

TABLES

**Table 1
Sources and Contaminants Identification Table**

Source Information		General Location(s)	Expected Contaminants	Significant (Yes or No)?	Modelled (Yes or No)?	Rationale
Source ID	Source Description or Title					
Concrete Batching Sources						
1	Cement Storage Silos (3 at Batch Plant 1, 2 at Batch Plant 2)	Batch Plants	SPM, Metals, Crystalline Silica	Yes	Yes	N/A
2	Sand and Aggregate Delivery	Batch Plants	SPM, Crystalline Silica	Yes	Yes	N/A
3	Concrete Batching	Batch Plants	SPM, Metals, Crystalline Silica	Yes	Yes	N/A
Process Activities						
4	Welding Operations - Fugitives, and Fume Capture System	Fabrication Shop and Throughout Facility	SPM, Metals	Yes	Yes	N/A
5	Plasma Cutting - Fugitives, and Plasma Dust Collector	Fabrication Shop and Throughout Facility	SPM, NOx, Metals	Yes	Yes	N/A
6	Dust Collector - Zinc Coating	Fabrication Shop	SPM, Metals	Yes	Yes	N/A
7	Dust Collector - Shot Blasting	Fabrication Shop	SPM, Metals	Yes	Yes	N/A
8	Natural Gas Process Equipment	Bridge Girder Building, Tunneling Buildings, Pressure Plant Buildings, Batch Plants, Gravity Plant	Products of natural gas combustion	Yes	Yes	All contaminants are considered negligible except NOx, as per section 7.1.1 of the ESDM Procedure Document.
9	Gasket Gluing	Product Storage Area (Outdoors)	VOCs	Yes	Yes	N/A
10	Mudroom Dust Collector	Shotcrete	SPM	Yes	Yes	N/A
11	Spray Painting	Throughout Facility	SPM, VOCs	Yes	Yes	N/A
19	Crushing Plant	Crushing Spread	SPM, Crystalline Silica	Yes	Yes	N/A
20	CAT 963B Dozer Material Transfer	Crushing Spread	SPM, Crystalline Silica	Yes	Yes	N/A
21	CAT 924K Wheel Loader Material Transfer	Building Addition Construction Area	SPM, Crystalline Silica	Yes	Yes	N/A
Supporting Equipment						
12	Natural Gas Heating and HVAC Equipment	Throughout Facility	Products of natural gas combustion	Yes	Yes	All contaminants are considered negligible except NOx, as per section 7.1.1 of the ESDM Procedure Document.
13	Emergency Generator	Generator Room	Products of diesel combustion	Yes	Yes	See Appendix F: Emergency Equipment Assessment
14	Diesel Fire Pump	Fire Pump House	Products of diesel combustion	Yes	No	
15	Generac Natural Gas Back-Up Generator	Administration Office	Products of natural gas combustion	Yes	Yes	
16	Kohler Natural Gas Back-Up Generator	Plant Office	Products of natural gas combustion	Yes	Yes	
17	Diesel Fuel Storage Tanks for On-site Vehicles	Main Plant	VOCs	No	No	
18	Facility Roadways	Throughout Facility	SPM	No	No	Negligible per section 7.2.1 of the ESDM Procedure Document. Emissions are mitigated through Best Management Practices.

Note: Some contaminants emitted from significant sources were found to be negligible per the Emission Threshold Calculation as detailed in section 7.1.2 of the ESDM Procedure Document. Refer to Appendix C of the ESDM Report.

