z1P11)	Gypsum/Silica Fume	Cement Production	Silver	7440-22-4	1.39E-08	24 hr	MB	Above Average	<0.1%
BLSI	Z1P21	Baghouse serving additive storage silos in finish mill building (Z1P21)	Gypsum/Silica Fume	Cement Production	Silver	7440-22-4	1.39E-08	24 hr	MB	Above Average	<0.1%
PIT11	07-1-491	Baghouse serving additive storage silos in finish mill building (07-1-491)	Gypsum/Silica Fume	Cement Production	Silver	7440-22-4	1.32E-08	24 hr	MB	Above Average	<0.1%
PIT11	07-1-492	Baghouse serving additive storage silos in finish mill building (07-1-492)	Gypsum/Silica Fume	Cement Production	Silver	7440-22-4	8.25E-09	24 hr	MB	Above Average	<0.1%
PIT11	Z1P191	Baghouse serving transfer of additive in finish mill building (Z1P191)	Cement	Cement Production	Silver	7440-22-4	8.93E-08	24 hr	MB	Above Average	<0.1%
Z1P31	Z1P31	Baghouse serving transfer into finish mill (Z1P31)	Cement	Cement Production	Silver	7440-22-4	5.17E-08	24 hr	MB	Above Average	<0.1%
BAML	Z1P51	Finish mill baghouse (Z1P51)	Cement	Cement Production	Silver	7440-22-4	4.03E-06	24 hr	MB	Above Average	3.0%
BAML	Z1P61	Baghouse for transfer of cement to storage silo in finish mill building (Z1P61)	Cement	Cement Production	Silver	7440-22-4	8.93E-08	24 hr	MB	Above Average	<0.1%
Z1P41	Z1P41	Baghouse serving transfer from finish mill (Z1P41)	Cement	Cement Production	Silver	7440-22-4	4.46E-08	24 hr	MB	Above Average	<0.1%
S2005	Z1P71	Baghouse serving transfer from finish mill (Z1P71)	Cement	Cement Production	Silver	7440-22-4	1.35E-08	24 hr	MB	Above Average	<0.1%
S200N	Z1P81	Baghouse serving 200 series cement storage silos (Z1P81)	Cement	Cement Production	Silver	7440-22-4	1.41E-08	24 hr	MB	Above Average	<0.1%
S200N	Z1P91	Baghouse serving 200 series cement storage silos (Z1P91)	Cement	Cement Production	Silver	7440-22-4	1.41E-08	24 hr	MB	Above Average	<0.1%
S200N	Z1P101	Baghouse serving 200 series cement storage silos (Z1P101)	Cement	Cement Production	Silver	7440-22-4	1.41E-08	24 hr	MB	Above Average	<0.1%
S200N	Z1P141	Baghouse serving 200 series cement storage silos (Z1P141)	Cement	Cement Production	Silver	7440-22-4	7.13E-08	24 hr	MB	Above Average	<0.1%
S200N	Z1P151	Baghouse serving 200 series cement storage silos (Z1P151)	Cement	Cement Production	Silver	7440-22-4	7.13E-08	24 hr	MB	Above Average	<0.1%
S200N	Z1P171	Baghouse serving 200 series cement storage silos (Z1P171)	Cement	Cement Production	Silver	7440-22-4	7.13E-08	24 hr	MB	Above Average	<0.1%
S200N	Z1P181	Baghouse serving 200 series cement storage silos (Z1P181)	Cement	Cement Production	Silver	7440-22-4	4.49E-08	24 hr	MB	Above Average	<0.1%
S500	09-1-148	Baghouse serving 200 series cement storage silos (09-1-148)	Cement	Cement Production	Silver	7440-22-4	9.02E-08	24 hr	MB	Above Average	<0.1%
S500	09-1-158	Baghouse serving 200 series cement storage silos (09-1-158)	Cement	Cement Production	Silver	7440-22-4	9.02E-08	24 hr	MB	Above Average	<0.1%
S500	09-1-168	Baghouse serving 200 series cement storage silos (09-1-168)	Cement	Cement Production	Silver	7440-22-4	9.02E-08	24 hr	MB	Above Average	<0.1%
S200N	09-1-189	Baghouse serving 200 series cement storage silos (09-1-189)	Cement	Cement Production	Silver	7440-22-4	6.00E-08	24 hr	MB	Above Average	<0.1%
S200N	09-1-192	Baghouse serving 200 series cement storage silos (09-1-192)	Cement	Cement Production	Silver	7440-22-4	9.02E-08	24 hr	MB	Above Average	<0.1%
S200N	09-1-193	Baghouse serving 200 series cement storage silos (09-1-193)	Cement	Cement Production	Silver	7440-22-4	5.27E-08	24 hr	MB	Above Average	<0.1%
S200N	I-17-4	Baghouse serving 200 series cement storage silos (I-1704)	Cement	Cement Production	Silver	7440-22-4	3.76E-08	24 hr	MB	Above Average	<0.1%
S2005	I-10-3	Baghouse serving 200 series cement storage silos (I-10-3)	Cement	Cement Production	Silver	7440-22-4	3.02E-09	24 hr	MB	Above Average	<0.1%
S2005	I-10-4	Baghouse serving 200 series cement storage silos (I-10-4)	Cement	Cement Production	Silver	7440-22-4	3.02E-08	24 hr	MB	Above Average	<0.1%
S2005	I-22	Baghouse serving 200 series cement storage silos (I-22)	Cement	Cement Production	Silver	7440-22-4	1.50E-07	24 hr	MB	Above Average	0.1%
S340	Z1P161	Baghouse serving 300/400 series cement storage silos (Z1P161)	Cement	Cement Production	Silver	7440-22-4	7.13E-08	24 hr	MB	Above Average	<0.1%
S340	I-59-3	Baghouse serving 300/400 series cement storage silos (I-59-3)	Cement	Cement Production	Silver	7440-22-4	1.13E-07	24 hr	MB	Above Average	<0.1%
S340	09-1-075	Baghouse serving 300/400 series cement storage silos (09-1-075)	Cement	Cement Production	Silver	7440-22-4	1.86E-08	24 hr	MB	Above Average	<0.1%
S500	09-1-301	Baghouse serving 300/400 series cement storage silos (09-1-301)	Cement	Cement Production	Silver	7440-22-4	5.27E-08	24 hr	MB	Above Average	<0.1%
S500D	S500-CL	Cement loading from silo into a shipping tanker	Cement	Cement Production	Silver	7440-22-4	1.89E-06	24 hr	MB	Above Average	1.4%
S340	CPV-1	Baghouse serving packhouse 3 screw conveyor	Cement	Cement Production	Silver	7440-22-4	1.06E-08	24 hr	MB	Above Average	<0.1%
PACK	09-1-497	Baghouse serving packhouse cement storage silos (09-1-497)	Cement	Cement Production	Silver	7440-22-4	7.51E-08	24 hr	MB	Above Average	<0.1%
PACK	09-1-407	Baghouse serving packhouse cement storage silos (09-1-407)	Cement	Cement Production	Silver	7440-22-4	7.51E-08	24 hr	MB	Above Average	<0.1%
PACK	09-1-670	Baghouse serving packhouse cement storage silos (09-1-670)	Cement	Cement Production	Silver	7440-22-4	3.01E-07	24 hr	MB	Above Average	0.2%
PACK	09-1-311	Baghouse serving packhouse cement storage silos (09-1-311)	Cement	Cement Production	Silver	7440-22-4	7.51E-08	24 hr	MB	Above Average	<0.1%
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production	Styrene	100-42-5	9.60E-02	24 hr	ST	Above Average	100.0%
FSSC	FSSC-DG	Diesel-fired engine servicing the raw material screener	-	Raw Material / Conventional Fuel Delivery and Storage	Sulphur Dioxide	7446-09-5	2.57E-02	1 hr	MB	Above Average	<0.1%
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production	Sulphur Dioxide	7446-09-5	3.44E+01	1 hr	ST	Above Average	49.8%
PIT11	OFC-DG	Diesel-fired engine servicing the off-spec clinker crusher	-	Clinker Production	Sulphur Dioxide	7446-09-5	4.11E-02	1 hr	MB	Above Average	<0.1%
CBBOI	CBBOI	Dual fuel-fired Boiler	-	Ancillary Operations	Sulphur Dioxide	7446-09-5	2.15E-02	1 hr	MB	Above Average	<0.1%
JCBOI	JCBOI	No.2 fuel-fired boiler	-	Ancillary Operations	Sulphur Dioxide	7446-09-5	7.17E-03	1 hr	MB	Above Average	<0.1%
TRBOI	TRBOI	Dual fuel-fired boiler	-	Ancillary Operations	Sulphur Dioxide	7446-09-5	2.15E-02	1 hr	MB	Above Average	<0.1%
FSSC	FSSC-DG	Diesel-fired engine servicing the raw material screener	-	Raw Material / Conventional Fuel Delivery and Storage	Sulphur Dioxide	7446-09-5	2.57E-02	1 hr	MB	Above Average	<0.1%
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production	Sulphur Dioxide	7446-09-5	3.44E+01	1 hr	ST	Above Average	49.8%
PIT11	OFC-DG	Diesel-fired engine servicing the off-spec clinker crusher	-	Clinker Production	Sulphur Dioxide	7446-09-5	4.11E-02	1 hr	MB	Above Average	<0.1%
CBBOI	CBBOI	Dual fuel-fired Boiler	-	Ancillary Operations	Sulphur Dioxide	7446-09-5	2.15E-02	1 hr	MB	Above Average	<0.1%
JCBOI	JCBOI	No.2 fuel-fired boiler	-	Ancillary Operations	Sulphur Dioxide	7446-09-5	7.17E-03	1 hr	MB	Above Average	<0.1%
TRBOI	TRBOI	Dual fuel-fired boiler	-	Ancillary Operations	Sulphur Dioxide	7446-09-5	2.15E-02	1 hr	MB	Above Average	<0.1%
FSSC	FSSC-DG	Diesel-fired engine servicing the raw material screener	-	Raw Material / Conventional Fuel Delivery and Storage	Sulphur Dioxide	7446-09-5	2.57E-02	24 hr	MB	Above Average	<0.1%
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production	Sulphur Dioxide	7446-09-5	3.44E+01	24 hr	ST	Above Average	49.8%
PIT11	OFC-DG	Diesel-fired engine servicing the off-spec clinker crusher	-	Clinker Production	Sulphur Dioxide	7446-09-5	4.11E-02	24 hr	MB	Above Average	<0.1%
CBBOI	CBBOI	Dual fuel-fired Boiler	-	Ancillary Operations	Sulphur Dioxide	7446-09-5	2.15E-02	24 hr	MB	Above Average	<0.1%
JCBOI	JCBOI	No.2 fuel-fired boiler	-	Ancillary Operations	Sulphur Dioxide	7446-09-5	7.17E-03	24 hr	MB	Above Average	<0.1%
TRBOI	TRBOI	Dual fuel-fired boiler	-	Ancillary Operations	Sulphur Dioxide	7446-09-5	2.15E-02	24 hr	MB	Above Average	<0.1%
A_16_4	A-16-4	Baghouse serving the secondary crusher (A-16-4)	Limestone	Limestone Extraction & Processing	Suspended Particulate Matter	PM	1.18E-01	24 hr	EF	Average	1.0%
A_15_5	A-15-5	Baghouse serving the secondary screen (A-15-5)	Limestone	Limestone Extraction & Processing	Suspended Particulate Matter	PM	5.19E-02	24 hr	EF	Average	0.5%
PPILE	PPILE	Transfer of limestone onto primary surge pile	Limestone	Limestone Extraction & Processing	Suspended Particulate Matter	PM	8.40E-01	24 hr	EF	Average	7.4%
PILES	PILES-1	Delivery and transfer of conventional fuel	Conventional Fuel	Raw Material / Conventional Fuel Delivery and Storage	Suspended Particulate Matter	PM	3.33E-02	24 hr	EF	Average	0.3%
PILES	PILES-2	Delivery and transfer of raw materials	Raw Feed	Raw Material / Conventional Fuel Delivery and Storage	Suspended Particulate Matter	PM	6.65E-02	24 hr	EF	Average	0.6%
K1P51	K1P51	Conventional fuel storage silo baghouse (K1P51)	Conventional Fuel	Raw Material / Conventional Fuel Delivery and Storage	Suspended Particulate Matter	PM	2.80E-02	24 hr	EF	Average	0.2%
RAWS	04-1-401	Raw material storage silo baghouse (04-1-401)	Raw Feed	Raw Material / Conventional Fuel Delivery and Storage	Suspended Particulate Matter	PM	4.25E-02	24 hr	EF	Average	0.4%
CLPT	CLPT-1	Scraper from face onto a pile	Clay/Momentive	Raw Material / Conventional Fuel Delivery and Storage	Suspended Particulate Matter	PM	2.06E-02	24 hr	EF	Average	0.2%
CLPT	CLPT-2	Front end loader transfer into truck	Clay/Momentive	Raw Material / Conventional Fuel Delivery and Storage	Suspended Particulate Matter	PM	2.06E-02	24 hr	EF	Average	0.2%
FSSCD	FSSC-1	Front-end Loader to Feed Hopper for raw material screen	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Suspended Particulate Matter	PM	6.65E-01	24 hr	EF	Average	5.9%
FSSC	FSSC-2	Feed Hopper to raw material screener	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Suspended Particulate Matter	PM	7.78E-03	24 hr	EF	Average	<0.1%
FSSC	FSSC-3	Raw material screening	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Suspended Particulate Matter	PM	1.22E-01	24 hr	EF	Average	1.1%
FSSC	FSSC-4	Raw material transfer from Screener to Conveyor	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Suspended Particulate Matter	PM	7.78E-03	24 hr	EF</		

