1.0 Introduction

St. Marys Cement (SMC) operates cement manufacturing processes at its facility located in Detroit, Wayne County, Michigan.

The State of Michigan Department of Environment, Great Lakes, and Energy – Air Quality Division (EGLE-AQD) has issued to SMC a Permit to Install (PTI No. 262-99A) for operation of the cement manufacturing facility, which consists of:

- EU-001: slag drying;
- EU-004: slag processing (mill and separate); and
- EU-005: slag processing (mill and separate).

Air emission compliance testing was performed pursuant to conditions specified in PTI No. 262-99A.

The compliance testing presented in this report was performed by Impact Compliance & Testing, Inc. (ICT), a Michigan-based environmental consulting and testing company. ICT representatives Tyler Wilson, Andrew Eisenberg, and Ryan Prchlik performed the field sampling and measurements April 20- 22, 2021.

The compliance tests consisted of triplicate sampling periods (the duration of each sampling period was at least one hour) for particulate matter (PM). Exhaust gas velocity and moisture content were determined for each test period to calculate pollutant mass emission rates. Exhaust gas oxygen (O_2) content and carbon dioxide (CO_2) content were also determined for EU-001, using instrumental analyzers. For EU-004 and EU-005, there is no combustion or other chemical reactions that would significantly alter the composition of the ambient air. Therefore, a dry molecular weight of 29.0 was used as specified in Section 8.6 of Method 2.

The exhaust gas sampling and analysis was performed using procedures specified in the Stack Test Protocol dated February 16, 2021 that was reviewed and approved by EGLE-AQD. Ms. Regina Angellotti, Ms. Jill Zimmerman, and Mr. Trevor Drost of EGLE-AQD observed portions of the compliance testing.

Questions regarding this air emission test report should be directed to:

Tyler J. Wilson
Senior Project Manager
Impact Compliance & Testing, Inc.
37660 Hills Tech Drive
Farmington Hills, MI 48331
(734) 357-8046
Tyler.Wilson@impactCandT.com

Mr. Eric P. Olson
Safety Specialist
Votorantim Cimentos
933 Dearborn St.
Detroit, MI 48209
(313) 849-4574 Ext. 574
eric.olson@vcimentos.com

2.0 Summary of Test Results and Operating Conditions

2.1 Purpose and Objective of the Tests

Conditions specified in PTI No. 262-99A require SMC to test EU-001, EU-004, and EU-005 for PM emissions. EU-001, EU-004, and EU-005 were tested during this compliance test event.

2.2 Operating Conditions During the Compliance Tests

The testing was performed while the SMC emission units were operated at or near maximum representative production rates and operating. SMC representatives provided material throughput (short tons per hour, short ton/hr) in 15-minute increments for each test period. ICT representatives also recorded gas throughput (hundreds of cubic feet, CCF) in 15-minute increments for each test period for EU-001.

Appendix 2 provides operating records for the test periods.

Table 2.1 presents a summary of the average operating conditions during the test periods.

2.3 Summary of Air Pollutant Sampling Results

The gases exhausted from the sampled emission units (EU-001, EU-004, and EU-005) were each sampled for three (3) test periods (the duration of each test period was at least one hour) during the compliance testing performed April 20-22, 2021.

Table 2.2 presents the average measured PM emission rates and concentrations for each emission unit (average of the three test periods).

Test results for each sampling period and comparison to the permitted emission rates and concentrations are presented in Section 6.0 of this report.

Table 2.1 Average operating conditions during the test periods

Parameter	EU-001	EU-004	EU-005
Material throughput (short ton/hr)	53.1	41.8	41.6
Gas throughput (CCF)	287	-	-

Table 2.2 Average measured emission rates for each emission unit (three-test average)

Emission Unit	PM		
	(lb/hr)	(lb/1,000 lb dry gas)	(Opacity)
EU-001	1.12	0.0052	0%
EU-001 Permit Limit	***0.60***	***0.0218***	***20%****
EU-004	0.64	0.0040	0%
EU-004 Permit Limit	***0.48***	***0.0114***	***20%****
EU-005	0.52	0.0068	0%
EU-005 Permit Limit	***0.08***	***0.0122***	***20%****

Note:
Visible emission limit: a six-minute average of 20 percent opacity, except for one six-minute average per hour of not more than 27 percent opacity.

3.0 Source and Sampling Location Description

3.1 General Process Description

SMC is permitted to operate cement manufacturing processes associated with the processing of slag. The units dry the slag (EU-001) and process (mill and separate) the slag (EU-004 and EU-005).

3.2 Rated Capacities and Air Emission Controls

The slag is run through the slag dryer (EU-001) on a conveyor and tumbler and is heated with natural gas. The slag dryer can process a maximum of 125 tons per hour.