Table 2
Source Summary Table

Source Identifier	Source Description	General Location(s)	Source Parameters				Emissions Data							
			Stack Volumetric Flow Rate [AM3]	Stack Exit Gas Temperature [°C]	Stack Inner Diameter [m]	Stack Height Above Grade [m]	Stack Height Above Roof [m]	Contaminant	CAS No.	Maximum Emission Rate [g/s]	Averaging Period [hours]	Emission Estimating Technique	Emissions Data Quality	Percentage of Overall Emissions [%]
Concrete Batching Sources														
1	Cement Storage Silos (3 at Batch Plant 1, 2 at Batch Plant 2)	Batch Plant 1 and Batch Plant 2	N/A	N/A	N/A	12.19	1.83	SPM	N/A	1.67E-02	24	EF	Marginal	<5%
								Portland Cement	65997-15-1	1.67E-02	24	EF	Marginal	30%
								Calcium Oxide	1305-78-8	5.00E-04	24	EF	Marginal	30%
								Calcium Sulphate	7778-18-9	8.33E-04	24	EF	Marginal	30%
								Crystalline Silica	14808-66-7	5.83E-04	24	EF	Marginal	<5%
								Chromate compounds (as Hexavalent chromium)	7440-47-3	1.13E-07	24	EF	Marginal	<5%
								Silicon dioxide	69012-64-2	1.67E-02	24	EF	Marginal	30%
								Slag	65996-69-2	1.58E-02	24	EF	Marginal	30%
2	Sand and Aggregate Delivery	Aggregate Warming Building	N/A	N/A	N/A	N/A	N/A	SPM	N/A	3.67E-01	24	EF	Above-Average	43%
								Crystalline Silica	14808-66-7	2.20E-02	24	EF	Above-Average	58%
								SPM	N/A	4.95E-02	24	EF	Above-Average	5%
								Portland Cement	65997-15-1	3.83E-02	24	EF	Above-Average	70%
								Calcium Oxide	1305-78-8	1.15E-03	24	EF	Above-Average	70%
								Calcium Sulphate	7778-18-9	1.92E-03	24	EF	Marginal	70%
								Crystalline Silica	14808-66-7	1.34E-03	24	EF	Above-Average	<5%
								Chromate compounds (as Hexavalent chromium)	7440-47-3	2.61E-07	24	EF	Above-Average	<5%
								Silicon dioxide	69012-64-2	3.83E-02	24	EF	Marginal	70%
								Slag	65996-69-2	3.64E-02	24	EF	Above-Average	70%
Process Activities														
4	Welding Operations - Fume Capture System	Fabrication Shop (Pressure Plant)	0.944	25	0.254	14.63	1.83	SPM	N/A	3.39E-02	24	EF	Above-Average to Marginal	<5%
								Chromium	7440-47-3	2.96E-05	24	EF	Above-Average to Marginal	88%
								Hexavalent chromium	7440-47-3	4.74E-06	24	EF	Above-Average to Marginal	58%
								Hexavalent chromium	7440-47-3	2.60E-06	Annual	EF	Above-Average to Marginal	92%
								Cobalt	7440-48-4	4.05E-07	24	EF	Above-Average to Marginal	23%
								Manganese	7439-96-5	2.00E-03	24	EF	Above-Average to Marginal	95%
								Nickel	7440-02-0	1.24E-05	24	EF	Above-Average to Marginal	70%
								Nickel	7440-02-0	6.81E-06	Annual	EF	Above-Average to Marginal	95%
								SPM	N/A	2.16E-03	24	EF	Above-Average to Marginal	<5%
								Chromium	7440-47-3	1.67E-06	24	EF	Above-Average to Marginal	88%
								Hexavalent chromium	7440-47-3	2.65E-07	24	EF	Above-Average to Marginal	58%
								Hexavalent chromium	7440-47-3	1.45E-07	Annual	EF	Above-Average to Marginal	92%
								Cobalt	7440-48-4	2.57E-08	24	EF	Above-Average to Marginal	23%
								Manganese	7439-96-5	1.27E-04	24	EF	Above-Average to Marginal	95%
								Nickel	7440-02-0	7.77E-07	24	EF	Above-Average to Marginal	70%
								Nickel	7440-02-0	4.26E-07	Annual	EF	Above-Average to Marginal	95%