Modelled Source	ESDM Source I.D.	Source Description	Materials	Process	Contaminant	CAS #	Maximum Emission Rate (g/s)	Averaging Period	Estimating Technique	Emission Data Quality	Percentage of Overall Emissions (%)
K1P11	K1P11	Fuel mill baghouse (K1P11)	Conventional Fuel	Conventional Fuel Preparation and Feed	Suspended Particulate Matter	PM	1.02E-02	24 hr	EF	Average	<0.1%
K1P31	K1P31	Fuel meal storage silo baghouse (K1P31)	Conventional Fuel	Conventional Fuel Preparation and Feed	Suspended Particulate Matter	PM	1.53E-02	24 hr	EF	Average	0.1%
K1P41	K1P41	Baghouse serving the north auxiliary fuel silo (K1P41)	Conventional Fuel	Conventional Fuel Preparation and Feed	Suspended Particulate Matter	PM	4.00E-03	24 hr	EF	Average	<0.1%
GHOPPER	G1P01	Gypsum Feed Hopper Baghouse (G1P01)	Gypsum/Silica Fume	Conventional Fuel Preparation and Feed	Suspended Particulate Matter	PM	6.11E-02	24 hr	EF	Average	0.5%
05_1_412	05-1-412	Baghouse serving the kiln feed transfer to preheater tower (05-1-412)	Raw Feed	Clinker Production	Suspended Particulate Matter	PM	3.78E-02	24 hr	EF	Average	0.3%
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production	Suspended Particulate Matter	PM	9.74E-01	24 hr	ST	Average	8.6%
CKD	CKD	Delivery and shipping of Cement Kiln Dust (CKD) to/from storage piles	Cement Kiln Dust	Clinker Production	Suspended Particulate Matter	PM	6.93E-03	24 hr	EF	Average	<0.1%
PIT11	07-1-421	Baghouse serving south transfer tower (07-1-421)	Clinker	Clinker Production	Suspended Particulate Matter	PM	4.68E-02	24 hr	EF	Average	0.4%
07_1_441	07-1-441	Baghouse serving north transfer tower (07-1-441)	Clinker	Clinker Production	Suspended Particulate Matter	PM	2.81E-02	24 hr	EF	Average	0.2%
07_1_450	07-1-450	Baghouse serving north transfer tower (07-1-450)	Clinker	Clinker Production	Suspended Particulate Matter	PM	3.28E-02	24 hr	EF	Average	0.3%
CBH	W1P51	Clinker cooler baghouse (W1P51)	Clinker	Clinker Production	Suspended Particulate Matter	PM	6.11E-01	24 hr	EF	Average	5.4%
W1P91	W1P91	Clinker reclaim hopper baghouse (W1P91)	Clinker	Clinker Production	Suspended Particulate Matter	PM	6.10E-02	24 hr	EF	Average	0.5%
PIT11	W1P101	Baghouse serving clinker truck loading/shipping (W1P101)	Clinker	Clinker Production	Suspended Particulate Matter	PM	3.90E-02	24 hr	EF	Average	0.3%
PIT11D	PIT11-22	Transfer of clinker into Tee-Pee storage area	Clinker	Clinker Production	Suspended Particulate Matter	PM	1.64E-01	24 hr	EF	Average	1.4%
PIT11D	PIT11-23	Clinker transfer into a hopper	Clinker	Clinker Production	Suspended Particulate Matter	PM	8.40E-02	24 hr	EF	Average	0.7%
PIT11D	OFC-1	Loading Point to Truck (offspec clinker)	Clinker	Clinker Production	Suspended Particulate Matter	PM	2.10E+00	24 hr	EF	Average	18.5%
PIT11D	OFC-2	Truck to Pre-Crushing Stockpiles (offspec clinker)	Wet Clinker	Clinker Production	Suspended Particulate Matter	PM	2.08E-01	24 hr	EF	Average	1.8%
PIT11D	OFC-3	Front-end Loader to Feed Hopper (offspec clinker)	Wet Clinker	Clinker Production	Suspended Particulate Matter	PM	2.08E-01	24 hr	EF	Average	1.8%
PIT11	OFC-4	Feeder to Crusher (offspec clinker)	Wet Clinker	Clinker Production	Suspended Particulate Matter	PM	2.43E-03	24 hr	EF	Average	<0.1%
PIT11	OFC-5	Crushing (offspec clinker)	Wet Clinker	Clinker Production	Suspended Particulate Matter	PM	2.08E-02	24 hr	EF	Average	0.2%
PIT11	OFC-6	Crusher to Discharge Conveyor (offspec clinker)	Wet Clinker	Clinker Production	Suspended Particulate Matter	PM	2.43E-03	24 hr	EF	Average	<0.1%
PIT11D	OFC-7	Discharge Conveyor to Crushed Stockpile (offspec clinker)	Wet Clinker	Clinker Production	Suspended Particulate Matter	PM	2.08E-01	24 hr	EF	Average	1.8%
PIT11D	OFC-8	Front-end Loader to Storage Stockpile (offspec clinker)	Wet Clinker	Clinker Production	Suspended Particulate Matter	PM	2.08E-01	24 hr	EF	Average	1.8%
PIT11	OFC-DG	Diesel-fired engine servicing the off-spec clinker crusher	-	Clinker Production	Suspended Particulate Matter	PM	1.68E-02	24 hr	EF	Average	0.1%
BLSI	Z1P01	Baghouse serving additive storage silos in finish mill building (Z1P01)	Gypsum/Silica Fume	Cement Production	Suspended Particulate Matter	PM	2.78E-02	24 hr	EF	Average	0.2%
BLSI	Z1P11	Baghouse serving additive storage silos in finish mill building (Z1P11)	Gypsum/Silica Fume	Cement Production	Suspended Particulate Matter	PM	2.78E-02	24 hr	EF	Average	0.2%
BLSI	Z1P21	Baghouse serving additive storage silos in finish mill building (Z1P21)	Gypsum/Silica Fume	Cement Production	Suspended Particulate Matter	PM	2.78E-02	24 hr	EF	Average	0.2%
PIT11	07-1-491	Baghouse serving additive storage silos in finish mill building (07-1-491)	Gypsum/Silica Fume	Cement Production	Suspended Particulate Matter	PM	2.64E-02	24 hr	EF	Average	0.2%
PIT11	07-1-492	Baghouse serving additive storage silos in finish mill building (07-1-492)	Gypsum/Silica Fume	Cement Production	Suspended Particulate Matter	PM	1.65E-02	24 hr	EF	Average	0.1%
PIT11	Z1P191	Baghouse serving transfer of additive in finish mill building (Z1P191)	Cement	Cement Production	Suspended Particulate Matter	PM	2.78E-02	24 hr	EF	Average	0.2%
Z1P31	Z1P31	Baghouse serving transfer into finish mill (Z1P31)	Cement	Cement Production	Suspended Particulate Matter	PM	1.61E-02	24 hr	EF	Average	0.1%
BAML	Z1P51	Finish mill baghouse (Z1P51)	Cement	Cement Production	Suspended Particulate Matter	PM	1.26E+00	24 hr	EF	Average	11.1%
BAML	Z1P61	Baghouse for transfer of cement to storage silo in finish mill building (Z1P61)	Cement	Cement Production	Suspended Particulate Matter	PM	2.78E-02	24 hr	EF	Average	0.2%
Z1P41	Z1P41	Baghouse serving transfer from finish mill (Z1P41)	Cement	Cement Production	Suspended Particulate Matter	PM	1.39E-02	24 hr	EF	Average	0.1%
S200S	Z1P71	Baghouse serving transfer from finish mill (Z1P71)	Cement	Cement Production	Suspended Particulate Matter	PM	4.20E-03	24 hr	EF	Average	<0.1%
S200N	Z1P81	Baghouse serving 200 series cement storage silos (Z1P81)	Cement	Cement Production	Suspended Particulate Matter	PM	4.40E-03	24 hr	EF	Average	<0.1%
S200N	Z1P91	Baghouse serving 200 series cement storage silos (Z1P91)	Cement	Cement Production	Suspended Particulate Matter	PM	4.40E-03	24 hr	EF	Average	<0.1%
S200N	Z1P101	Baghouse serving 200 series cement storage silos (Z1P101)	Cement	Cement Production	Suspended Particulate Matter	PM	4.40E-03	24 hr	EF	Average	<0.1%
S200N	Z1P141	Baghouse serving 200 series cement storage silos (Z1P141)	Cement	Cement Production	Suspended Particulate Matter	PM	2.22E-02	24 hr	EF	Average	0.2%
S200N	Z1P151	Baghouse serving 200 series cement storage silos (Z1P151)	Cement	Cement Production	Suspended Particulate Matter	PM	2.22E-02	24 hr	EF	Average	0.2%
S200N	Z1P171	Baghouse serving 200 series cement storage silos (Z1P171)	Cement	Cement Production	Suspended Particulate Matter	PM	2.22E-02	24 hr	EF	Average	0.2%
S200N	Z1P181	Baghouse serving 200 series cement storage silos (Z1P181)	Cement	Cement Production	Suspended Particulate Matter	PM	1.40E-02	24 hr	EF	Average	0.1%
S500	09-1-148	Baghouse serving 200 series cement storage silos (09-1-148)	Cement	Cement Production	Suspended Particulate Matter	PM	2.81E-02	24 hr	EF	Average	0.2%
S500	09-1-158	Baghouse serving 200 series cement storage silos (09-1-158)	Cement	Cement Production	Suspended Particulate Matter	PM	2.81E-02	24 hr	EF	Average	0.2%
S500	09-1-168	Baghouse serving 200 series cement storage silos (09-1-168)	Cement	Cement Production	Suspended Particulate Matter	PM	2.81E-02	24 hr	EF	Average	0.2%
S200N	09-1-189	Baghouse serving 200 series cement storage silos (09-1-189)	Cement	Cement Production	Suspended Particulate Matter	PM	1.87E-02	24 hr	EF	Average	0.2%
S200N	09-1-192	Baghouse serving 200 series cement storage silos (09-1-192)	Cement	Cement Production	Suspended Particulate Matter	PM	2.81E-02	24 hr	EF	Average	0.2%
S200N	09-1-193	Baghouse serving 200 series cement storage silos (09-1-193)	Cement	Cement Production	Suspended Particulate Matter	PM	1.64E-02	24 hr	EF	Average	0.1%
S200N	I-17-4	Baghouse serving 200 series cement storage silos (I-1704)	Cement	Cement Production	Suspended Particulate Matter	PM	1.17E-02	24 hr	EF	Average	0.1%
S200S	I-10-3	Baghouse serving 200 series cement storage silos (I-10-3)	Cement	Cement Production	Suspended Particulate Matter	PM	9.40E-04	24 hr	EF	Average	<0.1%
S200S	I-10-4	Baghouse serving 200 series cement storage silos (I-10-4)	Cement	Cement Production	Suspended Particulate Matter	PM	9.40E-03	24 hr	EF	Average	<0.1%