Finish Mill 1 (EU-005) and the Finish Mill 1 Separator (EU-004) are used for slag processing and consist of a ball mill containing steel balls to crush the slag into finer material. The slag processing equipment can process a maximum of 45 tons per hour.

Exhaust gases from the Slag Dryer (EU-001), Mill Separator #1 (EU-004), and #1 Mill (EU-005) are directed to particulate matter (PM) emission control systems (dust collectors).

The filtered process air from each of the three (3) emission units is exhausted through individual, vertical stacks to the atmosphere (SV-S01, SV-S02, and SV-S03).

3.3 Sampling Locations

Each emission unit exhaust gas is directed through a unique exhaust stack and released to the atmosphere through a dedicated vertical exhaust stack with a vertical release point.

The exhaust stack sampling ports for EU-001 are located in the vertical exhaust stack, with an inner diameter of 59.75 inches. The stack is equipped with two (2) sample ports, opposed 90°, that provide a sampling location at least 0.5 duct diameters upstream and at least 2.0 duct diameters downstream from any flow disturbance.

The exhaust stack sampling ports for EU-004 are located in the vertical exhaust stack, with an inner diameter of 71.75 inches. The stack is equipped with two (2) sample ports, opposed 90°, that provide a sampling location at least 0.5 duct diameters upstream and at least 2.0 duct diameters downstream from any flow disturbance.

The exhaust stack sampling ports for EU-005 are located in the vertical exhaust stack, with an inner diameter of 33.75 inches. The stack is equipped with two (2) sample ports, opposed 90°, that provide a sampling location at least 0.5 duct diameters upstream and at least 2.0 duct diameters downstream from any flow disturbance.

All sample port locations satisfy the USEPA Method 1 criteria for a representative sample location. Individual traverse points were determined in accordance with USEPA Method 1.

Appendix 1 provides diagrams of the emission test sampling locations with actual stack dimension measurements.

4.0 Sampling and Analytical Procedures

A Stack Test Protocol for the air emission testing was reviewed and approved by EGLE-AQD. This section provides a summary of the sampling and analytical procedures that were used during the testing periods.

4.1 Summary of Sampling Methods

USEPA Method 1	Exhaust gas velocity measurement locations were determined based on the physical stack arrangement and requirements in USEPA Method 1.
USEPA Method 2	Exhaust gas velocity pressure was determined using a Type-S Pitot tube connected to a red oil incline manometer; temperature was measured using a K-type thermocouple connected to the Pitot tube.
USEPA Method 3/3A	Exhaust gas O_2 and CO_2 content was determined using paramagnetic and infrared instrumental analyzers, respectively for EU-001. Exhaust gas O_2 and CO_2 content was assumed for EU-004 and EU-005.
USEPA Method 4	Exhaust gas moisture was determined based on the water weight gain in chilled impingers.
USEPA Method 5	Filterable PM was determined using an isokinetic sampling train.
USEPA Method 9	Opacity was determined by a certified observer.

4.2 Exhaust Gas Velocity Determination (USEPA Methods 1 and 2)

Prior to commencing the emission measurements, stack gas sampling locations (i.e., pollutant concentration and velocity pressure measurement locations) were determined in accordance with USEPA Method 1.

The exhaust stack gas velocities and volumetric flow rates were determined using USEPA Method 2 throughout each test period using an isokinetic sample probe. Gas velocity (pressure) measurements was conducted at each traverse point of the stack with an S-type Pitot tube and red-oil manometer. Temperature measurements were conducted at each traverse point using a K-type thermocouple and a calibrated digital thermometer. The Pitot tube and connective tubing were leak-checked periodically throughout the test periods to verify the integrity of the measurement system.

The absence of significant cyclonic flow at each sampling location was verified using an S-type Pitot tube and oil manometer. The Pitot tube was positioned at each velocity traverse point with the planes of the face openings of the Pitot tube perpendicular to the stack cross-sectional plane. The Pitot tube was then rotated to determine the null angle (rotational angle as measured from the perpendicular, or reference, position at which the differential pressure is equal to zero).

Appendix 3 provides exhaust gas flowrate calculations and field data sheets.

4.3 Exhaust Gas Molecular Weight Determination (USEPA Method 3/3A)

CO_2 and O_2 content in the EU-001 exhaust gas stream was measured continuously throughout each test period in accordance with USEPA Method 3A. The CO_2 content of the exhaust was monitored using a Servomex 1440D infrared gas analyzer. The O_2 content of the exhaust was monitored using a Servomex 1440D gas analyzer that uses a paramagnetic sensor.

CO_2 and O_2 content in the EU-004 and EU-005 exhaust gas streams were assumed (20.9% O_2; 0.0% CO_2) since there is no combustion or other chemical reactions that would significantly alter the composition of the ambient air for these emission units. A dry molecular weight of 29.0 was used as specified in Section 8.6 of USEPA Method 2.

