

**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	-		T -	T		1		1	T .	T
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 AERMOD	1.69E-02	24 hr	10 minute	13	Odour	3 G	0.1% <0.1%
Carbon Disulphide	75-15-0 463-58-1	4.12E-01 3.42E+00		1.01E-01 8.34E-01	24 hr 24 hr	24 hr 24 hr	330 13	Odour	JSL	6.4%
Carbonyl Sulphide  Metals	403-30-1	J.+2L+UU	AERMOD	0.34L-01	24 111	24111	13	Health	JJL	U.4/0
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 7439-96-5	9.32E-03 1.86E-02	AERMOD AERMOD	6.32E-02	24 hr 24 hr	24 hr 24 hr	0.5 0.4	Health Health	3	12.6% 15.3%
Manganese Mercury	7439-96-5	1.58E-02	AERMOD	6.12E-02 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	0.000001	Health	3	0.8%
Hydrogen Chloride and Ammonia	ССБ	3.171-09	ALKIVIOD	7.73L-10	24 111	24111	0.000001	Health	3	0.876
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 Chloronated Organic Compounds	91-20-3	4.30E-02	AERMOD	1.05E-02	24 hr	24 hr	22.5	Odour	G	<0.1%
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	1.70E-02 1.15E-02	AERMOD	2.81E-03	24 hr	24 hr	1	Health	3	0.2%
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%
Denzene		1.10E+00 1.10E+00	AERMOD	2.56E-01 2.56E-02	24 hr	Annual	4.5	Health	AAV	0.5%
Benzene	/1-43-/	T.TUETUU								
Benzene Benzene	71-43-2 71-43-2	1.10E+00 1.10E+00	AERMOD	2.56E-02	Annual	Annual	0.45	Health	3	5.7%

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 ( $H_2$ ) 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 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 an 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  $H_2$  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  $H_2$  and  $O_2$  using fresh water through an electrolysis process. These gases will then be injected in the burning zone of the kiln 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 NOx 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  $O_2$  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,  $H_2$  and ALCF feed rates and clinker production rates are/will be also monitored by the CPM.

<sup>&</sup>lt;sup>1</sup> 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<sub>x</sub>), sulphur dioxide (SO<sub>2</sub>) 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.



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#### 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 Infor	mation					Evported	Significant?	Included in	
Modelling	ESDM	Source Description	Materials	Process	General	Expected Contaminants	(Yes or No)	Modelling?	Calculation Sheet
Source I.D.	Source I.D.	·	St.	Marys Plant - SMC Operation	Location				
		I	30.		13	PM	Yes	Yes	
A_16_4	A-16-4	Baghouse serving the secondary crusher (A-16-4)	Limestone	Limestone Extraction &	See Figure 2	RCS	Yes	Yes	C2-BHs
1				Processing		Metals	Yes	Yes	
				Limestone Extraction &		PM	Yes	Yes	
A_15_5	A-15-5	Baghouse serving the secondary screen (A-15-5)	Limestone	Processing	See Figure 2	RCS	Yes	Yes	C2-BHs
						Metals	Yes	Yes	
DDILE	חחוור	Tunnefer of limentance and animon, according	Limanahama	Limestone Extraction &	Can Figure 2	PM	Yes	Yes	63 Deces
PPILE	PPILE	Transfer of limestone onto primary surge pile	Limestone	Processing	See Figure 2	-		Yes Yes	C3-Drops
				Raw Material /					
	PILES-1	Delivery and transfer of conventional fuel	Conventional Fuel	Conventional Fuel Delivery	See Figure 2	PM	Yes	Yes	C3-Drops
PILES		·		and Storage	_	Metals	Yes	Yes	•
FILLS				Raw Material /		PM	Yes	Yes	
	PILES-2	Delivery and transfer of raw materials	Raw Feed	Conventional Fuel Delivery	See Figure 2	RCS	Yes	Yes	C3-Drops
				and Storage		Metals	Yes	Yes	
PITV	PITV	Fugitive VOC emissions from raw materials and	Raw Feed &	Raw Material / Conventional Fuel Delivery	See Figure 2	PAHs, VOCs	Yes	Yes	C7-Internal Source Summary
FIIV	FIIV	fuels stored in the yard	Conventional Fuel	and Storage	See Figure 2	PAIIS, VOCS	165	165	C7-internal Source Summary
				Raw Material /					
K1P51	K1P51	Conventional fuel storage silo baghouse (K1P51)	Conventional Fuel	Conventional Fuel Delivery	y See Figure 2	PM	Yes	Yes	C2-BHs
				and Storage	ŭ	Metals	Yes	Yes	
				Raw Material /		PM	Yes	Yes	
RAWS	04-1-401	Raw material storage silo baghouse (04-1-401)	Raw Feed	Conventional Fuel Delivery	See Figure 2	RCS	Yes	Yes	C2-BHs
				and Storage		Metals	Yes	Yes	
	CIDT 1	Scraper from face onto a pile	Clay/Mamantina	Raw Material /	Soo Figure 2	PM PCS	Yes	Yes	C2 Drops
	CLPT-1	Scraper from face onto a pile	Clay/Momentive	Conventional Fuel Delivery and Storage	See Figure 2	RCS Metals	Yes Yes	Yes Yes	C3-Drops
CLPT				Raw Material /		PM	Yes	Yes	
	CLPT-2	Front end loader transfer into truck	Clay/Momentive	Conventional Fuel Delivery	See Figure 2	RCS	Yes	Yes	C3-Drops
				and Storage	Ĭ	Metals	Yes	Yes	
		Front-end Loader to Feed Hopper for raw		Raw Material /		PM	Yes	Yes	
FSSCD	FSSC-1	material screen	Foundry Sand/Silica	<b>Conventional Fuel Delivery</b>	See Figure 2	RCS	Yes	Yes	C3-Drops
		material serecti		and Storage		Metals	Yes	Yes	
	FCCC 2	Food House Access to the state of the second	Farmalan Canad (Citian	Raw Material /	S 5' 2	PM	Yes	Yes	CA Mach. Towns for / Documents
	FSSC-2	Feed Hopper to raw material screener	Foundry Sand/Silica	Conventional Fuel Delivery	See Figure 2	RCS	Yes	Yes	C4-Mat. Transfer/Processing
				and Storage Raw Material /		Metals PM	Yes Yes	Yes Yes	
	FSSC-3	Raw material screening	Foundry Sand/Silica	Conventional Fuel Delivery	See Figure 2	RCS	Yes	Yes	C4-Mat. Transfer/Processing
FSSC			, ,	and Storage	Ĭ	Metals	Yes	Yes	,
rssc				Raw Material /		PM	Yes	Yes	
	FSSC-4	Raw material transfer from Screener to Conveyor	Foundry Sand/Silica	<b>Conventional Fuel Delivery</b>	See Figure 2	RCS	Yes	Yes	C4-Mat. Transfer/Processing
				and Storage		Metals	Yes	Yes	
	ECCC E	Davis mantanial transfer from Campion to Stanling	Farmely, Canal /Cilian	Raw Material / Conventional Fuel Delivery	Caa Fianna 2	PM	Yes	Yes	C4 Mat Transfer/Drassesins
	FSSC-5	Raw material transfer from Conveyor to Stacker	Foundry Sand/Silica	and Storage	See Figure 2	RCS Metals	Yes Yes	Yes Yes	C4-Mat. Transfer/Processing
				Raw Material /		PM	Yes	Yes	
FSSCD	FSSC-6	Drop of raw material from Stacker to Stockpile	Foundry Sand/Silica	Conventional Fuel Delivery	See Figure 2	RCS	Yes	Yes	C3-Drops
				and Storage		Metals	Yes	Yes	
				Raw Material /		PM	Yes	Yes	
FSSC	FSSC-DG	Diesel-fired engine servicing the raw material	-	Conventional Fuel Delivery	See Figure 2	NO <sub>2</sub>	Yes	Yes	C5I-Internal Combustion
		screener		and Storage	J	SO <sub>2</sub>	Yes	Yes	
				Daw Material /		СО	Yes	Yes	
_	PITV	VOC emissions from raw material and fuel	Raw material/Fuel	Raw Material / Conventional Fuel Delivery	See Figure 2	VOCs	Yes	No - insignificant (MECP Negligbel	C7V- Internal Source Summary
_	1111	delivery and handling	Naw material/ ruer	and Storage	See Figure 2	Vocs	163	Screening)	(VOCs)
				and ottoring o					
-	A-DEL	ALCF delivery		Alternative Fuel Delivery	See Figure 2	PM	No	No - insignificant (delivery into	NA
_	A-DEL	ALC: delivery	_	and Storage	See Figure 2	1 141	NO	enclosed building)	
	04 1 411	Baghouse serving the raw material storage silos	Pau Facel	Paul Material Brancount	Soo Figure 2	PM PCS	Yes	Yes	C3 BHc
	04-1-411	for raw mill (04-1-411)	Raw Feed	Raw Material Preparation	See Figure 2	RCS Metals	Yes Yes	Yes Yes	C2-BHs
PIT11						PM	Yes	Yes	
	04-1-412	Baghouse serving the raw material storage silos	Raw Feed	Raw Material Preparation	See Figure 2	RCS	Yes	Yes	C2-BHs
		for raw mill (04-1-412)				Metals	Yes	Yes	
						PM	Yes	Yes	
	H1P41	Baghouse serving kiln feed silos (H1P41)	Raw Feed	Raw Material Preparation	See Figure 2	RCS	Yes	Yes	C2-BHs
						Metals	Yes	Yes	
HSILOS	H1P51	Baghouse serving kiln feed silos (H1P51)	Raw Feed	Raw Material Preparation	See Figure 2	PM RCS	Yes Yes	Yes Yes	C2-BHs
1131103	1111 31	Sag. Sase Serving Kill reed 31103 (HIF SI)	naw i eeu	museriai i reparation	Sec rigure 2	Metals	Yes	Yes	SE 5113
						PM	Yes	Yes	
	H1P61	Baghouse serving kiln feed silos (H1P61)	Raw Feed	Raw Material Preparation	See Figure 2	RCS	Yes	Yes	C2-BHs
						Metals	Yes	Yes	
K1P11	K1P11	Fuel mill baghouse (K1P11)	Conventional Fuel	Conventional Fuel	See Figure 2	PM	Yes	Yes	C2-BHs
		, ,		Preparation and Feed	J	Metals	Yes	Yes	
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
		Baghouse serving the north auxiliary fuel silo	_	Conventional Fuel		PM	Yes	Yes	
K1P41	K1P41	(K1P41)	Conventional Fuel	Preparation and Feed	See Figure 2	Metals	Yes	Yes	C2-BHs
				·		PM	Yes	Yes	
GHOPPER	G1P01	Gypsum Feed Hopper Baghouse (G1P01)	Gypsum/Silica Fume	Conventional Fuel Preparation and Feed	See Figure 2	RCS	Yes	Yes	C2-BHs
				1 reparation and reed		Metals	Yes	Yes	



Table 1: Source and Contaminant Identification Table - continued

Source Inform					Cananal	Expected	Significant?	Included in	Calculation Chart
Modelling Source I.D.	ESDM Source I.D.	Source Description	Materials	Process  Marys Plant - SMC Operation	General Location	Contaminants	(Yes or No)	Modelling?	Calculation Sheet
05_1_412	05-1-412	Baghouse serving the kiln feed transfer to	Raw Feed	Clinker Production	See Figure 2	PM RCS	Yes Yes	Yes Yes	C2-BHs
05_1_112		preheater tower (05-1-412)		<u> </u>	occ i igure 2	Metals PM, NO2, SO2,	Yes	Yes	02.01.0
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production	See Figure 2	CO, Metals, PAHs, VOCs,	Yes	Yes	C1-Kiln
						D&F, HCl, TRS, NH3			
KIINOFF	KII NOFF	Wile sheek, Day Mill Off		Clinker Production	Can Figure 2	PM, NO2, SO2, CO, Metals,	Vee	Van	C1 Kila
KILNOFF	KILNOFF	Kiln stack - Raw Mill Off	-	Clinker Production	See Figure 2	PAHs, VOCs, D&F, HCl, TRS, NH3	Yes	Yes	C1-Kiln
						14113		No - not part of max emission	
-	KILN-A	Natural gas-fired raw mill furnace	=	Clinker Production	See Figure 2	NO2	Yes	scenario, used during start-up	NA
KILNON/								only. No - Exhasuting	
OFF	KILN-B	Natual gas-fired back-end firing system	-	Clinker Production	See Figure 2	NO2	Yes	stack No - Exhasuting	C5E-External Combustion
						PM	Yes	through main kiln stack	
-	05-1-401	Kiln dust storage silo baghouse (05-1-401)	Cement Kiln Dust	Clinker Production	See Figure 2	Metals	Yes	No - Exhasuting through main kiln	NA
		Delivery and shipping of Cement Kiln Dust (CKD)				PM	Yes	stack Yes	
CKD	CKD	to/from storage piles	Cement Kiln Dust	Clinker Production	See Figure 2	RCS Metals PM	Yes Yes	Yes Yes	C3-Drops
PIT11	07-1-421	Baghouse serving south transfer tower (07-1-421)	Clinker	Clinker Production	See Figure 2	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	Yes Yes	Yes Yes	C2-BHs
07.4.1==	07.4.45	Donkouse and a south to the sou	Clin I	Clinters	Con Fi	Metals PM	Yes Yes	Yes Yes	C2 BU
07_1_450	07-1-450	Baghouse serving north transfer tower (07-1-450)	Clinker	Clinker Production	See Figure 2	RCS Metals PM	Yes Yes Yes	Yes Yes Yes	C2-BHs
СВН	W1P51	Clinker cooler baghouse (W1P51)	Clinker	Clinker Production	See Figure 2	RCS Metals	Yes Yes	Yes Yes	C2-BHs
W1P91	W1P91	Clinker reclaim hopper baghouse (W1P91)	Clinker	Clinker Production	See Figure 2	PM RCS	Yes Yes	Yes Yes	C2-BHs
PIT11	W1P101	Baghouse serving clinker truck loading/shipping	Clinker	Clinker Production	See Figure 2	Metals PM RCS	Yes Yes Yes	Yes Yes Yes	C2-BHs
PIIII	WIPIOI	(W1P101)	Cillikei	Clinker Production	See rigure 2	Metals PM	Yes	Yes Yes	CZ-DNS
PIT11D	PIT11-22	Transfer of clinker into Tee-Pee storage area	Clinker	Clinker Production	See Figure 2	RCS Metals	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	Yes Yes	Yes Yes	C3-Drops
						Metals PM	Yes Yes	Yes Yes	
PIT11D	OFC-2	Truck to Pre-Crushing Stockpiles (offspec clinker)	Wet Clinker	Clinker Production	See Figure 2	RCS Metals PM	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	RCS Metals	Yes Yes	Yes Yes	C3-Drops
PIT11	OFC-4	Feeder to Crusher (offspec clinker)	Wet Clinker	Clinker Production	See Figure 2	PM RCS	Yes Yes	Yes Yes	C4-Mat. Transfer/Processing
PIT11	OFC-5	Crushing (affence clinker)	Wat Clinkor	Clinkar Bradustian	Soo Figure 2	Metals PM RCS	Yes Yes	Yes Yes	C4 Mat Transfer/Drassessing
PIIII	OFC-5	Crushing (offspec clinker)	Wet Clinker	Clinker Production	See Figure 2	Metals PM	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	RCS Metals	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	Yes Yes	Yes Yes	C3-Drops
DIT44D	OFC-8	Front-end Loader to Storage Stockpile (offspec	Mot Clinter	Clinkor Draduction	Soo Elever 2	Metals PM	Yes Yes	Yes Yes	C2 Drops
PIT11D	UFC-8	clinker)	Wet Clinker	Clinker Production	See Figure 2	RCS Metals PM	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	NO <sub>2</sub> SO <sub>2</sub>	Yes Yes	Yes Yes	C5I-Internal Combustion
		Baghouse serving additive storage silos in finish				CO PM	Yes Yes	Yes Yes	
	Z1P01	mill building (Z1P01)	Gypsum/Silica Fume	Cement Production	See Figure 2	RCS Metals PM	Yes Yes Yes	Yes Yes Yes	C2-BHs
BLSI	Z1P11	Baghouse serving additive storage silos in finish mill building (Z1P11)	Gypsum/Silica Fume	Cement Production	See Figure 2	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	Yes Yes	Yes Yes	C2-BHs
DIT44	07-1-491	Baghouse serving additive storage silos in finish	Gyncum /Silice France	Coment Broduct	Seo Eigura 2	Metals PM RCS	Yes Yes	Yes Yes	C2.RHc
PIT11	0/-1-491	mill building (07-1-491)	Gypsum/Silica Fume	Cement Production	See Figure 2	RCS Metals PM	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	RCS Metals	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	Yes Yes	Yes Yes	C2-BHs
Z1P31	Z1P31	Baghouse serving transfer into finish mill (Z1P31)	Cement	Cement Production	See Figure 2	Metals PM RCS	Yes Yes Yes	Yes Yes Yes	C2-BHs
						Metals PM	Yes Yes	Yes Yes	-
BAML	Z1P51	Finish mill baghouse (Z1P51)	Cement	Cement Production	See Figure 2	RCS Metals	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	Yes Yes	Yes Yes	C2-BHs
						Metals PM	Yes Yes	Yes Yes	
S200S	Z1P71	Baghouse serving transfer from finish mill (Z1P71)	Cement	Cement Production	See Figure 2	RCS Metals	Yes Yes	Yes Yes	C2-BHs



Table 1: Source and Contaminant Identification Table – continued

Source Information Modelling Source I.D.	ESDM Source I.D.	Source Description	Materials	Process  Marys Plant - SMC Operation	General Location	Expected Contaminants	Significant? (Yes or No)	Included in Modelling?	Calculation Sheet
	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
S200N	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
	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
\$500	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 (109-1-168)	Cement	Cement Production	See Figure 2	PM RCS Metals	Yes Yes Yes	Yes Yes Yes	C2-BHs
	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
52001	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
\$200N	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 (1-22)	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
	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
\$340	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
\$500	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
\$340	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 Inform	mation ESDM	Source Description	Materials	Process	General	Expected Contaminants	Significant? (Yes or No)	Included in Modelling?	Calculation Sheet
Source I.D.	Source I.D.	30dice Description		Marys Plant - SMC Operation	Location	Contaminants	(Tes of No)	Wiodening:	
	09-1-497	Baghouse serving packhouse cement storage silos (09-1-497)	Cement	Cement Production	See Figure 2	PM RCS	Yes Yes	Yes Yes	C2-BHs
	09-1-407	Baghouse serving packhouse cement storage silos (09-1-407)	Cement	Cement Production	See Figure 2	Metals PM RCS Metals	Yes Yes Yes Yes	Yes Yes Yes Yes	C2-BHs
PACK	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	СВВОІ	Dual fuel-fired Boiler	-	Ancillary Operations	See Figure 2	PM NO <sub>2</sub> SO <sub>2</sub> 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 <sub>2</sub> SO <sub>2</sub> 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 <sub>2</sub> SO <sub>2</sub>	Yes Yes Yes Yes	Yes Yes Yes Yes	CSE-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. I	Marys Plant - CBM Operation	ns				
-	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
	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
CBMST	CBM-5B	Natural gas-fired aggregate dryer controlled by a	CBM Product	CBM Operations	See Figure 2	NO2	Yes	Yes	C5E-External Combustion
		baghouse dust collector Fines transfer from dryer to fines silo controlled				PM	Yes	Yes	
CBMFS -	CBM-6	by a bin vent filter  Fines silo load out into shipping truck	CBM Product	CBM Operations  CBM Operations	See Figure 2 See Figure 2	PM RCS	Yes Yes Yes	Yes  No - Not part of max emissions scenario No - Not part of	C2-BHs
CBMDTENT	CBM-8	Screening (no sizing, security screen, dryer tent)	CBM Product	CBM Operations	See Figure 2	PM	Yes	max emissions scenario Yes	C4-Mat. Transfer/Processing
						RCS PM	Yes Yes	Yes Yes	
CBMPTENT	CBM-9 CBM-10	Product screening (sizing, product tent)  Product transfer from stacker to product	CBM Product  CBM Product	CBM Operations  CBM Operations	See Figure 2 See Figure 2	RCS PM	Yes Yes	Yes Yes	C4-Mat. Transfer/Processing C3-Drops
D CBMPTENT	CDM 11	stockpiles Product transfer from stockpile into shipping	CDM Droduct	CPM Operations	Soo Figuro 2	RCS PM	Yes Yes	Yes Yes	C3 Drons
D -	CBM-11	truck	CBM Product	CBM Operations	See Figure 2	RCS PM	Yes No	Yes No - enclosed	C3-Drops
-	CBM-12	Product transfer from screen to bucket elevator  Product silo filling	CBM Product	CBM Operations  CBM Operations	See Figure 2 See Figure 2	PM RCS	Yes Yes	No - enclosed  No - venting through dryer baghouse No - venting through dryer	NA NA
CBMLO	CBM-14	Product silo load out into shipping truck	CBM Product	CBM Operations	See Figure 2	PM RCS	Yes Yes	baghouse Yes Yes	C3-Drops
		Maria de la companya della companya della companya de la companya de la companya della companya		Other Common Activities	[ c =:	PM	No	N	
- -	MC VT	Material conveying  Vehicles travelling on on-site roads	-	Ancillary Operations  Ancillary Operations	See Figure 2 See Figure 2	Metals PM	No No	No - BMP Plan  No - Procedure	NA NA
-	VF	Onsite vehicle fuelling	-	Ancillary Operations	See Figure 2	Metals PM Metals	No No No	Section 7.4.1 No - Procedure Table B-3	NA
-	ST	Vehicle fuel storage tanks	-	Ancillary Operations	See Figure 2	PM	No	No - Procedure	NA
-	LAB	QA/QC Laboratory fume hoods	-	Ancillary Operations	See Figure 2	Metals PM Metals	No No No	Table B-3 No - Procedure Table B-3	NA
_	MAINT	Maintenance activities	=	Ancillary Operations	See Figure 2	PM	No	No - EPA Section	NA
otes:	Notes:	Montenance delivities	-	Antanary Operations	See rigure 2	Metals	No	9(3)(a)	1973

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 Fugtive 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 <u>unless</u> 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.

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

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,  $NO_x$ ,  $SO_2$  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 rate<sup>2</sup> 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, NOx, 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 SO<sub>2</sub>, 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).

<sup>&</sup>lt;sup>2</sup> 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.

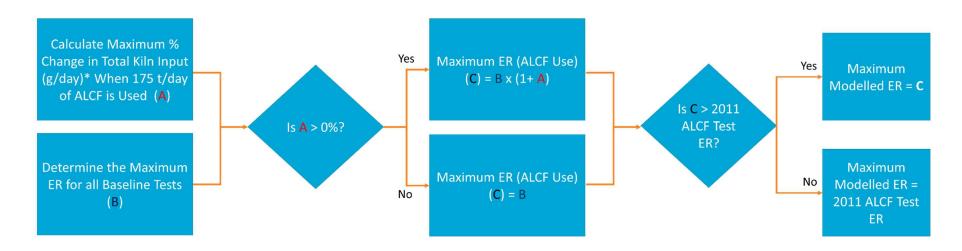
With respect to carbon disulphide, carbonyl sulphide, ammonia, total reduced sulphur, nitrogen oxides and sulphur dioxide, Ministry validated source testing was completed for both the raw mill on and off conditions under normal operation. This source test was completed by RWDI Air Incl (RWDI) in December 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**



<sup>\*</sup>For sulphurous compounds including SO<sub>2</sub>, 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, RAWS, 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 <sub>2</sub>	Maximum Concentration A-7 Limit			-7 Limit	Percentage of Limit
	(g/s)	(m <sup>3</sup> /s)	(%)	Value	Units	Value	Units	
Particulate Matter	9.74E-01			11.1	mg/Rm <sup>3</sup>	50	mg/Rm <sup>3</sup>	22.1%
Cadmium	4.50E-05			0.5	μg/Rm³	7	μg/Rm³	7.3%
Lead	1.10E-03	88.04	10.08	12.5	μg/Rm³	60	μg/Rm³	20.9%
Mercury	1.58E-03	00.04	10.08	17.9	μg/Rm³	20	μg/Rm³	89.6%
Dioxins and Furans	3.17E-09		3		pg/Rm <sup>3</sup> as ITEQ	80	pg/Rm <sup>3</sup> as ITEQ	45.0%
Hydrochloric Acid	1.23E+00				mg/Rm <sup>3</sup>	27	mg/Rm <sup>3</sup>	51.9%

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

#### 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.



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

# 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		Modelling		Base	Release	Stack Inner	Exit	Stack Exit		Initial Vertical	_	_	Orientation Angle from	Volume of the Open	X Coordinate	Y Coordinate	Pit
Source Type	Stack Type	Source ID	Description	Elevation	Height	Diameter	Velocity	Temperature	Dimension	Dimension	the X side	the Y side	the North	Pit			Depth
				m	m	m	m/s	К	m	m	m	m	۰	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	СВН	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	-		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	-		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

<sup>1</sup> All sources are elevated (Release Height > 0).



<sup>2</sup> Base elevations were extracted from AERMAP.

<sup>3</sup> CBMST & FSSC: Modelled as 7am to 7pm operations.

Table 6: AERMOD Modelling – Maximum Emissions Summary

												Fmissi	on Rate (g/s	)											
Source ID	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 CBH	1.73E-01 6.11E-01	7.55E-04 2.60E-02	0 3.71E-06	0 7.04E-05	0 4.51E-04	0 1.21E-06	0 5.15E-06	0 1.05E-04	0 2.16E-05	0 3.97E-02	0 4.11E-04	7.53E-04	0 2.61E-07	0 7.57E-05	0 3.62E-06	0 2.10E-06	0 2.26E-05	0 3.46E-04	0	0	0	0	0	0	0
GHOPPER	6.11E-01 6.11E-02	1.22E-03	1.77E-07	1.34E-06	7.33E-04	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 A 15 5	2.80E-02 5.19E-02	5.19E-04	4.48E-08 8.30E-08	1.20E-07 2.60E-07	1.48E-06 6.33E-06	2.58E-08 2.60E-08	1.40E-08 2.60E-08	1.12E-06 4.15E-07	1.68E-07 1.61E-07	7.84E-04 5.15E-04	6.72E-07 8.30E-07	2.55E-05 1.65E-05	2.80E-09 5.19E-09	5.60E-06 9.34E-07	6.72E-08 8.30E-08	1.40E-08 2.60E-08	1.29E-07 3.11E-07	1.48E-05 8.82E-07	0	0	0	0	0	0	0
A_13_3 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	2.01E-00 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 4.12E-02	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 FSSCD	4.12E-02 1.33E+00	5.41E-04 1.48E-01	1.77E-07 2.78E-05	1.57E-06 9.16E-04	4.08E-05 1.22E-03	8.24E-08 2.53E-06	1.77E-07 3.43E-05	3.83E-06 9.88E-04	7.67E-07 3.48E-04	2.09E-03 3.94E-01	2.64E-06 3.35E-03	4.29E-05 3.13E-03	1.44E-08 2.25E-06	2.31E-06 8.63E-04	4.99E-07 7.58E-06	8.65E-08 1.73E-05	1.03E-06 2.95E-04	3.50E-06 5.47E-03	0	0	0	0	0	0	0
FSSC	1.54E-01	1.48L-01 1.24E-02	3.04E-06	1.00E-04	1.34E-04	2.77E-07	3.76E-06	1.08E-04	3.48L-04 3.81E-05	4.31E-02	3.67E-04	3.42E-04	2.23L-00 2.46E-07	9.45E-05	8.30E-07	1.73E-03 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		1.25E-03													4.76E-07					0	0	0	0	0	0
CKD			4.20E-08			1.37E-08				4.50E-04					4.10E-08			3.93E-06		0	0	0	0	0	0
THS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		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	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	0		1.01E-02	1.01E-02	7.17E-03	7.17E-03	7.17E-03	2.53E-03
TRBOI	5.00E-03	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		3.03E-02		2.15E-02	2.15E-02		7.58E-03
PIT11D		5.91E-02		3.66E-04	2.35E-03		2.68E-05			2.07E-01					1.88E-05			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-05	1.40E-04	2.44E-03	6.66E-04	9.00E-01	9.32E-03	1.86E-02	1.58E-03	1.99E-03	4.23E-04	1.35E-04	7.83E-04	1.04E-02	4.69E+01	4.69E+01	4.69E+01	3.45E+01	3.45E+01	3.45E+01	1.01E+02

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** 

Regarding Controller	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%
Ministrage   District   Ministrage   District   Distr	Respirable Crystalline Silica	14808-60-7	3.67E-01	AERMOD	2.53E+00	24 hr	24 hr	5	Health	G	50.5%
Milyage Double	•	T	1		T T		1		1	<del> </del>	
Southern Double   7446-09-5   3.45E-01   AEMOOD   5.53E-01   1 hr		1									
Suphur Dinose   7446-055   3,454-01   3,850/00   5,571-01   1 fr   1 fr   600   Vegetation   3,850/00   5,571-01   1 fr   1 fr   1 fr   1 fr   600   Vegetation   3,850/00   5,571-01   1 fr	Nitrogen Dioxide	10102-44-0	4.69E+01	AERMOD	4.41E+01	24 nr	24 nr	200		3	22.0%
Sulphur Cloude	Sulphur Dioxide								Vegetation		
Sulpher Dictionary   Advanced	Sulphur Dioxide	7446-09-5	3.45E+01	AERMOD	5.52E+01	1 hr	1 hr	100	+	3 (July 2023)	55.2%
Carbon Monosde 630-08-0	Sulphur Dioxide	7446-09-5	3.45E+01	AERMOD	8.46E+00	24 hr	24 hr	275		3	3.1%
Sulphur Compounds	Sulphur Dioxide						annual		Vegetation	3 (July 2023)	
Total Reduced Sulphur		630-08-0	1.01E+02	AERMOD	1.98E+02	1 hr	30 minute	6000	Health	3	3.3%
Total Reduced Sulphur	•								T		
Carbon Displaylede   75-15-0   412E-01   AEMOOD   1.01E-01   24 hr   24 hr   330   Octor   6   0.01%   Carbon Suppliede   465-83-1   3.12E-00   AEMOOD   AEMOOD   S.3.00	•	1							1		
Carbony Sulphide         455-85-1         3.42E-100         ReMOD         3.48E-01         2.4 hr         2.4 hr         1.3 hr         Health         55.         6.6%           Mediate         Western William           Antonic         740-38-2         1.84E-04         ARRMOD         3.30E-04         24 hr         24 hr         2.5         Health         3         -0.1%           Arminic         740-38-2         1.88E-00         ARRMOD         2.85E-02         2.4 hr         2.4 hr         0.1         Health         6         5.7%           Ballum         740-04-17         2.47E-05         ARRMOD         0.80E-05         2.4 hr         2.4 hr         0.0         Health         3         0.2%           Cadmium         740-04-3         2.44E-0         ARRMOD         5.50E-04         2.4 hr         2.4 hr         0.0.05         Health         3         2.0%           Cobalt         740-03-3         1.44E-04         ARRMOD         5.50E-03         2.4 hr         2.4 hr         0.0         Health         3         2.26           Cobalt         740-93-21         1.08E-00         2.4 hr         2.4 hr         2.4 hr         0.1         Health         3.0         2.296	•										
Marcian	·										
Antimony   7440-36-0   1.441-04   ARRWOD   5.30E-04   24-hr   24-hr   25   Hoebth   3   -0.1%   Asseric   7440-38-1   3.81-60   ARRWOD   ARRWOD   2.85E-02   24-hr   24-hr   0.03   Hoebth   6   5.7%   Bartum   7440-39-3   ARRWOD   ARRWOD   ARRWOD   2.85E-02   24-hr   24-hr   0.01   Hoebth   3   0.5%   Cadmium   7440-47   2.47-60   ARRWOD   ARRWOD   6.50E-04   24-hr   24-hr   0.01   Hoebth   3   0.5%   Cadmium   7440-43-9   1.00E-04   ARRWOD   6.50E-04   24-hr   24-hr   0.025   Hoebth   3   2.5%   Cobait   7440-48-4   6.66E-04   ARRWOD   6.50E-03   24-hr   24-hr   0.025   Hoebth   3   2.5%   Cobait   7440-48-4   6.66E-04   ARRWOD   6.50E-03   24-hr   24-hr   0.01   Hoebth   6   6.5%   Cobait   7440-93-71   9.3E-03   ARRWOD   6.50E-03   24-hr   24-hr   0.1   Hoebth   6   6.5%   Lead   7439-32-1   9.3E-03   ARRWOD   6.3E-02   24-hr   24-hr   0.1   Hoebth   3   12.2%   Lead   7439-32-1   9.3E-03   ARRWOD   6.3E-02   24-hr   24-hr   0.5   Hoebth   3   12.2%   Lead   7439-32-1   9.3E-03   ARRWOD   6.3E-02   24-hr   24-hr   0.5   Hoebth   3   12.2%   Lead   7439-36-1   S.8E-02   ARRWOD   6.3E-02   24-hr   24-hr   0.5   Hoebth   3   12.2%   Lead   7439-37-6   S.8E-03   ARRWOD   6.3E-02   24-hr   24-hr   0.4   Hoebth   3   12.3%   Lead   7439-38-1   9.3E-03   ARRWOD   6.3E-02   24-hr   24-hr   0.4   Hoebth   3   15.3%   Lead   7440-02-0   1.99E-03   ARRWOD   6.3E-02   24-hr   24-hr   0.4   Hoebth   3   15.3%   Lead   7440-02-0   1.99E-03   ARRWOD   1.6E-03   ARRWOD   ARRWOD		703-30-1	J.72L100	ALIMIOD	0.57L-01	<u> </u>	27111	13	Health	JJL	0.470
Arsenic   7440-382   1.83F-33   ARRWOOD   1.71F-02   24 hr   24 hr   0.3   Health   G   5.7%   Beryllum   7440-317   2.47F-05   ARRWOOD   2.85F-02   24 hr   24 hr   10   Health   G   0.3%   Beryllum   7440-417   2.47F-05   ARRWOOD   8.00F-05   24 hr   24 hr   0.01   Health   3   0.8%   Chromium   7440-439   1.06F-06   ARRWOOD   8.00F-05   24 hr   24 hr   0.01   Health   3   0.8%   Chromium   7440-473   2.44F-03   ARRWOOD   8.00F-05   24 hr   24 hr   0.01   Health   3   0.8%   Chromium   7440-473   2.44F-03   ARRWOOD   8.00F-05   24 hr   24 hr   0.5   Health   3   2.6%   Chromium   7440-473   2.44F-03   ARRWOOD   6.50F-03   24 hr   24 hr   0.5   Health   3   3.7%   Ferric Oxide   1309-37-1   9.00F-01   ARRWOOD   7.41F-00   24 hr   24 hr   0.5   Health   6   6.5%   Serici Oxide   1309-37-1   9.00F-01   ARRWOOD   7.41F-00   24 hr   24 hr   0.5   Health   3   12.2%   Lead   7439-97-1   9.32F-03   ARRWOOD   6.32F-02   24 hr   24 hr   0.5   Health   3   12.2%   Lead   7439-97-1   9.32F-03   ARRWOOD   6.32F-02   24 hr   24 hr   0.5   Health   3   12.6%   Marganese   7439-97-6   1.58E-03   ARRWOOD   6.32F-02   24 hr   24 hr   0.5   Health   3   12.6%   Marcury   7439-97-6   1.58E-03   ARRWOOD   6.32F-02   24 hr   24 hr   0.5   Health   3   12.6%   Nickled   7440-02-0   1.99F-03   ARRWOOD   1.62E-02   24 hr   24 hr   0.5   Health   3   40.1%   Nickled   7440-02-0   1.99F-03   ARRWOOD   1.62E-02   24 hr   24 hr   0.5   Health   3   40.1%   Nickled   7440-02-0   1.99F-03   ARRWOOD   1.62E-02   24 hr   24 hr   0.5   Health   3   4.2%   Nickled   7440-02-0   1.99F-03   ARRWOOD   1.62E-02   24 hr   24 hr   0.5   Health   3   4.2%   Nickled   7440-02-0   1.99F-03   ARRWOOD   1.62E-02   24 hr   24 hr   0.5   Health   3   4.2%   Nickled   7440-02-0   1.99F-03   ARRWOOD   1.62E-02   24 hr   24 hr   0.5   Health   3   4.2%   Nickled   7440-02-0   1.99F-03   ARRWOOD   1.62E-02   24 hr   24 hr   0.5   Health   3   4.2%   Nickled   7440-02-0   1.99F-03   ARRWOOD   1.62E-03   ARRWOOD   4.24 hr   24 hr   0.5   Health   3   4.2%   Nick		7440-36-0	1.44E-04	AERMOD	5.30E-04	24 hr	24 hr	25	Health	3	<0.1%
Tanum	Arsenic								+		
Beryllim		<b>.</b>									
Cadmissis	Beryllium	+									
Chromium 7440-94-3 2.44E-03 AERMOD 1.86E-02 24 hr 24 hr 0.5 Health 3 3.7% Cobalt 7440-94-6 656-04 AERMOD 6.50E-03 24 hr 24 hr 0.1 Health 6 6.55% AERMOD 7.41E-00 6.50E-03 24 hr 25 hr 25 Soling 3 2.96% Leid 7439-92-1 9.32E-03 AERMOD 7.41E-00 24 hr 25 Soling 3 2.96% Leid 7439-92-1 9.32E-03 AERMOD 7.41E-00 24 hr 25 Soling 3 2.96% Leid 7439-92-1 9.32E-03 AERMOD 6.32E-02 24 hr 25 hr 0.5 Health 3 1.225% Manganese 7439-95-5 IsaE-02 AERMOD 6.32E-02 24 hr 25 hr 0.5 Health 3 1.25% Manganese 7439-95-5 IsaE-02 AERMOD 6.32E-02 24 hr 25 hr 0.5 Health 3 1.53% Mercury 7439-95-6 IsaE-02 AERMOD 6.32E-02 24 hr 25 hr 0.5 Health 3 1.53% Mercury 7439-95-6 IsaE-02 AERMOD 1.62E-02 24 hr 25 hr 0.5 Health 3 1.53% Mercury 7439-95-6 IsaE-02 AERMOD 1.62E-02 24 hr 25 hr 0.5 Health 3 1.53% Mercury 7439-95-6 IsaE-02 AERMOD 1.62E-02 24 hr 25 hr 0.5 Health 3 1.53% Mercury 740-02-0 IsaE-03 AERMOD 1.62E-03 24 hr 25 hr 0.2 Health DAVAITT 8.1% Mickel 7440-02-0 IsaE-03 AERMOD 1.62E-03 24 hr 25 hr 0.2 Health DAVAITT 8.1% Mickel 7440-02-0 IsaE-03 AERMOD 1.62E-03 24 hr Annual 0.4 Health AAV 0.4% Mickel 7440-02-0 IsaE-03 AERMOD 1.62E-03 24 hr Annual 0.4 Health AAV 0.4% Mickel 7440-02-0 IsaE-03 AERMOD 1.62E-03 24 hr Annual 0.4 Health AAV 0.4% Mickel 7440-02-0 IsaE-03 AERMOD 7.59E-04 24 hr 0.5 Health 1.51 0.1% Mercury 7438-40-03-1 1.62E-03 AERMOD 7.59E-04 24 hr 0.5 Health 1.51 0.1% Mercury 7438-40-03-1 1.62E-03 AERMOD 7.59E-04 24 hr 0.5 Health 1.51 0.1% Mercury 7438-40-03-1 1.62E-03 AERMOD 7.59E-04 24 hr 0.5 Health 1.52 0.0% Mercury 7440-03-0 1.62E-03 AERMOD 7.59E-04 24 hr 0.5 Health 1.52 0.0% Mercury 7440-03-0 1.62E-03 AERMOD 7.59E-04 24 hr 0.5 Health 0.3 0.0% Mercury 7440-03-0 1.62E-03 AERMOD 7.59E-03 24 hr 0.0 Health 0.3 0.0% Mercury 7440-03-0 1.62E-03 AERMOD 7.59E-03 24 hr 0.0 Health 0.3 0.0% Mercury 7440-03-0 1.62E-03 AERMOD 7.59E-03 24 hr 0.0 Health 0.3 0.0% Mercury 7440-03-0 1.62E-03 AERMOD 7.59E-03 24 hr 0.0 Health 0.3 0.0% Mercury 7440-03-0 1.62E-03 AERMOD 7.59E-03 24 hr 0.0 Health 0.3 0.0 Mercury 7440-03-0 1.62E-03 AERMOD 7.59E-03 24 hr 0.0 Healt									+		
Cobail   7440-484   6.66E-04   AFRIMOD   6.90E-03   24 hr   24 hr   2.1 hr   0.1   Health   G   6.5%	Chromium				1.86E-02					3	
Lead	Cobalt	7440-48-4		AERMOD	6.50E-03	24 hr	24 hr	0.1	Health	G	6.5%
Lead	Ferric Oxide	1309-37-1	9.00E-01	AERMOD	7.41E+00	24 hr	24 hr	25	Soiling	3	29.6%
Manganese	Lead	7439-92-1	9.32E-03	AERMOD	2.44E-02	24 hr	30 day	0.2	Health	3	12.2%
Mercury	Lead		9.32E-03	AERMOD	6.32E-02	24 hr	24 hr	0.5	Health	3	12.6%
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 0.04 Health 3 4.2% Nickel 7440-02-0 1.99E-03 AERMOD 1.66E-03 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 15L 0.3% Polsasium 7440-02-7 1.20E-01 AERMOD 2.39E-02 24 hr 24 hr 1 Health 15L 2.9% Selenium 7782-49-2 4.23E-04 AERMOD 3.00E-04 24 hr 24 hr 1 Health 15L 2.9% Selenium 7782-49-2 4.23E-04 AERMOD 3.00E-04 24 hr 24 hr 1 Health 3 <0.1% Polsasium 7440-22-1 1.35E-04 AERMOD 3.00E-04 24 hr 24 hr 1 Health 3 <0.1% Polsasium 7440-22-1 1.03E-04 AERMOD 3.00E-04 24 hr 24 hr 1 Health 3 <0.1% Polsasium 7440-22-1 1.03E-04 AERMOD 3.00E-04 24 hr 24 hr 1 Health 3 <0.1% Polsasium 7440-62-2 1.04E-02 AERMOD 1.02E-01 24 hr 24 hr 24 hr 1 Health 3 <0.1% Polsasium 7440-62-2 1.04E-02 AERMOD 1.02E-01 24 hr 24 hr 24 hr 1 Health 3 <0.1% Polsasium 7440-62-2 AERMOD 1.02E-01 24 hr 24 hr 24 hr 1 Health 3 <0.1% Polsasium 7440-62-2 AERMOD 1.02E-01 24 hr 24 hr 24 hr 1 DO Health 3 0.8% Polsasium 740-62-2 AERMOD 1.02E-01 24 hr 24 hr 24 hr 1 DO Health 3 0.8% Polsasium 740-62-2 AERMOD 1.02E-01 24 hr 24 hr 1 DO Health 3 0.8% Polsasium 740-62-2 AERMOD 1.02E-01 24 hr 24 hr 1 DO Health 3 0.8% Polsasium 740-62-6 AERMOD 1.02E-01 24 hr 24 hr 1 DO Health 3 0.0% Polsasium 740-62-6 AERMOD 1.03E-01 24 hr 24 hr 1 DO Health 3 0.0% Polsasium 740-62-6 AERMOD 1.03E-01 24 hr 24 hr 1 DO Health 3 0.0% Polsasium 740-62-6 AERMOD 1.03E-01 24 hr 24 hr 1 DO Health 3 0.0% Polsasium 740-62-6 AERMOD 1.03E-01 24 hr 24 hr 1 DO Health 3 0.0% Polsasium 740-62-6 AERMOD 1.03E-01 24 hr 24 hr 1 DO Health 3 0.0% Polsasium 740-62-6 AERMOD 1.03E-01 24 hr 24 hr 1 DO Health 3 0.0% Polsasium 740-62-6 AERMOD 1.03E-01 24 hr 24 hr 1 DO Health 3 0.0% Polsasium 740-62-6 AERMOD 1.03E-01 24 hr 24 hr 1 DO Health 3 0.0% Polsasium 740-62-6 AERMOD 1.03E-01 24 hr 24 hr 1 DO Health 3 0.0% Polsasium 740-62-6 AERMOD 1.03E-01 24 hr 24 hr 1 DO Health 3 0.0% P	Manganese	7439-96-5	1.86E-02	AERMOD	6.12E-02	24 hr	24 hr	0.4	Health	3	15.3%
Nickel 7440-02-0 1.99E-03 AERMOD 1.66E-03 ARNOD 1.6	Mercury										
Nickel											
PROSPORUS 7723-14-0 3.03E-03 AERMOD 7.39E-04 24 hr 24 hr 0.5 Health JSL 0.1% Potassium 7440-97-1 1.20E-01 AERMOD 2.93E-02 24 hr 24 hr 10 Health JSL 2.9% Selenium 77782-49-2 4.23E-04 AERMOD 3.00E-04 24 hr 24 hr 10 Health G 0.1% Silver 7740-92E-4 1.35E-04 AERMOD 3.00E-04 24 hr 24 hr 10 Health G 0.01% Silver 7740-92E-4 1.35E-04 AERMOD 3.00E-04 24 hr 24 hr 10 Health 3 0.01% Silver 7740-92E-5 7.83E-04 AERMOD 3.00E-04 24 hr 24 hr 10 Health 3 0.01% Olosian and Furan 7740-31E-5 7.83E-04 AERMOD 5.35E-03 24 hr 24 hr 10 Health 3 0.01% Olosian and Furan Fura		<b>!</b>							+		
Polassium											
Selenium	•										
Silver											
Tin 7440-31-5 7.83E-04 AERMOD 5.53E-03 24 hr 24 hr 10 Health 3 <0.1% Vanadium 7.440-62-2 1.04E-02 AERMOD 1.02E-01 24 hr 24 hr 2 health 3 <.0.1% Vanadium 7.440-62-2 1.04E-02 AERMOD 1.02E-01 24 hr 24 hr 2 health 3 <.0.1% Vanadium 7.440-62-2 1.04E-02 AERMOD 7.78E-10 24 hr 24 hr 0.000001 Health 3 0.8% Part Mydrogen Chloride and Ammonia		1									
Vanadium							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%											
TOTAL Dioxin and Furans (TEQ)   CCD   3.17E-09   AERMOD   7.73E-10   24 hr   24 hr   0.0000001   Health   3   0.8%		7440 02 2	1.042 02	ALIMIOD	1.022 01	27111	24111		Health		3.170
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 1.63E-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 0.0001 Health AAV 0.2% Benzo(a)pyrene 50-32-8 7.00E-06 AERMOD 1.63E-07 Annual 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 AAV 0.2% Benzo(a)pyrene 9.50-32-8 7.00E-06 AERMOD 1.63E-07 Annual Annual 0.00001 Health AAV 0.2% Benzo(a)pyrene 9.50-32-8 7.00E-06 AERMOD 1.63E-07 Annual Annual 0.00001 Health AAV 0.2% Benzo(a)pyrene 9.1-20-3 4.30E-02 AERMOD 1.05E-02 24 hr 10 minute 50 Health 6 <0.1% Naphthalene 91-20-3 4.30E-02 AERMOD 1.05E-02 24 hr 24 hr 22.5 Odour 6 <0.1% Chloronated Organic Compounds  Chloronated Organic Compounds  Chloronated Organic Compounds  Chloronated Arganic Compounds  Chloronated Arganic Albanic	TOTAL Dioxin and Furans (TEQ)	CCD	3.17E-09	AERMOD	7.73E-10	24 hr	24 hr	0.000001	Health	3	0.8%
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 1.63E-07 24 hr Annual 0.0001 Health AAV 0.2% Benzo(a) pyrene 50-32-8 7.00E-06 AERMOD 1.63E-07 Annual 0.0001 Health 3 1.6% ABRDAD 1.63E-07 Annual 0.0001 Health 3 1.6% ABRDAD 1.63E-07 Annual Annual 0.0001 Health 3 1.6% ABRDAD 1.05E-02 24 hr 10 minute 50 Health 6 <0.1% Chloronated Organic Compounds  Carbon Tetrachloride 56-23-5 1.70E-02 AERMOD 1.05E-02 24 hr 24 hr 22.5 Odour 6 <0.1% Chloronated Organic Compounds  Carbon Tetrachloride 56-23-5 1.70E-02 AERMOD 2.81E-03 24 hr 24 hr 1 Health 3 0.2% Chloronatehane 124-48-1 9.37E-03 AERMOD 2.29E-03 24 hr 24 hr 1 Health 3 0.3% Dibromochloromethane 124-48-1 9.37E-03 AERMOD 2.81E-03 24 hr 24 hr 1 Health 3 0.3% Dibromochloromethane 1.75E-02 AERMOD 2.81E-03 24 hr 24 hr 1 Health 3 0.0.1% Dibromochloromethane 1.75E-03 AERMOD 2.81E-03 24 hr 24 hr 1 Health 3 0.0.1% Dibromochloromethane 1.75E-03 AERMOD 2.81E-03 24 hr 24 hr 1 Health 3 0.0.1% Dibromochloromethane 1.75E-03 AERMOD 2.81E-03 24 hr 24 hr 10 Health 3 0.0.1% Dibromochloromethane 1.75E-03 AERMOD 2.81E-03 24 hr 24 hr 10 Health 3 0.0.1% Dibromochloromethane 1.75E-03 AERMOD 2.81E-03 24 hr 24 hr 10 Health 3 0.0.1% Dibromochloromethane 1.75E-03 AERMOD 2.81E-03 24 hr 24 hr 10 Health 3 0.0.1% Dibromochloromethane, 1.1,1,2- 630-20-6 1.05E-02 AERMOD 2.81E-03 24 hr 24 hr 10 Health 3 0.0.1% Dibromochloromethane, 1.1,2- 79-00-5 1.70E-02 AERMOD 3.47E-03 24 hr 24 hr 10 Health 3 0.0.3% Dibromochloromethane, 1.1,2- 79-00-5 1.70E-02 AERMOD 3.47E-03 24 hr 24 hr 10 Health 3 0.0.3% Dibromochloromethane, 1.1,2- 79-00-5 1.70E-02 AERMOD 3.47E-03 24 hr 24 hr 10 Health 3 0.0.3% Dibromochloromethane, 1.1,2- 79-00-5 1.70E-02 AERMOD 3.47E-03 24 hr 24 hr 10 Health 3 0.0.3% Dibromochloromethane, 1.1,2- 79-00-5 1.70E-02 AERMOD 3.47E-03 24 hr 24 hr 11 He		7647-01-0	1.23E+00	AERMOD	3.01E-01	24 hr	24 hr	20	Health	3	1.5%
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%			502 01			2		200	1	· · · ·	0.273
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         1.05E-02         24 hr         10 minute         50         Health         G         <0.1%		i -	7.00E-06	AERMOD	1.71E-06	24 hr	24 hr	0.005	Health	DAV/URT	<0.1%
Naphthalene	Benzo(a)pyrene										
Naphthalene	Benzo(a)pyrene	50-32-8	7.00E-06	AERMOD	1.63E-07	Annual	Annual	0.00001	Health	3	1.6%
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 hr 1 1 Health 3 <0.1%  Dichloroethene, 1,1- 75-35-4 1.15E-02 AERMOD 1.80E-03 24 hr 24 hr 1 1 Health 3 <0.1%  Hexachlorobenzene 118-74-1 4.97E-05 AERMOD 2.81E-03 24 hr 24 hr 10 Health 3 <0.1%  Hexachlorobenzene 118-74-1 4.97E-05 AERMOD 1.81E-03 24 hr 24 hr 10 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- 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 0.1 Health JSL 1.4%  Trichloroethylene 79-01-6 1.15E-02 AERMOD 2.81E-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 1 Health 3 <0.1%  Volatile Organic Compounds  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%	Naphthalene	91-20-3	4.30E-02	AERMOD	4.22E-02	24 hr	10 minute	50	Health	G	<0.1%
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 hr         1 hr         1 hr         1 hr         1 hr         2 hr         0.011         Health<	Naphthalene	91-20-3	4.30E-02	AERMOD	1.05E-02	24 hr	24 hr	22.5	Odour	G	<0.1%
Chloroform   67-66-3   1.15E-02   AERMOD   2.81E-03   24 hr   24 hr   1   Health   3   0.3%	Chloronated Organic Compounds										
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% Heak Chloroethane, 1,1- 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 2.56E-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%											
Dichloroethane, 1,2-  Dichloroethane, 1,2-  Dichloroethene, 1,1-  T5-35-4  Dichloroethene, 1,1-  T5-35-4  Dichloroethene, 1,1-  Dic	Chloroform										
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		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%											
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%											
Tetrachloroethane, 1,1,2,2- Tetrachloroethane, 1,1,2,2- Trichloroethane, 1,1,2- Trichloroethane, 1,1,2- Trichloroethane, 1,1,2- Trichloroethane, 1,1,2- Trichloroethane, 1,1,2- Trichloroethane, 1,1,2- Trichloroethylene Trichloroe											
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%		1							-		
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%		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%											
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%											
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%	,	.5017	2.552 02		552 55		27111	-	. icaitii		0.570
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%	•	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 Annual Annual 0.45 Health 3 5.7%	Benzene										
	Benzene										
	Dibromoethane, 1,2-	1							1		

Notes:

<sup>(5)</sup> 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

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

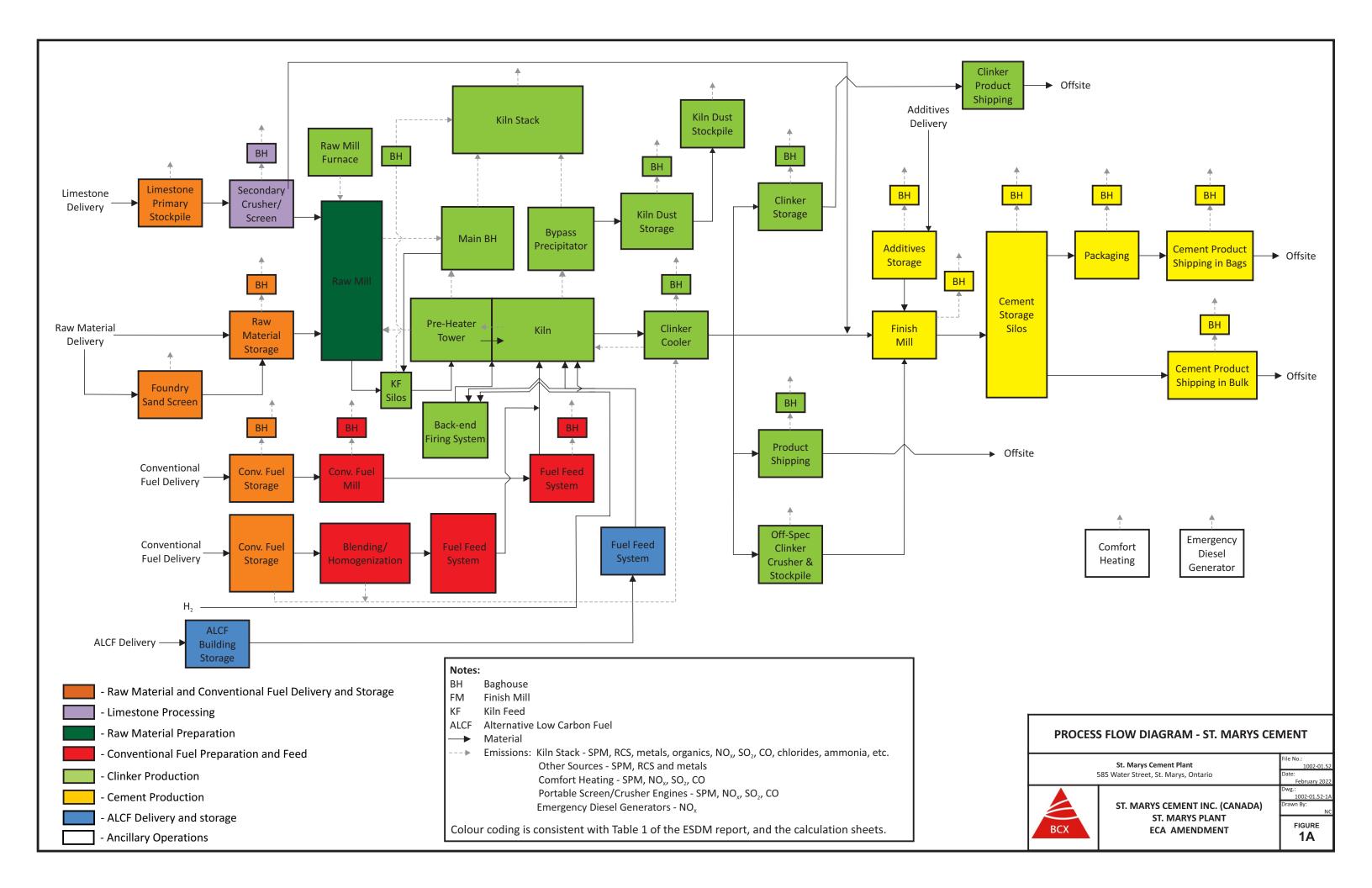
<sup>(</sup>March 2018).
G = Ministry Guideline, JSL = Jurisdictional Screening Level, URI - Upper Risk Threshold, APOIC - Acceptable Point-Of-Impingement Concentration, DAV - Daily Assessment Value; AAV - Annual Accecement Value

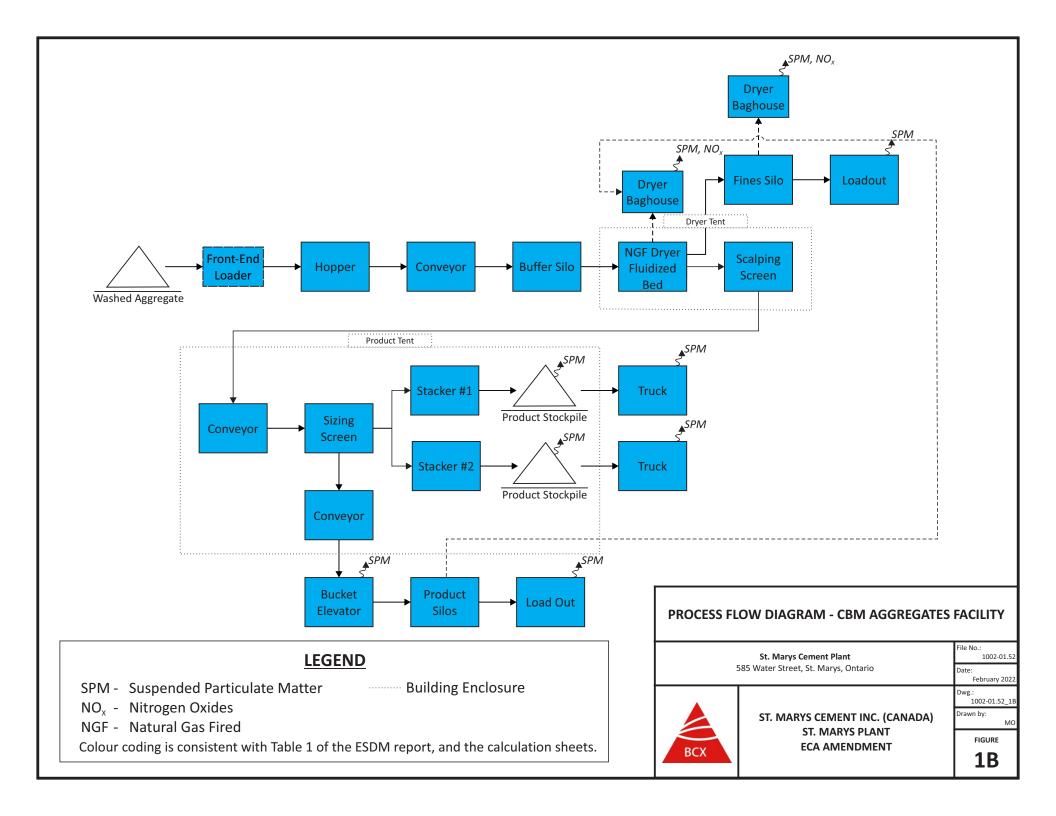
<sup>(3)</sup> To be conservative, it was assumed the daily emission rate is equal to the annual emission rate for nickel, benzo(a)pyrene and benzene emissions.  $^{(4)}$  Modelling was completed for both raw mill on and raw mill off conditions using the same maximum emission rate for each contaminant.