S200S	I-22	Baghouse serving 200 series cement storage silos (I-22)	Cement	Cement Production	Suspended Particulate Matter	PM	4.68E-02	24 hr	EF	Average	0.4%
S340	Z1P161	Baghouse serving 300/400 series cement storage silos (Z1P161)	Cement	Cement Production	Suspended Particulate Matter	PM	2.22E-02	24 hr	EF	Average	0.2%
S340	I-59-3	Baghouse serving 300/400 series cement storage silos (I-59-3)	Cement	Cement Production	Suspended Particulate Matter	PM	3.51E-02	24 hr	EF	Average	0.3%
S340	09-1-075	Baghouse serving 300/400 series cement storage silos (09-1-075)	Cement	Cement Production	Suspended Particulate Matter	PM	5.80E-03	24 hr	EF	Average	<0.1%
S500	09-1-301	Baghouse serving 300/400 series cement storage silos (09-1-301)	Cement	Cement Production	Suspended Particulate Matter	PM	1.64E-02	24 hr	EF	Average	0.1%
S500D	S500-CL	Cement loading from silo into a shipping tanker	Cement	Cement Production	Suspended Particulate Matter	PM	5.88E-01	24 hr	EF	Average	5.2%
S340	CPV-1	Baghouse serving packhouse 3 screw conveyor	Cement	Cement Production	Suspended Particulate Matter	PM	3.30E-03	24 hr	EF	Average	<0.1%
PACK	09-1-497	Baghouse serving packhouse cement storage silos (09-1-497)	Cement	Cement Production	Suspended Particulate Matter	PM	2.34E-02	24 hr	EF	Average	0.2%
PACK	09-1-407	Baghouse serving packhouse cement storage silos (09-1-407)	Cement	Cement Production	Suspended Particulate Matter	PM	2.34E-02	24 hr	EF	Average	0.2%
PACK	09-1-670	Baghouse serving packhouse cement storage silos (09-1-670)	Cement	Cement Production	Suspended Particulate Matter	PM	9.36E-02	24 hr	EF	Average	0.8%
PACK	09-1-311	Baghouse serving packhouse cement storage silos (09-1-311)	Cement	Cement Production	Suspended Particulate Matter	PM	2.34E-02	24 hr	EF	Average	0.2%
CBBOI	CBBOI	Dual fuel-fired Boiler	-	Ancillary Operations	Suspended Particulate Matter	PM	5.00E-03	24 hr	EF	Average	<0.1%
JCBOI	JCBOI	No.2 fuel-fired boiler	-	Ancillary Operations	Suspended Particulate Matter	PM	1.67E-03	24 hr	EF	Average	<0.1%
TRBOI	TRBOI	Dual fuel-fired boiler	-	Ancillary Operations	Suspended Particulate Matter	PM	5.00E-03	24 hr	EF	Average	<0.1%
CBMST	CBM-5A	Natural gas-fired aggregate dryer controlled by a baghouse dust collector	CBM Product	CBM Operations	Suspended Particulate Matter	PM	1.45E-01	24 hr	EF	Average	1.3%
CBMFS	CBM-6	Fines transfer from dryer to fines silo controlled by a bin vent filter	CBM Product	CBM Operations	Suspended Particulate Matter	PM	7.50E-04	24 hr	EF	Average	<0.1%
CBMDTENT	CBM-8	Screening (no sizing, security screen, dryer tent)	CBM Product	CBM Operations	Suspended Particulate Matter	PM	6.08E-03	24 hr	EF	Average	<0.1%
CBMPTENT	CBM-9	Product screening (sizing, product tent)	CBM Product	CBM Operations	Suspended Particulate Matter	PM	3.04E-03	24 hr	EF	Average	<0.1%
CBMPTENTD	CBM-10	Product transfer from stacker to product stockpiles	CBM Product	CBM Operations	Suspended Particulate Matter	PM	1.73E-02	24 hr	EF	Average	0.2%
CBMPTENTD	CBM-11	Product transfer from stockpile into shipping truck	CBM Product	CBM Operations	Suspended Particulate Matter	PM	3.45E-01	24 hr	EF	Average	3.0%
CBMLO	CBM-14	Product silo load out into shipping truck	CBM Product	CBM Operations	Suspended Particulate Matter	PM	1.73E-01	24 hr	EF	Average	1.5%
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production	Tetrachloroethane, 1,1,1,2-	630-20-6	1.05E-02	24 hr	ST	Average	100.0%
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production	Tetrachloroethane, 1,1,2,2-	79-34-5	1.42E-02	24 hr	ST	Above Average	100.0%
A_16_4	A-16-4	Baghouse serving the secondary crusher (A-16-4)	Limestone	Limestone Extraction & Processing	Tin	7440-31-5	7.08E-07	24 hr	MB	Above Average	<0.1%
A_15_5	A-15-5	Baghouse serving the secondary screen (A-15-5)	Limestone	Limestone Extraction & Processing	Tin	7440-31-5	3.11E-07	24 hr	MB	Above Average	<0.1%
PPILE	PPILE	Transfer of limestone onto primary surge pile	Limestone	Limestone Extraction & Processing	Tin	7440-31-5	5.04E-06	24 hr	MB	Above Average	0.6%
PILE5	PILE5-1	Delivery and transfer of conventional fuel	Conventional Fuel	Raw Material / Conventional Fuel Delivery and Storage	Tin	7440-31-5	1.53E-07	24 hr	MB	Above Average	<0.1%
PILE5	PILE5-2	Delivery and transfer of raw materials	Raw Feed	Raw Material / Conventional Fuel Delivery and Storage	Tin	7440-31-5	2.48E-06	24 hr	MB	Above Average	0.3%
K1P51	K1P51	Conventional fuel storage silo baghouse (K1P51)	Conventional Fuel	Raw Material / Conventional Fuel Delivery and Storage	Tin	7440-31-5	1.29E-07	24 hr	MB	Above Average	<0.1%
RAWS	04-1-401	Raw material storage silo baghouse (04-1-401)	Raw Feed	Raw Material / Conventional Fuel Delivery and Storage	Tin	7440-31-5	1.58E-06	24 hr	MB	Above Average	0.2%
CLPT	CLPT-1	Scraper from face onto a pile	Clay/Momentive	Raw Material / Conventional Fuel Delivery and Storage	Tin	7440-31-5	5.15E-07	24 hr	MB	Above Average	<0.1%
CLPT	CLPT-2	Front end loader transfer into truck	Clay/Momentive	Raw Material / Conventional Fuel Delivery and Storage	Tin	7440-31-5	5.15E-07	24 hr	MB	Above Average	<0.1%
FSSCD	FSSC-1	Front-end Loader to Feed Hopper for raw material screen	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Tin	7440-31-5	1.48E-04	24 hr	MB	Above Average	18.9%
FSSC	FSSC-2	Feed Hopper to raw material screener	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Tin	7440-31-5	1.73E-06	24 hr	MB	Above Average	0.2%
FSSC	FSSC-3	Raw material screening	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Tin	7440-31-5	2.71E-05	24 hr	MB	Above Average	3.5%
FSSC	FSSC-4	Raw material transfer from Screener to Conveyor	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Tin	7440-31-5	1.73E-06	24 hr	MB	Above Average	0.2%
FSSC	FSSC-5	Raw material transfer from Conveyor to Stacker	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Tin	7440-31-5	1.73E-06	24 hr	MB	Above Average	0.2%
FSSCD	FSSC-6	Drop of raw material from Stacker to Stockpile	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Tin	7440-31-5	1.48E-04	24 hr	MB	Above Average	18.9%
PIT11	04-1-411	Baghouse serving the raw material storage silos for raw mill (04-1-411)	Raw Feed	Raw Material Preparation	Tin	7440-31-5	5.30E-07	24 hr	MB	Above Average	<0.1%
PIT11	04-1-412	Baghouse serving the raw material storage silos for raw mill (04-1-412)	Raw Feed	Raw Material Preparation	Tin	7440-31-5	6.15E-07	24 hr	MB	Above Average	<0.1%
HSILOS	H1P41	Baghouse serving kiln feed silos (H1P41)	Raw Feed	Raw Material Preparation	Tin	7440-31-5	1.60E-06	24 hr	MB	Above Average	0.2%
HSILOS	H1P51	Baghouse serving kiln feed silos (H1P51)	Raw Feed	Raw Material Preparation	Tin	7440-31-5	1.60E-06	24 hr	MB	Above Average	0.2%
HSILOS	H1P61	Baghouse serving kiln feed silos (H1P61)	Raw Feed	Raw Material Preparation	Tin	7440-31-5	1.60E-06	24 hr	MB	Above Average	0.2%
K1P11	K1P11	Fuel mill baghouse (K1P11)	Conventional Fuel	Conventional Fuel Preparation and Feed	Tin	7440-31-5	4.69E-08	24 hr	MB	Above Average	<0.1%
K1P31	K1P31	Fuel meal storage silo baghouse (K1P31)	Conventional Fuel	Conventional Fuel Preparation and Feed	Tin	7440-31-5	7.04E-08	24 hr	MB	Above Average	<0.1%
K1P41	K1P41	Baghouse serving the north auxiliary fuel silo (K1P41)	Conventional Fuel	Conventional Fuel Preparation and Feed	Tin	7440-31-5	1.84E-08	24 hr	MB	Above Average	<0.1%
GHOPPER	G1P01	Gypsum Feed Hopper Baghouse (G1P01)	Gypsum/Silica Fume	Conventional Fuel Preparation and Feed	Tin	7440-31-5	4.89E-07	24 hr	MB	Above Average	<0.1%
05_1_412	05-1-412	Baghouse serving the kiln feed transfer to preheater tower (05-1-412)	Raw Feed	Clinker Production	Tin	7440-31-5	1.41E-06	24 hr	MB	Above Average	0.2%
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production	Tin	7440-31-5	2.00E-04	24 hr	ST	Above Average	25.5%
CKD	CKD	Delivery and shipping of Cement Kiln Dust (CKD) to/from storage piles	Cement Kiln Dust	Clinker Production	Tin	7440-31-5	2.56E-07	24 hr	MB	Above Average	<0.1%
PIT11	07-1-421	Baghouse serving south transfer tower (07-1-421)	Clinker	Clinker Production	Tin	7440-31-5	1.73E-06	24 hr	MB	Above Average	0.2%
07_1_441	07-1-441	Baghouse serving north transfer tower (07-1-441)	Clinker	Clinker Production	Tin	7440-31-5	1.04E-06	24 hr	MB	Above Average	0.1%
07_1_450	07-1-450	Baghouse serving north transfer tower (07-1-450)	Clinker	Clinker Production	Tin	7440-31-5	1.21E-06	24 hr	MB	Above Average	0.2%
CBH	W1P51	Clinker cooler baghouse (W1P51)	Clinker	Clinker Production	Tin	7440-31-5	2.26E-05	24 hr	MB	Above Average	2.9%