Table 2
Source Summary Table

Source Identifier	Source Description	General Location(s)	Source Parameters					Emissions Data						
			Stack Volumetric Flow Rate [dm ³ /s]	Stack Exit Gas Temperature [°C]	Stack Inner Diameter [m]	Stack Height Above Grade [m]	Stack Height Above Roof [m]	Contaminant	CAS No.	Maximum Emission Rate [g/s]	Averaging Period [hours]	Emission Estimating Technique	Emissions Data Quality	Percentage of Overall Emissions [%]
5	Plasma Cutting - Dry Table Dust Collector	Plasma Table (Pressure Plant)	3.068	25	N/A	4.672	N/A	Nitrogen oxides	N/A	1.47E-06	24	EF	Average	<5%
								Ferric Oxide	10102-44-0	2.81E-02	1.24	EF	Average	<5%
								Chromium	13083-37-1	2.08E-06	24	EF	Average	<5%
								Hexavalent chromium	7440-47-3	3.27E-08	24	EF	Average	12%
								Hexavalent chromium	7440-47-3	2.66E-08	24	EF	Average	36%
								Cobalt	7440-47-3	3.41E-09	Annual	EF	Average	8%
								Manganese	7440-48-4	5.19E-09	24	EF	Average	77%
								Nickel	7439-96-5	3.61E-08	24	EF	Average	<5%
								Nickel	7440-02-0	4.22E-08	24	EF	Average	30%
								Nickel	7440-02-0	5.30E-09	Annual	EF	Average	<5%
								Copper	7440-50-8	1.73E-09	24	EF	Average	100%
								Tungsten	7440-33-7	6.57E-09	24	EF	Average	100%
								Vanadium	7440-62-2	6.23E-09	24	EF	Average	100%
								Molybdenum	7439-98-7	3.81E-09	24	EF	Average	100%
								Silicon	7440-21-3	1.73E-09	24	EF	Average	<5%
								Titanium	7440-32-6	1.11E-09	24	EF	Average	100%
								Aluminum	7429-90-5	7.61E-10	24	EF	Average	100%
								Selenium	7782-49-2	1.73E-10	24	EF	Average	100%
								Sulfur dioxide	N/A	1.05E-04	24	EF	Average	<5%
								Ferric Oxide	10102-44-0	6.22E-05	1.24	EF	Average	<5%
								Chromium	13083-37-1	1.48E-04	24	EF	Average	<5%
								Chromium	7440-47-3	4.06E-06	24	EF	Average	12%
								Hexavalent chromium	7440-47-3	3.25E-06	24	EF	Average	36%
								Hexavalent chromium	7440-47-3	2.98E-07	Annual	EF	Average	8%
								Cobalt	7440-46-4	1.43E-06	24	EF	Average	77%
								Manganese	7439-96-5	3.35E-06	24	EF	Average	<5%
Nickel	7440-02-0	5.49E-06	24	EF	Average	30%								
Nickel	7440-02-0	3.54E-07	Annual	EF	Average	<5%								
Copper	7440-50-8	4.77E-07	24	EF	Average	100%								
Tungsten	7440-33-7	1.81E-06	24	EF	Average	100%								
Vanadium	7440-62-2	1.72E-06	24	EF	Average	100%								
Molybdenum	7439-98-7	1.05E-06	24	EF	Average	100%								
Silicon	7440-21-3	4.77E-07	24	EF	Average	<5%								
Titanium	7440-32-6	3.05E-07	24	EF	Average	100%								
Aluminum	7429-90-5	2.10E-07	24	EF	Average	100%								
Selenium	7782-49-2	4.77E-08	24	EF	Average	100%								
SPM	N/A	1.44E-02	24	EF	Average	<5%								
Zinc	7440-66-6	1.44E-02	24	EF	Average	98%								
SPM	N/A	7.48E-03	24	EF	Average	<5%								
Ferric Oxide	13083-37-1	7.10E-03	24	EF	Average	98%								
Carbon Black	1333-86-4	9.72E-05	24	EF	Average	93%								
Manganese	7439-96-5	9.72E-05	24	EF	Average	<5%								
Silicon	7440-21-3	8.97E-05	24	EF	Average	98%								
6	Dust Collector - Zinc Coating	Pressure Plant	3.776	N/A	N/A	3.390	N/A	SPM	N/A	1.44E-02	24	EF	Average	<5%
								Zinc	7440-66-6	1.44E-02	24	EF	Average	98%
7	Dust Collector - Shot Blasting	Pressure Plant	1.964	N/A	N/A	3.335	N/A	SPM	N/A	7.48E-03	24	EF	Average	<5%
								Ferric Oxide	13083-37-1	7.10E-03	24	EF	Average	98%
								Carbon Black	1333-86-4	9.72E-05	24	EF	Average	93%
								Manganese	7439-96-5	9.72E-05	24	EF	Average	<5%
								Silicon	7440-21-3	8.97E-05	24	EF	Average	98%

Table 2
Source Summary Table

Source Identifier	Source Description	General Location(s)	Source Parameters				Emissions Data								
			Stack Volumetric Flow Rate [AM3]	Stack Exit Gas Temperature [°C]	Stack Inner Diameter [m]	Stack Height Above Grade [m]	Stack Height Above Roof [m]	Contaminant	CAS No.	Maximum Emission Rate [g/s]	Averaging Period [hours]	Emission Estimating Technique	Emissions Data Quality	Percentage of Overall Emissions [%]	
8-1	Bridge Girder Building process heating	Bridge Girder Building	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.56E-02	1,24	EF	Above-Average	6%	
8-2	Tunnel Building (Curing Section) process heating	Tunnel Building (Curing Section)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.09E-02	1,24	EF	Above-Average	<5%	
8-3	Pressure Plant (Core Casting) process heating	Pressure Plant (Core Casting)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.01E-01	1,24	EF	Above-Average	11%	
8-4	Gravity Plant (VUP) process heating	Gravity Plant (VUP)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.04E-02	1,24	EF	Above-Average	5%	
8-5	Gravity Plant (Pipeplus) process heating	Gravity Plant (Pipeplus)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.63E-02	1,24	EF	Above-Average	5%	
8-6	Gravity Plant (Exact) process heating	Gravity Plant (Exact)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.04E-02	1,24	EF	Above-Average	5%	
8-7	Batch Plant process heating	Batch Plant	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.03E-03	1,24	EF	Above-Average	<5%	
8-8	Aggregate Warming Building process heating	Aggregate Warming Building	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.29E-02	1,24	EF	Above-Average	7%	
9	Gasket Gluing	Tunnel Building	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.04E-03	24	MB	Above-Average	10%	
10	Midroom Dust Collector	Pressure Plant	0.708	N/A	N/A	5.360	N/A	N/A	N/A	5.11E-04	24	MB	Above-Average	<5%	
11	Spray Painting	Bridge Girder Building and Tunnel Building	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.45E-02	24	MB	Above-Average	<5%	
										1.80E-02	24	MB	Above-Average	90%	
										3.16E-03	24	MB	Above-Average	100%	
										78-83-1	1,53E-04	10-minute, 24	MB	Above-Average	100%
										64742-47-8	1,41E-02	24	MB	Above-Average	100%
										n-butane	106-97-8	24	MB	Above-Average	100%
										Ethylbenzene	100-41-4	10-minute, 24	MB	Above-Average	100%
										Ethyl alcohol	64-17-5	1	MB	Above-Average	100%
										Isobutyl Acetate	110-19-0	10-minute	MB	Above-Average	100%
										Propane	74-98-6	24	MB	Above-Average	100%
										Propylene Glycol Methyl Ether Acetate	108-65-6	24	MB	Above-Average	100%
										Isobutane	75-28-5	24	MB	Above-Average	100%
										Toluene	108-88-3	24	MB	Above-Average	98%
										VM&P Naphtha®	64742-89-8	24	MB	Above-Average	100%
										Stoddard Solvent®	8032-41-3	24	MB	Above-Average	100%
										Xylene	1330-20-7	10-minute, 24	MB	Above-Average	100%
										Carbon Black	1333-86-4	24	MB	Above-Average	7%
										Zinc Oxide	1314-13-2	24	MB	Above-Average	100%
										Zinc	7440-66-6	24	MB	Above-Average	<5%
										Calcium Strontium Zinc Phosphosulfate	66402-68-4	24	MB	Above-Average	100%
										Silica, hydrated	112926-00-8	24	MB	Above-Average	100%
										Titanium Dioxide	13463-67-7	24	MB	Above-Average	100%
										Calcium Carbonate	1317-65-3	24	MB	Above-Average	100%
										Zinc Distearate, pure	357405-1	24	MB	Above-Average	100%