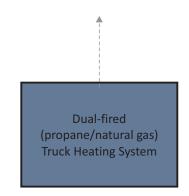
Appendix A

**Figures and Zoning Map** 









## Notes:

--▶ Emissions: NO<sub>x</sub>

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

Date: February 2022 Dwg.: 1002-01.52-10

1002-01.52

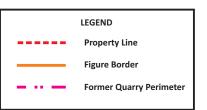
ST. I

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

Drawn by:

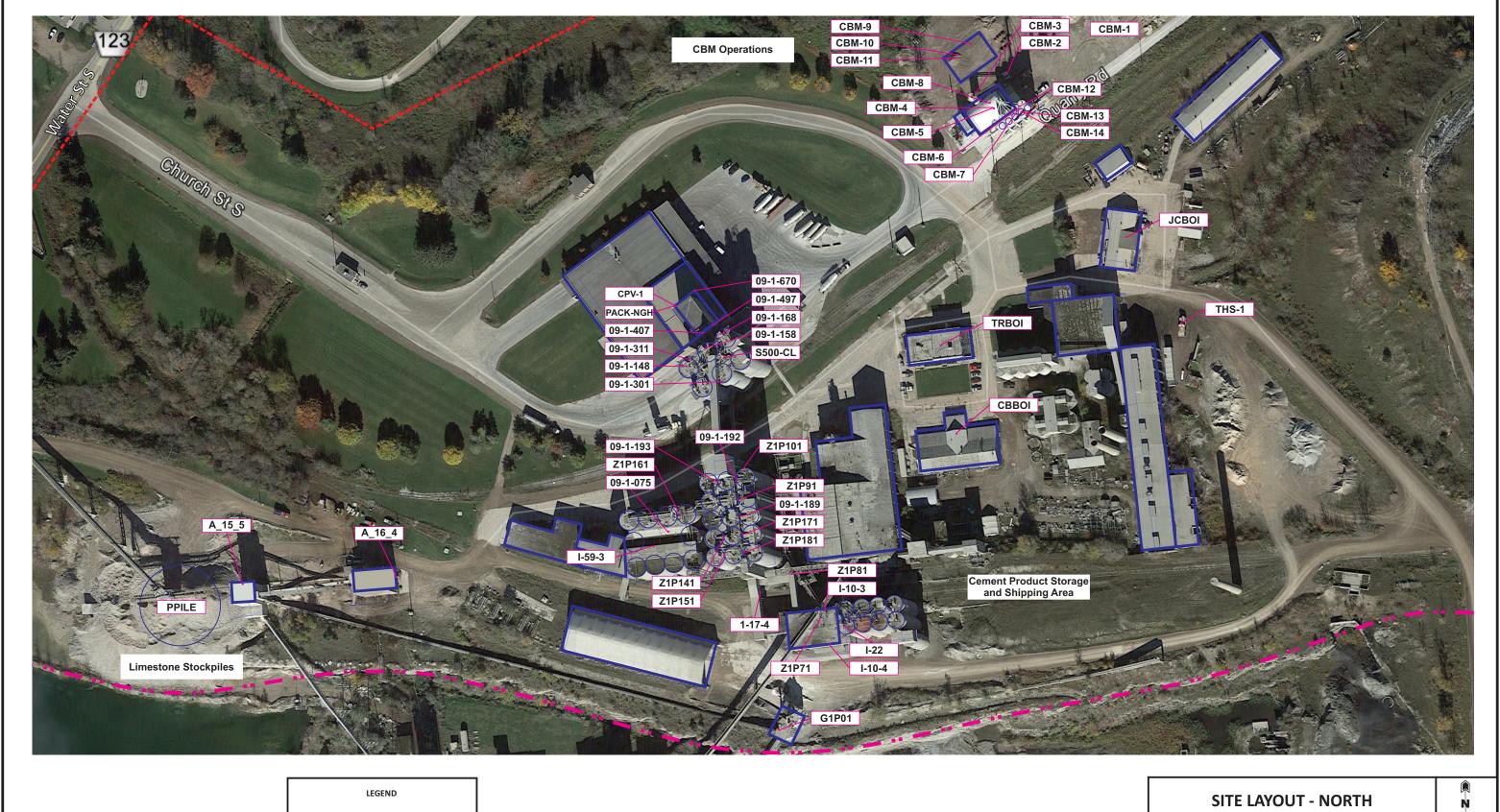
**1C** 

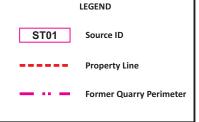




0 <u>m</u> 500 m

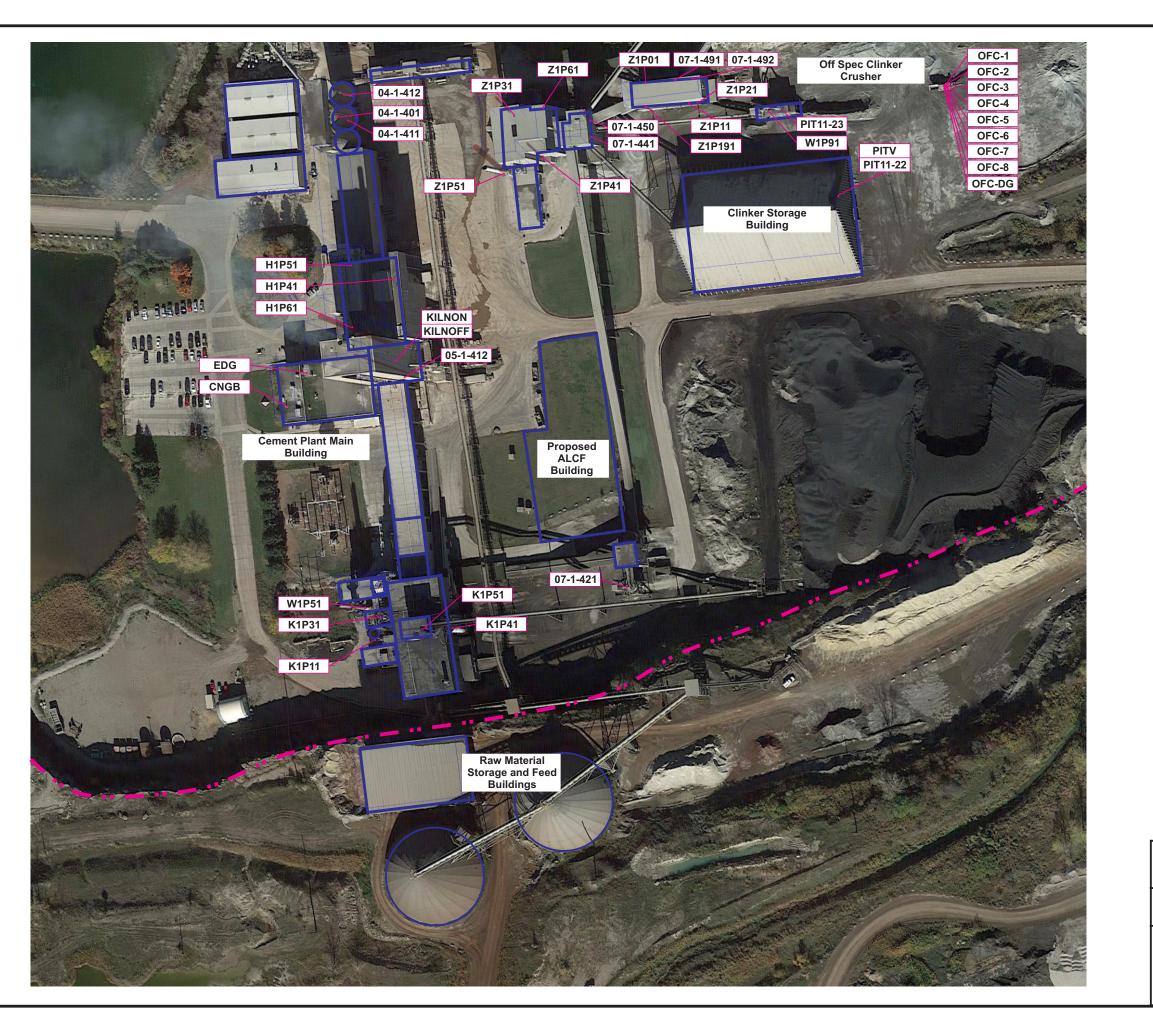
SITE	SITE LAYOUT - OVERVIEW								
į	<b>St. Marys Cement Plant</b> 585 Water Street, St. Marys, Ontario	File No.: 1002-01.52 Date: February 2022							
	ST. MARYS CEMENT INC. (CANADA)	Dwg.: 1002-01.52_2A Drawn By:							
BCX	ST. MARYS PLANT ECA AMENDMENT	FIGURE 2A							

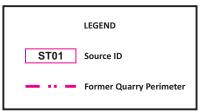




m\_\_\_\_\_100 m

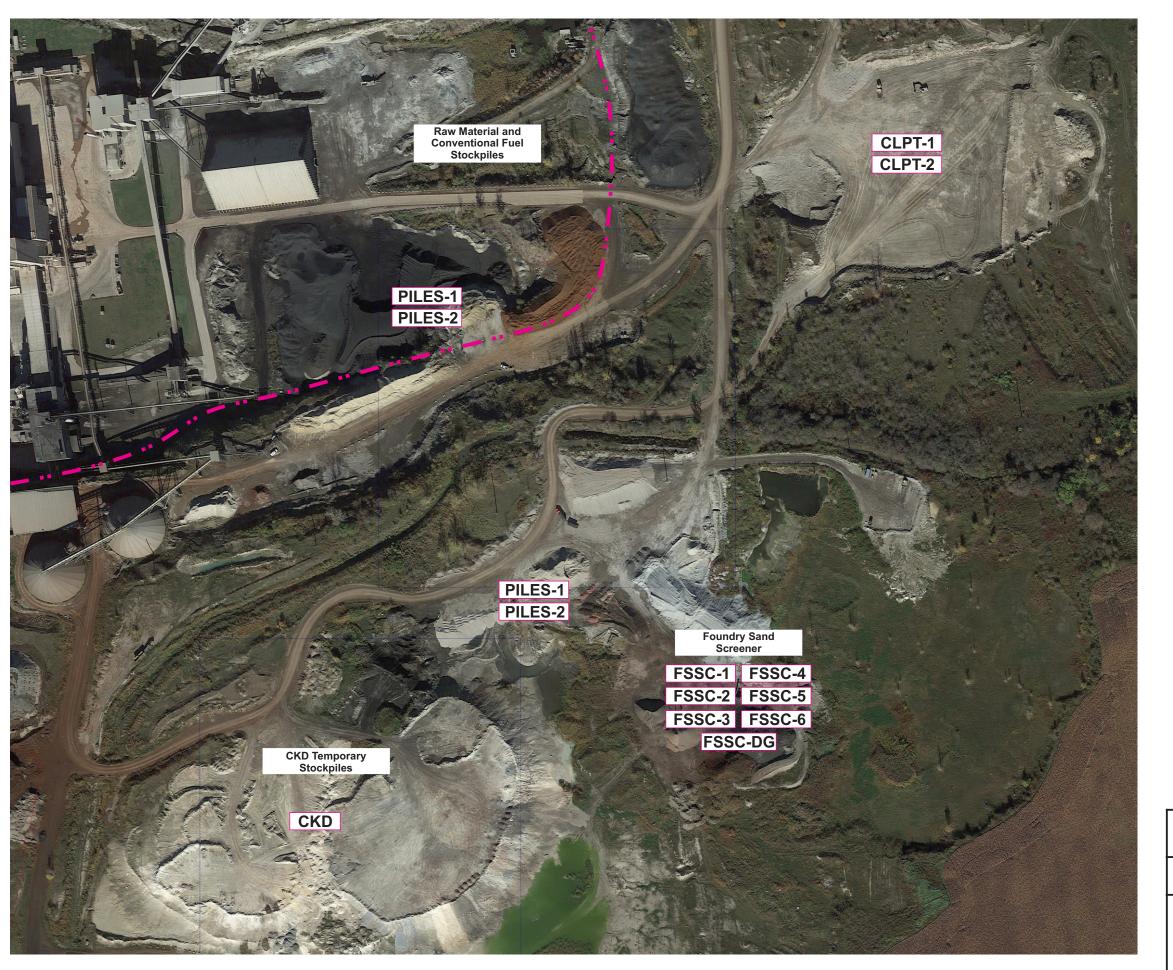
		_					
SI							
	<b>St. Marys Cement Plant</b> 585 Water Street, St. Marys, Ontario						
	ST. MARYS CEMENT INC. (CANADA)	February 2022  Dwg.:					
ВСХ	ST. MARYS PLANT ECA AMENDMENT	FIGURE 2B					

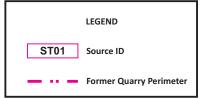




0 m 100 m

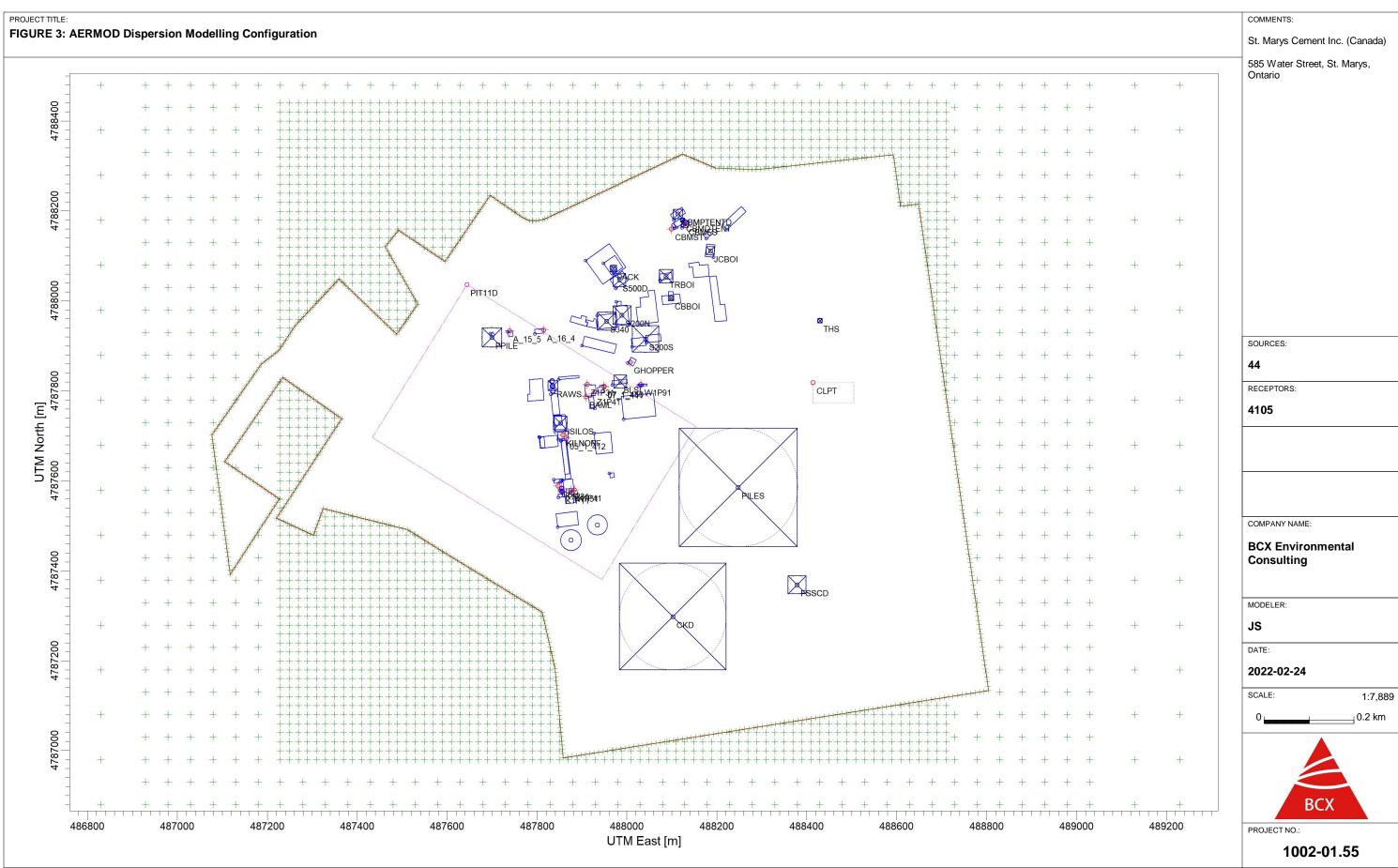
SI	2	
į	File No.: 1002-01.52 Date: February 2022	
BCX	ST. MARYS CEMENT INC. (CANADA) ST. MARYS PLANT ECA AMENDMENT	Dwg.: 1002-01.52_2C Drawn By: MO FIGURE

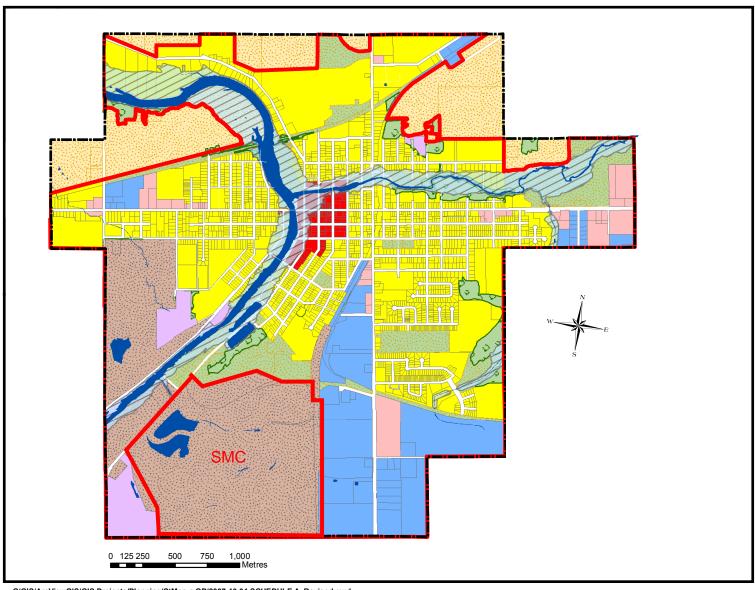




0 <u>m</u> <u>15</u>0 m

SITE	SITE LAYOUT - STOCKPILES							
į	<b>St. Marys Cement Plant</b> 585 Water Street, St. Marys, Ontario							
	ST. MARYS CEMENT INC. (CANADA) ST. MARYS PLANT	Dwg.: 1002-01.57_2D Drawn By: MO						
BCX	ECA AMENDMENT	2D						





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





 $\hbox{G/GIS/ArcViewGIS/GIS Projects/Planning/StMarys OP/2007-10-01 SCHEDULE A\_Revised.mxd} \\$ 

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 Tel.: 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,

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

2 St. Clair Avenue West Floor 12A

Toronto ON M4V 1L5 Tel.: 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

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** 

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Yours truly,

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** 



T-1-1- 0 A	C C		D - 4 -
l able 3A -	Source Summar	v Table - Source	vata

Source   Long   Source   Long   Source   Long   Source   Long	Height Above Grade (m)  5 12.2  5 17.8  a 5.0  a 4.0  5 38.7  a 42.0  a 2.0  a 6.0  a 6.0  a 6.0  a 6.0	Height Above	see Table 5
A_16_4  A-16-4 Baghouse serving the secondary crusher (A-16-4)	5 17.8 a 5.0 a 4.0 a 4.0 5 38.7 a 42.0 a 2.0 a 6.0 a 6.0 a 6.0 a 6.0	n/a	see Table 5
A_15_5	a 5.0 a 4.0 a 4.0 5 38.7 a 42.0 a 2.0 a 6.0 a 6.0 a 6.0 a 6.0	n/a	see Table 5
PPILE PPILE Transfer of limestone onto primary surge pile  Limestone  Limestone  Limestone  Limestone  Limestone  Limestone  Processing  n/a  n/a  n/a  n/a  n/a  n/a  n/a  n	a 4.0 a 4.0 5 38.7 a 42.0 a 2.0 a 2.0 a 6.0 a 6.0 a 6.0 a 6.0	n/a	see Table 5
PILES PILES-1 Delivery and transfer of conventional fuel  PILES PILES-2 Delivery and transfer of row materials  Raw Feed Raw Material / Conventional Fuel Fuel Delivery and Storage Raw Material / Conventional Fu	a 4.0 5 38.7 a 42.0 a 2.0 a 2.0 a 6.0 a 6.0 a 6.0 a 6.0	n/a n/a n/a n/a n/a n/a n/a n/a	see Table 5
PILES PILES-2 Delivery and transfer of raw materials  Raw Feed Full Delivery and Storage  Raw Material / Conventional Full  RAWS 04-1-401 Raw material storage silo baghouse (K1P51)  Conventional Full  CLPT CLPT-1 Scraper from face onto a pile  CLPT CLPT-2 Front end loader transfer into truck  CLPT CLPT-2 Front end loader transfer into truck  CLSY/Momentive  FSSCD FSSC-3 Front-end Loader to Feed Hopper for raw material screener  FSSC FSSC-3 Raw material screening  FSSC FSSC-4 Raw material screening  FSSC FSSC-5 Raw material transfer from Screener to Conveyor  FSSC FSSC-5 Raw material transfer from Conveyor to Stacker  FSSC FSSC-6 Diesel-fired engine servicing the raw material screener  FSSC FSSC-6 Diesel-fired engine servicing the raw material screener  FIRES-2 Peed Raw Material / Conventional Full Delivery and Storage FSSC FSSC-6 Raw material from Screener to Conveyor  FSSC FSSC-6 FSSC-6 Diesel-fired engine servicing the raw material screener  FSSC FSSC-6 PSSC-6 PSSC-6 Diesel-fired engine servicing the raw material screener  FSSC FSSC-7 FSSC-8 Raw material from Screener to Stockpile  FSSC FSSC-6 PSSC-6 Diesel-fired engine servicing the raw material screener  FSSC FSSC-7 FSSC-8 Raw material from Screener to Stockpile  FSSC FSSC-8 Raw material from Screener to Stockpile  FSSC FSSC-9 FSSC-9 Diesel-fired engine servicing the raw material screener  FSSC FSSC-9 FSSC-9 Diesel-fired engine servicing the raw material screener  FSSC FSSC-9 FSSC-9 Diesel-fired engine servicing the raw material screener  FSSC FSSC-9 FSSC-9 Diesel-fired engine servicing the raw material screener  FSSC FSSC-9 FSSC-9 Diesel-fired engine servicing the raw material screener  FSSC FSSC-9 FSSC-9 Diesel-fired engine servicing the raw material screener  FSSC FSSC-9 FSSC-9 Diesel-fired engine servicing the raw material screener  FSSC FSSC-9 FSSC-9 Diesel-fired engine servicing the raw material screener  FSSC FSSC-9 FSSC-9 Diesel-fired engine servicing the raw material screener  FSSC FSSC-9 FSSC-9 Diesel-fired engine servicing the raw material screen	38.7 a 42.0 a 2.0 a 2.0 a 6.0 a 6.0 a 6.0 a 6.0	n/a n/a n/a n/a n/a n/a	see Table 5
RAWS   O.4.1-401   Raw material storage silo baghouse (K1P51)   Conventional Fuel Delivery and Storage   Conventional	a 42.0 a 2.0 a 2.0 a 6.0 a 6.0 a 6.0 a 6.0 a 6.0	n/a n/a n/a n/a 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 Raw Material / Conventional Indianal Properties of Properties	a 2.0 a 2.0 a 6.0 a 6.0 a 6.0 a 6.0	n/a n/a n/a n/a	see Table 5 see Table 5 see Table 5 see Table 5
CLPT CLPT-1 Scraper from face onto a pile Clay/Momentive Fuel Delivery and Storage Raw Material / Conventional Fuel Delivery and Storage Raw Material Fuel Delivery and Storage Raw Material / Conventional Fuel Delivery and Storage Raw Material / Conventional Fuel Delivery and Storage Raw Material Fuel Deli	a 2.0 a 6.0 a 6.0 a 6.0 a 6.0 a 6.0	n/a n/a n/a	see Table 5 see Table 5 see Table 5
CLPT   CLPT   CLPT   Front end loader transfer into truck   Clay/Momentive   Raw Material / Conventional   rule   Fuel Delivery and Storage   Raw Material / Conventional   Raw Feed   Raw Material /	a 6.0 a 6.0 a 6.0 a 6.0 a 6.0	n/a n/a	see Table 5
FSSCD FSSC-1 Front-end Loader to Feed Hopper for raw material screen Foundry Sand/Silica Faw Material / Conventional Fuel Delivery and Storage Faw Material / Conventional Fuel Polivery Faw Material / Conventional Fuel Faw Material Faw Material Faw Material Faw Material Faw Faw Faw Faw Faw Faw Faw Faw Material Faw	a 6.0 a 6.0 a 6.0 a 6.0	n/a	see Table 5
FSSC FSSC-2 Feed Hopper to raw material screener Foundry Sand/Silica Faw Material / Conventional Fuel Delivery and Storage Faw Material / Conventional Fuel Preparation Faw	a 6.0 a 6.0 a 6.0		
FSSC FSSC-3 Raw material screening Foundry Sand/Silica Raw Material / Conventional Fuel Delivery and Storage Pill Delivery and Storage Raw Material / Conventional Fuel Delivery and Storage Raw Material / Conventional Fuel Delivery and Storage Pill Delivery and Storage Raw Material / Conventional Fuel Delivery and Storage Raw Material / Conventional Fuel Delivery and Storage Pill Delivery and Storage Raw Material / Conventional Fuel Delivery and Storage Pill Delivery and Storage Raw Material / Conventional Fuel Delivery and Storage Raw Material / Conventional Fuel Delivery and Storage Pill Delivery and Storage Raw Material / Conventional Fuel Delivery and Storage Pill Delivery and Storage Raw Material / Conventional Fuel Delivery and Storage Pill Delivery and Storage Raw Material / Conventional Fuel Pill Delivery and Storage Pill Delivery and Storage Raw Material / Conventional Fuel Pill Delivery and Storage Pill Pill Pill Delivery and Storage Pill Delivery and Storage Pill Pill Pill Delivery and Storage Pill Pill Pill Pill Pill Pill Pill Pil	a 6.0	n/a	
FSSC FSSC-4 Raw material transfer from Screener to Conveyor Foundry Sand/Silica FSSC FSSC-5 Raw material transfer from Conveyor to Stacker Foundry Sand/Silica Foundry Sand/Silica FSSC FSSC-6 Drop of raw material from Stacker to Stockpile Foundry Sand/Silica Fuel Delivery and Storage Raw Material / Conventional Fuel Preparation Raw Material Preparation Prize Prize Delivery and Storage Raw Material / Conventional Fuel Preparation Prize Delivery and Storage Raw Material / Conventional Fuel Preparation Prize Delivery and Storage Raw Material / Conventional Fuel Preparation Prize Prize Delivery and Storage Prize Delivery and Storage Raw Material / Conventional Fuel Preparation Prize Prize Delivery and Storage Raw Material / Conventional Fuel Preparation Prize Delivery and Storage Raw Material Preparation Prize Delivery and S	a 6.0		see Table 5
FSSC FSSC-5 Raw material transfer from Conveyor to Stacker Foundry Sand/Silica Raw Material / Conventional Fuel Delivery and Storage FSSC-6 Drop of raw material from Stacker to Stockpile Foundry Sand/Silica Raw Material / Conventional Fuel Delivery and Storage Raw Material / Conventional Fuel Pull Fuel Fuel Fuel Fuel Fuel Fuel Fuel F	-	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 Raw Material Preparation n/a n/a n/a n/a n/a prili 04-1-411 Baghouse serving the raw material storage silos for raw mill (04-1-412) Raw Feed Raw Material Preparation n/a n/a n/a n/a n/a n/a prili 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 n/a n/a n/a n/a prili 04-1-412 Baghouse serving kiln feed silos (H1P41) Raw Feed Raw Material Preparation n/a n/a n/a n/a n/a n/a n/a n/a n/a n/	a 60	n/a	see Table 5
FSSC DG Diesel-fired engine servicing the raw material screener  - Raw Material / Conventional Fuel Perparation n/a	0.0	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 n/a n/a n/a n/a n/a n/a n/	a 6.0	n/a	see Table 5
HSILOS H1P41 Baghouse serving kiln feed silos (H1P41) Raw Feed Raw Material Preparation n/a n/a n/a n/b Raw Feed Raw Material Preparation n/a n/a n/b Raw Feed Raw Material Preparation n/a n/a n/b Raw Feed Raw Material Preparation n/a n/b n/b Raw Feed Raw Material Preparation n/a n/b n/b Raw Feed Raw Material Preparation n/b n/b n/b Raw Feed Raw Material Preparation n/b n/b n/b n/b n/b n/b n/b n/b n/b n/		n/a n/a	see Table 5
HSILOS H1P61 Baghouse serving kiin feed silos (H1P61) Raw Feed Raw Material Preparation n/a n/a n/a n/a n/a n/a n/a n/a n/a n/	a 27.0	n/a n/a	see Table 5
K1P11 Fuel mill bagnouse (K1P11) Conventional Fuel and Feed 1.0 20.0 0.  K1P31 K1P31 Fuel meal storage silo baghouse (K1P31) Conventional Fuel Conventional Fuel Preparation and Feed 1.5 20.0 0.  K1P41 K1P41 Baghouse serving the north auxiliary fuel silo (K1P41) Conventional Fuel Conventional Fuel Preparation and Feed 0.4 20.0 0.	a 27.0	n/a	see Table 5
K1P31 Conventional Fuel and Feed 1.5 20.0 0.0 Conventional Fuel Baghouse serving the north auxiliary fuel silo (K1P41) Conventional Fuel Conventional Fuel Preparation and Feed 0.4 20.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.		n/a	see Table 5
K1P41 K1P41 bagnouse serving the north auxiliary fuel silo (K1P41) Conventional Fuel and Feed 0.4 20.0 0.	3 22.5	n/a	see Table 5
Conventional Final Properties	3 26.0	n/a	see Table 5
GHOPPER G1P01 Gypsum Feed Hopper Baghouse (G1P01) Gypsum/Silica Fume and Feed 6.1 AMBIENT 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           KILNON         KILNON         KIINON         KIINON         Clinker Production         120.0         100.0         2           KIINOFE	7 111.0	n/a n/a	see Table 5
KILNON         KILN-B         Natual gas-fired back-end firing system         -         Clinker Production         120.0         100.0         2	7 111.0	n/a n/a	see Table 5 see Table 5 see Table 5
KILNOFF KILN-B Natual gas-fired back-end firing system  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 n/a n/a n/a n/a 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           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 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         0.0           CBH         WIP51         Clinker cooler baghouse (WIP51)         Clinker         Clinker Production         61.1         158.9         2.0	3 48.0	n/a n/a	see Table 5
W1P91 W1P91 Clinker reclaim hopper baghouse (W1P91) Clinker Clinker Production 6.1 AMBIENT 1.  PIT11 W1P101 Baghouse serving clinker truck loading/shipping (W1P101) Clinker Clinker Production n/a n/a n/a n/a	a 3.0	n/a 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 n/a n/a n/a n/a n/a n/a n/	a 3.0	n/a n/a	see Table 5
PIT11D OFC-1 Loading Point to Truck (offspec clinker) Clinker Clinker Production n/a n/a n/a n/a n/a n/a n/a n/a n/a n/	a 3.0	n/a 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 n/a n/1 N/2	a 3.0	n/a n/a	see Table 5
PIT11 OFC-5 Crushing (offspec clinker) Wet Clinker Clinker Production n/a n/a n/a n/a n/a n/a n/a n/a n/a n/	a 3.0	n/a 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 n/a n/a n/a n/a n/a n/a n/	a 3.0	n/a 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 n/a n/a n/a n/a n/a n/a n/	a 6.0	n/a n/a	see Table 5
BLSI Z1P11 Baghouse serving additive storage silos in finish mill building (Z1P11) Gypsum/Silica Fume Cement Production n/a n/a n/a n/a n/a n/a n/a n/a n/a n/	a 6.0	n/a 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, 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, PIT11 2TP191 Baghouse serving transfer of additive in finish mill building (7IP191) Cement Cement Production n/a n/a n, PIT11 07-1-492 Baghouse serving transfer of additive in finish mill building (7IP191) Cement Production n/a n/a n, PIT11 07-1-492 Baghouse serving transfer of additive in finish mill building (7IP191) Cement Production n/a n/a n, PIT11 07-1-492 Baghouse serving transfer of additive in finish mill building (7IP191) Cement Production n/a n/a n, PIT11 07-1-492 Baghouse serving transfer of additive in finish mill building (7IP191) Cement Production n/a n/a n, PIT11 07-1-492 Baghouse serving transfer of additive in finish mill building (7IP191) Cement Production n/a n/a n, PIT11 07-1-492 Baghouse serving transfer of additive in finish mill building (7IP191) Cement Production n/a n/a n, PIT11 07-1-492 Baghouse serving transfer of additive in finish mill building (7IP191) Cement Production n/a n/a n, PIT11 07-1-492 Baghouse serving transfer of additive in finish mill building (7IP191) Cement Production n/a n/a n, PIT11 07-1-492 Baghouse serving transfer of additive in finish mill building (7IP191) Cement Production n/a n/a n/a n/a n/a n/a n/a n/a n/a n/	a 3.0	n/a 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 n/a	see Table 5
BAML Z1P51 Finish mill baghouse (Z1P51) Cement Cement Production 62.8 99.9 2.  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 n/a	see Table 5
Z1P41   Z1P41   Baghouse serving transfer from finish mill (Z1P41)   Cement   Cement Production   1.4   20.0   0.0	a 10.0	n/a n/a	see Table 5
S200N Z1P81 Baghouse serving 200 series cement storage silos (Z1P81) Cement Cement Production n/a n/a n/a n/a S200N Z1P91 Baghouse serving 200 series cement storage silos (Z1P91) Cement Cement Production n/a n/a n/a n/a n/a n/a n/a n/a n/a n/	a 42.0	n/a n/a	see Table 5
S200N Z1P101 Baghouse serving 200 series cement storage silos (Z1P101) Cement Cement Production n/a n/a n/ S200N Z1P141 Baghouse serving 200 series cement storage silos (Z1P141) Cement Cement Production n/a n/a n/a n/a n/a n/a n/a n/a n/a n/	a 42.0	n/a n/a	see Table 5
S200N Z1P151 Baghouse serving 200 series cement storage silos (Z1P151) Cement Cement Production n/a n/a n, S200N Z1P171 Baghouse serving 200 series cement storage silos (Z1P171) Cement Cement Production n/a n/a n, S200N Z1P181 Baghouse serving 200 series cement storage silos (Z1P181) Cement Cement Production n/a n/a n, S200N Z1P181 Baghouse serving 200 series cement storage silos (Z1P181) Cement Cement Production n/a n/a n, S200N Z1P181 Baghouse serving 200 series cement storage silos (Z1P181) Cement Cement Production n/a n/a n, S200N Z1P181 Baghouse serving 200 series cement storage silos (Z1P181) Cement Cement Production n/a n/a n, S200N Z1P181 Baghouse serving 200 series cement storage silos (Z1P181) Cement Cement Production n/a n/a n, S200N Z1P181 Baghouse serving 200 series cement storage silos (Z1P181) Cement Cement Production n/a n/a n, S200N Z1P181 Baghouse serving 200 series cement storage silos (Z1P181) Cement Cement Production n/a n/a n, S200N Z1P181 Baghouse serving 200 series cement storage silos (Z1P181) Cement Cement Production n/a n/a n, S200N Z1P181 Baghouse serving 200 series cement storage silos (Z1P181) Cement Cement Production n/a n/a n, S200N Z1P181 Baghouse serving 200 series cement storage silos (Z1P181) Cement Cement Production n/a n/a n, S200N Z1P181 Baghouse serving 200 series cement storage silos (Z1P181) Cement Cement Production n/a n/a n, S200N Z1P181 Baghouse serving 200 series cement storage silos (Z1P181) Cement Cement Production n/a n/a n, S200N Z1P181 Baghouse serving 200 series cement storage silos (Z1P181) Cement Cement Production n/a n/a n, S200N Z1P181 Baghouse serving 200 series cement storage silos (Z1P181) Cement Cement Production n/a n/a n, S200N Z1P181 Baghouse serving 200 series cement storage silos (Z1P181) Cement Cement Production n/a n/a n, S200N Z1P181 Baghouse serving 200 series cement storage silos (Z1P181) Cement Cement Production n/a n/a n, S200N Z1P181 Baghouse serving 200N Z1P181 Baghouse serving 200N Z1P181 Baghouse serving 200N Z1P181 Baghouse serving 200	a 42.0	n/a n/a n/a	see Table 5 see Table 5 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	a 29.0	n/a	see Table 5
S500	a 29.0	n/a 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           S200N         09-1-192         Baghouse serving 200 series cement storage silos (09-1-192)         Cement         Cement Production         n/a         n/a         n/a	a 42.0	n/a 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           S200N         1-17-4         Baghouse serving 200 series cement storage silos (1-1704)         Cement         Cement Production         n/a         n/a         n/a	a 42.0	n/a n/a	see Table 5
S200S I-10-3 Baghouse serving 200 series cement storage silos (I-10-4) Cement Cement Production n/a n/a n/a n/a s200S I-10-4 Baghouse serving 200 series cement storage silos (I-10-4) Cement Cement Production n/a n/a n/a n/a n/a n/a n/a n/a n/a n/	a 10.0	n/a n/a	see Table 5
S200S 1-22 Baghouse serving 200 series cement storage silos (I-22) Cement Cement Production n/a n/a n/a n/a S340 Z1P161 Baghouse serving 300/400 series cement storage silos (Z1P161) Cement Cement Production n/a n/a n/a n/a n/a n/a n/a n/a n/a n/	a 19.5	n/a n/a	see Table 5
S340 I-59-3 Baghouse serving 300/400 series cement storage silos (I-59-3) Cement Cement Production n/a n/a n/a s340 09-1-075 Baghouse serving 300/400 series cement storage silos (09-1-075) Cement Cement Production n/a n/a n/a n/a n/a n/a n/a n/a n/a n/	a 19.5	n/a 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 n/a s5000 S500-CL Cement loading from silo into a Shipping tanker Cement Cement Production n/a n/a n/a n/a n/a n/a n/a n/a n/a n/	a 4.0	n/a n/a	see Table 5
S340 CPV-1 Baghouse serving packhouse 3 screw conveyor Cement Cement Production n/a	a 16.0	n/a n/a	see Table 5
PACK 09-1-407 Baghouse serving packhouse cement storage silos (09-1-407) Cement Cement Production n/a	a 16.0	n/a n/a	see Table 5
PACK 09-1-311 Baghouse serving packhouse cement storage silos (09-1-311) Cement Cement Production n/a	a 16.0	n/a 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 n/a PIT11 CNGB Natural gas-fired boilers (x3) in Core Building - Ancillary Operations n/a	a 3.0	n/a n/a	see Table 5 see Table 5
CBBOI         CBBOI         Dual fuel-fired Boiler         -         Ancillary Operations         n/a         n/a         n/a         n/a           JCBOI         JCBOI         No.2 fuel-fired boiler         -         Ancillary Operations         n/a         n/a         n/a	a 10.0	n/a n/a	see Table 5 see Table 5
TRBOI TRBOI Dual fuel-fired boiler - Ancillary Operations n/a n/a n/a		n/a	see Table 5
St. Marys Plant - CBM Operations	3 7.6	n/a n/a	see Table 5 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.  CBMST CBM-5B Natural gas-fired aggregate dryer controlled by a baghouse dust collector CBM Product CBM Operations 29.0 65.6 1.	5 20.0	n/a n/a	see Table 5 see Table 5
St. Marys Plant - CBM Operations  CBM-5A Natural gas-fired aggregate dryer controlled by a baghouse dust collector CBM Product CBM Operations 29.0 65.6 1.  CBMST CBM-5B Natural gas-fired aggregate dryer controlled by a baghouse dust collector CBM Product CBM Operations 29.0 65.6 1.  CBMSS CBM-6 Fines transfer from dryer to fines silo controlled by a bin vent filter CBM Operations 0.2 AMBIENT 0.  CBMDTENT CBM-8 Screening (no sizing, security screen, dryer tent) CBM Product CBM Operations n/a		n/a n/a	see Table 5
St. Marys Plant - CBM Operations  CBM-5A Natural gas-fired aggregate dryer controlled by a baghouse dust collector CBM Product CBM Operations 29.0 65.6 1.  CBMST CBM-5B Natural gas-fired aggregate dryer controlled by a baghouse dust collector CBM Product CBM Operations 29.0 65.6 1.  CBMFS CBM-6 Fines transfer from dryer to fines silo controlled by a bin vent filter CBM Product CBM Operations 0.2 AMBIENT 0.	a 5.0 a 5.0	n/a n/a	see Table 5