Modelled Source	ESDM Source I.D.	Source Description	Materials	Process	Contaminant	CAS #	Maximum Emission Rate (g/s)	Averaging Period	Estimating Technique	Emission Data Quality	Percentage of Overall Emissions (%)
S200N	Z1P171	Baghouse serving 200 series cement storage silos (Z1P171)	Cement	Cement Production	Tin	7440-31-5	7.67E-07	24 hr	MB	Above Average	<0.1%
S200N	Z1P181	Baghouse serving 200 series cement storage silos (Z1P181)	Cement	Cement Production	Tin	7440-31-5	4.84E-07	24 hr	MB	Above Average	<0.1%
S500	09-1-148	Baghouse serving 200 series cement storage silos (09-1-148)	Cement	Cement Production	Tin	7440-31-5	9.71E-07	24 hr	MB	Above Average	0.1%
S500	09-1-158	Baghouse serving 200 series cement storage silos (09-1-158)	Cement	Cement Production	Tin	7440-31-5	9.71E-07	24 hr	MB	Above Average	0.1%
S500	09-1-168	Baghouse serving 200 series cement storage silos (09-1-168)	Cement	Cement Production	Tin	7440-31-5	9.71E-07	24 hr	MB	Above Average	0.1%
S200N	09-1-189	Baghouse serving 200 series cement storage silos (09-1-189)	Cement	Cement Production	Tin	7440-31-5	6.46E-07	24 hr	MB	Above Average	<0.1%
S200N	09-1-192	Baghouse serving 200 series cement storage silos (09-1-192)	Cement	Cement Production	Tin	7440-31-5	9.71E-07	24 hr	MB	Above Average	0.1%
S200N	09-1-193	Baghouse serving 200 series cement storage silos (09-1-193)	Cement	Cement Production	Tin	7440-31-5	5.67E-07	24 hr	MB	Above Average	<0.1%
S200N	1-17-4	Baghouse serving 200 series cement storage silos (1-1704)	Cement	Cement Production	Tin	7440-31-5	4.04E-07	24 hr	MB	Above Average	<0.1%
S200S	I-10-3	Baghouse serving 200 series cement storage silos (I-10-3)	Cement	Cement Production	Tin	7440-31-5	3.25E-08	24 hr	MB	Above Average	<0.1%
S200S	I-10-4	Baghouse serving 200 series cement storage silos (I-10-4)	Cement	Cement Production	Tin	7440-31-5	3.25E-07	24 hr	MB	Above Average	<0.1%
S200S	I-22	Baghouse serving 200 series cement storage silos (I-22)	Cement	Cement Production	Tin	7440-31-5	1.62E-06	24 hr	MB	Above Average	0.2%
S340	Z1P161	Baghouse serving 300/400 series cement storage silos (Z1P161)	Cement	Cement Production	Tin	7440-31-5	7.67E-07	24 hr	MB	Above Average	<0.1%
S340	I-59-3	Baghouse serving 300/400 series cement storage silos (I-59-3)	Cement	Cement Production	Tin	7440-31-5	1.21E-06	24 hr	MB	Above Average	0.2%
S340	09-1-075	Baghouse serving 300/400 series cement storage silos (09-1-075)	Cement	Cement Production	Tin	7440-31-5	2.00E-07	24 hr	MB	Above Average	<0.1%
S500	09-1-301	Baghouse serving 300/400 series cement storage silos (09-1-301)	Cement	Cement Production	Tin	7440-31-5	5.67E-07	24 hr	MB	Above Average	<0.1%
S500D	S500-CL	Cement loading from silo into a shipping tanker	Cement	Cement Production	Tin	7440-31-5	2.03E-05	24 hr	MB	Above Average	2.6%
S340	CPV-1	Baghouse serving packhouse 3 screw conveyor	Cement	Cement Production	Tin	7440-31-5	1.14E-07	24 hr	MB	Above Average	<0.1%
PACK	09-1-497	Baghouse serving packhouse cement storage silos (09-1-497)	Cement	Cement Production	Tin	7440-31-5	8.09E-07	24 hr	MB	Above Average	0.1%
PACK	09-1-407	Baghouse serving packhouse cement storage silos (09-1-407)	Cement	Cement Production	Tin	7440-31-5	8.09E-07	24 hr	MB	Above Average	0.1%
PACK	09-1-670	Baghouse serving packhouse cement storage silos (09-1-670)	Cement	Cement Production	Tin	7440-31-5	3.24E-06	24 hr	MB	Above Average	0.4%
PACK	09-1-311	Baghouse serving packhouse cement storage silos (09-1-311)	Cement	Cement Production	Tin	7440-31-5	8.09E-07	24 hr	MB	Above Average	0.1%
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production	TOTAL Dioxin and Furans (TEQ)	CCD	3.17E-09	24 hr	ST	Above Average	100.0%
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production	Total Reduced Sulphur	TRS	8.60E-03	24 hr	ST	Above Average	50.0%
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production	Total Reduced Sulphur	TRS	8.60E-03	24 hr	ST	Above Average	50.0%
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production	Trichloroethane, 1,1,2-	79-00-5	1.70E-02	24 hr	ST	Above Average	100.0%
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production	Trichloroethylene	79-01-6	1.15E-02	24 hr	ST	Above Average	100.0%
A_16_4	A-16-4	Baghouse serving the secondary crusher (A-16-4)	Limestone	Limestone Extraction & Processing	Vanadium	7440-62-2	2.01E-06	24 hr	MB	Above Average	<0.1%
A_15_5	A-15-5	Baghouse serving the secondary screen (A-15-5)	Limestone	Limestone Extraction & Processing	Vanadium	7440-62-2	8.82E-07	24 hr	MB	Above Average	<0.1%
PPILE	PPILE	Transfer of limestone onto primary surge pile	Limestone	Limestone Extraction & Processing	Vanadium	7440-62-2	1.43E-05	24 hr	MB	Above Average	0.1%
PILES	PILES-1	Delivery and transfer of conventional fuel	Conventional Fuel	Raw Material / Conventional Fuel Delivery and Storage	Vanadium	7440-62-2	1.76E-05	24 hr	MB	Above Average	0.2%
PILES	PILES-2	Delivery and transfer of raw materials	Raw Feed	Raw Material / Conventional Fuel Delivery and Storage	Vanadium	7440-62-2	3.77E-05	24 hr	MB	Above Average	0.4%
K1P51	K1P51	Conventional fuel storage silo baghouse (K1P51)	Conventional Fuel	Raw Material / Conventional Fuel Delivery and Storage	Vanadium	7440-62-2	1.48E-05	24 hr	MB	Above Average	0.1%
RAWS	04-1-401	Raw material storage silo baghouse (04-1-401)	Raw Feed	Raw Material / Conventional Fuel Delivery and Storage	Vanadium	7440-62-2	2.41E-05	24 hr	MB	Above Average	0.2%
CLPT	CLPT-1	Scraper from face onto a pile	Clay/Momentive	Raw Material / Conventional Fuel Delivery and Storage	Vanadium	7440-62-2	1.75E-06	24 hr	MB	Above Average	<0.1%
CLPT	CLPT-2	Front end loader transfer into truck	Clay/Momentive	Raw Material / Conventional Fuel Delivery and Storage	Vanadium	7440-62-2	1.75E-06	24 hr	MB	Above Average	<0.1%
FSSCD	FSSC-1	Front-end Loader to Feed Hopper for raw material screen	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Vanadium	7440-62-2	2.73E-03	24 hr	MB	Above Average	26.4%
FSSC	FSSC-2	Feed Hopper to raw material screener	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Vanadium	7440-62-2	3.20E-05	24 hr	MB	Above Average	0.3%
FSSC	FSSC-3	Raw material screening	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Vanadium	7440-62-2	5.02E-04	24 hr	MB	Above Average	4.8%
FSSC	FSSC-4	Raw material transfer from Screener to Conveyor	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Vanadium	7440-62-2	3.20E-05	24 hr	MB	Above Average	0.3%
FSSC	FSSC-5	Raw material transfer from Conveyor to Stack	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Vanadium	7440-62-2	3.20E-05	24 hr	MB	Above Average	0.3%
FSSCD	FSSC-6	Drop of raw material from Stack to Stockpile	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Vanadium	7440-62-2	2.73E-03	24 hr	MB	Above Average	26.4%
PIT11	04-1-411	Baghouse serving the raw material storage silos for raw mill (04-1-411)	Raw Feed	Raw Material Preparation	Vanadium	7440-62-2	8.06E-06	24 hr	MB	Above Average	<0.1%
PIT11	04-1-412	Baghouse serving the raw material storage silos for raw mill (04-1-412)	Raw Feed	Raw Material Preparation	Vanadium	7440-62-2	9.36E-06	24 hr	MB	Above Average	<0.1%
HSILO5	H1P41	Baghouse serving kiln feed silos (H1P41)	Raw Feed	Raw Material Preparation	Vanadium	7440-62-2	2.44E-05	24 hr	MB	Above Average	0.2%
HSILO5	H1P51	Baghouse serving kiln feed silos (H1P51)	Raw Feed	Raw Material Preparation	Vanadium	7440-62-2	2.44E-05	24 hr	MB	Above Average	0.2%
HSILO5	H1P61	Baghouse serving kiln feed silos (H1P61)	Raw Feed	Raw Material Preparation	Vanadium	7440-62-2	2.44E-05	24 hr	MB	Above Average	0.2%
K1P11	K1P11	Fuel mill baghouse (K1P11)	Conventional Fuel	Conventional Fuel Preparation and Feed	Vanadium	7440-62-2	5.41E-06	24 hr	MB	Above Average	<0.1%
K1P31	K1P31	Fuel meal storage silo baghouse (K1P31)	Conventional Fuel	Conventional Fuel Preparation and Feed	Vanadium	7440-62-2	8.11E-06	24 hr	MB	Above Average	<0.1%
K1P41	K1P41	Baghouse serving the north auxiliary fuel silo (K1P41)	Conventional Fuel	Conventional Fuel Preparation and Feed	Vanadium	7440-62-2	2.12E-06	24 hr	MB	Above Average	<0.1%
GHOPPER	G1P01	Gypsum Feed Hopper Baghouse (G1P01)	Gypsum/Silica Fume	Conventional Fuel Preparation and Feed	Vanadium	7440-62-2	2.18E-05	24 hr	MB	Above Average	0.2%
05_1_412	05-1-412	Baghouse serving the kiln feed transfer to preheater tower (05-1-412)	Raw Feed	Clinker Production	Vanadium	7440-62-2	2.14E-05	24 hr	MB	Above Average	0.2%
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production	Vanadium	7440-62-2	3.72E-04	24 hr	ST	Above Average	3.6%
CKD	CKD	Delivery and shipping of Cement Kiln Dust (CKD) to/from storage piles	Cement Kiln Dust	Clinker Production	Vanadium	7440-62-2	3.93E-06	24 hr	MB	Above Average	<0.1%
PIT11	07-1-421	Baghouse serving south transfer tower (07-1-421)	Clinker	Clinker Production	Vanadium	7440-62-2	2.65E-05	24 hr	MB	Above Average	0.3%
07_1_441	07-1-441	Baghouse serving north transfer tower (07-1-441)	Clinker	Clinker Production	Vanadium	7440-62-2	1.59E-05	24 hr	MB	Above Average	0.2%
07_1_450	07-1-450	Baghouse serving north transfer tower (07-1-450)	Clinker	Clinker Production	Vanadium	7440-62-2	1.86E-05	24 hr	MB	Above Average	0.2%
CBH	W1P51	Clinker cooler baghouse (W1P51)	Clinker	Clinker Production	Vanadium	7440-62-2	3.46E-04	24 hr	MB	Above Average	3.3%
W1P91	W1P91	Clinker reclaim hopper baghouse (W1P91)	Clinker	Clinker Production	Vanadium	7440-62-2	3.46E-05	24 hr	MB	Above Average	0.3%
PIT11	W1P101	Baghouse serving clinker truck loading/shipping (W1P101)	Clinker	Clinker Production	Vanadium	7440-62-2	2.21E-05	24 hr	MB	Above Average	0.2%
PIT11D	PIT11-22	Transfer of clinker into Tee-Pee storage area	Clinker	Clinker Production	Vanadium	7440-62-2	9.29E-05	24 hr	MB	Above Average	0.9%
PIT11D	PIT11-23	Clinker transfer into a hopper	Clinker	Clinker Production	Vanadium	7440-62-2	4.76E-05	24 hr	MB	Above Average	0.5%
PIT11D	OFC-1	Loading Point to Truck (offspec clinker)	Clinker	Clinker Production	Vanadium	7440-62-2	1.19E-03	24 hr	MB	Above Average	11.5%
PIT11D	OFC-2	Truck to Pre-Crushing Stockpiles (offspec clinker)	Wet Clinker	Clinker Production	Vanadium	7440-62-2	1.18E-04	24 hr	MB	Above Average	1.1%
PIT11D	OFC-3	Front-end Loader to Feed Hopper (offspec clinker)	Wet Clinker	Clinker Production	Vanadium	7440-62-2	1.18E-04	24 hr	MB	Above Average	1.1%
PIT11	OFC-4	Feeder to Crusher (offspec clinker)	Wet Clinker	Clinker Production	Vanadium	7440-62-2	1.38E-06	24 hr	MB	Above Average	<0.1%
PIT11	OFC-5	Crushing (offspec clinker)	Wet Clinker	Clinker Production	Vanadium	7440-62-2	1.18E-05	24 hr	MB	Above Average	0.1%
PIT11	OFC-6	Crusher to Discharge Conveyor (offspec clinker)	Wet Clinker	Clinker Production	Vanadium	7440-62-2	1.38E-06	24 hr	MB	Above Average	<0.1%
PIT11D	OFC-7	Discharge Conveyor to Crushed Stockpile (offspec clinker)	Wet Clinker	Clinker Production	Vanadium	7440-62-2	1.18E-04	24 hr	MB	Above Average	1.1%
PIT11D	OFC-8	Front-end Loader to Storage Stockpile (offspec clinker)	Wet Clinker	Clinker Production	Vanadium	7440-62-2	1.18E-04	24 hr	MB	Above Average	1.1%
BL51	Z1P01	Baghouse serving additive storage silos in finish mill building (Z1P01)	Gypsum/Silica Fume	Cement Production	Vanadium	7440-62-2	9.92E-06	24 hr	MB	Above Average	<0.1%
BL51	Z1P11	Baghouse serving additive storage silos in finish mill building (Z1P11)	Gypsum/Silica Fume	Cement Production	Vanadium	7440-62-2	9.92E-06	24 hr	MB	Above Average	<0.1%
BL51	Z1P21	Baghouse serving additive storage silos in finish mill building (Z1P21)	Gypsum/Silica Fume	Cement Production	Vanadium	7440-62-2	9.92E-06	24 hr	MB	Above Average	<0.1%
PIT11	07-1-491	Baghouse serving additive storage silos in finish mill building (07-1-491)	Gypsum/Silica Fume	Cement Production	Vanadium	7440-62-2	9.42E-06	24 hr	MB	Above Average	<0.1%
PIT11	07-1-492	Baghouse serving additive storage silos in finish mill building (07-1-492)	Gypsum/Silica Fume	Cement Production	Vanadium	7440-62-2	5.89E-06	24 hr	MB	Above Average	<0.1%
PIT11	Z1P191	Baghouse serving transfer of additive in finish mill building (Z1P191)	Cement	Cement Production	Vanadium	7440-62-2	1.49E-05	24 hr	MB	Above Average	0.1%
Z1P31	Z1P31	Baghouse serving transfer into finish mill (Z1P31)	Cement	Cement Production	Vanadium	7440-62-2	8.64E-06	24 hr	MB	Above Average	<0.1%
BAML	Z1P51	Finish mill baghouse (Z1P51)	Cement	Cement Production	Vanadium	7440-62-2	6.74E-04	24 hr	MB	Above Average	6.5%
BAML	Z1P61	Baghouse for transfer of cement to storage silo in finish mill building (Z1P61)	Cement	Cement Production	Vanadium	7440-62-2	1.49E-05	24 hr	MB	Above Average	0.1%
Z1P41	Z1P41	Baghouse serving transfer from finish mill (Z1P41)	Cement	Cement Production	Vanadium	7440-62-2	7.46E-06	24 hr	MB	Above Average	<0.1%
S200S	Z1P71	Baghouse serving transfer from finish mill (Z1P71)	Cement	Cement Production	Vanadium	7440-62-2	2.25E-06	24 hr	MB	Above Average	<0.1%
S200N	Z1P81	Baghouse serving 200 series cement storage silos (Z1P81)	Cement	Cement Production	Vanadium	7440-62-2	2.36E-06	24 hr	MB	Above Average	<0.1%
S200N	Z1P91	Baghouse serving 200 series cement storage silos (Z1P91)	Cement	Cement Production	Vanadium	7440-62-2	2.36E-06	24 hr	MB	Above Average	<0.1%
S200N	Z1P101	Baghouse serving 200 series cement storage silos (Z1P101)	Cement	Cement Production	Vanadium	7440-62-2	2.36E-06	24 hr	MB	Above Average	<0.1%
S200N	Z1P141	Baghouse serving 200 series cement storage silos (Z1P141)	Cement	Cement Production	Vanadium	7440-62-2	1.19E-05	24 hr	MB	Above Average	0.1%
S200N	Z1P151	Baghouse serving 200 series cement storage silos (Z1P151)	Cement	Cement Production	Vanadium	7440-62-2	1.19E-05	24 hr	MB	Above Average	0.1%
S200N	Z1P171	Baghouse serving 200 series cement storage silos (Z1P171)	Cement	Cement Production	Vanadium	7440-62-2	1.19E-05	24 hr	MB	Above Average	0.1%
S200N	Z1P181	Baghouse serving 200 series cement storage silos (Z1P181)	Cement	Cement Production	Vanadium	7440-62-2	7.51E-06	24 hr	MB	Above Average	<0.1%
S500	09-1-148	Baghouse serving 200 series cement storage silos (09-1-148)	Cement	Cement Production	Vanadium	7440-62-2	1.51E-05	24 hr	MB	Above Average	0.1%
S500	09-1-158	Baghouse serving 200 series cement storage silos (09-1-158)	Cement	Cement Production	Vanadium	7440-62-2	1.51E-05	24 hr	MB	Above Average	0.1%
S500	09-1-168	Baghouse serving 200 series cement storage silos (09-1-168)	Cement	Cement Production	Vanadium	7440-62-2	1.51E-05	24 hr	MB	Above Average	0.1%
S200N	09-1-189	Baghouse serving 200 series cement storage silos (09-1-189)	Cement	Cement Production	Vanadium	7440-62-2	1.00E-05	24 hr	MB	Above Average	<0.1%
S200N	09-1-192	Baghouse serving 200 series cement storage silos (09-1-192)	Cement	Cement Production	Vanadium	7440-62-2	1.51E-05	24 hr	MB	Above Average	0.1%
S200N	09-1-193	Baghouse serving 200 series cement storage silos (09-1-193)	Cement	Cement Production	Vanadium	7440-62-2	8.80E-06	24 hr	MB	Above Average	<0.1%
S200N	1-17-4	Baghouse serving 200 series cement storage silos (1-1704)	Cement	Cement Production	Vanadium	7440-62-2	6.28E-06	24 hr	MB	Above Average	<0.1%
S200S	I-10-3	Baghouse serving 200 series cement storage silos (I-10-3)	Cement	Cement Production	Vanadium	7440-62-2	5.04E-07	24 hr	MB	Above Average	<0.1%
S200S	I-10-4	Baghouse serving 200 series cement storage silos (I-10-4)	Cement	Cement Production	Vanadium	7440-62-2	5.04E-06	24 hr	MB	Above Average	<0.1%
S200S	I-22	Baghouse serving 200 series cement storage silos (I-22)	Cement	Cement Production	Vanadium	7440-62-2	2.51E-05	24 hr	MB	Above Average	0.2%
S340	Z1P161	Baghouse serving 300/400 series cement storage silos (Z1P161)	Cement	Cement Production	Vanadium	7440-62-2	1.19E-05	24 hr	MB	Above Average	0.1%
S340	I-59-3	Baghouse serving 300/400 series cement storage silos (I-59-3)	Cement	Cement Production	Vanadium	7440-62-2	1.88E-05	24 hr	MB	Above Average	0.2%
S340	09-1-075	Baghouse serving 300/400 series cement storage silos (09-1-075)	Cement	Cement Production	Vanadium						