During each sampling period for EU-001, a continuous sample of the exhaust gas stream was extracted from the stack using a stainless-steel probe connected to a Teflon® heated sample line. The sampled gas was conditioned by removing moisture prior to being introduced to the analyzers; therefore, measurement of O_2 and CO_2 concentrations correspond to standard dry gas conditions. Instrument response data were recorded using an ESC Model 8816 data acquisition system that monitored the analog output of the instrumental analyzers continuously and logged data as one-minute averages.

Prior to, and at the conclusion of each test or EU-001, the instruments were calibrated using upscale calibration and zero gas to determine analyzer calibration error and system bias (described in Section 5.0 of this document). Sampling times were recorded on field data sheets.

Appendix 4 provides O_2 and CO_2 calculation sheets. Raw instrument response data are provided in Appendix 5.

4.4 Exhaust Gas Moisture Content Determination (USEPA Method 4)

Moisture content of each emission unit exhaust gas was determined in accordance with USEPA Method 4 using the USEPA Method 5 chilled isokinetic impinger sampling train. Exhaust gas moisture content measurements were performed concurrently with the instrumental analyzer sampling periods (for EU-001). At the conclusion of each sampling period the moisture gain in the impingers was determined gravimetrically by weighing each impinger to determine net weight gain.

4.5 Determination of PM (USEPA Method 5)

A USEPA Method 5 sample train was used to measure filterable PM for the emission units. Exhaust gas from each emission unit was drawn at an isokinetic rate through a properly sized stainless steel sampling nozzle, heated probe with stainless steel liner connected to the nozzle via stainless steel union, and heated glass fiber particulate filter. Following the particulate filter, moisture was removed from the sample gas using chilled impingers and sample gas rate was measured using a calibrated dry gas meter.

At the end of each test period the PM collected in the front half of the sampling train (from the sampling nozzle to the heated filter) was recovered in accordance with the six (6) rinse and brush procedures specified in USEPA Method 5. The impinger solutions were weighed gravimetrically for moisture content determination.

The laboratory particulate matter analyses were conducted by a qualified third-party laboratory according to the appropriate QA/QC procedures specified in USEPA Method 5 and are included in the final laboratory report provided by Enthalpy Analytical (Durham, North Carolina).

Diluent gas content (Method 3A O_2 and CO_2) measurements was performed with each of the PM sampling periods for EU-001. Diluent gas content (Method 3 O_2 and CO_2) assumptions were made for the PM sampling periods for EU-004 and EU-005.

Appendix 4 provides PM calculation sheets.

Appendix 7 provides a copy of the final laboratory analytical report.

4.6 Determination of Opacity (USEPA Method 9)

USEPA Method 9 procedures were used to evaluate the opacity of each emission unit exhaust gas during three (3) test periods (for each emission unit), performed concurrently with the isokinetic and analyzer (for EU-001) test runs. All visible emissions determinations were performed by a qualified observer in accordance with USEPA Method 9. The qualified observer was located at a distance sufficient to provide a clear view of the emissions with the sun oriented in the 140° sector to his back.

Opacity observations were made at the point of greatest opacity in the portion of the plume where condensed water vapor is not present. Observations were recorded at 15-second intervals for at least 60-minutes during the test periods (for each emission unit). Observations are presented as percent opacity for the entire test period.

VE data sheets and the Method 9 observer certification are presented in Appendix 8.

5.0 QA/QC Activities

5.1 Flow Measurement Equipment

Prior to arriving onsite, the instruments used during the source test to measure exhaust gas properties and velocity (pyrometer, Pitot tube, and scale) were calibrated to specifications in the sampling methods.

The absence of cyclonic flow for each sampling location was verified using an S-type Pitot tube and oil manometer. The Pitot tube was positioned at each of the velocity traverse points with the planes of the face openings of the Pitot tube perpendicular to the stack cross-sectional plane. The Pitot tube was then rotated to determine the null angle (rotational angle as measured from the perpendicular, or reference, position at which the differential pressure is equal to zero).

5.2 Gas Divider Certification (USEPA Method 205)

A STEC Model SGD-710C 10-step gas divider was used to obtain appropriate calibration span gases. The ten-step STEC gas divider was NIST certified (within the last 12 months) with a primary flow standard in accordance with Method 205. When cut with an appropriate zero gas, the ten-step STEC gas divider delivered calibration gas values ranging from 0% to 100% (in 10% step increments) of the USEPA Protocol 1 calibration gas that was introduced into the system. The field evaluation procedures presented in Section 3.2 of Method 205 were followed prior to use of gas divider. The field evaluation yielded no errors greater than 2% of the triplicate measured average and no errors greater than 2% from the expected values.

