

DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION  
ACTIVITY REPORT: Scheduled Inspection

B155936224

FACILITY: St. Marys Cement, Inc. (U.S.)		SRN / ID: B1559
LOCATION: 16000 BELLS BAY RD, CHARLEVOIX		DISTRICT: Cadillac
CITY: CHARLEVOIX		COUNTY: CHARLEVOIX
CONTACT: Cortney K. Schmidt , Environmental Engineer		ACTIVITY DATE: 08/10/2016
STAFF: Rob Dickman	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: Scheduled inspection of this ROP source.		
RESOLVED COMPLAINTS:		

St. Mary's Cement, Inc. (US) is a cement manufacturing facility located on the shores of Lake Michigan at 16000 Bells Bay Road in Charlevoix, Charlevoix County, Michigan. Cement manufacturing has been occurring at this site since circa 1966. In April 2005 St. Mary's Cement, Inc. (US) purchased the operations from CEMEX. The total area of the facility, including the quarry is approximately 1370 acres. The actual production and shipping facilities occupy approximately 80 acres.

The plant operates one dry process rotary kiln. The kiln typically operates 24 hours per day, 7 days a week, for approximately 300 days in the year. The kiln system is rated at 4840 tons of clinker per day or 1.77 million tons of clinker per year. The kiln uses a combination of coal, petroleum coke, alternative fuels and propane as a fuel source. Raw materials are ground and mixed including various materials from on-site and off-site sources. The requirements for the process include approximately 80 percent calcium oxides, 10 percent aluminum oxides, 5 percent iron oxide and 5 percent silica oxide. These oxides are typically derived from limestone, shale, bottom ash, fly ash, bauxite, mill scales, slags, various sands, numerous iron sources, clay, overburden and other sources. The majority of raw materials are obtained on-site from St. Marys Cement, Inc. (US) quarrying operations; all offsite materials are brought to the site by trucks and ships/barges.

The site includes: the quarry operations, conveying and storage systems for raw materials, grinding and blending the raw materials, the preheater tower (Precalciner), the kiln, clinker cooler, clinker conveying, clinker storage, clinker grinding (finish mills), cement storage systems, and shipping facilities.

Particulate from the kiln process is controlled by baghouses on both the main and bypass exhaust systems. Dust collectors, engineered controls, and/or dust suppression systems have been installed at various locations throughout the facility to control particulate matter from other processes.

I inspected this facility per Renewable Operating Permit (ROP) number MI-ROP-B1559-2014. In addition to the ROP, there are two Permits to Install (PTI) in effect for the facility. PTI Number 115-15 is for installation of a new blending silo (EUBLENSILO). This emission unit is currently under construction and no conditions in the PTI will apply until the unit is complete and starts up. PTI Number 140-15 details several major changes to the facility including installation of a new kiln. These changes are also currently under construction and the conditions of the PTI do not apply until startup. The facility has not submitted a ~~minor~~ modification to the ROP for either of these PTIs but are aware that they cannot operate the equipment listed in the PTIs until the modifications are submitted. Prior to coming on site, no fugitive emissions were noted from the facility.

### SOURCE-WIDE CONDITIONS

#### I. EMISSION LIMITS - NA

#### II. MATERIAL LIMIT(S) – NA

#### III. PROCESS/OPERATIONAL RESTRICTION(S):

1. The facility is required to have a source wide MAP. The facility has a facility wide MAP on file and the most recent version of it is dated August of 2014.
2. The facility is required to have a source wide fugitive emissions plan. The facility has a facility wide fugitive emissions plan on file and the most recent version of it is dated July of 2011.

**IV. DESIGN/EQUIPMENT PARAMETER(S) - NA****V. TESTING/SAMPLING - NA****VI. MONITORING/RECORDKEEPING**

1. The permittee shall keep records of all repairs initiated as a result of inspections pursuant to the MAP. This facility maintains a work order system that stores records of all inspections and repairs made. These records were readily available for review.

2. The permittee shall keep the records specified in the fugitive emissions plan. Any repairs or inspections made are part of the work order system that stores records of all inspections and repairs made. These records were readily available for review. Daily records of watering and sweeping are kept manually by the equipment operators and were available for review.

**VII. REPORTING**

1- 3. All semi-annual and annual deviation reporting has been completed in a timely manner. Review of this reporting is documented in MACES.

**VIII. STACK/VENT RESTRICTION(S) - NA****IX. OTHER REQUIREMENT(S)**

1. The permittee shall comply with the approved MAP. The facility has a facility wide MAP on file and the most recent version of it is dated August of 2014. The facility appears in compliance with the MAP and a review of records supports this.