Table 30 - 3	ource Juilli	mary Table - Emissions Data									
Modelled	ESDM Source						Maximum Emission Rate	Averaging	Estimating	Emission	Percentage of Overall
Source	I.D.	Source Description	Materials	Process	Contaminant	CAS#	(g/s)	Period	Technique	Data Quality	Emissions (%)
KILNON	KILNON	Kiln stack - Raw Mill On Kiln stack - Raw Mill On	-	Clinker Production Clinker Production	Acenaphthene Acenaphthylene	83-32-9 208-96-8	5.20E-04 1.80E-03	24 hr 24 hr	ST ST	Above Average Above Average	100.0% 100.0%
KILNON	KILNON	Kiln stack - Raw Mill On Kiln stack - Raw Mill On	-	Clinker Production Clinker Production Clinker Production	Ammonia Anthracene	7664-41-7 120-12-7	4.56E-01 9.40E-04	24 hr 24 hr	ST ST	Above Average Above Average 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	МВ	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	МВ	Above Average	0.9%
PILES	PILES-1	Delivery and transfer of conventional fuel	Conventional Fuel	Raw Material / Conventional	Antimony	7440-36-0	5.32E-08	24 hr	МВ	Above Average	<0.1%
	11001			Fuel Delivery and Storage	,	7440 30 0	3.322 00	24111		/ Bove / Welage	-
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	МВ	Above Average	0.3%
K1P51	K1P51	Conventional fuel storage silo baghouse (K1P51)	Conventional Fuel	Raw Material / Conventional	Antimony	7440-36-0	4.48E-08	24 hr	МВ	Above Average	<0.1%
				Fuel Delivery and Storage	·						-
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	Antimony	7440-36-0	8.86E-08	24 hr	MB	Above Average	<0.1%
				Fuel Delivery and Storage  Raw Material / Conventional							
CLPT	CLPT-2	Front end loader transfer into truck	Clay/Momentive	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%
				Raw Material / Conventional							
FSSC	FSSC-2	Feed Hopper to raw material screener	Foundry Sand/Silica	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	МВ	Above Average	1.8%
				Raw Material / Conventional							
FSSC	FSSC-4	Raw material transfer from Screener to Conveyor	Foundry Sand/Silica	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%
				Raw Material / Conventional							
FSSCD	FSSC-6	Drop of raw material from Stacker to Stockpile	Foundry Sand/Silica	Fuel Delivery and Storage	Anumony	7440-36-0	1.39E-05	24 hr	MB	Above Average	9.7%
PIT11 PIT11	04-1-412	Baghouse serving the raw material storage silos for raw mill (04-1-411)  Baghouse serving the raw material storage silos for raw mill (04-1-412)  Baghouse soning kilo fead silos (41241)	Raw Feed Raw Feed	Raw Material Preparation Raw Material Preparation	Antimony Antimony	7440-36-0 7440-36-0	8.68E-08 1.01E-07	24 hr 24 hr	MB MB	Above Average  Above Average	<0.1% <0.1%
KILNON	H1P41 H1P51	Baghouse serving kiln feed silos (H1P41) Baghouse serving kiln feed silos (H1P51) Baghouse senving kiln feed silos (H1P61)	Raw Feed Raw Feed	Raw Material Preparation Raw Material Preparation	Antimony Antimony	7440-36-0 7440-36-0	2.63E-07 2.63E-07	24 hr 24 hr	MB MB	Above Average	0.2%
HSILOS K1P11	H1P61 K1P11	Baghouse serving kiln feed silos (H1P61) Fuel mill baghouse (K1P11)	Raw Feed Conventional Fuel	Raw Material Preparation  Conventional Fuel	Antimony	7440-36-0 7440-36-0	2.63E-07 1.63E-08	24 hr 24 hr	MB MB	Above Average  Above Average	0.2% <0.1%
K1P31	K1P31	Fuel meal storage silo baghouse (K1P31)	Conventional Fuel	Preparation and Feed Conventional Fuel	Antimony	7440-36-0	2.45E-08	24 hr	МВ	Above Average	<0.1%
K1P41	K1P41	Baghouse serving the north auxiliary fuel silo (K1P41)	Conventional Fuel	Preparation and Feed Conventional Fuel	Antimony	7440-36-0	6.40E-09	24 hr	MB	Above Average	<0.1%
GHOPPER	G1P01	Gypsum Feed Hopper Baghouse (G1P01)	Gypsum/Silica Fume	Preparation and Feed Conventional Fuel	Antimony	7440-36-0	1.77E-07	24 hr	МВ	Above Average	0.1%
05_1_412	05-1-412	Baghouse serving the kiln feed transfer to preheater tower (05-1-412) Kiln stack - Raw Mill On	Raw Feed	Preparation and Feed Clinker Production	Antimony	7440-36-0	2.31E-07	24 hr	MB	Above Average	0.2%
KILNON	KILNON	Delivery and shipping of Cement Kiln Dust (CKD) to/from storage piles	Cement Kiln Dust	Clinker Production Clinker Production	Antimony Antimony	7440-36-0 7440-36-0	7.00E-05 4.20E-08	24 hr 24 hr	ST MB	Above Average Above Average	<0.1%
PIT11 07_1_441	07-1-441	Baghouse serving south transfer tower (07-1-421) Baghouse serving north transfer tower (07-1-441)	Clinker Clinker	Clinker Production Clinker Production	Antimony	7440-36-0 7440-36-0	2.84E-07 1.71E-07	24 hr 24 hr	MB MB	Above Average Above Average	0.2%
07_1_450 CBH	07-1-450 W1P51	Baghouse serving north transfer tower (07-1-450)  Clinker cooler baghouse (W1P51)	Clinker Clinker	Clinker Production Clinker Production	Antimony Antimony	7440-36-0 7440-36-0	1.99E-07 3.71E-06	24 hr 24 hr	MB MB	Above Average Above Average	0.1% 2.6%
W1P91 PIT11	W1P91 W1P101	Clinker reclaim hopper baghouse (W1P91) Baghouse serving clinker truck loading/shipping (W1P101)	Clinker Clinker	Clinker Production Clinker Production	Antimony Antimony	7440-36-0 7440-36-0	3.70E-07 2.37E-07	24 hr 24 hr	MB MB	Above Average Above Average	0.3%
PIT11D PIT11D	PIT11-22 PIT11-23	Transfer of clinker into Tee-Pee storage area Clinker transfer into a hopper	Clinker Clinker	Clinker Production Clinker Production	Antimony Antimony	7440-36-0 7440-36-0	9.94E-07 5.10E-07	24 hr 24 hr	MB MB	Above Average Above Average	0.7%
PIT11D PIT11D	OFC-1 OFC-2	Loading Point to Truck (offspec clinker) Truck to Pre-Crushing Stockpiles (offspec clinker)	Clinker Wet Clinker	Clinker Production Clinker Production	Antimony Antimony	7440-36-0 7440-36-0	1.27E-05 1.26E-06	24 hr 24 hr	MB MB	Above Average Above Average	0.9%
PIT11D PIT11	OFC-3 OFC-4	Front-end Loader to Feed Hopper (offspec clinker) Feeder to Crusher (offspec clinker)	Wet Clinker Wet Clinker	Clinker Production Clinker Production	Antimony Antimony	7440-36-0 7440-36-0	1.26E-06 1.48E-08	24 hr 24 hr	MB MB	Above Average Above Average	0.9% <0.1%
PIT11 PIT11	OFC-5 OFC-6	Crushing (offspec clinker) Crusher to Discharge Conveyor (offspec clinker)	Wet Clinker Wet Clinker	Clinker Production Clinker Production	Antimony Antimony	7440-36-0 7440-36-0	1.26E-07 1.48E-08	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% <0.1%
PIT11D PIT11D	OFC-7 OFC-8	Discharge Conveyor to Crushed Stockpile (offspec clinker) Front-end Loader to Storage Stockpile (offspec clinker)	Wet Clinker Wet Clinker	Clinker Production Clinker Production	Antimony Antimony	7440-36-0 7440-36-0	1.26E-06 1.26E-06	24 hr 24 hr	MB MB	Above Average Above Average	0.9%
BLSI BLSI	Z1P01 Z1P11	Baghouse serving additive storage silos in finish mill building (Z1P01) Baghouse serving additive storage silos in finish mill building (Z1P11)	Gypsum/Silica Fume Gypsum/Silica Fume	Cement Production Cement Production	Antimony Antimony	7440-36-0 7440-36-0	8.06E-08 8.06E-08	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% <0.1%
BLSI PIT11	Z1P21 07-1-491	Baghouse serving additive storage silos in finish mill building (Z1P21) Baghouse serving additive storage silos in finish mill building (07-1-491)	Gypsum/Silica Fume Gypsum/Silica Fume	Cement Production Cement Production	Antimony Antimony	7440-36-0 7440-36-0	8.06E-08 7.66E-08	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% <0.1%
PIT11 PIT11	07-1-492 Z1P191	Baghouse serving additive storage silos in finish mill building (07-1-492) Baghouse serving transfer of additive in finish mill building (Z1P191)	Gypsum/Silica Fume Cement	Cement Production Cement Production	Antimony Antimony	7440-36-0 7440-36-0	4.79E-08 1.60E-07	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% 0.1%
Z1P31 BAML	Z1P31 Z1P51	Baghouse serving transfer into finish mill (Z1P31) Finish mill baghouse (Z1P51)	Cement Cement	Cement Production Cement Production	Antimony Antimony	7440-36-0 7440-36-0	9.28E-08 7.24E-06	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% 5.0%
BAML Z1P41	Z1P61 Z1P41	Baghouse for transfer of cement to storage silo in finish mill building (Z1P61) Baghouse serving transfer from finish mill (Z1P41)	Cement Cement	Cement Production Cement Production	Antimony Antimony	7440-36-0 7440-36-0	1.60E-07 8.01E-08	24 hr 24 hr	MB MB	Above Average Above Average	0.1% <0.1%
S200S S200N	Z1P71 Z1P81	Baghouse serving transfer from finish mill (Z1P71) Baghouse serving 200 series cement storage silos (Z1P81)	Cement Cement	Cement Production Cement Production	Antimony Antimony	7440-36-0 7440-36-0	2.42E-08 2.54E-08	24 hr 24 hr	MB MB	Above Average Above Average	<0.1%
S200N S200N	Z1P91 Z1P101	Baghouse serving 200 series cement storage silos (Z1P91) Baghouse serving 200 series cement storage silos (Z1P101)	Cement Cement	Cement Production Cement Production	Antimony Antimony	7440-36-0 7440-36-0	2.54E-08 2.54E-08	24 hr 24 hr	MB MB	Above Average Above Average	<0.1%
S200N S200N	Z1P141 Z1P151	Baghouse serving 200 series cement storage silos (Z1P141) Baghouse serving 200 series cement storage silos (Z1P151)	Cement Cement	Cement Production Cement Production	Antimony Antimony	7440-36-0 7440-36-0	1.28E-07 1.28E-07	24 hr 24 hr	MB MB	Above Average Above Average	<0.1%
S200N S200N	Z1P171 Z1P181	Baghouse serving 200 series cement storage silos (Z1P171) Baghouse serving 200 series cement storage silos (Z1P181)	Cement Cement	Cement Production Cement Production	Antimony Antimony	7440-36-0 7440-36-0	1.28E-07 8.07E-08	24 hr 24 hr	MB MB	Above Average Above Average	<0.1%
\$500 \$500	09-1-148 09-1-158	Baghouse serving 200 series cement storage silos (09-1-148) Baghouse serving 200 series cement storage silos (09-1-158)	Cement Cement	Cement Production Cement Production	Antimony Antimony	7440-36-0 7440-36-0	1.62E-07 1.62E-07	24 hr 24 hr	MB MB	Above Average Above Average	0.1%
\$500 \$200N	09-1-168	Baghouse serving 200 series cement storage silos (109-1-168) Baghouse serving 200 series cement storage silos (09-1-189)	Cement Cement	Cement Production Cement Production	Antimony Antimony	7440-36-0 7440-36-0	1.62E-07 1.08E-07	24 hr 24 hr	MB MB	Above Average Above Average	0.1% <0.1%
\$200N \$200N	09-1-192	Baghouse serving 200 series cement storage silos (09-1-192) Baghouse serving 200 series cement storage silos (09-1-193)	Cement Cement	Cement Production Cement Production	Antimony Antimony	7440-36-0 7440-36-0	1.62E-07 9.45E-08	24 hr 24 hr	MB MB	Above Average Above Average	0.1% <0.1%
\$200N \$200S \$200S	1-17-4 I-10-3 I-10-4	Baghouse serving 200 series cement storage silos (I-1704) Baghouse serving 200 series cement storage silos (I-10-3) Baghouse serving 200 series cement storage silos (I-10-4)	Cement Cement Cement	Cement Production Cement Production Cement Production	Antimony Antimony Antimony	7440-36-0 7440-36-0 7440-36-0	6.74E-08 5.42E-09 5.42E-08	24 hr 24 hr 24 hr	MB MB	Above Average	<0.1% <0.1% <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 Above Average	0.2%
\$340 \$340 \$340	Z1P161 I-59-3 09-1-075	Baghouse serving 300/400 series cement storage silos (Z1P161) Baghouse serving 300/400 series cement storage silos (1-59-3) Baghouse serving 300/400 series cement storage silos (09-1-075)	Cement Cement Cement	Cement Production Cement Production Cement Production	Antimony Antimony Antimony	7440-36-0 7440-36-0 7440-36-0	1.28E-07 2.02E-07 3.34E-08	24 hr 24 hr 24 hr	MB MB	Above Average Above Average Above Average	<0.1% 0.1% <0.1%
\$500 \$500D	09-1-075 09-1-301 S500-CL	Baghouse serving 300/400 series cement storage silos (09-1-075) Baghouse serving 300/400 series cement storage silos (09-1-301) Cement loading from silo into a shipping tanker	Cement Cement	Cement Production Cement Production Cement Production	Antimony Antimony Antimony	7440-36-0 7440-36-0 7440-36-0	9.45E-08 3.39E-06	24 hr 24 hr 24 hr	MB MB	Above Average Above Average Above Average	<0.1%
S340 PACK	CPV-1 09-1-497	Baghouse serving packhouse 3 screw conveyor Baghouse serving packhouse cement storage silos (09-1-497)	Cement Cement	Cement Production  Cement Production  Cement Production	Antimony Antimony	7440-36-0 7440-36-0 7440-36-0	1.90E-08 1.35E-07	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% <0.1%
PACK PACK	09-1-407 09-1-670	Baghouse serving packhouse cement storage silos (09-1-407) Baghouse serving packhouse cement storage silos (09-1-670)	Cement Cement	Cement Production  Cement Production  Cement Production	Antimony Antimony	7440-36-0 7440-36-0	1.35E-07 1.35E-07 5.40E-07	24 hr 24 hr	MB MB	Above Average Above Average Above Average	<0.1% <0.1% 0.4%
PACK	09-1-311	Baghouse serving packhouse cement storage silos (09-1-311)	Cement	Cement Production Limestone Extraction &	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	Processing Limestone Extraction &	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	Processing Limestone Extraction &	Arsenic	7440-38-2	2.60E-07	24 hr	MB	Above Average	<0.1%
PPILE	PPILE	Transfer of limestone onto primary surge pile	Limestone	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	МВ	Above Average	<0.1%
PILES	PILES-2	Delivery and transfer of raw materials	Raw Feed	Raw Material / Conventional	Arsenic	7440-38-2	7.74E-06	24 hr	МВ	Above Average	0.4%
				Fuel Delivery and Storage						0-	
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	МВ	Above Average	<0.1%
RAWS	04-1-401	Raw material storage silo baghouse (04-1-401)	Raw Feed	Raw Material / Conventional	Arsenic	7440-38-2	4.95E-06	24 hr	МВ	Above Average	0.3%
				Fuel Delivery and Storage							-
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	Arsenic	7440-38-2	7.83E-07	24 hr	МВ	Above Average	<0.1%
			· 	Fuel Delivery and Storage							-
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	МВ	Above Average	25.0%
FSSC	FSSC-2	Feed Hopper to raw material screener	Foundry Sand/Silica	Raw Material / Conventional	Arsenic	7440-38-2	5.36E-06	24 hr	МВ	Above Average	0.3%
				Fuel Delivery and Storage							
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	МВ	Above Average	4.6%
FSSC	FSSC-4	Raw material transfer from Screener to Conveyor	Foundry Sand/Silica	Raw Material / Conventional	Arsenic	7440-38-2	5.36E-06	24 hr	МВ	Above Average	0.3%
		,	,	Fuel Delivery and Storage		55-2					<u> </u>
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	МВ	Above Average	0.3%
FSSCD	FSSC-6	Drop of raw material from Stacker to Stockpile	Foundry Sand/Silica	Raw Material / Conventional	Arsenic	7440-38-2	4.58E-04	24 hr	MB	Above Average	25.0%
PIT11		Baghouse serving the raw material storage silos for raw mill (04-1-411)	Raw Feed	Fuel Delivery and Storage  Raw Material Preparation	Arsenic	7440-38-2	1.65E-06	24 hr	MB	Above Average	<0.1%
PIT11 KILNON	04-1-412 H1P41	Baghouse serving the raw material storage silos for raw mill (04-1-412) Baghouse serving kiln feed silos (H1P41)	Raw Feed Raw Feed	Raw Material Preparation Raw Material Preparation	Arsenic Arsenic	7440-38-2 7440-38-2	1.92E-06 5.01E-06	24 hr 24 hr	MB MB	Above Average Above Average	0.1%
KILNOFF HSILOS	H1P51	Baghouse serving kiln feed silos (H1P51) Baghouse serving kiln feed silos (H1P61)	Raw Feed Raw Feed	Raw Material Preparation Raw Material Preparation	Arsenic Arsenic	7440-38-2 7440-38-2	5.01E-06 5.01E-06	24 hr 24 hr	MB MB	Above Average Above Average	0.3%
K1P11	K1P11	Fuel mill baghouse (K1P11)	Conventional Fuel	Conventional Fuel Preparation and Feed	Arsenic	7440-38-2	4.39E-08	24 hr	MB	Above Average	<0.1%
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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 K1P41	K1P31 K1P41	Fuel meal storage silo baghouse (K1P31)  Baghouse serving the north auxiliary fuel silo (K1P41)	Conventional Fuel	Conventional Fuel Preparation and Feed Conventional Fuel	Arsenic Arsenic	7440-38-2 7440-38-2	6.58E-08 1.72E-08	24 hr 24 hr	MB MB	Above Average  Above Average	<0.1%
GHOPPER	G1P01	Gypsum Feed Hopper Baghouse (G1P01)	Gypsum/Silica Fume	Preparation and Feed Conventional Fuel Preparation and Feed	Arsenic	7440-38-2	1.34E-06	24 hr	МВ	Above Average	<0.1%
05_1_412 KILNON CKD	05-1-412 KILNON CKD	Baghouse serving the kiln feed transfer to preheater tower (05-1-412) Kiln stack - Raw Mill On Delivery and shipping of Cement Kiln Dust (CKD) to/from storage piles	Raw Feed - Cement Kiln Dust	Clinker Production Clinker Production Clinker Production	Arsenic Arsenic Arsenic	7440-38-2 7440-38-2 7440-38-2	4.40E-06 3.67E-05 7.99E-07	24 hr 24 hr 24 hr	MB ST MB	Above Average Above Average Above Average	0.2% 2.0% <0.1%
PIT11 07_1_441 07_1_450		Baghouse serving south transfer tower (07-1-421) Baghouse serving north transfer tower (07-1-441) Baghouse serving north transfer tower (07-1-450)	Clinker Clinker Clinker	Clinker Production Clinker Production Clinker Production	Arsenic Arsenic Arsenic	7440-38-2 7440-38-2 7440-38-2	5.40E-06 3.24E-06 3.78E-06	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	0.3% 0.2% 0.2%
CBH W1P91 PIT11	W1P51 W1P91 W1P101	Clinker cooler baghouse (W1P51)  Clinker reclaim hopper baghouse (W1P91)  Baghouse serving clinker truck loading/shipping (W1P101)	Clinker Clinker Clinker	Clinker Production Clinker Production Clinker Production	Arsenic Arsenic Arsenic	7440-38-2 7440-38-2 7440-38-2	7.04E-05 7.03E-06 4.50E-06	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	3.8% 0.4% 0.2%
PIT11D PIT11D	PIT11-22 PIT11-23	Transfer of clinker into Tee-Pee storage area Clinker transfer into a hopper	Clinker Clinker	Clinker Production Clinker Production	Arsenic Arsenic	7440-38-2 7440-38-2	1.89E-05 9.68E-06	24 hr 24 hr	MB MB	Above Average Above Average	1.0% 0.5%
PIT11D PIT11D PIT11D	OFC-1 OFC-2 OFC-3	Loading Point to Truck (offspec clinker) Truck to Pre-Crushing Stockpiles (offspec clinker) Front-end Loader to Feed Hopper (offspec clinker)	Clinker Wet Clinker Wet Clinker	Clinker Production Clinker Production Clinker Production	Arsenic Arsenic Arsenic	7440-38-2 7440-38-2 7440-38-2	2.42E-04 2.40E-05 2.40E-05	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	13.2% 1.3% 1.3%
PIT11 PIT11 PIT11	OFC-4 OFC-5 OFC-6	Feeder to Crusher (offspec clinker) Crushing (offspec clinker) Crusher to Discharge Conveyor (offspec clinker)	Wet Clinker Wet Clinker Wet Clinker	Clinker Production Clinker Production Clinker Production	Arsenic Arsenic Arsenic	7440-38-2 7440-38-2 7440-38-2	2.80E-07 2.40E-06 2.80E-07	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	<0.1% 0.1% <0.1%
PIT11D PIT11D BLSI	OFC-7 OFC-8 Z1P01	Discharge Conveyor to Crushed Stockpile (offspec clinker) Front-end Loader to Storage Stockpile (offspec clinker) Baghouse serving additive storage silos in finish mill building (Z1P01)	Wet Clinker Wet Clinker Gypsum/Silica Fume	Clinker Production Clinker Production Cement Production	Arsenic Arsenic Arsenic	7440-38-2 7440-38-2 7440-38-2	2.40E-05 2.40E-05 6.12E-07	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	1.3% 1.3% <0.1%
BLSI BLSI PIT11	Z1P11 Z1P21 07-1-491	Baghouse serving additive storage silos in finish mill building (Z1P11) Baghouse serving additive storage silos in finish mill building (Z1P21) Baghouse serving additive storage silos in finish mill building (07-1-491)	Gypsum/Silica Fume Gypsum/Silica Fume Gypsum/Silica Fume	Cement Production Cement Production Cement Production	Arsenic Arsenic Arsenic	7440-38-2 7440-38-2 7440-38-2	6.12E-07 6.12E-07 5.81E-07	24 hr 24 hr 24 hr	MB MB	Above Average Above Average	<0.1% <0.1% <0.1%
PIT11 PIT11	07-1-492 Z1P191	Baghouse serving additive storage silos in finish mill building (07-1-492) Baghouse serving transfer of additive in finish mill building (Z1P191)	Gypsum/Silica Fume Cement	Cement Production Cement Production	Arsenic Arsenic	7440-38-2 7440-38-2	3.63E-07 2.98E-06	24 hr 24 hr	MB MB	Above Average Above Average Above Average	<0.1% 0.2%
Z1P31 BAML BAML	Z1P31 Z1P51 Z1P61	Baghouse serving transfer into finish mill (Z1P31) Finish mill baghouse (Z1P51) Baghouse for transfer of cement to storage silo in finish mill building (Z1P61)	Cement Cement Cement	Cement Production Cement Production Cement Production	Arsenic Arsenic Arsenic	7440-38-2 7440-38-2 7440-38-2	1.73E-06 1.35E-04 2.98E-06	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	<0.1% 7.3% 0.2%
Z1P41 S200S S200N		Baghouse serving transfer from finish mill (Z1P41) Baghouse serving transfer from finish mill (Z1P71) Baghouse serving 200 series cement storage silos (Z1P81)	Cement Cement Cement	Cement Production Cement Production Cement Production	Arsenic Arsenic Arsenic	7440-38-2 7440-38-2 7440-38-2	1.49E-06 4.50E-07 4.71E-07	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	<0.1% <0.1% <0.1%
\$200N \$200N \$200N	Z1P91 Z1P101 Z1P141	Baghouse serving 200 series cement storage silos (ZIP91) Baghouse serving 200 series cement storage silos (ZIP101) Baghouse serving 200 series cement storage silos (ZIP141)	Cement Cement Cement	Cement Production Cement Production Cement Production	Arsenic Arsenic Arsenic	7440-38-2 7440-38-2 7440-38-2	4.71E-07 4.71E-07 2.38E-06	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	<0.1% <0.1% 0.1%
S200N S200N	Z1P151 Z1P171	Baghouse serving 200 series cement storage silos (Z1P151) Baghouse serving 200 series cement storage silos (Z1P171)	Cement Cement	Cement Production Cement Production	Arsenic Arsenic	7440-38-2 7440-38-2	2.38E-06 2.38E-06	24 hr 24 hr	MB MB	Above Average Above Average	0.1% 0.1%
\$200N \$500 \$500	Z1P181 09-1-148 09-1-158	Baghouse serving 200 series cement storage silos (Z1P181) Baghouse serving 200 series cement storage silos (09-1-148) Baghouse serving 200 series cement storage silos (09-1-158)	Cement Cement Cement	Cement Production Cement Production Cement Production	Arsenic Arsenic Arsenic	7440-38-2 7440-38-2 7440-38-2	1.50E-06 3.01E-06 3.01E-06	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	<0.1% 0.2% 0.2%
\$500 \$200N \$200N	09-1-168 09-1-189 09-1-192	Baghouse serving 200 series cement storage silos (I09-1-168) Baghouse serving 200 series cement storage silos (09-1-189) Baghouse serving 200 series cement storage silos (09-1-192)	Cement Cement Cement	Cement Production Cement Production Cement Production	Arsenic Arsenic Arsenic	7440-38-2 7440-38-2 7440-38-2	3.01E-06 2.00E-06 3.01E-06	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	0.2% 0.1% 0.2%
\$200N \$200N \$200S	09-1-193 1-17-4	Baghouse serving 200 series cement storage silos (09-1-193) Baghouse serving 200 series cement storage silos (1-1704) Baghouse serving 200 series cement storage silos (1-10-3)	Cement Cement Cement	Cement Production Cement Production Cement Production	Arsenic Arsenic Arsenic	7440-38-2 7440-38-2 7440-38-2	1.76E-06 1.25E-06 1.01E-07	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	<0.1% <0.1% <0.1%
\$200\$ \$200\$ \$200\$ \$340	I-10-3 I-10-4 I-22 Z1P161	Baghouse serving 200 series cement storage silos (I-10-4) Baghouse serving 200 series cement storage silos (I-10-4) Baghouse serving 300/400 series cement storage silos (I-22) Baghouse serving 300/400 series cement storage silos (I-22)	Cement Cement Cement	Cement Production Cement Production Cement Production Cement Production	Arsenic Arsenic Arsenic	7440-38-2 7440-38-2 7440-38-2	1.01E-07 1.01E-06 5.01E-06 2.38E-06	24 hr 24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average	<0.1% <0.1% 0.3% 0.1%
S340 S340	I-59-3 09-1-075	Baghouse serving 300/400 series cement storage silos (I-59-3) Baghouse serving 300/400 series cement storage silos (09-1-075)	Cement Cement	Cement Production Cement Production	Arsenic Arsenic	7440-38-2 7440-38-2	3.76E-06 6.21E-07	24 hr 24 hr	MB MB	Above Average Above Average Above Average	0.2% <0.1%
\$500 \$500D \$340	09-1-301 S500-CL CPV-1	Baghouse serving 300/400 series cement storage silos (09-1-301)  Cement loading from silo into a shipping tanker  Baghouse serving packhouse 3 screw conveyor	Cement Cement Cement	Cement Production Cement Production Cement Production	Arsenic Arsenic Arsenic	7440-38-2 7440-38-2 7440-38-2	1.76E-06 6.30E-05 3.54E-07	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	<0.1% 3.4% <0.1%
PACK PACK PACK	09-1-497 09-1-407 09-1-670	Baghouse serving packhouse cement storage silos (09-1-497) Baghouse serving packhouse cement storage silos (09-1-407) Baghouse serving packhouse cement storage silos (09-1-670)	Cement Cement Cement	Cement Production Cement Production Cement Production	Arsenic Arsenic Arsenic	7440-38-2 7440-38-2 7440-38-2	2.51E-06 2.51E-06 1.00E-05	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	0.1% 0.1% 0.5%
PACK A_16_4	09-1-311 A-16-4	Baghouse serving packhouse cement storage silos (09-1-311)  Baghouse serving the secondary crusher (A-16-4)	Cement Limestone	Cement Production Limestone Extraction &	Arsenic Barium	7440-38-2 7440-39-3	2.51E-06 1.44E-05	24 hr	MB MB	Above Average  Above Average	0.1%
A_15_5	A-15-5	Baghouse serving the secondary screen (A-15-5)	Limestone	Processing Limestone Extraction & Processing	Barium	7440-39-3	6.33E-06	24 hr	МВ	Above Average	<0.1%
PPILE	PPILE	Transfer of limestone onto primary surge pile	Limestone	Processing	Barium	7440-39-3	1.02E-04	24 hr	МВ	Above Average	1.2%
PILES	PILES-1	Delivery and transfer of conventional fuel	Conventional Fuel	Raw Material / Conventiona Fuel Delivery and Storage	Barrum	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 / Conventiona Fuel Delivery and Storage	Barium	7440-39-3	4.95E-05	24 hr	МВ	Above Average	0.6%
K1P51	K1P51	Conventional fuel storage silo baghouse (K1P51)	Conventional Fuel	Raw Material / Conventiona Fuel Delivery and Storage	Barium	7440-39-3	1.48E-06	24 hr	МВ	Above Average	<0.1%
RAWS	04-1-401	Raw material storage silo baghouse (04-1-401)	Raw Feed	Raw Material / Conventiona Fuel Delivery and Storage	Barium	7440-39-3	3.17E-05	24 hr	МВ	Above Average	0.4%
CLPT	CLPT-1	Scraper from face onto a pile	Clay/Momentive	Raw Material / Conventiona Fuel Delivery and Storage	Barium	7440-39-3	2.04E-05	24 hr	МВ	Above Average	0.2%
CLPT	CLPT-2	Front end loader transfer into truck	Clay/Momentive	Raw Material / Conventiona Fuel Delivery and Storage	Barium	7440-39-3	2.04E-05	24 hr	МВ	Above Average	0.2%
FSSCD	FSSC-1	Front-end Loader to Feed Hopper for raw material screen	Foundry Sand/Silica	Raw Material / Conventiona Fuel Delivery and Storage	Barium	7440-39-3	6.12E-04	24 hr	МВ	Above Average	7.1%
FSSC	FSSC-2	Feed Hopper to raw material screener	Foundry Sand/Silica	Raw Material / Conventiona Fuel Delivery and Storage	Barium	7440-39-3	7.16E-06	24 hr	МВ	Above Average	<0.1%
FSSC	FSSC-3	Raw material screening	Foundry Sand/Silica	Raw Material / Conventiona	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	Fuel Delivery and Storage  Raw Material / Conventiona	Barium	7440-39-3	7.16E-06	24 hr	MB	Above Average	<0.1%
			Foundry Sand/Silica	Fuel Delivery and Storage  Raw Material / Conventiona							<0.1%
FSSC		Raw material transfer from Conveyor to Stacker	·	Fuel Delivery and Storage  Raw Material / Conventiona		7440-39-3	7.16E-06	24 hr	MB	Above Average	
FSSCD PIT11		Drop of raw material from Stacker to Stockpile  Baghouse serving the raw material storage silos for raw mill (04-1-411)	Foundry Sand/Silica Raw Feed	Fuel Delivery and Storage  Raw Material Preparation	Barium Barium	7440-39-3 7440-39-3	6.12E-04 1.06E-05	24 hr 24 hr	MB MB	Above Average  Above Average	7.1%
PIT11 HSILOS HSILOS	04-1-412 H1P41 H1P51	Baghouse serving kin feed silos (H1P51) Baghouse serving kiln feed silos (H1P51)	Raw Feed Raw Feed Raw Feed	Raw Material Preparation Raw Material Preparation Raw Material Preparation	Barium Barium Barium	7440-39-3 7440-39-3 7440-39-3	1.23E-05 3.21E-05 3.21E-05	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	0.1% 0.4% 0.4%
HSILOS K1P11		Baghouse serving kiln feed silos (H1P61) Fuel mill baghouse (K1P11)	Raw Feed Conventional Fuel	Raw Material Preparation Conventional Fuel Preparation and Feed	Barium Barium	7440-39-3 7440-39-3	3.21E-05 5.41E-07	24 hr 24 hr	MB MB	Above Average  Above Average	0.4%
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 GHOPPER	K1P41 G1P01	Baghouse serving the north auxiliary fuel silo (K1P41)  Gypsum Feed Hopper Baghouse (G1P01)	Conventional Fuel  Gypsum/Silica Fume	Conventional Fuel Preparation and Feed Conventional Fuel	Barium Barium	7440-39-3 7440-39-3	2.12E-07 7.33E-06	24 hr 24 hr	MB MB	Above Average  Above Average	<0.1%
05_1_412 KILNON		Baghouse serving the kiln feed transfer to preheater tower (05-1-412) Klin stack - Raw Mill On	Raw Feed	Preparation and Feed Clinker Production Clinker Production	Barium Barium	7440-39-3 7440-39-3 7440-39-3	2.82E-05 2.13E-03	24 hr 24 hr 24 hr	MB ST	Above Average Above Average	0.3%
CKD PIT11 07_1_441	CKD 07-1-421 07-1-441	Delivery and shipping of Cement Kiln Dust (CKD) to/from storage piles Baghouse serving south transfer tower (07-1-421) Baghouse serving north transfer tower (07-1-441)	Cement Kiln Dust Clinker Clinker	Clinker Production Clinker Production Clinker Production	Barium Barium Barium	7440-39-3 7440-39-3 7440-39-3	5.11E-06 3.45E-05 2.07E-05	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	<0.1% 0.4% 0.2%
07_1_450 CBH		baginuse serving north transfer tower (07-1-441) Baghouse serving north transfer tower (07-1-450) Clinker cooler baghouse (W1P51) Clinker reclaim hopper baghouse (W1P91)	Clinker Clinker Clinker	Clinker Production Clinker Production	Barium Barium Barium	7440-39-3 7440-39-3 7440-39-3	2.42E-05 4.51E-04 4.50E-05	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average	0.2% 0.3% 5.2% 0.5%
W1P91 PIT11 PIT11D	W1P101 PIT11-22	Baghouse serving clinker truck loading/shipping (W1P101) Transfer of clinker into Tee-Pee storage area	Clinker Clinker	Clinker Production Clinker Production Clinker Production	Barium Barium	7440-39-3 7440-39-3	2.88E-05 1.21E-04	24 hr 24 hr	MB MB	Above Average Above Average Above Average	0.3% 1.4%
PIT11D PIT11D PIT11D	PIT11-23 OFC-1 OFC-2	Clinker transfer into a hopper Loading Point to Truck (offspec clinker) Truck to Pre-Crushing Stockpiles (offspec clinker)	Clinker Clinker Wet Clinker	Clinker Production Clinker Production Clinker Production	Barium Barium Barium	7440-39-3 7440-39-3 7440-39-3	6.20E-05 1.55E-03 1.53E-04	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	0.7% 18.0% 1.8%
PIT11D PIT11 PIT11	OFC-3 OFC-4	Front-end Loader to Feed Hopper (offspec clinker) Feeder to Crusher (offspec clinker) Crushing (offspec clinker)	Wet Clinker Wet Clinker Wet Clinker	Clinker Production Clinker Production Clinker Production	Barium Barium Barium	7440-39-3 7440-39-3 7440-39-3	1.53E-04 1.79E-06 1.54E-05	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	1.8% <0.1% 0.2%
PIT11 PIT11D	OFC-6 OFC-7	Crusher to Discharge Conveyor (offspec clinker) Discharge Conveyor to Crushed Stockpile (offspec clinker)	Wet Clinker Wet Clinker	Clinker Production Clinker Production	Barium Barium	7440-39-3 7440-39-3	1.79E-06 1.53E-04	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% 1.8%
PIT11D BLSI BLSI	Z1P11	Front-end Loader to Storage Stockpile (offspec clinker) Baghouse serving additive storage silos in finish mill building (Z1P01) Baghouse serving additive storage silos in finish mill building (Z1P11)	Wet Clinker Gypsum/Silica Fume Gypsum/Silica Fume	Clinker Production Cement Production Cement Production	Barium Barium Barium	7440-39-3 7440-39-3 7440-39-3	1.53E-04 3.34E-06 3.34E-06	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	1.8% <0.1% <0.1%
BLSI PIT11 PIT11	Z1P21 07-1-491 07-1-492	Baghouse serving additive storage silos in finish mill building (Z1P21) Baghouse serving additive storage silos in finish mill building (07-1-491) Baghouse serving additive storage silos in finish mill building (07-1-492)	Gypsum/Silica Fume Gypsum/Silica Fume Gypsum/Silica Fume	Cement Production Cement Production Cement Production	Barium Barium Barium	7440-39-3 7440-39-3 7440-39-3	3.34E-06 3.17E-06 1.98E-06	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	<0.1% <0.1% <0.1%
PIT11 Z1P31 BAML	Z1P191	Baghouse serving transfer of additive in finish mill building (Z1P191) Baghouse serving transfer into finish mill (Z1P31) Finish mill baghouse (Z1P51)	Cement Cement Cement	Cement Production Cement Production Cement Production	Barium Barium Barium	7440-39-3 7440-39-3 7440-39-3	1.91E-05 1.11E-05 8.65E-04	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	0.2% 0.1% 10.1%
BAML Z1P41	Z1P61 Z1P41	Baghouse serving transfer of cement to storage silo in finish mill building (21P61) Baghouse serving transfer from finish mill (21P41) Baehouse serving transfer from finish mill (21P71)	Cement Cement Cement	Cement Production  Cement Production  Cement Production  Cement Production	Barium Barium Barium	7440-39-3 7440-39-3 7440-39-3	1.91E-05 9.57E-06	24 hr 24 hr	MB MB MB	Above Average Above Average	0.1% 0.2% 0.1% <0.1%
\$200S \$200N \$200N	Z1P81 Z1P91	Baghouse serving 200 series cement storage silos (Z1P81) Baghouse serving 200 series cement storage silos (Z1P91)	Cement Cement	Cement Production Cement Production	Barium Barium	7440-39-3 7440-39-3	2.89E-06 3.03E-06 3.03E-06	24 hr 24 hr 24 hr	MB MB	Above Average Above Average Above Average	<0.1% <0.1%
S200N S200N S200N	Z1P141 Z1P151	Baghouse serving 200 series cement storage silos (Z1P101) Baghouse serving 200 series cement storage silos (Z1P141) Baghouse serving 200 series cement storage silos (Z1P151)	Cement Cement Cement	Cement Production Cement Production Cement Production	Barium Barium Barium	7440-39-3 7440-39-3 7440-39-3	3.03E-06 1.53E-05 1.53E-05	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	<0.1% 0.2% 0.2%
S200N S200N S500	Z1P171 Z1P181	Baghouse serving 200 series cement storage silos (ZIP171) Baghouse serving 200 series cement storage silos (ZIP181) Baghouse serving 200 series cement storage silos (09-1-148)	Cement Cement Cement	Cement Production Cement Production Cement Production	Barium Barium Barium	7440-39-3 7440-39-3 7440-39-3	1.53E-05 9.64E-06 1.93E-05	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	0.2% 0.1% 0.2%
\$500 \$500		Baghouse serving 200 series cement storage silos (09-1-16) Baghouse serving 200 series cement storage silos (109-1-168) Baghouse serving 200 series cement storage silos (109-1-168) Baghouse serving 200 series cement storage silos (109-1-168)	Cement Cement Cement	Cement Production  Cement Production  Cement Production  Cement Production	Barium Barium Barium	7440-39-3 7440-39-3	1.93E-05 1.93E-05	24 hr 24 hr	MB MB MB	Above Average Above Average	0.2% 0.2% 0.2% 0.1%
\$200N \$200N \$200N	09-1-192 09-1-193	Baghouse serving 200 series cement storage silos (09-1-192) Baghouse serving 200 series cement storage silos (09-1-193)	Cement Cement	Cement Production Cement Production	Barium Barium	7440-39-3 7440-39-3 7440-39-3	1.29E-05 1.93E-05 1.13E-05	24 hr 24 hr 24 hr	MB MB	Above Average Above Average Above Average	0.2% 0.1%
\$200N \$200S \$200S	I-10-3	Baghouse serving 200 series cement storage silos (I-1704) Baghouse serving 200 series cement storage silos (I-10-3) Baghouse serving 200 series cement storage silos (I-10-4)	Cement Cement Cement	Cement Production Cement Production Cement Production	Barium Barium Barium	7440-39-3 7440-39-3 7440-39-3	8.06E-06 6.47E-07 6.47E-06	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average	<0.1% <0.1% <0.1%
\$200\$ \$340 \$340		Baghouse serving 200 series cement storage silos (I-22) Baghouse serving 300/400 series cement storage silos (ZIP161) Baghouse serving 300/400 series cement storage silos (I-59-3)	Cement Cement Cement	Cement Production Cement Production Cement Production	Barium Barium Barium	7440-39-3 7440-39-3 7440-39-3	3.22E-05 1.53E-05 2.42E-05	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	0.4% 0.2% 0.3%
S340 S340		Baghouse serving 300/400 series cement storage silos (1-39-3) Baghouse serving 300/400 series cement storage silos (09-1-075)	Cement	Cement Production  Cement Production	Barium	7440-39-3	3.99E-06	24 hr	MB	Above Average 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 (%)
\$500 \$500D	09-1-301 S500-CL	Baghouse serving 300/400 series cement storage silos (09-1-301) Cement loading from silo into a shipping tanker	Cement Cement	Cement Production Cement Production	Barium Barium	7440-39-3 7440-39-3	1.13E-05 4.05E-04	24 hr 24 hr	MB MB	Above Average Above Average	0.1% 4.7%
S340 PACK	CPV-1 09-1-497	Baghouse serving packhouse 3 screw conveyor Baghouse serving packhouse cement storage silos (09-1-497)	Cement Cement	Cement Production Cement Production	Barium Barium	7440-39-3 7440-39-3	2.27E-06 1.61E-05	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% 0.2%
PACK PACK	09-1-407 09-1-670	Baghouse serving packhouse cement storage silos (09-1-407) Baghouse serving packhouse cement storage silos (09-1-670)	Cement Cement	Cement Production Cement Production	Barium Barium	7440-39-3 7440-39-3	1.61E-05 6.44E-05	24 hr 24 hr	MB MB	Above Average Above Average	0.2% 0.8%
PACK KILNON	09-1-311 KILNON	Baghouse serving packhouse cement storage silos (09-1-311) Kiln stack - Raw Mill On	Cement -	Cement Production Clinker Production	Barium Benzene	7440-39-3 71-43-2	1.61E-05 5.50E-01	24 hr 24 hr	MB ST	Above Average Above Average	0.2% 50.0%
KILNON KILNON KILNON	KILNON KILNON KILNON	Kiln stack - Raw Mill On Kiln stack - Raw Mill On Kiln stack - Raw Mill On	-	Clinker Production Clinker Production Clinker Production	Benzene Benzo(a)fluorene Benzo(a)pyrene	71-43-2 238-84-6 50-32-8	5.50E-01 1.40E-04 3.50E-06	24 hr 24 hr 24 hr	ST ST ST	Above Average Above Average Above Average	50.0% 100.0% 50.0%
KILNON	KILNON	Kiln stack - Raw Mill On	-	Clinker Production Limestone Extraction &	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	Processing Limestone Extraction &	Beryllium	7440-41-7	5.90E-08	24 hr	MB	Above Average	0.2%
A_15_5 PPILE	A-15-5 PPILE	Baghouse serving the secondary screen (A-15-5)  Transfer of limestone onto primary surge pile	Limestone	Processing Limestone Extraction &	Beryllium  Beryllium	7440-41-7	2.60E-08 4.20E-07	24 hr 24 hr	MB MB	Above Average  Above Average	1.7%
				Processing Raw Material / Conventional							
PILES	PILES-1	Delivery and transfer of conventional fuel	Conventional Fuel	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	МВ	Above Average	0.5%
K1P51	K1P51	Conventional fuel storage silo baghouse (K1P51)	Conventional Fuel	Raw Material / Conventional	Beryllium	7440-41-7	2.58E-08	24 hr	МВ	Above Average	0.1%
				Fuel Delivery and Storage  Raw Material / Conventional							
RAWS	04-1-401	Raw material storage silo baghouse (04-1-401)	Raw Feed	Fuel Delivery and Storage	Beryllium	7440-41-7	8.43E-08	24 hr	МВ	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	МВ	Above Average	0.2%
CLPT	CLPT-2	Front end loader transfer into truck	Clay/Momentive	Raw Material / Conventional	Beryllium	7440-41-7	4.12E-08	24 hr	МВ	Above Average	0.2%
				Fuel Delivery and Storage	·						
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	МВ	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	МВ	Above Average	<0.1%
FSSC	FSSC-3	Raw material screening	Foundry Sand/Silica	Raw Material / Conventional	Beryllium	7440-41-7	2.32E-07	24 hr	MB	Above Average	0.9%
1330	1350-3	The state of the s	Touristy Sarray Sinca	Fuel Delivery and Storage	Del y mani	7440-41-7	2.322-07	24111	IWID	Above Average	0.570
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	МВ	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	МВ	Above Average	<0.1%
			es un e men	Raw Material / Conventional	Dan Hiran						5.4
FSSCD PIT11	FSSC-6 04-1-411	Drop of raw material from Stacker to Stockpile  Baghouse serving the raw material storage silos for raw mill (04-1-411)	Foundry Sand/Silica Raw Feed	Fuel Delivery and Storage  Raw Material Preparation	Beryllium Beryllium	7440-41-7	1.26E-06 2.82E-08	24 hr 24 hr	MB MB	Above Average  Above Average	0.1%
PIT11 PIT11 HSILOS	04-1-411 04-1-412 H1P41	Baghouse serving the raw material storage silos for raw mill (04-1-411)  Baghouse serving kiln feed silos (H1P41)	Raw Feed Raw Feed	Raw Material Preparation Raw Material Preparation Raw Material Preparation	Beryllium Beryllium	7440-41-7 7440-41-7 7440-41-7	3.27E-08 8.54E-08	24 hr 24 hr 24 hr	MB MB	Above Average Above Average Above Average	0.1%
HSILOS HSILOS	H1P51 H1P61	Baghouse serving kiln feed silos (H1P51) Baghouse serving kiln feed silos (H1P61)	Raw Feed Raw Feed	Raw Material Preparation Raw Material Preparation	Beryllium Beryllium	7440-41-7 7440-41-7	8.54E-08 8.54E-08	24 hr 24 hr	MB MB	Above Average 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	МВ	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	МВ	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	МВ	Above Average	<0.1%
GHOPPER 05_1_412	G1P01 05-1-412	Gypsum Feed Hopper Baghouse (G1P01)  Baghouse serving the kiln feed transfer to preheater tower (05-1-412)	Gypsum/Silica Fume Raw Feed	Conventional Fuel Preparation and Feed Clinker Production	Beryllium Beryllium	7440-41-7 7440-41-7	3.06E-08 7.50E-08	24 hr	MB MB	Above Average  Above Average	0.1%
KILNON CKD	KILNON CKD	Delivery and shipping of Cement Kiln Dust (CKD) to/from storage piles	- Cement Kiln Dust	Clinker Production Clinker Production	Beryllium Beryllium	7440-41-7 7440-41-7	8.00E-06 1.37E-08	24 hr 24 hr	ST MB	Above Average Above Average	32.3% <0.1%
PIT11 07_1_441	07-1-421 07-1-441	Baghouse serving south transfer tower (07-1-421) Baghouse serving north transfer tower (07-1-441)	Clinker Clinker	Clinker Production Clinker Production	Beryllium Beryllium	7440-41-7 7440-41-7	9.24E-08 5.55E-08	24 hr 24 hr	MB MB	Above Average Above Average	0.4%
07_1_450 CBH	07-1-450 W1P51	Baghouse serving north transfer tower (07-1-450) Clinker cooler baghouse (W1P51)	Clinker Clinker	Clinker Production Clinker Production	Beryllium Beryllium	7440-41-7 7440-41-7	6.47E-08 1.21E-06	24 hr 24 hr	MB MB	Above Average Above Average	0.3% 4.9%
W1P91 PIT11	W1P91 W1P101	Clinker reclaim hopper baghouse (W1P91) Baghouse serving clinker truck loading/shipping (W1P101)	Clinker Clinker	Clinker Production Clinker Production	Beryllium Beryllium	7440-41-7 7440-41-7	1.20E-07 7.70E-08	24 hr 24 hr	MB MB	Above Average Above Average	0.5%
PIT11D PIT11D	PIT11-22 PIT11-23	Transfer of clinker into Tee-Pee storage area  Clinker transfer into a hopper	Clinker Clinker	Clinker Production Clinker Production	Beryllium Beryllium	7440-41-7	3.23E-07 1.66E-07	24 hr 24 hr	MB MB	Above Average Above Average	1.3% 0.7%
PIT11D PIT11D PIT11D	OFC-1 OFC-2 OFC-3	Loading Point to Truck (offspec clinker) Truck to Pre-Crushing Stockpiles (offspec clinker) Front-end Loader to Feed Hopper (offspec clinker)	Clinker Wet Clinker Wet Clinker	Clinker Production Clinker Production Clinker Production	Beryllium Beryllium Beryllium	7440-41-7 7440-41-7 7440-41-7	4.14E-06 4.10E-07 4.10E-07	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	16.7% 1.7% 1.7%
PIT11 PIT11	OFC-4 OFC-5	Feeder to Crusher (offspec clinker) Crushing (offspec clinker)	Wet Clinker Wet Clinker	Clinker Production Clinker Production	Beryllium Beryllium	7440-41-7 7440-41-7	4.80E-09 4.11E-08	24 hr 24 hr	MB MB	Above Average Above Average	<0.1%
PIT11 PIT11D	OFC-6 OFC-7	Crusher to Discharge Conveyor (offspec clinker) Discharge Conveyor to Crushed Stockpile (offspec clinker)	Wet Clinker Wet Clinker	Clinker Production Clinker Production	Beryllium Beryllium	7440-41-7 7440-41-7	4.80E-09 4.10E-07	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% 1.7%
PIT11D BLSI	OFC-8 Z1P01	Front-end Loader to Storage Stockpile (offspec clinker) Baghouse serving additive storage silos in finish mill building (Z1P01)	Wet Clinker Gypsum/Silica Fume	Clinker Production Cement Production	Beryllium Beryllium	7440-41-7 7440-41-7	4.10E-07 1.39E-08	24 hr 24 hr	MB MB	Above Average Above Average	1.7%
BLSI BLSI	Z1P11 Z1P21	Baghouse serving additive storage silos in finish mill building (ZIP11) Baghouse serving additive storage silos in finish mill building (ZIP21) Baghouse serving additive storage silos in finish mill building (07-1-491)	Gypsum/Silica Fume Gypsum/Silica Fume Gypsum/Silica Fume	Cement Production Cement Production	Beryllium Beryllium Beryllium	7440-41-7	1.39E-08 1.39E-08	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% <0.1% <0.1%
PIT11 PIT11 PIT11	07-1-491 07-1-492 Z1P191	Baghouse serving adultive storage silos in finish mill building (07-1-491)  Baghouse serving transfer of additive in finish mill building (21P191)	Gypsum/Silica Furne  Gypsum/Silica Furne  Cement	Cement Production Cement Production Cement Production	Beryllium Beryllium	7440-41-7 7440-41-7 7440-41-7	1.32E-08 8.25E-09 5.16E-08	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	<0.1% <0.1% 0.2%
Z1P31 BAML	Z1P31 Z1P51	Baghouse serving transfer into finish mill (Z1P31) Finish mill baghouse (Z1P51)	Cement Cement	Cement Production Cement Production	Beryllium Beryllium	7440-41-7 7440-41-7	2.99E-08 2.33E-06	24 hr 24 hr	MB MB	Above Average Above Average	0.1% 9.4%
BAML Z1P41	Z1P61 Z1P41	Baghouse for transfer of cement to storage silo in finish mill building (Z1P61) Baghouse serving transfer from finish mill (Z1P41)	Cement Cement	Cement Production Cement Production	Beryllium Beryllium	7440-41-7 7440-41-7	5.16E-08 2.58E-08	24 hr 24 hr	MB MB	Above Average Above Average	0.2%
S200S S200N	Z1P71 Z1P81	Baghouse serving transfer from finish mill (Z1P71) Baghouse serving 200 series cement storage silos (Z1P81)	Cement Cement	Cement Production Cement Production	Beryllium Beryllium	7440-41-7	7.79E-09 8.16E-09	24 hr 24 hr	MB MB	Above Average Above Average	<0.1%
S200N S200N S200N	Z1P91 Z1P101 Z1P141	Baghouse serving 200 series cement storage silos (Z1P91)  Baghouse serving 200 series cement storage silos (Z1P101)  Baghouse serving 200 series cement storage silos (Z1P141)	Cement Cement Cement	Cement Production Cement Production Cement Production	Beryllium Beryllium Beryllium	7440-41-7 7440-41-7 7440-41-7	8.16E-09 8.16E-09 4.12E-08	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	<0.1% <0.1% 0.2%
\$200N \$200N	Z1P151 Z1P171	Baghouse serving 200 series cement storage silos (21P151) Baghouse serving 200 series cement storage silos (21P171)	Cement Cement	Cement Production Cement Production	Beryllium Beryllium	7440-41-7 7440-41-7	4.12E-08 4.12E-08	24 hr 24 hr	MB MB	Above Average Above Average	0.2%
S200N S500	Z1P181 09-1-148	Baghouse serving 200 series cement storage silos (21P181) Baghouse serving 200 series cement storage silos (09-1-148)	Cement Cement	Cement Production Cement Production	Beryllium Beryllium	7440-41-7 7440-41-7	2.60E-08 5.21E-08	24 hr 24 hr	MB MB	Above Average Above Average	0.1% 0.2%
S500 S500	09-1-158 09-1-168	Baghouse serving 200 series cement storage silos (09-1-158) Baghouse serving 200 series cement storage silos (109-1-168)	Cement Cement	Cement Production Cement Production	Beryllium Beryllium	7440-41-7 7440-41-7	5.21E-08 5.21E-08	24 hr 24 hr	MB MB	Above Average Above Average	0.2%
S200N S200N	09-1-189 09-1-192	Baghouse serving 200 series cement storage silos (09-1-189) Baghouse serving 200 series cement storage silos (09-1-192)	Cement Cement	Cement Production Cement Production	Beryllium Beryllium	7440-41-7 7440-41-7 7440-41-7	3.47E-08 5.21E-08 3.04E-08	24 hr 24 hr	MB MB MB	Above Average Above Average	0.1%
S200N S200N S200S	09-1-193 1-17-4 I-10-3	Baghouse serving 200 series cement storage silos (09-1-193)  Baghouse serving 200 series cement storage silos (1-1704)  Baghouse serving 200 series cement storage silos (1-10-3)	Cement Cement Cement	Cement Production Cement Production Cement Production	Beryllium Beryllium Beryllium	7440-41-7 7440-41-7	2.17E-08 1.74E-09	24 hr 24 hr 24 hr	MB MB	Above Average Above Average Above Average	0.1% <0.1% <0.1%
\$200S \$200S	I-10-4 I-22	Baghouse serving 200 series cement storage silos (I-10-4) Baghouse serving 200 series cement storage silos (I-22)	Cement Cement	Cement Production Cement Production	Beryllium Beryllium	7440-41-7 7440-41-7	1.74E-08 8.68E-08	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% 0.4%
\$340 \$340	Z1P161 I-59-3	Baghouse serving 300/400 series cement storage silos (Z1P161) Baghouse serving 300/400 series cement storage silos (I-59-3)	Cement Cement	Cement Production Cement Production	Beryllium Beryllium	7440-41-7 7440-41-7	4.12E-08 6.51E-08	24 hr 24 hr	MB MB	Above Average Above Average	0.2%
\$340 \$500	09-1-075 09-1-301	Baghouse serving 300/400 series cement storage silos (09-1-075) Baghouse serving 300/400 series cement storage silos (09-1-301) Cement loading from silo into a chipoint storker.	Cement Cement	Cement Production Cement Production	Beryllium Beryllium Benyllium	7440-41-7 7440-41-7	1.08E-08 3.04E-08	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% 0.1%
S500D S340 PACK	S500-CL CPV-1 09-1-497	Cement loading from silo into a shipping tanker Baghouse serving packhouse 3 screw conveyor Baghouse serving packhouse cement storage silos (09-1-497)	Cement Cement Cement	Cement Production Cement Production Cement Production	Beryllium Beryllium Beryllium	7440-41-7 7440-41-7 7440-41-7	1.09E-06 6.13E-09 4.34E-08	24 hr 24 hr 24 hr	MB MB	Above Average Above Average Above Average	4.4% <0.1% 0.2%
PACK PACK PACK	09-1-497 09-1-407 09-1-670	Baghouse serving packnouse cemient storage silos (09-1-497) Baghouse serving packnouse cement storage silos (09-1-407) Baghouse serving packnouse cement storage silos (09-1-670)	Cement Cement	Cement Production  Cement Production  Cement Production	Beryllium Beryllium	7440-41-7 7440-41-7 7440-41-7	4.34E-08 4.34E-08 1.74E-07	24 hr 24 hr 24 hr	MB MB	Above Average Above Average Above Average	0.2%
PACK A_16_4	09-1-311 A-16-4	Baghouse serving packhouse cement storage silos (09-1-311)  Baghouse serving the secondary crusher (A-16-4)	Cement Limestone	Cement Production Limestone Extraction &	Beryllium Cadmium	7440-41-7 7440-43-9	4.34E-08 5.90E-08	24 hr	MB MB	Above Average  Above Average	0.2% <0.1%
A_16_4 A_15_5	A-16-4 A-15-5	Baghouse serving the secondary Crusher (A-10-4)  Baghouse serving the secondary screen (A-15-5)	Limestone	Processing Limestone Extraction &	Cadmium	7440-43-9	2.60E-08	24 nr 24 hr	MB	Above Average  Above Average	<0.1%
PPILE	PPILE	Transfer of limestone onto primary surge pile	Limestone	Processing Limestone Extraction &	Cadmium	7440-43-9	4.20E-07	24 hr	МВ	Above Average	0.3%
PILES	PILES-1	Delivery and transfer of conventional fuel	Conventional Fuel	Processing  Raw Material / Conventional	Cadmium	7440-43-9	1.66E-08	24 hr	MB	Above Average	<0.1%
11123		,	- Chaonai ruci	Fuel Delivery and Storage			1.001-00	27111	(VIIO	oove Average	.5.1/0
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	МВ	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	МВ	Above Average	<0.1%
RAWS	04-1-401	Raw material storage silo baghouse (04-1-401)	Raw Feed	Raw Material / Conventional	Cadmium	7440-43-9	3.62E-07	24 hr	MB	Ahove Avorace	0.3%
cwan	04-1-401		Now FEEU	Fuel Delivery and Storage		,440-45-9	3.02E-U/	Z# III	IVID	Above Average	0.5/0
CLPT	CLPT-1	Scraper from face onto a pile	Clay/Momentive	Raw Material / Conventional Fuel Delivery and Storage	Cadmium	7440-43-9	8.86E-08	24 hr	МВ	Above Average	<0.1%
CLPT	CLPT-2	Front end loader transfer into truck	Clay/Momentive	Raw Material / Conventional Fuel Delivery and Storage	Cadmium	7440-43-9	8.86E-08	24 hr	МВ	Above Average	<0.1%
	F66.2 :	Front and Londor to Food Users of Francisco	Secondary 6 - 1 d ferro	Raw Material / Conventional	Cadmium	7446 :: :	4 725 5	24.		ab	13.20/
FSSCD	FSSC-1	Front-end Loader to Feed Hopper for raw material screen	Foundry Sand/Silica	Fuel Delivery and Storage	Cadmium	7440-43-9	1.72E-05	24 hr	MB	Above Average	12.2%
FSSC	FSSC-2	Feed Hopper to raw material screener	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Cadmium	7440-43-9	2.01E-07	24 hr	МВ	Above Average	0.1%
FSSC	FSSC-3	Raw material screening	Foundry Sand/Silica	Raw Material / Conventional	Cadmium	7440-43-9	3.15E-06	24 hr	МВ	Above Average	2.3%
				Fuel Delivery and Storage  Raw Material / Conventional							
FSSC	FSSC-4	Raw material transfer from Screener to Conveyor	Foundry Sand/Silica	Fuel Delivery and Storage	Cadmium	7440-43-9	2.01E-07	24 hr	МВ	Above Average	0.1%
FSSC	FSSC-5	Raw material transfer from Conveyor to Stacker	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Cadmium	7440-43-9	2.01E-07	24 hr	МВ	Above Average	0.1%
FSSCD	FSSC-6	Drop of raw material from Stacker to Stockpile	Foundry Sand/Silica	Raw Material / Conventional	Cadmium	7440-43-9	1.72E-05	24 hr	MB	Above Average	12.2%
PIT11	04-1-411	Baghouse serving the raw material storage silos for raw mill (04-1-411)	Raw Feed	Fuel Delivery and Storage  Raw Material Preparation	Cadmium	7440-43-9	1.21E-07	24 hr	MB	Above Average	<0.1%
PIT11		Baghouse serving the raw material storage silos for raw mill (04-1-412)	Raw Feed	Raw Material Preparation	Cadmium	7440-43-9	1.41E-07	24 hr	MB	Above Average	0.1%