5.3 Instrumental Analyzer Interference Check

The instrumental analyzers used to measure O_2 and CO_2 have had an interference response test preformed prior to their use in the field, pursuant to the interference response test procedures specified in USEPA Method 7E. The appropriate interference test gases (i.e., gases that would be encountered in the exhaust gas stream) were introduced into each analyzer, separately and as a mixture with the analyte that each analyzer is designed to measure. All of analyzers exhibited a composite deviation of less than 2.5% of the span for all measured interferent gases. No major analytical components of the analyzers have been replaced since performing the original interference tests.

5.4 Instrument Calibration and System Bias Checks

At the beginning of the test day for EU-001, initial three-point instrument calibrations were performed for the O_2 and CO_2 analyzers by injecting calibration gas directly into the inlet sample port for each instrument. System bias checks were performed prior to and at the conclusion of each sampling period by introducing the upscale calibration gas and zero gas into the sampling system (at the base of the stainless-steel sampling probe prior to the particulate filter and Teflon® heated sample line) and determining the instrument response against the initial instrument calibration readings.

The instruments were calibrated with USEPA Protocol 1 certified concentrations of O_2 and CO_2 in nitrogen and zeroed using hydrocarbon free nitrogen. A STEC Model SGD-710C ten-step gas divider was used to obtain intermediate calibration gas concentrations as needed.

5.5 Determination of Exhaust Gas Stratification

A stratification test was performed for the EU-001 exhaust stack. The stainless-steel sample probe was positioned at sample points correlating to 16.7, 50.0 (centroid), and 83.3% of the stack diameter. Pollutant concentration data were recorded at each sample point for a minimum of twice the maximum system response time.

The recorded concentration data for the EU-001 exhaust stack indicated that the measured O_2 and CO_2 concentrations did not vary by more than 5% of the mean across the stack diameter. Therefore, the EU-001 exhaust gas was considered to be unstratified and the compliance test sampling was performed at a single sampling location (for O_2 and CO2) within the EU-001 exhaust stack.

5.6 System Response Time

The response time of the sampling system was determined prior to the compliance test day for EU-001 by introducing upscale gas and zero gas, in series, into the sampling system using a tee connection at the base of the sample probe. The elapsed time for the analyzer to display a reading of 95% of the expected concentration was determined using a stopwatch.

EU-001 sampling periods did not commence until the sampling probe had been in place for at least twice the greatest system response time.

5.7 PM Sampling and Analysis

The stainless steel PM sampling nozzle diameters were determined using the three-point calibration technique.

All recovered PM brush/rinse samples were stored and shipped in glass sample bottles with Teflon® lined caps. The liquid level on each bottle was marked with permanent marker and the caps were secured closed with tape. The recovered PM glass fiber filter samples were stored and shipped in sealed plastic petri dishes. Samples of the reagents used in the test project (approximately 200 milliliters of acetone) were sent to the laboratory for analysis to verify that the reagents used to recover the samples have low PM residue values.

5.8 Meter Box Calibrations

The dry gas meter sampling console used for exhaust gas PM and moisture testing was calibrated prior to and after the testing program. This calibration uses the critical orifice calibration technique presented in USEPA Method 5. The metering console calibration exhibited no data outside the acceptable ranges presented in USEPA Method 5.

The digital pyrometer in the metering console was calibrated using a NIST traceable Omega® Model CL 23A temperature calibrator.

Appendix 6 presents test equipment quality assurance data (instrument calibration and system bias check records, calibration gas certifications, interference test results, meter box calibration records, and field equipment calibration records).

6.0 Results

6.1 Test Results and Allowable Emission and Concentration Limits

Process operating data and air pollutant emission and concentration measurement results for each test period are presented in Tables 6.1 through 6.3.

The emission units were tested with regards to the following conditions specified in PTI No. 262-99A:

Emission Unit ID	PM Limits
EU-001	0.0218 lb/1,000 lb of dry exhaust gas & 0.60 lb/hr
EU-004	0.0114 lb/1,000 lb of dry exhaust gas & 0.48 lb/hr
EU-005	0.0122 lb/1,000 lb of dry exhaust gas & 0.08 lb/hr

The measured air pollutant concentrations (lb/1,000 lb of dry exhaust gas) for EU-001, EU-004, and EU-005 are less than the allowable limits specified in PTI No. 262-99A.

The measured air pollutant emission rates (lb/hr) for EU-001, EU-004, and EU-005 are greater than the allowable limits specified in PTI No. 262-99A.

The measured visible emissions (Opacity) for EU-001, EU-004, and EU-005 are less than the allowable limits specified in PTI No. 262-99A.

6.2 Variations from Normal Sampling Procedures or Operating Conditions

The testing for all pollutants was performed in accordance with USEPA methods and the approved Stack Test Protocol. The emission units were operated at or near maximum representative production rates and operating conditions, and no variations from normal operating conditions occurred during the engine test periods.

