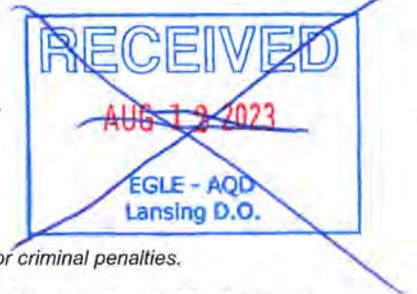


EGLE

MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY
AIR QUALITY DIVISION



RENEWABLE OPERATING PERMIT
REPORT CERTIFICATION

Authorized by 1994 P.A. 451, as amended. Failure to provide this information may result in civil and/or criminal penalties.

Reports submitted pursuant to R 336.1213 (Rule 213), subrules (3)(c) and/or (4)(c), of Michigan's Renewable Operating Permit (ROP) program must be certified by a responsible official. Additional information regarding the reports and documentation listed below must be kept on file for at least 5 years, as specified in Rule 213(3)(b)(ii), and be made available to the Department of Environment, Great Lakes, and Energy, Air Quality Division upon request.

Source Name General Shale Brick, Inc., dba Michigan Brick County Shiawassee

Source Address 3820 East Serr Road City Corunna

AQD Source ID (SRN) A6497 ROP No. MI-ROP-A6497-2022a ROP Section No. NA

Please check the appropriate box(es):

Annual Compliance Certification (Pursuant to Rule 213(4)(c))

Reporting period (provide inclusive dates): From _____ To _____

- 1. During the entire reporting period, this source was in compliance with ALL terms and conditions contained in the ROP, each term and condition of which is identified and included by this reference. The method(s) used to determine compliance is/are the method(s) specified in the ROP.
- 2. During the entire reporting period this source was in compliance with all terms and conditions contained in the ROP, each term and condition of which is identified and included by this reference, EXCEPT for the deviations identified on the enclosed deviation report(s). The method used to determine compliance for each term and condition is the method specified in the ROP, unless otherwise indicated and described on the enclosed deviation report(s).

Semi-Annual (or More Frequent) Report Certification (Pursuant to Rule 213(3)(c))

Reporting period (provide inclusive dates): From _____ To _____

- 1. During the entire reporting period, ALL monitoring and associated recordkeeping requirements in the ROP were met and no deviations from these requirements or any other terms or conditions occurred.
- 2. During the entire reporting period, all monitoring and associated recordkeeping requirements in the ROP were met and no deviations from these requirements or any other terms or conditions occurred, EXCEPT for the deviations identified on the enclosed deviation report(s).

Other Report Certification

Reporting period (provide inclusive dates): From _____ To _____

Additional monitoring reports or other applicable documents required by the ROP are attached as described:

Violation Letter Response dated August 17, 2023

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in this report and the supporting enclosures are true, accurate and complete

Jerry Greger
Name of Responsible Official (print or type)

Plant Manager
Title

989.743.3444
Phone Number

Jerry Greger
Signature of Responsible Official

8/18/2023
Date

* Photocopy this form as needed.

August 17, 2023

Michigan Department of Environment, Great Lakes, and Energy
Air Quality Division
Lansing District
Constitution Hall, 1st Floor South
525 West Allegan Street
Lansing, Michigan 48933

Subject: Violation Notice Response
General Shale Brick, Inc., dba Michigan Brick
3820 East Serr Road, Corunna, Michigan 48817
State Registration Number (SRN) A6497
Renewable Operating Permit (ROP) MI-ROP-A6497-2022a

Ms. Luplow,

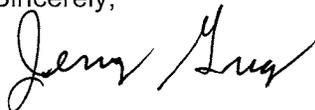
The General Shale Brick, Inc., dba Michigan Brick (Michigan Brick) facility, located at 3820 East Serr Road in Corunna, Michigan, received a Violation Notice from the Michigan Department of Environment, Great Lakes, and Energy (EGLE) Air Quality Division (AQD) dated July 28, 2023 (Attachment A). Michigan Brick has reviewed the observations and statements presented in the letter. A table is provided in Attachment B that includes the Rule/Permit Condition Violated, EGLE Comments, dates the violations occurred, an explanation of the causes and duration of the violations, whether the violations are ongoing, a summary of actions that have been taken and are proposed to be taken to correct the violations, the dates by which these actions will take place, and steps that are being taken to prevent a reoccurrence.

In addition, as requested Michigan Brick will submit the following by September 30, 2023:

- A revised Preventative Maintenance Program which includes addressing the baghouse and monitoring system malfunctions. The revised Preventative Maintenance Program will include items that are outlined in Rule 911 for Malfunction Abatement Plans.
- A Quality Improvement Plan, as provided under 40 CFR Part 64 for Compliance Assurance Monitoring.

If you have any questions or need any additional information, please do not hesitate to call me at (989) 743-3444.

Sincerely,



Jerry Greger
Plant Manager
Michigan Brick

Attachments

Cc Jenine Camilleri, EGLE

Attachment A
EGLE AQD Violation Notice
July 28, 2023



GRETCHEN WHITMER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY
LANSING DISTRICT OFFICE



PHILLIP D. ROOS
DIRECTOR

July 28, 2023

Jerry Greger, Plant Manager
General Shale Brick, Inc., dba Michigan Brick
3820 East Serr Road
Corunna, Michigan 48817

SRN: A6497, Shiawassee County

Dear Jerry Greger:

VIOLATION NOTICE

On April 13, 2023, the Department of Environment, Great Lakes, and Energy (EGLE), Air Quality Division (AQD), conducted an inspection of General Shale Brick, Inc., dba Michigan Brick (Michigan Brick) located at 3820 East Serr Road, Corunna, Michigan. The purpose of this inspection was to determine Michigan Brick's compliance with the requirements of the federal Clean Air Act; Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451); the Air Pollution Control Rules; and the conditions of Renewable Operating Permit (ROP) numbers MI-ROP-A6497-2015 and MI-ROP-A6497-2022a.