Modelled Source	ESDM Source	Source Description	Materials	Process	Contaminant	CAS#	Maximum Emission Rate (g/s)	Averaging Period	Estimating Technique	Emission Data Quality	Percentage of Overall Emissions (%)
HSILOS HSILOS	H1P41 H1P51	Baghouse serving kiln feed silos (H1P41) Baghouse serving kiln feed silos (H1P51)	Raw Feed Raw Feed	Raw Material Preparation Raw Material Preparation	Cadmium Cadmium	7440-43-9 7440-43-9	3.66E-07 3.66E-07	24 hr 24 hr	MB MB	Above Average Above Average	0.3% 0.3%
HSILOS K1P11	H1P61 K1P11	Baghouse serving kiln feed silos (H1P61) Fuel mill baghouse (K1P11)	Raw Feed  Conventional Fuel	Raw Material Preparation Conventional Fuel Preparation and Feed	Cadmium	7440-43-9 7440-43-9	3.66E-07 5.10E-09	24 hr 24 hr	MB MB	Above Average  Above Average	0.3% <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	МВ	Above Average	<0.1%
K1P41	K1P41	Baghouse serving the north auxiliary fuel silo (K1P41)	Conventional Fuel	Conventional Fuel Preparation and Feed Conventional Fuel	Cadmium	7440-43-9	2.00E-09	24 hr	МВ	Above Average	<0.1%
GHOPPER 05_1_412	G1P01 05-1-412	Gypsum Feed Hopper Baghouse (G1P01)  Baghouse serving the kiln feed transfer to preheater tower (05-1-412)	Gypsum/Silica Fume Raw Feed	Preparation and Feed Clinker Production	Cadmium Cadmium	7440-43-9 7440-43-9	6.72E-08 3.22E-07	24 hr 24 hr	MB MB	Above Average  Above Average	<0.1%
KILNON CKD	KILNON	Kiln stack - Raw Mill On Delivery and shipping of Cement Kiln Dust (CKD) to/from storage piles	- Cement Kiln Dust	Clinker Production Clinker Production	Cadmium Cadmium	7440-43-9 7440-43-9	4.50E-05 5.84E-08	24 hr 24 hr	ST MB	Above Average Above Average	32.1% <0.1%
PIT11 07_1_441 07_1_450	07-1-421 07-1-441 07-1-450	Baghouse serving south transfer tower (07-1-421) Baghouse serving north transfer tower (07-1-441) Baghouse serving north transfer tower (07-1-450)	Clinker Clinker Clinker	Clinker Production Clinker Production Clinker Production	Cadmium Cadmium Cadmium	7440-43-9 7440-43-9 7440-43-9	3.95E-07 2.37E-07 2.77E-07	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	0.3% 0.2% 0.2%
CBH W1P91	W1P51 W1P91	Clinker cooler baghouse (W1P51) Clinker reclaim hopper baghouse (W1P91)	Clinker Clinker	Clinker Production Clinker Production	Cadmium Cadmium	7440-43-9 7440-43-9	5.15E-06 5.15E-07	24 hr 24 hr	MB MB	Above Average Above Average	3.7%
PIT11 PIT11D	W1P101 PIT11-22	Baghouse serving clinker truck loading/shipping (W1P101) Transfer of clinker into Tee-Pee storage area	Clinker Clinker	Clinker Production Clinker Production	Cadmium Cadmium	7440-43-9 7440-43-9	3.29E-07 1.38E-06	24 hr 24 hr	MB MB	Above Average Above Average	1.0%
PIT11D PIT11D PIT11D	PIT11-23 OFC-1 OFC-2	Clinker transfer into a hopper Loading Point to Truck (offspec clinker) Truck to Pre-Crushing Stockpiles (offspec clinker)	Clinker Clinker Wet Clinker	Clinker Production Clinker Production Clinker Production	Cadmium Cadmium Cadmium	7440-43-9 7440-43-9 7440-43-9	7.08E-07 1.77E-05 1.75E-06	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	0.5% 12.6% 1.3%
PIT11D PIT11	OFC-3 OFC-4	Front-end Loader to Feed Hopper (offspec clinker) Feeder to Crusher (offspec clinker)	Wet Clinker Wet Clinker	Clinker Production Clinker Production	Cadmium Cadmium	7440-43-9 7440-43-9	1.75E-06 2.05E-08	24 hr 24 hr	MB MB	Above Average Above Average	1.3%
PIT11 PIT11 PIT11D	OFC-5 OFC-6 OFC-7	Crushing (offspec clinker) Crusher to Discharge Conveyor (offspec clinker) Discharge Convevor to Crushed Stockoile (offspec clinker)	Wet Clinker Wet Clinker Wet Clinker	Clinker Production Clinker Production	Cadmium Cadmium Cadmium	7440-43-9 7440-43-9 7440-43-9	1.76E-07 2.05E-08	24 hr 24 hr 24 hr	MB MB MB	Above Average	0.1% <0.1% 1.3%
PIT11D PIT11D BLSI	OFC-7 OFC-8 Z1P01	Front-end Loader to Storage Stockpile (offspec clinker)  Front-end Loader to Storage Stockpile (offspec clinker)  Baghouse serving additive storage silos in finish mill building (Z1P01)	Wet Clinker  Wet Clinker  Gypsum/Silica Fume	Clinker Production Clinker Production Cement Production	Cadmium Cadmium	7440-43-9 7440-43-9 7440-43-9	1.75E-06 1.75E-06 3.06E-08	24 hr 24 hr 24 hr	MB MB	Above Average Above Average Above Average	1.3%
BLSI BLSI	Z1P11 Z1P21	Baghouse serving additive storage silos in finish mill building (Z1P11) Baghouse serving additive storage silos in finish mill building (Z1P21)	Gypsum/Silica Fume Gypsum/Silica Fume	Cement Production Cement Production	Cadmium Cadmium	7440-43-9 7440-43-9	3.06E-08 3.06E-08	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% <0.1%
PIT11 PIT11 PIT11	07-1-491 07-1-492 Z1P191	Baghouse serving additive storage silos in finish mill building (07-1-491) Baghouse serving additive storage silos in finish mill building (07-1-492) Baghouse serving transfer of additive in finish mill building (21P91)	Gypsum/Silica Fume Gypsum/Silica Fume Cement	Cement Production Cement Production Cement Production	Cadmium Cadmium Cadmium	7440-43-9 7440-43-9 7440-43-9	2.90E-08 1.82E-08 2.18E-07	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	<0.1% <0.1% 0.2%
Z1P31 BAML	Z1P31 Z1P51	Baghouse serving transfer into finish mill (Z1P31) Finish mill baghouse (Z1P51)	Cement Cement	Cement Production Cement Production	Cadmium Cadmium	7440-43-9 7440-43-9	1.26E-07 9.83E-06	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% 7.0%
BAML Z1P41	Z1P61 Z1P41	Baghouse for transfer of cement to storage silo in finish mill building (Z1P61) Baghouse serving transfer from finish mill (Z1P41)	Cement Cement	Cement Production Cement Production	Cadmium Cadmium	7440-43-9 7440-43-9	2.18E-07 1.09E-07	24 hr 24 hr	MB MB	Above Average Above Average	0.2% <0.1%
S200S S200N S200N	Z1P71 Z1P81 Z1P91	Baghouse serving transfer from finish mill (Z1P71) Baghouse serving 200 series cement storage silos (Z1P81) Baghouse serving 200 series cement storage silos (Z1P91)	Cement Cement Cement	Cement Production Cement Production Cement Production	Cadmium Cadmium Cadmium	7440-43-9 7440-43-9 7440-43-9	3.29E-08 3.44E-08 3.44E-08	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	<0.1% <0.1% <0.1%
S200N S200N	Z1P101 Z1P141	Baghouse serving 200 series cement storage silos (Z1P101) Baghouse serving 200 series cement storage silos (Z1P141)	Cement Cement	Cement Production Cement Production	Cadmium Cadmium	7440-43-9 7440-43-9	3.44E-08 1.74E-07	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% 0.1%
S200N S200N S200N	Z1P151 Z1P171 Z1P181	Baghouse serving 200 series cement storage silos (Z1P151) Baghouse serving 200 series cement storage silos (Z1P171) Baghouse serving 200 series cement storage silos (Z1P181)	Cement Cement Cement	Cement Production Cement Production Cement Production	Cadmium Cadmium Cadmium	7440-43-9 7440-43-9 7440-43-9	1.74E-07 1.74E-07	24 hr 24 hr 24 hr	MB MB	Above Average Above Average	0.1% 0.1% <0.1%
\$200N \$500 \$500	71P181 09-1-148 09-1-158	Baghouse serving 200 series cement storage silos (21P181) Baghouse serving 200 series cement storage silos (09-1-148) Baghouse serving 200 series cement storage silos (09-1-158)	Cement Cement Cement	Cement Production Cement Production Cement Production	Cadmium Cadmium Cadmium	7440-43-9 7440-43-9	1.10E-07 2.20E-07 2.20E-07	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	<0.1% 0.2% 0.2%
\$500 \$200N	09-1-168 09-1-189	Baghouse serving 200 series cement storage silos (109-1-168) Baghouse serving 200 series cement storage silos (09-1-189)	Cement Cement	Cement Production Cement Production	Cadmium Cadmium	7440-43-9 7440-43-9	2.20E-07 1.46E-07	24 hr 24 hr	MB MB	Above Average Above Average	0.2% 0.1%
S200N S200N S200N	09-1-192 09-1-193 1-17-4	Baghouse serving 200 series cement storage silos (09-1-192) Baghouse serving 200 series cement storage silos (09-1-193) Baghouse serving 200 series cement storage silos (1-1704)	Cement Cement Cement	Cement Production Cement Production Cement Production	Cadmium Cadmium Cadmium	7440-43-9 7440-43-9 7440-43-9	2.20E-07 1.28E-07 9.16E-08	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	0.2% <0.1% <0.1%
\$200S \$200S	I-10-3 I-10-4	Baghouse serving 200 series cement storage silos (I-10-3) Baghouse serving 200 series cement storage silos (I-10-4)	Cement Cement	Cement Production Cement Production	Cadmium Cadmium	7440-43-9 7440-43-9	7.36E-09 7.36E-08	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% <0.1%
S200S S340 S340	I-22 Z1P161 I-59-3	Baghouse serving 200 series cement storage silos (I-22) Baghouse serving 300/400 series cement storage silos (Z1P161)	Cement Cement Cement	Cement Production  Cement Production	Cadmium Cadmium Cadmium	7440-43-9 7440-43-9 7440-43-9	3.66E-07 1.74E-07 2.75E-07	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average	0.3% 0.1% 0.2%
\$340 \$340 \$500	09-1-075 09-1-301	Baghouse serving 300/400 series cement storage silos (I-59-3)  Baghouse serving 300/400 series cement storage silos (09-1-075)  Baghouse serving 300/400 series cement storage silos (09-1-301)	Cement Cement Cement	Cement Production Cement Production Cement Production	Cadmium Cadmium Cadmium	7440-43-9 7440-43-9 7440-43-9	2.75E-07 4.54E-08 1.28E-07	24 hr 24 hr 24 hr	MB MB	Above Average Above Average Above Average	<0.1% <0.1%
S500D S340	S500-CL CPV-1	Cement loading from silo into a shipping tanker Baghouse serving packhouse 3 screw conveyor	Cement Cement	Cement Production Cement Production	Cadmium Cadmium	7440-43-9 7440-43-9	4.60E-06 2.59E-08	24 hr 24 hr	MB MB	Above Average Above Average	3.3% <0.1%
PACK PACK	09-1-497 09-1-407 09-1-670	Baghouse serving packhouse cement storage silos (09-1-497) Baghouse serving packhouse cement storage silos (09-1-407) Baghouse serving packhouse cement storage silos (09-1-670)	Cement Cement Cement	Cement Production Cement Production	Cadmium Cadmium Cadmium	7440-43-9 7440-43-9	1.83E-07 1.83E-07	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average	0.1% 0.1% 0.5%
PACK PACK KILNON	09-1-311 KILNON	Baghouse serving packhouse cement storage silos (09-1-311)  Kiln stack - Raw Mill On	Cement	Cement Production Cement Production Clinker Production	Cadmium Carbon Disulphide	7440-43-9 7440-43-9 75-15-0	7.32E-07 1.83E-07 4.12E-01	24 hr 24 hr	MB ST	Above Average Above Average Above Average	0.1%
FSSC	FSSC-DG	Diesel-fired engine servicing the raw material screener	-	Raw Material / Conventiona Fuel Delivery and Storage	Carbon Monoxide	630-08-0	1.02E-01	1 hr	МВ	Above Average	0.1%
KILNON PIT11	KILNON OFC-DG	Kiln stack - Raw Mill On Diesel-fired engine servicing the off-spec clinker crusher	-	Clinker Production Clinker Production	Carbon Monoxide Carbon Monoxide	630-08-0 630-08-0	1.01E+02 2.91E-01	1 hr 1 hr	ST MB	Above Average Above Average	99.6%
CBBOI	CBBOI JCBOI	Dual fuel-fired Boiler No.2 fuel-fired boiler	-	Ancillary Operations Ancillary Operations	Carbon Monoxide Carbon Monoxide	630-08-0 630-08-0	7.58E-03 2.53E-03	1 hr 1 hr	MB MB	Above Average Above Average	<0.1% <0.1%
TRBOI KILNON	TRBOI	Dual fuel-fired boiler Kiln stack - Raw Mill On	-	Ancillary Operations Clinker Production	Carbon Monoxide Carbon Tetrachloride	630-08-0 56-23-5	7.58E-03 1.70E-02	1 hr 24 hr	MB ST	Above Average Above Average	<0.1% 100.0%
KILNON	KILNON	Kiln stack - Raw Mill On Kiln stack - Raw Mill On	-	Clinker Production Clinker Production Limestone Extraction &	Carbonyl Sulphide Chloroform	463-58-1 67-66-3	3.42E+00 1.15E-02	24 hr 24 hr	ST ST	Above Average Above Average	100.0%
A_16_4 A_15_5	A-16-4 A-15-5	Baghouse serving the secondary crusher (A-16-4)  Baghouse serving the secondary screen (A-15-5)	Limestone	Processing Limestone Extraction &	Chromium	7440-47-3	9.44E-07 4.15E-07	24 hr 24 hr	MB MB	Above Average  Above Average	<0.1%
PPILE	PPILE	Transfer of limestone onto primary surge pile	Limestone	Processing Limestone Extraction & Processing	Chromium	7440-47-3	6.72E-06	24 hr	МВ	Above Average	0.3%
PILES	PILES-1	Delivery and transfer of conventional fuel	Conventional Fuel	Raw Material / Conventiona Fuel Delivery and Storage	Chromium	7440-47-3	1.33E-06	24 hr	МВ	Above Average	<0.1%
PILES	PILES-2	Delivery and transfer of raw materials	Raw Feed	Raw Material / Conventiona Fuel Delivery and Storage	Chromium	7440-47-3	1.15E-05	24 hr	МВ	Above Average	0.5%
K1P51	K1P51	Conventional fuel storage silo baghouse (K1P51)	Conventional Fuel	Raw Material / Conventiona Fuel Delivery and Storage	Chromium	7440-47-3	1.12E-06	24 hr	МВ	Above Average	<0.1%
RAWS	04-1-401	Raw material storage silo baghouse (04-1-401)	Raw Feed	Raw Material / Conventiona Fuel Delivery and Storage	Chromium	7440-47-3	7.36E-06	24 hr	МВ	Above Average	0.3%
CLPT	CLPT-1	Scraper from face onto a pile	Clay/Momentive	Raw Material / Conventiona Fuel Delivery and Storage	Chromium	7440-47-3	1.92E-06	24 hr	МВ	Above Average	<0.1%
CLPT	CLPT-2	Front end loader transfer into truck	Clay/Momentive	Raw Material / Conventiona Fuel Delivery and Storage	Chromium	7440-47-3	1.92E-06	24 hr	МВ	Above Average	<0.1%
FSSCD	FSSC-1	Front-end Loader to Feed Hopper for raw material screen	Foundry Sand/Silica	Raw Material / Conventiona Fuel Delivery and Storage Raw Material / Conventiona	Chromium	7440-47-3	4.94E-04	24 hr	MB	Above Average	20.2%
FSSC	FSSC-2 FSSC-3	Feed Hopper to raw material screener  Raw material screening	Foundry Sand/Silica Foundry Sand/Silica	Fuel Delivery and Storage  Raw Material / Conventiona	Chromium	7440-47-3	5.78E-06 9.08E-05	24 hr 24 hr	MB MB	Above Average  Above Average	3.7%
FSSC	FSSC-4	Raw material transfer from Screener to Conveyor	Foundry Sand/Silica	Raw Material / Conventiona		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	Fuel Delivery and Storage  Raw Material / Conventiona  Fuel Delivery and Storage	Chromium	7440-47-3	5.78E-06	24 hr	МВ	Above Average	0.2%
FSSCD	FSSC-6	Drop of raw material from Stacker to Stockpile	Foundry Sand/Silica	Raw Material / Conventiona	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 HSILOS HSILOS	04-1-412 H1P41 H1P51	Baghouse serving the raw material storage silos for raw mill (04-1-412) Baghouse serving kiln feed silos (H1P41) Baghouse serving kiln feed silos (H1P51)	Raw Feed Raw Feed Raw Feed	Raw Material Preparation Raw Material Preparation Raw Material Preparation	Chromium Chromium Chromium	7440-47-3 7440-47-3 7440-47-3	2.86E-06 7.45E-06 7.45E-06	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	0.1% 0.3% 0.3%
HSILOS HSILOS K1P11	H1P61 K1P11	Dagnouse serving kin reed silos (H1P61)  Fuel mill baghouse (K1P11)	Raw Feed  Conventional Fuel	Raw Material Preparation Conventional Fuel	Chromium	7440-47-3 7440-47-3	7.45E-06 7.45E-06 4.08E-07	24 hr 24 hr	MB MB	Above Average  Above Average	0.3%
K1P11		Fuel meal storage silo baghouse (K1P31)	Conventional Fuel	Preparation and Feed Conventional Fuel Preparation and Feed	Chromium	7440-47-3	6.12E-07	24 hr	MB	Above Average	<0.1%
	K1P31	1									<0.1%
K1P41	K1P31 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	
GHOPPER	K1P41 G1P01	Gypsum Feed Hopper Baghouse (G1P01)	Gypsum/Silica Fume	Preparation and Feed Conventional Fuel Preparation and Feed	Chromium	7440-47-3	4.89E-07	24 hr	МВ	Above Average	<0.1%
	K1P41			Preparation and Feed Conventional Fuel							<0.1% 0.3% 7.8% <0.1%
GHOPPER  05_1_412  KILNON  CKD  PIT11  07_1_441	K1P41 G1P01 05-1-412 KILNON CKD 07-1-421 07-1-441	Gypsum Feed Hopper Baghouse (G1P01)  Baghouse serving the kiln feed transfer to preheater tower (05-1-412)  Kiln stack - Raw Mill On  Delivery and shipping of Cement Kiln Dust (CKD) to/from storage piles  Baghouse serving south transfer tower (07-1-421)  Baghouse serving north transfer tower (07-1-441)	Gypsum/Silica Fume  Raw Feed  Cement Kiln Dust  Clinker  Clinker	Preparation and Feed Conventional Fuel Preparation and Feed Clinker Production Clinker Production Clinker Production Clinker Production Clinker Production Clinker Production	Chromium Chromium Chromium Chromium Chromium Chromium Chromium	7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3	4.89E-07 6.55E-06 1.90E-04 1.19E-06 8.04E-06 4.83E-06	24 hr	MB MB ST MB MB MB	Above Average Above Average Above Average Above Average Above Average Above Average	0.3% 7.8% <0.1% 0.3% 0.2%
GHOPPER  05_1_412  KILNON  CKD  PIT11  07_1_441  07_1_450  CBH	K1P41 G1P01 05-1-412 KILNON CKD 07-1-421	Gypsum Feed Hopper Baghouse (G1P01)  Baghouse serving the kini feed transfer to preheater tower (05-1-412)  Kin stack - Raw Mill On  Delivery and shipping of Cement Kiln Dust (CKD) to/from storage piles  Baghouse serving south transfer tower (07-1-421)	Gypsum/Silica Fume  Raw Feed  Cement Kiln Dust Clinker	Preparation and Feed Conventional Fuel Preparation and Feed Clinker Production	Chromium Chromium Chromium Chromium Chromium	7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3	4.89E-07 6.55E-06 1.90E-04 1.19E-06 8.04E-06 4.83E-06 5.64E-06 1.05E-04	24 hr 24 hr 24 hr 24 hr 24 hr	MB MB ST MB MB	Above Average	0.3% 7.8% <0.1% 0.3%
GHOPPER  05 1 412  KILNON  CKD  PIT11  07 1 441  07 1 450  CBH  W1P91  PIT11  PIT110	K1P41 G1P01 05-1-412 KILNON CKD 07-1-421 07-1-441 07-1-450 W1P51 W1P91 W1P101 PIT11-22	Gypsum Feed Hopper Baghouse (G1P01)  Baghouse serving the kiln feed transfer to preheater tower (05-1-412)  Kiln stack - Raw Mill On Delivery and shipping of Cement Kiln Dust (CKD) to/from storage piles Baghouse serving south transfer tower (07-1-421)  Baghouse serving north transfer tower (07-1-441) Baghouse serving north transfer tower (07-1-450)  Clinker cooler baghouse (W1P51)  Clinker reclaim hopper baghouse (W1P91) Baghouse serving clinker truck loading/shipping (W1P101)  Transfer of clinker into Tee-Pee storage area	Gypsum/Silica Fume Raw Feed	Preparation and Feed Conventional Fuel Preparation and Feed Clinker Production	Chromium	7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3	4.89E-07 6.55E-06 1.90E-04 1.19E-06 8.04E-06 4.83E-06 5.64E-06 1.05E-04 1.05E-05 6.70E-06 2.82E-05	24 hr	MB MB ST MB	Above Average	0.3% 7.8% <0.1% 0.3% 0.2% 0.2% 4.3% 0.4% 0.3% 1.2%
GHOPPER  05 1 412  KILNON  CKD  PIT11  07 1 441  07 1 450  CBH  WIP91  PIT11  PIT110  PIT110	K1P41 G1P01 05-1-412 KILNON CKD 07-1-421 07-1-421 07-1-450 W1P51 W1P91 W1P101 PIT11-22 OFC-1	Gypsum Feed Hopper Baghouse (G1P01)  Baghouse serving the kiln feed transfer to preheater tower (05-1-412) Kiln stack - Raw Mill On  Delivery and shipping of Cement Kiln Dust (CKD) to/from storage piles Baghouse serving sorut transfer tower (07-1-421) Baghouse serving north transfer tower (07-1-441) Baghouse serving north transfer tower (07-1-441) Clinker cooler baghouse (W1P51) Clinker reclaim hopper baghouse (W1P51) Baghouse serving clinker truck loading/shipping (W1P101) Transfer of clinker into Tee-Pee storage area Clinker transfer into a hopper Loading Point to Truck (offspec clinker)	Gypsum/Silica Fume  Raw Feed	Preparation and Feed Conventional Fuel Preparation and Feed Clinker Production	Chromium	7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3	4.89E-07 6.55E-06 1.90E-04 1.19E-06 8.04E-06 4.83E-06 5.64E-06 1.05E-04 1.05E-05 6.70E-06 2.82E-05 1.44E-05	24 hr	MB MB ST MB MB MB MB MB MB MB MB MB	Above Average	0.3% 7.8% <0.1% 0.3% 0.2% 0.2% 4.3% 0.4% 0.3%
GHOPPER  05 1 412 KILNON CKD PIT11  07 1 441 07 1 450 CBH W1P91 PIT11 PIT11D	K1P41 G1P01 05-1-412 KILNON CKD 07-1-421 07-1-450 W1P51 W1P101 PT11-22 PT11-23 OFC-1 OFC-2 OFC-3 OFC-3	Gypsum Feed Hopper Baghouse (G1P01)  Baghouse serving the kiln feed transfer to preheater tower (05-1-412)  Kiln stack - Raw Mill On Delivery and shipping of Cement Kiln Dust (CKD) to/from storage piles Baghouse serving south transfer tower (07-1-421)  Baghouse serving north transfer tower (07-1-441) Baghouse serving north transfer tower (07-1-450)  Clinker coler baghouse (W1P51)  Clinker reclaim hopper baghouse (W1P91) Baghouse serving clinker truck loading/shipping (W1P101)  Transfer of clinker into Tee-Pee storage area  Clinker transfer into a hopper  Loading Point to Truck (offspec clinker)  Truck to Pre-Crushing Stockpiles (offspec clinker)  Front-end Loader to Feed Hopper (offspec clinker)  Feeder to Crusher (offspec clinker)	Gypsum/Silica Fume  Raw Feed   Cement Kiln Dust  Clinker  Wet Clinker  Wet Clinker  Wet Clinker	Preparation and Feed Conventional Fuel Preparation and Feed Clinker Production	Chromium	7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3	4.89E-07 6.55E-06 1.90E-04 1.19E-06 8.04E-06 4.83E-06 5.64E-06 1.05E-04 1.05E-05 6.70E-06 2.82E-05 3.61E-04 3.57E-05 4.18E-07	24 hr	MB M	Above Average	0.3% 7.8% <0.1% <0.13% 0.2% 0.2% 0.2% 1.2% 0.43% 0.33% 1.2% 1.5% 1.5% <0.1%
GHOPPER  05 1 412  KILNON  CKD  PIT11  07 1 441  07 1 450  CBH  WIP91  PIT11  PIT110  PIT110  PIT110  PIT110  PIT111	K1P41 G1P01 05-1-412 KILNON CKD 07-1-421 07-1-421 07-1-450 W1P91 W1P9101 P7111-22 P7111-23 OFC-1 OFC-2 OFC-3 OFC-4 OFC-5 OFC-6	Gypsum Feed Hopper Baghouse (G1P01)  Baghouse serving the kiln feed transfer to preheater tower (05-1-412) Kiln stack - Raw Mill On Delivery and shipping of Cement Kiln Dust (CKD) to/from storage piles Baghouse serving south transfer tower (07-1-421) Baghouse serving north transfer tower (07-1-441) Baghouse serving north transfer tower (07-1-441) Baghouse serving north transfer tower (07-1-450) Clinker cooler baghouse (W1P51) Clinker cooler baghouse (W1P91) Baghouse serving clinker truck loading/shipping (W1P101) Transfer of clinker into Tee-Pee storage area Clinker transfer into a hopper Loading Point to Truck (offspee clinker) Truck to Pre-Crushing Stockpiles (offspee clinker) Front-end Loader to Feed Hopper (offspee clinker) Freeder to Crusher (offspee clinker) Crusher to Discharge Conveyor (offspee clinker) Crusher to Discharge Conveyor (offspee clinker)	Gypsum/Silica Fume  Raw Feed	Preparation and Feed Conventional Fuel Preparation and Feed Clinker Production	Chromium	7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3	4.89E-07 6.55E-06 1.90E-04 1.19E-06 8.04E-06 5.64E-06 5.64E-06 1.05E-05 6.70E-06 2.82E-05 3.61E-04 3.57E-05 4.18E-07 3.58E-06 4.18E-07	24 hr	MB MB MB ST MB	Above Average	0.3% 7.8% <0.1% 0.3% 0.2% 0.2% 0.2% 0.4% 0.33% 1.2% 0.6% 14.8% 1.5% <0.1%
GHOPPER  05 1 412  KILNON  CKD  PIT11  07 1 441  07 1 450  CBH  WIP91  PIT11  PIT110  PIT110  PIT110  PIT110  PIT111	K1P41 G1P01 05-1-412 K1NON CKD 07-1-421 07-1-421 07-1-431 07-1-450 W1P91 W1P101 PRT11-22 PT111-23 OFC-1 OFC-2 OFC-3 OFC-4 OFC-5 OFC-6 OFC-7 OFC-8 Z1P01	Gypsum Feed Hopper Baghouse (G1P01)  Baghouse serving the kiln feed transfer to preheater tower (05-1-412) Kiln stack - Raw Mill On Delivery and shipping of Cement Kiln Dust (CKD) to/from storage piles Baghouse serving south transfer tower (07-1-421) Baghouse serving north transfer tower (07-1-441) Baghouse serving north transfer tower (07-1-440) Clinker cooler baghouse (W1P51) Clinker cooler baghouse (W1P51) Clinker reclaim hopper baghouse (W1P91) Baghouse serving clinker truck loading/shipping (W1P101) Transfer of clinker into Tee-Pee storage area Clinker transfer into a hopper Loading Point to Truck (offspee clinker) Truck to Pre-Crushing Stockpiles (offspee clinker) Front-end Loader to Feed Hopper (offspee clinker) Freeder to Crusher (offspee clinker) Crusher to Discharge Conveyor (offspee clinker) Crusher to Discharge Conveyor (offspee clinker) Crusher to Discharge Conveyor (offspee clinker)	Gypsum/Silica Fume  Raw Feed	Preparation and Feed Conventional Fuel Preparation and Feed Clinker Production	Chromium	7440-47-3 7440-47-3	4.89E-07 6.55E-06 1.90E-04 1.19E-06 8.04E-06 4.83E-06 5.64E-06 1.05E-05 6.70E-06 2.82E-05 3.61E-04 3.57E-05 4.18E-07 3.57E-05 3.57E-05 3.57E-05	24 hr	MB M	Above Average	0.3% 7.8% <0.1% 0.3% 0.2% 0.2% 0.2% 4.3% 0.4% 0.3% 1.2% 0.6% 1.5% 1.5% <0.1% 0.1% 0.1% 0.1% 0.1% 0.1% 0.1%
GHOPPER  05 1 412 KILNON CKD PIT11 07 1 441 07 1 450 CBH WIP91 PIT11 PIT11 PIT110 PIT110 PIT110 PIT111 PIT11 PIT111 PIT11 PIT111 PIT11 PIT111 PIT11	K1P41 G1P01 05-1-412 KILNON CKD 07-1-421 07-1-421 07-1-450 W1P51 W1P91 W1P91 W1P91 OFC-2 OFC-3 OFC-4 OFC-5 OFC-6 OFC-6 OFC-7 OFC-8 Z1P01 Z1P11 Z1P21	Gypsum Feed Hopper Baghouse (G1P01)  Baghouse serving the kiln feed transfer to preheater tower (05-1-412) Kiln stack - Raw Mill On Delivery and shipping of Cement Kiln Dust (CKD) to/from storage piles Baghouse serving south transfer tower (07-1-421) Baghouse serving north transfer tower (07-1-441) Baghouse serving north transfer tower (07-1-450) Clinker color baghouse (W1P51) Clinker roter baghouse (W1P51) Clinker reclaim hopper baghouse (W1P91) Baghouse serving clinker truck loading/shipping (W1P101) Transfer of clinker into Tee-Pee storage area Clinker transfer into a hopper Loading Point to Truck (offspec clinker) Truck to Pre-Crushing Stockplies (offspec clinker) Front-end Loader to Feed Hopper (offspec clinker) Front-end Loader to Feed Hopper (offspec clinker) Crusher to Discharge Conveyor (offspec clinker) Oischarge Conveyor to Crushed Stockpile (offspec clinker) Baghouse serving additive storage silos in finish mill building (Z1P01) Baghouse serving additive storage silos in finish mill building (Z1P11) Baghouse serving additive storage silos in finish mill building (Z1P11)	Gypsum/Silica Fume  Raw Feed	Preparation and Feed Conventional Fuel Preparation and Feed Clinker Production Cement Production Cement Production Cement Production Cement Production	Chromium	7440-47-3 7440-47-3	4.89E-07 6.55E-06 1.90E-04 1.19E-06 8.04E-06 4.83E-06 5.64E-06 1.05E-04 1.05E-05 6.70E-06 2.82E-05 1.44E-05 3.57E-05 3.57E-05 4.18E-07 3.57E-05 2.22E-07 2.22E-07 2.22E-07	24 hr	MB M	Above Average	0.3% 7.8% -0.13% 0.2% 0.2% 0.2% 0.2% 0.4% 0.3% 1.2% 0.6% 1.5% -0.15% -0.11% -0.11% -0.11% -0.11% -0.11%
GHOPPER  05 1 412  KILNON  CKD  PIT11  07 1 441  07 1 450  CBH  W1P91  PIT11  PIT110  PIT110  PIT110  PIT111  PIT11	K1P41 G1P01 05-1-412 KILNON CK0 07-1-421 VILNON W1P51 W1P91 W1P101 P1T11-22 PIT11-23 OFC-1 OFC-2 OFC-3 OFC-6 OFC-6 OFC-6 OFC-7 OFC-8 Z1P01 Z1P11	Gypsum Feed Hopper Baghouse (G1P01)  Baghouse serving the kiln feed transfer to preheater tower (05-1-412)  Kiln stack - Raw Mill On Delivery and shipping of Cement Kiln Dust (CKD) to/from storage piles Baghouse serving south transfer tower (07-1-421)  Baghouse serving morth transfer tower (07-1-441)  Baghouse serving morth transfer tower (07-1-450)  Clinker coler baghouse (W1P51)  Clinker coler baghouse (W1P51)  Clinker reclaim hopper baghouse (W1P91)  Baghouse serving dinker truck loading/shipping (W1P101)  Transfer of clinker into Te-Pe storage area  Clinker transfer into a hopper  Loading Point to Truck (offspec clinker)  Truck to Pre-Crushing Stockpiles (offspec clinker)  Front-end Loader to Feed Hopper (offspec clinker)  Crusher to Discharge Conveyor (offspec clinker)  Crusher to Discharge Conveyor (offspec clinker)  Discharge Conveyor to Crushed Stockpile (offspec clinker)  Front-end Loader to Storage Stockpile (offspec clinker)  Baghouse serving additive storage silos in finish mill building (Z1P01)  Baghouse serving additive storage silos in finish mill building (Z1P01)	Gypsum/Silica Fume Raw Feed	Preparation and Feed Conventional Fuel Preparation and Feed Clinker Production Cement Production Cement Production	Chromium	7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3 7440-47-3	4.89E-07 6.55E-06 1.90E-04 1.19E-06 8.04E-06 4.83E-06 5.64E-06 1.05E-04 1.05E-05 1.05E-04 1.05E-05 3.57E-05 3.57E-05 3.57E-05 3.57E-05 3.57E-05 3.57E-05 3.57E-05 2.22E-07	24 hr	MB M	Above Average	0.3% 7.8% 0.1% 0.13% 0.2% 0.2% 0.2% 0.2% 1.3% 0.4% 0.4% 0.6% 1.5% 1.5% 1.5% 1.5% 0.11% 0.118 0.118 0.118 0.119
GHOPPER  05 1 412  KILNON  CKD  PIT11  07 1 441  07 1 450  CBH  W1P91  PIT11  PIT110  PIT110  PIT110  PIT110  PIT110  PIT110  PIT111  PIT111  PIT11	K1P41 G1P01 05-1-412 KILNON CKO 07-1-421 07-1-421 07-1-450 W1P51 W1P91 W1P101 P1711-22 P7111-23 OFC-1 OFC-2 OFC-3 OFC-4 OFC-5 OFC-6 OFC-6 OFC-6 21P01 Z1P21 Z1P21 07-1-491 Z1P21 Z1P31 Z1P31	Gypsum Feed Hopper Baghouse (G1P01)  Baghouse serving the kiln feed transfer to preheater tower (05-1-412) Kiln stack - Raw Mill On Delivery and shipping of Cement Kiln Dust (CKD) to/from storage piles Baghouse serving south transfer tower (07-1-421) Baghouse serving morth transfer tower (07-1-441) Baghouse serving morth transfer tower (07-1-450) Clinker coler baghouse (W1P51) Clinker roter baghouse (W1P51) Clinker roter baghouse (W1P51) Clinker roter baghouse (W1P91) Baghouse serving clinker truck loading/shipping (W1P101) Transfer of clinker into Tee-Pee storage area Clinker transfer into a hopper Loading Point to Truck (offspec clinker) Truck to Pre-Crushing Stockpiles (offspec clinker) Front-end Loader to Feed Hopper (offspec clinker) Front-end Loader to Feed Hopper (offspec clinker) Crushing (offspec clinker) Crusher to Discharge Conveyor (offspec clinker) Bront-end Loader to Storage Stockpile (offspec clinker) Front-end Loader to Storage Stockpile (offspec clinker) Baghouse serving additive storage silos in finish mill building (Z1P01) Baghouse serving additive storage silos in finish mill building (Z1P11) Baghouse serving additive storage silos in finish mill building (Z1P11) Baghouse serving additive storage silos in finish mill building (Z1P14) Baghouse serving additive storage silos in finish mill building (Z1P11) Baghouse serving additive storage silos in finish mill building (Z1P11) Baghouse serving additive storage silos in finish mill building (Z1P11) Baghouse serving additive storage silos in finish mill building (Z1P11) Baghouse serving additive storage silos in finish mill building (Z1P11) Baghouse serving additive storage silos in finish mill building (Z1P11)	Gypsum/Silica Fume  Raw Feed  Cement Kin Dust  Clinker  Wet C	Preparation and Feed Conventional Fuel Preparation and Feed Clinker Production Cement Production	Chromium	7440-47-3 7440-47-3	4.89E-07 6.55E-06 1.90E-04 1.19E-06 8.04E-06 4.38E-06 5.64E-06 1.05E-04 1.05E-05 6.70E-06 2.3EE-05 3.5TE-05 3.5TE-05 3.5TE-05 3.5TE-05 3.5TE-05 3.5TE-05 2.2EE-07 2.2EE-07 2.2EE-07 2.2EE-07 2.2EE-07 4.1EE-07	24 hr 25 hr 26 hr 27 hr 28 hr 29 hr	MB M	Above Average	0.3% 7.8% -0.1% -0.2% 0.2% 0.2% 0.2% 0.4% 0.3% 0.4% 0.3% 0.4% 0.5% 1.5% 1.5% 1.5% 1.5% -0.1% -0.
GHOPPER  05 1 412  KILNON  CKD  PIT11  07 1 441  07 1 450  CBH  W1P91  PIT11  PIT110  PIT111	KIP41 GIP01 05-1-412 KINON CKD 07-1-421 NINON WIP51 WIP91 WIP91 WIP91 OFC-1 OFC-2 OFC-3 OFC-4 OFC-5 OFC-6 OFC-6 OFC-6 OFC-7 OFC-8 ZIP01 ZIP11 ZIP21 07-1-492 ZIP191 ZIP31	Gypsum Feed Hopper Baghouse (G1P01)  Baghouse serving the kiln feed transfer to preheater tower (05-1-412)  Kiln stack - Raw Mill On Delivery and shipping of Cement Kiln Dust (CKD) to/from storage piles Baghouse serving south transfer tower (07-1-421)  Baghouse serving north transfer tower (07-1-441)  Baghouse serving north transfer tower (07-1-450)  Clinker coler baghouse (W1P51)  Clinker reclaim hopper baghouse (W1P91)  Baghouse serving clinker truck loading/shipping (W1P101)  Transfer of clinker into Tee-Pee storage area  Clinker transfer into a hopper  Loading Polin to Truck (offspec clinker)  Truck to Pre-Crushing Stockpiles (offspec clinker)  Front-end Loader to Feed Hopper (Offspec clinker)  Crushing (offspec clinker)  Crushing (offspec clinker)  Crushing (offspec clinker)  Crusher to Discharge Conveyor (offspec clinker)  Baghouse serving additive storage silos in finish mill building (21P01)  Baghouse serving additive storage silos in finish mill building (07-1-491)  Baghouse serving additive storage silos in finish mill building (07-1-492)  Baghouse serving additive storage silos in finish mill building (21P01)  Baghouse serving additive storage silos in finish mill building (07-1-492)  Baghouse serving additive storage silos in finish mill building (21P01)  Baghouse serving additive storage silos in finish mill building (07-1-492)  Baghouse serving additive storage silos in finish mill building (21P01)	Gypsum/Silica Fume  Raw Feed  Cement Kiin Dust  Clinker  Wet Clink	Preparation and Feed Conventional Fuel Preparation and Feed Clinker Production Cement Production	Chromium	7440-47-3 7440-47-3	4.89E-07 6.55E-06 1.90E-04 1.19E-06 8.04E-06 4.83E-06 5.64E-06 1.05E-04 1.05E-04 1.05E-04 1.05E-05 6.70E-05 3.57E-05 3.57E-05 3.57E-05 3.57E-05 2.22E-07 2.22E-07 2.22E-07 1.32E-07 1.32E-07	24 hr 25 hr 26 hr 27 hr 28 hr 29 hr	MB M	Above Average	0.3% 7.8% <0.1% 0.3% 0.2% 0.2% 4.3% 0.4% 0.3% 1.2% 0.6% 1.5% 1.5% 1.5% 1.5% 1.5% 1.5% 0.1% 0.1% 0.1% 0.1% 0.1% 0.1% 0.1% 0.1
GHOPPER  05 1 412  KILNON  CKD  PIT11  07 1 441  07 1 450  CBH  W1P91  PIT11  PIT110  PIT110  PIT110  PIT110  PIT110  PIT110  PIT111  PIT11  PIT1	K1P41 G1P01 05-1-412 KILNON CK0 07-1-421 VILNON W1P51 W1P91 W1P101 P1711-22 P1711-23 OFC-1 OFC-2 OFC-3 OFC-6 OFC-7 OFC-8 Z1P01 Z1P21 Z1P21 Z1P21 Z1P31 Z1P31 Z1P31 Z1P31 Z1P51 Z1P51 Z1P51 Z1P51 Z1P51	Gypsum Feed Hopper Baghouse (G1P01)  Baghouse serving the kiln feed transfer to preheater tower (05-1-412)  Kiln stack - Raw Mill On  Delivery and shipping of Cement Kiln Dust (CKD) to/from storage piles  Baghouse serving south transfer tower (07-1-421)  Baghouse serving north transfer tower (07-1-421)  Baghouse serving north transfer tower (07-1-450)  Clinker coler baghouse (W1P51)  Clinker reclaim hopper baghouse (W1P91)  Baghouse serving clinker truck loading/shipping (W1P101)  Transfer of clinker into Tee-Pee storage area  Clinker transfer into a hopper  Loading Point to Truck (offspec clinker)  Truck to Pre-Crushing Stockpiles (offspec clinker)  Front-end Loader to Feed Hopper (offspec clinker)  Crusher to Discharge Conveyor (offspec clinker)  Crusher to Discharge Conveyor (offspec clinker)  Discharge Conveyor to Crushed Stockpile (offspec clinker)  Front-end Loader to Storage Stockpile (offspec clinker)  Baghouse serving additive storage silos in finish mill building (Z1P01)  Baghouse serving additive storage silos in finish mill building (Z1P11)  Baghouse serving additive storage silos in finish mill building (Z1P11)  Baghouse serving additive storage silos in finish mill building (Z1P11)  Baghouse serving additive storage silos in finish mill building (Z1P11)  Baghouse serving additive storage silos in finish mill building (Z1P11)  Baghouse serving additive infinish mill building (Z1P11)  Baghouse serving transfer infinish mill (Z1P31)  Finish mill baghouse (Z1P51)  Baghouse serving transfer for fement to storage silo in finish mill building (Z1P61)  Baghouse serving transfer for fement to storage silo in finish mill building (Z1P61)	Gypsum/Silica Fume Raw Feed  Cement Kiln Dust Clinker Wet Clinker Coment Cement Cement Cement Cement	Preparation and Feed Conventional Fuel Preparation and Feed Clinker Production Cement Production	Chromium	7440-47-3 7440-47-3	4.89E-07 6.55E-06 1.90E-04 1.19E-06 8.04E-06 4.83E-06 5.64E-06 1.05E-04 1.05E-04 1.05E-04 1.05E-04 1.05E-05 3.57E-05 3.57E-05 3.57E-05 3.57E-05 2.22E-07 2.22E-07 2.22E-07 2.22E-07 2.22E-07 2.22E-07 1.32E-07 4.41E-06 2.56E-06 1.99E-04 4.21E-06	24 hr 26 hr 27 hr 28 hr 29 hr	MB M	Above Average	0.3% 7.8% <0.1% 0.3% 0.2% 0.3% 0.2% 4.3% 0.4% 0.6% 1.5% 1.5% 1.5% 1.5% 1.5% 0.1% 0.1% 0.1% 0.1% 0.1% 0.1% 0.1% 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
\$200N \$200N	Z1P141 Z1P151	Baghouse serving 200 series cement storage silos (Z1P141) Baghouse serving 200 series cement storage silos (Z1P151)	Cement Cement	Cement Production Cement Production	Chromium Chromium	7440-47-3 7440-47-3	3.53E-06 3.53E-06	24 hr 24 hr	MB MB	Above Average Above Average	0.1% 0.1%
S200N S200N	Z1P171 Z1P181	Baghouse serving 200 series cement storage silos (Z1P171) Baghouse serving 200 series cement storage silos (Z1P181)	Cement Cement	Cement Production Cement Production	Chromium Chromium	7440-47-3 7440-47-3	3.53E-06 2.22E-06	24 hr 24 hr	MB MB	Above Average Above Average	0.1% <0.1%
\$500 \$500	09-1-148	Baghouse serving 200 series cement storage silos (09-1-148) Baghouse serving 200 series cement storage silos (09-1-188)	Cement Cement	Cement Production Cement Production	Chromium Chromium	7440-47-3 7440-47-3	4.46E-06 4.46E-06	24 hr 24 hr	MB MB	Above Average Above Average	0.2%
\$500 \$200N \$200N	09-1-168 09-1-189 09-1-192	Baghouse serving 200 series cement storage silos (I09-1-168) Baghouse serving 200 series cement storage silos (09-1-189) Baghouse serving 200 series cement storage silos (09-1-192)	Cement Cement Cement	Cement Production Cement Production Cement Production	Chromium Chromium Chromium	7440-47-3 7440-47-3 7440-47-3	4.46E-06 2.97E-06 4.46E-06	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	0.2% 0.1% 0.2%
\$200N \$200N	09-1-193 1-17-4	Baghouse serving 200 series cement storage silos (09-1-193) Baghouse serving 200 series cement storage silos (I-1704)	Cement Cement	Cement Production Cement Production	Chromium Chromium	7440-47-3 7440-47-3	2.60E-06 1.86E-06	24 hr 24 hr	MB MB	Above Average Above Average	0.1% <0.1%
\$200S \$200S	I-10-3 I-10-4	Baghouse serving 200 series cement storage silos (I-10-3) Baghouse serving 200 series cement storage silos (I-10-4)	Cement Cement	Cement Production Cement Production	Chromium Chromium	7440-47-3 7440-47-3	1.49E-07 1.49E-06	24 hr 24 hr	MB MB	Above Average Above Average	<0.1%
\$200\$ \$340 \$340	I-22 Z1P161 I-59-3	Baghouse serving 200 series cement storage silos (I-22) Baghouse serving 300/400 series cement storage silos (Z1P161) Baghouse serving 300/400 series cement storage silos (I-59-3)	Cement Cement Cement	Cement Production Cement Production Cement Production	Chromium Chromium Chromium	7440-47-3 7440-47-3 7440-47-3	7.43E-06 3.53E-06 5.57E-06	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	0.3% 0.1% 0.2%
\$340 \$500	09-1-075 09-1-301	Baghouse serving 300/400 series cement storage silos (09-1-075) Baghouse serving 300/400 series cement storage silos (09-1-301)	Cement Cement	Cement Production Cement Production	Chromium Chromium	7440-47-3 7440-47-3	9.21E-07 2.60E-06	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% 0.1%
S500D S340	S500-CL CPV-1	Cement loading from silo into a shipping tanker Baghouse serving packhouse 3 screw conveyor	Cement Cement	Cement Production Cement Production	Chromium Chromium	7440-47-3 7440-47-3	9.33E-05 5.25E-07	24 hr 24 hr	MB MB	Above Average Above Average	3.8%
PACK PACK PACK	09-1-497 09-1-407 09-1-670	Baghouse serving packhouse cement storage silos (09-1-497) Baghouse serving packhouse cement storage silos (09-1-407) Baghouse serving packhouse cement storage silos (09-1-670)	Cement Cement Cement	Cement Production Cement Production Cement Production	Chromium Chromium Chromium	7440-47-3 7440-47-3 7440-47-3	3.72E-06 3.72E-06 1.49E-05	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	0.2% 0.2% 0.6%
PACK	09-1-311	Baghouse serving packhouse cement storage silos (09-1-311)	Cement	Cement Production Limestone Extraction &	Chromium	7440-47-3	3.72E-06	24 hr	MB	Above Average	0.2%
A_16_4 A_15_5	A-16-4 A-15-5	Baghouse serving the secondary crusher (A-16-4)  Baghouse serving the secondary screen (A-15-5)	Limestone  Limestone	Processing Limestone Extraction &	Cobalt	7440-48-4	3.66E-07 1.61E-07	24 hr	MB MB	Above Average  Above Average	<0.1%
PPILE	PPILE	Transfer of limestone onto primary surge pile	Limestone	Processing 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 / Conventiona	Cobalt	7440-48-4	2.00E-07	24 hr	МВ	Above Average	<0.1%
		·		Fuel Delivery and Storage  Raw Material / Conventiona							
PILES	PILES-2	Delivery and transfer of raw materials	Raw Feed	Fuel Delivery and Storage	Cobait	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 / Conventiona Fuel Delivery and Storage	Cobalt	7440-48-4	1.68E-07	24 hr	МВ	Above Average	<0.1%
RAWS	04-1-401	Raw material storage silo baghouse (04-1-401)	Raw Feed	Raw Material / Conventiona Fuel Delivery and Storage	Cobalt	7440-48-4	1.52E-06	24 hr	МВ	Above Average	0.2%
CLDT	CLDT 4	Construction for the city	Clau/Adamanahina	Raw Material / Conventiona	Cobalt	7440 40 4	2.025.07	241.			<0.1%
CLPT	CLPT-1	Scraper from face onto a pile	Clay/Momentive	Fuel Delivery and Storage		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 / Conventiona 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 / Conventiona Fuel Delivery and Storage	Cobalt	7440-48-4	1.74E-04	24 hr	МВ	Above Average	26.2%
FSSC	FSSC-2	Feed Hopper to raw material screener	Foundry Sand/Silica	Raw Material / Conventiona	Cobalt	7440-48-4	2.04E-06	24 hr	MB	Above Average	0.3%
				Fuel Delivery and Storage  Raw Material / Conventiona							
FSSC	FSSC-3	Raw material screening	Foundry Sand/Silica	Fuel Delivery and Storage	Cobalt	7440-48-4	3.20E-05	24 hr	МВ	Above Average	4.8%
FSSC	FSSC-4	Raw material transfer from Screener to Conveyor	Foundry Sand/Silica	Raw Material / Conventiona Fuel Delivery and Storage	Cobalt	7440-48-4	2.04E-06	24 hr	МВ	Above Average	0.3%
FSSC	FSSC-5	Raw material transfer from Conveyor to Stacker	Foundry Sand/Silica	Raw Material / Conventiona	Cobalt	7440-48-4	2.04E-06	24 hr	МВ	Above Average	0.3%
		·		Fuel Delivery and Storage  Raw Material / Conventiona							
FSSCD PIT11	FSSC-6 04-1-411	Drop of raw material from Stacker to Stockpile  Baghouse serving the raw material storage silos for raw mill (04-1-411)	Foundry Sand/Silica  Raw Feed	Fuel Delivery and Storage	Cobalt	7440-48-4	1.74E-04 5.06E-07	24 hr 24 hr	MB MB	Above Average	26.2% <0.1%
PIT11 PIT11 HSILOS	04-1-411 04-1-412 H1P41	Baghouse serving the raw material storage silos for raw mill (04-1-412)  Baghouse serving kin feed silos (H1P41)	Raw Feed Raw Feed	Raw Material Preparation Raw Material Preparation Raw Material Preparation	Cobalt Cobalt	7440-48-4 7440-48-4 7440-48-4	5.88E-07 1.53E-06	24 hr 24 hr	MB MB	Above Average Above Average Above Average	<0.1% <0.1% 0.2%
HSILOS HSILOS	H1P51 H1P61	Baghouse serving kiln feed silos (H1P51) Baghouse serving kiln feed silos (H1P61)	Raw Feed Raw Feed	Raw Material Preparation Raw Material Preparation	Cobalt Cobalt	7440-48-4 7440-48-4	1.53E-06 1.53E-06	24 hr 24 hr	MB MB	Above Average Above Average	0.2% 0.2%
K1P11	K1P11	Fuel mill baghouse (K1P11)	Conventional Fuel	Conventional Fuel Preparation and Feed	Cobalt	7440-48-4	6.12E-08	24 hr	МВ	Above Average	<0.1%
K1P31	K1P31	Fuel meal storage silo baghouse (K1P31)	Conventional Fuel	Conventional Fuel Preparation and Feed Conventional Fuel	Cobalt	7440-48-4	9.18E-08	24 hr	МВ	Above Average	<0.1%
K1P41 GHOPPER	K1P41 G1P01	Baghouse serving the north auxiliary fuel silo (K1P41)  Gypsum Feed Hopper Baghouse (G1P01)	Conventional Fuel  Gypsum/Silica Fume	Preparation and Feed Conventional Fuel	Cobalt	7440-48-4	2.40E-08 4.64E-07	24 hr 24 hr	MB 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	Preparation and Feed Clinker Production	Cobalt	7440-48-4	1.35E-06	24 hr	MB	Above Average  Above Average	0.2%
CKD PIT11	KILNON CKD 07-1-421	Kiln stack - Raw Mill On Delivery and shipping of Cement Kiln Dust (CKD) to/from storage piles Baghouse serving south transfer tower (07-1-421)	- Cement Kiln Dust Clinker	Clinker Production Clinker Production Clinker Production	Cobalt Cobalt Cobalt	7440-48-4 7440-48-4 7440-48-4	3.80E-05 2.45E-07 1.65E-06	24 hr 24 hr 24 hr	ST MB MB	Above Average Above Average Above Average	5.7% <0.1% 0.2%
07_1_441 07_1_450	07-1-421 07-1-441 07-1-450	Baghouse serving north transfer tower (07-1-441) Baghouse serving north transfer tower (07-1-450)	Clinker Clinker	Clinker Production Clinker Production	Cobalt Cobalt	7440-48-4 7440-48-4	9.94E-07 1.16E-06	24 hr 24 hr	MB MB	Above Average Above Average	0.1%
CBH W1P91	W1P51 W1P91	Clinker cooler baghouse (W1P51) Clinker reclaim hopper baghouse (W1P91)	Clinker Clinker	Clinker Production Clinker Production	Cobalt Cobalt	7440-48-4 7440-48-4	2.16E-05 2.16E-06	24 hr 24 hr	MB MB	Above Average Above Average	3.2% 0.3%
PIT11 PIT11D PIT11D	W1P101 PIT11-22 PIT11-23	Baghouse serving clinker truck loading/shipping (W1P101) Transfer of clinker into Tee-Pee storage area Clinker transfer into a hopper	Clinker Clinker Clinker	Clinker Production Clinker Production Clinker Production	Cobalt Cobalt Cobalt	7440-48-4 7440-48-4 7440-48-4	1.38E-06 5.79E-06 2.97E-06	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	0.2% 0.9% 0.4%
PIT11D PIT11D	OFC-1 OFC-2	Truck to Pre-Crushing Stockpiles (offspec clinker)	Clinker Wet Clinker	Clinker Production Clinker Production	Cobalt Cobalt	7440-48-4 7440-48-4	7.42E-05 7.35E-06	24 hr 24 hr	MB MB	Above Average Above Average	11.1%
PIT11D PIT11	OFC-3 OFC-4	Front-end Loader to Feed Hopper (offspec clinker) Feeder to Crusher (offspec clinker)	Wet Clinker Wet Clinker	Clinker Production Clinker Production	Cobalt Cobalt	7440-48-4 7440-48-4	7.35E-06 8.59E-08	24 hr 24 hr	MB MB	Above Average Above Average	1.1% <0.1%
PIT11 PIT11 PIT11D	OFC-5 OFC-6 OFC-7	Crushing (offspec clinker) Crusher to Discharge Conveyor (offspec clinker) Discharge Conveyor to Crushed Stockpile (offspec clinker)	Wet Clinker Wet Clinker Wet Clinker	Clinker Production Clinker Production Clinker Production	Cobalt Cobalt Cobalt	7440-48-4 7440-48-4 7440-48-4	7.37E-07 8.59E-08 7.35E-06	24 hr 24 hr 24 hr	MB MB MB	Above Average	0.1% <0.1% 1.1%
PIT11D PIT11D BLSI	OFC-7 OFC-8 Z1P01	Bashouse serving additive storage slockpile (offspec clinker)  Baghouse serving additive storage slios in finish mill building (Z1P01)	Wet Clinker  Wet Clinker  Gypsum/Silica Fume	Clinker Production Clinker Production Cement Production	Cobalt Cobalt	7440-48-4 7440-48-4	7.35E-06 7.35E-06 2.11E-07	24 hr 24 hr 24 hr	MB MB	Above Average Above Average Above Average	1.1%
BLSI BLSI	Z1P11 Z1P21	Baghouse serving additive storage silos in finish mill building (Z1P11) Baghouse serving additive storage silos in finish mill building (Z1P21)	Gypsum/Silica Fume Gypsum/Silica Fume	Cement Production Cement Production	Cobalt Cobalt	7440-48-4 7440-48-4	2.11E-07 2.11E-07	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% <0.1%
PIT11 PIT11 PIT11	07-1-491 07-1-492	Baghouse serving additive storage silos in finish mill building (07-1-491)  Baghouse serving additive storage silos in finish mill building (07-1-492)  Baghouse serving transfer of additive in finish mill building (Z1P191)	Gypsum/Silica Fume Gypsum/Silica Fume Cement	Cement Production Cement Production	Cobalt Cobalt Cobalt	7440-48-4 7440-48-4 7440-48-4	2.01E-07 1.25E-07	24 hr 24 hr	MB MB MB	Above Average Above Average	<0.1% <0.1% 0.1%
Z1P31 BAML	Z1P191 Z1P31 Z1P51	Baghouse serving transfer into finish mill (Z1P31) Finish mill baghouse (Z1P51)	Cement Cement	Cement Production Cement Production Cement Production	Cobalt Cobalt	7440-48-4 7440-48-4 7440-48-4	9.16E-07 5.31E-07 4.14E-05	24 hr 24 hr 24 hr	MB MB	Above Average Above Average Above Average	<0.1% <0.1% 6.2%
BAML Z1P41	Z1P61 Z1P41	Baghouse for transfer of cement to storage silo in finish mill building (Z1P61) Baghouse serving transfer from finish mill (Z1P41)	Cement Cement	Cement Production Cement Production	Cobalt Cobalt	7440-48-4 7440-48-4	9.16E-07 4.58E-07	24 hr 24 hr	MB MB	Above Average Above Average	0.1% <0.1%
\$200S \$200N	Z1P71 Z1P81	Baghouse serving transfer from finish mill (Z1P71) Baghouse serving 200 series cement storage silos (Z1P81) Baghouse sening 200 series cement storage silos (Z1P81)	Cement Cement	Cement Production Cement Production	Cobalt Cobalt	7440-48-4 7440-48-4	1.38E-07 1.45E-07	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% <0.1%
S200N S200N S200N	Z1P91 Z1P101 Z1P141	Baghouse serving 200 series cement storage silos (Z1P91) Baghouse serving 200 series cement storage silos (Z1P101) Baghouse serving 200 series cement storage silos (Z1P141)	Cement Cement Cement	Cement Production Cement Production Cement Production	Cobalt Cobalt Cobalt	7440-48-4 7440-48-4 7440-48-4	1.45E-07 1.45E-07 7.32E-07	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	<0.1% <0.1% 0.1%
S200N S200N	Z1P151 Z1P171	Baghouse serving 200 series cement storage silos (Z1P151) Baghouse serving 200 series cement storage silos (Z1P171)	Cement Cement	Cement Production Cement Production	Cobalt Cobalt	7440-48-4 7440-48-4	7.32E-07 7.32E-07	24 hr 24 hr	MB MB	Above Average Above Average	0.1% 0.1%
\$200N \$500	Z1P181 09-1-148	Baghouse serving 200 series cement storage silos (Z1P181) Baghouse serving 200 series cement storage silos (09-1-148) Baghouse serving 200 series cement storage silos (109-1-148)	Cement Cement	Cement Production Cement Production	Cobalt Cobalt	7440-48-4 7440-48-4	4.61E-07 9.26E-07	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% 0.1%
\$500 \$500 \$200N	09-1-158 09-1-168 09-1-189	Baghouse serving 200 series cement storage silos (09-1-158) Baghouse serving 200 series cement storage silos (109-1-168) Baghouse serving 200 series cement storage silos (09-1-189)	Cement Cement Cement	Cement Production Cement Production Cement Production	Cobalt Cobalt Cobalt	7440-48-4 7440-48-4 7440-48-4	9.26E-07 9.26E-07 6.16E-07	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	0.1% 0.1% <0.1%
S200N S200N	09-1-192 09-1-193	Baghouse serving 200 series cement storage silos (09-1-192) Baghouse serving 200 series cement storage silos (09-1-193)	Cement Cement	Cement Production Cement Production Cement Production	Cobalt Cobalt	7440-48-4 7440-48-4	9.26E-07 5.41E-07	24 hr 24 hr	MB MB	Above Average Above Average	0.1% <0.1%
S200N S200S	1-17-4 I-10-3	Baghouse serving 200 series cement storage silos (I-1704) Baghouse serving 200 series cement storage silos (I-10-3)	Cement Cement	Cement Production Cement Production	Cobalt Cobalt	7440-48-4 7440-48-4	3.86E-07 3.10E-08	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% <0.1%
\$200S \$200S \$340	I-10-4 I-22 Z1P161	Baghouse serving 200 series cement storage silos (I-10-4) Baghouse serving 200 series cement storage silos (I-22) Baghouse serving 300/400 series cement storage silos (Z1P161)	Cement Cement Cement	Cement Production Cement Production Cement Production	Cobalt Cobalt Cobalt	7440-48-4 7440-48-4 7440-48-4	3.10E-07 1.54E-06 7.32E-07	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	<0.1% 0.2% 0.1%
S340 S340 S340	I-59-3 09-1-075	Baghouse serving 300/400 series cement storage silos (L-19-1) Baghouse serving 300/400 series cement storage silos (L-59-3) Baghouse serving 300/400 series cement storage silos (09-1-075)	Cement Cement	Cement Production Cement Production	Cobalt Cobalt	7440-48-4 7440-48-4 7440-48-4	1.16E-06 1.91E-07	24 hr 24 hr 24 hr	MB MB	Above Average Above Average	0.1%
\$500 \$500D	09-1-301 S500-CL	Baghouse serving 300/400 series cement storage silos (09-1-301) Cement loading from silo into a shipping tanker	Cement Cement	Cement Production Cement Production	Cobalt Cobalt	7440-48-4 7440-48-4	5.41E-07 1.94E-05	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% 2.9%
S340 PACK	CPV-1 09-1-497 09-1-407	Baghouse serving packhouse 3 screw conveyor  Baghouse serving packhouse cement storage silos (09-1-497)  Baghouse serving packhouse cement storage silos (09-1-407)	Cement Cement Cement	Cement Production Cement Production Cement Production	Cobalt Cobalt Cobalt	7440-48-4 7440-48-4 7440-48-4	1.09E-07 7.71E-07	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	<0.1% 0.1% 0.1%
PACK PACK PACK	09-1-407 09-1-670 09-1-311	Baghouse serving packhouse cement storage silos (09-1-407) Baghouse serving packhouse cement storage silos (09-1-670) Baghouse serving packhouse cement storage silos (09-1-311)	Cement Cement Cement	Cement Production Cement Production Cement Production	Cobalt Cobalt	7440-48-4 7440-48-4 7440-48-4	7.71E-07 3.08E-06 7.71E-07	24 hr 24 hr 24 hr	MB MB	Above Average Above Average Above Average	0.1% 0.5% 0.1%
KILNON KILNON	KILNON KILNON	Kiln stack - Raw Mill On Kiln stack - Raw Mill On	-	Clinker Production Clinker Production	Dibromochloromethane Dibromoethane, 1,2-	124-48-1 106-93-4	9.37E-03 7.40E-03	24 hr 24 hr	ST ST	Above Average Above Average	100.0% 100.0%
KILNON KILNON	KILNON KILNON	Kiln stack - Raw Mill On Kiln stack - Raw Mill On Kiln stack - Raw Mill On		Clinker Production Clinker Production Clinker Production	Dichloroethane, 1,2- Dichloroethene, 1,1- Dimethylanthracene, 9,10-	107-06-2 75-35-4 781-43-1	7.39E-03 1.15E-02 1.40E-04	24 hr 24 hr 24 hr	ST ST ST	Above Average Above Average	100.0% 100.0% 100.0%
A_16_4	A-16-4	Baghouse serving the secondary crusher (A-16-4)	Limestone	Limestone Extraction &  Processing	Ferric Oxide	1309-37-1	1.40E-04 1.17E-03	24 hr 24 hr	MB	Above Average  Above Average	0.1%
A_15_5	A-15-5	Baghouse serving the secondary screen (A-15-5)	Limestone	Limestone Extraction & Processing	Ferric Oxide	1309-37-1	5.15E-04	24 hr	МВ	Above Average	<0.1%
PPILE	PPILE	Transfer of limestone onto primary surge pile	Limestone	Limestone Extraction & Processing	Ferric Oxide	1309-37-1	8.33E-03	24 hr	МВ	Above Average	0.9%
PILES	PILES-1	Delivery and transfer of conventional fuel	Conventional Fuel	Raw Material / Conventiona Fuel Delivery and Storage	Ferric Oxide	1309-37-1	9.31E-04	24 hr	МВ	Above Average	0.1%
PILES	PILES-2	Delivery and transfer of raw materials	Raw Feed	Raw Material / Conventiona	Ferric Oxide	1309-37-1	4.35E-03	24 hr	МВ	Above Average	0.5%
				Fuel Delivery and Storage  Raw Material / Conventiona							
K1P51	K1P51	Conventional fuel storage silo baghouse (K1P51)	Conventional Fuel	Fuel Delivery and Storage	remit Oxide	1309-37-1	7.84E-04	24 hr	MB	Above Average	<0.1%
RAWS	04-1-401	Raw material storage silo baghouse (04-1-401)	Raw Feed	Raw Material / Conventiona Fuel Delivery and Storage	Ferric Oxide	1309-37-1	2.78E-03	24 hr	МВ	Above Average	0.3%
CLPT	CLPT-1	Scraper from face onto a pile	Clay/Momentive	Raw Material / Conventiona Fuel Delivery and Storage	Ferric Oxide	1309-37-1	1.04E-03	24 hr	МВ	Above Average	0.1%
CLET	CLDT 3	Front end loader transfer into truck	Clau/Mame=**:-	Raw Material / Conventiona	Ferric Oxide	1200 27	1.045.00	244	340	Above Access	0.1%
CLPT	CLPT-2		Clay/Momentive	Fuel Delivery and Storage	rent coalde	1309-37-1	1.04E-03	24 hr	MB	Above Average	
FSSCD	FSSC-1	Front-end Loader to Feed Hopper for raw material screen	Foundry Sand/Silica	Raw Material / Conventiona Fuel Delivery and Storage	Ferric Oxide	1309-37-1	1.97E-01	24 hr	МВ	Above Average	21.9%