Appendix H

Assessment of Negligible Contaminants and Sources



Appendix H: Contaminants below an Emission Threshold

The Ministry Procedure, Section 7.1.2 states that contaminants can be considered negligible if the emissions from the site using the distance to the property line from the closest emission source is less than the emission threshold developed with the Emission Threshold formula below.

$$\text{Emission Threshold (g/s)} = \frac{0.5 \times \text{Ministry POI Limit or JSL } [\mu\text{g}/\text{m}^3]}{\text{Dispersion Factor } [\mu\text{g}/\text{m}^3 \text{ per g/s emission}]}$$

The Ministry Procedure Section 7.1.2 states that if the contaminant does not have a Ministry POI limit but does have a Jurisdictional Screening Level (JSL), the JSL can be used in place of the Ministry POI limit in the Emission Threshold calculation. For those contaminants without a Ministry POI limit or a JSL that are not listed in the Ministry Procedure - Table B-2B, a POI limit of $0.1 \mu\text{g}/\text{m}^3$ was used for the calculation. For those contaminants without a Ministry POI limit or a JSL limit that are listed in the Ministry Procedure - Table B-2B, a POI limit of $0.01 \mu\text{g}/\text{m}^3$ was used for the calculation. Verification was obtained from the Ministry (by Scott Grant, May 2009) that only if a contaminant is listed in Table B-2B that has either a Ministry POI limit or a JSL, the Ministry POI limit or JSL should be used. Only the remaining contaminants should be considered to be listed on Table B-2B.

Since the Facility is located in a rural setting as defined in the Ministry ADMGO the rural dispersion factors in Table B-1 of the Ministry Procedure were used.

The Emission Threshold screening exercise was only performed for contaminants that have a 1 hour and/or 24 hour POI limit, and that are solely emitted from the kiln stack and/or fugitive VOCs emitted from raw material/storage piles inside the former quarry (i.e. pit source). Emissions of contaminants emitted from other sources (e.g. particulate, metals in Table 6, NO_x , SO_2 and CO) were assessed and modelled as significant contaminants as presented in Section 4 of this report.

For the contaminants that are only emitted from the kiln stack, the distance between the kiln stack source and the property line is the shortest distance from a source of emission for that contaminant to the property line. For the VOCs that are emitted from both the kiln stack and the pit source, the source with the shortest distance to the property line (the pit) is the selected distance. The relevant dispersion factor was applied to that distance.

The 1-hr dispersion factors provided in Table B-1 of the Ministry Procedure were used as is for the 1-hour averaging period and converted to the 24-hour averaging period for the modelling exercise using the conversion factor of 0.4 as provided in Table 7-1 of the Ministry Procedure.

For example, a dispersion factor of 334 m from the source was linearly interpolated from the dispersion factors $1900 \mu\text{g}/\text{m}^3$ per g/s at 300 m and $1700 \mu\text{g}/\text{m}^3$ per g/s at 350 m to obtain a dispersion factor for 334 m as shown below.

$$\text{Dispersion factor (334 m)} = 1900 - [(1900-1750)/(350-300) \times (334 - 350)] = 1764 \mu\text{g}/\text{m}^3 \text{ per g/s}$$

For example, for the maximum emission scenario, boron has a kiln stack emission rate of 4.40×10^{-3} g/s. Since the kiln stack is the only source of boron emissions and it is 334 m from the property line, the dispersion factor for 334 m was linearly interpolated to be $1764 \mu\text{g}/\text{m}^3$ per g/s emission. This 1-hour

dispersion factor was converted to a 24-hour dispersion factor by multiplying by 0.4 to obtain 705.6 $\mu\text{g}/\text{m}^3$ per g/s emission.

The 24-hour Ministry POI Standard for boron is 120 $\mu\text{g}/\text{m}^3$. The emission threshold for boron was calculated as follows:

$$\begin{aligned}\text{Emission Threshold (g/s)} &= \frac{0.5 * \text{Ministry POI Limit or JSL } [\mu\text{g}/\text{m}^3]}{\text{Dispersion Factor } [\mu\text{g}/\text{m}^3 \text{ per g/s emission}]} \\ &= (0.5 * 120) / 705.6 \\ &= 8.50 \times 10^{-2} \text{ g/s}\end{aligned}$$

Since the emission rate for boron of 4.4×10^{-3} g/s is less than the Emission Threshold of 8.50×10^{-2} g/s the site-wide emissions of boron are considered negligible.

Once a source of a contaminant is deemed to be negligible it does not contribute to the total (significant) site emission rate. The overall site emission rate for each contaminant is then recalculated minus the negligible sources.

The contaminants that are considered to be emitted in negligible amounts using the screening procedure described above are summarized Tables H1A and H2A.

Table H2A Negligible Source Screening Table 1hr (all sources except those eliminated by the Procedure) - Conventional Fuel Only

Land Use Type (rural or urban):

rural

Source Identifier	Source Description	Contaminant Name	CAS #	Sig or Neg (final result)	Modeling Source ID	Source for Emission Threshold (ET) Value	Threshold Concentration (µg/m³) (1-hr)	Averaging Period (hr)	Raw Source Emission Rate (ER) (g/s)	Shortest Distance to Property Line by Source (m)	Shortest Distance to Property Line by CAS# (m)	Table B-1 Distance Below Shortest Distance (m)	Table B-1 Dispersion Factor Below Shortest Distance (1-hr) (µg/m³ per g/s)	Table B-1 Distance Above Shortest Distance (m)	Table B-1 Dispersion Factor Above Shortest Distance (1-hr) (µg/m³ per g/s)	Interpolated Dispersion Factor to 1m (1-hr) (µg/m³ per g/s)	Applicable Dispersion Factor (averaging period) (µg/m³ per g/s)	Emission Threshold Emission Rate (g/s)	Site ER % of Emission Threshold ER	Sig or Neg (based on ET)
	KILNQC	Chlorobenzene	108-90-7	neg		Guideline	3500	1	1.42E-02	334	334	300	1900	350	1700	1764	1764	9.92E-01	1%	neg
	KILNQC	1,2-Dichlorobenzene	95-50-1	neg		Guideline	30500	1	6.68E-04	334	334	300	1900	350	1700	1764	1764	8.65E+00	<1%	neg
	PITV	Chlorobenzene	108-90-7	neg		Guideline	3500	1	4.90E-12	334	334	300	1900	350	1700	1764	1764	9.92E-01	<1%	neg
	PITV	Dichlorobenzene, 1,2-	95-50-1	neg		Guideline	30500	1	3.38E-12	334	334	300	1900	350	1700	1764	1764	8.65E+00	<1%	neg

Table H1A Negligible Source Screening Table 24hr (all sources except those eliminated by the Procedure)