During the inspection, staff observed the following:

Process Description	Rule/Permit Condition Violated	Comments
FGKILNS (EUKILN01)	MI-ROP-A6497-2022a, Monitoring/Recordkeeping SC VI.3	90 recorded instances where the lime feed rate was not maintained at a rate 2.5 times, that of the stoichiometric ratio, calculated according to Appendix 7 between August 2022 and February 2023.
FGKILNS (EUKILN01)	MI-ROP-A6497-2022a, Monitoring & Recordkeeping, SC VII.1 & VII.2.	Failure to identify and report the 82 deviations where the lime feed rate was not maintained at a rate 2.5 times, that of the stoichiometric ratio during the July – December 2022 <u>semi-annual</u> reporting period.

FGKILNS (EUKILN01)	MI-ROP-A6497-2022a, Reporting, SC VII.1 & VII.3.	Failure to identify and report the 82 deviations where the lime feed rate was not maintained at a rate 2.5 times, that of the stoichiometric ratio during the January – December 2022 <u>annual</u> reporting period.
FGKILNS (EUKILN01)	MI-ROP-A6497-2022a, Reporting, SC VII.4.	Failure to identify and report the 82 lime feed rate CAM excursions, that occurred from August – December 2022
FGKILNS (EUKILN01)	MI-ROP-A6497-2022a, Monitoring & Recordkeeping, SC VI.3.	Failure to record the lime feed rate every 2 hours for 8 instances occurring between October and November 2022.
FGKILNS (EUKILN01)	MI-ROP-A6497-2022a, Reporting, SC VII.1 & VII.2	Failure to identify and report the missing lime feed rate records for October and November 2022, as deviations for the <u>semi-annual</u> period of July – December 2022.
FGKILNS (EUKILN01)	MI-ROP-A6497-2022a, Reporting, SC VII.1 & VII.3	Failure to identify and report the missing lime feed rate records for October and November 2022, as deviations for the <u>annual</u> period of January – December 2022.
FGKILNS (EUKILN01)	MI-ROP-A6497-2015, Design/Equipment Parameters, SC IV.1 and Rule 910.	The fabric filter baghouse was not operated in a satisfactory manner from May 20 – May 27, 2021, (baghouse pressure drop exceeded the upper limit of 6" w.c.).
FGKILNS (EUKILN01)	MI-ROP-A6497-2015, Monitoring & Recordkeeping, SC VI.8	The pressure drop on the fabric filter baghouse exceeded the upper limit of 6" w.c. for 8 days in a row, and was therefore,

		not restored to its normal or usual manner of operation as expeditiously as practicable, nor were any corrective actions taken to prevent a likely reoccurrence.
FGKILNS (EUKILN01)	MI-ROP-A6497-2015, Reporting, SC VII.4.	Failure to identify and report the CAM pressure drop excursions that occurred from May 20 – 27, 2021, for the semi-annual reporting period of January – June 2021.
FGKILNS (EUKILN01)	MI-ROP-A6497-2015, Reporting, SC VII.1 & SC VII.2.	Failure to identify and report baghouse pressure drop excursions for May 20 – 27, 2021, as deviations for the <u>semi-annual period</u> of January – June 2021.
FGKILNS (EUKILN01)	MI-ROP-A6497-2015, Reporting, SC VII.1 & VII.3	Failure to identify and report baghouse pressure drop excursions for May 20 – 27, 2021, as deviations for the <u>annual period</u> of January – December 2021.
FGKILNS (EUKILN01)	MI-ROP-A6497-2015, Monitoring/Recordkeeping, SC VI.2	Michigan Brick was unable to provide continuous records of the pressure drop to demonstrate proper operation of the baghouse from May 28, 2021 – August 2, 2022.
FGKILNS (EUKILN01)	MI-ROP-A6497-2022a, Monitoring/Recordkeeping, SC VI.2	Michigan Brick was unable to provide continuous records of the pressure drop to demonstrate proper operation of the baghouse from August 3, 2022 – April 12, 2023.

FGKILNS (EUKILN01)	MI-ROP-A6497-2022a, Design/Equipment Parameters, SC IV.4	Michigan Brick operated EUKILN01 from April 6 – April 12, 2023, when the pressure drop monitoring gauge was non-functional.
FGKILNS (EUKILN01)	MI-ROP-A6497-2015, Monitoring/Recordkeeping, SC VI.1.	Michigan Brick was unable to provide any temperature records for May 28, 2021 – August 2, 2022.
FGKILNS (EUKILN01)	MI-ROP-A6497-2022a, Design/Equipment Parameters SC IV.2 and Monitoring/Recordkeeping SC VI.1.	Michigan Brick was unable to provide any temperature records for August 3, 2022 – April 12, 2023.
FGKILNS (EUKILN01)	MI-ROP-A6497-2022a, Design/Equipment Parameters SC IV.3.	Michigan Brick failed to maintain and operate a temperature monitoring device to measure the temperature on a continuous basis during the operation of FGKILNS from April 6 – April 12, 2023.
FGKILNS (EUKILN01)	MI-ROP-A6497-2022a, Monitoring/Recordkeeping SC VI.9.	Michigan Brick failed to monitor the temperature of the exhaust gas to the inlet of the baghouse on a continuous basis from April 6 – April 12, 2023.
FGKILNS (EUKILN01)	MI-ROP-A6497-2015, Monitoring/Recordkeeping, SC VI.1 & VI.2.	Michigan Brick failed to continuously record the baghouse temperature and pressure drop while operating EUKILN01 from February 16 – March 3, 2022.
FGKILNS (EUKILN01)	MI-ROP-A6497-2015, Reporting, SC VII.4	Michigan Brick failed to identify and report semi- annual CAM monitor downtime events for the period of February 16 – March 3, 2022, for temperature and pressure drop monitoring downtime