Modelled Source	ESDM Source	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 / Conventiona Fuel Delivery and Storage	Ferric Oxide	1309-37-1	2.30E-03	24 hr	МВ	Above Average	0.3%
FSSC	FSSC-3	Raw material screening	Foundry Sand/Silica	Raw Material / Conventiona	Ferric Oxide	1309-37-1	3.62E-02	24 hr	МВ	Above Average	4.0%
FSSC	FSSC-4	Raw material transfer from Screener to Conveyor	Foundry Sand/Silica	Fuel Delivery and Storage  Raw Material / Conventiona	Ferric Oxide	1309-37-1	2.30E-03	24 hr	MB	Above Average	0.3%
				Fuel Delivery and Storage  Raw Material / Conventiona							0.3%
FSSC	FSSC-5	Raw material transfer from Conveyor to Stacker	Foundry Sand/Silica	Fuel Delivery and Storage  Raw Material / Conventiona	1	1309-37-1	2.30E-03	24 hr	MB	Above Average	
FSSCD PIT11	FSSC-6 04-1-411	Drop of raw material from Stacker to Stockpile  Baghouse serving the raw material storage silos for raw mill (04-1-411)	Foundry Sand/Silica  Raw Feed	Fuel Delivery and Storage  Raw Material Preparation	Ferric Oxide Ferric Oxide	1309-37-1	1.97E-01 9.28E-04	24 hr 24 hr	MB MB	Above Average  Above Average	21.9% 0.1%
PIT11 HSILOS HSILOS	04-1-412 H1P41 H1P51	Baghouse serving kin feed silos (H1P51) Baghouse serving kin feed silos (H1P51)	Raw Feed Raw Feed Raw Feed	Raw Material Preparation Raw Material Preparation Raw Material Preparation	Ferric Oxide Ferric Oxide Ferric Oxide	1309-37-1 1309-37-1 1309-37-1	1.08E-03 2.81E-03 2.81E-03	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	0.1% 0.3% 0.3%
HSILOS K1P11	H1P61 K1P11	Baghouse serving kiln feed silos (H1P61) Fuel mill baghouse (K1P11)	Raw Feed Conventional Fuel	Raw Material Preparation Conventional Fuel	Ferric Oxide Ferric Oxide	1309-37-1 1309-37-1	2.81E-03 2.86E-04	24 hr	MB MB	Above Average  Above Average	0.3%
K1P31	K1P31	Fuel meal storage silo baghouse (K1P31)	Conventional Fuel	Preparation and Feed Conventional Fuel Preparation and Feed	Ferric Oxide	1309-37-1	4.28E-04	24 hr	МВ	Above Average	<0.1%
K1P41 GHOPPER	K1P41	Baghouse serving the north auxiliary fuel silo (K1P41)  Gypsum Feed Hopper Baghouse (G1P01)	Conventional Fuel  Gypsum/Silica Fume	Conventional Fuel Preparation and Feed Conventional Fuel	Ferric Oxide  Ferric Oxide	1309-37-1	1.12E-04	24 hr	MB MB	Above Average	<0.1%
05_1_412 KILNON	G1P01 05-1-412 KILNON	Baghouse serving the kiln feed transfer to preheater tower (05-1-412) Kiln stack - Raw Mill On	Raw Feed	Preparation and Feed Clinker Production Clinker Production	Ferric Oxide Ferric Oxide Ferric Oxide	1309-37-1 1309-37-1 1309-37-1	2.76E-04 2.47E-03 1.50E-02	24 hr 24 hr 24 hr	MB ST	Above Average Above Average Above Average	0.3%
CKD PIT11	CKD 07-1-421	Delivery and shipping of Cement Kiln Dust (CKD) to/from storage piles Baghouse serving south transfer tower (07-1-421) Baghouse serving north transfer tower (07-1-441)	Cement Kiln Dust Clinker Clinker	Clinker Production Clinker Production Clinker Production	Ferric Oxide Ferric Oxide Ferric Oxide	1309-37-1 1309-37-1	4.50E-04 3.04E-03	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% 0.3% 0.2%
07_1_441 07_1_450 CBH	07-1-441 07-1-450 W1P51	Baghouse serving north transfer tower (07-1-450) Clinker cooler baghouse (W1P51)	Clinker Clinker	Clinker Production Clinker Production	Ferric Oxide Ferric Oxide	1309-37-1 1309-37-1 1309-37-1	1.83E-03 2.13E-03 3.97E-02	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	0.2% 4.4%
W1P91 PIT11 PIT11D	W1P91 W1P101 PIT11-22	Clinker reclaim hopper baghouse (W1P91) Baghouse serving clinker truck loading/shipping (W1P101) Transfer of clinker into Tee-Pee storage area	Clinker Clinker Clinker	Clinker Production Clinker Production Clinker Production	Ferric Oxide Ferric Oxide Ferric Oxide	1309-37-1 1309-37-1 1309-37-1	3.96E-03 2.53E-03 1.06E-02	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	0.4% 0.3% 1.2%
PIT11D PIT11D PIT11D	PIT11-23 OFC-1 OFC-2	Clinker transfer into a hopper Loading Point to Truck (offspec clinker) Truck to Pre-Crushing Stockpiles (offspec clinker)	Clinker Clinker Wet Clinker	Clinker Production Clinker Production Clinker Production	Ferric Oxide Ferric Oxide Ferric Oxide	1309-37-1 1309-37-1 1309-37-1	5.46E-03 1.36E-01 1.35E-02	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	0.6% 15.2% 1.5%
PIT11D PIT11	OFC-3 OFC-4	Front-end Loader to Feed Hopper (offspec clinker) Feeder to Crusher (offspec clinker)	Wet Clinker Wet Clinker	Clinker Production Clinker Production	Ferric Oxide Ferric Oxide	1309-37-1 1309-37-1	1.35E-02 1.58E-04	24 hr 24 hr	MB MB	Above Average Above Average	1.5% <0.1%
PIT11 PIT11 PIT11D	OFC-5 OFC-6 OFC-7	Crushing (offspec clinker) Crusher to Discharge Conveyor (offspec clinker) Discharge Conveyor to Crushed Stockpile (offspec clinker)	Wet Clinker Wet Clinker Wet Clinker	Clinker Production Clinker Production Clinker Production	Ferric Oxide Ferric Oxide Ferric Oxide	1309-37-1 1309-37-1 1309-37-1	1.35E-03 1.58E-04 1.35E-02	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	0.2% <0.1% 1.5%
PIT11D BLSI BLSI	OFC-8 Z1P01 Z1P11	Front-end Loader to Storage Stockpile (offspec clinker) Baghouse serving additive storage silos in finish mill building (Z1P01) Baghouse serving additive storage silos in finish mill building (Z1P11)	Wet Clinker Gypsum/Silica Fume Gypsum/Silica Fume	Clinker Production Cement Production Cement Production	Ferric Oxide Ferric Oxide Ferric Oxide	1309-37-1 1309-37-1 1309-37-1	1.35E-02 1.26E-04 1.26E-04	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	1.5% <0.1% <0.1%
BLSI PIT11 PIT11	Z1P21 07-1-491 07-1-492	Baghouse serving additive storage silos in finish mill building (Z1P21)  Baghouse serving additive storage silos in finish mill building (07-1-491)  Baghouse serving additive storage silos in finish mill building (07-1-492)	Gypsum/Silica Fume Gypsum/Silica Fume Gypsum/Silica Fume	Cement Production Cement Production Cement Production	Ferric Oxide Ferric Oxide Ferric Oxide Ferric Oxide	1309-37-1 1309-37-1 1309-37-1	1.26E-04 1.19E-04 7.46E-05	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	<0.1% <0.1% <0.1%
PIT11 Z1P31	Z1P191 Z1P31	Baghouse serving transfer of additive in finish mill building (Z1P191) Baghouse serving transfer into finish mill (Z1P31)	Cement Cement	Cement Production Cement Production	Ferric Oxide Ferric Oxide	1309-37-1 1309-37-1	1.68E-03 9.72E-04	24 hr 24 hr	MB MB	Above Average Above Average	0.2% 0.1%
BAML BAML Z1P41	Z1P51 Z1P61 Z1P41	Finish mill baghouse (Z1P51) Baghouse for transfer of cement to storage silo in finish mill building (Z1P61) Baghouse serving transfer from finish mill (Z1P41)	Cement Cement Cement	Cement Production Cement Production Cement Production	Ferric Oxide Ferric Oxide Ferric Oxide	1309-37-1 1309-37-1 1309-37-1	7.58E-02 1.68E-03 8.39E-04	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	8.4% 0.2% <0.1%
S200S S200N S200N	Z1P71 Z1P81 Z1P91	Baghouse serving transfer from finish mill (Z1P71) Baghouse serving 200 series cement storage silos (Z1P81) Baghouse serving 200 series cement storage silos (Z1P91)	Cement Cement Cement	Cement Production Cement Production Cement Production	Ferric Oxide Ferric Oxide Ferric Oxide	1309-37-1 1309-37-1 1309-37-1	2.54E-04 2.66E-04 2.66E-04	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	<0.1% <0.1% <0.1%
S200N S200N S200N	Z1P101 Z1P141 Z1P151	Baghouse serving 200 series cement storage silos (Z1P101) Baghouse serving 200 series cement storage silos (Z1P141) Baghouse serving 200 series cement storage silos (Z1P151)	Cement Cement Cement	Cement Production Cement Production Cement Production	Ferric Oxide Ferric Oxide Ferric Oxide	1309-37-1 1309-37-1 1309-37-1	2.66E-04 1.34E-03 1.34E-03	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	<0.1% 0.1% 0.1%
S200N S200N	Z1P171 Z1P181	Baghouse serving 200 series cement storage silos (Z1P171) Baghouse serving 200 series cement storage silos (Z1P181)	Cement Cement	Cement Production Cement Production	Ferric Oxide Ferric Oxide	1309-37-1 1309-37-1	1.34E-03 8.45E-04	24 hr 24 hr	MB MB	Above Average Above Average	0.1% <0.1%
\$500 \$500 \$500	09-1-148 09-1-158 09-1-168	Baghouse serving 200 series cement storage silos (09-1-148) Baghouse serving 200 series cement storage silos (09-1-158) Baghouse serving 200 series cement storage silos (109-1-168)	Cement Cement Cement	Cement Production Cement Production Cement Production	Ferric Oxide Ferric Oxide Ferric Oxide	1309-37-1 1309-37-1 1309-37-1	1.70E-03 1.70E-03 1.70E-03	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	0.2% 0.2% 0.2%
S200N S200N S200N	09-1-189 09-1-192 09-1-193	Baghouse serving 200 series cement storage silos (09-1-189) Baghouse serving 200 series cement storage silos (09-1-192) Baghouse serving 200 series cement storage silos (09-1-193)	Cement Cement Cement	Cement Production Cement Production Cement Production	Ferric Oxide Ferric Oxide Ferric Oxide	1309-37-1 1309-37-1 1309-37-1	1.13E-03 1.70E-03 9.90E-04	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	0.1% 0.2% 0.1%
S200N S200S S200S	1-17-4 I-10-3 I-10-4	Baghouse serving 200 series cement storage silos (I-1704) Baghouse serving 200 series cement storage silos (I-10-3) Baghouse serving 200 series cement storage silos (I-10-4)	Cement Cement Cement	Cement Production Cement Production Cement Production	Ferric Oxide Ferric Oxide Ferric Oxide	1309-37-1 1309-37-1 1309-37-1	7.06E-04 5.68E-05 5.68E-04	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average	<0.1% <0.1% <0.1%
S200S S340	I-22 Z1P161	Baghouse serving 200 series cement storage silos (I-22) Baghouse serving 300/400 series cement storage silos (Z1P161)	Cement Cement	Cement Production Cement Production	Ferric Oxide Ferric Oxide	1309-37-1 1309-37-1	2.83E-03 1.34E-03	24 hr 24 hr	MB MB	Above Average Above Average Above Average	0.3% 0.1%
\$340 \$340 \$500	I-59-3 09-1-075 09-1-301	Baghouse serving 300/400 series cement storage silos (I-59-3)  Baghouse serving 300/400 series cement storage silos (09-1-075)  Baghouse serving 300/400 series cement storage silos (09-1-301)	Cement Cement Cement	Cement Production Cement Production Cement Production	Ferric Oxide Ferric Oxide Ferric Oxide	1309-37-1 1309-37-1 1309-37-1	2.12E-03 3.50E-04 9.90E-04	24 hr 24 hr 24 hr	MB MB	Above Average Above Average Above Average	0.2% <0.1% 0.1%
S500D S340 PACK	S500-CL CPV-1 09-1-497	Cement loading from silo into a shipping tanker Baghouse serving packhouse 3 screw conveyor Baghouse serving packhouse cement storage silos (09-1-497)	Cement Cement Cement	Cement Production Cement Production Cement Production	Ferric Oxide Ferric Oxide Ferric Oxide	1309-37-1 1309-37-1 1309-37-1	3.55E-02 1.99E-04 1.41E-03	24 hr 24 hr 24 hr	MB MB	Above Average Above Average Above Average	3.9% <0.1% 0.2%
PACK PACK PACK	09-1-407 09-1-670 09-1-311	Baghouse serving packhouse cement storage silos (09-1-407) Baghouse serving packhouse cement storage silos (09-1-670) Baghouse serving packhouse cement storage silos (09-1-311)	Cement Cement Cement	Cement Production Cement Production Cement Production	Ferric Oxide Ferric Oxide Ferric Oxide	1309-37-1 1309-37-1 1309-37-1	1.41E-03 5.65E-03 1.41E-03	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	0.2% 0.6% 0.2%
KILNON KILNON	KILNON KILNON	Kiln stack - Raw Mill On Kiln stack - Raw Mill On	-	Clinker Production Clinker Production	Fluoranthene Fluorene	206-44-0 86-73-7	7.10E-05 9.20E-04	24 hr 24 hr	ST ST	Above Average Above Average	100.0% 100.0%
KILNON KILNON A_16_4	KILNON KILNON A-16-4	Kiln stack - Raw Mill On Kiln stack - Raw Mill On Baghouse serving the secondary crusher (A-16-4)	- Limestone	Clinker Production Clinker Production Limestone Extraction &	Hexachlorobenzene Hydrogen Chloride Lead	118-74-1 7647-01-0 7439-92-1	4.97E-05 1.23E+00 1.89E-06	24 hr 24 hr 24 hr	ST ST MB	Above Average  Above Average  Above Average	100.0% 100.0% <0.1%
A_15_5	A-15-5	Baghouse serving the secondary screen (A-15-5)	Limestone	Processing Limestone Extraction & Processing	Lead	7439-92-1	8.30E-07	24 hr	МВ	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	МВ	Above Average	0.1%
PILES	PILES-1	Delivery and transfer of conventional fuel	Conventional Fuel	Raw Material / Conventiona Fuel Delivery and Storage	Lead	7439-92-1	7.98E-07	24 hr	МВ	Above Average	<0.1%
PILES	PILES-2	Delivery and transfer of raw materials	Raw Feed	Raw Material / Conventiona Fuel Delivery and Storage	Lead	7439-92-1	4.52E-05	24 hr	МВ	Above Average	0.5%
K1P51	K1P51	Conventional fuel storage silo baghouse (K1P51)	Conventional Fuel	Raw Material / Conventiona Fuel Delivery and Storage	Lead	7439-92-1	6.72E-07	24 hr	МВ	Above Average	<0.1%
RAWS	04-1-401	Raw material storage silo baghouse (04-1-401)	Raw Feed	Raw Material / Conventiona Fuel Delivery and Storage	Lead	7439-92-1	2.89E-05	24 hr	МВ	Above Average	0.3%
CLPT	CLPT-1	Scraper from face onto a pile	Clay/Momentive	Raw Material / Conventiona Fuel Delivery and Storage	Lead	7439-92-1	1.32E-06	24 hr	МВ	Above Average	<0.1%
CLPT	CLPT-2	Front end loader transfer into truck	Clay/Momentive	Raw Material / Conventiona Fuel Delivery and Storage	Lead	7439-92-1	1.32E-06	24 hr	МВ	Above Average	<0.1%
FSSCD	FSSC-1	Front-end Loader to Feed Hopper for raw material screen	Foundry Sand/Silica	Raw Material / Conventiona Fuel Delivery and Storage	Lead	7439-92-1	1.68E-03	24 hr	МВ	Above Average	18.0%
FSSC	FSSC-2	Feed Hopper to raw material screener	Foundry Sand/Silica	Raw Material / Conventiona	l Lead	7439-92-1	1.96E-05	24 hr	МВ	Above Average	0.2%
FSSC	FSSC-3	Raw material screening	Foundry Sand/Silica	Raw Material / Conventiona	Lead	7439-92-1	3.08E-04	24 hr	МВ	Above Average	3.3%
FSSC	FSSC-4	Raw material transfer from Screener to Conveyor	Foundry Sand/Silica	Fuel Delivery and Storage  Raw Material / Conventiona		7439-92-1	1.96E-05	24 hr	MB	Above Average	0.2%
				Fuel Delivery and Storage  Raw Material / Conventiona	Lead						
FSSC	FSSC-5	Raw material transfer from Conveyor to Stacker	Foundry Sand/Silica	Fuel Delivery and Storage  Raw Material / Conventiona	Leau	7439-92-1	1.96E-05	24 hr	МВ	Above Average	0.2%
FSSCD PIT11	FSSC-6 04-1-411	Drop of raw material from Stacker to Stockpile  Baghouse serving the raw material storage silos for raw mill (04-1-411)	Foundry Sand/Silica  Raw Feed	Fuel Delivery and Storage Raw Material Preparation	Ledu	7439-92-1 7439-92-1	1.68E-03 9.65E-06	24 hr 24 hr	MB MB	Above Average	18.0%
PIT11 HSILOS HSILOS	04-1-412 H1P41 H1P51	Baghouse serving the raw material storage silos for raw mill (04-1-412) Baghouse serving kiln feed silos (H1P51) Baghouse serving kiln feed silos (H1P51)	Raw Feed Raw Feed Raw Feed	Raw Material Preparation Raw Material Preparation	Lead	7439-92-1 7439-92-1 7439-92-1	1.12E-05 2.92E-05 2.92E-05	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average	0.1% 0.3% 0.3%
HSILOS HSILOS K1P11	H1P51 H1P61 K1P11	Baghouse serving kiln feed silos (H1P51) Baghouse serving kiln feed silos (H1P61) Fuel mill baghouse (K1P11)	Raw Feed Raw Feed Conventional Fuel	Raw Material Preparation Raw Material Preparation Conventional Fuel	Lead Lead Lead	7439-92-1 7439-92-1 7439-92-1	2.92E-05 2.92E-05 2.45E-07	24 hr 24 hr 24 hr	MB MB	Above Average  Above Average  Above Average	0.3% 0.3% <0.1%
K1P31	K1P31	Fuel meal storage silo baghouse (K1P31)	Conventional Fuel	Preparation and Feed 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 Conventional Fuel	Lead	7439-92-1	9.60E-08	24 hr	МВ	Above Average	<0.1%
05_1_412	G1P01 05-1-412	Gypsum Feed Hopper Baghouse (G1P01)  Baghouse serving the kiln feed transfer to preheater tower (05-1-412)  Kiln stack - Raw Mill On	Gypsum/Silica Fume  Raw Feed	Preparation and Feed Clinker Production	Lead Lead	7439-92-1 7439-92-1	2.38E-06 2.57E-05	24 hr 24 hr	MB MB	Above Average	<0.1% 0.3% 11.9%
KILNON CKD PIT11	KILNON CKD 07-1-421	Delivery and shipping of Cement Kiln Dust (CKD) to/from storage piles Baghouse serving south transfer tower (07-1-421)	Cement Kiln Dust Clinker	Clinker Production Clinker Production Clinker Production	Lead Lead	7439-92-1 7439-92-1 7439-92-1	1.10E-03 4.66E-06 3.15E-05	24 hr 24 hr 24 hr	MB MB	Above Average Above Average Above Average	11.9% <0.1% 0.3%
07_1_441 07_1_450 CBH	07-1-441 07-1-450 W1P51	Baghouse serving north transfer tower (07-1-441) Baghouse serving north transfer tower (07-1-450) Clinker cooler baghouse (W1P51)	Clinker Clinker Clinker	Clinker Production Clinker Production Clinker Production	Lead Lead Lead	7439-92-1 7439-92-1 7439-92-1	1.89E-05 2.21E-05 4.11E-04	24 hr 24 hr 24 hr	MB MB	Above Average Above Average Above Average	0.2% 0.2% 4.4%
W1P91 PIT11 PIT11D	W1P91 W1P101 PIT11-22	Clinker reclaim hopper baghouse (W1P91) Baghouse serving clinker truck loading/shipping (W1P101) Transfer of clinker into Tee-Pee storage area	Clinker Clinker Clinker	Clinker Production Clinker Production Clinker Production	Lead Lead Lead	7439-92-1 7439-92-1 7439-92-1	4.11E-05 2.62E-05 1.10E-04	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	0.4% 0.3% 1.2%
PIT11D PIT11D	PIT11-23 OFC-1	Clinker transfer into a hopper Loading Point to Truck (offspec clinker)	Clinker Clinker	Clinker Production Clinker Production	Lead Lead	7439-92-1 7439-92-1	5.65E-05 1.41E-03	24 hr 24 hr	MB MB	Above Average Above Average	0.6% 15.2%
PIT11D PIT11D PIT11	OFC-2 OFC-3 OFC-4	Truck to Pre-Crushing Stockpiles (offspec clinker) Front-end Loader to Feed Hopper (offspec clinker) Feeder to Crusher (offspec clinker)	Wet Clinker Wet Clinker Wet Clinker	Clinker Production Clinker Production Clinker Production	Lead Lead	7439-92-1 7439-92-1 7439-92-1	1.40E-04 1.40E-04 1.64E-06	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	1.5% 1.5% <0.1%
PIT11 PIT11 PIT11D	OFC-5 OFC-6 OFC-7	Crushing (offspec clinker) Crusher to Discharge Conveyor (offspec clinker) Discharge Conveyor to Crushed Stockpile (offspec clinker)	Wet Clinker Wet Clinker Wet Clinker	Clinker Production Clinker Production Clinker Production	Lead Lead Lead	7439-92-1 7439-92-1 7439-92-1	1.40E-05 1.64E-06 1.40E-04	24 hr 24 hr 24 hr	MB MB	Above Average Above Average Above Average	0.2% <0.1% 1.5%
PIT11D BLSI BLSI	OFC-8 Z1P01 Z1P11	Front-end Loader to Storage Stockpile (offspec clinker)  Baghouse serving additive storage silos in finish mill building (Z1P01)  Baghouse serving additive storage silos in finish mill building (Z1P11)	Wet Clinker Gypsum/Silica Fume Gypsum/Silica Fume	Clinker Production Cement Production Cement Production	Lead Lead Lead	7439-92-1 7439-92-1 7439-92-1	1.40E-04 1.08E-06 1.08E-06	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	1.5% <0.1% <0.1%
BLSI PIT11	Z1P21 07-1-491	Baghouse serving additive storage silos in finish mill building (Z1P21) Baghouse serving additive storage silos in finish mill building (07-1-491)	Gypsum/Silica Fume Gypsum/Silica Fume	Cement Production Cement Production	Lead Lead	7439-92-1 7439-92-1	1.08E-06 1.03E-06	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% <0.1%
PIT11	07-1-492	Baghouse serving additive storage silos in finish mill building (07-1-492)	Gypsum/Silica Fume	Cement Production	Lead	7439-92-1	6.44E-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 (%)
PIT11 Z1P31	Z1P191 Z1P31	Baghouse serving transfer of additive in finish mill building (Z1P191) Baghouse serving transfer into finish mill (Z1P31)	Cement Cement	Cement Production Cement Production	Lead Lead	7439-92-1 7439-92-1	1.73E-05 1.00E-05	24 hr 24 hr	MB MB	Above Average Above Average	0.2% 0.1%
BAML BAML	Z1P51 Z1P61	Finish mill baghouse (Z1P51) Baghouse for transfer of cement to storage silo in finish mill building (Z1P61)	Cement Cement	Cement Production Cement Production	Lead Lead	7439-92-1 7439-92-1	7.80E-04 1.73E-05	24 hr 24 hr	MB MB	Above Average Above Average	8.4% 0.2%
Z1P41 S200S	Z1P41 Z1P71	Baghouse serving transfer from finish mill (21P41) Baghouse serving transfer from finish mill (21P71)	Cement Cement	Cement Production Cement Production	Lead Lead	7439-92-1 7439-92-1	8.64E-06 2.61E-06	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% <0.1%
S200N S200N	Z1P81 Z1P91	Baghouse serving 200 series cement storage silos (Z1P81) Baghouse serving 200 series cement storage silos (Z1P91) Baghouse serving 200 series cement storage silos (Z1P101)	Cement Cement Cement	Cement Production Cement Production	Lead Lead Lead	7439-92-1 7439-92-1	2.73E-06 2.73E-06	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% <0.1% <0.1%
\$200N \$200N \$200N	Z1P101 Z1P141 Z1P151	Baghouse serving 200 series cement storage silos (ZIP141) Baghouse serving 200 series cement storage silos (ZIP151)	Cement Cement	Cement Production Cement Production Cement Production	Lead Lead	7439-92-1 7439-92-1 7439-92-1	2.73E-06 1.38E-05 1.38E-05	24 hr 24 hr 24 hr	MB MB	Above Average Above Average Above Average	0.1%
S200N S200N	Z1P171 Z1P181	Baghouse serving 200 series cement storage silos (21P171) Baghouse serving 200 series cement storage silos (21P181)	Cement Cement	Cement Production Cement Production	Lead Lead	7439-92-1 7439-92-1	1.38E-05 8.70E-06	24 hr 24 hr	MB MB	Above Average Above Average	0.1%
\$500 \$500	09-1-148 09-1-158	Baghouse serving 200 series cement storage silos (09-1-148) Baghouse serving 200 series cement storage silos (09-1-158)	Cement Cement	Cement Production Cement Production	Lead Lead	7439-92-1 7439-92-1	1.75E-05 1.75E-05	24 hr 24 hr	MB MB	Above Average Above Average	0.2%
S500 S200N	09-1-168 09-1-189	Baghouse serving 200 series cement storage silos (109-1-168) Baghouse serving 200 series cement storage silos (09-1-189)	Cement Cement	Cement Production Cement Production	Lead Lead	7439-92-1 7439-92-1	1.75E-05 1.16E-05	24 hr 24 hr	MB MB	Above Average Above Average	0.2% 0.1%
S200N S200N	09-1-192 09-1-193	Baghouse serving 200 series cement storage silos (09-1-192) Baghouse serving 200 series cement storage silos (09-1-193)	Cement Cement	Cement Production Cement Production	Lead Lead	7439-92-1 7439-92-1	1.75E-05 1.02E-05	24 hr 24 hr	MB MB	Above Average Above Average	0.2% 0.1%
S200N S200S	1-17-4 I-10-3	Baghouse serving 200 series cement storage silos (I-1704) Baghouse serving 200 series cement storage silos (I-10-3)	Cement Cement	Cement Production Cement Production	Lead Lead	7439-92-1 7439-92-1	7.27E-06 5.84E-07	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% <0.1%
\$200\$ \$200\$ \$340	I-10-4 I-22 Z1P161	Baghouse serving 200 series cement storage silos (I-10-4) Baghouse serving 200 series cement storage silos (I-22) Baghouse serving 300/400 series cement storage silos (Z1P161)	Cement Cement Cement	Cement Production Cement Production Cement Production	Lead Lead Lead	7439-92-1 7439-92-1 7439-92-1	5.84E-06 2.91E-05 1.38E-05	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average	<0.1% 0.3% 0.1%
S340 S340	I-59-3 09-1-075	Baghouse serving 300/400 series cement storage silos (1-59-3) Baghouse serving 300/400 series cement storage silos (1-59-3)	Cement Cement	Cement Production Cement Production	Lead Lead	7439-92-1 7439-92-1	2.18E-05 3.60E-06	24 hr 24 hr	MB MB	Above Average Above Average Above Average	0.2%
\$500 \$500D	09-1-301 S500-CL	Baghouse serving 300/400 series cement storage silos (09-1-301)  Cement loading from silo into a shipping tanker	Cement Cement	Cement Production Cement Production	Lead Lead	7439-92-1 7439-92-1	1.02E-05 3.65E-04	24 hr 24 hr	MB MB	Above Average Above Average	0.1%
S340 PACK	CPV-1 09-1-497	Baghouse serving packhouse 3 screw conveyor Baghouse serving packhouse cement storage silos (09-1-497)	Cement Cement	Cement Production Cement Production	Lead Lead	7439-92-1 7439-92-1	2.05E-06 1.45E-05	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% 0.2%
PACK PACK	09-1-407 09-1-670	Baghouse serving packhouse cement storage silos (09-1-407) Baghouse serving packhouse cement storage silos (09-1-670)	Cement Cement	Cement Production Cement Production	Lead Lead	7439-92-1 7439-92-1	1.45E-05 5.82E-05	24 hr 24 hr	MB MB	Above Average Above Average	0.2%
PACK A_16_4	09-1-311 A-16-4	Baghouse serving packhouse cement storage silos (09-1-311) Baghouse serving the secondary crusher (A-16-4)	Cement Limestone	Cement Production Limestone Extraction &	Lead Manganese	7439-92-1 7439-96-5	1.45E-05 3.74E-05	24 hr 24 hr	MB MB	Above Average  Above Average	0.2%
A_15_5	A-15-5	Baghouse serving the secondary screen (A-15-5)	Limestone	Processing Limestone Extraction &	Manganese	7439-96-5	1.65E-05	24 hr	МВ	Above Average	<0.1%
PPILE	PPILE	Transfer of limestone onto primary surge pile	Limestone	Processing Limestone Extraction & Processing	Manganese	7439-96-5	2.66E-04	24 hr	МВ	Above Average	1.4%
PILES	PILES-1	Delivery and transfer of conventional fuel	Conventional Fuel	Raw Material / Conventional	Manganese	7439-96-5	3.03E-05	24 hr	МВ	Above Average	0.2%
		·		Fuel Delivery and Storage							
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	МВ	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	МВ	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	МВ	Above Average	0.3%
CLPT	CLPT-1	Scraper from face onto a pile	Clay/Momentive	Raw Material / Conventional	Manganese	7439-96-5	2.14E-05	24 hr	МВ	Above Average	0.1%
CLPT	CLPT-2	Front end loader transfer into truck	Clay/Momentive	Fuel Delivery and Storage  Raw Material / Conventional	Manganese			24 hr	МВ		0.1%
CLPI				Fuel Delivery and Storage  Raw Material / Conventional		7439-96-5	2.14E-05	24 11	IVIB	Above Average	
FSSCD	FSSC-1	Front-end Loader to Feed Hopper for raw material screen	Foundry Sand/Silica	Fuel Delivery and Storage	Manganese	7439-96-5	1.56E-03	24 hr	МВ	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	МВ	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	МВ	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	МВ	Above Average	<0.1%
FSSC	FSSC-5	Raw material transfer from Conveyor to Stacker	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Manganese	7439-96-5	1.83E-05	24 hr	МВ	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	Manganese	7439-96-5	1.56E-03	24 hr	МВ	Above Average	8.4%
PIT11 PIT11	04-1-411 04-1-412	Baghouse serving the raw material storage silos for raw mill (04-1-411) Baghouse serving the raw material storage silos for raw mill (04-1-412)	Raw Feed Raw Feed	Raw Material Preparation Raw Material Preparation	Manganese Manganese	7439-96-5 7439-96-5	1.76E-05 2.04E-05	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% 0.1%
HSILOS HSILOS	H1P41 H1P51	Baghouse serving kiln feed silos (H1P41) Baghouse serving kiln feed silos (H1P51)	Raw Feed Raw Feed	Raw Material Preparation Raw Material Preparation	Manganese Manganese	7439-96-5 7439-96-5	5.32E-05 5.32E-05	24 hr 24 hr	MB MB	Above Average Above Average	0.3%
HSILOS K1P11	H1P61 K1P11	Baghouse serving kiln feed silos (H1P61) Fuel mill baghouse (K1P11)	Raw Feed  Conventional Fuel	Raw Material Preparation Conventional Fuel	Manganese Manganese	7439-96-5 7439-96-5	5.32E-05 9.28E-06	24 hr	MB MB	Above Average  Above Average	0.3% <0.1%
K1P31	K1P31	Fuel meal storage silo baghouse (K1P31)	Conventional Fuel	Preparation and Feed Conventional Fuel	Manganese	7439-96-5	1.39E-05	24 hr	МВ	Above Average	<0.1%
K1P41	K1P41	Baghouse serving the north auxiliary fuel silo (K1P41)	Conventional Fuel	Preparation and Feed Conventional Fuel	Manganese	7439-96-5	3.64E-06	24 hr	МВ	Above Average	<0.1%
GHOPPER	G1P01	Gypsum Feed Hopper Baghouse (G1P01)	Gypsum/Silica Fume	Preparation and Feed Conventional Fuel Preparation and Feed	Manganese	7439-96-5	1.72E-05	24 hr	МВ	Above Average	<0.1%
05_1_412 KILNON	05-1-412 KILNON	Baghouse serving the kiln feed transfer to preheater tower (05-1-412) Kiln stack - Raw Mill On	Raw Feed -	Clinker Production Clinker Production	Manganese Manganese	7439-96-5 7439-96-5	4.68E-05 6.40E-03	24 hr 24 hr	MB ST	Above Average Above Average	0.3% 34.4%
CKD PIT11	CKD 07-1-421	Delivery and shipping of Cement Kiln Dust (CKD) to/from storage piles Baghouse serving south transfer tower (07-1-421)	Cement Kiln Dust Clinker	Clinker Production Clinker Production	Manganese Manganese	7439-96-5 7439-96-5	8.55E-06 5.77E-05	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% 0.3%
07_1_441 07_1_450	07-1-441 07-1-450	Baghouse serving north transfer tower (07-1-441) Baghouse serving north transfer tower (07-1-450)	Clinker Clinker	Clinker Production Clinker Production	Manganese Manganese	7439-96-5 7439-96-5	3.47E-05 4.05E-05	24 hr 24 hr	MB MB	Above Average Above Average	0.2%
CBH W1P91	W1P51 W1P91	Clinker cooler baghouse (W1P51) Clinker reclaim hopper baghouse (W1P91) Baghouse serving clinker truck loading/shipping (W1P101)	Clinker Clinker Clinker	Clinker Production Clinker Production	Manganese Manganese	7439-96-5 7439-96-5	7.53E-04 7.53E-05	24 hr 24 hr	MB MB	Above Average	4.1% 0.4% 0.3%
PIT11 PIT11D PIT11D	W1P101 PIT11-22 PIT11-23	bagnouse serving clinker (truck loading/snipping (W1P101) Transfer of clinker into Tee-Pee storage area Clinker transfer into a hopper	Clinker Clinker	Clinker Production Clinker Production Clinker Production	Manganese Manganese Manganese	7439-96-5 7439-96-5 7439-96-5	4.81E-05 2.02E-04 1.04E-04	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	1.1%
PIT11D PIT11D	OFC-1 OFC-2	Loading Point to Truck (offspec clinker) Truck to Pre-Crushing Stockpiles (offspec clinker)	Clinker Wet Clinker	Clinker Production Clinker Production	Manganese Manganese	7439-96-5 7439-96-5	2.59E-03 2.56E-04	24 hr 24 hr	MB MB	Above Average Above Average	13.9%
PIT11D PIT11	OFC-3 OFC-4	Front-end Loader to Feed Hopper (offspec clinker) Feeder to Crusher (offspec clinker)	Wet Clinker Wet Clinker	Clinker Production Clinker Production	Manganese Manganese	7439-96-5 7439-96-5	2.56E-04 3.00E-06	24 hr 24 hr	MB MB	Above Average Above Average	1.4%
PIT11 PIT11	OFC-5 OFC-6	Crushing (offspec clinker) Crusher to Discharge Conveyor (offspec clinker)	Wet Clinker Wet Clinker	Clinker Production Clinker Production	Manganese Manganese	7439-96-5 7439-96-5	2.57E-05 3.00E-06	24 hr 24 hr	MB MB	Above Average Above Average	0.1% <0.1%
PIT11D PIT11D	OFC-7 OFC-8	Discharge Conveyor to Crushed Stockpile (offspec clinker) Front-end Loader to Storage Stockpile (offspec clinker)	Wet Clinker Wet Clinker	Clinker Production Clinker Production	Manganese Manganese	7439-96-5 7439-96-5	2.56E-04 2.56E-04	24 hr 24 hr	MB MB	Above Average Above Average	1.4%
BLSI BLSI BLSI	Z1P01 Z1P11 Z1P21	Baghouse serving additive storage silos in finish mill building (ZIPD1) Baghouse serving additive storage silos in finish mill building (ZIP11) Baghouse serving additive storage silos in finish mill building (ZIP21)	Gypsum/Silica Fume Gypsum/Silica Fume Gypsum/Silica Fume	Cement Production Cement Production Cement Production	Manganese Manganese Manganese	7439-96-5 7439-96-5 7439-96-5	7.84E-06 7.84E-06 7.84E-06	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	<0.1% <0.1% <0.1%
PIT11 PIT11	07-1-491 07-1-492	Baghouse serving additive storage silos in finish mill building (07-1-491) Baghouse serving additive storage silos in finish mill building (07-1-492)	Gypsum/Silica Fume Gypsum/Silica Fume	Cement Production Cement Production	Manganese Manganese	7439-96-5 7439-96-5	7.44E-06 4.65E-06	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% <0.1% <0.1%
PIT11 Z1P31	Z1P191 Z1P31	Baghouse serving transfer of additive in finish mill building (Z1P191) Baghouse serving transfer into finish mill (Z1P31)	Cement Cement	Cement Production Cement Production	Manganese Manganese	7439-96-5 7439-96-5	3.22E-05 1.87E-05	24 hr 24 hr	MB MB	Above Average Above Average	0.2% 0.1%
BAML BAML	Z1P51 Z1P61	Finish mill baghouse (Z1P51) Baghouse for transfer of cement to storage silo in finish mill building (Z1P61)	Cement Cement	Cement Production Cement Production	Manganese Manganese	7439-96-5 7439-96-5	1.46E-03 3.22E-05	24 hr 24 hr	MB MB	Above Average Above Average	7.8% 0.2%
Z1P41 S200S	Z1P41 Z1P71	Baghouse serving transfer from finish mill (Z1P41) Baghouse serving transfer from finish mill (Z1P71) Baghouse serving 100 regis semant forces select (Z1081)	Cement Cement	Cement Production Cement Production	Manganese Manganese	7439-96-5 7439-96-5	1.61E-05 4.87E-06	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% <0.1%
\$200N \$200N \$200N	Z1P81 Z1P91 Z1P101	Baghouse serving 200 series cement storage silos (Z1P81) Baghouse serving 200 series cement storage silos (Z1P91) Baghouse serving 200 series cement storage silos (Z1P101)	Cement Cement Cement	Cement Production Cement Production	Manganese Manganese Manganese	7439-96-5 7439-96-5	5.10E-06 5.10E-06	24 hr 24 hr	MB MB	Above Average  Above Average	<0.1% <0.1% <0.1%
\$200N \$200N \$200N	Z1P101 Z1P141 Z1P151	Baghouse serving 200 series cement storage silos (Z1P101)  Baghouse serving 200 series cement storage silos (Z1P151)  Baghouse serving 200 series cement storage silos (Z1P151)	Cement Cement Cement	Cement Production Cement Production Cement Production	Manganese Manganese Manganese	7439-96-5 7439-96-5 7439-96-5	5.10E-06 2.57E-05 2.57E-05	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	<0.1% 0.1% 0.1%
S200N S200N S200N	Z1P151 Z1P171 Z1P181	Baghouse serving 200 series cement storage silos (Z1P151) Baghouse serving 200 series cement storage silos (Z1P181) Baghouse serving 200 series cement storage silos (Z1P181)	Cement Cement Cement	Cement Production  Cement Production  Cement Production	Manganese  Manganese  Manganese	7439-96-5 7439-96-5 7439-96-5	2.57E-05 2.57E-05 1.62E-05	24 hr 24 hr 24 hr	MB MB	Above Average Above Average Above Average	0.1%
\$500 \$500	09-1-148 09-1-158	Baghouse serving 200 series cement storage silos (09-1-148) Baghouse serving 200 series cement storage silos (09-1-158)	Cement Cement	Cement Production Cement Production	Manganese Manganese	7439-96-5 7439-96-5	3.26E-05 3.26E-05	24 hr 24 hr	MB MB	Above Average Above Average	0.2% 0.2%
S500 S200N	09-1-168 09-1-189	Baghouse serving 200 series cement storage silos (109-1-168) Baghouse serving 200 series cement storage silos (09-1-189)	Cement Cement	Cement Production Cement Production	Manganese Manganese	7439-96-5 7439-96-5	3.26E-05 2.17E-05	24 hr 24 hr	MB MB	Above Average Above Average	0.2% 0.1%
S200N S200N	09-1-192 09-1-193	Baghouse serving 200 series cement storage silos (09-1-192) Baghouse serving 200 series cement storage silos (09-1-193)	Cement Cement	Cement Production Cement Production	Manganese Manganese	7439-96-5 7439-96-5	3.26E-05 1.90E-05	24 hr 24 hr	MB MB	Above Average Above Average	0.2% 0.1%
\$200N \$200S	1-17-4 I-10-3	Baghouse serving 200 series cement storage silos (I-1704) Baghouse serving 200 series cement storage silos (I-10-3) Baghouse serving 200 series cement storage silos (I-10-3) Baghouse serving 200 series cement storage silos (I-10-4)	Cement Cement	Cement Production Cement Production	Manganese Manganese	7439-96-5 7439-96-5	1.36E-05 1.09E-06	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% <0.1%
\$200\$ \$200\$ \$340	I-10-4 I-22 Z1P161	Baghouse serving 200 series cement storage silos (I-10-4) Baghouse serving 200 series cement storage silos (I-22) Baghouse serving 300/400 series cement storage silos (Z1P161)	Cement Cement Cement	Cement Production Cement Production Cement Production	Manganese Manganese Manganese	7439-96-5 7439-96-5 7439-96-5	1.09E-05 5.42E-05 2.57E-05	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	<0.1% 0.3% 0.1%
\$340 \$340 \$340	21P161 I-59-3 09-1-075	Baghouse serving 300/400 series cement storage silos (£1+61) Baghouse serving 300/400 series cement storage silos (1-59-3) Baghouse serving 300/400 series cement storage silos (09-1-075)	Cement Cement Cement	Cement Production Cement Production Cement Production	Manganese Manganese Manganese	7439-96-5 7439-96-5 7439-96-5	4.07E-05 6.72E-06	24 hr 24 hr 24 hr	MB MB	Above Average Above Average Above Average	0.1%
\$500 \$500D	09-1-301 S500-CL	Baghouse serving 300/400 series cement storage silos (09-1-301) Cement loading from silo into a shipping tanker	Cement Cement	Cement Production Cement Production	Manganese Manganese	7439-96-5 7439-96-5	1.90E-05 6.81E-04	24 hr 24 hr	MB MB	Above Average Above Average	0.1% 3.7%
S340 PACK	CPV-1 09-1-497	Baghouse serving packhouse 3 screw conveyor Baghouse serving packhouse cement storage silos (09-1-497)	Cement Cement	Cement Production Cement Production	Manganese Manganese	7439-96-5 7439-96-5	3.83E-06 2.71E-05	24 hr 24 hr	MB MB	Above Average Above Average	<0.1%
PACK PACK	09-1-407 09-1-670	Baghouse serving packhouse cement storage silos (09-1-407) Baghouse serving packhouse cement storage silos (09-1-670) Baghouse serving packhouse cement storage silos (09-1-311)	Cement Cement	Cement Production Cement Production	Manganese Manganese	7439-96-5 7439-96-5	2.71E-05 1.08E-04	24 hr 24 hr	MB MB	Above Average Above Average	0.1% 0.6%
PACK A_16_4	09-1-311 A-16-4	Baghouse serving packhouse cement storage silos (U9-1-311)  Baghouse Serving the secondary crusher (A-16-4)	Cement Limestone	Cement Production Limestone Extraction & Processing	Manganese Mercury	7439-96-5 7439-97-6	2.71E-05 1.18E-08	24 hr 24 hr	MB MB	Above Average  Above Average	0.1% <0.1%
A_15_5	A-15-5	Baghouse serving the secondary screen (A-15-5)	Limestone	Limestone Extraction & Processing	Mercury	7439-97-6	5.19E-09	24 hr	МВ	Above Average	<0.1%
PPILE	PPILE	Transfer of limestone onto primary surge pile	Limestone	Limestone Extraction & Processing	Mercury	7439-97-6	8.40E-08	24 hr	МВ	Above Average	<0.1%
PILES	PILES-1	Delivery and transfer of conventional fuel	Conventional Fuel	Raw Material / Conventional Fuel Delivery and Storage	Mercury	7439-97-6	3.33E-09	24 hr	МВ	Above Average	<0.1%
PILES	PILES-2	Delivery and transfer of raw materials	Raw Feed	Raw Material / Conventional Fuel Delivery and Storage	Mercury	7439-97-6	2.86E-08	24 hr	МВ	Above Average	<0.1%
K1P51	K1P51	Conventional fuel storage silo baghouse (K1P51)	Conventional Fuel	Raw Material / Conventional Fuel Delivery and Storage	Mercury	7439-97-6	2.80E-09	24 hr	МВ	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	Mercury	7439-97-6	1.83E-08	24 hr	МВ	Above Average	<0.1%
CLPT	CLPT-1	Scraper from face onto a pile	Clay/Momentive	Raw Material / Conventional Fuel Delivery and Storage	Mercury	7439-97-6	7.21E-09	24 hr	МВ	Above Average	<0.1%
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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	Mercury	7439-97-6	7.21E-09	24 hr	МВ	Above Average	<0.1%
FSSCD	FSSC-1	Front-end Loader to Feed Hopper for raw material screen	Foundry Sand/Silica	Fuel Delivery and Storage  Raw Material / Conventional	Mercury	7439-97-6	1.12E-06	24 hr	МВ	Above Average	<0.1%
				Fuel Delivery and Storage  Raw Material / Conventional	,						
FSSC	FSSC-2	Feed Hopper to raw material screener	Foundry Sand/Silica	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	МВ	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	МВ	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	МВ	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	МВ	Above Average	<0.1%
PIT11 PIT11	04-1-411 04-1-412	Baghouse serving the raw material storage silos for raw mill (04-1-411) Baghouse serving the raw material storage silos for raw mill (04-1-412)	Raw Feed Raw Feed	Raw Material Preparation Raw Material Preparation	Mercury Mercury	7439-97-6 7439-97-6	6.11E-09 7.10E-09	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% <0.1%
HSILOS HSILOS	H1P41 H1P51 H1P61	Baghouse serving kiln feed silos (H1P41) Baghouse serving kiln feed silos (H1P51) Baghouse serving kiln feed silos (H1P61)	Raw Feed Raw Feed Raw Feed	Raw Material Preparation Raw Material Preparation Raw Material Preparation	Mercury Mercury Mercury	7439-97-6 7439-97-6 7439-97-6	1.85E-08 1.85E-08 1.85E-08	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	<0.1% <0.1% <0.1%
K1P11	K1P11	Fuel mill baghouse (K1P11)	Conventional Fuel	Conventional Fuel Preparation and Feed	Mercury	7439-97-6	1.02E-09	24 hr	МВ	Above Average	<0.1%
K1P31	K1P31	Fuel meal storage silo baghouse (K1P31)	Conventional Fuel	Conventional Fuel Preparation and Feed Conventional Fuel	Mercury	7439-97-6	1.53E-09	24 hr	МВ	Above Average	<0.1%
K1P41 GHOPPER	K1P41 G1P01	Baghouse serving the north auxiliary fuel silo (K1P41)  Gypsum Feed Hopper Baghouse (G1P01)	Conventional Fuel  Gypsum/Silica Fume	Preparation and Feed Conventional Fuel Preparation and Feed	Mercury  Mercury	7439-97-6 7439-97-6	4.00E-10 3.07E-07	24 hr 24 hr	MB MB	Above Average  Above Average	<0.1%
05_1_412 KILNON	05-1-412 KILNON	Baghouse serving the kiln feed transfer to preheater tower (05-1-412) Kiln stack - Raw Mill On	Raw Feed -	Clinker Production Clinker Production	Mercury Mercury	7439-97-6 7439-97-6	1.63E-08 1.58E-03	24 hr 24 hr	MB ST	Above Average Above Average	<0.1% 99.6%
OKD PIT11 07_1_441	07-1-421 07-1-441	Delivery and shipping of Cement Kiln Dust (CKD) to/from storage piles Baghouse serving south transfer tower (07-1-421) Baghouse serving north transfer tower (07-1-441)	Cement Kiln Dust Clinker Clinker	Clinker Production Clinker Production Clinker Production	Mercury Mercury Mercury	7439-97-6 7439-97-6 7439-97-6	2.96E-09 2.00E-08 1.20E-08	24 hr 24 hr 24 hr	MB MB	Above Average Above Average Above Average	<0.1% <0.1% <0.1%
07_1_450 CBH	07-1-450 W1P51	Baghouse serving north transfer tower (07-1-450)  Clinker cooler baghouse (W1P51)  Clinker reclaim hopper baghouse (W1P91)	Clinker Clinker Clinker	Clinker Production Clinker Production	Mercury Mercury Mercury	7439-97-6 7439-97-6	1.40E-08 2.61E-07	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average	<0.1% <0.1% <0.1%
W1P91 PIT11 PIT11D	W1P91 W1P101 PIT11-22	Baghouse serving clinker truck loading/shipping (W1P101) Transfer of clinker into Tee-Pee storage area	Clinker Clinker	Clinker Production Clinker Production Clinker Production	Mercury Mercury	7439-97-6 7439-97-6 7439-97-6	2.61E-08 1.67E-08 7.00E-08	24 hr 24 hr 24 hr	MB MB	Above Average Above Average Above Average	<0.1% <0.1%
PIT11D PIT11D PIT11D	PIT11-23 OFC-1 OFC-2	Clinker transfer into a hopper Loading Point to Truck (offspec clinker) Truck to Pre-Crushing Stockpiles (offspec clinker)	Clinker Clinker Wet Clinker	Clinker Production Clinker Production Clinker Production	Mercury Mercury Mercury	7439-97-6 7439-97-6 7439-97-6	3.59E-08 8.97E-07 8.88E-08	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	<0.1% <0.1% <0.1%
PIT11D PIT11	OFC-3 OFC-4	Front-end Loader to Feed Hopper (offspec clinker) Feeder to Crusher (offspec clinker)	Wet Clinker Wet Clinker	Clinker Production Clinker Production	Mercury Mercury	7439-97-6 7439-97-6	8.88E-08 1.04E-09	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% <0.1%
PIT11 PIT11 PIT11D	OFC-5 OFC-6 OFC-7	Crushing (offspec clinker) Crusher to Discharge Conveyor (offspec clinker) Discharge Conveyor to Crushed Stockpile (offspec clinker)	Wet Clinker Wet Clinker Wet Clinker	Clinker Production Clinker Production Clinker Production	Mercury Mercury Mercury	7439-97-6 7439-97-6 7439-97-6	8.90E-09 1.04E-09 8.88E-08	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	<0.1% <0.1% <0.1%
PIT11D BLSI	OFC-8 Z1P01	Front-end Loader to Storage Stockpile (offspec clinker) Baghouse serving additive storage silos in finish mill building (Z1P01) Baghouse serving additive storage silos in finish mill building (Z1P11)	Wet Clinker Gypsum/Silica Fume Gypsum/Silica Fume	Clinker Production Cement Production	Mercury Mercury	7439-97-6 7439-97-6	8.88E-08 1.40E-07	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% <0.1% <0.1%
BLSI BLSI PIT11	Z1P11 Z1P21 07-1-491	Baghouse serving additive storage silos in finish mill building (Z1P21) Baghouse serving additive storage silos in finish mill building (07-1-491)	Gypsum/Silica Fume Gypsum/Silica Fume	Cement Production Cement Production Cement Production	Mercury Mercury Mercury	7439-97-6 7439-97-6 7439-97-6	1.40E-07 1.40E-07 1.33E-07	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	<0.1% <0.1%
PIT11 PIT11 Z1P31	07-1-492 Z1P191 Z1P31	Baghouse serving additive storage silos in finish mill building (07-1-492) Baghouse serving transfer of additive in finish mill building (Z1P191) Baghouse serving transfer into finish mill (Z1P31)	Gypsum/Silica Fume Cement Cement	Cement Production Cement Production Cement Production	Mercury Mercury Mercury	7439-97-6 7439-97-6 7439-97-6	8.28E-08 1.66E-08 9.63E-09	24 hr 24 hr 24 hr	MB MB	Above Average Above Average Above Average	<0.1% <0.1% <0.1%
BAML BAML	Z1P51 Z1P61	Finish mill baghouse (Z1P51) Baghouse for transfer of cement to storage silo in finish mill building (Z1P61)	Cement Cement	Cement Production Cement Production	Mercury Mercury	7439-97-6 7439-97-6	7.51E-07 1.66E-08	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% <0.1%
Z1P41 S200S S200N	Z1P41 Z1P71 Z1P81	Baghouse serving transfer from finish mill (Z1P41) Baghouse serving transfer from finish mill (Z1P71) Baghouse serving 200 series cement storage silos (Z1P81)	Cement Cement Cement	Cement Production Cement Production Cement Production	Mercury Mercury Mercury	7439-97-6 7439-97-6 7439-97-6	8.31E-09 2.51E-09 2.63E-09	24 hr 24 hr 24 hr	MB MB	Above Average Above Average Above Average	<0.1% <0.1% <0.1%
S200N S200N	Z1P91 Z1P101	Baghouse serving 200 series cement storage silos (Z1P91) Baghouse serving 200 series cement storage silos (Z1P101)	Cement Cement	Cement Production Cement Production	Mercury Mercury	7439-97-6 7439-97-6	2.63E-09 2.63E-09	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% <0.1%
\$200N \$200N \$200N	Z1P141 Z1P151 Z1P171	Baghouse serving 200 series cement storage silos (Z1P141) Baghouse serving 200 series cement storage silos (Z1P151) Baghouse serving 200 series cement storage silos (Z1P171)	Cement Cement Cement	Cement Production Cement Production Cement Production	Mercury Mercury Mercury	7439-97-6 7439-97-6 7439-97-6	1.33E-08 1.33E-08 1.33E-08	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	<0.1% <0.1% <0.1%
\$200N \$500	Z1P181 09-1-148	Baghouse serving 200 series cement storage silos (Z1P181) Baghouse serving 200 series cement storage silos (09-1-148) Baghouse serving 200 series cement storage silos (09-1-158)	Cement Cement Cement	Cement Production Cement Production	Mercury Mercury	7439-97-6 7439-97-6	8.37E-09 1.68E-08	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% <0.1% <0.1%
\$500 \$500 \$200N	09-1-158 09-1-168 09-1-189	Baghouse serving 200 series cemient storage sinos (09-1-136) Baghouse serving 200 series cement storage sinos (109-1-168) Baghouse serving 200 series cement storage sinos (09-1-189)	Cement Cement	Cement Production Cement Production Cement Production	Mercury Mercury Mercury	7439-97-6 7439-97-6 7439-97-6	1.68E-08 1.68E-08 1.12E-08	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	<0.1% <0.1% <0.1%
S200N S200N S200N	09-1-192 09-1-193 1-17-4	Baghouse serving 200 series cement storage silos (09-1-192) Baghouse serving 200 series cement storage silos (09-1-193) Baghouse serving 200 series cement storage silos (1-1704)	Cement Cement Cement	Cement Production Cement Production Cement Production	Mercury Mercury Mercury	7439-97-6 7439-97-6 7439-97-6	1.68E-08 9.81E-09 7.00E-09	24 hr 24 hr 24 hr	MB MB	Above Average Above Average Above Average	<0.1% <0.1% <0.1%
S200S S200S	I-10-3 I-10-4	Baghouse serving 200 series cement storage silos (I-10-3) Baghouse serving 200 series cement storage silos (I-10-4)	Cement Cement	Cement Production Cement Production	Mercury Mercury	7439-97-6 7439-97-6	5.62E-10 5.62E-09	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% <0.1%
\$200\$ \$340 \$340	I-22 Z1P161 I-59-3	Baghouse serving 200 series cement storage silos (I-22) Baghouse serving 300/400 series cement storage silos (Z1P161) Baghouse serving 300/400 series cement storage silos (I-59-3)	Cement Cement Cement	Cement Production Cement Production Cement Production	Mercury Mercury Mercury	7439-97-6 7439-97-6 7439-97-6	2.80E-08 1.33E-08 2.10E-08	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	<0.1% <0.1% <0.1%
\$340 \$500 \$500D	09-1-075 09-1-301 S500-CL	Baghouse serving 300/400 series cement storage silos (09-1-075)  Baghouse serving 300/400 series cement storage silos (09-1-301)  Cement loading from silo into a shipping tanker	Cement Cement Cement	Cement Production Cement Production Cement Production	Mercury Mercury Mercury	7439-97-6 7439-97-6 7439-97-6	3.47E-09 9.81E-09 3.51E-07	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average	<0.1% <0.1% <0.1%
S340 PACK	CPV-1 09-1-497	Baghouse serving packhouse 3 screw conveyor Baghouse serving packhouse cement storage silos (09-1-497)	Cement Cement	Cement Production Cement Production	Mercury Mercury	7439-97-6 7439-97-6	1.98E-09 1.40E-08	24 hr 24 hr	MB MB	Above Average Above Average Above Average	<0.1% <0.1%
PACK PACK PACK	09-1-407 09-1-670 09-1-311	Baghouse serving packhouse cement storage silos (09-1-407) Baghouse serving packhouse cement storage silos (09-1-670) Baghouse serving packhouse cement storage silos (09-1-311)	Cement Cement Cement	Cement Production Cement Production Cement Production	Mercury Mercury Mercury	7439-97-6 7439-97-6 7439-97-6	1.40E-08 5.60E-08 1.40E-08	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	<0.1% <0.1% <0.1%
KILNON KILNON	KILNON KILNON KILNON	Kiln stack - Raw Mill On Kiln stack - Raw Mill On Kiln stack - Raw Mill On		Clinker Production Clinker Production Clinker Production	Methylnaphthalene, 1- Methylnaphthalene, 2- Methylphenanthrene, 1-	90-12-0 91-57-6 832-69-9	1.20E-02 1.50E-02 1.80E-04	24 hr 24 hr 24 hr	ST ST ST	Above Average Above Average	100.0% 100.0% 100.0%
KILNON A_16_4	KILNON A-16-4	Rin stack - Raw Mill On  Baghouse serving the secondary crusher (A-16-4)	Limestone	Clinker Production Limestone Extraction &	Naphthalene Nickel	91-20-3 7440-02-0	4.30E-02 2.12E-06	24 hr	ST MB	Above Average Above Average Above Average	100.0%
A_15_5	A-15-5	Baghouse serving the secondary screen (A-15-5)	Limestone	Processing Limestone Extraction & Processing	Nickel	7440-02-0	9.34E-07	24 hr	МВ	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	МВ	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	МВ	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	МВ	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	МВ	Above Average	0.3%
RAWS	04-1-401	Raw material storage silo baghouse (04-1-401)	Raw Feed	Raw Material / Conventional	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	Fuel Delivery and Storage  Raw Material / Conventional	Nickel	7440-02-0	1.15E-06	24 hr	МВ	Above Average	<0.1%
				Fuel Delivery and Storage  Raw Material / Conventional							
CLPT	CLPT-2	Front end loader transfer into truck	Clay/Momentive	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	МВ	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	МВ	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	МВ	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	МВ	Above Average	0.3%
FSSC	FSSC-5	Raw material transfer from Conveyor to Stacker	Foundry Sand/Silica	Raw Material / Conventional	Nickel	7440-02-0	5.05E-06	24 hr	МВ	Above Average	0.3%
FSSCD	FSSC-6	Drop of raw material from Stacker to Stockpile	Foundry Sand/Silica	Fuel Delivery and Storage  Raw Material / Conventional	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	Fuel Delivery and Storage  Raw Material Preparation	Nickel	7440-02-0	1.75E-06	24 hr	MB	Above Average	<0.1%
PIT11 HSILOS HSILOS	04-1-412 H1P41 H1P51	Baghouse serving the raw material storage silos for raw mill (04-1-412) Baghouse serving kiln feed silos (H1P41) Baghouse serving kiln feed silos (H1P51)	Raw Feed Raw Feed Raw Feed	Raw Material Preparation Raw Material Preparation Raw Material Preparation	Nickel Nickel Nickel	7440-02-0 7440-02-0 7440-02-0	2.03E-06 5.30E-06 5.30E-06	24 hr 24 hr 24 hr	MB MB	Above Average Above Average Above Average	0.1% 0.3% 0.3%
HSILOS K1P11	H1P61 K1P11	Baghouse serving kiln feed silos (H1P61) Fuel mill baghouse (K1P11)	Raw Feed Conventional Fuel	Raw Material Preparation Conventional Fuel	Nickel Nickel	7440-02-0 7440-02-0	5.30E-06 2.04E-06	24 hr	MB MB	Above Average  Above Average	0.3%
K1P31	K1P31	Fuel meal storage silo baghouse (K1P31)	Conventional Fuel	Preparation and Feed Conventional Fuel Preparation and Feed	Nickel	7440-02-0	3.06E-06	24 hr	МВ	Above Average	0.2%
K1P41	K1P41	Baghouse serving the north auxiliary fuel silo (K1P41)	Conventional Fuel	Conventional Fuel Preparation and Feed Conventional Fuel	Nickel	7440-02-0	8.00E-07	24 hr	МВ	Above Average	<0.1%
GHOPPER 05_1_412	G1P01 05-1-412	Gypsum Feed Hopper Baghouse (G1P01)  Baghouse serving the kiln feed transfer to preheater tower (05-1-412)	Gypsum/Silica Fume Raw Feed	Preparation and Feed Clinker Production	Nickel Nickel	7440-02-0 7440-02-0	1.96E-06 4.66E-06	24 hr	MB MB	Above Average Above Average	<0.1% 0.2%
KILNON CKD PIT11	KILNON CKD 07-1-421	Kiln stack - Raw Mill On Delivery and shipping of Cement Kiln Dust (CKD) to/from storage piles Baghouse serving south transfer tower (07-1-421)	- Cement Kiln Dust Clinker	Clinker Production Clinker Production Clinker Production	Nickel Nickel Nickel	7440-02-0 7440-02-0 7440-02-0	1.65E-04 8.59E-07 5.80E-06	24 hr 24 hr 24 hr	ST MB MB	Above Average Above Average Above Average	8.3% <0.1% 0.3%
07_1_441 07_1_450	07-1-441 07-1-450	Baghouse serving north transfer tower (07-1-441) Baghouse serving north transfer tower (07-1-450)	Clinker Clinker Clinker	Clinker Production Clinker Production	Nickel Nickel Nickel	7440-02-0 7440-02-0	3.49E-06 4.07E-06	24 hr 24 hr	MB MB	Above Average Above Average	0.2% 0.2% 3.8%
CBH W1P91 PIT11	W1P51 W1P91 W1P101	Clinker cooler baghouse (W1P51) Clinker reclaim hopper baghouse (W1P91) Baghouse serving clinker truck loading/shipping (W1P101)	Clinker Clinker	Clinker Production Clinker Production Clinker Production	Nickel Nickel	7440-02-0 7440-02-0 7440-02-0	7.57E-05 7.57E-06 4.84E-06	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	0.4% 0.2%
PIT11D PIT11D PIT11D	PIT11-22 PIT11-23 OFC-1	Transfer of clinker into Tee-Pee storage area Clinker transfer into a hopper Loading Point to Truck (offspec clinker)	Clinker Clinker Clinker	Clinker Production Clinker Production Clinker Production	Nickel Nickel Nickel	7440-02-0 7440-02-0 7440-02-0	2.03E-05 1.04E-05 2.60E-04	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	1.0% 0.5% 13.1%
PIT11D PIT11D	OFC-2 OFC-3	Truck to Pre-Crushing Stockpiles (offspec clinker) Front-end Loader to Feed Hopper (offspec clinker)	Wet Clinker Wet Clinker	Clinker Production Clinker Production	Nickel Nickel	7440-02-0 7440-02-0	2.58E-05 2.58E-05	24 hr 24 hr	MB MB	Above Average Above Average	1.3% 1.3%
PIT11 PIT11 PIT11	OFC-4 OFC-5 OFC-6	Feeder to Crusher (offspec clinker) Crushing (offspec clinker) Crusher to Discharge Conveyor (offspec clinker)	Wet Clinker Wet Clinker Wet Clinker	Clinker Production Clinker Production Clinker Production	Nickel Nickel Nickel	7440-02-0 7440-02-0 7440-02-0	3.01E-07 2.58E-06 3.01E-07	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	<0.1% 0.1% <0.1%
PIT11D	OFC-7	Discharge Conveyor to Crushed Stockpile (offspec clinker)	Wet Clinker	Clinker Production	Nickel	7440-02-0	2.58E-05	24 hr	MB	Above Average	1.3%