2. The permittee shall comply with the approved FDCP. The facility has a facility wide fugitive emissions plan on file and the most recent version of it is dated July of 2011. The facility appears in compliance with the FDCP and a review of records supports this.

3. The permittee shall comply with the requirements of USEPA Consent Decree Case No. 1:06-cv-607. The only applicable part of the decree, as the other requirements have been completed, is that the facility submit annual reporting on the progress of installation of the the indirect firing system and main stack baghouse. These projects have been completed.

**EUPORTABLECRUSH** - This emission unit consists of a 100 ton per hour portable nonmetallic mineral crushing facility consisting of a crusher and associated process equipment including grinding mills, loading operations, and any other material handling equipment operated at the site. Control is by spray water bars or enclosure.

This emission unit has not been on site and operating in the last 12 months. It was removed from the facility approximately five years ago and is not anticipated to return. Notification and testing would be required should the equipment return to the facility.

**FGQUARRY** - This Flexible Group deals with the initial mining and crushing of the limestone. Included here are the drilling, blasting and hauling of the limestone in the quarry; the crushing of the limestone in the primary and secondary crushers; and handling of dust including fugitive emissions from the quarry and dust from the secondary crusher. This group consists of EUHAMMER, EUQUARRYFUGITIVE, and EUSECONDARYCRUSH. Control is by fabric filters and baghouse. In addition to state rules, EUHAMMER is subject to 40 CFR, Part 60, Subpart 000.

**I. EMISSION LIMIT(S)**

1. Visible emissions from EUHAMMER are limited to 15% opacity. At the time of the inspection, this was not in operation. The operator demonstrated what this equipment is used for and how. Basically, if a chunk of rock is too big or gets stuck in the throat of the primary crusher, this is used to break and/or move it. Use of this equipment is infrequent and emissions from it when in use are negligible.

Visible emissions from EUQUARRYFUGITIVE are limited to 5% opacity. At the time of the inspection, no other fugitive emissions were noted.

3. Visible emissions from EUSECONDARYCRUSH are limited to 20% opacity. No emissions were noted from the building housing the secondary crusher.

## II. MATERIAL LIMIT(S) - NA

## III. PROCESS/OPERATIONAL RESTRICTION(S) - NA

## IV. DESIGN/EQUIPMENT PARAMETER(S) - NA

## V. TESTING/SAMPLING - NA

## VI. MONITORING/RECORDKEEPING

1. Monthly one minute visible emissions observation using USEPA Method 22 shall be conducted on EUQUARRYFUGITIVE, EUHAMMER, and EUSECONDARYCRUSH. These readings are being performed monthly and a review of records demonstrated compliance.

2. The permittee shall keep, in a satisfactory manner, visible emission records for FGQUARRY. These records are being kept and demonstrated compliance.

## VII. REPORTING

1- 3. All semi-annual and annual deviation reporting has been completed in a timely manner. Review of this reporting is documented in MACES.

## VIII. STACK/VENT RESTRICTION(S) - NA

## IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all applicable requirements of the New Source Performance Standards for Nonmetallic Mineral Processing Plants as specified in 40 CFR, Part 60, Subpart OOO. This group is compliant with the applicable parts of the subpart.

FGKILNRAWMILLS - This Flexible Group deals with mixing and grinding, then heating the ingredients to make cement. Included are limestone, shale, bottom ash, fly ash, bauxite, mill scales, slags, various sands, numerous iron sources, clay, overburden, aluminum pot furnace refractory, and clear, brown and green glass that are ground and mixed in EURAWMILLS. These raw materials are then sent to the EUKILN where they are heated and become clinker. This Flexible Group also contains the requirements for the use of asphalt flakes and plastic as a fuel in the in-line calciner with indirect firing. It consists of EURAWMILLS, EUKILN, EUCLINKERCOOL.

### I. EMISSION LIMIT(S)

1. PM emissions are limited to 0.25 lb/1000 lbs exhaust gas. Demonstration of compliance with this limit is through stack testing. This testing is performed annually and has demonstrated compliance. Please see MACES for further details.

2. SO<sub>2</sub> emissions are limited to 2800 lbs/hour as the average of each calendar day, 550 tons/month and 4404 tons/year based on a 12 month rolling time period, as determined at the end of each calendar month. Demonstration of compliance with this limit is through CEMS. A review of these records demonstrated compliance with this limit.