		for the semi-annual period of January – June 2022.
FGKILNS (EUKILN01)	MI-ROP-A6497-2022a, Monitoring/Recordkeeping, SC VI.5	Michigan Brick failed to conduct and record daily visible emission observations at the kiln stack from August 3, 2022 – April 30, 2023.
FGKILNS (EUKILN01)	MI-ROP-A6497-2022a, Reporting, SC VII.1 & VII.2	Michigan Brick failed to identify and report deviations for failure to conduct and record daily visible emission observations at the kiln stack from August 3, 2022 – December 31, 2022, for the semi-annual period July – December 2022.
FGKILNS (EUKILN01)	MI-ROP-A6497-2022a, Reporting, SC VII.1 & VII.3	Michigan Brick failed to identify and report deviations for failure to conduct and record daily visible emission observations at the kiln stack from August 3, 2022 – December 31, 2022, for the annual period January – December 2022.
FGKILNS (EUKILN01)	Rule 910	Baghouse leaks were identified; therefore, Michigan Brick failed to maintain and operate the baghouse in a satisfactory manner from April 12 – May 17, 2023.
FGKILNS (EUKILN01)	Rule 912(4)	Failure to notify the AQD within 2 business days of the discovery of the malfunction (leaks in baghouse April 12 - May 17, 2023) for air emissions in excess of the 0% opacity standard that

		continued for more than 2 hours.
FGKILNS (EUKILN01)	Rule 912(5)	Failure to provide a written report within 30 days of the discovery of the malfunction (leaks in baghouse).

Lime Feed Rate Recordkeeping & Reporting

Lime feed rates are required to be determined according to the equations in Appendix 7 of MI-ROP-A6497-2022a and the car push rates through the kilns. Based on the daily car push rate records provided by Michigan Brick, the “Kiln Firemen” lime feed rate records (where lime feed rates are manually recorded every 2 hours), and well as Michigan Brick’s spreadsheet, which calculates the lime feed rate according to Appendix 7, the AQD determined that there were 90 instances between August 2022 and February 2023, where the lime feed rate was lower than the required lime feed rate (2.5 times the stoichiometric ratio). Because Michigan Brick is required to use a lime feed rate that is 2.5 times the stoichiometric ratio, as calculated according to Appendix 7, these 90 instances are deviations from MI-ROP-A6497-2022a. Additionally, these 90 recorded instances are also CAM excursions, as defined in MI-ROP-A6497-2022a SC VI.4.

Michigan Brick is required to report CAM excursions semi-annually and ROP deviations annually and semi-annually. The Annual and Semi-annual reports covering July 2022 – December 2022 were due by March 15, 2023. Michigan Brick submitted these reports without identifying and reporting the lime feed rate CAM excursions and the lime feed rate ROP deviations.

The aforementioned are violations of the following in MI-ROP-A6497-2022a:

- FGKILNS SC VI.3 for failure to maintain a lime feed rate that is 2.5 times that of the stoichiometric ratio, as calculated in Appendix 7, for those 90 instances.
- FGKILNS SC VII.2 and SC VII.3 for failure to identify and report these lime feed rate deviations for August 2022 – December 2022 (annual and semi-annual reports).
- FGKILNS SC VII.4 for failure to identify and report semi-annual CAM excursions for the 82 lime feed rate excursions that occurred between August 2022 and December 2022.

Additionally, Michigan Brick is required to record the lime feed rate once every 2 hours as an indicator of proper operation of the dry lime injection control. For the records review between August 2022 and February 2023, there were 7 instances in October 2022, and one instance in November 2022, where the lime feed rate was not recorded, for a total of 8 instances. This is considered a deviation from the ROP requirements. For the semi-annual reporting period of July 2022 – December 2022, Michigan Brick

submitted their report by March 15, 2023; however, they did not report the 8 instances where the lime feed rate was not recorded.

The aforementioned are violations of the following in MI-ROP-A6497-2022a:

- FGKILNS SC VI.3 for failure to record the lime feed rate every 2 hours for the October and November 2022 instances.
- FGKILNS SC VII.1, SC VII.2 and SC VII.3 for failure to identify and report the lime feed rate missing records as deviations for October and November 2022 (annual and semi-annual reports).

FGKILNS Baghouse Pressure Drop and Temperature Monitoring, Recordkeeping, and Reporting

February 2022

Michigan Brick is required to continuously monitor and record the temperature entering the baghouse and the pressure drop across the baghouse. EUKILN01 temperature and pressure drop data loss occurred from February 16, 2022 – March 3, 2022. Baghouse temperature and pressure drop data were not continuously recorded during this time; however, monitoring of the temperature and pressure drop on the PCD system was still able to be conducted. The system was upgraded on March 3, 2022, to allow for recording of data to ensue.

The aforementioned are violations of the following in MI-ROP-A6497-2015:

- FGKILNS SC VI.1 and SC VI.2 for failure to continuously record the temperature entering EUKILN01's baghouse, and for failure to continuously record the pressure drop across EUKILN01's baghouse, respectively.