Modelled Source	ESDM Source I.D.	Source Description Front-end Loader to Storage Stockpile (offspec clinker)	<b>Materials</b> Wet Clinker	Process Clinton Production	Contaminant Nickel	CAS#	Maximum Emission Rate (g/s) 2.58E-05	Averaging Period 24 hr	Estimating Technique	Emission Data Quality	Percentage of Overall Emissions (%) 1.3%
BLSI BLSI	Z1P01 Z1P11	Baghouse serving additive storage silos in finish mill building (Z1P01) Baghouse serving additive storage silos in finish mill building (Z1P11)	Gypsum/Silica Fume Gypsum/Silica Fume	Clinker Production  Cement Production  Cement Production	Nickel Nickel	7440-02-0 7440-02-0	8.90E-07 8.90E-07	24 hr 24 hr	MB MB	Above Average Above Average Above Average	<0.1% <0.1%
PIT11 PIT11	07-1-491	Baghouse serving additive storage silos in finish mill building (Z1P21) Baghouse serving additive storage silos in finish mill building (07-1-491) Baghouse serving additive storage silos in finish mill building (07-1-492)	Gypsum/Silica Fume Gypsum/Silica Fume Gypsum/Silica Fume	Cement Production Cement Production Cement Production	Nickel Nickel Nickel	7440-02-0 7440-02-0 7440-02-0	8.90E-07 8.45E-07 5.28E-07	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	<0.1% <0.1% <0.1%
PIT11 Z1P31	Z1P191 Z1P31	Baghouse serving transfer of additive in finish mill building (Z1P191) Baghouse serving transfer into finish mill (Z1P31)	Cement Cement	Cement Production Cement Production	Nickel Nickel	7440-02-0 7440-02-0	3.23E-06 1.87E-06	24 hr 24 hr	MB MB	Above Average Above Average	0.2% <0.1%
BAML BAML Z1P41	Z1P51 Z1P61 Z1P41	Finish mill baghouse (21P51) Baghouse for transfer of cement to storage silo in finish mill building (21P61) Baghouse serving transfer from finish mill (21P41)	Cement Cement Cement	Cement Production Cement Production Cement Production	Nickel Nickel Nickel	7440-02-0 7440-02-0 7440-02-0	1.46E-04 3.23E-06 1.61E-06	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	7.3% 0.2% <0.1%
\$200S \$200N	Z1P71 Z1P81	Baghouse serving transfer from finish mill (Z1P71) Baghouse serving 200 series cement storage silos (Z1P81)	Cement Cement	Cement Production Cement Production	Nickel Nickel	7440-02-0 7440-02-0 7440-02-0	4.88E-07 5.11E-07	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% <0.1%
S200N S200N S200N	Z1P91 Z1P101 Z1P141	Baghouse serving 200 series cement storage silos (Z1P91) Baghouse serving 200 series cement storage silos (Z1P101) Baghouse serving 200 series cement storage silos (Z1P141)	Cement Cement Cement	Cement Production Cement Production Cement Production	Nickel Nickel Nickel	7440-02-0 7440-02-0 7440-02-0	5.11E-07 5.11E-07 2.58E-06	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average	<0.1% <0.1% 0.1%
S200N S200N S200N	Z1P151	Baghouse serving 200 series cement storage silos (Z1P141) Baghouse serving 200 series cement storage silos (Z1P171)	Cement Cement	Cement Production  Cement Production  Cement Production	Nickel Nickel	7440-02-0 7440-02-0 7440-02-0	2.58E-06 2.58E-06	24 hr 24 hr 24 hr	MB MB	Above Average Above Average Above Average	0.1%
\$200N \$500	Z1P181 09-1-148	Baghouse serving 200 series cement storage silos (Z1P181) Baghouse serving 200 series cement storage silos (09-1-148)	Cement Cement	Cement Production Cement Production	Nickel Nickel	7440-02-0 7440-02-0	1.63E-06 3.26E-06	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% 0.2%
\$500 \$500 \$200N	09-1-158 09-1-168 09-1-189	Baghouse serving 200 series cement storage silos (09-1-158)  Baghouse serving 200 series cement storage silos (109-1-168)  Baghouse serving 200 series cement storage silos (09-1-189)	Cement Cement Cement	Cement Production Cement Production Cement Production	Nickel Nickel Nickel	7440-02-0 7440-02-0 7440-02-0	3.26E-06 3.26E-06 2.17E-06	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	0.2% 0.2% 0.1%
S200N S200N S200N		Baghouse serving 200 series cement storage silos (09-1-192) Baghouse serving 200 series cement storage silos (09-1-193)	Cement Cement	Cement Production Cement Production	Nickel Nickel	7440-02-0 7440-02-0 7440-02-0	3.26E-06 1.90E-06	24 hr 24 hr	MB MB	Above Average Above Average	0.2%
\$200N \$200S	1-17-4 I-10-3	Baghouse serving 200 series cement storage silos (I-1704) Baghouse serving 200 series cement storage silos (I-10-3)	Cement Cement	Cement Production Cement Production	Nickel Nickel	7440-02-0 7440-02-0	1.36E-06 1.09E-07	24 hr 24 hr	MB MB	Above Average Above Average	<0.1%
\$200S \$200S \$340	I-10-4 I-22 Z1P161	Baghouse serving 200 series cement storage silos (I-10-4) Baghouse serving 200 series cement storage silos (I-22) Baghouse serving 300/400 series cement storage silos (Z1P161)	Cement Cement Cement	Cement Production Cement Production Cement Production	Nickel Nickel Nickel	7440-02-0 7440-02-0 7440-02-0	1.09E-06 5.43E-06 2.58E-06	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	<0.1% 0.3% 0.1%
\$340 \$340	I-59-3 09-1-075	Baghouse serving 300/400 series cement storage silos (I-59-3) Baghouse serving 300/400 series cement storage silos (09-1-075)	Cement Cement	Cement Production Cement Production	Nickel Nickel	7440-02-0 7440-02-0	4.08E-06 6.73E-07	24 hr 24 hr	MB MB	Above Average Above Average	0.2% <0.1%
\$500 \$500D \$340	09-1-301 S500-CL CPV-1	Baghouse serving 300/400 series cement storage silos (09-1-301)  Cement loading from silo into a shipping tanker  Baghouse serving packhouse 3 screw conveyor	Cement Cement Cement	Cement Production Cement Production Cement Production	Nickel Nickel Nickel	7440-02-0 7440-02-0 7440-02-0	1.90E-06 6.83E-05 3.84E-07	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	<0.1% 3.4% <0.1%
PACK PACK		Baghouse serving packhouse cement storage silos (09-1-497) Baghouse serving packhouse cement storage silos (09-1-407)	Cement Cement	Cement Production Cement Production	Nickel Nickel	7440-02-0 7440-02-0	2.72E-06 2.72E-06	24 hr 24 hr	MB MB	Above Average Above Average	0.1%
PACK PACK	09-1-670 09-1-311	Baghouse serving packhouse cement storage silos (09-1-670) Baghouse serving packhouse cement storage silos (09-1-311)	Cement Cement	Cement Production Cement Production	Nickel Nickel	7440-02-0 7440-02-0	1.09E-05 2.72E-06	24 hr 24 hr	MB MB	Above Average Above Average	0.5%
A_16_4	A-16-4	Baghouse serving the secondary crusher (A-16-4)	Limestone	Processing Limestone Extraction &	Nickel	7440-02-0	2.12E-06	Annual	MB	Above Average	0.1%
A_15_5 PPILE	A-15-5 PPILE	Baghouse serving the secondary screen (A-15-5)  Transfer of limestone onto primary surge pile	Limestone	Processing Limestone Extraction &	Nickel Nickel	7440-02-0	9.34E-07 1.51E-05	Annual	MB MB	Above Average  Above Average	<0.1% 0.8%
PILES	PILES-1	Delivery and transfer of conventional fuel	Conventional Fuel	Processing  Raw Material / Conventiona		7440-02-0	6.65E-06	Annual	MB	Above Average	0.3%
FILES	FILEST	Delivery and danser of conventional rues	Conventional rules	Fuel Delivery and Storage		7440-02-0	0.032-00	Ailliuai	IVID	Above Average	0.5%
PILES	PILES-2	Delivery and transfer of raw materials	Raw Feed	Raw Material / Conventiona Fuel Delivery and Storage	Nickel	7440-02-0	8.20E-06	Annual	МВ	Above Average	0.4%
K1P51	K1P51	Conventional fuel storage silo baghouse (K1P51)	Conventional Fuel	Raw Material / Conventiona Fuel Delivery and Storage	Nickel	7440-02-0	5.60E-06	Annual	МВ	Above Average	0.3%
RAWS	04-1-401	Raw material storage silo baghouse (04-1-401)	Raw Feed	Raw Material / Conventiona Fuel Delivery and Storage	Nickel	7440-02-0	5.24E-06	Annual	МВ	Above Average	0.3%
CLPT	CLPT-1	Scraper from face onto a pile	Clay/Momentive	Raw Material / Conventiona	Nickel	7440-02-0	1.155.00	Annual	MB	Ab A	<0.1%
CLPT	CLP1-1	Scraper Horn race Onto a prie	Clay/Montentive	Fuel Delivery and Storage		7440-02-0	1.15E-06	Annual	IVIB	Above Average	V0.176
CLPT	CLPT-2	Front end loader transfer into truck	Clay/Momentive	Raw Material / Conventiona Fuel Delivery and Storage	Nickel	7440-02-0	1.15E-06	Annual	МВ	Above Average	<0.1%
FSSCD	FSSC-1	Front-end Loader to Feed Hopper for raw material screen	Foundry Sand/Silica	Raw Material / Conventiona Fuel Delivery and Storage	Nickel	7440-02-0	4.32E-04	Annual	МВ	Above Average	21.6%
FSSC	FSSC-2	Feed Hopper to raw material screener	Foundry Sand/Silica	Raw Material / Conventiona Fuel Delivery and Storage	Nickel	7440-02-0	5.05E-06	Annual	МВ	Above Average	0.3%
	5000.2	Raw material screening	Foundry Sand/Silica	Raw Material / Conventiona	Nieled	7440.03.0	7.025.05				4.00/
FSSC	FSSC-3	raw material screening	roundry sand/silica	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 / Conventiona Fuel Delivery and Storage	Nickel	7440-02-0	5.05E-06	Annual	МВ	Above Average	0.3%
FSSC	FSSC-5	Raw material transfer from Conveyor to Stacker	Foundry Sand/Silica	Raw Material / Conventiona Fuel Delivery and Storage	Nickel	7440-02-0	5.05E-06	Annual	МВ	Above Average	0.3%
FSSCD	FSSC-6	Drop of raw material from Stacker to Stockpile	Foundry Sand/Silica	Raw Material / Conventiona	Nickel	7440-02-0	4.32E-04	Annual	МВ	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 Niekel	7440-02-0	1.75E-06	Annual	MB	Above Average	<0.1%
PIT11 HSILOS HSILOS	04-1-412 H1P41 H1P51	Baghouse serving kiln feed silos (H1P51) Baghouse serving kiln feed silos (H1P51)	Raw Feed Raw Feed Raw Feed	Raw Material Preparation Raw Material Preparation Raw Material Preparation	Nickel Nickel Nickel	7440-02-0 7440-02-0 7440-02-0	2.03E-06 5.30E-06 5.30E-06	Annual Annual Annual	MB MB MB	Above Average Above Average Above Average	0.1% 0.3% 0.3%
HSILOS K1P11		Baghouse serving kiln feed silos (H1P61) Fuel mill baghouse (K1P11)	Raw Feed  Conventional Fuel	Raw Material Preparation Conventional Fuel	Nickel Nickel	7440-02-0 7440-02-0	5.30E-06 2.04E-06	Annual	MB MB	Above Average Above Average	0.3%
K1P31	K1P31	Fuel meal storage silo baghouse (K1P31)	Conventional Fuel	Preparation and Feed Conventional Fuel Preparation and Feed	Nickel	7440-02-0	3.06E-06	Annual	МВ	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	МВ	Above Average	<0.1%
GHOPPER 05_1_412	G1P01 05-1-412	Gypsum Feed Hopper Baghouse (G1P01)  Baghouse serving the kiln feed transfer to preheater tower (05-1-412)	Gypsum/Silica Fume Raw Feed	Conventional Fuel Preparation and Feed	Nickel Nickel	7440-02-0 7440-02-0	1.96E-06 4.66E-06	Annual Annual	MB MB	Above Average	<0.1%
KILNON CKD	KILNON CKD	baginous serving the kinn feed transfer to preneater tower (03-1-412) Kin stack - Raw Mill On Delivery and shipping of Cement Kiln Dust (CKD) to/from storage piles	- Cement Kiln Dust	Clinker Production Clinker Production Clinker Production	Nickel Nickel	7440-02-0 7440-02-0 7440-02-0	1.65E-04 8.59E-07	Annual Annual	ST MB	Above Average Above Average Above Average	8.3% <0.1%
PIT11 07_1_441	07-1-441	Baghouse serving south transfer tower (07-1-421) Baghouse serving north transfer tower (07-1-441)	Clinker Clinker	Clinker Production Clinker Production	Nickel Nickel	7440-02-0 7440-02-0	5.80E-06 3.49E-06	Annual Annual	MB MB	Above Average Above Average	0.3% 0.2%
07_1_450 CBH W1P91	07-1-450 W1P51 W1P91	Baghouse serving north transfer tower (07-1-450)  Clinker cooler baghouse (W1P51)  Clinker reclaim hopper baghouse (W1P91)	Clinker Clinker Clinker	Clinker Production Clinker Production Clinker Production	Nickel Nickel Nickel	7440-02-0 7440-02-0 7440-02-0	4.07E-06 7.57E-05 7.57E-06	Annual Annual Annual	MB MB MB	Above Average Above Average Above Average	0.2% 3.8% 0.4%
PIT11 PIT11D	W1P101 PIT11-22	Baghouse serving clinker truck loading/shipping (W1P101) Transfer of clinker into Tee-Pee storage area	Clinker Clinker	Clinker Production Clinker Production	Nickel Nickel	7440-02-0 7440-02-0	4.84E-06 2.03E-05	Annual Annual	MB MB	Above Average Above Average	0.2%
PIT11D PIT11D	PIT11-23 OFC-1	Clinker transfer into a hopper Loading Point to Truck (offspec clinker)	Clinker Clinker Wet Clinker	Clinker Production Clinker Production	Nickel Nickel Nickel	7440-02-0 7440-02-0	1.04E-05 2.60E-04	Annual Annual	MB MB	Above Average Above Average	0.5% 13.1% 1.3%
PIT11D PIT11D PIT11	OFC-2 OFC-3 OFC-4	Truck to Pre-Crushing Stockpiles (offspec clinker) Front-end Loader to Feed Hopper (offspec clinker) Feeder to Crusher (offspec clinker)	Wet Clinker Wet Clinker	Clinker Production Clinker Production Clinker Production	Nickel Nickel	7440-02-0 7440-02-0 7440-02-0	2.58E-05 2.58E-05 3.01E-07	Annual Annual Annual	MB MB	Above Average Above Average Above Average	1.3%
PIT11 PIT11	OFC-5 OFC-6	Crushing (offspec clinker) Crusher to Discharge Conveyor (offspec clinker)	Wet Clinker Wet Clinker	Clinker Production Clinker Production	Nickel Nickel	7440-02-0 7440-02-0	2.58E-06 3.01E-07	Annual Annual	MB MB	Above Average Above Average	0.1% <0.1%
PIT11D PIT11D	OFC-7 OFC-8	Discharge Conveyor to Crushed Stockpile (offspec clinker) Front-end Loader to Storage Stockpile (offspec clinker) Bagbouse serving additive storage silos in finish mill building (71P01)	Wet Clinker Wet Clinker Gynsum/Silica Fume	Clinker Production Clinker Production	Nickel Nickel Nickel	7440-02-0 7440-02-0	2.58E-05 2.58E-05	Annual Annual	MB MB	Above Average  Above Average	1.3% 1.3% <0.1%
BLSI BLSI BLSI	Z1P01 Z1P11 Z1P21	Baghouse serving additive storage silos in finish mill building (21P01) Baghouse serving additive storage silos in finish mill building (21P11) Baghouse serving additive storage silos in finish mill building (21P21)	Gypsum/Silica Fume Gypsum/Silica Fume Gypsum/Silica Fume	Cement Production Cement Production Cement Production	Nickel Nickel	7440-02-0 7440-02-0 7440-02-0	8.90E-07 8.90E-07 8.90E-07	Annual Annual Annual	MB MB MB	Above Average Above Average Above Average	<0.1% <0.1%
PIT11 PIT11	07-1-491 07-1-492	Baghouse serving additive storage silos in finish mill building (07-1-491) Baghouse serving additive storage silos in finish mill building (07-1-492) Baghouse serving transfer of additive in finish mill building (719191)	Gypsum/Silica Fume Gypsum/Silica Fume	Cement Production Cement Production	Nickel Nickel	7440-02-0 7440-02-0	8.45E-07 5.28E-07	Annual Annual	MB MB	Above Average Above Average	<0.1% <0.1%
PIT11 Z1P31 BAML	Z1P191 Z1P31 Z1P51	Baghouse serving transfer of additive in finish mill building (Z1P191) Baghouse serving transfer into finish mill (Z1P31) Finish mill baghouse (Z1P51)	Cement Cement Cement	Cement Production Cement Production Cement Production	Nickel Nickel Nickel	7440-02-0 7440-02-0 7440-02-0	3.23E-06 1.87E-06 1.46E-04	Annual Annual Annual	MB MB MB	Above Average Above Average Above Average	0.2% <0.1% 7.3%
BAML Z1P41	Z1P61 Z1P41	Baghouse for transfer of cement to storage silo in finish mill building (Z1P61) Baghouse serving transfer from finish mill (Z1P41)	Cement Cement	Cement Production Cement Production	Nickel Nickel	7440-02-0 7440-02-0	3.23E-06 1.61E-06	Annual Annual	MB MB	Above Average Above Average	0.2% <0.1%
S200S S200N S200N	Z1P81	Baghouse serving transfer from finish mill (Z1P71)  Baghouse serving 200 series cement storage silos (Z1P81)  Baghouse serving 200 series cement storage silos (Z1P91)	Cement Cement Cement	Cement Production Cement Production Cement Production	Nickel Nickel Nickel	7440-02-0 7440-02-0 7440-02-0	4.88E-07 5.11E-07 5.11E-07	Annual Annual Annual	MB MB MB	Above Average Above Average Above Average	<0.1% <0.1% <0.1%
\$200N \$200N \$200N	Z1P101 Z1P141	Baghouse serving 200 series cement storage silos (Z1P101) Baghouse serving 200 series cement storage silos (Z1P141)	Cement Cement Cement	Cement Production Cement Production Cement Production	Nickel Nickel	7440-02-0 7440-02-0	5.11E-07 5.11E-07 2.58E-06	Annual Annual Annual	MB MB	Above Average Above Average Above Average	<0.1% 0.1%
S200N S200N	Z1P151 Z1P171	Baghouse serving 200 series cement storage silos (Z1P151) Baghouse serving 200 series cement storage silos (Z1P171)	Cement Cement	Cement Production Cement Production	Nickel Nickel	7440-02-0 7440-02-0	2.58E-06 2.58E-06	Annual Annual	MB MB	Above Average Above Average	0.1% 0.1%
\$200N \$500 \$500		Baghouse serving 200 series cement storage silos (Z1P181) Baghouse serving 200 series cement storage silos (09-1-148) Baghouse serving 200 series cement storage silos (09-1-158)	Cement Cement Cement	Cement Production Cement Production Cement Production	Nickel Nickel Nickel	7440-02-0 7440-02-0 7440-02-0	1.63E-06 3.26E-06 3.26E-06	Annual Annual Annual	MB MB MB	Above Average Above Average Above Average	<0.1% 0.2% 0.2%
\$500 \$200N	09-1-168 09-1-189	Baghouse serving 200 series cement storage silos (109-1-168) Baghouse serving 200 series cement storage silos (09-1-189)	Cement Cement	Cement Production Cement Production	Nickel Nickel	7440-02-0 7440-02-0	3.26E-06 2.17E-06	Annual Annual	MB MB	Above Average Above Average	0.2% 0.1%
S200N S200N	09-1-193	Baghouse serving 200 series cement storage silos (09-1-192) Baghouse serving 200 series cement storage silos (09-1-193)	Cement Cement	Cement Production Cement Production	Nickel Nickel	7440-02-0 7440-02-0	3.26E-06 1.90E-06	Annual Annual	MB MB	Above Average Above Average	0.2% <0.1%
\$200N \$200S \$200S	I-10-3	Baghouse serving 200 series cement storage silos (I-1704) Baghouse serving 200 series cement storage silos (I-10-3) Baghouse serving 200 series cement storage silos (I-10-4)	Cement Cement Cement	Cement Production Cement Production Cement Production	Nickel Nickel Nickel	7440-02-0 7440-02-0 7440-02-0	1.36E-06 1.09E-07 1.09E-06	Annual Annual Annual	MB MB MB	Above Average Above Average Above Average	<0.1% <0.1% <0.1%
S200S S340	I-22 Z1P161	Baghouse serving 200 series cement storage silos (I-22) Baghouse serving 300/400 series cement storage silos (Z1P161)	Cement Cement	Cement Production Cement Production	Nickel Nickel	7440-02-0 7440-02-0	5.43E-06 2.58E-06	Annual Annual	MB MB	Above Average Above Average	0.3% 0.1%
S340 S340 S500	09-1-075	Baghouse serving 300/400 series cement storage silos (I-59-3) Baghouse serving 300/400 series cement storage silos (09-1-075) Baghouse serving 300/400 series cement storage silos (09-1-301)	Cement Cement Cement	Cement Production Cement Production Cement Production	Nickel Nickel Nickel	7440-02-0 7440-02-0 7440-02-0	4.08E-06 6.73E-07 1.90E-06	Annual Annual Annual	MB MB MB	Above Average Above Average Above Average	0.2% <0.1% <0.1%
S500D S340	S500-CL CPV-1	Cement loading from silo into a shipping tanker Baghouse serving packhouse 3 screw conveyor	Cement Cement	Cement Production Cement Production	Nickel Nickel	7440-02-0 7440-02-0	6.83E-05 3.84E-07	Annual Annual	MB MB	Above Average Above Average	3.4% <0.1%
PACK PACK	09-1-497 09-1-407	Baghouse serving packhouse cement storage silos (09-1-497) Baghouse serving packhouse cement storage silos (09-1-407)	Cement Cement	Cement Production Cement Production	Nickel Nickel	7440-02-0 7440-02-0	2.72E-06 2.72E-06	Annual Annual	MB MB	Above Average Above Average	0.1% 0.1%
PACK PACK		Baghouse serving packhouse cement storage silos (09-1-670) Baghouse serving packhouse cement storage silos (09-1-311)	Cement Cement	Cement Production Cement Production	Nickel Nickel	7440-02-0 7440-02-0	1.09E-05 2.72E-06	Annual Annual	MB MB	Above Average Above Average	0.5%
FSSC	FSSC-DG	Diesel-fired engine servicing the raw material screener	-	Raw Material / Conventiona Fuel Delivery and Storage	Nitrogen Dioxide	10102-44-0	9.10E-02	1 hr	МВ	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 PACK	OFC-DG PACK-NGH	Diesel-fired engine servicing the off-spec clinker crusher  Packhouse natural gas fired heaters	-	Clinker Production  Cement Production	Nitrogen Dioxide  Nitrogen Dioxide	10102-44-0	5.03E-01 8.91E-03	1 hr	MB MB	Above Average	0.5% <0.1%
THS	PACK-NGH THS-1	Packnouse natural gas fired heaters  Natural gas/Propane fired raw material delivery truck heating system	-	Laidlaw Operations	Nitrogen Dioxide	10102-44-0	8.91E-03 1.24E-02	1 hr 1 hr	MB MB	Above Average  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	МВ	Above Average	<0.1%
CBBOI	CBBOI	Dual fuel-fired Boiler	-	Ancillary Operations	Nitrogen Dioxide	10102-44-0	3.03E-02	1 hr	МВ	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%

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	МВ	Above Average	<0.1%
CBMST	CBM-5B	Natural gas-fired aggregate dryer controlled by a baghouse dust collector	CBM Product	CBM Operations  Raw Material / Conventional	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	-	Fuel Delivery and Storage	Nitrogen Dioxide	10102-44-0	9.10E-02	1 hr	MB	Above Average	<0.1%
PIT11	OFC-DG	Kiln stack - Raw Mill On  Diesel-fired engine servicing the off-spec clinker crusher	-	Clinker Production  Clinker Production	Nitrogen Dioxide  Nitrogen Dioxide	10102-44-0	4.60E+01 5.03E-01	1 hr	ST MB	Above Average  Above Average	49.0%
PACK	PACK-NGH	Packhouse natural gas fired heaters	-	Cement Production	Nitrogen Dioxide	10102-44-0	8.91E-03	1 hr	МВ	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	МВ	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%
JCBOI	JCBOI	Dual fuel-fired Boiler  No.2 fuel-fired boiler	-	Ancillary Operations  Ancillary Operations	Nitrogen Dioxide  Nitrogen Dioxide	10102-44-0	3.03E-02 1.01E-02	1 hr	MB MB	Above Average  Above Average	<0.1%
TRBOI	TRBOI	Dual fuel-fired boiler	-	Ancillary Operations	Nitrogen Dioxide	10102-44-0	3.03E-02	1 hr	МВ	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	МВ	Above Average	0.3%
KILNON KILNON KILNON	KILNON KILNON	Kiln stack - Raw Mill On Kiln stack - Raw Mill On Kiln stack - Raw Mill On	-	Clinker Production Clinker Production Clinker Production	Phenanthrene Phosphorus Potassium	85-01-8 7723-14-0 7440-09-7	1.30E-03 3.03E-03 1.20E-01	24 hr 24 hr 24 hr	ST ST ST	Above Average Above Average Above Average	100.0% 100.0% 100.0%
KILNON A_16_4	KILNON A-16-4	Kiln stack - Raw Mill On  Baghouse serving the secondary crusher (A-16-4)	- Limestone	Clinker Production Limestone Extraction &	Pyrene Respirable Crystalline Silica	129-00-0 14808-60-7	4.90E-05 1.18E-03	24 hr 24 hr	ST EC	Above Average  Marginal	100.0%
A_15_5	A-15-5	Baghouse serving the secondary screen (A-15-5)	Limestone	Processing 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	Respirable Crystalline Silica	14808-60-7	1.83E-03	24 hr	EC	Marginal	0.5%
				Fuel Delivery and Storage  Raw Material / Conventional							+
CLPT	CLPT-1	Scraper from face onto a pile	Clay/Momentive	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	Respirable Crystalline Silica	14808-60-7	6.52E-04	24 hr	EC	Marginal	0.2%
1330	1330-2	Technoppe to 11 material section.	. oanary samay since	Fuel Delivery and Storage	nespresse erystamite sinea	14000-00-7	0.522-04	24111		Walgilai	0.270
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	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	Fuel Delivery and Storage  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 GHOPPER	H1P61 G1P01	Baghouse serving kiln feed silos (H1P61)  Gypsum Feed Hopper Baghouse (G1P01)	Raw Feed Gypsum/Silica Fume	Raw Material Preparation  Conventional Fuel	Respirable Crystalline Silica Respirable Crystalline Silica	14808-60-7	1.85E-03 1.22E-03	24 hr 24 hr	EC EC	Marginal	0.5%
05_1_412	05-1-412	Baghouse serving the kiln feed transfer to preheater tower (05-1-412)	Raw Feed	Preparation and Feed Clinker Production	Respirable Crystalline Silica	14808-60-7	1.62E-03	24 hr	EC	Marginal 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_450	07-1-441	Baghouse serving north transfer tower (07-1-441)  Baghouse serving north transfer tower (07-1-450)	Clinker	Clinker Production  Clinker Production	Respirable Crystalline Silica  Respirable Crystalline Silica	14808-60-7	1.19E-03 1.39E-03	24 hr 24 hr	EC EC	Marginal	0.3%
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 PIT11D	PIT11-22 PIT11-23	Transfer of clinker into Tee-Pee storage area  Clinker transfer into a hopper	Clinker	Clinker Production  Clinker Production	Respirable Crystalline Silica Respirable Crystalline Silica	14808-60-7	3.05E-03 1.56E-03	24 hr	EC EC	Marginal	0.8%
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 PIT11	OFC-4	Feeder to Crusher (offspec clinker)  Crushing (offspec clinker)	Wet Clinker  Wet Clinker	Clinker Production  Clinker Production	Respirable Crystalline Silica Respirable Crystalline Silica	14808-60-7	3.40E-05 3.99E-04	24 hr 24 hr	EC EC	Marginal Marginal	<0.1% 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 BLSI	Z1P01 Z1P11	Baghouse serving additive storage silos in finish mill building (Z1P01)  Baghouse serving additive storage silos in finish mill building (Z1P11)	Gypsum/Silica Fume Gypsum/Silica Fume	Cement Production  Cement Production	Respirable Crystalline Silica  Respirable Crystalline Silica	14808-60-7	5.56E-04 5.56E-04	24 hr 24 hr	EC EC	Marginal 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 Z1P31	Z1P191 Z1P31	Baghouse serving transfer of additive in finish mill building (Z1P191)  Baghouse serving transfer into finish mill (Z1P31)	Cement	Cement Production  Cement Production	Respirable Crystalline Silica Respirable Crystalline Silica	14808-60-7 14808-60-7	1.12E-03 6.49E-04	24 hr 24 hr	EC EC	Marginal	0.3%
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 (ZIP41)	Cement	Cement Production	Respirable Crystalline Silica	14808-60-7	5.60E-04	24 hr	EC	Marginal	0.2%
S200S S200N	Z1P71 Z1P81	Baghouse serving transfer from finish mill (Z1P71)  Baghouse serving 200 series cement storage silos (Z1P81)	Cement	Cement Production	Respirable Crystalline Silica  Respirable Crystalline Silica	14808-60-7 14808-60-7	1.69E-04 1.77E-04	24 hr	EC EC	Marginal	<0.1%
S200N	Z1P81 Z1P91	Baghouse serving 200 series cement storage silos (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 S200N	Z1P151 Z1P171	Baghouse serving 200 series cement storage silos (Z1P151)  Baghouse serving 200 series cement storage silos (Z1P171)	Cement	Cement Production  Cement Production	Respirable Crystalline Silica Respirable Crystalline Silica	14808-60-7 14808-60-7	8.95E-04 8.95E-04	24 hr	EC EC	Marginal Marginal	0.2%
S200N	Z1P171 Z1P181	Baghouse serving 200 series cement storage silos (ZIP181)	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%
\$500 \$200N	09-1-168	Baghouse serving 200 series cement storage silos (109-1-168)  Raghouse serving 200 series cement storage silos (109-1-180)	Cement	Cement Production	Respirable Crystalline Silica	14808-60-7	1.13E-03	24 hr	EC EC	Marginal	0.3%
S200N	09-1-189	Baghouse serving 200 series cement storage silos (09-1-189)  Baghouse serving 200 series cement storage silos (09-1-192)	Cement Cement	Cement Production  Cement Production	Respirable Crystalline Silica Respirable Crystalline Silica	14808-60-7 14808-60-7	7.54E-04 1.13E-03	24 hr 24 hr	EC EC	Marginal Marginal	0.2%
S200N		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%
\$200N \$200N	09-1-193						4.72E-04	24 hr	EC		0.1%
	09-1-193 1-17-4	Baghouse serving 200 series cement storage silos (I-1704)	Cement	Cement Production	Respirable Crystalline Silica	14808-60-7	4.72E-04			Marginal	+
\$200N \$200N \$200S	1-17-4 I-10-3	Baghouse serving 200 series cement storage silos (I-1704) 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%
\$200N \$200N \$200S \$200S	1-17-4 I-10-3 I-10-4	Baghouse serving 200 series cement storage silos (I-1704)  Baghouse serving 200 series cement storage silos (I-10-3)  Baghouse serving 200 series cement storage silos (I-10-4)		Cement Production  Cement Production		14808-60-7 14808-60-7	3.79E-05 3.79E-04		EC EC	Marginal Marginal	<0.1% 0.1% 0.5%
\$200N \$200N \$200S	1-17-4 I-10-3	Baghouse serving 200 series cement storage silos (I-1704) Baghouse serving 200 series cement storage silos (I-10-3)	Cement Cement	Cement Production	Respirable Crystalline Silica Respirable Crystalline Silica	14808-60-7	3.79E-05	24 hr 24 hr	EC	Marginal	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 (%)
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%
\$500	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%
\$500D \$340	S500-CL CPV-1	Cement loading from silo into a shipping tanker	Cement	Cement Production	Respirable Crystalline Silica  Respirable Crystalline Silica	14808-60-7	1.04E-02	24 hr	EC EC	Marginal	2.8% <0.1%
PACK	09-1-497	Baghouse serving packhouse 3 screw conveyor  Baghouse serving packhouse cement storage silos (09-1-497)	Cement	Cement Production  Cement Production	Respirable Crystalline Silica	14808-60-7	1.33E-04 9.43E-04	24 hr	EC	Marginal 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 CBM-6	Natural gas-fired aggregate dryer controlled by a baghouse dust collector Fines transfer from dryer to fines silo controlled by a bin vent filter	CBM Product  CBM Product	CBM Operations  CBM Operations	Respirable Crystalline Silica  Respirable Crystalline Silica	14808-60-7	1.45E-03 7.50E-06	24 hr 24 hr	EC EC	Marginal 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 A_16_4	CBM-14 A-16-4	Product silo load out into shipping truck  Baghouse serving the secondary crusher (A-16-4)	CBM Product  Limestone	CBM Operations  Limestone Extraction &	Respirable Crystalline Silica Selenium	14808-60-7 7782-49-2	7.55E-04 1.89E-07	24 hr 24 hr	EC MB	Marginal  Above Average	0.2% <0.1%
A_15_5	A-15-5	Baghouse serving the secondary screen (A-15-5)	Limestone	Processing Limestone Extraction &	Selenium	7782-49-2	8.30E-08	24 hr	MB	Above Average	<0.1%
PPILE	PPILE	Transfer of limestone onto primary surge pile	Limestone	Processing Limestone Extraction & Processing	Selenium	7782-49-2	1.34E-06	24 hr	МВ	Above Average	0.3%
PILES	PILES-1	Delivery and transfer of conventional fuel	Conventional Fuel	Raw Material / Conventional	Selenium	7782-49-2	7.98E-08	24 hr	МВ	Above Average	<0.1%
				Fuel Delivery and Storage  Raw Material / Conventional							
PILES	PILES-2	Delivery and transfer of raw materials	Raw Feed	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	МВ	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	МВ	Above Average	<0.1%
			Cla (Ataurania	Raw Material / Conventional	Silver ii						240
CLPT	CLPT-1	Scraper from face onto a pile	Clay/Momentive	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	МВ	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	МВ	Above Average	0.9%
FSSC	FSSC-2	Feed Hopper to raw material screener	Foundry Sand/Silica	Raw Material / Conventional	Selenium	7782-49-2	4 425 00	24 hr	МВ	Abovo Avorago	<0.1%
FSSC	F33C-2	reeu nopper to raw material screener	roundly sand/sinca	Fuel Delivery and Storage	Selenium	7782-49-2	4.43E-08	24111	IVIB	Above Average	V0.1%
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	МВ	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	МВ	Above Average	<0.1%
FSSC	FSSC-5	Raw material transfer from Conveyor to Stacker	Foundry Sand/Silica	Raw Material / Conventional	Selenium	7782-49-2	4.43E-08	24 hr	MB	Above Average	<0.1%
F33C	1330-3	naw material transfer from conveyor to statute	roundry sand/sinca	Fuel Delivery and Storage	Selentium	7762-45-2	4.435'00	24111	IVID	Above Average	10.176
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	МВ	Above Average	0.9%
PIT11 PIT11	04-1-411	Baghouse serving the raw material storage silos for raw mill (04-1-411) Baghouse serving the raw material storage silos for raw mill (04-1-412) Baghouse serving kiln feed silos (H1P41)	Raw Feed Raw Feed Raw Feed	Raw Material Preparation Raw Material Preparation	Selenium Selenium Selenium	7782-49-2 7782-49-2	9.83E-08	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% <0.1% <0.1%
HSILOS HSILOS	H1P41 H1P51 H1P61	Baghouse serving kiln feed silos (H1P41) Baghouse serving kiln feed silos (H1P51)	Raw Feed Raw Feed Raw Feed	Raw Material Preparation Raw Material Preparation Raw Material Preparation	Selenium Selenium	7782-49-2 7782-49-2 7782-49-2	2.56E-07 2.56E-07 2.56E-07	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	<0.1% <0.1% <0.1%
K1P11	K1P11	Fuel mill baghouse (K1P11)	Conventional Fuel	Conventional Fuel Preparation and Feed	Selenium	7782-49-2	2.45E-08	24 hr	МВ	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	МВ	Above Average	<0.1%
K1P41	K1P41	Baghouse serving the north auxiliary fuel silo (K1P41)	Conventional Fuel	Conventional Fuel Preparation and Feed Conventional Fuel	Selenium	7782-49-2	9.60E-09	24 hr	МВ	Above Average	<0.1%
GHOPPER 05_1_412	G1P01 05-1-412	Gypsum Feed Hopper Baghouse (G1P01)  Baghouse serving the kiln feed transfer to preheater tower (05-1-412)	Gypsum/Silica Fume Raw Feed	Preparation and Feed Clinker Production	Selenium Selenium	7782-49-2 7782-49-2	7.09E-07 2.25E-07	24 hr 24 hr	MB MB	Above Average  Above Average	0.2% <0.1%
KILNON	KILNON	Kiln stack - Raw Mill On Delivery and shipping of Cement Kiln Dust (CKD) to/from storage piles	- Cement Kiln Dust	Clinker Production Clinker Production	Selenium Selenium	7782-49-2 7782-49-2	3.70E-04 4.10E-08	24 hr 24 hr	ST MB	Above Average Above Average	87.4% <0.1%
PIT11 07_1_441 07_1_450	07-1-421 07-1-441 07-1-450	Baghouse serving south transfer tower (07-1-421) Baghouse serving north transfer tower (07-1-441) Baghouse serving north transfer tower (07-1-450)	Clinker Clinker Clinker	Clinker Production Clinker Production Clinker Production	Selenium Selenium Selenium	7782-49-2 7782-49-2 7782-49-2	2.77E-07 1.66E-07 1.94E-07	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	<0.1% <0.1% <0.1%
CBH W1P91	W1P51 W1P91	Clinker cooler baghouse (W1P51) Clinker reclaim hopper baghouse (W1P91)	Clinker Clinker	Clinker Production Clinker Production	Selenium Selenium	7782-49-2 7782-49-2	3.62E-06 3.61E-07	24 hr 24 hr	MB MB	Above Average Above Average	0.9%
PIT11 PIT11D	W1P101 PIT11-22	Baghouse serving clinker truck loading/shipping (W1P101) Transfer of clinker into Tee-Pee storage area	Clinker Clinker	Clinker Production Clinker Production	Selenium Selenium	7782-49-2 7782-49-2	2.31E-07 9.70E-07	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% 0.2%
PIT11D PIT11D	PIT11-23 OFC-1	Clinker transfer into a hopper Loading Point to Truck (offspec clinker) Truck to Pre-Crushing Stockpiles (offspec clinker)	Clinker Clinker Wet Clinker	Clinker Production Clinker Production	Selenium Selenium Selenium	7782-49-2 7782-49-2	4.97E-07 1.24E-05	24 hr 24 hr 24 hr	MB MB	Above Average	0.1% 2.9% 0.3%
PIT11D PIT11D PIT11	OFC-2 OFC-3 OFC-4	Front-end Loader to Feed Hopper (offspec clinker) Feeder to Crusher (offspec clinker)	Wet Clinker Wet Clinker	Clinker Production Clinker Production Clinker Production	Selenium Selenium	7782-49-2 7782-49-2 7782-49-2	1.23E-06 1.23E-06 1.44E-08	24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	0.3%
PIT11 PIT11	OFC-5 OFC-6	Crushing (offspec clinker) Crusher to Discharge Conveyor (offspec clinker)	Wet Clinker Wet Clinker	Clinker Production Clinker Production	Selenium Selenium	7782-49-2 7782-49-2	1.23E-07 1.44E-08	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% <0.1%
PIT11D PIT11D	OFC-7 OFC-8	Discharge Conveyor to Crushed Stockpile (offspec clinker) Front-end Loader to Storage Stockpile (offspec clinker)	Wet Clinker Wet Clinker	Clinker Production Clinker Production	Selenium Selenium	7782-49-2 7782-49-2	1.23E-06 1.23E-06	24 hr 24 hr	MB MB	Above Average Above Average	0.3%
BLSI BLSI BLSI	Z1P01 Z1P11 Z1P21	Baghouse serving additive storage silos in finish mill building (ZIP01) Baghouse serving additive storage silos in finish mill building (ZIP11) Baghouse serving additive storage silos in finish mill building (ZIP21)	Gypsum/Silica Fume Gypsum/Silica Fume Gypsum/Silica Fume	Cement Production Cement Production Cement Production	Selenium Selenium Selenium	7782-49-2 7782-49-2 7782-49-2	3.22E-07 3.22E-07 3.22E-07	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	<0.1% <0.1% <0.1%
PIT11 PIT11	07-1-491 07-1-492	Baghouse serving additive storage silos in finish mill building (07-1-491) Baghouse serving additive storage silos in finish mill building (07-1-492)	Gypsum/Silica Fume Gypsum/Silica Fume	Cement Production Cement Production	Selenium Selenium	7782-49-2 7782-49-2	3.06E-07 1.91E-07	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% <0.1%
PIT11 Z1P31	Z1P191 Z1P31	Baghouse serving transfer of additive in finish mill building (Z1P191) Baghouse serving transfer into finish mill (Z1P31)	Cement Cement	Cement Production Cement Production	Selenium Selenium	7782-49-2 7782-49-2	1.66E-07 9.62E-08	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% <0.1%
BAML BAML Z1P41	Z1P51 Z1P61 Z1P41	Finish mill baghouse (21P51) Baghouse for transfer of cement to storage silo in finish mill building (21P61) Baghouse serving transfer from finish mill (21P41)	Cement Cement Cement	Cement Production Cement Production Cement Production	Selenium Selenium Selenium	7782-49-2 7782-49-2 7782-49-2	7.50E-06 1.66E-07 8.31E-08	24 hr 24 hr 24 hr	MB MB MB	Above Average  Above Average	1.8% <0.1% <0.1%
5200S S200N	Z1P41 Z1P71 Z1P81	Baghouse serving transfer from finish mill (Z1P71) Baghouse serving 200 series cement storage silos (Z1P81)	Cement Cement Cement	Cement Production Cement Production	Selenium Selenium Selenium	7782-49-2 7782-49-2 7782-49-2	2.51E-08 2.63E-08	24 hr 24 hr 24 hr	MB MB	Above Average Above Average Above Average	<0.1% <0.1% <0.1%
S200N S200N	Z1P91 Z1P101	Baghouse serving 200 series cement storage silos (Z1P91) Baghouse serving 200 series cement storage silos (Z1P101)	Cement Cement	Cement Production Cement Production	Selenium Selenium	7782-49-2 7782-49-2	2.63E-08 2.63E-08	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% <0.1%
S200N S200N S200N	Z1P141 Z1P151 Z1P171	Baghouse serving 200 series cement storage silos (Z1P141) Baghouse serving 200 series cement storage silos (Z1P151) Baghouse serving 200 series cement storage silos (Z1P171)	Cement Cement Cement	Cement Production Cement Production Cement Production	Selenium Selenium Selenium	7782-49-2 7782-49-2	1.33E-07 1.33E-07	24 hr 24 hr 24 hr	MB MB MB	Above Average  Above Average	<0.1% <0.1% <0.1%
\$200N \$200N \$500	Z1P171 Z1P181 09-1-148	Baghouse serving 200 series cement storage silos (Z1P1/1) Baghouse serving 200 series cement storage silos (Z1P181) Baghouse serving 200 series cement storage silos (09-1-148)	Cement Cement Cement	Cement Production Cement Production Cement Production	Selenium Selenium Selenium	7782-49-2 7782-49-2 7782-49-2	1.33E-07 8.37E-08 1.68E-07	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	<0.1% <0.1% <0.1%
\$500 \$500	09-1-158 09-1-168	Baghouse serving 200 series cement storage silos (09-1-158) Baghouse serving 200 series cement storage silos (109-1-168)	Cement Cement	Cement Production Cement Production	Selenium Selenium	7782-49-2 7782-49-2	1.68E-07 1.68E-07	24 hr 24 hr	MB MB	Above Average  Above Average  Above Average	<0.1% <0.1%
S200N S200N	09-1-189 09-1-192	Baghouse serving 200 series cement storage silos (09-1-189) Baghouse serving 200 series cement storage silos (09-1-192)	Cement Cement	Cement Production Cement Production	Selenium Selenium	7782-49-2 7782-49-2	1.12E-07 1.68E-07	24 hr 24 hr	MB MB	Above Average Above Average	<0.1%
\$200N \$200N \$200S	09-1-193 1-17-4 I-10-3	Baghouse serving 200 series cement storage silos (09-1-193) Baghouse serving 200 series cement storage silos (I-1704) Baghouse serving 200 series cement storage silos (I-10-3)	Cement Cement Cement	Cement Production Cement Production Cement Production	Selenium Selenium Selenium	7782-49-2 7782-49-2 7782-49-2	9.80E-08 6.99E-08 5.62E-09	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	<0.1% <0.1% <0.1%
S200S S200S S200S	I-10-3 I-10-4 I-22	Baghouse serving 200 series cement storage silos (I-10-3) Baghouse serving 200 series cement storage silos (I-10-4) Baghouse serving 200 series cement storage silos (I-22)	Cement Cement Cement	Cement Production  Cement Production  Cement Production	Selenium Selenium Selenium	7782-49-2 7782-49-2 7782-49-2	5.62E-09 5.62E-08 2.80E-07	24 hr 24 hr 24 hr	MB MB	Above Average Above Average Above Average	<0.1% <0.1% <0.1%
\$340 \$340	Z1P161 I-59-3	Baghouse serving 300/400 series cement storage silos (Z1P161) Baghouse serving 300/400 series cement storage silos (I-59-3)	Cement Cement	Cement Production Cement Production	Selenium Selenium	7782-49-2 7782-49-2	1.33E-07 2.10E-07	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% <0.1%
\$340 \$500	09-1-075 09-1-301	Baghouse serving 300/400 series cement storage silos (09-1-075) Baghouse serving 300/400 series cement storage silos (09-1-301) Ceptant loading forms (in the a chipsing traple)	Cement Cement	Cement Production Cement Production	Selenium Selenium	7782-49-2 7782-49-2	3.47E-08 9.80E-08	24 hr 24 hr	MB MB	Above Average Above Average	<0.1%
S500D S340 PACK	S500-CL CPV-1 09-1-497	Cement loading from silo into a shipping tanker Baghouse serving packhouse 3 screw conveyor Baghouse serving packhouse cement storage silos (09-1-497)	Cement Cement Cement	Cement Production Cement Production Cement Production	Selenium Selenium Selenium	7782-49-2 7782-49-2 7782-49-2	3.51E-06 1.97E-08 1.40E-07	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	0.8% <0.1% <0.1%
PACK PACK	09-1-497 09-1-407 09-1-670	Baghouse serving packhouse cement storage silos (09-1-407) Baghouse serving packhouse cement storage silos (09-1-670)	Cement Cement	Cement Production Cement Production	Selenium Selenium	7782-49-2 7782-49-2	1.40E-07 5.59E-07	24 hr 24 hr	MB MB	Above Average Above Average Above Average	<0.1% 0.1%
PACK A_16_4	09-1-311 A-16-4	Baghouse serving packhouse cement storage silos (09-1-311)  Baghouse serving the secondary crusher (A-16-4)	Cement Limestone	Cement Production Limestone Extraction &	Selenium Silver	7782-49-2 7440-22-4	1.40E-07 5.90E-08	24 hr 24 hr	MB MB	Above Average  Above Average	<0.1% <0.1%
A_15_5	A-15-5	Baghouse serving the secondary screen (A-15-5)	Limestone	Processing Limestone Extraction &	Silver	7440-22-4	2.60E-08	24 hr	MB	Above Average  Above Average	<0.1%
PPILE	PPILE	Transfer of limestone onto primary surge pile	Limestone	Processing Limestone Extraction & Processing	Silver	7440-22-4	4.20E-07	24 hr	МВ	Above Average	0.3%
PILES	PILES-1	Delivery and transfer of conventional fuel	Conventional Fuel	Raw Material / Conventional Fuel Delivery and Storage	Silver	7440-22-4	1.66E-08	24 hr	МВ	Above Average	<0.1%
				Fuel Delivery and Storage  Raw Material / Conventional	Cilina						
PILES	PILES-2	Delivery and transfer of raw materials	Raw Feed	Fuel Delivery and Storage	Silver	7440-22-4	2.31E-07	24 hr	MB	Above Average	0.2%
K1P51	K1P51	Conventional fuel storage silo baghouse (K1P51)	Conventional Fuel	Raw Material / Conventional Fuel Delivery and Storage	Silver	7440-22-4	1.40E-08	24 hr	МВ	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	Silver	7440-22-4	1.48E-07	24 hr	МВ	Above Average	0.1%
		Second from free anti =!!-	Charles	Raw Material / Conventional	Shor	74.5	4 222 11	7.1		At	
CLPT	CLPT-1	Scraper from face onto a pile	Clay/Momentive	Fuel Delivery and Storage	Silver	7440-22-4	4.33E-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	Silver	7440-22-4	4.33E-08	24 hr	МВ	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	Silver	7440-22-4	8.65E-06	24 hr	МВ	Above Average	6.4%
				r der Denvery and Storage						-	