3. NO<sub>x</sub> emissions are limited to 6.50 lbs/ton of clinker produced based on a monthly average, as determined at the end of each calendar month, from May 1 through September. 307.67 lbs/ton of clinker produced based on a monthly average, as determined at the end of each calendar month, from October 1 through April 30. Demonstration of compliance with this limit is through CEMS. A review of these records demonstrated compliance with this limit.

4. Nickel emissions are limited to 0.36 lb/hour when burning 100 percent petroleum coke. The facility has not burned 100% petroleum coke in the last 12 months.

## II. MATERIAL LIMIT(S)

1. Petroleum coke is limited to 69 ng of mercury/gram of petroleum coke. Petroleum coke mercury content has been demonstrated to be well below the limit and testing is no longer required.

2. Asphalt flake and plastic is limited to 8.0 tons per hour feed to the kiln. Asphalt flake is allowed to be burned, but has not been burned at the facility in the last 12 months. It is anticipated that it never will be burned as it adversely affects product quality. Production records regarding the feeding of plastics were reviewed and demonstrated a feed rate less than 8.0 tons per hour.

3. Asphalt flake and plastic is limited to 121 ppb by weight of mercury. Asphalt flake is allowed to be burned, but has not been burned at the facility in the last 12 months. It is anticipated that it never will be burned as it adversely affects product quality. Mercury in the plastic fuel is analyzed on a per shipment basis and has demonstrated compliance with the content limit.

4. Any fuel fed to the kiln cannot contain asbestos. The only material that may contain asbestos is the asphalt flake and this material is not in use.

## III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not produce more than 4,840 tons of clinker per day. This is the maximum capacity of the equipment. A review of records demonstrated the facility did not operate past the capacity of the equipment.

2. The permittee shall burn petroleum coke as fuel only when introduced at the entrance of the kiln. The facility is configured to feed this material in this manner

3. Glass must be clear, brown, or green. The facility has not used glass as a raw material in the last 12 months and does not intend to use it as it adversely affects product quality.

4. The permittee may use aluminum based refractory as a raw material. This material has been used. A review of records indicated that 377 tons of it has been processed in the last 12 months.

5. The permittee shall only feed the asphalt flake and/or plastic fuel to the in-line calciner. Asphalt flake is allowed to be burned, but has not been burned at the facility in the last 12 months. It is anticipated that it never will be burned as it adversely affects product quality. The alternative feed system is configured to only feed the calciner.

6. The permittee shall not discharge exhaust gases through SVBYPASS unless the baghouse is operating. At the time of the inspection, this equipment was in operation.

7. The bypass stack baghouse must have a working broken bag detector with audible alarm. This equipment is in place and an audible alarm for it is located in the control room.

8. The main baghouse must be equipped with a differential pressure gauge. This equipment was installed and appeared to be operating.

## IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The CEMS and COMS shall be installed, calibrated, maintained and operated in accordance with AQD acceptable procedures. This equipment is installed per these procedures.

2. The span value for the NOx and SO2 CEMS shall be 2.0 times the lowest emission standard or as specified in the federal regulations. This equipment is configured in this manner.

## V. TESTING/SAMPLING

1. Annual verification of PM emission rates from EUKILN shall be required. This testing was last

performed on June 8 of 2016. The results of this testing demonstrates compliance. Please see MACES for details.

2. The permittee shall verify nickel emission rates with 100 percent petroleum coke used as fuel in the kiln once every five years. The facility has not burned 100% petroleum coke in the last 12 months.

3. The permittee shall verify each shipment of asphalt flakes and/or plastic are below 121 ppb mercury by weight. Asphalt flake is allowed to be burned, but has not been burned at the facility in the last 12 months. It is anticipated that it never will be burned as it adversely affects product quality. Mercury in the plastic fuel is analyzed on a per shipment basis and has demonstrated compliance with the content limit.

4. The permittee shall perform an annual audit of the COMS. This was last performed on November 2015 and demonstrated compliance. Please see MACES for details.

5. Each calendar quarter, the permittee shall perform the NOx Quality Assurance Procedures of the CEMS. A Cylinder Gas Audit or Relative Accuracy Test Audit is performed on these monitors quarterly. The results of these audits demonstrate compliance. Please see MACES for further details.

6. Each calendar quarter, the permittee shall perform the SO2 Quality Assurance Procedures of the CEMS. A Cylinder Gas Audit or Relative Accuracy Test Audit are performed on these monitors quarterly. The results of these audits demonstrate compliance. Please see MACES for further details.