Table 2
Source Summary Table

Source Identifier	Source Description	General Location(s)	Source Parameters				Emissions Data				Emissions Data Quality	Percentage of Overall Emissions [%]			
			Stack Volumetric Flow Rate [AM3/s]	Stack Exit Gas Temperature [°C]	Stack Inner Diameter [m]	Stack Height Above Grade [m]	Stack Height Above Roof [m]	Contaminant	CAS No.	Maximum Emission Rate [g/s]			Averaging Period [hours]	Emission Estimating Technique	
Supporting Equipment															
12-1	Gravity Plant (Pipexplus) comfort heating	Gravity Plant (Pipexplus)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	10102-44-0	5.46E-02	1,24	EF	Above-Average	6%
12-2	Mesh/OC/Plant Offices comfort heating	Mesh/OC/Plant Offices	N/A	N/A	N/A	N/A	N/A	N/A	N/A	10102-44-0	4.35E-03	1,24	EF	Above-Average	<5%
12-3	Administrative Offices comfort heating	Administrative Offices	N/A	N/A	N/A	N/A	N/A	N/A	N/A	10102-44-0	1.19E-02	1,24	EF	Above-Average	<5%
12-4	Gravity Plant (VUP) comfort heating	Gravity Plant (VUP)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	10102-44-0	4.02E-02	1,24	EF	Above-Average	<5%
12-5	Gravity Plant (Exact) comfort heating	Gravity Plant (Exact)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	10102-44-0	3.46E-02	1,24	EF	Above-Average	<5%
12-6	Pressure Plant (Core Casting) comfort heating	Pressure Plant (Core Casting)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	10102-44-0	5.35E-02	1,24	EF	Above-Average	6%
12-7	Pressure Plant (Fabrication) comfort heating	Pressure Plant (Fabrication)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	10102-44-0	2.38E-02	1,24	EF	Above-Average	<5%
Crushing Spread															
19-1	Loading Feeder	Crushing Spread	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.11E-04	24	EF	Marginal	<5%
19-2	Jaw Crusher	Crushing Spread	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.52E-05	24	EF	Marginal	<5%
19-3	Screen	Crushing Spread	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.75E-02	24	EF	Marginal	<5%
19-4	Conveyor 1-3 - Screen to Stockpiles	Crushing Spread	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.84E-03	24	EF	Average	<5%
19-5	Jaw Crusher Generator	Crushing Spread	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.74E-01	24	EF	Marginal	20%
			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.97E-03	24	EF	Average	16%
			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.08E-02	24	EF	Marginal	<5%
			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.05E-03	24	EF	Marginal	<5%
			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.18E-02	24	EF	Marginal	<5%
			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.65E-01	1,24	EF	Marginal	29%
			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.39E-02	1,24 Annual	EF	Marginal	100%
			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	74.46-09-5	1/2	EF	Marginal	100%
			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	630-08-0	1/2	EF	Marginal	100%
20	CAT 963B Dozer Material Transfer	Crushing Spread	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.34E-02	24	EF	Above-Average	<5%
21	CAT 924K Wheel Loader Material Transfer	Building Addition Construction Area	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.06E-04	24	EF	Above-Average	<5%
			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.72E-02	24	EF	Above-Average	8%
			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.03E-03	24	EF	Above-Average	11%