Land Use Type (rural or urban):

rural

Source Identifier	Source Description	Contaminant Name	CAS #	Sig or Neg (final result)	Source for Emission Threshold (ET) Value	Threshold Concentration (µg/m ³) (24-hr)	Averaging Period (hr)	Raw Source Emission Rate (ER) (g/s)	Raw Site Emission Rate (g/s)	% of Raw Site Emissions	Sig or Neg (based on <5% screening)	Source ER after <5% Screening (g/s)	Site ER after <5% Screening (g/s)	% of Site Emissions after <5% Screening	Shortest Distance to Property Line by Source (m)	Shortest Distance to Property Line by CAS# (m)	Table B-1 Distance Below Shortest Distance (m)	Table B-1 Dispersion Factor Below Shortest Distance (1-hr) (µg/m ³ per g/s)	Table B-1 Distance Above Shortest Distance (m)	Table B-1 Dispersion Factor Above Shortest Distance (1-hr) (µg/m ³ per g/s)	Interpolated Dispersion Factor to 1m (1-hr) (µg/m ³ per g/s)	Applicable Dispersion Factor (averaging period) (µg/m ³ per g/s)	Emission Threshold Emission Rate (g/s)	Site ER % of Emission Threshold ER	Sig or Neg (based on ET)	Source ER after ET Screening (g/s)	Site ER after ET Screening (g/s)	% of Site Emissions after ET Screening
	KILNON/KILNOFF	Acenaphthene	83-32-9	sig	No POI, JSL or B-2B	0.1	24	5.20E-04	5.20E-04	100.0%	sig	5.20E-04	5.20E-04	100.0%	334	70	60	5900	80	5100	5500	2200	2.27E-05	>1000%	sig	5.20E-04	5.20E-04	
	KILNON/KILNOFF	Acenaphthylene	208-96-8	sig	No POI, JSL or B-2B	0.1	24	1.80E-03	1.80E-03	100.0%	sig	1.80E-03	1.80E-03	100.0%	334	70	60	5900	80	5100	5500	2200	2.27E-05	>1000%	sig	1.80E-03	1.80E-03	
	KILNON/KILNOFF	Ammonia	7664-41-7	sig	Ministry POI	100	24	4.56E-01	4.56E-01	100.0%	sig	4.56E-01	4.56E-01	100.0%	334	334	300	1900	350	1700	1764	705.6	7.09E-02	644%	sig	4.56E-01	4.56E-01	
	KILNON/KILNOFF	Anthracene	120-12-7	sig	No POI, JSL or B-2B	0.1	24	9.40E-04	9.40E-04	100.0%	sig	9.40E-04	9.40E-04	100.0%	334	70	60	5900	80	5100	5500	2200	2.27E-05	>1000%	sig	9.40E-04	9.40E-04	100.0%
	KILNON/KILNOFF	Benzene	71-43-2	sig	Ministry POI	100	24	5.50E-01	5.50E-01	100.0%	sig	5.50E-01	5.50E-01	100.0%	334	70	60	5900	80	5100	5500	2200	2.27E-02	>1000%	sig	5.50E-01	5.50E-01	
	KILNON/KILNOFF	Benzo(a)fluorene	238-84-6	sig	No POI, JSL or B-2B	0.1	24	1.40E-04	1.40E-04	100.0%	sig	1.40E-04	1.40E-04	100.0%	334	334	300	1900	350	1700	1764	705.6	7.09E-05	198%	sig	1.40E-04	1.40E-04	
	KILNON/KILNOFF	Benzo(a)pyrene	50-32-8	sig	Ministry POI	0.005	24	3.50E-06	3.50E-06	100.0%	sig	3.50E-06	3.50E-06	100.0%	334	70	60	5900	80	5100	5500	2200	1.14E-06	308%	sig	3.50E-06	3.50E-06	
	KILNON/KILNOFF	Carbon Tetrachloride	56-23-5	sig	Ministry POI	2.4	24	1.70E-02	1.70E-02	100.0%	sig	1.70E-02	1.70E-02	100.0%	334	70	60	5900	80	5100	5500	2200	5.45E-04	>1000%	sig	1.70E-02	1.70E-02	
	KILNON/KILNOFF	Chloroform	67-66-3	sig	Ministry POI	1	24	1.15E-02	1.15E-02	100.0%	sig	1.15E-02	1.15E-02	100.0%	334	70	60	5900	80	5100	5500	2200	2.27E-04	>1000%	sig	1.15E-02	1.15E-02	
	KILNON/KILNOFF	Dibromochloromethane	124-48-1	sig	JSL	0.2	24	9.37E-03	9.37E-03	100.0%	sig	9.37E-03	9.37E-03	100.0%	334	70	60	5900	80	5100	5500	2200	4.55E-05	>1000%	sig	9.37E-03	9.37E-03	
	KILNON/KILNOFF	Dibromoethane, 1,2-	106-93-4	sig	Guideline	3	24	7.40E-03	7.40E-03	100.0%	sig	7.40E-03	7.40E-03	100.0%	334	70	60	5900	80	5100	5500	2200	6.82E-04	>1000%	sig	7.40E-03	7.40E-03	
	KILNON/KILNOFF	Dichloroethane, 1,2-	107-06-2	sig	Ministry POI	2	24	7.39E-03	7.39E-03	100.0%	sig	7.39E-03	7.39E-03	100.0%	334	70	60	5900	80	5100	5500	2200	4.55E-04	>1000%	sig	7.39E-03	7.39E-03	
	KILNON/KILNOFF	Dichloroethene, 1,1-	75-35-4	sig	Ministry POI	10	24	1.15E-02	1.15E-02	100.0%	sig	1.15E-02	1.15E-02	100.0%	334	70	60	5900	80	5100	5500	2200	2.27E-03	506%	sig	1.15E-02	1.15E-02	100.0%
	KILNON/KILNOFF	Dimethylanthracene, 9,10-	781-43-1	sig	No POI, JSL or B-2B	0.1	24	1.40E-04	1.40E-04	100.0%	sig	1.40E-04	1.40E-04	100.0%	334	334	300	1900	350	1700	1764	705.6	7.09E-05	198%	sig	1.40E-04	1.40E-04	
	KILNON/KILNOFF	Fluoranthene	206-44-0	sig	No POI, JSL or B-2B	0.1	24	7.10E-05	7.10E-05	100.0%	sig	7.10E-05	7.10E-05	100.0%	334	70	60	5900	80	5100	5500	2200	2.27E-05	312%	sig	7.10E-05	7.10E-05	
	KILNON/KILNOFF	Fluorene	86-73-7	sig	No POI, JSL or B-2B	0.1	24	9.20E-04	9.20E-04	100.0%	sig	9.20E-04	9.20E-04	100.0%	334	70	60	5900	80	5100	5500	2200	2.27E-05	>1000%	sig	9.20E-04	9.20E-04	
	KILNON/KILNOFF	Hexachlorobenzene	118-74-1	sig	JSL	0.011	24	4.97E-05	4.97E-05	100.0%	sig	4.97E-05	4.97E-05	100.0%	334	334	300	1900	350	1700	1764	705.6	7.79E-06	638%	sig	4.97E-05	4.97E-05	
	KILNON/KILNOFF	Hydrogen Chloride	7647-01-0	sig	Ministry POI	20	24	1.23E+00	1.23E+00	100.0%	sig	1.23E+00	1.23E+00	100.0%	334	334	300	1900	350	1700	1764	705.6	1.42E-02	>1000%	sig	1.23E+00	1.23E+00	
	KILNON/KILNOFF	Methylnaphthalene, 2-	91-57-6	sig	No POI, JSL or B-2B	0.1	24	1.50E-02	1.50E-02	100.0%	sig	1.50E-02	1.50E-02	100.0%	334	70	60	5900	80	5100	5500	2200	2.27E-05	>1000%	sig	1.50E-02	1.50E-02	
	KILNON/KILNOFF	Methylphenanthrene, 1-	832-69-9	sig	No POI, JSL or B-2B	0.1	24	1.80E-04	1.80E-04	100.0%	sig	1.80E-04	1.80E-04	100.0%	334	334	300	1900	350	1700	1764	705.6	7.09E-05	254%	sig	1.80E-04	1.80E-04	
	KILNON/KILNOFF	Naphthalene	91-20-3	sig	Guideline	22.4	24	4.30E-02	4.30E-02	100.0%	sig	4.30E-02	4.30E-02	100.0%	334	70	60	5900	80	5100	5500	2200	5.09E-03	845%	sig	4.30E-02	4.30E-02	
	KILNON/KILNOFF	Phenanthrene	85-01-8	sig	No POI, JSL or B-2B	0.1	24	1.30E-03	1.30E-03	100.0%	sig	1.30E-03	1.30E-03	100.0%	334	70	60	5900	80	5100	5500	2200	2.27E-05	>1000%	sig	1.30E-03	1.30E-03	
	KILNON/KILNOFF	Phosphorus	7723-14-0	sig	JSL	0.5	24	3.03E-03	3.03E-03	100.0%	sig	3.03E-03	3.03E-03	100.0%	334	334	300	1900	350	1700	1764	705.6	3.54E-04	855%	sig	3.03E-03	3.03E-03	
	KILNON/KILNOFF	Potassium	7440-09-7	sig	JSL	1	24	1.20E-01	1.20E-01	100.0%	sig	1.20E-01	1.20E-01	100.0%	334	334	300	1900	350	1700	1764	705.6	7.09E-04	>1000%	sig	1.20E-01	1.20E-01	
	KILNON/KILNOFF	Pyrene	129-00-0	sig	No POI, JSL or B-2B	0.1	24	4.90E-05	4.90E-05	100.0%	sig	4.90E-05	4.90E-05	100.0%	334	70	60	5900	80	5100	5500	2200	2.27E-05	216%	sig	4.90E-05	4.90E-05	
	KILNON/KILNOFF	Tetrachloroethane, 1,1,1,2-	630-20-6	sig	JSL	0.5	24	1.05E-02	1.05E-02	100.0%	sig	1.05E-02	1.05E-02	100.0%	334	70	60	5900	80	5100	5500	2200	1.14E-04	>1000%	sig	1.05E-02	1.05E-02	100.0%
	KILNON/KILNOFF	Tetrachloroethane, 1,1,2,2-	79-34-5	sig	JSL	0.1	24	1.42E-02	1.42E-02	100.0%	sig	1.42E-02	1.42E-02	100.0%	334	70	60	5900	80	5100	5500	2200	2.27E-05	>1000%	sig	1.42E-02	1.42E-02	
	KILNON/KILNOFF	Thallium	7440-28-0	neg	JSL	0.5	24	1.90E-04	1.90E-04	100.0%	sig	1.90E-04	1.90E-04	100.0%	334	334	300	1900	350	1700	1764	705.6	3.54E-04	54%	neg	0.00E+00	0.00E+00	
	KILNON/KILNOFF	Trichloroethane, 1,1,2-	79-00-5	sig	JSL	0.3	24	1.70E-02	1.70E-02	100.0%	sig	1.70E-02	1.70E-02	100.0%	334	70	60	5900	80	5100	5500	2200	6.82E-05	>1000%	sig	1.70E-02	1.70E-02	
	KILNON/KILNOFF	Trichloroethylene	79-01-6	sig	Ministry POI	12	24	1.15E-02	1.15E-02	100.0%	sig	1.15E-02	1.15E-02	100.0%	334	70	60	5900	80	5100	5500	2200	2.73E-03	422%	sig	1.15E-02	1.15E-02	100.0%
	KILNON/KILNOFF	Vinyl Chloride	75-01-4	sig	Ministry POI	1	24	1.99E-02	1.99E-02	100.0%	sig	1.99E-02	1.99E-02	100.0%	334	70	60	5900	80	5100	5500	2200	2.27E-04	>1000%	sig	1.99E-02	1.99E-02	
	KILNON/KILNOFF	Acetone	67-64-1	neg	Ministry POI	11880	24	9.30E-02	9.30E-02	100.0%	sig	9.30E-02	9.30E-02	100.0%	334	70	60	5900	80	5100	5500	2200	2.70E+00	3%	neg	0.00E+00	0.00E+00	
	KILNON/KILNOFF	Aluminum Oxide	1344-28-1	neg	Guideline	120	24	2.83E-02	2.83E-02	100.0%	sig	2.83E-02	2.83E-02	100.0%	334	334	300	1900	350	1700	1764	705.6	8.50E-02	33%	neg	0.00E+00	0.00E+00	
	KILNON/KILNOFF	Benzo(a)anthracene	56-55-3	neg	No POI, JSL or B-2B	0.1	24	3.50E-06	3.50E-06	100.0%	sig	3.50E-06	3.50E-06	100.0%	334	70	60	5900	80	5100	5500	2200	2.27E-05	15%	neg	0.00E+00	0.00E+00	
	KILNON/KILNOFF	Benzo(b)fluoranthene	205-99-2	neg	No POI, JSL or B-2B	0.1	24	3.50E-06	3.50E-06	100.0%	sig	3.50E-06	3.50E-06	100.0%	334	70	60	5900	80	5100	5500	2200	2.27E-05	15%	neg	0.00E+00	0.00E+00	
	KILNON/KILNOFF	Benzo(b)fluorene	243-17-4	neg	No POI, JSL or B-2B	0.1	24	6.90E-05	6.90E-05	100.0%	sig	6.90E-05	6.90E-05	100.0%	334	334	300	1900	350	1700	1764	705.6	7.09E-05	97%	neg	0.00E+00	0.00E+00	
	KILNON/KILNOFF	Benzo(e)pyrene	192-97-2	neg	No POI, JSL or B-2B	0.1	24	6.90E-06	6.90E-06	100.0%	sig	6.90E-06	6.90E-06	100.0%	334	334	300	1900	350	1700	1764	705.6	7.09E-05	10%	neg	0.00E+00	0.00E+00	
	KILNON/KILNOFF	Benzo(g,h,i)perylene	191-24-2	neg	No POI, JSL or B-2B	0.1	24	3.50E-06	3.50E-06	100.0%	sig	3.50E-06	3.50E-06	100.0%	334	70	60	5900	80	5100	5500	2200	2.27E-05	15%	neg	0.00E+00	0.00E+00	
	KILNON/KILNOFF	Benzo(k)fluoranthene	207-08-9	neg	No POI, JSL or B-2B	0.1	24	3.50E-06	3.50E-06	100.0%	sig	3.50E-06	3.50E-06	100.0%	334	70	60	5900	80	5100	5500	2200	2.27E-05	15%	neg	0.00E+00	0.00E+00	
	KILNON/KILNOFF	Boron	7440-42-8	neg	Ministry POI	120	24	4.40E-03	4.40E-03	100.0%	sig	4.40E-03	4.40E-03	100.0%	334	334	300	1900	350	1700	1764	705.6	8.50E-02	5%	neg	0.00E+00	0.00E+00	
	KILNON/KILNOFF	Bromodichloromethane	75-27-4	neg	JSL	350	24	1.15E-02	1.15E-02	100.0%	sig	1.15E-02	1.15E-02	100.0%	334	70	60	5900	80	5100	5500	2200	7.95E-02	14%	neg	0.00E+00	0.00E+00	
	KILNON/KILNOFF	Bromoform	75-25-2	neg	Guideline	55	24	1.10E-02	1.10E-02	100.0%	sig	1.10E-02	1.10E-02	100.0%	334	70	60	5900	80	5100	5500	2200	1.25E-02	88%	neg			