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	МВ	Above Average	<0.1%
FSSC	FSSC-3	Raw material screening	Foundry Sand/Silica	Raw Material / Conventional	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	Fuel Delivery and Storage  Raw Material / Conventional	Silver	7440-22-4	1.01E-07	24 hr	MB	414	<0.1%
				Fuel Delivery and Storage  Raw Material / Conventional		7440-22-4		24111	IVIB	Above Average	
FSSC	FSSC-5	Raw material transfer from Conveyor to Stacker	Foundry Sand/Silica	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  Baghouse serving the raw material storage silos for raw mill (04-1-411)	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 PIT11 HSILOS	04-1-411 04-1-412 H1P41	Baghouse serving the raw material storage silos for raw mill (04-1-411) Baghouse serving the raw material storage silos for raw mill (04-1-412) Baghouse serving kiln feed silos (H1P41)	Raw Feed Raw Feed Raw Feed	Raw Material Preparation Raw Material Preparation Raw Material Preparation	Silver Silver Silver	7440-22-4 7440-22-4 7440-22-4	4.94E-08 5.74E-08 1.50E-07	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	<0.1%
HSILOS HSILOS	H1P51 H1P61	Baghouse serving kiln feed silos (H1P51) Baghouse serving kiln feed silos (H1P61)	Raw Feed Raw Feed	Raw Material Preparation Raw Material Preparation	Silver Silver	7440-22-4 7440-22-4	1.50E-07 1.50E-07	24 hr 24 hr	MB MB	Above Average Above Average	0.1% 0.1%
K1P11 K1P31	K1P11 K1P31	Fuel mill baghouse (K1P11)  Fuel meal storage silo baghouse (K1P31)	Conventional Fuel  Conventional Fuel	Preparation and Feed Conventional Fuel	Silver	7440-22-4	5.10E-09 7.65E-09	24 hr	MB MB	Above Average  Above Average	<0.1%
K1P41	K1P41	Baghouse serving the north auxiliary fuel silo (K1P41)	Conventional Fuel	Preparation and Feed Conventional Fuel Preparation and Feed	Silver	7440-22-4	2.00E-09	24 hr	МВ	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	МВ	Above Average	<0.1%
05_1_412 KILNON CKD	05-1-412 KILNON CKD	Baghouse serving the kiln feed transfer to preheater tower (05-1-412) Kiln stack - Raw Mill On Delivery and shipping of Cement Kiln Dust (CKD) to/from storage piles	Raw Feed - Cement Kiln Dust	Clinker Production Clinker Production Clinker Production	Silver Silver Silver	7440-22-4 7440-22-4 7440-22-4	1.31E-07 9.19E-05 2.39E-08	24 hr 24 hr 24 hr	MB ST MB	Above Average Above Average Above Average	<0.1% 68.2% <0.1%
PIT11 07_1_441 07_1_450	07-1-421 07-1-441 07-1-450	Baghouse serving south transfer tower (07-1-421) Baghouse serving north transfer tower (07-1-441) Baghouse serving north transfer tower (07-1-450)	Clinker Clinker Clinker	Clinker Production Clinker Production	Silver Silver Silver	7440-22-4 7440-22-4 7440-22-4	1.61E-07 9.68E-08 1.13E-07	24 hr 24 hr	MB MB MB	Above Average Above Average	0.1% <0.1% <0.1%
CBH W1P91	W1P51 W1P91	Baginuse serving invitra dairiser tower (07-14-30) Clinker cooler baghouse (W1P51) Clinker reclaim hopper baghouse (W1P91)	Clinker Clinker	Clinker Production Clinker Production Clinker Production	Silver Silver	7440-22-4 7440-22-4 7440-22-4	2.10E-06 2.10E-07	24 hr 24 hr 24 hr	MB MB	Above Average Above Average Above Average	1.6%
PIT11 PIT11D	W1P101 PIT11-22	Baghouse serving clinker truck loading/shipping (W1P101) Transfer of clinker into Tee-Pee storage area Clinker transfer into a hopper	Clinker Clinker Clinker	Clinker Production Clinker Production Clinker Production	Silver Silver Silver	7440-22-4 7440-22-4 7440-22-4	1.34E-07 5.64E-07 2.89E-07	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average	<0.1% 0.4% 0.2%
PIT11D PIT11D PIT11D	PIT11-23 OFC-1 OFC-2	Clinker transfer into a noppler Loading Point to Truck (offspec clinker)  Truck to Pre-Crushing Stockpiles (offspec clinker)	Clinker Clinker Wet Clinker	Clinker Production Clinker Production Clinker Production	Silver Silver	7440-22-4 7440-22-4 7440-22-4	7.24E-06 7.16E-07	24 hr 24 hr 24 hr	MB MB	Above Average Above Average Above Average	5.4% 0.5%
PIT11D PIT11	OFC-4	Front-end Loader to Feed Hopper (offspec clinker) Feeder to Crusher (offspec clinker)	Wet Clinker Wet Clinker	Clinker Production Clinker Production	Silver Silver	7440-22-4 7440-22-4	7.16E-07 8.38E-09	24 hr 24 hr	MB MB	Above Average Above Average	0.5% <0.1%
PIT11 PIT11 PIT11D	OFC-5 OFC-6 OFC-7	Crushing (offspec clinker) Crusher to Discharge Conveyor (offspec clinker) Discharge Conveyor to Crushed Stockpile (offspec clinker)	Wet Clinker Wet Clinker Wet Clinker	Clinker Production Clinker Production Clinker Production	Silver Silver Silver	7440-22-4 7440-22-4 7440-22-4	7.18E-08 8.38E-09 7.16E-07	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	<0.1% <0.1% 0.5%
PIT11D BLSI	OFC-8 Z1P01	Front-end Loader to Storage Stockpile (offspec clinker) Baghouse serving additive storage silos in finish mill building (Z1P01)	Wet Clinker Gypsum/Silica Fume	Clinker Production Cement Production	Silver Silver	7440-22-4 7440-22-4	7.16E-07 1.39E-08	24 hr 24 hr	MB MB	Above Average Above Average	0.5% <0.1%
BLSI BLSI PIT11	Z1P11 Z1P21 07-1-491	Baghouse serving additive storage silos in finish mill building (Z1P11)  Baghouse serving additive storage silos in finish mill building (Z1P21)  Baghouse serving additive storage silos in finish mill building (07-1-491)	Gypsum/Silica Fume Gypsum/Silica Fume Gypsum/Silica Fume	Cement Production Cement Production Cement Production	Silver Silver Silver	7440-22-4 7440-22-4 7440-22-4	1.39E-08 1.39E-08 1.32E-08	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	<0.1% <0.1% <0.1%
PIT11 PIT11	07-1-492 Z1P191	Baghouse serving additive storage silos in finish mill building (07-1-492) Baghouse serving transfer of additive in finish mill building (Z1P191)	Gypsum/Silica Fume Cement	Cement Production Cement Production	Silver Silver	7440-22-4 7440-22-4	8.25E-09 8.93E-08	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% <0.1%
Z1P31 BAML BAML	Z1P31 Z1P51 Z1P61	Baghouse serving transfer into finish mill (Z1P31) Finish mill baghouse (Z1P51) Baghouse for transfer of cement to storage silo in finish mill building (Z1P61)	Cement Cement Cement	Cement Production Cement Production Cement Production	Silver Silver Silver	7440-22-4 7440-22-4 7440-22-4	5.17E-08 4.03E-06 8.93E-08	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	<0.1% 3.0% <0.1%
Z1P41 S200S	Z1P41 Z1P71	Baghouse serving transfer from finish mill (Z1P41) Baghouse serving transfer from finish mill (Z1P71)	Cement Cement	Cement Production Cement Production	Silver Silver	7440-22-4 7440-22-4	4.46E-08 1.35E-08	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% <0.1%
S200N S200N S200N	Z1P81 Z1P91 Z1P101	Baghouse serving 200 series cement storage silos (Z1P81) Baghouse serving 200 series cement storage silos (Z1P91) Baghouse serving 200 series cement storage silos (Z1P101)	Cement Cement Cement	Cement Production Cement Production Cement Production	Silver Silver Silver	7440-22-4 7440-22-4 7440-22-4	1.41E-08 1.41E-08 1.41E-08	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	<0.1% <0.1% <0.1%
S200N S200N	Z1P141 Z1P151	Baghouse serving 200 series cement storage silos (Z1P141) Baghouse serving 200 series cement storage silos (Z1P151)	Cement Cement	Cement Production Cement Production	Silver Silver	7440-22-4 7440-22-4	7.13E-08 7.13E-08	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% <0.1%
S200N S200N S500	Z1P171 Z1P181 09-1-148	Baghouse serving 200 series cement storage silos (Z1P171) Baghouse serving 200 series cement storage silos (Z1P181) Baghouse serving 200 series cement storage silos (09-1-148)	Cement Cement Cement	Cement Production Cement Production Cement Production	Silver Silver Silver	7440-22-4 7440-22-4 7440-22-4	7.13E-08 4.49E-08 9.02E-08	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	<0.1% <0.1% <0.1%
\$500 \$500	09-1-158 09-1-168	Baghouse serving 200 series cement storage silos (09-1-158) Baghouse serving 200 series cement storage silos (109-1-168)	Cement Cement	Cement Production Cement Production	Silver Silver	7440-22-4 7440-22-4	9.02E-08 9.02E-08	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% <0.1%
S200N S200N S200N	09-1-189 09-1-192 09-1-193	Baghouse serving 200 series cement storage silos (09-1-189) Baghouse serving 200 series cement storage silos (09-1-192) Baghouse serving 200 series cement storage silos (09-1-193)	Cement Cement Cement	Cement Production Cement Production Cement Production	Silver Silver Silver	7440-22-4 7440-22-4 7440-22-4	6.00E-08 9.02E-08 5.27E-08	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	<0.1% <0.1% <0.1%
S200N S200S	1-17-4 I-10-3	Baghouse serving 200 series cement storage silos (I-1704) Baghouse serving 200 series cement storage silos (I-10-3)	Cement Cement	Cement Production Cement Production	Silver Silver	7440-22-4 7440-22-4	3.76E-08 3.02E-09	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% <0.1%
S200S S200S S340	I-10-4 I-22 Z1P161	Baghouse serving 200 series cement storage silos (I-10-4) Baghouse serving 200 series cement storage silos (I-22) Baghouse serving 300/400 series cement storage silos (Z1P161)	Cement Cement Cement	Cement Production Cement Production Cement Production	Silver Silver Silver	7440-22-4 7440-22-4 7440-22-4	3.02E-08 1.50E-07 7.13E-08	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	<0.1% 0.1% <0.1%
\$340 \$340	I-59-3 09-1-075	Baghouse serving 300/400 series cement storage silos (1-59-3) Baghouse serving 300/400 series cement storage silos (1-59-3) Baghouse serving 300/400 series cement storage silos (09-1-075)	Cement Cement	Cement Production Cement Production	Silver Silver	7440-22-4 7440-22-4	1.13E-08 1.86E-08	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% <0.1%
\$500 \$500D \$340	09-1-301 S500-CL CPV-1	Baghouse serving 300/400 series cement storage silos (09-1-301)  Cement loading from silo into a shipping tanker  Baghouse serving packhouse 3 screw conveyor	Cement Cement Cement	Cement Production Cement Production Cement Production	Silver Silver Silver	7440-22-4 7440-22-4 7440-22-4	5.27E-08 1.89E-06 1.06E-08	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	<0.1% 1.4% <0.1%
PACK PACK	09-1-497 09-1-407	Baghouse serving packhouse cement storage silos (09-1-497) Baghouse serving packhouse cement storage silos (09-1-407)	Cement Cement	Cement Production Cement Production	Silver Silver	7440-22-4 7440-22-4	7.51E-08 7.51E-08	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% <0.1%
PACK PACK KILNON	09-1-670 09-1-311 KILNON	Baghouse serving packhouse cement storage silos (09-1-670) Baghouse serving packhouse cement storage silos (09-1-311) Kiln stack - Raw Mill On	Cement Cement	Cement Production Cement Production Clinker Production	Silver Silver Styrene	7440-22-4 7440-22-4 100-42-5	3.01E-07 7.51E-08 9.60E-02	24 hr 24 hr 24 hr	MB MB ST	Above Average Above Average	0.2% <0.1% 100.0%
FSSC	FSSC-DG KILNON	Diesel-fired engine servicing the raw material screener  Kiln stack - Raw Mill On	-	Raw Material / Conventional Fuel Delivery and Storage Clinker Production	Sulphur Dioxide Sulphur Dioxide	7446-09-5	2.57E-02 3.44E+01	1 hr	MB ST	Above Average  Above Average	<0.1%
PIT11 CBBOI JCBOI	OFC-DG CBBOI JCBOI	Diesel-fired engine servicing the off-spec clinker crusher  Dual fuel-fired Boiler  No.2 fuel-fired boiler	-	Clinker Production Ancillary Operations	Sulphur Dioxide Sulphur Dioxide Sulphur Dioxide	7446-09-5 7446-09-5 7446-09-5	4.11E-02 2.15E-02 7.17E-03	1 hr 1 hr 1 hr	MB MB MB	Above Average Above Average	<0.1% <0.1% <0.1%
TRBOI FSSC	TRBOI FSSC-DG	Dual fuel-fired boiler  Diesel-fired engine servicing the raw material screener	-	Ancillary Operations Ancillary Operations Raw Material / Conventional Fuel Delivery and Storage	Sulphur Dioxide Sulphur Dioxide	7446-09-5 7446-09-5	2.15E-02 2.57E-02	1 hr	MB MB	Above Average  Above Average	<0.1%
KILNON PIT11	KILNON OFC-DG	Kiln stack - Raw Mill On Diesel-fired engine servicing the off-spec clinker crusher	-	Clinker Production Clinker Production	Sulphur Dioxide Sulphur Dioxide	7446-09-5 7446-09-5	3.44E+01 4.11E-02	1 hr 1 hr	ST MB	Above Average Above Average	49.8% <0.1%
JCBOI TRBOI	JCBOI TRBOI	Dual fuel-fired Boiler No.2 fuel-fired boiler Dual fuel-fired boiler	-	Ancillary Operations Ancillary Operations Ancillary Operations	Sulphur Dioxide Sulphur Dioxide Sulphur Dioxide Sulphur Dioxide	7446-09-5 7446-09-5 7446-09-5	2.15E-02 7.17E-03 2.15E-02	1 hr 1 hr 1 hr	MB MB MB	Above Average Above Average Above Average	<0.1% <0.1% <0.1%
FSSC	FSSC-DG KILNON	Diesel-fired engine servicing the raw material screener  Kiln stack - Raw Mill On	-	Raw Material / Conventional Fuel Delivery and Storage  Clinker Production	Sulphur Dioxide Sulphur Dioxide Sulphur Dioxide	7446-09-5 7446-09-5	2.57E-02 3.44E+01	24 hr	MB ST	Above Average  Above Average	<0.1%
PIT11 CBBOI	OFC-DG CBBOI	Diesel-fired engine servicing the off-spec clinker crusher Dual fuel-fired Boiler	-	Clinker Production Ancillary Operations	Sulphur Dioxide Sulphur Dioxide	7446-09-5 7446-09-5	4.11E-02 2.15E-02	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% <0.1%
JCBOI TRBOI	JCBOI TRBOI	No.2 fuel-fired boiler  Dual fuel-fired boiler	-	Ancillary Operations Ancillary Operations	Sulphur Dioxide Sulphur Dioxide	7446-09-5 7446-09-5	7.17E-03 2.15E-02	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% <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	МВ	Above Average	<0.1%
KILNON PIT11 CBBOI	OFC-DG CBBOI	Kiln stack - Raw Mill On Diesel-fired engine servicing the off-spec clinker crusher Dual fuel-fired Boiler	-	Clinker Production Clinker Production Ancillary Operations	Sulphur Dioxide Sulphur Dioxide Sulphur Dioxide	7446-09-5 7446-09-5 7446-09-5	3.44E+01 4.11E-02 2.15E-02	24 hr 24 hr 24 hr	ST MB MB	Above Average Above Average Above Average	49.8% <0.1% <0.1%
JCBOI TRBOI	JCBOI TRBOI	No.2 fuel-fired boiler Dual fuel-fired boiler	-	Ancillary Operations Ancillary Operations	Sulphur Dioxide Sulphur Dioxide	7446-09-5 7446-09-5	7.17E-03 2.15E-02	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% <0.1%
A_16_4	A-16-4	Baghouse serving the secondary crusher (A-16-4)	Limestone	Processing Limestone Extraction &  Processing	Suspended Particulate Matter	PM	1.18E-01	24 hr	EF	Average	1.0%
A_15_5 PPILE	A-15-5 PPILE	Baghouse serving the secondary screen (A-15-5)  Transfer of limestone onto primary surge pile	Limestone Limestone	Processing Limestone Extraction &	Suspended Particulate Matter Suspended Particulate Matter	PM PM	5.19E-02 8.40E-01	24 hr 24 hr	EF EF	Average	7.4%
PILES	PILES-1	Delivery and transfer of conventional fuel	Conventional Fuel	Processing  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 Raw Material / Conventional	Suspended Particulate Matter	PM	6.65E-02	24 hr	EF	Average	0.6%
K1P51	K1P51	Conventional fuel storage silo baghouse (K1P51)	Conventional Fuel	Fuel Delivery and Storage  Raw Material / Conventional	Suspended Particulate Matter	PM	2.80E-02	24 hr	EF	Average	0.2%
RAWS CLPT	04-1-401 CLPT-1	Raw material storage silo baghouse (04-1-401)  Scraper from face onto a pile	Raw Feed  Clay/Momentive	Fuel Delivery and Storage  Raw Material / Conventional	Suspended Particulate Matter Suspended Particulate Matter	PM PM	4.25E-02 2.06E-02	24 hr	EF EF	Average	0.4%
CLPT	CLPT-2	Front end loader transfer into truck	Clay/Momentive	Fuel Delivery and Storage  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	Fuel Delivery and Storage  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	Average	<0.1%
FSSC	FSSC-5	Raw material transfer from Conveyor to Stacker	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Suspended Particulate Matter	PM	7.78E-03	24 hr	EF	Average	<0.1%
FSSCD	FSSC-6	Drop of raw material from Stacker to Stockpile	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage Raw Material / Conventional	Suspended Particulate Matter	PM	6.65E-01	24 hr	EF	Average	5.9%
FSSC	FSSC-DG 04-1-411	Diesel-fired engine servicing the raw material screener  Baghouse serving the raw material storage silos for raw mill (04-1-411)	- Raw Feed	Fuel Delivery and Storage  Raw Material Preparation	Suspended Particulate Matter Suspended Particulate Matter	PM PM	8.27E-03 1.42E-02	24 hr	EF EF	Average	<0.1% 0.1%
PIT11					Suspended Particulate Matter Suspended Particulate Matter	PM	1.42E-02 1.65E-02	24 hr	EF EF	Average	0.1%
PIT11 PIT11 HSILOS HSILOS	04-1-412 H1P41 H1P51	Baghouse serving kin feed silos (H1P51) Baghouse serving kin feed silos (H1P51) Baghouse serving kiln feed silos (H1P51)	Raw Feed Raw Feed Raw Feed	Raw Material Preparation Raw Material Preparation Raw Material Preparation	Suspended Particulate Matter Suspended Particulate Matter	PM PM	4.30E-02 4.30E-02	24 hr 24 hr	EF EF	Average Average	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 (%)
K1P11 K1P31	K1P11 K1P31	Fuel mill baghouse (K1P11)  Fuel meal storage silo baghouse (K1P31)	Conventional Fuel	Conventional Fuel Preparation and Feed Conventional Fuel	Suspended Particulate Matter Suspended Particulate Matter	PM PM	1.02E-02 1.53E-02	24 hr 24 hr	EF EF	Average	<0.1%
K1P41	K1P41	Baghouse serving the north auxiliary fuel silo (K1P41)	Conventional Fuel	Preparation and Feed Conventional Fuel Preparation and Feed	Suspended Particulate Matter	PM	4.00E-03	24 hr	EF	Average	<0.1%
GHOPPER 05_1_412	G1P01 05-1-412	Gypsum Feed Hopper Baghouse (G1P01)  Baghouse serving the kiln feed transfer to preheater tower (05-1-412)	Gypsum/Silica Fume  Raw Feed	Conventional Fuel Preparation and Feed Clinker Production	Suspended Particulate Matter Suspended Particulate Matter	PM PM	6.11E-02 3.78E-02	24 hr 24 hr	EF EF	Average	0.5%
KILNON CKD PIT11	CKD 07-1-421	Kiln stack - Raw Mill On Delivery and shipping of Cement Kiln Dust (CKD) to/from storage piles Baghouse serving south transfer tower (07-1-421)	- Cement Kiln Dust Clinker	Clinker Production Clinker Production Clinker Production	Suspended Particulate Matter Suspended Particulate Matter Suspended Particulate Matter	PM PM PM	9.74E-01 6.93E-03 4.68E-02	24 hr 24 hr 24 hr	ST EF EF	Average Average Average	8.6% <0.1% 0.4%
07_1_441 07_1_450 CBH	07-1-441 07-1-450 W1P51	Baghouse serving north transfer tower (07-1-441) Baghouse serving north transfer tower (07-1-450) Clinker cooler baghouse (W1P51)	Clinker Clinker Clinker	Clinker Production Clinker Production Clinker Production	Suspended Particulate Matter Suspended Particulate Matter Suspended Particulate Matter	PM PM PM	2.81E-02 3.28E-02 6.11E-01	24 hr 24 hr 24 hr	EF EF	Average Average	0.2% 0.3% 5.4%
W1P91 PIT11	W1P91 W1P101	Clinker reclaim hopper baghouse (W1P91) Baghouse serving clinker truck loading/shipping (W1P101)	Clinker Clinker	Clinker Production Clinker Production	Suspended Particulate Matter Suspended Particulate Matter	PM PM	6.10E-02 3.90E-02	24 hr 24 hr	EF EF	Average Average Average	0.5% 0.3%
PIT11D PIT11D PIT11D	PIT11-22 PIT11-23 OFC-1	Transfer of clinker into Tee-Pee storage area Clinker transfer into a hopper Loading Point to Truck (offspec clinker)	Clinker Clinker Clinker	Clinker Production Clinker Production Clinker Production	Suspended Particulate Matter Suspended Particulate Matter Suspended Particulate Matter	PM PM PM	1.64E-01 8.40E-02 2.10E+00	24 hr 24 hr 24 hr	EF EF	Average Average Average	1.4% 0.7% 18.5%
PIT11D PIT11D PIT11	OFC-2 OFC-3 OFC-4	Truck to Pre-Crushing Stockpiles (offspec clinker) Front-end Loader to Feed Hopper (offspec clinker) Feeder to Crusher (offspec clinker)	Wet Clinker Wet Clinker Wet Clinker	Clinker Production Clinker Production Clinker Production	Suspended Particulate Matter Suspended Particulate Matter Suspended Particulate Matter	PM PM PM	2.08E-01 2.08E-01 2.43E-03	24 hr 24 hr 24 hr	EF EF	Average Average Average	1.8% 1.8% <0.1%
PIT11 PIT11	OFC-5 OFC-6	Crushing (offspec clinker) Crusher to Discharge Conveyor (offspec clinker) Discharge Conveyor to Crushed Stockpile (offspec clinker)	Wet Clinker Wet Clinker Wet Clinker	Clinker Production Clinker Production	Suspended Particulate Matter Suspended Particulate Matter Suspended Particulate Matter	PM PM	2.08E-02 2.43E-03 2.08E-01	24 hr 24 hr	EF EF	Average Average	0.2% <0.1% 1.8%
PIT11D PIT11D PIT11	OFC-7 OFC-8 OFC-DG	Front-end Loader to Storage Stockpile (offspec clinker) Diesel-fired engine servicing the off-spec clinker crusher	Wet Clinker -	Clinker Production Clinker Production Clinker Production	Suspended Particulate Matter Suspended Particulate Matter	PM PM	2.08E-01 1.68E-02	24 hr 24 hr 24 hr	EF EF	Average Average Average	1.8% 0.1%
BLSI BLSI BLSI	Z1P01 Z1P11 Z1P21	Baghouse serving additive storage silos in finish mill building (ZIP01) Baghouse serving additive storage silos in finish mill building (ZIP11) Baghouse serving additive storage silos in finish mill building (ZIP21)	Gypsum/Silica Fume Gypsum/Silica Fume Gypsum/Silica Fume	Cement Production Cement Production Cement Production	Suspended Particulate Matter Suspended Particulate Matter Suspended Particulate Matter	PM PM PM	2.78E-02 2.78E-02 2.78E-02	24 hr 24 hr 24 hr	EF EF	Average Average Average	0.2% 0.2% 0.2%
PIT11 PIT11 PIT11	07-1-491 07-1-492 Z1P191	Baghouse serving additive storage silos in finish mill building (07-1-491) Baghouse serving additive storage silos in finish mill building (07-1-492) Baghouse serving transfer of additive in finish mill building (Z1P191)	Gypsum/Silica Fume Gypsum/Silica Fume Cement	Cement Production Cement Production Cement Production	Suspended Particulate Matter Suspended Particulate Matter Suspended Particulate Matter	PM PM PM	2.64E-02 1.65E-02 2.78E-02	24 hr 24 hr 24 hr	EF EF	Average Average Average	0.2% 0.1% 0.2%
Z1P31 BAML	Z1P31 Z1P51	Baghouse serving transfer into finish mill (Z1P31) Finish mill baghouse (Z1P51)	Cement Cement	Cement Production Cement Production	Suspended Particulate Matter Suspended Particulate Matter	PM PM	1.61E-02 1.26E+00	24 hr 24 hr	EF EF	Average Average	0.1% 11.1%
Z1P41 S200S	Z1P61 Z1P41 Z1P71	Baghouse for transfer of cement to storage silo in finish mill building (Z1P61) Baghouse serving transfer from finish mill (Z1P41) Baghouse serving transfer from finish mill (Z1P71)	Cement Cement Cement	Cement Production Cement Production Cement Production	Suspended Particulate Matter Suspended Particulate Matter Suspended Particulate Matter	PM PM PM	2.78E-02 1.39E-02 4.20E-03	24 hr 24 hr 24 hr	EF EF	Average Average Average	0.2% 0.1% <0.1%
S200N S200N S200N	Z1P81 Z1P91 Z1P101	Baghouse serving 200 series cement storage silos (Z1P81) Baghouse serving 200 series cement storage silos (Z1P91) Baghouse serving 200 series cement storage silos (Z1P101)	Cement Cement Cement	Cement Production Cement Production Cement Production	Suspended Particulate Matter Suspended Particulate Matter Suspended Particulate Matter	PM PM PM	4.40E-03 4.40E-03 4.40E-03	24 hr 24 hr 24 hr	EF EF	Average Average Average	<0.1% <0.1% <0.1%
S200N S200N S200N	Z1P141 Z1P151 Z1P171	Baghouse serving 200 series cement storage silos (ZIP141) Baghouse serving 200 series cement storage silos (ZIP151) Baghouse serving 200 series cement storage silos (ZIP171)	Cement Cement Cement	Cement Production Cement Production Cement Production	Suspended Particulate Matter Suspended Particulate Matter Suspended Particulate Matter	PM PM PM	2.22E-02 2.22E-02 2.22E-02	24 hr 24 hr 24 hr	EF EF	Average Average Average	0.2% 0.2% 0.2%
S200N S500	Z1P181 09-1-148	Baghouse serving 200 series cement storage silos (Z1P181) Baghouse serving 200 series cement storage silos (09-1-148)	Cement Cement	Cement Production Cement Production	Suspended Particulate Matter Suspended Particulate Matter	PM PM	1.40E-02 2.81E-02	24 hr 24 hr	EF EF	Average Average	0.1% 0.2%
\$500 \$500 \$200N	09-1-158 09-1-168 09-1-189	Baghouse serving 200 series cement storage silos (09-1-158) Baghouse serving 200 series cement storage silos (109-1-168) Baghouse serving 200 series cement storage silos (09-1-189)	Cement Cement Cement	Cement Production Cement Production Cement Production	Suspended Particulate Matter Suspended Particulate Matter Suspended Particulate Matter	PM PM PM	2.81E-02 2.81E-02 1.87E-02	24 hr 24 hr 24 hr	EF EF	Average Average Average	0.2% 0.2% 0.2%
S200N S200N S200N	09-1-192 09-1-193 1-17-4	Baghouse serving 200 series cement storage silos (09-1-192) Baghouse serving 200 series cement storage silos (09-1-193) Baghouse serving 200 series cement storage silos (1-1704)	Cement Cement Cement	Cement Production Cement Production Cement Production	Suspended Particulate Matter Suspended Particulate Matter Suspended Particulate Matter	PM PM PM	2.81E-02 1.64E-02 1.17E-02	24 hr 24 hr 24 hr	EF EF	Average Average Average	0.2% 0.1% 0.1%
\$200N \$200S \$200S \$200S	I-10-3 I-10-4	Baghouse serving 200 series cement storage silos (i-10-4) Baghouse serving 200 series cement storage silos (i-10-4) Baghouse serving 200 series cement storage silos (i-10-4)	Cement Cement Cement	Cement Production Cement Production	Suspended Particulate Matter Suspended Particulate Matter Suspended Particulate Matter Suspended Particulate Matter	PM PM PM	9.40E-04 9.40E-03	24 hr 24 hr 24 hr 24 hr	EF EF	Average Average	<0.1% <0.1% <0.1% 0.4%
\$340 \$340	I-22 Z1P161 I-59-3	lsagnous eserving 200 series cement storage silos (1-22)  Baghouse serving 300/400 series cement storage silos (21P161)  Baghouse serving 300/400 series cement storage silos (1-59-3)	Cement Cement Cement	Cement Production Cement Production Cement Production	Suspended Particulate Matter Suspended Particulate Matter Suspended Particulate Matter	PM PM	4.68E-02 2.22E-02 3.51E-02	24 hr 24 hr 24 hr	EF EF	Average Average Average	0.4% 0.2% 0.3%
\$340 \$500 \$500D	09-1-075 09-1-301 \$500-CL	Baghouse serving 300/400 series cement storage silos (09-1-075) Baghouse serving 300/400 series cement storage silos (09-1-301) Cement loading from silo into a shipping tanker	Cement Cement Cement	Cement Production Cement Production Cement Production	Suspended Particulate Matter Suspended Particulate Matter Suspended Particulate Matter	PM PM PM	5.80E-03 1.64E-02 5.88E-01	24 hr 24 hr 24 hr	EF EF	Average Average Average	<0.1% 0.1% 5.2%
S340 PACK	CPV-1 09-1-497	Baghouse serving packhouse 3 screw conveyor Baghouse serving packhouse cement storage silos (09-1-497) Baghouse serving packhouse cement storage silos (199-1-407)	Cement Cement	Cement Production Cement Production	Suspended Particulate Matter Suspended Particulate Matter Suspended Particulate Matter	PM PM	3.30E-03 2.34E-02	24 hr 24 hr	EF EF	Average Average	<0.1% 0.2% 0.2%
PACK PACK	09-1-670 09-1-311	Baghouse serving packhouse cement storage silos (09-1-670) Baghouse serving packhouse cement storage silos (09-1-311)	Cement Cement Cement	Cement Production Cement Production Cement Production	Suspended Particulate Matter Suspended Particulate Matter Suspended Particulate Matter	PM PM	9.36E-02 2.34E-02	24 hr 24 hr	EF EF	Average Average Average	0.8%
JCBOI TRBOI	JCBOI TRBOI	Dual fuel-fired Boiler No.2 fuel-fired boiler Dual fuel-fired boiler	- - -	Ancillary Operations Ancillary Operations Ancillary Operations	Suspended Particulate Matter Suspended Particulate Matter Suspended Particulate Matter	PM PM PM	5.00E-03 1.67E-03 5.00E-03	24 hr 24 hr 24 hr	EF EF	Average Average Average	<0.1% <0.1% <0.1%
CBMST CBMFS	CBM-5A CBM-6	Natural gas-fired aggregate dryer controlled by a baghouse dust collector Fines transfer from dryer to fines silo controlled by a bin vent filter	CBM Product CBM Product	CBM Operations CBM Operations	Suspended Particulate Matter Suspended Particulate Matter	PM PM	1.45E-01 7.50E-04	24 hr 24 hr	EF EF	Average Average	1.3%
CBMDTENT CBMPTENT CBMPTENTD	CBM-8 CBM-9 CBM-10	Screening (no sizing, security screen, dryer tent)  Product screening (sizing, product tent)  Product transfer from stacker to product stockpiles	CBM Product CBM Product CBM Product	CBM Operations CBM Operations CBM Operations	Suspended Particulate Matter Suspended Particulate Matter Suspended Particulate Matter	PM PM PM	6.08E-03 3.04E-03 1.73E-02	24 hr 24 hr 24 hr	EF EF	Average Average Average	<0.1% <0.1% 0.2%
CBMPTENTD CBMLO KILNON	CBM-11 CBM-14 KILNON	Product transfer from stockpile into shipping truck Product silo load out into shipping truck Kiln stack - Raw Mill On	CBM Product CBM Product -	CBM Operations CBM Operations Clinker Production	Suspended Particulate Matter Suspended Particulate Matter Tetrachloroethane, 1,1,1,2-	PM PM 630-20-6	3.45E-01 1.73E-01 1.05E-02	24 hr 24 hr 24 hr	EF EF ST	Average Average Average	3.0% 1.5% 100.0%
KILNON A_16_4	KILNON A-16-4	Kiln stack - Raw Mill On Baghouse serving the secondary crusher (A-16-4)	- Limestone	Clinker Production Limestone Extraction &	Tetrachloroethane, 1,1,2,2-	79-34-5 7440-31-5	1.42E-02 7.08E-07	24 hr 24 hr	ST MB	Above Average  Above Average	100.0%
A_15_5	A-15-5	Baghouse serving the secondary screen (A-15-5)	Limestone	Processing Limestone Extraction & Processing	Tin	7440-31-5	3.11E-07	24 hr	МВ	Above Average	<0.1%
PPILE	PPILE	Transfer of limestone onto primary surge pile	Limestone	Limestone Extraction & Processing  Raw Material / Conventiona	Tin	7440-31-5	5.04E-06	24 hr	МВ	Above Average	0.6%
PILES	PILES-1	Delivery and transfer of conventional fuel	Conventional Fuel	Fuel Delivery and Storage	1 m	7440-31-5	1.53E-07	24 hr	MB	Above Average	<0.1%
PILES	PILES-2	Delivery and transfer of raw materials	Raw Feed	Raw Material / Conventiona Fuel Delivery and Storage	1111	7440-31-5	2.48E-06	24 hr	МВ	Above Average	0.3%
K1P51	K1P51	Conventional fuel storage silo baghouse (K1P51)	Conventional Fuel	Raw Material / Conventiona Fuel Delivery and Storage	Tin	7440-31-5	1.29E-07	24 hr	МВ	Above Average	<0.1%
RAWS	04-1-401	Raw material storage silo baghouse (04-1-401)	Raw Feed	Raw Material / Conventiona Fuel Delivery and Storage	Tin	7440-31-5	1.58E-06	24 hr	МВ	Above Average	0.2%
CLPT	CLPT-1	Scraper from face onto a pile	Clay/Momentive	Raw Material / Conventiona Fuel Delivery and Storage	Tin	7440-31-5	5.15E-07	24 hr	МВ	Above Average	<0.1%
CLPT	CLPT-2	Front end loader transfer into truck	Clay/Momentive	Raw Material / Conventiona Fuel Delivery and Storage	Tin .	7440-31-5	5.15E-07	24 hr	МВ	Above Average	<0.1%
FSSCD	FSSC-1	Front-end Loader to Feed Hopper for raw material screen	Foundry Sand/Silica	Raw Material / Conventiona Fuel Delivery and Storage	Tin	7440-31-5	1.48E-04	24 hr	МВ	Above Average	18.9%
FSSC	FSSC-2	Feed Hopper to raw material screener	Foundry Sand/Silica	Raw Material / Conventiona Fuel Delivery and Storage	Tin	7440-31-5	1.73E-06	24 hr	МВ	Above Average	0.2%
FSSC	FSSC-3	Raw material screening	Foundry Sand/Silica	Raw Material / Conventiona	II <sub>Tin</sub>	7440-31-5	2.71E-05	24 hr	МВ	Above Average	3.5%
FSSC	FSSC-4	Raw material transfer from Screener to Conveyor	Foundry Sand/Silica	Raw Material / Conventiona	II <sub>Tin</sub>	7440-31-5	1.73E-06	24 hr	МВ	Above Average	0.2%
				Fuel Delivery and Storage  Raw Material / Conventiona	II <sub>Tin</sub>						
FSSC	FSSC-5	Raw material transfer from Conveyor to Stacker	Foundry Sand/Silica	Fuel Delivery and Storage  Raw Material / Conventiona		7440-31-5	1.73E-06	24 hr	MB	Above Average	0.2%
FSSCD PIT11	FSSC-6 04-1-411	Drop of raw material from Stacker to Stockpile  Baghouse serving the raw material storage silos for raw mill (04-1-411)	Foundry Sand/Silica Raw Feed	Fuel Delivery and Storage Raw Material Preparation	Tin	7440-31-5 7440-31-5	1.48E-04 5.30E-07	24 hr 24 hr	MB MB	Above Average  Above Average	18.9%
PIT11 HSILOS HSILOS	04-1-412 H1P41 H1P51	Baghouse serving the raw material storage silos for raw mill (04-1-412) Baghouse serving kiln feed silos (H1P41) Baghouse serving kiln feed silos (H1P51)	Raw Feed Raw Feed Raw Feed	Raw Material Preparation Raw Material Preparation Raw Material Preparation	Tin Tin Tin	7440-31-5 7440-31-5 7440-31-5	6.15E-07 1.60E-06 1.60E-06	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	<0.1% 0.2% 0.2%
HSILOS HSILOS K1P11	H1P61 K1P11	Baghouse serving kin feed silos (H1P51)  Fuel mill baghouse (K1P11)	Raw Feed  Conventional Fuel	Raw Material Preparation Conventional Fuel	Tin Tin	7440-31-5 7440-31-5	1.60E-06 1.60E-08	24 hr 24 hr	MB MB	Above Average  Above Average	0.2%
K1P31	K1P31	Fuel meal storage silo baghouse (K1P31)	Conventional Fuel	Preparation and Feed Conventional Fuel Preparation and Feed	Tin	7440-31-5	7.04E-08	24 hr	МВ	Above Average	<0.1%
K1P41	K1P41	Baghouse serving the north auxiliary fuel silo (K1P41)	Conventional Fuel	Conventional Fuel Preparation and Feed Conventional Fuel	Tin	7440-31-5	1.84E-08	24 hr	MB	Above Average	<0.1%
05_1_412 KILNON	G1P01 05-1-412 KILNON	Gypsum Feed Hopper Baghouse (G1P01)  Baghouse serving the kiln feed transfer to preheater tower (05-1-412)  Kiln stack - Raw Mill On	Gypsum/Silica Fume  Raw Feed  -	Preparation and Feed Clinker Production Clinker Production	Tin Tin Tin	7440-31-5 7440-31-5 7440-31-5	4.89E-07 1.41E-06 2.00E-04	24 hr 24 hr 24 hr	MB MB ST	Above Average  Above Average  Above Average	<0.1% 0.2% 25.5%
CKD PIT11	CKD 07-1-421	Delivery and shipping of Cement Kiln Dust (CKD) to/from storage piles Baghouse serving south transfer tower (07-1-421)	Cement Kiln Dust Clinker	Clinker Production Clinker Production	Tin Tin	7440-31-5 7440-31-5	2.56E-07 1.73E-06	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% 0.2%
07_1_441 07_1_450 CBH	07-1-441 07-1-450 W1P51	Baghouse serving north transfer tower (07-1-441) Baghouse serving north transfer tower (07-1-450) Clinker cooler baghouse (WIPS1)	Clinker Clinker Clinker	Clinker Production Clinker Production Clinker Production	Tin Tin Tin	7440-31-5 7440-31-5 7440-31-5	1.04E-06 1.21E-06 2.26E-05	24 hr 24 hr 24 hr	MB MB	Above Average Above Average Above Average	0.1% 0.2% 2.9%
W1P91 PIT11 PIT11D	W1P91 W1P101 PIT11-22	Clinker reclaim hopper baghouse (W1P91) Baghouse serving clinker truck loading/shipping (W1P101) Transfer of clinker into Tee-Pee storage area	Clinker Clinker Clinker	Clinker Production Clinker Production Clinker Production	Tin Tin Tin	7440-31-5 7440-31-5 7440-31-5	2.25E-06 1.44E-06 6.05E-06	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	0.3% 0.2% 0.8%
PIT11D PIT11D	PIT11-23 OFC-1	Clinker transfer into a hopper Loading Point to Truck (offspec clinker)	Clinker Clinker	Clinker Production Clinker Production	Tin Tin	7440-31-5 7440-31-5	3.10E-06 7.76E-05	24 hr 24 hr	MB MB	Above Average Above Average	0.4% 9.9%
PIT11D PIT11D PIT11	OFC-2 OFC-3 OFC-4	Truck to Pre-Crushing Stockpiles (offspec clinker) Front-end Loader to Feed Hopper (offspec clinker) Feeder to Crusher (offspec clinker)	Wet Clinker Wet Clinker Wet Clinker	Clinker Production Clinker Production Clinker Production	Tin Tin Tin	7440-31-5 7440-31-5 7440-31-5	7.68E-06 7.68E-06 8.98E-08	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	1.0% 1.0% <0.1%
PIT11 PIT11 PIT11D	OFC-5 OFC-6 OFC-7	Crushing (offspec clinker)  Crusher to Discharge Conveyor (offspec clinker)  Discharge Conveyor to Crushed Stockpile (offspec clinker)	Wet Clinker Wet Clinker Wet Clinker	Clinker Production Clinker Production Clinker Production	Tin Tin Tin	7440-31-5 7440-31-5 7440-31-5	7.70E-07 8.98E-08 7.68E-06	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	<0.1% <0.1% 1.0%
PIT11D BLSI	OFC-8 Z1P01	Front-end Loader to Storage Stockpile (offspec clinker) Baghouse serving additive storage silos in finish mill building (Z1P01)	Wet Clinker Gypsum/Silica Fume	Clinker Production Cement Production	Tin Tin	7440-31-5 7440-31-5	7.68E-06 2.22E-07	24 hr 24 hr	MB MB	Above Average Above Average	1.0%
BLSI BLSI PIT11	Z1P11 Z1P21 07-1-491	Baghouse serving additive storage silos in finish mill building (Z1P11) Baghouse serving additive storage silos in finish mill building (Z1P21) Baghouse serving additive storage silos in finish mill building (07-1-491)	Gypsum/Silica Fume Gypsum/Silica Fume Gypsum/Silica Fume	Cement Production Cement Production Cement Production	Tin Tin Tin	7440-31-5 7440-31-5 7440-31-5	2.22E-07 2.22E-07 2.11E-07	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	<0.1% <0.1% <0.1%
PIT11 PIT11 Z1P31	07-1-492 Z1P191 Z1P31	Baghouse serving additive storage silos in finish mill building (07-1-492)  Baghouse serving transfer of additive in finish mill building (Z1P191)  Baghouse serving transfer into finish mill (Z1P31)	Gypsum/Silica Fume Cement Cement	Cement Production Cement Production Cement Production	Tin Tin Tin	7440-31-5 7440-31-5 7440-31-5	1.32E-07 9.61E-07 5.57E-07	24 hr 24 hr 24 hr	MB MB	Above Average Above Average Above Average	<0.1% 0.1% <0.1%
BAML BAML	Z1P51 Z1P61	Baghouse for transfer from finish mill (Z1941)  Baghouse for transfer of cement to storage silo in finish mill building (Z1P61)  Baghouse serving transfer from finish mill (Z1P41)	Cement Cement	Cement Production Cement Production	Tin Tin	7440-31-5 7440-31-5	4.34E-05 9.61E-07	24 hr 24 hr	MB MB	Above Average Above Average	5.5% 0.1%
Z1P41 S200S S200N	Z1P41 Z1P71 Z1P81	Baghouse serving transfer from finish mill (Z1P71) Baghouse serving 200 series cement storage silos (Z1P81)	Cement Cement Cement	Cement Production Cement Production Cement Production	Tin Tin Tin	7440-31-5 7440-31-5 7440-31-5	4.80E-07 1.45E-07 1.52E-07	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	<0.1% <0.1% <0.1%
S200N S200N S200N	Z1P91 Z1P101 Z1P141	Baghouse serving 200 series cement storage silos (Z1P91) Baghouse serving 200 series cement storage silos (Z1P101) Baghouse serving 200 series cement storage silos (Z1P141)	Cement Cement Cement	Cement Production Cement Production Cement Production	Tin Tin Tin	7440-31-5 7440-31-5 7440-31-5	1.52E-07 1.52E-07 7.67E-07	24 hr 24 hr 24 hr	MB MB	Above Average Above Average Above Average	<0.1% <0.1% <0.1%
S200N	Z1P151	Baghouse serving 200 series cement storage silos (Z1P151)	Cement	Cement Production	Tin	7440-31-5	7.67E-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 (%)
S200N S200N	Z1P171 Z1P181	Baghouse serving 200 series cement storage silos (Z1P171) Baghouse serving 200 series cement storage silos (Z1P181)	Cement Cement	Cement Production Cement Production	Tin Tin	7440-31-5 7440-31-5	7.67E-07 4.84E-07	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% <0.1%
\$500 \$500 \$500 \$200N	09-1-148 09-1-158 09-1-168 09-1-189	Baghouse serving 200 series cement storage silos (09-1-148) Baghouse serving 200 series cement storage silos (09-1-158) Baghouse serving 200 series cement storage silos (109-1-168) Baghouse serving 200 series cement storage silos (09-1-189)	Cement Cement Cement Cement	Cement Production Cement Production Cement Production Cement Production	Tin Tin Tin Tin	7440-31-5 7440-31-5 7440-31-5 7440-31-5	9.71E-07 9.71E-07 9.71E-07 6.46E-07	24 hr 24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average Above Average	0.1% 0.1% 0.1% <0.1%
S200N S200N	09-1-192 09-1-193	Baghouse serving 200 series cement storage silos (09-1-192) Baghouse serving 200 series cement storage silos (09-1-193)	Cement Cement	Cement Production Cement Production	Tin Tin	7440-31-5 7440-31-5	9.71E-07 5.67E-07	24 hr 24 hr	MB MB	Above Average Above Average	0.1% <0.1%
S200N S200S	1-17-4 I-10-3	Baghouse serving 200 series cement storage silos (I-1704) Baghouse serving 200 series cement storage silos (I-10-3)	Cement	Cement Production Cement Production	Tin Tin	7440-31-5 7440-31-5	4.04E-07 3.25E-08	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% <0.1%
S200S S200S	I-10-4 I-22	Baghouse serving 200 series cement storage silos (I-10-4) Baghouse serving 200 series cement storage silos (I-22)	Cement Cement	Cement Production Cement Production	Tin Tin	7440-31-5 7440-31-5	3.25E-07 1.62E-06	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% 0.2%
\$340 \$340	Z1P161 I-59-3	Baghouse serving 300/400 series cement storage silos (Z1P161) Baghouse serving 300/400 series cement storage silos (I-59-3)	Cement Cement	Cement Production Cement Production	Tin Tin	7440-31-5 7440-31-5	7.67E-07 1.21E-06	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% 0.2%
\$340 \$500	09-1-075 09-1-301	Baghouse serving 300/400 series cement storage silos (09-1-075)  Baghouse serving 300/400 series cement storage silos (09-1-301)  Cement loading from silo into a shipping tanker	Cement Cement	Cement Production Cement Production	Tin Tin Tin	7440-31-5 7440-31-5	2.00E-07 5.67E-07	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% <0.1% 2.6%
S500D S340 PACK PACK	S500-CL CPV-1 09-1-497 09-1-407	Cement todating from sito into a shipping rainter Baghouse serving packhouse 3 screw conveyor Baghouse serving packhouse cement storage silos (09-1-497) Baghouse serving packhouse cement storage silos (09-1-407)	Cement Cement Cement Cement	Cement Production Cement Production Cement Production Cement Production	Tin Tin Tin	7440-31-5 7440-31-5 7440-31-5 7440-31-5	2.03E-05 1.14E-07 8.09E-07 8.09E-07	24 hr 24 hr 24 hr 24 hr	MB MB MB MB	Above Average Above Average Above Average Above Average	<0.1% 0.1% 0.1%
PACK PACK	09-1-670 09-1-311	Baghouse serving packhouse cement storage silos (09-1-670) Baghouse serving packhouse cement storage silos (09-1-311)	Cement Cement	Cement Production Cement Production	Tin Tin	7440-31-5 7440-31-5	3.24E-06 8.09E-07	24 hr 24 hr	MB MB	Above Average Above Average	0.4% 0.1%
KILNON KILNON	KILNON KILNON	Kiln stack - Raw Mill On Kiln stack - Raw Mill On	-	Clinker Production Clinker Production	TOTAL Dioxin and Furans (TEQ) Total Reduced Sulphur	CCD TRS	3.17E-09 8.60E-03	24 hr 24 hr	ST ST	Above Average Above Average	100.0% 50.0%
KILNON	KILNON KILNON	Kiln stack - Raw Mill On Kiln stack - Raw Mill On	-	Clinker Production Clinker Production	Total Reduced Sulphur Trichloroethane, 1,1,2-	TRS 79-00-5	8.60E-03 1.70E-02	24 hr 24 hr	ST ST	Above Average Above Average	50.0% 100.0%
KILNON A_16_4	KILNON A-16-4	Kiln stack - Raw Mill On Baghouse serving the secondary crusher (A-16-4)	Limestone	Clinker Production Limestone Extraction &	Trichloroethylene Vanadium	79-01-6 7440-62-2	1.15E-02 2.01E-06	24 hr 24 hr	ST MB	Above Average  Above Average	100.0% <0.1%
A_15_5	A-15-5	Baghouse serving the secondary screen (A-15-5)	Limestone	Processing Limestone Extraction &	Vanadium	7440-62-2	8.82E-07	24 hr	MB	Above Average	<0.1%
PPILE	PPILE	Transfer of limestone onto primary surge pile	Limestone	Processing Limestone Extraction &	Vanadium	7440-62-2	1.43E-05	24 hr	МВ	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	МВ	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	МВ	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	МВ	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 Raw Material / Conventional	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	Fuel Delivery and Storage  Raw Material / Conventional	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  Feed Hopper to raw material screener	Foundry Sand/Silica Foundry Sand/Silica	Fuel Delivery and Storage  Raw Material / Conventional		7440-62-2	2.73E-03 3.20E-05	24 hr 24 hr	MB MB	Above Average  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 Stacker	Foundry Sand/Silica	Raw Material / Conventional Fuel Delivery and Storage	Vanadium	7440-62-2	3.20E-05	24 hr	МВ	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	vanadium	7440-62-2	2.73E-03	24 hr	МВ	Above Average	26.4%
PIT11 PIT11	04-1-411 04-1-412	Baghouse serving the raw material storage silos for raw mill (04-1-411) Baghouse serving the raw material storage silos for raw mill (04-1-412)	Raw Feed Raw Feed	Raw Material Preparation Raw Material Preparation	Vanadium Vanadium	7440-62-2 7440-62-2	8.06E-06 9.36E-06	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% <0.1%
HSILOS HSILOS	H1P41 H1P51	Baghouse serving kiln feed silos (H1P41) Baghouse serving kiln feed silos (H1P51)	Raw Feed Raw Feed	Raw Material Preparation Raw Material Preparation	Vanadium Vanadium	7440-62-2 7440-62-2	2.44E-05 2.44E-05	24 hr 24 hr	MB MB	Above Average Above Average	0.2%
HSILOS K1P11	H1P61 K1P11	Baghouse serving kiln feed silos (H1P61) Fuel mill baghouse (K1P11)	Raw Feed  Conventional Fuel	Raw Material Preparation Conventional Fuel	Vanadium Vanadium	7440-62-2 7440-62-2	2.44E-05 5.41E-06	24 hr 24 hr	MB MB	Above Average  Above Average	0.2% <0.1%
K1P31	K1P31	Fuel meal storage silo baghouse (K1P31)	Conventional Fuel	Preparation and Feed Conventional Fuel Preparation and Feed	Vanadium	7440-62-2	8.11E-06	24 hr	МВ	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	МВ	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	МВ	Above Average	0.2%
05_1_412 KILNON	05-1-412 KILNON	Baghouse serving the kiln feed transfer to preheater tower (05-1-412) Kiln stack - Raw Mill On	Raw Feed	Clinker Production Clinker Production	Vanadium Vanadium	7440-62-2 7440-62-2	2.14E-05 3.72E-04	24 hr 24 hr	MB ST	Above Average Above Average	0.2% 3.6%
CKD PIT11 07_1_441	CKD 07-1-421 07-1-441	Delivery and shipping of Cement Kiln Dust (CKD) to/from storage piles Baghouse serving south transfer tower (07-1-421) Baghouse serving north transfer tower (07-1-441)	Cement Kiln Dust Clinker Clinker	Clinker Production Clinker Production Clinker Production	Vanadium Vanadium Vanadium	7440-62-2 7440-62-2 7440-62-2	3.93E-06 2.65E-05 1.59E-05	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	<0.1% 0.3% 0.2%
07_1_450 CBH	07-1-450 W1P51	Baghouse serving north transfer tower (07-1-450)  Clinker cooler baghouse (W1P51)	Clinker Clinker	Clinker Production Clinker Production	Vanadium Vanadium	7440-62-2 7440-62-2	1.86E-05 3.46E-04	24 hr 24 hr	MB MB	Above Average Above Average	0.2% 3.3%
W1P91 PIT11	W1P91 W1P101	Clinker reclaim hopper baghouse (W1P91) Baghouse serving clinker truck loading/shipping (W1P101)	Clinker Clinker	Clinker Production Clinker Production	Vanadium Vanadium	7440-62-2 7440-62-2	3.46E-05 2.21E-05	24 hr 24 hr	MB MB	Above Average Above Average	0.3% 0.2%
PIT11D PIT11D	PIT11-22 PIT11-23	Transfer of clinker into Tee-Pee storage area Clinker transfer into a hopper	Clinker Clinker	Clinker Production Clinker Production	Vanadium Vanadium	7440-62-2 7440-62-2	9.29E-05 4.76E-05	24 hr 24 hr	MB MB	Above Average Above Average	0.9%
PIT11D PIT11D PIT11D PIT11	OFC-1 OFC-2 OFC-3 OFC-4	Loading Point to Truck (offspec clinker)  Truck to Pre-Crushing Stockpiles (offspec clinker)  Front-end Loader to Feed Hopper (offspec clinker)  Feeder to Crusher (offspec clinker)	Clinker Wet Clinker Wet Clinker Wet Clinker	Clinker Production Clinker Production Clinker Production Clinker Production	Vanadium Vanadium Vanadium Vanadium Vanadium	7440-62-2 7440-62-2 7440-62-2 7440-62-2	1.19E-03 1.18E-04 1.18E-04 1.38E-06	24 hr 24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average Above Average	11.5% 1.1% 1.1% <0.1%
PIT11 PIT11 PIT11D	OFC-5 OFC-6 OFC-7	Crushing (offspec clinker)  Crusher to Discharge Conveyor (offspec clinker)  Discharge Conveyor to Crushed Stockpile (offspec clinker)	Wet Clinker Wet Clinker Wet Clinker	Clinker Production Clinker Production Clinker Production	Vanadium Vanadium Vanadium	7440-62-2 7440-62-2 7440-62-2	1.18E-05 1.38E-06 1.18E-04	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average Above Average	0.1% <0.1% <0.1% 1.1%
PIT11D BLSI	OFC-8 Z1P01	Front-end Loader to Storage Stockpile (offspec clinker) Baghouse serving additive storage silos in finish mill building (Z1P01)	Wet Clinker Gypsum/Silica Fume	Clinker Production Cement Production	Vanadium Vanadium	7440-62-2 7440-62-2	1.18E-04 9.92E-06	24 hr 24 hr	MB MB	Above Average Above Average	1.1%
BLSI BLSI	Z1P11 Z1P21	Baghouse serving additive storage silos in finish mill building (Z1P11) Baghouse serving additive storage silos in finish mill building (Z1P21)	Gypsum/Silica Fume Gypsum/Silica Fume	Cement Production Cement Production	Vanadium Vanadium	7440-62-2 7440-62-2	9.92E-06 9.92E-06	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% <0.1%
PIT11 PIT11	07-1-491 07-1-492	Baghouse serving additive storage silos in finish mill building (07-1-491) Baghouse serving additive storage silos in finish mill building (07-1-492)	Gypsum/Silica Fume Gypsum/Silica Fume	Cement Production Cement Production	Vanadium Vanadium	7440-62-2 7440-62-2	9.42E-06 5.89E-06	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% <0.1%
PIT11 Z1P31 BAML	Z1P191 Z1P31 Z1P51	Baghouse serving transfer of additive in finish mill building (Z1P191) Baghouse serving transfer into finish mill (Z1P31) Finish mill baghouse (Z1P51)	Cement Cement Cement	Cement Production Cement Production Cement Production	Vanadium Vanadium Vanadium	7440-62-2 7440-62-2 7440-62-2	1.49E-05 8.64E-06 6.74E-04	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average	0.1% <0.1% 6.5%
21P41 S200S S200N	Z1P61 Z1P41 Z1P71 Z1P81	Baghouse for transfer of cement to storage silo in finish mill building (Z1P61)  Baghouse serving transfer from finish mill (Z1P41)  Baghouse serving transfer from finish mill (Z1P71)  Baghouse serving 200 series cement storage silos (Z1P81)	Cement Cement Cement Cement	Cement Production Cement Production Cement Production Cement Production	Vanadium Vanadium Vanadium Vanadium	7440-62-2 7440-62-2 7440-62-2 7440-62-2	1.49E-05 7.46E-06 2.25E-06 2.36E-06	24 hr 24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average Above Average	0.1% <0.1% <0.1% <0.1%
S200N S200N	Z1P91 Z1P101	Baghouse serving 200 series cement storage silos (Z1P91) Baghouse serving 200 series cement storage silos (Z1P101)	Cement Cement	Cement Production Cement Production	Vanadium Vanadium	7440-62-2 7440-62-2	2.36E-06 2.36E-06	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% <0.1%
S200N S200N	Z1P141 Z1P151	Baghouse serving 200 series cement storage silos (Z1P141) Baghouse serving 200 series cement storage silos (Z1P151)	Cement Cement	Cement Production Cement Production	Vanadium Vanadium	7440-62-2 7440-62-2	1.19E-05 1.19E-05	24 hr 24 hr	MB MB	Above Average Above Average	0.1% 0.1%
S200N S200N	Z1P171 Z1P181	Baghouse serving 200 series cement storage silos (Z1P171) Baghouse serving 200 series cement storage silos (Z1P181)	Cement Cement	Cement Production Cement Production	Vanadium Vanadium	7440-62-2 7440-62-2	1.19E-05 7.51E-06	24 hr 24 hr	MB MB	Above Average Above Average	0.1% <0.1%
\$500 \$500	09-1-148 09-1-158	Baghouse serving 200 series cement storage silos (09-1-148) Baghouse serving 200 series cement storage silos (09-1-158)	Cement Cement	Cement Production Cement Production	Vanadium Vanadium	7440-62-2 7440-62-2	1.51E-05 1.51E-05	24 hr 24 hr	MB MB	Above Average Above Average	0.1%
\$500 \$200N \$200N	09-1-168 09-1-189 09-1-192	Baghouse serving 200 series cement storage silos (109-1-168) Baghouse serving 200 series cement storage silos (09-1-189) Baghouse serving 200 series cement storage silos (09-1-192) Baghouse serving 200 series cement storage silos (109-1-192)	Cement Cement Cement Cement	Cement Production Cement Production Cement Production	Vanadium Vanadium Vanadium Vanadium	7440-62-2 7440-62-2 7440-62-2	1.51E-05 1.00E-05 1.51E-05	24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average	0.1% <0.1% 0.1% <0.1%
\$200N \$200N \$200S \$200S	09-1-193 1-17-4 I-10-3 I-10-4	Baghouse serving 200 series cement storage silos (09-1-193)  Baghouse serving 200 series cement storage silos (1-1704)  Baghouse serving 200 series cement storage silos (1-10-3)  Baghouse serving 200 series cement storage silos (1-10-4)	Cement Cement Cement Cement	Cement Production Cement Production Cement Production Cement Production	Vanadium Vanadium Vanadium Vanadium	7440-62-2 7440-62-2 7440-62-2 7440-62-2	8.80E-06 6.28E-06 5.04E-07 5.04E-06	24 hr 24 hr 24 hr 24 hr	MB MB MB	Above Average Above Average Above Average Above Average	<0.1% <0.1% <0.1% <0.1%
S200S S340	I-22 Z1P161	Baghouse serving 200 series cement storage silos (I-22) Baghouse serving 300/400 series cement storage silos (Z1P161)	Cement Cement	Cement Production Cement Production	Vanadium Vanadium	7440-62-2 7440-62-2	2.51E-05 1.19E-05	24 hr 24 hr	MB MB	Above Average Above Average	0.2%
S340 S340	I-59-3 09-1-075	Baghouse serving 300/400 series cement storage silos (I-59-3) Baghouse serving 300/400 series cement storage silos (09-1-075)	Cement Cement	Cement Production Cement Production	Vanadium Vanadium	7440-62-2 7440-62-2	1.88E-05 3.11E-06	24 hr 24 hr	MB MB	Above Average Above Average	0.2% <0.1%
\$500 \$500D	09-1-301 S500-CL	Baghouse serving 300/400 series cement storage silos (09-1-301) Cement loading from silo into a shipping tanker	Cement Cement	Cement Production Cement Production	Vanadium Vanadium	7440-62-2 7440-62-2	8.80E-06 3.15E-04	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% 3.0%
S340 PACK	CPV-1 09-1-497	Baghouse serving packhouse 3 screw conveyor Baghouse serving packhouse cement storage silos (09-1-497)	Cement Cement	Cement Production Cement Production	Vanadium Vanadium	7440-62-2 7440-62-2	1.77E-06 1.26E-05	24 hr 24 hr	MB MB	Above Average Above Average	<0.1% 0.1%
PACK PACK	09-1-407 09-1-670	Baghouse serving packhouse cement storage silos (09-1-407) Baghouse serving packhouse cement storage silos (09-1-670)	Cement Cement	Cement Production Cement Production	Vanadium Vanadium	7440-62-2 7440-62-2	1.26E-05 5.02E-05	24 hr 24 hr	MB MB	Above Average Above Average	0.1%
PACK KILNON	09-1-311 KILNON	Baghouse serving packhouse cement storage silos (09-1-311) Kiln stack - Raw Mill On	Cement -	Cement Production Clinker Production	Vanadium Vinyl Chloride	7440-62-2 75-01-4	1.26E-05 1.99E-02	24 hr 24 hr	MB ST	Above Average Above Average	0.1% 100.0%