Notes: ⁽¹⁾ Chromate compounds were modelled as Hexavalent Chromium, conservatively assuming 100% Cr⁶⁺ in the compound
⁽²⁾ Nickel compounds were modelled as metallic Nickel, conservatively assuming 100% Ni in the compound
⁽³⁾ VM&P Naphtha and Stockard Solvent classify as Mineral Spirits, therefore their emission rates were summed in Appendix C - Negligibility Screening and the combined emission rate was assessed against the Emission Threshold for Mineral Spirits.
⁽⁴⁾ V-STP - Validated Source Test, STP - Source Test, EF - Emission Factor, MB - Mass Balance, EC - Engineering Calculation
 Data Quality Categories: "Highest"; "Above-Average"; "Average"; and "Marginal"

Table 3
Dispersion Modelling Input Summary Table

Relevant Section of the Regulation	Section Title	Summary of How the Approved Dispersion Model Was Used	Location of Supporting Documentation in ESDM Report
Section 6	Approved Dispersion Models	AERMOD version 16216r, AERMAP version 18081 and BPIP version 04274 were used.	Section 6.0, Appendix E
Section 8	Negligible Sources of Contaminants	Sources and contaminants that were considered negligible were explicitly identified, and therefore were not modelled in accordance with s.8 of O.Reg.419/05.	Section 3.0, Table 1, Appendix C
Section 9	Same Structure Contamination	Not applicable as the Facility is the only tenant occupying the building, and does not have a child care facility, health care facility, senior's residence, long-term care facility or an education facility located at the on-site.	N/A
Section 10	Operating Conditions	All equipment was assumed to be operating at the maximum production rates, simultaneously.	Section 4.0, Table 4
Section 11	Source of Contaminant Emission Rates	The emission rate for each significant contaminant emitted from a significant source was estimated, the methodology for the calculation is documented in Table 2 - Source Summary Table.	Section 4.0, Table 2
Section 12	Combined Effect of Assumptions for Operating Conditions and Emission Rates	The Operating Conditions were estimated in accordance with s.10(1) 1 and s.11(1) 1 of O.Reg.419/05 and are therefore considered to result in the highest POI concentration that the Facility is capable of for each contaminant emitted.	Section 4.0
Section 13	Meteorological Conditions	Ministry's Regional "Crops" Dataset for the Southwest Region (Toronto, Crops) was used.	Section 6.4
Section 14	Area of Modelling Coverage (receptor locations)	Model coverage set to match Ministry guidelines. See Figure 5 - Terrain Elevations and Dispersion Modelling Receptors.	Section 6.6, Figure 5
Section 15	Stack Height for Certain New Sources of Contaminant	Not applicable as s.15 of O.Reg.419/05 does not apply to the Facility.	N/A
Section 16	Terrain Data	Ministry DEM files used	Section 6.5, Figure 5
Section 17	Averaging Periods	The appropriate averaging periods (as defined by the regulatory limits outlined in Schedule 3, and in the listing of Ministry guidelines) were modelled for each contaminant.	Section 4.0, Section 6.8