#### VI. MONITORING/RECORDKEEPING

1. The permittee shall monitor and record the kiln feed rate in tons of dry feed per hour. The kiln feed rate in tons of dry feed per hour measured by the 557 belt scale and are part of production records. These records were available for review.

2. The permittee shall calculate and record the production rate in tons of clinker produced per hour and per day. These records are part of production records and are submitted quarterly. These records were available for review.

3. On a quarterly basis, the permittee shall determine, record, and maintain a record of the accuracy of the 557 belt scale used for measuring hourly kiln feed rates. This is done and tracked as part of the work order system at the facility. The last certification of this nature was performed in June of 2016.

4. The permittee shall continuously monitor and record visible emissions from SVMMAIN and SVBYPASS. The COMS system for this facility was in operation at the time of the inspection. Monitoring system downtime and excess opacity are monitored and reported. Please see MACES for details.

5. The permittee shall continuously monitor and record the SO2 emissions of the exhaust gases from SVMMAIN and SVBYPASS. The CEMS system for this facility was in operation at the time of the inspection. Monitoring system downtime and excess SO2 emissions are monitored and reported. Please see MACES for details.

6. The permittee shall continuously monitor and record the NOx emissions and volumetric flow of the exhaust gases from SVMMAIN and SVBYPASS. The CEMS system for this facility was in operation at the time of the inspection. Monitoring system downtime and excess NOx emissions are monitored and reported. Please see MACES for details.

7. The permittee shall keep, in a satisfactory manner, lb/hour, tons per month, and 12-month rolling time period SO2 emission records. These records are being kept electronically and were available for review.

8. The permittee shall keep, in a satisfactory manner, NOx emission records in lb/ton of clinker produced and clinker produced. These records are being kept electronically and were available for review.

9. The permittee shall monitor and record once daily the pressure drop on the SVMMAIN baghouse. These records are being kept electronically and were available for review.

10. The permittee shall keep records of the amount and type of glass used as a raw material and the

amount and type of refractory used as a raw material. Glass is not used at the facility as it has an adverse effect on the quality of the product. Records of the amount of refractory used are being kept and were available for review.

11. The permittee shall retain and record the supplier certificates of quality, sampling analysis results, and manifests for each delivery of asphalt flake and plastic fuel. Asphalt flake is allowed to be burned, but has not been burned at the facility in the last 12 months. It is anticipated that it never will be burned as it adversely affects product quality. Records pertaining to plastic are being kept and were available for review.

12. The permittee shall continuously monitor the asphalt flake feed rate and plastic feed rate. Asphalt flake is allowed to be burned, but has not been burned at the facility in the last 12 months. It is anticipated that it never will be burned as it adversely affects product quality. Records of the plastic feed rate are being kept and were available for review.

13. The permittee shall keep all sampling and/or testing results for the asphalt flake and plastic used as fuel. Asphalt flake is allowed to be burned, but has not been burned at the facility in the last 12 months. It is anticipated that it never will be burned as it adversely affects product quality. Testing of the plastic demonstrates compliance.

14. The permittee shall utilize COMS recorded opacity as an indicator of the proper functioning of the baghouses. The appropriate range of opacity defining proper function of the baghouses is 0-20 percent opacity. The COMS is being used to comply with CAM.

15. The permittee shall use the COMS to assure compliance with the PM limit. An excursion for PM shall be two consecutive 1-hour block average opacity values greater than 15 percent opacity. Reporting regarding this is submitted quarterly. Please see MACES for further details.

16. The permittee shall properly maintain the COMS including keeping necessary parts for routine repair of the monitoring equipment. Parts to repair the COMS are available.

17. The permittee shall conduct all monitoring in continuous operation at all times that the pollutant-specific emissions unit is operating. Monitoring is continuous. Monitoring system downtime is reported quarterly as part of the required Excess Emissions Reporting for the COMS. In the last 12 months, the facility has been in compliance with this condition. Please see MACES for further details.

18. Upon detecting an excursion or exceedance, the permittee shall restore operation of the kiln to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution practices for minimizing emissions. Records regarding these issues are reported semi-annually as part of CAM reporting. In the last 12 months, the facility has been in compliance with this condition. Please see MACES for further details.

19. The permittee shall verify that any material processed by FGKILNRAWMILLS does not contain asbestos tailings or asbestos containing waste materials. Asphalt flake is the only material that could potentially contain asbestos and this material is not in use at the facility.