Additionally, Michigan Brick is required to report all deviations annually and semi-annually. The annual report (January – December 2022) and semi-annual report (January – June 2022) submitted by March 15, 2022, did not include deviation reports for the February 16 – March 3, 2022 period, where pressure drop was not being recorded continuously.

The aforementioned are violations of the following in MI-ROP-A6497-2015:

- FGKILNS SC VII.1, VII.2 and VII.3 for failure to report the temperature and pressure drop missing records as deviations annually and semi-annually.

April 2023

During the inspection, the AQD staff was told that on April 6, 2023, a lightning storm incident impacted the temperature and pressure monitoring system. Both the data logger and on-screen PCD monitoring were destroyed with the lightning strike: the record logging and on-screen monitoring were no longer functional. All temperature and pressure records were destroyed, except for data from October 3, 2020 – May 27, 2021. This includes all data pre-October 3, 2020, and all data post-May 27, 2021. A refurbished monitoring system was installed on April 12, 2023. Michigan Brick continued to operate from April 6, 2023 – April 12, 2023, while the pressure drop and temperature monitoring and recordkeeping systems were non-functional.

I requested continuous temperature and pressure drop records for January 2021 – December 2022, and Michigan Brick was only able to provide me with October 2020 – May 29, 2021 continuous records for these two operating parameters. The records indicate that from May 20 – May 27, 2021, the pressure drop exceeded the 6" w.c. upper limit of the operating range. Bill Stevens explained during a follow-up call on June 7, 2023, that the pressure drop exceeded the 6" w.c. limit because they increased the flow through the baghouse in an attempt to "clean" the bags of particulate prior to installing new bags. He said that this is common practice prior to installing new bags.

Neither a CAM excursion report nor a deviation report was filed with the AQD for the 2021 annual and semi-annual reporting for the pressure drop excursion greater than 6" w.c.

The aforementioned are violations of the following in MI-ROP-A6497-2015 or MI-ROP-A6497-2022a:

1. Michigan Brick shall not operate a kiln if the pressure drop across the kiln fabric filter is greater than 6" w.c. The pressure drop records from October 3, 2020 – May 27, 2021, indicate that from May 20 – May 27, 2021, the EUKILN01 baghouse was operated at a pressure drop that exceeded the baghouse's 6" w.c. upper limit. This is a violation of FGKILNS SC III.2 of MI-ROP-A6497-2015. Operating the baghouse at a pressure drop greater than the upper limit is also a violation of FGKILNS SC IV of MI-ROP-A6497-2015 and Rule 910 for failure to operate the air-cleaning device (baghouse) in a satisfactory manner.
2. Michigan Brick is required to restore operation of FGKILNS to its normal or usual manner of operation as expeditiously as practicable, upon detecting an excursion in accordance with good air pollution control practices for minimizing emissions and includes taking any necessary corrective actions to restore normal operation, and to prevent the likely reoccurrence of the cause of the

excursion. Because Michigan Brick stated that the pressure drop excursions that occurred from May 20 – May 27, 2021, is common practice, the AQD believes no necessary corrective actions are in place to prevent a reoccurrence of this excursion. The AQD also believes the excursion of operating the baghouse at greater than 6" w.c. for 8 days in a row from May 20 – May 27, 2021, is not considered expeditious. This instance is therefore a violation of MI-ROP-A6497-2015 FGKILNS SC VI.8.

3. An excursion of the baghouse pressure drop range of 2 – 6 "w.c. occurred from May 20 – May 27, 2021, when the pressure drop exceeded 6" w.c. Excursions are required to be reported semi-annually under CAM. Michigan Brick did not report this excursion for the January – June 2021 semi-annual reporting period. Failure to identify and report the pressure drop excursion for the semi-annual period of January – June 2021 is a violation of FGKILNS SC VII.4 of MI-ROP-A6497-2015.
4. Michigan Brick is required to report all deviations annually and semi-annually. The annual report (January – December 2021) and semi-annual report (January – June 2021) did not include deviation reports for the May 20 – May 27, 2021, pressure drop excursions. The failure to report the May 20 – May 27, 2021, pressure drop excursions as deviations is a violation of FGKILNS SC VII.1, VII.2 and VII.3 of MI-ROP-A6497-2015.
5. Michigan Brick is required to continuously monitor and record the pressure drop as an indicator of proper operation of the fabric filter. Michigan Brick was unable to provide continuous records demonstrating that the pressure drop was continuously monitored and recorded from May 28, 2021 – April 12, 2023. This includes the pressure drop data not continuously recorded from February 16 – March 3, 2022, and April 6 – April 12, 2023. This is a violation of MI-ROP-A6497-2015 FGKILNS SC VI.2 (May 28, 2021 – August 2, 2022) and MI-ROP-A6497-2022a FGKILNS SC VI.2 (August 3, 2022 – April 12, 2023).
6. Michigan Brick is required to report all deviations annually and semi-annually. The annual report (January – December 2022) and semi-annual report (January – June 2022) did not include deviation reports for the February 16 – March 3, 2022, period where pressure drop was not being recorded continuously. The failure to identify and report this as deviations, is a violation of FGKILNS SC VII.1, VII.2 and VII.3 of MI-ROP-A6497-2015.
7. Michigan Brick shall not operate the kilns unless the gauge to measure pressure drop across the fabric filter collector is installed and operating properly. Michigan Brick operated EUKILN01 from April 6 – April 12, 2023,

when the pressure drop gauge was non-functional (pressure drop was unable to be monitored or recorded due to the monitoring system failure), and therefore not operating properly. This is a violation of MI-ROP-A6497-2022a FGKILNS SC IV.4.