Table 4
Dispersion Modelling Source Summary Table

Modelling ID	Source ID(s)	Source Type	Modelling Source Data						Emissions Data			
			Release Height [m]	Side Length [m]	Source Height [m]	Initial Lateral Dimension [m]	Initial Vertical Dimension [m]	Source Coordinates (x,y) [m]	Contaminant	CAS No.	Maximum Emission Rate [g/s]	Averaging Period [hours]
BP	1, 3	Volume	6.875	19.22	13.75	4.470	6.395	594121.77, 4910033.63	SPM	N/A	6.02E-02	24
			Portland Cement	6597-15-1	5.50E-02	24						
			Calcium Oxide	1395-78-8	1.68E-03	24						
			Crystalline Silica	14808-60-7	1.93E-03	24						
			Silicon dioxide	68012-64-2	5.50E-02	24						
			Slag	65996-69-2	5.23E-02	24						
			Chromate compounds (as Hexavalent chromium)	7440-47-3	3.74E-07	24, Annual						
AGG	2	Volume	1.524	1.22	6.096	0.284	2.835	594216.00, 4910046.00	SPM	N/A	3.67E-01	24
			Crystalline Silica	14808-60-7	2.20E-02	24						
BPN0x	8-7	Volume	13.750	19.22	13.750	4.470	6.395	594121.77, 4910033.63	Nitrogen oxides	10102-44-0	8.03E-03	1,24
			AGG_NOx	4.000	4.35	4.000	1.012	1.860	594191.66, 4910037.29	Nitrogen oxides	10102-44-0	6.29E-02
FUG	4, 5	Volume	6.180	23.59	12.383	5.486	5.760	594218.16, 4909978.16	SPM	N/A	2.27E-03	24
			Nitrogen oxides	10102-44-0	6.22E-05	1,24						
PDC	5	Volume	4.670	2.14	4.366	0.503	2.031	594207.45, 4909925.79	Ferric Oxide	1399-37-1	1.48E-04	24
			Chromium	7440-47-3	5.79E-06	24						
			Hexavalent chromium	7440-47-3	3.51E-06	24, Annual						
			Hexavalent chromium	7440-47-3	3.73E-07	Annual						
			Manganese	7439-96-5	1.30E-04	24						
			Nickel	7440-02-0	6.27E-06	24, Annual						
			SPM	N/A	1.47E-06	24						
			Nitrogen oxides	10102-44-0	2.81E-02	1,24						
			Ferric Oxide	1399-37-1	2.08E-06	24						
			Chromium	7440-47-3	3.27E-08	24						
			Hexavalent chromium	7440-47-3	2.62E-08	24, Annual						
			Hexavalent chromium	7440-47-3	3.41E-09	Annual						
ZDC	6	Volume	3.930	2.22	3.747	0.515	1.743	594221.05, 4909927.31	Manganese	7439-96-5	3.61E-08	24
			SPM	N/A	4.22E-08	24, Annual						
SDC	7	Volume	3.355	1.20	3.274	0.280	1.523	594214.14, 4909925.84	SPM	N/A	1.44E-02	24
			Ferric Oxide	1399-37-1	7.48E-03	24						
PAINT	11	Volume	5.682	24.44	11.364	5.684	5.286	594117.20, 4910200.54	Manganese	7439-96-5	9.72E-05	24
			SPM	N/A	2.45E-02	24						
			Acetone	67-64-1	1.80E-02	24						
			Methyl Ethyl Ketone	78-93-3	3.16E-03	24						
			2-Methyl-1-Propanol	78-83-1	1.53E-04	24						
			Ethylbenzene	100-41-4	1.62E-03	24						
			Xylene	1330-20-7	3.34E-03	24						
			Zinc Oxide	1314-13-2	1.50E-04	24						
			Calcium Carbonate	1317-65-3	5.31E-03	24						
			Nitrogen oxides	10102-44-0	5.56E-02	1,24						
			Nitrogen oxides	10102-44-0	3.09E-02	1,24						
BG	8-1	Volume	17.400	48.97	17.400	11.388	8.083	594117.20, 4910200.54	Nitrogen oxides	10102-44-0	1.54E-01	1,24
			TNL_CUR	4.000	36.52	4.000	8.493	1.860	594182.18, 4910217.01	Nitrogen oxides	10102-44-0	9.06E-02
PP_CAST	8-3, 12-6	Volume	20.000	49.84	20.000	11.591	9.302	594215.94, 4910003.43	Nitrogen oxides	10102-44-0	1.54E-01	1,24
			GP_VUP	12.000	40.23	12.000	9.956	5.581	594122.30, 4910098.70	Nitrogen oxides	10102-44-0	9.06E-02
GP_PP	8-4, 12-4	Volume	9.000	23.23	9.000	5.402	4.186	594108.10, 4909960.20	Nitrogen oxides	10102-44-0	1.01E-01	1,24
			GP_EX	11.000	26.00	11.000	6.047	5.116	594166.90, 4910079.20	Nitrogen oxides	10102-44-0	8.50E-02
TNL	9	Volume	4.000	24.18	8.000	5.623	1.860	594190.67, 4910182.29	Acetone	67-64-1	2.04E-03	24
			Hexanes	110-54-3	2.04E-03	24						