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.

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

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  $0.1\,\mu\text{g/m}^3$  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  $0.01\,\mu\text{g/m}^3$  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<sub>x</sub>, SO<sub>2</sub> 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  $\mu g/m^3$  per g/s at 300 m and 1700  $\mu g/m^3$  per g/s at 350 m to obtain a dispersion factor for 334 m as shown below.

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

For example, for the maximum emission scenario, boron has a kiln stack emission rate of  $4.40 \times 10^{-3}$  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  $\mu$ g/m³ 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  $\mu$ g/m<sup>3</sup> per g/s emission.

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

Emission Threshold (g/s) = 
$$0.5 * Ministry POI Limit or JSL [\mu g/m^3]$$

$$Dispersion Factor [\mu g/m^3 per g/s emission]$$

$$= (0.5 * 120) / 705.6$$

$$= 8.50x10^{-2}g/s$$

Since the emission rate for boron of  $4.4 \times 10^{-3}$  g/s is less than the Emission Threshold of  $8.50 \times 10^{-2}$  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)	Modelling 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)	Distance to	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	Neg
	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):

Table B-1 Table B-1 Dispersion Shortest Interpolated Applicable Emission Threshold % of Site nersion Fact Site ER % of % of Site Raw Source Raw Site Sig or Neg Source El istance to Distance rsion Factor persion Factor Factor Above Site ER after <5% Distance to Threshold Sig or Neg Source ER after | Site ER after ET Source for Emission Concentratio mission Rate Emission % of Raw Site after <5% Below Shortest Above Relow Emission Emissions CAS# Shortest Distance Source Description Contaminant Name Screening Property Line (averaging Emission (based on ET Screening Screening Threshold (ET) Value (ER) Screening after <5% Shortest Distance Threshold after ET (fina Rate Emissions Line b Shortes (1-hr) (1-hr) period) ET) by CAS# Rate (g/s) (g/s) (g/s) result) (24-hr) (g/s) (g/s) (g/s) Screening Source Distance (1-hr) Distance ER Screening (g/s) (µg/m<sup>3</sup> per g/s) (m) (µg/m<sup>3</sup> per g/s) (µg/m³ per g/s) (m) (m) (m) رg/m³ per g KILNON/KILNOFF Acenaphthene 83-32-9 sig No POI, JSL or B-2B 5.20E-04 100.0% sig 5.20E-0 5.20E-04 100.0% 334 5500 >1000% sig 5.20E-04 5.20E-0 1.80E-0 KII NON/KII NOFF Acenaphthylene 208-96-8 sig No POI, JSL or B-2B 24 1.80E-03 100.0% sig 1.80E-03 100.0% 334 5900 5100 5500 1764 2200 >1000% sig 1.80E-0 1.80E-0 sig Ministry POI 7664-41-7 300 KILNON/KILNOFF Ammonia 4.56E-01 100.0% sig 4.56E-0 4.56E-01 100.0% 334 334 sig 4.56E-03 4.56E-01 sig No POI, JSL or B-2B 120-12-7 0.1 9 40F-04 60 5900 5100 5500 2200 2 27F-05 >1000% KILNON/KILNOFF 100.0% 9.40E-9.40E-0 9.40E-0 100.0% sig sig KILNON/KILNOFF 71-43-2 sig Ministry POI 100 24 5.50E-01 5.50E-01 100.0% 5.50E-0 5.50E-01 100.0% 334 60 5900 5100 5500 2200 2.27E-02 >1000% sig 5.50E-01 5.50E-01 Benzene sig 238-84-6 300 1764 sig No POI, JSL or B-2B 1900 350 1700 705.6 198% KILNON/KILNOFF Benzo(a)fluorene 0.1 1.40E-04 100.0% sig 1.40E-04 1.40E-04 100.0% 334 334 7.09E-05 sig 1.40E-04 1.40E-04 50-32-8 sig Ministry POI 60 5100 1.14E-06 308% 0.005 100.0% 334 5900 5500 3.50E-0 KILNON/KILNOF 3.50E-06 3.50E-0 3.50E-06 100.0% 3.50E-0 Benzo(a)pyrene sig sig sig Ministry POI KILNON/KILNOFF Carbon Tetrachloride 56-23-5 2.4 24 1.70E-02 100.0% sig 1.70E-0 1.70E-02 100.0% 334 60 5900 80 5100 5500 2200 5.45E-04 >1000% sig 1.70E-0 1.70E-02 67-66-3 sig Ministry POI 60 KILNON/KILNOFF Chloroform 1.15E-02 100.0% sig 1.15E-0 1.15E-02 100.0% 334 5900 5100 5500 2200 2.27E-04 >1000% sig 1.15E-0 1.15E-02 124-48-1 KILNON/KILNOFF Dibromochloromethane 0.2 100.0% 60 5100 5500 2200 sig JSL 9.37E-03 9.37E-0 9.37E-03 100.0% 334 80 9.37E-03 9.37E-03 sig sig KILNON/KILNOFF Dibromoethane, 1,2-106-93-4 sig Guideline 7.40E-03 7.40F-0 100.0% 7.40F-0 7.40F-03 100.0% 334 5900 5100 5500 6.82E-04 >1000% sig 7.40E-0 7.40E-03 60 5900 5500 KILNON/KILNOFF Dichloroethane, 1,2-107-06-2 sig Ministry PO 7.39E-0 100.0% sig 7.39E-0 7.39E-03 100.0% 334 5100 2200 4.55E-04 >1000% sig 7.39E-0 7.39E-03 sig Ministry POI 60 5900 5100 5500 2200 100.0% KILNON/KILNOFI 1.15E-0 1.15E-02 100.0% 334 1.15E-02 1.15E-02 100.0% Dichloroethene, 1,1-1.15E-02 sig sig 198% KILNON/KILNOFF 781-43-1 24 300 1900 350 1700 1764 705.6 7.09F-05 Dimethylanthracene, 9, sig No POI, JSL or B 0.1 1.40F-04 1.40E-0 100.0% 1.40E-1.40E-04 100.0% 334 334 sig 1.40E-0 1.40E-0 sig 100.0% KILNON/KILNOFF Fluoranthene 206-44-0 sig No POI, JSL or B-2B 0.1 7.10E-05 7.10E-0 7.10E-05 100.0% 334 60 5900 80 5100 5500 2200 2.27E-05 312% sig 7.10E-0 7.10E-05 sig 70 86-73-7 60 5900 5100 5500 2200 2.27E-05 >1000% KILNON/KILNOFF sig No POI, JSL or B-2E 0.1 100.0% 9.20E-04 Fluorene 9.20E-04 sig 9.20E-04 9.20E-04 100.0% 334 sig 9.20E-04 118-74-1 1700 1764 KILNON/KILNOFF Hexachlorobe sig JSL 0.011 4.97E-0 4.97E-334 334 300 1900 705.6 638% 4.97E-0 sig sig Hydrogen Chloride 100.0% 1.23E+00 KILNON/KILNOFF 7647-01-0 sig Ministry PO 1.23E+0 sig 1.23E+0 100.0% 334 334 300 1900 350 1700 1764 705.6 1.42E-02 >1000% sig 1.23E+0 1.23E+00 91-57-6 KILNON/KILNOF 24 100.0% 60 5900 5100 1.50E-02 1.50E-02 Methylnaphthalene, 2 sig No POI, JSL or B-2B 0.1 1.50E-02 sig 1.50E-02 1.50E-02 100.0% 334 80 5500 2200 2.27E-05 >1000% sig No POI, JSL or B-2B KII NON/KII NOEE 832-69-9 0.1 300 1900 350 1700 1764 705.6 254% 1.80E-0 100.09 sig 1.80E-100.0% 334 334 sig 1.80E-5500 KILNON/KILNOFF Naphthalene 91-20-3 sig Guideline 22.4 4.30E-02 4.30E-0 100.0% sig 4.30E-0 4.30E-02 100.0% 334 5900 5100 2200 5.09E-03 845% sig 4.30E-0 4.30E-0 sig No POI, JSL or B-2B 0.1 60 5900 80 5100 5500 2200 2.27E-05 >1000% KILNON/KILNOFF 85-01-8 100.0% 334 1.30E-03 1.30E-03 Phenanthrene 1.30E-03 sig 1.30E-0 1.30E-03 100.0% sig 7723-14-0 300 350 1700 1764 705.6 855% Phosphorus sig 0.5 3.03E-0 100.0% 3.03E-100.0% 1900 3.54F-04 3.03E-3.03E-0 sig sig 100.0% 1.20E-01 100.0% KILNON/KILNOFF Potassium 7440-09-7 1.20E-01 1.20E-0 334 334 300 1900 350 1700 1764 705.6 7.09E-04 >1000% 1.20E-0 1.20E-01 sig JSI sig sig 129-00-0 60 5100 sig No POI, JSL or B-2B 5900 5500 2200 2.27E-05 KILNON/KILNOFF Pyrene 0.1 4.90E-05 100.0% sig 4.90E-0 4.90E-05 100.0% 334 70 80 216% sig 4.90E-05 4.90E-05 KILNON/KILNOF Tetrachloroethane, 1,1,1,2 630-20-6 1.05E-02 100.0% 1.05E-02 1.05E-02 100.0% 5900 5100 5500 2200 1.14E-04 >1000% 1.05E-02 1.05E-02 100.0% 334 sig sig JS sig KII NON/KII NOFF Tetrachloroethane, 1,1,2,2 79-34-5 24 100.0% 100.0% 334 60 5900 5100 5500 >1000% 1.42E-0 1 42F-02 sig 0.1 1.42E-02 1.42E-0 1.42E-02 2200 2.27F-05 1700 300 1764 7440-28-0 1900 350 54% KILNON/KILNOFF neg JS 0.5 1.90E-04 100.0% sig 1.90E-04 1.90E-04 100.0% 334 334 neg 0.00E+00 0.00E+006.82E-05 >1000% 79-00-9 0.3 60 5900 5100 5500 2200 KILNON/KILNOF sig J 1.70E-0 100.0% 1.70E-0 1.70E-02 100.0% 334 sig 1.70E-0 1.70E-0 sig sig Ministry POI KII NON/KII NOFE 79-01-6 24 100.0% 334 60 5900 5100 5500 2200 2.73F-03 422% Trichloroethylene 1.15E-0 sig 1.15E-1.15E-02 100 0% 1.15E-0 1.15E-0 100.0% sig Ministry POI 75-01-4 5100 5500 2.27E-04 KILNON/KILNOFF Vinyl Chloride 1.99E-02 100.0% sig 1.99E-0 1.99E-02 100.0% 334 60 5900 80 2200 >1000% sig 1.99E-02 1.99E-02 67-64-1 neg Ministry POI KILNON/KILNOFF 5900 5100 5500 2200 2.70E+00 3% Acetone 9.30E-02 100.0% 9.30E-0 9.30E-02 100.0% 334 0.00E+00 0.00E+00 sig neg Aluminum Oxide 1344-28-1 120 300 1900 1700 1764 8.50E-02 33% KILNON/KILNOFF 24 2.83E-100.0% 2.83E-334 350 705.6 0.00E+0 sig 5900 5100 5500 KILNON/KILNOFF Benzo(a)anthracene neg No POI, JSL or B-2B 0.1 24 3.50E-06 100.0% sig 3.50E-0 3.50E-06 100.0% 334 60 2200 2.27E-05 15% neg 0.00E+00 0.00E+00 205-99-2 Benzo(b)fluoranthen neg No POI, JSL or B-2B 5900 5100 KILNON/KILNOFF 0.1 3.50E-06 100.0% sig 3.50E-06 3.50E-06 100.0% 334 5500 2200 2.27E-05 15% neg 0.00E+00 0.00E+00 No POI, JSL or B-2B KILNON/KILNOF Benzo(b)fluorene 243-17-4 0.1 6.90F-0 100.0% 6.90E-6.90F-05 100.0% 334 300 1900 350 1700 1764 7.09E-05 97% 0.00F+0 0.00E + 01700 300 1764 7.09E-05 KILNON/KILNOFF Benzo(e)pyrene 192-97-2 neg No POI, JSL or B-2B 0.1 24 6.90E-06 100.0% sig 6.90E-0 6.90E-06 100.0% 334 334 1900 350 10% neg 0.00E+00 0.00E+00 neg No POI, JSL or B-2B 60 5900 5100 5500 15% KILNON/KILNOF 191-24-2 2200 2.27E-05 Benzo(g,h,i)perylene 3.50E-06 100.0% 3.50E-06 3.50E-06 100.0% 334 0.00E+00 0.00E+00 sig neg 207-08-9 60 5900 5100 5500 2.27F-05 15% KILNON/KILNOFF 3.50E-0 100.0% sig 3.50E-100.0% 334 2200 0.00E+0KILNON/KILNOFF 7440-42-8 neg Ministry POI 120 24 4.40E-03 4.40F-03 100.0% 4.40F-0 4.40F-03 100.0% 334 334 300 1900 350 1700 1764 705.6 8.50E-02 5% 0.00F+00 0.00F+00 sig neg 75-27-4 60 350 1.15E-02 5900 5100 5500 2200 7.95E-02 14% neg JSL Bromodichloromethan 0.00E+00 KILNON/KILNOFF 1.15E-02 100.0% sig 1.15E-02 1.15E-02 100.0% 334 70 neg 0.00E+00neg Guideline 75-25-2 60 5900 5100 KILNON/KILNOFF 55 1.10E-0 100.0% sig 1.10E-100.0% 334 5500 2200 1.25E-02 88% 0.00E+0 neg KILNON/KILNOFF Bromomethane 74-83-9 neg Guideline 1350 24 1.40E-02 1.40E-02 100.0% 1.40E-0 1.40E-02 100.0% 334 60 5900 80 5100 5500 2200 3.07E-01 5% 0.00E+00 0.00E+00 sig neg 78-93-3 3.80E-02 334 300 1764 KILNON/KILNOFF Butanone, 2neg | Ministry POI 1000 24 3.80E-02 3.80E-02 100.0% sig 3.80E-02 100.0% 334 1900 350 1700 705.6 7.09E-01 5% neg 0.00E+00 0.00E+00 75-00-3 5600 100.0% 100.0% 334 60 5900 5100 5500 2200 1 27F+00 <1% 0.00E+0 sig neg KILNON/KILNOFF Chloromethane 74-87-3 neg Ministry POI 320 24 3.83E-0 100.0% sig 3.83E-3.83E-02 100.0% 334 60 5900 5100 5500 2200 7.27E-02 53% 0.00E+00 0.00E+00 42% KILNON/KILNOFF Chloronaphthalene, 2 91-58-7 neg JSI 2.98E-04 100.0% sig 2.98E-0 2.98E-04 100.0% 334 334 300 1900 350 1700 705.6 7.09E-04 neg 0.00E+00 0.00E+00 95-57-8 300 1700 1764 705.6 1.28E-02 100.0% 2.27E-2.27E-03 100.0% 334 334 1900 18% 0.00E+0 Chlorophenol, 2 neg 2.27E-0 sig neg Chlorophenol, 3-5.82E-04 KILNON/KILNOFF 108-43-0 24 5.82E-04 100.0% 5.82E-0 100.0% 334 334 300 1900 350 1700 1764 705.6 1.06E-02 0.00E+00 0.00E+00 sig 5% neg 300 1764 1900 1700 1.06E-02 KILNON/KILNOFF Chlorophenol, 4neg J 7.24E-04 100.0% sig 7.24E-04 7.24E-04 100.0% 334 334 neg 0.00E+00 0.00E+00 218-01-9 neg No POI, JSL or B-2E 60 5100 2200 2.27E-05 15% KILNON/KILNOF 0.1 100.0% 3.50E-0 3.50E-06 100.0% 334 0.00E+00 Chrysene 3.50E-06 0.00E+00 sig neg KII NON/KII NOFE 7440-50-8 neg Ministry POI 24 300 1900 1700 1764 705.6 3.54F-02 4% Copper 1.50E-03 100.0% sig 1.50E-0 1.50E-03 100.0% 334 334 0.00E+0 0.00E+00 191-07-1 300 KILNON/KILNOFF Coronene neg No POI, JSL or B-2B 1.40E-05 100.0% sig 1.40E-0 1.40E-05 100.0% 334 334 neg 0.00E+00 0.00E+00 neg No POI, JSL or B-2B 53-70-3 0.1 60 5900 5100 5500 2200 2 27F-05 15% KILNON/KILNOFF Dibenz(a.h)anthracen 3 50F-06 3.50E-0 100.0% 3.50E-0 3.50E-06 100.0% 334 80 0.00E+0 0.00E+0 neg sig No POI, JSL or B-2B KILNON/KILNOFF Dibenzo(a,c)anthracene + Picene 15-58-7 / 213-46-7 0.1 24 3.50E-06 3.50E-06 100.0% sig 3.50E-0 3.50E-06 100.0% 334 334 300 1900 350 1700 1764 705.6 7.09F-05 5% 0.00E+00 0.00E+00 KILNON/KILNOFF Dibenzo(a,e)pyrene 192-65-4 neg No POI, JSL or B-2B 0.1 1.40E-05 1.40E-05 100.0% sig 1.40E-05 1.40E-05 100.0% 334 334 300 1900 350 1700 1764 705.6 7.09E-05 20% neg 0.00E+00 0.00E+00 74-95-3 7.40E-03 300 1700 705.6 7.40E-03 7.40E-0 1900 1764 4.68E-02 16% KILNON/KILNOF Dibromomethane neg JSL 100.0% sig 7.40E-03 100.0% 334 334 neg 0.00E+00 0.00E+00 KILNON/KILNOFF 541-73-1 24 300 1900 350 1700 1764 705.6 3 54F-02 Dichlorobenzene, 1,3 neg JSL 50 3.83E-04 3.83E-0 100.0% sig 3.83E-0 3.83E-04 100.0% 334 334 1% 0.00E+0 0.00E+0 neg 106-46-7 KILNON/KILNOFF Dichlorobenzene, 1,4neg Ministry PO 2.41E-04 2.41E-04 100.0% sig 2.41E-04 2.41E-04 100.0% 334 60 5900 80 5100 5500 2200 2.16E-02 1% 0.00E+00 0.00E+00 75-34-3 neg Ministry POI 300 1700 1764 705.6 165 24 1900 350 1.17E-01 11% KILNON/KILNOFF Dichloroethane, 1,1-1.25E-02 100.0% sig 1.25E-02 1.25E-02 100.0% 334 334 neg 0.00E+00 0.00E+00 KILNON/KILNOFF 156-59-2 334 60 5900 5100 5500 2200 2.39E-02 44% 0.00E+00 Dichloroethylene, cis-1.2 1.05E-0 100.0% sig 1.05E-100.0% 0.00E + 0100.0% 44% KILNON/KILNOFF Dichloroethylene, trans-1, 156-60-5 neg Guideline 105 1.05E-0 sig 1.05E-0 1.05E-02 100.0% 334 5900 5100 5500 2200 2.39E-02 0.00E+00 0.00E+00 1700 neg No POI, JSL or B-2E 0.1 300 30% KILNON/KILNOFF Dichlorophenol, 2,3-2.13E-05 100.0% sig 2.13E-0 2.13E-05 100.0% 334 334 neg 0.00E+00 0.00E+00 neg No POI, JSL or B-2B KILNON/KILNOFF Dichlorophenol, 2,4 + 2 20-83-2 / 583-7808 5.68E-0 5.68E-300 1900 1700 1764 705.6 7.09E-05 80% sig neg 100.0% KILNON/KILNOFF Dichlorophenol, 2,6-87-65-0 2.70E-0 sig 2.70E-0 2.70F-05 100.0% 334 334 300 1900 350 1700 1764 705.6 1.35E-02 <1% 0.00F+00 0.00F+00 95-77-2 neg No POI, JSL or B-2B 300 1700 1900 1764 705.6 7.09E-05 KILNON/KILNOFF Dichlorophenol, 3,4-0.1 7.81E-06 100.0% sig 7.81E-06 7.81E-06 100.0% 334 334 11% neg 0.00E+00 0.00E+00591-35-5 neg No POI, JSL or B-2B KILNON/KILNOFF Dichlorophenol, 3,5 4.97E-06 100.0% 4.97E-0 4.97E-06 100.0% 334 334 300 1700 705.6 7.09E-05 0.00E+00 0.00E+00 sig neg 100.0% KII NON/KII NOFF 78-87-5 Guideline 2400 1.15E-0 100.0% 334 60 5900 5100 5500 2200 5.45F-01 2% 0.00F+0 0.00F+00 Dichloropropane, 1,2 1.15E-0 1 15F-02 57-97-6 neg No POI, JSL or B-2B 24 334 300 1700 1764 705.6 7.09E-05 KILNON/KILNOFF Dimethylbenzo(a)anthracene, 7,12 0.1 1.40E-05 100.0% sig 1.40E-0 1.40E-05 100.0% 334 1900 350 20% neg 0.00E+00 0.00E+00KILNON/KILNOFF 100-41-4 1000 2 80F-02 300 1900 350 1700 1764 705.6 7 09F-01 4% 2.80E-0 2.80E-100.0% 334 334 0.00E+0 0.00E+0 sig neg KILNON/KILNOFF Indeno(1,2,3-cd)pyrene 193-39-5 neg No POI, JSL or B-2B 0.1 3.50E-06 3.50E-06 100.0% 3.50E-0 3.50E-06 100.0% 334 60 5900 5100 5500 2200 2.27E-05 15% 0.00E+00 0.00E+00 sig 300 1764 neg Ministry POI 400 24 1.80E-02 1900 350 1700 705.6 KILNON/KILNOFF Isopropyl Benzene 98-82-8 1.80E-02 100.0% sig 1.80E-02 1.80E-02 100.0% 334 334 2.83E-01 6% neg 0.00E+00 0.00E+00 1309-48-4 300 1700 1764 705.6 14% KILNON/KILNOF Magnesium Oxid neg Ministry POI 1.21E-0 100.0% 1.21E-0 100.0% 334 334 1900 350 8.50E-02 0.00E+00 0.00E+01.21E-02 sig neg KILNON/KILNOFF Methylanthracene, 2 613-12-7 neg No POI, JSL or B-2E 0.1 24 6.90E-05 6.90E-0 100.0% 6.90E-6.90E-05 100.0% 334 334 300 1900 350 1700 1764 705.6 7.09E-05 97% 0.00E+00 0.00E+00 1700 56-49-5 300 1764 705.6 7.09E-05 KILNON/KILNOFF Methylcholanthrene, 3 neg No POI, JSL or B-2E 0.1 24 1.40E-05 100.0% sig 1.40E-0 1.40E-05 100.0% 334 334 1900 350 20% neg 0.00E+00 0.00E+00 75-09-2 Methylene Chloride (Dichlor neg Ministry POI 220 60 5100 5500 2200 5.00E-02 40% KILNON/KILNOFF 24 1.99E-02 100.0% 100.0% 0.00E+00 sig 1.99E-02 1.99E-02 334 70 80 neg 0.00E+00 90-12-0 60 5900 5100 1700 5500 1764 149% KILNON/KILNOFF sig JSL 100.0% sig 1.20E-100.0% 334 8.07E-03 sig 1.20E-0 1.20E-0 300 7439-98-7 8.50E-02 KILNON/KILNOFF neg Guideline 120 1.20E-04 100.0% sig 1.20E-0 1.20E-04 100.0% 334 334 1900 <1% 0.00E+00 0.00E+00 Molybdenum neg KILNON/KILNOF 608-93-5 4.97E-05 4.97E-05 300 1700 1764 705.6 5.67E-0 <1% Pentachlorobenzene 100.0% 4.97E-05 100.0% 334 334 0.00E+00 0.00E+00 neg J sig neg 87-86-5 4 97F-0 4.97E-300 1900 1700 1764 705.6 1.42F-02 <1% KILNON/KILNOFF Pentachloropheno 100.0% 4.97E-06 100.0% 334 334 0.00E+0 0.00E+0 sig KILNON/KILNOFF Perylene 198-55-0 neg No POI, JSL or B-2E 0.1 1.40E-05 100.0% sig 1.40E-0 1.40E-05 100.0% 334 334 300 1900 350 1700 1764 705.6 7.09E-05 20% neg 0.00E+00 0.00E+00 7440-24-6 300 1700 8.50E-02 <1% KILNON/KILNOFF neg Guideline 2.00E-04 0.00E+00 0.00E+00 100.0% sig 2.00E-04 2.00E-04 100.0% 334 334 neg 100-42-5 sig Ministry POI 400 60 5100 106% KILNON/KILNOFF 9.60E-5900 5500 2200 9 09F-02 sig 9.60E-0 sig sig KILNON/KILNOFF Tetrachlorobenzene, 1,2,3,4-634-66-2 neg 600 24 5.25E-05 100.0% 5.25E-0 5.25E-05 100.0% 334 334 300 1900 350 1700 1764 705.6 4.25E-01 <1% neg 0.00E+00 0.00E+00 634-90-2 / 95-94-3 300 1700 1764 96% Tetrachlorobenzene, 1,2,3,5+1,2,4,5 neg No POI, JSL or B-2B 1900 705.6 7.09E-05 KILNON/KILNOFF 0.1 6.82E-05 100.0% sig 6.82E-05 6.82E-05 100.0% 334 334 350 neg 0.00E+00 0.00E+00 127-18-4 360 60 5900 5100 5500 2200 8 18F-02 23% 1.85E-0 1.85E-100.0% 0.00E+0 1700 1764 705.6 300 350 7.09E-05 KILNON/KILNOFF Tetrachlorophenol, 2,3,4,5 4901-51-3 neg No POI, JSL or B-2E 0.1 24 4.97E-06 100.0% 4.97E-0 4.97E-06 100.0% 334 334 1900 7% neg 0.00E+00 0.00E+00 sig 300 1700 <1% KILNON/KILNOFF Tetrachlorophenol, 2,3,4,6 neg JSL 4.97E-06 4.97E-06 4.97E-06 100.0% 334 100.0% sig 334 neg 0.00E+00 0.00E+00 Tetrachlorophenol, 2,3,5,6 935-95-5 neg No POI, JSL or B-2B 300 1700 1764 7.09F-05 sig KILNON/KILNOFF Tetralin 119-64-2 neg JSL 151.5 24 2.40E-03 2.40E-03 100.0% sig 2.40E-03 2.40E-03 100.0% 334 334 300 1900 350 1700 1764 705.6 1.07E-01 2% neg 0.00E+00 0.600E±000f

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

Land Use Type (rural or urban)	:	rural	٦																								
Source Description	Contaminant Name	CAS#	Sig or Neg (final result)	Source for Emission Threshold (ET) Value	Threshold Concentration (µg/m³) (24-hr)	veraging Period (hr)	Raw Source Emission Rate (ER) (g/s)	Raw Site Emission Rate (g/s)	% of Raw Sit Emissions	1 5 5 5	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	Shortest Distance to Property Line by CAS# (m)	Table B-1 Distance Below Shortest Distance	Table B-1 Dispersion Factor Below Shortest Distance (1-hr)	Table B-1 Distance Above Shortest Distance	Factor Above Shortest Distance (1-hr)	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)	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%	(m) 334	334	(m) 300	(μg/m³ per g/s) 1900	(m) 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	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 KILNON/KILNOFF	Trichlorobenzene, 1,2,3- Trichlorobenzene, 1,2,4-	87-61-6 120-82-1		JSL Guideline	135 400	24	1.38E-04 2.98E-04	1.38E-04 2.98E-04			1.38E-04 2.98E-04	1.38E-04 2.98E-04			334 334	300 300	1900 1900	350 350	1700 1700	1764 1764	705.6 705.6	9.57E-02 2.83E-01	<1% <1%	neg neg	0.00E+00 0.00E+00	0.00E+00 0.00E+00	,——
KILNON/KILNOFF	Trichlorobenzene, 1,3,5-	108-70-3		JSL	3.6	24		4.97E-05			4.97E-05	4.97E-05			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 15950-66-0		Ministry POI	115000	24		1.42E-02	100.0		1.42E-02	1.42E-02			70	60	5900	80	5100	5500	2200	2.61E+01	<1%	neg	0.00E+00	0.00E+00	
KILNON/KILNOFF KILNON/KILNOFF	Trichlorophenol, 2,3,4- Trichlorophenol, 2,3,5-	933-78-8	_	No POI, JSL or B-2B No POI, JSL or B-2B	0.1	24		4.97E-06 4.97E-06	100.0 100.0		4.97E-06	4.97E-06 4.97E-06			334 334	300	1900 1900	350 350	1700 1700	1764 1764	705.6 705.6	7.09E-05 7.09E-05	7% 7%	neg neg	0.00E+00 0.00E+00	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			4.97E-06	4.97E-06			334	300	1900	350	1700	1764	705.6	7.09E-05	7%	neg	0.00E+00	0.00E+00	
KILNON/KILNOFF KILNON/KILNOFF	Trichlorophenol, 2,4,5-	95-95-4 88-06-2	neg	JSL JSL	220 1.5	24		4.97E-06 5.82E-06	100.0		4.97E-06 5.82E-06	4.97E-06 5.82E-06	100.0% 100.0%		334 334	300 300	1900 1900	350 350	1700 1700	1764 1764	705.6 705.6	1.56E-01 1.06E-03	<1% <1%	neg	0.00E+00 0.00E+00	0.00E+00 0.00E+00	
KILNON/KILNOFF	Trichlorophenol, 2,4,6- Trichlorophenol, 3,4,5-	609-19-8		No POI, JSL or B-2B	0.1	24		4.97E-06			4.97E-06	5.82E-06 4.97E-06			334	300	1900	350	1700	1764	705.6	7.09E-05	7%	neg 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	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 7440-66-6		Guideline Ministry POI	730 120	24	9.00E-02 1.25E-03	9.00E-02 1.25E-03	100.0		9.00E-02	9.00E-02	100.0%		334 334	300	1900 1900	350 350	1700 1700	1764 1764	705.6 705.6	5.17E-01 8.50E-02	17% 1%	neg	0.00E+00	0.00E+00 0.00E+00	,———
KILNON/KILNOFF KILNON/KILNOFF	Total Reduced Sulphur	TRS	-0	No POI, JSL or B-2B	0.1	24		8.60E-03	100.0 100.0		1.25E-03 8.60E-03	3 1.25E-03 8 8.60E-03			334	300	1900	350	1700	1764	705.6	7.09E-05	>1000%	neg sig	0.00E+00 8.60E-03	8.60E-03	100.0%
KILNON/KILNOFF	Carbon Disulphide	75-15-0		Guideline	330	24		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 PITV	Carbonyl Sulphide	463-58-1 83-32-9	sig	No POI, JSL or B-2B	0.1	24	3.42E+00 2.94E-12	3.42E+00 5.20E-04			3.42E+00 0.00E+00	3.42E+00 5.20E-04			334 70	300 60	1900 5900	350 80	1700 5100	1764 5500	705.6 2200	9.21E-03 2.27E-05	>1000% >1000%	sig	3.42E+00 0.00E+00	3.42E+00 5.20E-04	100.0%
PITV	Acenaphthene Acenaphthylene	208-96-8		No POI, JSL or B-2B	0.1	24		1.80E-03			0.00E+00	1.80E-03			70	60	5900	80	5100	5500	2200	2.27E-05		sig sig	0.00E+00	1.80E-03	,
PITV	Acetone	67-64-1	neg	Ministry POI	11880	24		9.30E-02			0.00E+00	9.30E-02	0.0%		70	60	5900	80	5100	5500	2200	2.70E+00	3%	neg	0.00E+00	0.00E+00	
PITV PITV	Anthracene Benzene	120-12-7 71-43-2	neg	No POI, JSL or B-2B Ministry POI	0.1 100	24		9.40E-04 5.50E-01			0.00E+00	9.40E-04 5.50E-01	0.0%		70	60	5900 5900	80 80	5100 5100	5500 5500	2200 2200	2.27E-05 2.27E-02	>1000% >1000%	sig	0.00E+00 0.00E+00	9.40E-04 5.50E-01	
PITV	Benzo(a)anthracene	56-55-3	neg	No POI, JSL or B-2B	0.1	24		3.50E-01	0.00		0.00E+00	3.50E-01	0.0%		70	60	5900	80	5100	5500	2200	2.27E-05	15%	sig neg	0.00E+00	0.00E+00	,
PITV	Benzo(a)pyrene	50-32-8	neg	Ministry POI	0.005	24		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	205-99-2 191-24-2		No POI, JSL or B-2B No POI, JSL or B-2B	0.1	24		3.50E-06			0.00E+00	3.50E-06			70	60	5900 5900	80 80	5100	5500 5500	2200	2.27E-05	15%	neg	0.00E+00	0.00E+00	
PITV PITV	Benzo(g,h,i)perylene Benzo(k)fluoranthene	207-08-9	neg neg	No POI, JSL or B-2B	0.1	24		3.50E-06 3.50E-06			0.00E+00	3.50E-06 3.50E-06	0.0%		70	60	5900	80	5100 5100	5500	2200	2.27E-05 2.27E-05	15% 15%	neg neg	0.00E+00 0.00E+00	0.00E+00 0.00E+00	
PITV	Bromodichloromethane	75-27-4	neg	JSL	350	24		1.15E-02			0.00E+00	1.15E-02			70	60	5900	80	5100	5500	2200	7.95E-02	14%	neg	0.00E+00	0.00E+00	,
PITV	Bromoform	75-25-2		Guideline	55	24		1.10E-02			0.00E+00	1.10E-02			70	60	5900	80	5100	5500	2200	1.25E-02		neg	0.00E+00	0.00E+00	
PITV PITV	Bromomethane Carbon Tetrachloride	74-83-9 56-23-5	neg neg	Guideline Ministry POI	1350 2.4	24	2.89E-12 2.89E-12	1.40E-02 1.70E-02	0.00000		0.00E+00	1.40E-02 1.70E-02	2 0.0%		70	60	5900 5900	80 80	5100 5100	5500 5500	2200 2200	3.07E-01 5.45E-04	5% >1000%	neg sig	0.00E+00 0.00E+00	0.00E+00 1.70E-02	,——
PITV	Chloroethane	75-00-3	neg	Ministry POI	5600	24	4.63E-12	9.37E-03			0.00E+00	9.37E-03	0.0%		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		1.15E-02			0.00E+00	1.15E-02	0.0%		70	60	5900	80	5100	5500	2200	2.27E-04	>1000%	sig	0.00E+00	1.15E-02	
PITV	Chloromethane Chrysene	74-87-3 218-01-9		Ministry POI No POI, JSL or B-2B	320 0.1	24		3.83E-02 3.50E-06			0.00E+00	3.83E-02 3.50E-06	0.0%		70	60	5900 5900	80 80	5100 5100	5500 5500	2200 2200	7.27E-02 2.27E-05	53% 15%	neg neg	0.00E+00 0.00E+00	0.00E+00 0.00E+00	,
PITV	Dibenz(a,h)anthracene	53-70-3		No POI, JSL or B-2B	0.1	24		3.50E-06			0.00E+00	1			70	60	5900	80	5100	5500	2200	2.27E-05		neg	0.00E+00	0.00E+00	
PITV	Dibromochloromethane	124-48-1	neg		0.2	24	1.74E-12	9.37E-03			0.00E+00	9.37E-03	0.0%		70	60	5900	80	5100	5500	2200	4.55E-05	>1000%	sig	0.00E+00	9.37E-03	
PITV PITV	Dibromoethane, 1,2- Dichlorobenzene, 1.4-	106-93-4 106-46-7	neg	Guideline Ministry POI	95	24	2.31E-12 5.12E-11	7.40E-03 2.41E-04			0.00E+00	7.40E-03 2.41E-04	0.0%		70	60	5900 5900	80 80	5100 5100	5500 5500	2200	6.82E-04 2.16E-02	>1000% 1%	sig neg	0.00E+00 0.00E+00	7.40E-03 0.00E+00	
PITV	Dichloroethane, 1,2-	107-06-2	neg	Ministry POI	2	24		7.39E-03			0.00E+00	7.39E-03	0.0%		70	60	5900	80	5100	5500	2200	4.55E-04		sig	0.00E+00	7.39E-03	,
PITV	Dichloroethene, 1,1-	75-35-4	neg	Ministry POI	10	24		1.15E-02			0.00E+00	1.15E-02	0.0%		70	60	5900	80	5100	5500	2200	2.27E-03	506%	sig	0.00E+00	1.15E-02	
PITV	Dichloroethylene, cis-1,2- Dichloroethylene, trans-1,2-	156-59-2 156-60-5		Guideline Guideline	105 105	24		1.05E-02 1.05E-02	0.00000		0.00E+00	1.05E-02 1.05E-02	2 0.0%		70	60	5900 5900	80 80	5100 5100	5500 5500	2200	2.39E-02 2.39E-02	44%	neg neg	0.00E+00 0.00E+00	0.00E+00 0.00E+00	
PITV	Dichloropropane, 1,2-	78-87-5		Guideline	2400	24		1.15E-02			0.00E+00	1.15E-02			70	60	5900	80	5100	5500	2200	5.45E-01	2%	neg	0.00E+00	0.00E+00	
PITV	Dichloropropene, cis-1,3-	10061-01-5	neg	JSL	2.25	24		2.89E-12	100.0	% sig	2.89E-12	2.89E-12	100.0%	70	70	60	5900	80	5100	5500	2200	5.11E-04	<1%	neg	0.00E+00	0.00E+00	
PITV PITV	Dichloropropene, trans-1,3- Fluoranthene	10061-02-6 206-44-0		No POI, JSL or B-2B	2.25 0.1	24		2.31E-12 7.10E-05	0.0000		2.31E-12 0.00E+00	2.31E-12 7.10E-05	100.0%		70	60	5900 5900	80 80	5100 5100	5500 5500	2200 2200	5.11E-04 2.27E-05	<1% 312%	neg	0.00E+00 0.00E+00	0.00E+00 7.10E-05	
PITV	Fluorantnene	86-73-7		No POI, JSL or B-2B	0.1	24		9.20E-04			0.00E+00	9.20E-04			70	60	5900	80	5100	5500	2200	2.27E-05	>1000%	sig	0.00E+00	9.20E-04	,
PITV	Hexanone, 2-	591-78-6	neg	JSL	150	24	1.50E-11	1.50E-11	100.0	% sig	1.50E-11	1.50E-11	100.0%	70	70	60	5900	80	5100	5500	2200	3.41E-02	<1%	neg	0.00E+00	0.00E+00	)
PITV	Indeno(1,2,3-cd)pyrene	193-39-5 108-10-1	neg	No POI, JSL or B-2B Guideline	0.1 1200	24	3.39E-12 2.89E-11	3.50E-06	100.0		0.00E+00	3.50E-06			70	60	5900 5900	80 80	5100 5100	5500 5500	2200	2.27E-05 2.73E-01	15% <1%	neg	0.00E+00	0.00E+00	
PITV PITV	Methyl Isobutyl Ketone Methyl tert-butyl ether	1634-04-4	neg	Guideline	7000	24	2.89E-11 2.89E-12	2.89E-11 2.89E-12	100.0 100.0		2.89E-12	2.89E-11 2.89E-12	100.0%		70	60	5900	80	5100	5500	2200	1.59E+00		neg	0.00E+00 0.00E+00	0.00E+00 0.00E+00	$\vdash$
PITV	Methylene Chloride (Dichloromethane)	75-09-2	neg	Ministry POI	220	24	2.89E-12	1.99E-02	0.00000	% neg	0.00E+00	1.99E-02	0.0%	70	70	60	5900	80	5100	5500	2200	5.00E-02	40%	neg	0.00E+00	0.00E+00	
PITV PITV	Methylnaphthalene, 1- Methylnaphthalene, 2-	90-12-0 91-57-6	neg	No POI, JSL or B-2B	35.5 0.1	24		1.20E-02			0.00E+00				70	60	5900 5900	80 80	5100 5100	5500 5500	2200 2200	8.07E-03 2.27E-05		sig	0.00E+00	1.20E-02	
PITV	Naphthalene	91-20-3		Guideline	22.5	24		1.50E-02 4.30E-02			0.00E+00	1.50E-02 4.30E-02			70	60	5900	80	5100	5500	2200	5.11E-03		sig sig	0.00E+00 0.00E+00	1.50E-02 4.30E-02	,
PITV	Phenanthrene	85-01-8	neg	No POI, JSL or B-2B	0.1	24		1.30E-03			0.00E+00	1.30E-03			70	60	5900	80	5100	5500	2200		>1000%	sig	0.00E+00	1.30E-03	,
PITV	Pyrene	129-00-0		No POI, JSL or B-2B	0.1	24		4.90E-05			0.00E+00				70	60	5900	80	5100	5500	2200	2.27E-05	216%	sig	0.00E+00	4.90E-05	
PITV PITV	Styrene Tetrachloroethane, 1,1,1,2-	100-42-5 630-20-6	neg	Ministry POI JSL	400 0.5	24		9.60E-02 1.05E-02			0.00E+00				70	60	5900 5900	80 80	5100 5100	5500 5500	2200 2200	9.09E-02 1.14E-04		sig sig	0.00E+00 0.00E+00	9.60E-02 1.05E-02	
PITV	Tetrachloroethane, 1,1,2,2-	79-34-5	neg		0.1	24		1.42E-02			0.00E+00				70	60	5900	80	5100	5500	2200		>1000%	sig	0.00E+00	1.42E-02	
PITV	Tetrachloroethylene	127-18-4	neg	Ministry POI	360	24		1.85E-02	0.00000	% neg	0.00E+00	1.85E-02	0.0%	70	70	60	5900	80	5100	5500	2200	8.18E-02		neg	0.00E+00	0.00E+00	)
PITV PITV	Toluene Trichloroethane, 1,1,1-	108-88-3 71-55-6		Guideline Ministry POI	2000 115000	24		1.80E-01 1.42E-02			0.00E+00				70	60	5900 5900	80 80	5100 5100	5500 5500	2200 2200	4.55E-01 2.61E+01		neg neg	0.00E+00 0.00E+00	0.00E+00 0.00E+00	
PITV	Trichloroethane, 1,1,1-	79-00-5	neg		0.3	24		1.42E-02 1.70E-02			0.00E+00				70	60	5900	80	5100	5500	2200	6.82E-05		sig	0.00E+00	1.70E-02	
PITV	Trichloroethylene	79-01-6	neg	Ministry POI	12	24	1.74E-12	1.15E-02	0.00000	% neg	0.00E+00	1.15E-02	0.0%	70	70	60	5900	80	5100	5500	2200	2.73E-03	422%	sig	0.00E+00	1.15E-02	
PITV PITV	Trichlorofluoromethane	75-69-4 75-01-4		Guideline Ministry POI	6000	24		2.89E-12			2.89E-12 0.00E+00	2.89E-12 1.99E-02	100.0%		70 70	60	5900	80	5100	5500	2200 2200	1.36E+00		neg	0.00E+00 0.00E+00	0.00E+00	
INIIA	Vinyl Chloride	/5-01-4	rieg	Invitalistry POI	1		2.29E-12	1.99E-02	0.00000	% neg	U.UUE+00	1.99E-02	0.0%	70	1 /0	60	5900	80	5100	5500	2200	2.2/E-U4	>1000%	sig	U.UUE+UU	1.99E-02	

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 Environnmentale

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 <a href="MetDataENE@ontario.ca">MetDataENE@ontario.ca</a> within 30 days of the date of this correspondence with details, so that this dataset can be modified, if necessary.

Yours truly,

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

### Appendix A

#### 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 Téléc.: 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.

Polisit Blarar

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