Table H1A Negligible Source Screening Table 24hr (all sources except those eliminated by the Procedure)

Land Use Type (rural or urban): <div>rural</div>																												
Source Identifier	Source Description	Contaminant Name	CAS #	Sig or Neg (final result)	Source for Emission Threshold (ET) Value	Threshold Concentration (µg/m ³) (24-hr)	Averaging Period (hr)	Raw Source Emission Rate (ER) (g/s)	Raw Site Emission Rate (g/s)	% of Raw Site Emissions	Sig or Neg (based on <5% screening)	Source ER after <5% Screening (g/s)	Site ER after <5% Screening (g/s)	% of Site Emissions after <5% Screening	Shortest Distance to Property Line by Source (m)	Shortest Distance to Property Line by CAS# (m)	Table B-1 Distance Below Shortest Distance (m)	Table B-1 Dispersion Factor Below Shortest Distance (1-hr) (µg/m ³ per g/s)	Table B-1 Distance Above Shortest Distance (m)	Table B-1 Dispersion Factor Above Shortest Distance (1-hr) (µg/m ³ per g/s)	Interpolated Dispersion Factor to 1m (1-hr) (µg/m ³ per g/s)	Applicable Dispersion Factor (averaging period) (µg/m ³ per g/s)	Emission Threshold Emission Rate (g/s)	Site ER % of Emission Threshold ER	Sig or Neg (based on ET)	Source ER after ET Screening (g/s)	Site ER after ET Screening (g/s)	% of Site Emissions after ET Screening
	KILNON/KILNOFF	Titanium	7440-32-6	neg	Ministry POI	120	24	6.80E-04	6.80E-04	100.0%	sig	6.80E-04	6.80E-04	100.0%	334	334	300	1900	350	1700	1764	705.6	8.50E-02	<1%	neg	0.00E+00	0.00E+00	
	KILNON/KILNOFF	Toluene	108-88-3	neg	Guideline	2000	24	1.80E-01	1.80E-01	100.0%	sig	1.80E-01	1.80E-01	100.0%	334	70	60	5900	80	5100	5500	2200	4.55E-01	40%	neg	0.00E+00	0.00E+00	
	KILNON/KILNOFF	Trichlorobenzene, 1,2,3-	87-61-6	neg	JSL	135	24	1.38E-04	1.38E-04	100.0%	sig	1.38E-04	1.38E-04	100.0%	334	334	300	1900	350	1700	1764	705.6	9.57E-02	<1%	neg	0.00E+00	0.00E+00	
	KILNON/KILNOFF	Trichlorobenzene, 1,2,4-	120-82-1	neg	Guideline	400	24	2.98E-04	2.98E-04	100.0%	sig	2.98E-04	2.98E-04	100.0%	334	334	300	1900	350	1700	1764	705.6	2.83E-01	<1%	neg	0.00E+00	0.00E+00	
	KILNON/KILNOFF	Trichlorobenzene, 1,3,5-	108-70-3	neg	JSL	3.6	24	4.97E-05	4.97E-05	100.0%	sig	4.97E-05	4.97E-05	100.0%	334	334	300	1900	350	1700	1764	705.6	2.55E-03	2%	neg	0.00E+00	0.00E+00	
	KILNON/KILNOFF	Trichloroethane, 1,1,1-	71-55-6	neg	Ministry POI	115000	24	1.42E-02	1.42E-02	100.0%	sig	1.42E-02	1.42E-02	100.0%	334	70	60	5900	80	5100	5500	2200	2.61E+01	<1%	neg	0.00E+00	0.00E+00	
	KILNON/KILNOFF	Trichlorophenol, 2,3,4-	15950-66-0	neg	No POI, JSL or B-2B	0.1	24	4.97E-06	4.97E-06	100.0%	sig	4.97E-06	4.97E-06	100.0%	334	334	300	1900	350	1700	1764	705.6	7.09E-05	7%	neg	0.00E+00	0.00E+00	
	KILNON/KILNOFF	Trichlorophenol, 2,3,5-	933-78-8	neg	No POI, JSL or B-2B	0.1	24	4.97E-06	4.97E-06	100.0%	sig	4.97E-06	4.97E-06	100.0%	334	334	300	1900	350	1700	1764	705.6	7.09E-05	7%	neg	0.00E+00	0.00E+00	
	KILNON/KILNOFF	Trichlorophenol, 2,3,6-	933-75-5	neg	No POI, JSL or B-2B	0.1	24	4.97E-06	4.97E-06	100.0%	sig	4.97E-06	4.97E-06	100.0%	334	334	300	1900	350	1700	1764	705.6	7.09E-05	7%	neg	0.00E+00	0.00E+00	
	KILNON/KILNOFF	Trichlorophenol, 2,4,5-	95-95-4	neg	JSL	220	24	4.97E-06	4.97E-06	100.0%	sig	4.97E-06	4.97E-06	100.0%	334	334	300	1900	350	1700	1764	705.6	1.56E-01	<1%	neg	0.00E+00	0.00E+00	
	KILNON/KILNOFF	Trichlorophenol, 2,4,6-	88-06-2	neg	JSL	1.5	24	5.82E-06	5.82E-06	100.0%	sig	5.82E-06	5.82E-06	100.0%	334	334	300	1900	350	1700	1764	705.6	1.06E-03	<1%	neg	0.00E+00	0.00E+00	
	KILNON/KILNOFF	Trichlorophenol, 3,4,5-	609-19-8	neg	No POI, JSL or B-2B	0.1	24	4.97E-06	4.97E-06	100.0%	sig	4.97E-06	4.97E-06	100.0%	334	334	300	1900	350	1700	1764	705.6	7.09E-05	7%	neg	0.00E+00	0.00E+00	
	KILNON/KILNOFF	Triphenylene	217-59-4	neg	No POI, JSL or B-2B	0.1	24	3.50E-06	3.50E-06	100.0%	sig	3.50E-06	3.50E-06	100.0%	334	334	300	1900	350	1700	1764	705.6	7.09E-05	5%	neg	0.00E+00	0.00E+00	
	KILNON/KILNOFF	Xylene	1330-20-7	neg	Guideline	730	24	9.00E-02	9.00E-02	100.0%	sig	9.00E-02	9.00E-02	100.0%	334	334	300	1900	350	1700	1764	705.6	5.17E-01	17%	neg	0.00E+00	0.00E+00	
	KILNON/KILNOFF	Zinc	7440-66-6	neg	Ministry POI	120	24	1.25E-03	1.25E-03	100.0%	sig	1.25E-03	1.25E-03	100.0%	334	334	300	1900	350	1700	1764	705.6	8.50E-02	1%	neg	0.00E+00	0.00E+00	
	KILNON/KILNOFF	Total Reduced Sulphur	TRS	sig	No POI, JSL or B-2B	0.1	24	8.60E-03	8.60E-03	100.0%	sig	8.60E-03	8.60E-03	100.0%	334	334	300	1900	350	1700	1764	705.6	7.09E-05	>1000%	sig	8.60E-03	8.60E-03	100.0%
	KILNON/KILNOFF	Carbon Disulphide	75-15-0	sig	Guideline	330	24	4.12E-01	4.12E-01	100.0%	sig	4.12E-01	4.12E-01	100.0%	334	334	300	1900	350	1700	1764	705.6	2.34E-01	176%	sig	4.12E-01	4.12E-01	100.0%
	KILNON/KILNOFF	Carbonyl Sulphide	463-58-1	sig	JSL	13	24	3.42E+00	3.42E+00	100.0%	sig	3.42E+00	3.42E+00	100.0%	334	334	300	1900	350	1700	1764	705.6	9.21E-03	>1000%	sig	3.42E+00	3.42E+00	100.0%
	PITV	Acenaphthene	83-32-9	neg	No POI, JSL or B-2B	0.1	24	2.94E-12	5.20E-04	0.000%	neg	0.00E+00	5.20E-04	0.0%	70	70	60	5900	80	5100	5500	2200	2.27E-05	>1000%	sig	0.00E+00	5.20E-04	
	PITV	Acenaphthylene	208-96-8	neg	No POI, JSL or B-2B	0.1	24	2.15E-11	1.80E-03	0.00000%	neg	0.00E+00	1.80E-03	0.0%	70	70	60	5900	80	5100	5500	2200	2.27E-05	>1000%	sig	0.00E+00	1.80E-03	
	PITV	Acetone	67-64-1	neg	Ministry POI	11880	24	2.89E-11	9.30E-02	0.000000%	neg	0.00E+00	9.30E-02	0.0%	70	70	60	5900	80	5100	5500	2200	2.70E+00	3%	neg	0.00E+00	0.00E+00	
	PITV	Anthracene	120-12-7	neg	No POI, JSL or B-2B	0.1	24	1.15E-11	9.40E-04	0.000%	neg	0.00E+00	9.40E-04	0.0%	70	70	60	5900	80	5100	5500	2200	2.27E-05	>1000%	sig	0.00E+00	9.40E-04	
	PITV	Benzene	71-43-2	neg	Ministry POI	100	24	2.38E-11	5.50E-01	0.00000000%	neg	0.00E+00	5.50E-01	0.0%	70	70	60	5900	80	5100	5500	2200	2.27E-02	>1000%	sig	0.00E+00	5.50E-01	
	PITV	Benzo(a)anthracene	56-55-3	neg	No POI, JSL or B-2B	0.1	24	4.24E-12	3.50E-06	0.00%	neg	0.00E+00	3.50E-06	0.0%	70	70	60	5900	80	5100	5500	2200	2.27E-05	15%	neg	0.00E+00	0.00E+00	
	PITV	Benzo(a)pyrene	50-32-8	neg	Ministry POI	0.005	24	3.31E-12	3.50E-06	0.00%	neg	0.00E+00	3.50E-06	0.0%	70	70	60	5900	80	5100	5500	2200	1.14E-06	308%	sig	0.00E+00	3.50E-06	
	PITV	Benzo(b)fluoranthene	205-99-2	neg	No POI, JSL or B-2B	0.1	24	4.20E-12	3.50E-06	0.00%	neg	0.00E+00	3.50E-06	0.0%	70	70	60	5900	80	5100	5500	2200	2.27E-05	15%	neg	0.00E+00	0.00E+00	
	PITV	Benzo(g,h,i)perylene	191-24-2	neg	No POI, JSL or B-2B	0.1	24	2.95E-12	3.50E-06	0.00%	neg	0.00E+00	3.50E-06	0.0%	70	70	60	5900	80	5100	5500	2200	2.27E-05	15%	neg	0.00E+00	0.00E+00	
	PITV	Benzo(k)fluoranthene	207-08-9	neg	No POI, JSL or B-2B	0.1	24	3.68E-12	3.50E-06	0.00%	neg	0.00E+00	3.50E-06	0.0%	70	70	60	5900	80	5100	5500	2200	2.27E-05	15%	neg	0.00E+00	0.00E+00	
	PITV	Bromodichloromethane	75-27-4	neg	JSL	350	24	2.31E-12	1.15E-02	0.000000%	neg	0.00E+00	1.15E-02	0.0%	70	70	60	5900	80	5100	5500	2200	7.95E-02	14%	neg	0.00E+00	0.00E+00	
	PITV	Bromoform	75-25-2	neg	Guideline	55	24	9.00E-11	1.10E-02	0.000000%	neg	0.00E+00	1.10E-02	0.0%	70	70	60	5900	80	5100	5500	2200	1.25E-02	88%	neg	0.00E+00	0.00E+00	
	PITV	Bromomethane	74-83-9	neg	Guideline	1350	24	2.89E-12	1.40E-02	0.000000%	neg	0.00E+00	1.40E-02	0.0%	70	70	60	5900	80	5100	5500	2200	3.07E-01	5%	neg	0.00E+00	0.00E+00	
	PITV	Carbon Tetrachloride	56-23-5	neg	Ministry POI	2.4	24	2.89E-12	1.70E-02	0.000000%	neg	0.00E+00	1.70E-02	0.0%	70	70	60	5900	80	5100	5500	2200	5.45E-04	>1000%	sig	0.00E+00	1.70E-02	
	PITV	Chloroethane	75-00-3	neg	Ministry POI	5600	24	4.63E-12	9.37E-03	0.000000%	neg	0.00E+00	9.37E-03	0.0%	70	70	60	5900	80	5100	5500	2200	1.27E+00	<1%	neg	0.00E+00	0.00E+00	
	PITV	Chloroform	67-66-3	neg	Ministry POI	1	24	2.31E-12	1.15E-02	0.000000%	neg	0.00E+00	1.15E-02	0.0%	70	70	60	5900	80	5100	5500	2200	2.27E-04	>1000%	sig	0.00E+00	1.15E-02	
	PITV	Chloromethane	74-87-3	neg	Ministry POI	320	24	6.88E-12	3.83E-02	0.000000%	neg	0.00E+00	3.83E-02	0.0%	70	70	60	5900	80	5100	5500	2200	7.27E-02	53%	neg	0.00E+00	0.00E+00	
	PITV	Chrysene	218-01-9	neg	No POI, JSL or B-2B	0.1	24	3.60E-12	3.50E-06	0.00%	neg	0.00E+00	3.50E-06	0.0%	70	70	60	5900	80	5100	5500	2200	2.27E-05	15%	neg	0.00E+00	0.00E+00	
	PITV	Dibenz(a,h)anthracene	53-70-3	neg	No POI, JSL or B-2B	0.1	24	3.00E-12	3.50E-06	0.00%	neg	0.00E+00	3.50E-06	0.0%	70	70	60	5900	80	5100	5500	2200	2.27E-05	15%	neg	0.00E+00	0.00E+00	
	PITV	Dibromochloromethane	124-48-1	neg	JSL	0.2	24	1.74E-12	9.37E-03	0.000000%	neg	0.00E+00	9.37E-03	0.0%	70	70	60	5900	80	5100	5500	2200	4.55E-05	>1000%	sig	0.00E+00	9.37E-03	
	PITV	Dibromoethane, 1,2-	106-93-4	neg	Guideline	3	24	2.31E-12	7.40E-03	0.000000%	neg	0.00E+00	7.40E-03	0.0%	70	70	60	5900	80	5100	5500	2200	6.82E-04	>1000%	sig	0.00E+00	7.40E-03	
	PITV	Dichlorobenzene, 1,4-	106-46-7	neg	Ministry POI	95	24	5.12E-11	2.41E-04	0.0000%	neg	0.00E+00	2.41E-04	0.0%	70	70	60	5900	80	5100	5500	2200	2.16E-02	1%	neg	0.00E+00	0.00E+00	
	PITV	Dichloroethane, 1,2-	107-06-2	neg	Ministry POI	2	24	1.74E-12	7.39E-03	0.000000%	neg	0.00E+00	7.39E-03	0.0%	70	70	60	5900	80	5100	5500	2200	4.55E-04	>1000%	sig	0.00E+00	7.39E-03	
	PITV	Dichloroethene, 1,1-	75-35-4	neg	Ministry POI	10	24	2.89E-12	1.15E-02	0.000000%	neg	0.00E+00	1.15E-02	0.0%	70	70	60	5900	80	5100	5500	22						