**Table 4
Dispersion Modelling Source Summary Table**

Modelling ID	Source ID(s)	Source Type	Modelling Source Data						Emissions Data			
			Release Height [m]	Side Length [m]	Source Height [m]	Initial Lateral Dimension [m]	Initial Vertical Dimension [m]	Source Coordinates (x,y) [m]	Contaminant	CAS No.	Maximum Emission Rate [g/s]	Averaging Period [hours]
MUD	10	Volume	5.360	15.56	9.000	3.618	4.186	594140.68, 4909969.29	SPM	N/A	1.42E-02	24
MESH	12-2	Volume	9.680	26.70	9.680	6.209	4.502	594060.28, 4910209.33	Nitrogen oxides	10102-44-0	4.35E-03	1,24
ADM	12-3	Volume	4.500	14.50	4.500	3.372	2.093	593998.96, 4910151.20	Nitrogen oxides	10102-44-0	1.19E-02	1,24
PP_FAB	12-7	Volume	12.800	43.19	12.800	10.044	5.953	594217.84, 4909954.85	Nitrogen oxides	10102-44-0	2.38E-02	1,24
FEED	19-1	Volume	5.000	0.61	2.630	0.142	0.612	594308, 4910744	SPM	N/A	1.11E-04	24
CRUSH	19-2, 19-5	Volume	1.695	3.57	3.390	0.830	1.577	594304, 4910741	Crystalline Silica	14808-60-7	1.92E-05	24
									Crystalline Silica	14808-60-7	1.84E-03	24
SCREEN	19-3	Volume	1.695	13.45	3.390	3.128	1.577	594285, 4910732	SPM	N/A	1.74E-01	24
CONV	19-4	Volume	9.460	0.90	9.460	0.209	2.200	594254, 4910729	Crystalline Silica	14808-60-7	5.97E-03	24
LOAD	20	Volume	1.570	2.40	3.139	0.559	0.730	594318.77, 4910765.22	SPM	N/A	2.08E-02	24
									Crystalline Silica	14808-60-7	1.05E-03	24
WLOAD	21	Volume	1.612	2.55	3.223	0.593	0.750	594115, 4910322	Crystalline Silica	14808-60-7	8.06E-04	24
									SPM	N/A	6.72E-02	24
									Crystalline Silica	14808-60-7	4.03E-03	24
Modelling ID	Source ID(s)	Source Type	Stack Height Above Grade [m]	Stack Gas Exit Velocity [m/s]	Stack Gas Exit Temperature [°C]	Stack Inner Diameter	Source Coordinates (x,y) [m]	Contaminant	CAS No.	Maximum Emission Rate [g/s]	Averaging Period [hours]	
FCS	4	Point	14.630	18.63	25.00	0.254	594261.49, 4909947.85	SPM	N/A	3.39E-02	24	
								Chromium	7440-47-3	2.86E-05	24	
GEN	19-5	Point	4.100	35.27	643.85	0.15	594304, 4910741	Hexavalent chromium	7440-47-3	4.74E-06	24, Annual	
								Hexavalent chromium	7440-47-3	2.60E-06	Annual	
								Nickel	7440-02-0	1.24E-05	24, Annual	
								SPM	N/A	1.18E-02	24	
								Nitrogen Oxides	10102-44-0	2.65E-01	1,24	
								SO2	7446-09-5	3.39E-02	1, Annual	