8. Michigan Brick shall monitor and record the temperature entering each fabric filter for each kiln on a continuous basis. Michigan Brick was unable to provide me with the requested continuous temperature records for May 28, 2021 – December 2022. Additionally, temperature records were also not available for January – April 12, 2023. The missing data from May 28, 2021 – August 2, 2022, is a violation of FGKILNS VI.1 (MI-ROP-A6497-2015). The missing data from August 3, 2022 – April 12, 2023, is a violation of FGKILNS SC IV.2. and SC VI.1 (MI-ROP-A6497-2022a).
9. Michigan Brick is required to continuously monitor and record temperature data during operation of the kilns. Michigan Brick operated EUKILN01 from April 6 – April 12, 2023, when the baghouse temperature monitoring gauge was non-functional (temperature was unable to be monitored or recorded due to the monitoring system failure), and therefore not operating properly. This is a violation of MI-ROP-A6497-2022a FGKILNS SC IV.3. and SC VI.9.
10. Michigan Brick is required to submit semi-annual reports that include the summary information on the number, duration, and cause for CAM monitor downtime incidents. The semi-annual report submitted July 20, 2022, for the semi-annual period of January – June 2022, did not include reporting of the February 16 – March 3, 2022, temperature and pressure drop monitoring downtime. This is a violation of MI-ROP-A6497-2015, FGKILNS SC VII.4

EUKILN01 Visible Emissions

With the issuance of MI-ROP-A6497-2022a, Michigan Brick was required to begin recording daily visible emissions readings rather than monthly on FGKILNS stacks. I requested daily visible emissions records for August 3, 2022 – April 2023. Michigan Brick was unable to provide daily visible emissions records.

The aforementioned is a violation of the following in MI-ROP-A6497-2022a:

- Failure to conduct daily visible emission observations from August 3, 2022 – April 30, 2023, is a violation of FGKILNS SC VI.5.
- Failure to identify and report the deviations associated with not conducting the daily visible emission observations for the semi-annual reporting period of July – December 2022, as well as failure to identify these deviations in the annual report covering January – December 2022.

During the inspection on April 13, 2023, I observed opacity emitting from EUKILN01's stack, and attributed the opacity to the installation of a new bag on the baghouse the day prior. On May 9, 2023, during the stack test on EUKILN01, I again noted opacity from the kiln stack. Michigan Brick stated that during the April 12, 2023 baghouse failure event, they ran UV tracer through the baghouse to determine the issue, and noted, based on the UV light test, that particulate was escaping through seals at the base of the bags.

Michigan Brick continued to operate the kiln and its baghouse with the leaks at the seals, noted on April 12, through Wednesday, May 17, 2023. On May 17, 2023, Jerry Greger informed me that a special, high-heat resistant caulk, endorsed by the Gortex bags representative, was used to seal the leaking spots in the baghouse seals on May 17. He noted that they did find some of the tighteners at the top that clamp down the bags, were also loose.

Operating the baghouse while leaks in the seals and loose clamps were present from April 12, when the issue was noticed through May 17, 2023, when the caulk was applied, is a violation of Rule 910: an air-cleaning device shall be installed, maintained and operated in a satisfactory manner. The baghouse was not being maintained and operated in a satisfactory manner from April 12 – May 17, 2023.

- This is a violation of Rule 910 for failure to maintain and operate the baghouse in a satisfactory manner from April 12 – May 17, 2023.

Because there was no pressure drop data for April 6 – April 12, 2023, nor any daily kiln visible emission readings during this time, there is therefore, no data suggesting that that baghouse was properly operating from April 6, 2022, up until Michigan Brick stated that the excess opacity was seen on April 12, 2022. The AQD considers this an abnormal condition under Rule 912 with indicators that the 0% opacity visible emission standard was exceeded from April 6 – April 12, 2023.

Additionally, the leaks in the seals and loose clamps also created a situation where opacity was emitted at a threshold higher than the allowed emission standard of no visible emissions (indicator is 0% opacity) from April 12 – May 17, 2023.

Rule 912 requires that Michigan Brick notify the AQD of the abnormal condition or malfunction, resulting in air emissions in excess of a standard that continues for more than 2 hours. The notice is required no later than 2 business days after the discovery of the malfunction. The malfunction was discovered on April 12, 2023, and the AQD was not notified until the day of the stack test, May 9, 2023. This is a violation of Rule 912(4) as the notice was provided 27 days after the malfunction was discovered. Additionally, a written report is required to be submitted within 10 days after the malfunction has been corrected, or within 30 days of discovery of the malfunction,

Jerry Greger
Michigan Brick
Page 12
July 28, 2023

whichever occurs first. The AQD was notified on May 17, 2023, that the malfunction was corrected. This is a violation of Rule 912(5) for failure to provide a written report to AQD within 30 days of the discovery of the malfunction (30 days from date of discovery of the malfunction would have been May 12, 2023). The AQD believes the abnormal condition occurred from April 6, 2023 – May 17, 2023. May 17, 2023, is when Michigan Brick informed AQD that the malfunction had been fixed.

- This is a violation of Rules 912(4) & (5) for failure to notify the AQD and provide a written report within the specified timeframes.

Please initiate actions necessary to correct the cited violations and submit a written response to this Violation Notice by August 18, 2023, (which coincides with 21 calendar days from the date of this letter). The written response should include the following for each violation:

- The dates the violations occurred,
- An explanation of the causes and duration of the violations,
- Whether the violations are ongoing,
- A summary of the actions that have been taken and are proposed to be taken to correct the violations and the dates by which these actions will take place,
- And what steps are being taken to prevent a reoccurrence.