20. The permittee shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the affected facility; malfunction of the baghouse, or any periods during which the COMS is inoperative. These records are being maintained and were available for review. COMS downtime is reported quarterly. Please see MACES for further details.

## VII. REPORTING

1-3. All semi-annual and annual deviation reporting has been completed in a timely manner. Review of this reporting is documented in MACES.

4-5. Stack testing procedures and reporting were handled through the testing protocol process and were performed correctly. Annual testing for several things is performed at this facility. Procedures regarding this have been followed by the facility. Please see MACES for further details.

6-8. An EER and summary report shall be submitted in an acceptable format to the District Supervisor

within 30 days following the end of each calendar quarter. These reports have been submitted in a timely manner. Please see MACES further details.

9. On or before March 15th of each year after entry of Consent Decree Case No. 1:06-cv-607, the permittee shall submit to the USEPA and the MDEQ an annual report for the preceding year that shall include a discussion of the status of the installation of the main stack baghouse and a discussion of the permittee's progress in satisfying their obligations in connection with the indirect firing system. These projects have been completed and the facility submitted all required reporting regarding them.

10. If the permittee violates, or has reason to believe that it may violate, any requirement of the Consent Decree Case No. 1:06-cv-607, the permittee shall notify the MDEQ of such violation and its likely duration in writing within ten working days. The facility has not been in violation of this decree.

11. In the case of any violation of Consent Decree Case No. 1:06-cv-607, the permittee shall notify the MDEQ orally or by electronic or facsimile transmission as soon as possible. The facility has not been in violation of this decree.

12. Each report submitted by the permittee pursuant to Consent Decree Case No. 1:06-cv-607 shall be signed by the responsible official of the submitting party. The RO for the facility has certified all applicable reporting.

13. Prior to emissions testing, the permittee shall submit two complete test protocols to the AQD. These protocols were submitted in a timely manner. Please see MACES for further details.

14-15. Stack testing procedures and reporting were handled through the testing protocol process and were performed correctly. Please see MACES for further details.

16-18. COMS/CEMS testing procedures and reporting were handled through the testing protocol process and were performed correctly. Please see MACES for further details.

19. The daily clinker production rate shall be submitted within one month after the end of the calendar quarter. This reported is submitted in a timely manner. Please see MACES for further details.

20. Within 30 days of written request by the AQD District Supervisor, the permittee shall submit to the District Supervisor a written summary of the results of any review or audit of clinker production. No request of this nature has been sent in the last 12 months.

21. Within 30 days following the end of each calendar quarter, the permittee shall submit the results of the SO<sub>2</sub> Quality Assurance Procedures. These reports are submitted in a timely manner. Please see MACES for further details.

22. The permittee shall notify the AQD District Supervisor, when receiving asphalt flake or plastic fuel from a new supplier and/or new source. Asphalt flake is allowed to be burned, but has not been burned at the facility in the last 12 months. It is anticipated that it never will be burned as it adversely affects product quality. No change in the plastics vendor in the last 12 months was noted.

23-24. All semi-annual and annual deviation reporting for CAM has been completed in a timely manner. Review of this reporting is documented in MACES.

VIII. STACK/VENT RESTRICTION(S) – There are two stacks associated with this EU (main and bypass). The stacks appear in compliance with criteria listed in the ROP and do not appear to have been recently altered.

#### IX. OTHER REQUIREMENT(S)

1. Upon the February 7, 2018 compliance date, the stationary source will be subject to all future applicable requirements of a State or Federal plan to be promulgated implementing the emission guidelines of 40 CFR, Part 60, Subpart DDDD, Commercial and Industrial Solid Waste Incineration (CISWI). This source is anticipating all changes to the facility to be completed prior to this date.

2. The permittee shall promptly notify the AQD for the need to modify the CAM Plan if the existing plan is

found to be inadequate. The CAM plan has not been modified and appears adequate.

3. The permittee shall comply with all applicable requirements of 40 CFR, Part 64. The facility is in compliance with all applicable parts of CAM.

4. The permittee shall comply with all applicable requirements of the Regional Haze Regulations requiring Best Available Retrofit Technology (BART) effective January 1, 2017. The facility is currently in compliance with BART and anticipates this will continue post construction.

**FGFINISHMILLS** - This Flexible Group deals with pulverizing the cooled clinker after it has left the kiln and cooling areas. The clinker is ground in the mills-which are horizontal steel tubes filled with steel balls. As the tubes rotate, the steel balls tumble and crush the clinker into a superfine gray powder known as Portland Cement. A small amount of gypsum is added during the final grinding to control the set. Emission units for this group include EUFINISHMILL1, EUFINISHMILL2, and EUFINISHMILL3 and control is through baghouses.