Table 5
Emission Summary Table

Contaminant	Contaminant (MECP)	CAS No.	Total Facility Emission Rate (t/yr)	Air Dispersion Model Used	Maximum FOI Concentration (µg/m ³)	Averaging Period	MECP FOI Limit (µg/m ³)	Limiting Effect	Schedule	Source	Benchmark	Percentage of MECP Limit (%)	Notes	Version of ACD List
2-Methyl-1-Propanol	Isobutanol	78-83-1	1,53E-04	AERMOD (v. 16216)	3.95E-02	24-hour	16000	—	Sch. 6	URT	—	Below URT	—	Version 2.0 - April 2018
Acetone	Acetone	67-64-1	2,00E-02	AERMOD (v. 16216)	4.38E-01	24-hour	118000	—	Sch. 6	URT	—	Below URT	—	Version 2.0 - April 2018
Calcium Carbonate	Calcium carbonate	1317-65-3	5,21E-03	AERMOD (v. 16216)	1.25E-01	24-hour	15	Health & Particulate	Sch. 3	Standard	B2	Below B2	—	Version 2.0 - April 2018
Calcium Oxide	Calcium oxide	1305-78-8	3,45E-03	AERMOD (v. 16216)	5.38E-01	24-hour	19	Corrosion	Sch. 3	Standard	B1	Below B1	—	Version 2.0 - April 2018
Chromium	Chromium compounds (hexavalent, trivalent and insoluble forms)	7440-47-3	1,87E-02	AERMOD (v. 16216)	4.59E-01	24-hour	5	Health	Sch. 3	URT	—	Below URT	—	Version 2.0 - April 2018
Chrysotile	Silica - respirable (<10 µm diameter), Quartz	14898-60-7	1,65E-02	AERMOD (v. 16216)	3.95E-01	24-hour	5	Health	Sch. 3	URT	—	Below URT	—	Version 2.0 - April 2018
Fluoride	Fluoride	14804-61-4	1,65E-03	AERMOD (v. 16216)	3.95E-01	24-hour	1000	Soiling	Sch. 3	Standard	B1	Below URT	—	Version 2.0 - April 2018
Formic Acid	Formic acid	1309-97-1	7,25E-03	AERMOD (v. 16216)	1.75E-01	24-hour	25	—	Sch. 3	URT	—	Below URT	—	Version 2.0 - April 2018
Hexanes	Hexane, n-D-Hexane and Hexane isomers (nvl)	110-54-3	2,04E-03	AERMOD (v. 16216)	3,22E-01	24-hour	2500	—	Sch. 6	URT	—	Below URT	—	Version 2.0 - April 2018
Hexavalent chromium	Chromium compounds (hexavalent forms)	7440-47-3	8,28E-06	AERMOD (v. 16216)	4,80E-04	Annual	0,0014	—	Sch. 6	AAV	—	Below AAV	ACB List (Note 11a URT - Note 4, Table 4)	Version 2.0 - April 2018
Hexavalent chromium	Chromium compounds (hexavalent forms)	7440-47-3	8,28E-06	AERMOD (v. 16216)	2,13E-03	24-hour	0,07	—	Sch. 6	URT	—	Below URT	—	Version 2.0 - April 2018
Hexavalent chromium	Chromium compounds (hexavalent forms)	7440-47-3	2,97E-06	AERMOD (v. 16216)	9,44E-05	Annual	0,00014	Health	Sch. 3	Standard	B1	67%	ACB List (Note 11a URT - Note 4, Table 4)	Version 2.0 - April 2018
Manganese	Manganese and Manganese Compounds	7439-96-5	2,22E-03	AERMOD (v. 16216)	3,32E-01	24-hour	0,4	Health	Sch. 3	Standard	B1	88%	ACB List (Note 11a URT - Note 4, Table 4)	Version 2.0 - April 2018
Manganese	Manganese and Manganese Compounds	7439-96-5	2,22E-03	AERMOD (v. 16216)	3,32E-01	24-hour	4	—	Sch. 6	URT	—	Below URT	—	Version 2.0 - April 2018
Methyl Ethyl Ketone	Methyl Ethyl ketone (2-Butanone)	78-93-3	3,16E-03	AERMOD (v. 16216)	7,32E-01	24-hour	1000	—	Sch. 6	URT	—	Below URT	—	Version 2.0 - April 2018
Nickel	Nickel and Nickel Compounds	7440-02-0	1,87E-05	AERMOD (v. 16216)	3,80E-03	24-hour	2	—	Sch. 6	URT	—	Below URT	—	Version 2.0 - April 2018
Nickel	Nickel and Nickel Compounds	7440-02-0	1,87E-05	AERMOD (v. 16216)	8,95E-04	Annual	0,4	—	Sch. 3	AAV	—	Below AAV	—	Version 2.0 - April 2018
Nitrogen oxides	Nitrogen oxides	10102-44-0	9,21E-01	AERMOD (v. 16216)	1,07E-02	24-hour	200	Health	Sch. 3	Standard	B1	54%	ACB List (Notes 2, 17)	Version 2.0 - April 2018
Nitrogen oxides	Nitrogen oxides	10102-44-0	9,21E-01	AERMOD (v. 16216)	3,30E-02	1-hour	400	Health	Sch. 3	Standard	B1	83%	ACB List (Notes 2, 17)	Version 2.0 - April 2018
Portland Cement	Portland cement	65997-15-1	5,59E-02	AERMOD (v. 16216)	1,46E-01	24-hour	37,53	—	Sch. 3	Previously Approved MAXGLC	—	39%	ECA No. 7822-AHP963	August 10, 2017
Silicon dioxide	Amorphous silica fume	65996-69-2	5,23E-02	AERMOD (v. 16216)	1,39E-01	24-hour	27,86	—	Sch. 3	Previously Approved MAXGLC	—	70%	ECA No. 7822-AHP963	August 10, 2017
Slag	Slags, ferrous metal, blast furnace	7446-09-5	3,39E-02	AERMOD (v. 16216)	1,57E-01	1-hour	19,75	—	Sch. 3	Standard	B1	2%	ACB List (Effective until July 1, 2023, Note 2, URT - Note 4, Table 4)	Version 2.0 - April 2018
SO2	Sulphur dioxide	7446-09-5	3,39E-02	AERMOD (v. 16216)	1,57E-01	1-hour	600	Health & Vegetation	Sch. 3	Standard	B1	16%	ACB List (Effective date - July 1, 2023, Note 2, URT - Note 4, Table 4)	Version 2.0 - April 2018
SO2	Sulphur dioxide	7446-09-5	3,39E-02	AERMOD (v. 16216)	4,05E-01	Annual	100	Health & Vegetation	Sch. 3	Standard	B1	4%	ACB List (Effective date - July 1, 2023, Note 2, URT - Note 4, Table 4)	Version 2.0 - April 2018
SO2	Sulphur dioxide (Effective date January 1, 2019)	7446-09-5	3,39E-02	AERMOD (v. 16216)	1,57E-01	1-hour	600	—	Sch. 6	URT	—	Below URT	—	Version 2.0 - April 2018
SPM	Sulphur dioxide	7446-09-5	3,39E-02	AERMOD (v. 16216)	1,10E-02	24-hour	120	Visibility	Sch. 3	Standard	B1	91%	—	Version 2.0 - April 2018
SPM	Suspended particulate matter (< 4 µm diameter)	N/A	8,49E-01	AERMOD (v. 16216)	7,75E-01	24-hour	7000	—	Sch. 6	URT	—	Below URT	—	Version 2.0 - April 2018
Xylene	Xylenes	1330-20-7	3,34E-03	AERMOD (v. 16216)	3,47E-02	24-hour	0,1	—	Sch. 6	De Minimis	—	Below De Minimis	—	Version 2.0 - April 2018
Zinc Oxide	—	1314-13-2	1,50E-04	AERMOD (v. 16216)	3,47E-02	24-hour	0,1	—	Sch. 6	De Minimis	—	Below De Minimis	—	Version 2.0 - April 2018