In addition to the above list, Michigan Brick shall include in their response the following:

- A date by which they will submit a revised Preventative Maintenance Program which includes addressing the baghouse and monitoring system malfunctions. The revised Preventative Maintenance Program shall include items that are outlined in Rule 911 for Malfunction Abatement Plans.
- A date by which they will submit a Quality Improvement Plan, as provided under 40 CFR Part 64 for Compliance Assurance Monitoring.

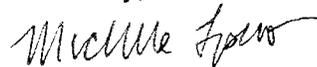
Please submit the written response to EGLE, AQD, Lansing District, at Constitution Hall, 525 West Allegan, First Floor South, Lansing, Michigan 48933 and submit a copy to Jenine Camilleri, Enforcement Unit Supervisor at EGLE, AQD, P.O. Box 30260, Lansing, Michigan 48909-7760.

If Michigan Brick believes the above observations or statements are inaccurate or do not constitute violations of the applicable legal requirements cited, please provide appropriate factual information to explain your position.

Jerry Greger
Michigan Brick
Page 13
July 28, 2023

Thank you for your attention to resolving the violations cited above and for the cooperation that was extended to me during my inspection of Michigan Brick. If you have any questions regarding the violations or the actions necessary to bring this facility into compliance, please contact me at the number listed below.

Sincerely,



Michelle Luplow
Environmental Quality Analyst
Air Quality Division
517-294-9294

cc: David McKeown, General Shale Brick, Inc.
Annette Switzer, EGLE
Christopher Ethridge, EGLE
Brad Myott, EGLE
Jenine Camilleri, EGLE
Bob Byrnes, EGLE

Attachment B
Response Table

	Rule/Permit Condition Violated	Comments	Dates Violations Occurred	Explanation of Causes and Duration	Violations Ongoing	Summary of Actions Taken/Proposed Corrective Actions	Dates to be Implemented	Reoccurrence Preventative Measures
1	MI-ROP-A6497-2022a, Monitoring/Recordkeeping SC VI.3	90 recorded instances where the lime feed rate was not maintained at a rate 2.5 times, that of the stoichiometric ratio, calculated according to Appendix 7 between August 2022 and February 2023.	August 2022 to February 2023	Lime feed equipment uses a variable frequency drive to feed the lime. Density of lime and humidity can cause feed rate inconsistencies because the feed rate is based on weight and not volume. Employees check the lime feed rate and make corrections as needed. Lime feed rate is checked to verify corrective actions were sufficient. These corrective actions were not being documented.	No	<ul style="list-style-type: none"> Michigan Brick employees have been instructed to document lime feed rate corrective actions. Michigan Brick will add a mathematical safety factor of 10% to determine a targeted feed rate. The 10% will be added to the lime feed rate calculation as determine according to Appendix 7. 	<ul style="list-style-type: none"> Completed September 1, 2023 	Records review quarterly by third party.
2	MI-ROP-A6497-2022a, Monitoring & Recordkeeping, SC VII.1 & VII.2.	Failure to identify and report the 82 deviations where the lime feed rate was not maintained at a rate 2.5 times, that of the stoichiometric ratio during the July – December 2022 <u>semi-annual</u> reporting period.	July – December 2022 semiannual reporting	Records review was incomplete.	No	Updated semiannual report submitted.	Completed	Records review quarterly by third party.
3	MI-ROP-A6497-2022a, Reporting, SC VII.1 & VII.3.	Failure to identify and report the 82 deviations where the lime feed rate was not maintained at a rate 2.5 times, that of the stoichiometric ratio during the January – December 2022 annual reporting period.	January – December 2022 annual reporting	Records review was incomplete.	No	Updated annual report submitted.	Completed	Records review quarterly by third party.
4	MI-ROP-A6497-2022a, Reporting, SC VII.4.	Failure to identify and report the 82 lime feed rate CAM excursions, that occurred from August – December 2022	July – December 2022 semiannual reporting	Records review was incomplete.	No	Updated semiannual report submitted.	Completed	Records review quarterly by third party.
5	MI-ROP-A6497-2022a, Monitoring & Recordkeeping, SC VI.3.	Failure to record the lime feed rate every 2 hours for 8 instances occurring between October and November 2022	November 13, 2022	Missing records were identified by EGLE on 10/5/22, 10/25/22, & 11/13/2022. Michigan Brick identified lime feed rate records recorded on prior days logs for 10/5/22 and 10/25/22. One reading is missing from the 11/13/22 log. Attachment C.	No	Michigan Brick has trained employees on the importance of complete records and documenting all issues, corrective actions, and follow up records demonstrating corrective actions were sufficient.	Completed	Records review quarterly by third party.