#### I. EMISSION LIMIT(S)

1. Visible emissions from the EU's in this group is limited to 10 percent opacity. At the time of the inspection, no visible emissions were noted.

#### II. MATERIAL LIMIT(S) - NA

#### III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate FGINISHMILLS unless the Operations and Maintenance Plan (OMP) is implemented and maintained. This plan is on file and appears to be being followed.

2. The permittee shall not operate FGINISHMILLS unless a Start-up, Shut-down, and Malfunction plan that describes how emissions will be minimized during all startups, shutdowns, and malfunctions, is implemented and maintained. This plan is on file and appears to be followed.

#### IV. DESIGN/EQUIPMENT PARAMETER(S) - NA

#### V. TESTING/SAMPLING

1. The permittee shall perform a 3-hour (thirty 6-minute averages) Method 9 performance test for FGINISHMILLS every 12 months. This testing was performed and reported as part of the MACT reporting. Please see MACES for details.

#### VI. MONITORING/RECORDKEEPING

1. The permittee shall monitor visible emissions from FGINISHMILLS. The permittee shall conduct a daily 6-minute visible emissions test of each emission unit in FGINISHMILLS in accordance with Method 22. This testing is performed and records regarding it were available for review. These records indicated compliance with emissions limits.

2. If visible emissions are observed during any Method 22 visible emissions test conducted under SC VI.1, the permittee must initiate, within one hour, the corrective actions specified in the OMP. At no time in the last 12 months was corrective action necessary.

3. The permittee shall keep, in a satisfactory manner, visible emission records for FGINISHMILLS. These records are being kept and were available for review.

4. The permittee shall keep records as required in the OMP. These records are being kept and were available for review.

#### VII. REPORTING

1-3. All semi-annual and annual deviation reporting has been completed in a timely manner. Review of this reporting is documented in MACES.

**VIII. STACK/VENT RESTRICTION(S) - NA****IX. OTHER REQUIREMENT(S)**

1. The permittee shall comply with all applicable provisions of the National Emission Standards for Hazardous Air Pollutants for the Portland Cement Manufacturing Industry as specified in 40 CFR, Part 63, Subparts A and LLL. The facility appears in compliance with the applicable conditions of the MACT.
2. The permittee shall comply with the approved OMP. The facility appears in compliance with this plan.
3. The permittee shall comply with the approved SSMP. The facility appears in compliance with this plan.

**FGNONKILNFACILITY** - This Flexible Group deals with handling the non-kiln materials, non-kiln gasses, non-kiln fuels, and non-kiln dust associated with the production of cement. Included are limestone, bottom ash, fly ash, sand; clinker cooler gasses; coal and petroleum coke; and the finished cement product that is shipped for sale. Emission Units include: EURAWMATHANDSTOR, EUCLINKERHAND, EUCEMENTHAND&STO, EUCOALSYSTEM, EUCKDHANDSTOR

**I. EMISSION LIMIT(S)**

1. Visible emissions from FGNONKILNFACILITY are limited to 10 percent opacity. No visible emissions were noted from any of the units in this group.
2. Particulate emissions from EURAWMATHANDSTOR are limited to 0.15 pounds per thousand pounds of exhaust gas. Compliance with this limit is through visible emissions readings. These readings demonstrate compliance.

**II. MATERIAL LIMIT(S)**

Material Limit- NA

**III. PROCESS/OPERATIONAL RESTRICTION(S)**

1. Permittee must perform visible emissions readings unless the building housing the group meets the definition of permanent total enclosure. These readings were performed per Method 22 and demonstrated compliance.
2. The permittee shall not operate FGNONKILNFACILITY unless the Operations and Maintenance Plan (OMP) is implemented and maintained. This plan is on file and appears to be followed.
3. The permittee shall not operate FGNONKILNFACILITY unless a Start-up, Shut-down, and Malfunction plan that describes how emissions will be minimized during all startups, shutdowns, and malfunctions, is implemented and maintained. This plan is on file and appears to be followed.

**IV. DESIGN/EQUIPMENT PARAMETER(S)**

1. The belt conveyor installed to convey refractory to the kiln system shall be covered or located in an enclosed structure. This conveyor is equipped with a cover.