Some test periods were extended past 60-minutes to achieve a sample volume of at least thirty (30) cubic feet (ft^3). This procedure was discussed with and approved by EGLE-AQD representative, Ms. Regina Angellotti.

Test No. 1 for EU-004 was paused for fan speed verification with SMC representatives. Upon verifying that the fan was operating at maximum routine operating conditions, the test was resumed.

The original Test No. 1 for EU-001 was suspended and discarded from the test event, due to heating element issues with the isokinetic testing equipment (probe and filter box). A new Test No. 1 (and Test Nos. 2 and 3) for EU-001 were performed, following repair of isokinetic testing equipment. The handwritten isokinetic datasheet for the original Test No.

1 is provided in Appendix 3. This procedure was discussed with and approved by EGLE-AQD representative, Ms. Regina Angellotti.

Table 6.1 Measured exhaust gas conditions and air pollutant emission rates and concentrations for EU-001

Test No. Test date Test period (24-hr clock)	1 4/22/2021 1348-1457	2 4/22/2021 1553-1702	3 4/22/2021 1749-1857	Three Test Average
Material throughput (short ton/hr)	52.8	70.4	36.1	53.1
Gas throughput (CCF)	313	308	241	287
Exhaust Gas Composition				
CO_2 content, analyzer (% vol)	1.25	1.23	0.99	1.16
O_2 content, analyzer (% vol)	19.1	19.1	19.8	19.3
Moisture (% vol)	12.8	13.1	12.4	12.8
Exhaust gas flowrate (dscfm)	43,797	55,078	50,653	49,842
Isokinetic Sample Train Data				
Sample volume (dscf)	48.1	60.3	54.9	54.5
Total PM catch (mg)	14.7	6.13	7.04	9.29
PM Emission Rate/Concentration				
PM emission rate (lb/hr)	1.77	0.74	0.86	1.12
PM emission rate limit (lb/hr)	-	-	-	*0.60*
PM conc. (lb/1,000 lb dry gas)	0.0089	0.0030	0.0038	0.0052
PM conc. limit (lb/1,000 lb dry gas)	-	-	-	*0.0218*
Visible Emissions				
Opacity (%)	0	0	0	0
Opacity limit (%)[*]	-	-	-	*20*

Note:
Visible emission limit: a six-minute average of 20 percent opacity, except for one six-minute average per hour of not more than 27 percent opacity.

Table 6.2 Measured exhaust gas conditions and air pollutant emission rates and concentrations for EU-004

Test No. Test date Test period (24-hr clock)	1 4/21/2021 1005-1237	2 4/21/2021 1353-1500	3 4/21/2021 1550-1656	Three Test Average
Material throughput (short ton/hr)	41.7	41.8	41.8	41.8
Exhaust Gas Composition				
CO_2 content, assumed (% vol)	0.0	0.0	0.0	0.0
O_2 content, assumed (% vol)	20.9	20.9	20.9	20.9
Moisture (% vol)	0.93	0.67	0.44	0.68
Exhaust gas flowrate (dscfm)	36,580	35,726	34,742	35,683
Isokinetic Sample Train Data				
Sample volume (dscf)	30.7	54.3	52.7	45.9
Total PM catch (mg)	1.57	7.76	11.5	6.94
PM Emission Rate/Concentration				
PM emission rate (lb/hr)	0.25	0.68	1.00	0.64
PM emission rate limit (lb/hr)	-	-	-	*0.48*
PM conc. (lb/1,000 lb dry gas)	0.0015	0.0042	0.0064	0.0040
PM conc. limit (lb/1,000 lb dry gas)	-	-	-	*0.0114*
Visible Emissions				
Opacity (%)	0	0	0	0
Opacity limit (%)[*]	-	-	-	*20*

Note:
Visible emission limit: a six-minute average of 20 percent opacity, except for one six-minute average per hour of not more than 27 percent opacity.