	Rule/Permit Condition Violated	Comments	Dates Violations Occurred	Explanation of Causes and Duration	Violations Ongoing	Summary of Actions Taken/Proposed Corrective Actions	Dates to be Implemented	Reoccurrence Preventative Measures
6	MI-ROP-A6497-2022a, Reporting, SC VII.1 & VII.2	Failure to identify and report the missing lime feed rate records for October and November 2022, as deviations for the semi-annual period of July – December 2022.	July – December 2022 semiannual reporting	Records review was incomplete.	No	Updated semiannual report submitted.	Completed	Records review quarterly by third party.
7	MI-ROP-A6497-2022a, Reporting, SC VII.1 & VII.3	Failure to identify and report the missing lime feed rate records for October and November 2022, as deviations for the annual period of January – December 2022.	January – December 2022 annual reporting	Records review was incomplete.	No	Updated annual report submitted.	Completed	Records review quarterly by third party.
8	MI-ROP-A6497-2015, Design/Equipment Parameters, SC IV.1 and Rule 910.	The fabric filter baghouse was not operated in a satisfactory manner from May 20 – May 27, 2021, (baghouse pressure drop exceeded the upper limit of 6" w.c.).	May 20 – May 27	It was determined that the increase pressure drop was caused because the Gortex bags needed replacement. The bags were replaced. The manufacturer, Gore Filtration Products, Application Engineer confirmed that a pressure drop of 7.0" w.g. is not a concern for the kiln baghouse with regards to performance (emissions and bag life). Appendix D.	No	<ul style="list-style-type: none"> Michigan Brick trained employees on permit required operational ranges on equipment and updated standard practices to include proper operational ranges. Update CAM Plan and PMP to expand and highlight reporting requirements. 	<ul style="list-style-type: none"> Completed September 30, 2023 	<ul style="list-style-type: none"> Additional review and training on permit conditions has been completed. Updates to CAM Plan and PMP. Determine with EGLE if permit modification and/or CAM Plan modifications can raise operating limit to 7" w.g. based on manufacturer warranty.
9	MI-ROP-A6497-2015, Monitoring & Recordkeeping, SC VI.8	The pressure drop on the fabric filter baghouse exceeded the upper limit of 6" w.c. for 8 days in a row, and was therefore, not restored to its normal or usual manner of operation as expeditiously as practicable, nor were any corrective actions taken to prevent a likely reoccurrence.	May 20 – May 27	It was determined that the increase pressure drop was caused because the Gortex bags needed replacement. The bags were replaced. The manufacturer, Gore Filtration Products, Application Engineer confirmed that a pressure drop of 7.0" w.g. is not a concern for the kiln baghouse with regards to performance (emissions and bag life). Appendix D.	No	<ul style="list-style-type: none"> Michigan Brick trained employees on permit required operational ranges on equipment and updated standard practices to include proper operational ranges. Update CAM Plan and PMP to expand and highlight reporting requirements. 	<ul style="list-style-type: none"> Completed September 30, 2023 	<ul style="list-style-type: none"> Additional review and training on permit conditions has been completed. Updates to CAM Plan and PMP. Determine with EGLE if permit modification and/or CAM Plan modifications can raise operating limit to 7" w.g. based on manufacturer warranty.

	Rule/Permit Condition Violated	Comments	Dates Violations Occurred	Explanation of Causes and Duration	Violations Ongoing	Summary of Actions Taken/Proposed Corrective Actions	Dates to be Implemented	Reoccurrence Preventative Measures
10	MI-ROP-A6497-2015, Reporting, SC VII.4.	Failure to identify and report the CAM pressure drop excursions that occurred from May 20 – 27, 2021, for the semi-annual reporting period of January – June 2021.	January – June 2021 semiannual reporting	Records review was incomplete.	No	Updated semiannual report submitted.	Completed	Records review quarterly by third party.
11	MI-ROP-A6497-2015, Reporting, SC VII.1 & SC VII.2.	Failure to identify and report baghouse pressure drop excursions for May 20 – 27, 2021, as deviations for the semi-annual period of January – June 2021.	January – June 2021 semiannual reporting	Records review was incomplete.	No	Updated semiannual report submitted.	Completed	Records review quarterly by third party.
12	MI-ROP-A6497-2015, Reporting, SC VII.1 & VII.3	Failure to identify and report baghouse pressure drop excursions for May 20 – 27, 2021, as deviations for the annual period of January – December 2021.	January – December 2021 annual reporting	Records review was incomplete.	No	Updated annual report submitted.	Completed	Records review quarterly by third party.
13	MI-ROP-A6497-2015, Monitoring/Recordkeeping, SC VI.2	Michigan Brick was unable to provide continuous records of the pressure drop to demonstrate proper operation of the baghouse from May 28, 2021 – August 2, 2022.	May 28, 2021 – August 2, 2022	A lightning strike caused record retention gaps by damaging the system. Pressure drop data was recorded on daily firemen logs. Provided in Attachment E. While records are not continuous the logs demonstrate the pressure drop was monitored. In addition, the system is monitored by a PLC unit that will alarm when the unit is out of range. The PLC was operational during this time.	No	<ul style="list-style-type: none"> Currently the facility is using the refurbished monitoring system with the addition of a removeable USB data logger. The USB will be pulled monthly for backup data storage to prevent data loss if the monitoring system is damaged. In addition, the facility installed two temperature probes and one magnehelic gauge to be able to manually document readings (4 times per hour) if necessary, as an additional backup system for if the monitoring system is damaged. A new data monitoring and recording unit is being purchased. The system will provide real time data, contain a SD card for backup data records, connect to the plant ethernet to print monthly records, and send backup data to the plant server. 	<ul style="list-style-type: none"> Completed Completed December 2023 	USB data backup. Temperature gauges and magnehelic gauge have been installed if manual records are needed as an additional back up.
14	MI-ROP-A6497-2022a, Monitoring/Recordkeeping, SC VI.2	Michigan Brick was unable to provide continuous records of the pressure drop to demonstrate proper operation of the baghouse from August 3, 2022 – April 12, 2023.	August 3, 2022 – April 12, 2023	A lightning strike caused record retention gaps by damaging the system. Pressure drop data was recorded on daily firemen logs. Provided in Attachment E. While records are not continuous the logs	No	<ul style="list-style-type: none"> Currently the facility is using the refurbished monitoring system with the addition of a removeable USB data logger. The USB will be pulled monthly for backup data storage to prevent data loss if the monitoring system is damaged. In addition, the facility installed two temperature probes and one 	<ul style="list-style-type: none"> Completed Completed December 2023 	USB data backup. Temperature gauges and magnehelic gauge have been installed if manual records are needed as an additional back up.