**V. TESTING/SAMPLING - NA****VI. MONITORING/RECORDKEEPING**

1. Monthly 10-minute visible emissions observations using USEPA Method 22 shall be conducted on each emission point of FGNONKILNFACILITY while operating. This testing is being performed and records of it were available for review.
2. If any partially enclosed or unenclosed conveying system transfer point is located in a building, the permittee must conduct a Method 22 performance test. There are no points of this nature.

3. If monitored emission points include visible emissions from a building, the requirements of SC VI.1 apply to the monitoring of the building. The permittee must test visible emissions from each side, roof, and vent of the building for at least 10 minutes using USEPA Method 22. This testing is being performed and records of it were available for review.

4. The permittee shall keep, in a satisfactory manner, visible emission records for FGONKILNFACILITY. Records of this testing were available for review.

5. The permittee shall keep records as required in the OMP. Records for this plan were available for review.

## VII. REPORTING

1- 3. All semi-annual and annual deviation reporting has been completed in a timely manner. Review of this reporting is documented in MACES.

STACK/VENT RESTRICTION(S) - NA

## IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all applicable provisions of the National Emission Standards for Hazardous Air Pollutants for the Portland Cement Manufacturing Industry as specified in 40 CFR, Part 63, Subparts A and LLL. The facility appears in compliance with this MACT.

2. The permittee shall comply with the approved OMP. The facility appears in compliance with this plan.

3. The permittee shall comply with the approved SSM. The facility appears in compliance with this plan.

FGALTSAND/SOIL - This flexible group covers the extraction and screening of alternative sand/soils from the former City of Charlevoix landfill located in the Quarry (alternative sand/soils) and the use of the alternative sand/soils as raw feed to the kiln. Emission Units include EUQUARRYFUGITIVE, EUPRIMARYCRUSH, EUSECONDARYCRUSH, EURAWMILLS, EUKILN. Control is through baghouses.

I. EMISSION LIMIT(S) - NA

II. MATERIAL LIMIT(S)

1. The alternative sand/soils shall not contain more than 1,573 pounds of lead per 12-month rolling time period, as determined at the end of each calendar month. Records of the lead content and calculations were available for review and indicated compliance.

2. The alternative sand/soils shall not contain more than 1,573 pounds of cadmium per 12-month rolling time period, as determined at the end of each calendar month. Records of the cadmium content and calculations were available for review and indicated compliance.

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not extract alternative sand/soils from the landfill unless a Material Screening Plan is implemented and maintained. This plan exists and appears to be followed

2. The permittee shall not feed alternative sand/soils from the landfill to EUKILN until the alternative sand/soils have been analyzed. Soil analysis was available for review.

IV. DESIGN/EQUIPMENT PARAMETER(S) - NA

V. TESTING/SAMPLING

1. The permittee shall determine the lead and cadmium content of the extracted alternative sand/soils. All of the material has been stored in the pit in two piles; one pile has been tested and is in use. The other pile remains to be tested as needed. Mr. Schmidt anticipates it will take decades to begin to consume this material given production rates.

**VI. MONITORING/RECORDKEEPING**

1. The permittee shall keep, in a satisfactory manner, records of the amount of alternative sand/soils extracted from the Quarry each week and a description of, and the amount of, material sent off-site for disposal or recycling. These records were available for review.
2. The permittee shall keep, in a satisfactory manner, records of the results of the analyses of the alternative sand/soils from the landfill carried out. These records were available for review.

**VII. REPORTING**

- 1- 3. All semi-annual and annual deviation reporting has been completed in a timely manner. Review of this reporting is documented in MACES.

**VIII. STACK/VENT RESTRICTION(S) - NA****IX. OTHER REQUIREMENT(S)**

1. The Material Screening Plan shall include provisions for removing and properly disposing of or recycling of deleterious material, including large woody debris, large metallic materials, batteries, barrels and drums, and similar materials. This plan includes these conditions.

**FGMACTZZZZEMERGENCY** - This flexible group includes two compression ignition (CI) existing emergency stationary reciprocating internal combustion engines (RICE) that have a maximum site rating of 500 brake horsepower (HP) (238HP and 68HP) at a major source of hazardous air pollutants (HAPs) and that are subject to 40 CFR, Part 63, Subpart ZZZZ (40 CFR 63.6580-6675), the "RICE MACT". Emission Units include: EUKILNDONKEY, EUEMERGENCYGEN

**I. EMISSION LIMIT(S) - NA****II. MATERIAL LIMIT(S) - NA****III. PROCESS/OPERATIONAL RESTRICTION(S)**

1. The permittee shall operate EUKILNDONKEY and EUEMERGENCYGEN in accordance with the following limits:
  - a. There is no time limit on the use of emergency stationary RICE in emergency situations.
  - b. Emergency stationary RICE may be operated for the purposes of maintenance checks and readiness testing up to 100 hours per year.
  - c. Emergency stationary RICE may be operated up to 50 hours per year in non-emergency situations, but those hours are to be counted towards the 100 hours per year for maintenance and readiness testing.