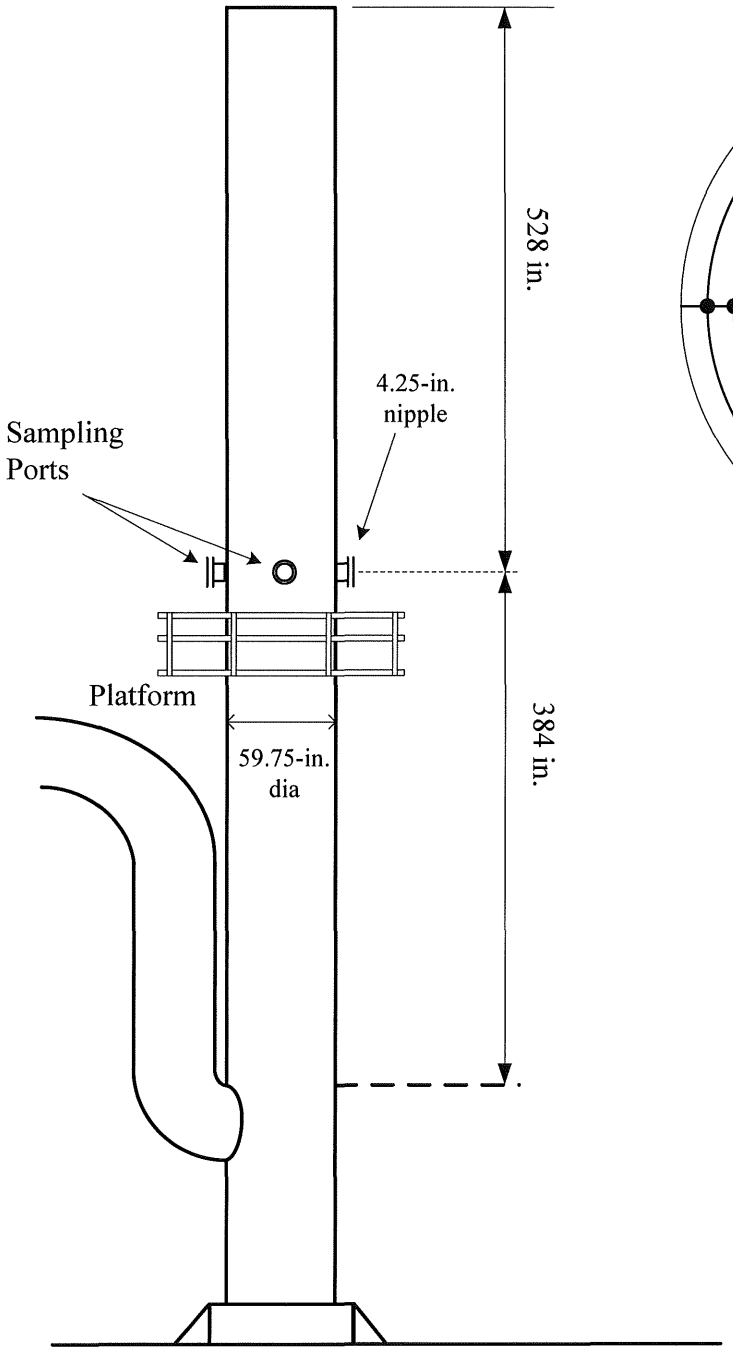
Table 6.3 Measured exhaust gas conditions and air pollutant emission rates and concentrations for EU-005

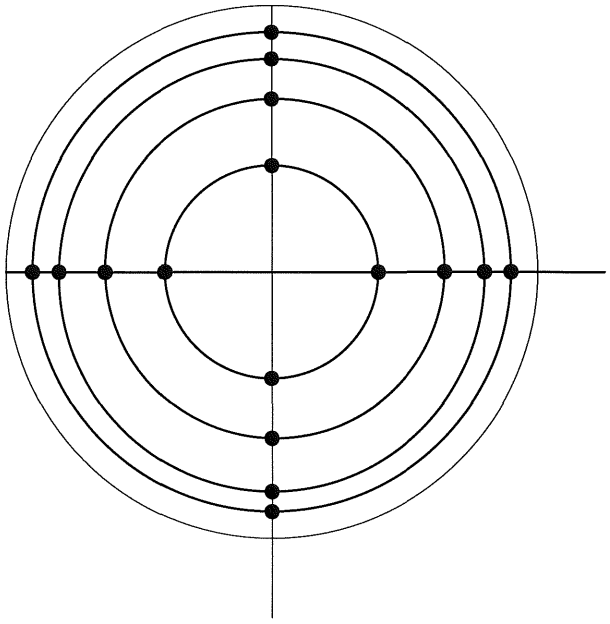
Test No. Test date Test period (24-hr clock)	1 4/20/2021 915-1022	2 4/20/2021 1142-1251	3 4/20/2021 1353-1456	Three Test Average
Material throughput (short ton/hr)	40.8	42.1	41.8	41.6
Exhaust Gas Composition				
CO_2 content, assumed (% vol)	0.0	0.0	0.0	0.0
O_2 content, assumed (% vol)	20.9	20.9	20.9	20.9
Moisture (% vol)	1.94	3.44	2.81	2.73
Exhaust gas flowrate (dscfm)	17,157	16,074	17,679	16,970
Isokinetic Sample Train Data				
Sample volume (dscf)	30.3	29.0	29.7	29.7
Total PM catch (mg)	6.26	5.84	8.36	6.82
PM Emission Rate/Concentration				
PM emission rate (lb/hr)	0.47	0.43	0.66	0.52
PM emission rate limit (lb/hr)	-	-	-	*0.08*
PM conc. (lb/1,000 lb dry gas)	0.0061	0.0059	0.0083	0.0068
PM conc. limit (lb/1,000 lb dry gas)	-	-	-	*0.0122*
Visible Emissions				
Opacity (%)	0	0	0	0
Opacity limit (%)[*]	-	-	-	*20*

Note:
Visible emission limit: a six-minute average of 20 percent opacity, except for one six-minute average per hour of not more than 27 percent opacity.