Appendix I

AERMOD Modelling Support Files



**Ministry of the Environment,
Conservation and Parks**

Environmental Monitoring and
Reporting Branch

125 Resources Road
Etobicoke ON M9P 3V6
Tel.: 416 235-6300
Fax: 416 235-6235

**Ministère de l'Environnement, de
la Protection de la nature et des
Parcs**

Direction de la Surveillance
Environnementale

125, chemin Resources
Etobicoke ON M9P 3V6
Tél. : 416 235-6300
Téléc. : 416 235-6235



April 17, 2020
Kara Terpstra, Environmental Coordinator
St. Marys Cement Inc. (Canada)
585 Water Street South
St. Marys, Ontario
N4X 1B6

Dear Madam/Sir:

**Re: Request for Approval under Paragraph 3 of section 13(1) of Regulation 419/05
For use of Site-specific Meteorological Data:
St. Marys Cement Inc. (Canada)-St. Marys Plant (located at 585 Water Street South, St. Marys,
Ontario)**

In accordance with the application for approval under s.13(1) of Regulation 419/05 for use of site-specific meteorological data, I am approving the use of site-specific data for the above-referenced site as requested by St. Marys Cement Inc. (Canada) in the application dated February 11, 2020.

The site-specific meteorological data referenced as the London airport data is a reasonable reflection of the meteorological conditions for the proposed modelling assessment.

A fully-processed 5-year (2015 to 2019) meteorological dataset has been prepared by the Ministry of the Environment, Conservation and Parks with wind-sector dependent land use specific to the site identified in the application, upper air data from the U.S. National Weather Service's Detroit station and surface data from the Environment and Climate Change Canada's London airport station.

This fully-processed site-specific meteorological data was prepared in response to a request submitted under O. Reg. 419/05 and is approved for use at this specific facility until such time as there are significant land use changes in vicinity of the facility.

This meteorological dataset was prepared using the AERMET 19191 meteorological pre-processor computer program. It is to be used in conjunction with the corresponding version of AERMOD to model discharges from the above-referenced facility. You are reminded that this dataset must be reprocessed when the Ministry adopts a newer version of AERMET. The Ministry can provide reprocessed meteorological data upon request.

This s.13(1) approval revokes and replaces the s.13(1) approval in appendix A, issued on November 02, 2011.

Should you have any comments or questions relating to the above site specific meteorological dataset, please send an e-mail to MetDataENE@ontario.ca within 30 days of the date of this correspondence with details, so that this dataset can be modified, if necessary.

Yours truly,

A handwritten signature in dark ink, appearing to be 'YH' or 'Yvonne Hall'.

Yvonne Hall
Director, Section 13, O. Reg. 419/05

cc: District Manager, London District Office
Director, Section 9, Environmental Protection Act
Environmental Assessment and Permissions Branch
BCX Environmental Consulting

Ministry of the Environment

Environmental Monitoring and
Reporting Branch

125 Resources Road
Toronto ON M9P 3V6
Tel.: 416 235-6300
Fax: 416 235-6235

Ministère de l'Environnement

Direction de la surveillance
environnementale

125, chemin Resources
Toronto ON M9P 3V6
Tél. : 416 235-6300
Télééc. : 416 235-6235



November 02, 2011

Matthew Novada, Environmental Coordinator
St. Marys Cement Inc. (Canada)
585 Water Street South
St. Marys, Ontario N4X 1B6

Dear Madam/Sir:

**Re: Request for Approval under Paragraph 3 of section 13(1) of Regulation 419/05
For use of Site Specific Meteorological Data
St. Marys Cement Inc. (Canada) at St. Marys, Ontario**

This letter provides approval under paragraph 3 of section 13(1) of Regulation 419/05 for use of site specific meteorological data. I am approving the use of site specific data to use in preparing an Emission Summary Dispersion Modelling (ESDM) report pursuant to the request submitted on behalf of St. Marys Cement Inc. (Canada) signed by you and dated October 24, 2011. I am of the opinion that the site specific meteorological data referenced as the London Airport data is an accurate reflection of the meteorological conditions for the proposed modelling assessment, given the proximity of the London Airport to the facility's location.

A fully processed meteorological data set for the 5 years from 2004 to 2008 has been prepared by the Ministry of the Environment with wind-sector dependent land use specific to the application area, using surface data from London Airport operated by Environment Canada. This meteorological dataset can be used to run the AERMOD model and has been prepared only for this specific assessment to model discharges from the above-referenced facility.

The data were prepared in reply to a request submitted for preparation of an ESDM report under O. Reg. 419 and is subsequently approved for use in Certificate of Approval applications for this specific facility provided there are no significant land use changes in vicinity of the facility.

Yours truly,

Dr. Robert Bloxam
Director, Section 13, O. Reg. 419/05

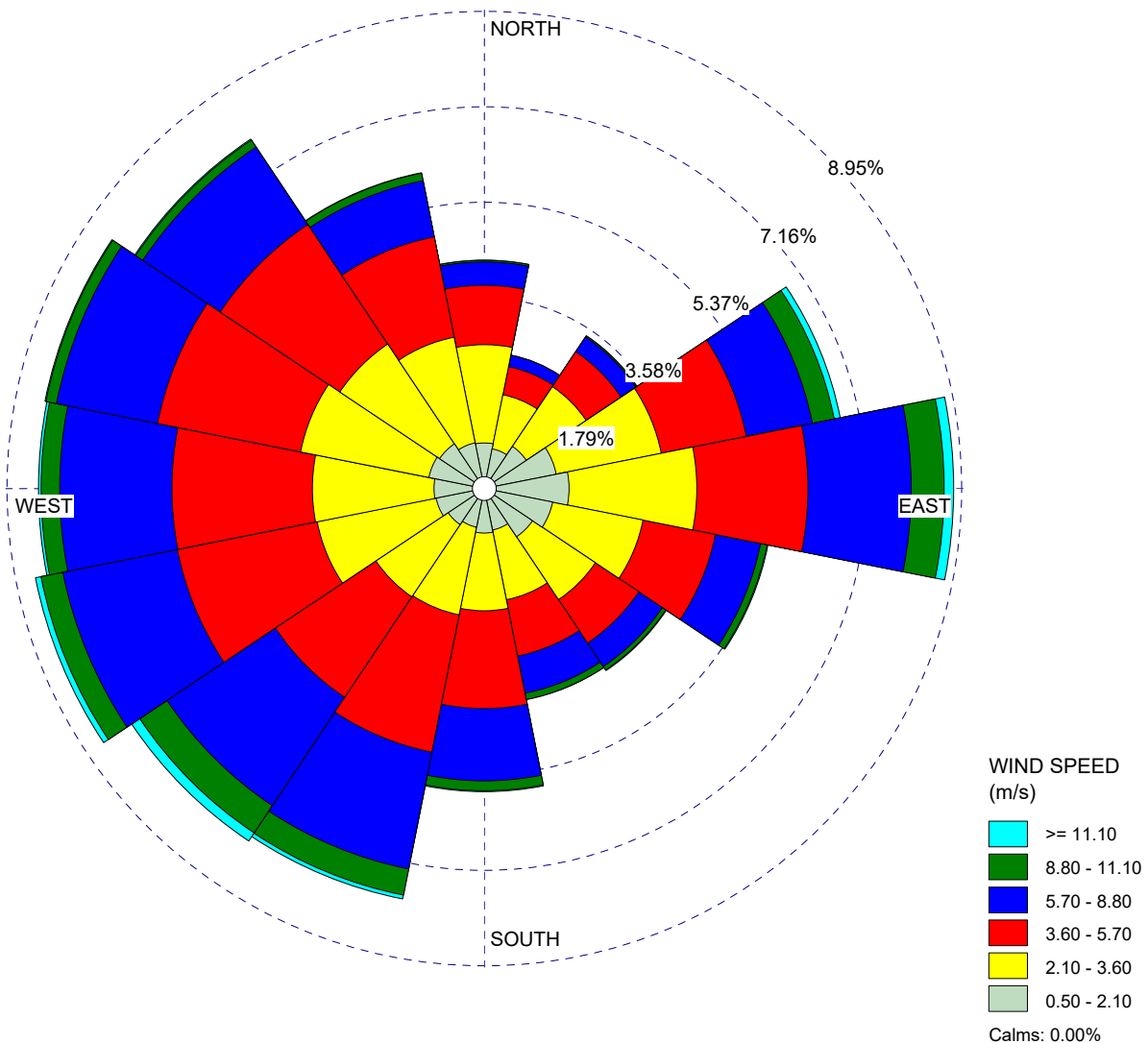
cc: District Manager, London District Office
Director, Section 9, Environmental Protection Act
Environmental Assessment and Approvals Branch

WIND ROSE PLOT:

Site-specific Meteorological Data
AERMOD v19191

DISPLAY:

Wind Speed
Direction (blowing from)



COMMENTS:

St. Marys Cement (Canada)
 585 Water Street South
 St. Marys, Ontario
 N4X 1B6

DATA PERIOD:

Start Date: 2015-01-01 - 00:00
End Date: 2019-12-31 - 23:59

COMPANY NAME:

MODELER:

CALM WINDS:

0.00%

TOTAL COUNT:

43801 hrs.

AVG. WIND SPEED:

4.10 m/s

DATE:

2022-02-28

PROJECT NO.:

1002-01.55