The facility operates these units under the above conditions.

2. The permittee shall operate and maintain EUKILNDONKEY and EUEMERGENCYGEN according to the manufacturer's emission-related operation and maintenance instructions or a plan developed by the facility that provides for the maintenance and operation of each engine in a manner consistent with good air pollution control practice for minimizing emissions. There is no evidence of the facility operating these units otherwise.

3. The permittee shall maintain EUKILNDONKEY and EUEMERGENCYGEN in accordance with the operational limits in Table 2c to Subpart ZZZZ of 40 CFR, Part 63 which includes:

- a. The oil and filter must be changed every 500 hours of operation or annually, whichever comes first.
- b. The air cleaner must be inspected every 1000 hours of operation or annually, whichever comes first.

- c. All hoses and belts must be inspected every 500 hours of operation or annually, whichever comes first, and replaced as necessary.
- d. During periods of startup minimize the engine's time spent at idle and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.

Neither engine operates more than 500 hours annually. Routine maintenance of these units is performed in a timely manner and is tracked through the facility work order program.

4. The permittee shall comply with the following general duty requirements:

- a. Compliance with applicable emission limits and operating requirements is required at all times.
- b. At all times, the emergency stationary RICE, including any monitoring equipment, must be operated in a manner consistent with safety and good air pollution control practices for minimizing emissions.

The facility appears in compliance with the above items.

#### IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall equip EUKILNDONKEY and EUEMERGENCYGEN each with a non-resettable hour meter. These engines are so equipped.

#### V. TESTING/SAMPLING - NA

#### VI. MONITORING/RECORDKEEPING

1. The permittee shall maintain the following records for EUKILNDONKEY and EUEMERGENCYGEN:

- a. A copy of each notification and report submitted, including supporting documentation must be kept.
- b. Records of the occurrence and duration of each malfunction of EUKILNDONKEY and EUEMERGENCYGEN.
- c. Records of all required maintenance performed on the monitoring equipment.
- d. Records to demonstrate continuous compliance with the operating limitations in condition III.1. The facility maintains records of hours of operation and maintenance performed.
- e. Records of the maintenance conducted on EUKILNDONKEY and EUEMERGENCYGEN in order to demonstrate that the stationary RICE was operated and maintained according to the facility maintenance plan.
- f. The permittee must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The records must document how many hours are spent for emergency operation; including what classified the operation as emergency and how many hours are spent for non-emergency operation.

Records were available for review. No malfunctions of the equipment have been noted in the last 12 months. These units operate well under 500 hours per year.

2. The permittee shall meet the following monitoring and recordkeeping requirements when utilizing an oil analysis program in order to extend the oil change frequency specified in SC III.3.

- a. The analysis program for emergency stationary CI engines must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content.
- b. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

The facility maintains records of hours of operation and maintenance performed. Records are tracked via the facility work order program.

**VII. REPORTING**

1- 3. All semi-annual and annual deviation reporting has been completed in a timely manner. Review of this reporting is documented in MACES.

4. The permittee shall submit a semiannual compliance report that includes each instance in which the operating limitations in SC III.3 were not met. All reporting is being sent. Please see MACES for further details.

**VIII. STACK/VENT RESTRICTION(S) - NA****IX. OTHER REQUIREMENT(S)**

1. The permittee shall comply with all applicable requirements of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR, Part 63, Subpart A and Subpart ZZZZ, for Stationary Reciprocating Internal Combustion Engines. The facility is in compliance with this MACT.

**FGCOLDCLEANERS** - Any cold cleaner that is grandfathered or exempt from Rule 201 pursuant to Rule 278 and Rule 281(h) or Rule 285(r)(iv). Existing cold cleaners were placed into operation prior to July 1, 1979. New cold cleaners were placed into operation on or after July 1, 1979.

There are a total of three small parts washers located at the facility. All appeared in good condition. All were closed at the time of the inspection and had appropriate signage regarding correct operation. All are serviced by an outside contractor.

At the time of the inspection, this facility appears in compliance with their air permitting.

NAME 

DATE 8/30/16

SUPERVISOR 