APPENDIX 1

- Sample Port Diagrams





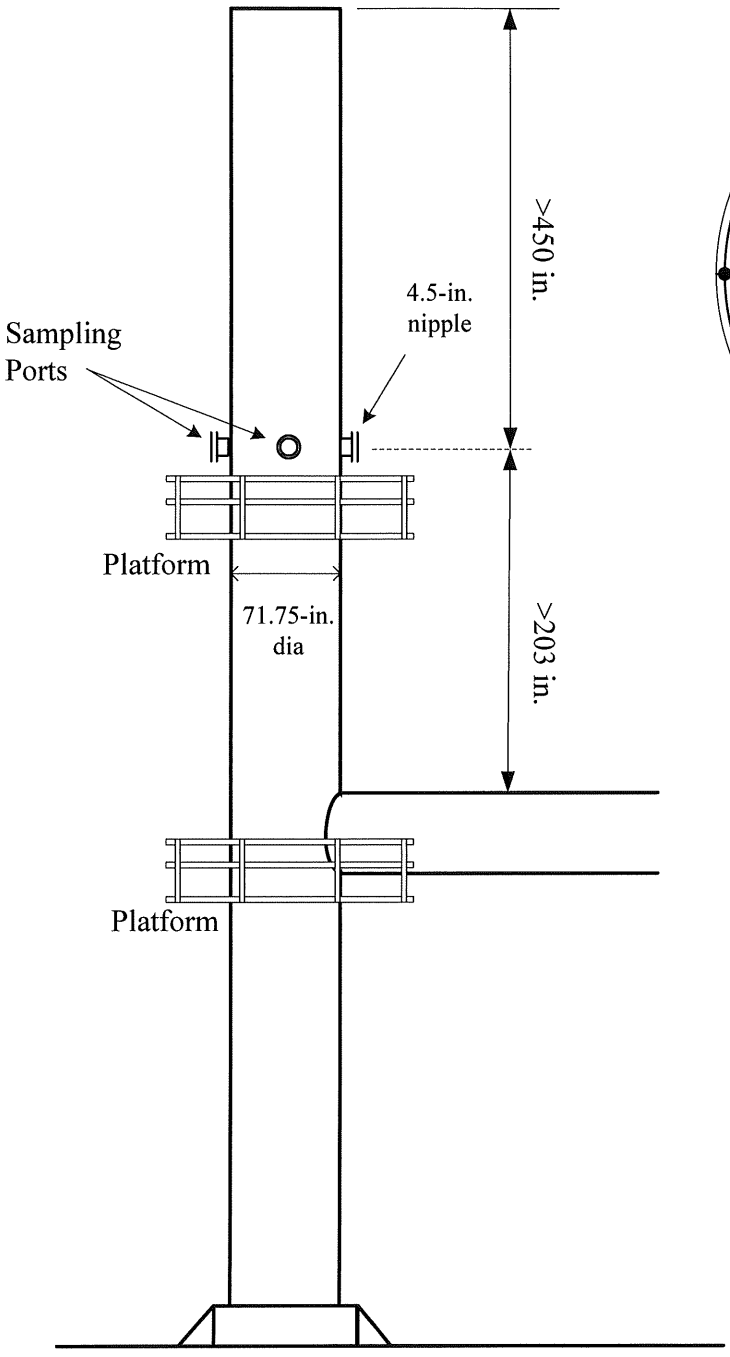
Velocity and sample locations as measured from stack wall

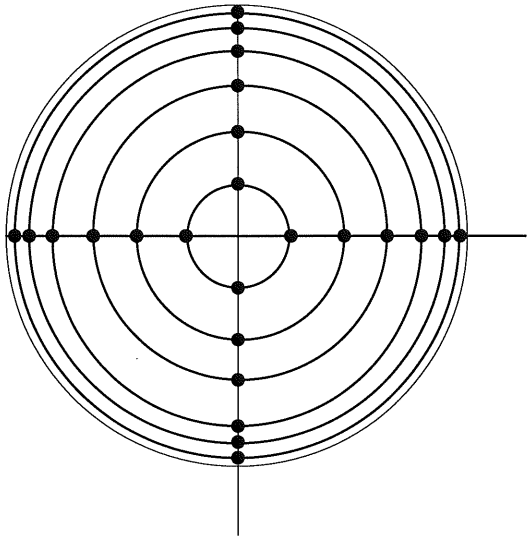
Pt	inch
1	1.91
2	6.27
3	11.59
4	19.24
5	40.45
6	48.16
7	53.48
8	57.84

St. Marys Cement
EU-001 Stack Diagram

Scale	Sheet
None	1 of 1

IMPACT COMPLIANCE & TESTING





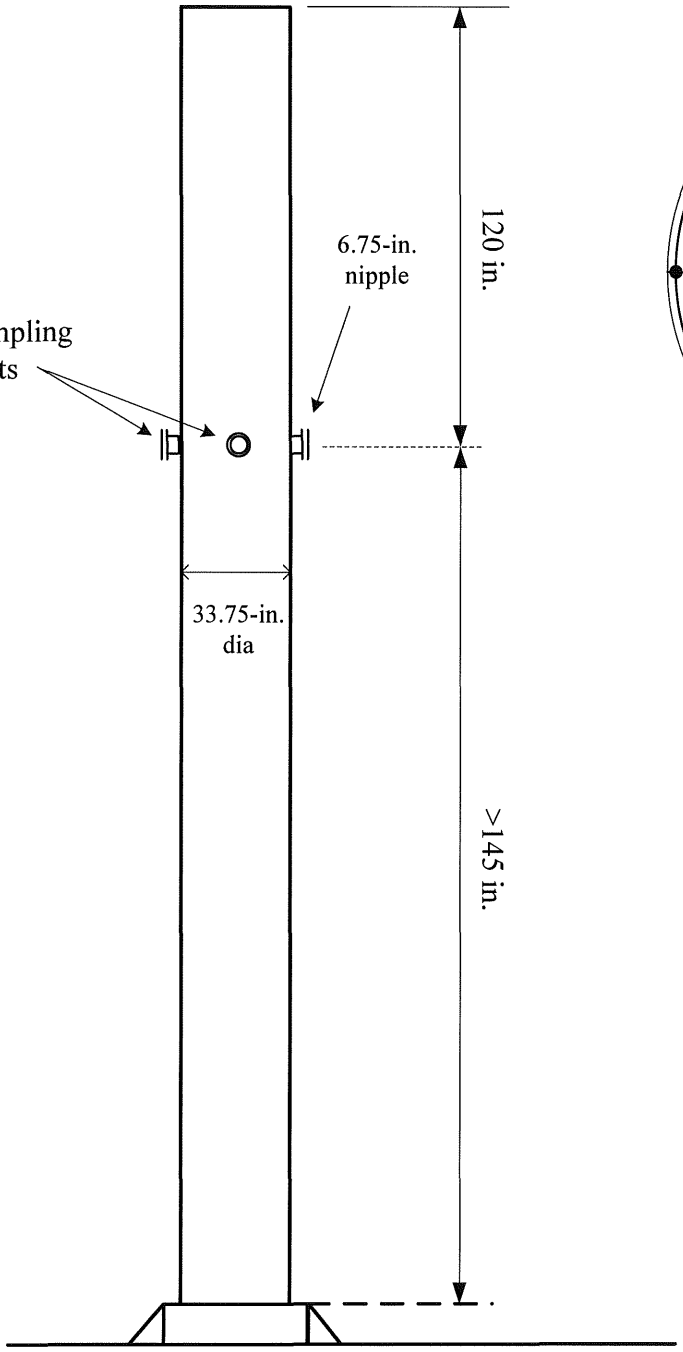
Velocity and sample locations as measured from stack wall

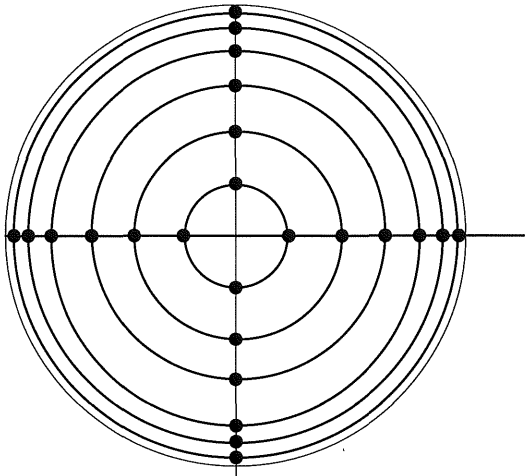
Pt	inch
1	1.51
2	4.81
3	8.47
4	12.70
5	17.94
6	25.54
7	46.21
8	53.81
9	59.05
10	63.28
11	66.94
12	70.24

St. Marys Cement
EU-004 Stack Diagram

Scale	Sheet
None	1 of 1

IMPACT COMPLIANCE & TESTING





Velocity and sample locations as measured from stack wall

Pt	inch
1	0.71
2	2.26
3	3.98
4	5.97
5	8.44
6	12.02
7	21.74
8	25.31
9	27.78
10	29.77
11	31.49
12	33.04

St. Marys Cement
EU-005 Stack Diagram

Scale	Sheet
None	1 of 1

IMPACT COMPLIANCE & TESTING