	Rule/Permit Condition Violated	Comments	Dates Violations Occurred	Explanation of Causes and Duration	Violations Ongoing	Summary of Actions Taken/Proposed Corrective Actions	Dates to be Implemented	Reoccurrence Preventative Measures
				demonstrate the pressure drop was monitored. In addition, the system is monitored by a PLC unit that will alarm with the unit is out of range. The PLC was operational during this time.		<p>magnehelic gauge to be able to manually document readings (4 times per hour) if necessary, as an additional backup system for if the monitoring system is damaged.</p> <ul style="list-style-type: none"> A new data monitoring and recording unit is being purchased. The system will provide real time data, contain a SD card for backup data records, connect to the plant ethernet to print monthly records, and send backup data to the plant server. 		
15	MI-ROP-A6497-2022a, Design/Equipment Parameters, SC IV.4	Michigan Brick operated EUKILN01 from April 6 – April 12, 2023, when the pressure drop monitoring gauge was non-functional.	April 6 – April 12, 2023	A lightning strike caused the screen to not function properly. The pressure drop is monitored by a PLC unit that will alarm when the unit is out of range. The PLC was operational during this time.	No	<ul style="list-style-type: none"> Currently the facility is using the refurbished monitoring system with the addition of a removeable USB data logger. The USB will be pulled monthly for backup data storage to prevent data loss if the monitoring system is damaged. In addition, the facility installed two temperature probes and one magnehelic gauge to be able to manually document readings (4 times per hour) if necessary, as an additional backup system for if the monitoring system is damaged. A new data monitoring and recording unit is being purchased. The system will provide real time data, contain a SD card for backup data records, connect to the plant ethernet to print monthly records, and send backup data to the plant server. 	<ul style="list-style-type: none"> Completed Completed December 2023 	USB data backup. Temperature gauges and magnehelic gauge have been installed if manual records are needed as an additional back up.
16	MI-ROP-A6497-2015, Monitoring/Recordkeeping, SC VI.1.	Michigan Brick was unable to provide any temperature records for May 28, 2021 – August 2, 2022.	May 28, 2021 – August 2, 2022	A lightning strike caused record retention gaps by damaging the system. Temperature data was recorded on daily firemen logs. Provided in Attachment E. While records are not continuous the logs demonstrate the	No	<ul style="list-style-type: none"> Currently the facility is using the refurbished monitoring system with the addition of a removeable USB data logger. The USB will be pulled monthly for backup data storage to prevent data loss if the monitoring system is damaged. In addition, the facility installed two temperature probes and one magnehelic gauge to be able to 	<ul style="list-style-type: none"> Completed Completed December 2023 	USB data backup. Temperature gauges and magnehelic gauge have been installed if manual records are needed as an additional back up.

	Rule/Permit Condition Violated	Comments	Dates Violations Occurred	Explanation of Causes and Duration	Violations Ongoing	Summary of Actions Taken/Proposed Corrective Actions	Dates to be Implemented	Reoccurrence Preventative Measures
				temperature was monitored. In addition, the system is monitored by a PLC unit that will alarm when the temperature is 475F and shut down the kiln when the temperature is 485F. The PLC was operational during this time.		<ul style="list-style-type: none"> manually document readings (4 times per hour) if necessary, as an additional backup system for if the monitoring system is damaged. A new data monitoring and recording unit is being purchased. The system will provide real time data, contain a SD card for backup data records, connect to the plant ethernet to print monthly records, and send backup data to the plant server. 		
17	MI-ROP-A6497-2022a, Design/Equipment Parameters SC IV.2 and Monitoring/Recordkeeping SC VI.1.	Michigan Brick was unable to provide any temperature records for August 3, 2022 – April 12, 2023.	August 3, 2022 – April 12, 2023	A lightning strike caused record retention gaps by damaging the system. Temperature data was recorded on daily firemen logs. Provided in Attachment E. While records are not continuous the logs demonstrate the temperature was monitored. In addition, the system is monitored by a PLC unit that will alarm when the temperature is 475F and shut down the kiln when the temperature is 485F. The PLC was operational during this time.	No	<ul style="list-style-type: none"> Currently the facility is using the refurbished monitoring system with the addition of a removeable USB data logger. The USB will be pulled monthly for backup data storage to prevent data loss if the monitoring system is damaged. In addition, the facility installed two temperature probes and one magnehelic gauge to be able to manually document readings (4 times per hour) if necessary, as an additional backup system for if the monitoring system is damaged. A new data monitoring and recording unit is being purchased. The system will provide real time data, contain a SD card for backup data records, connect to the plant ethernet to print monthly records, and send backup data to the plant server. 	<ul style="list-style-type: none"> Completed Completed December 2023 	USB data backup. Temperature gauges and magnehelic gauge have been installed if manual records are needed as an additional back up.
18	MI-ROP-A6497-2022a, Design/Equipment Parameters SC IV.3.	Michigan Brick failed to maintain and operate a temperature monitoring device to measure the temperature on a continuous basis during the operation of FGKILNS from April 6 – April 12, 2023.	April 6 – April 12, 2023	A lightning strike caused the screen to not function properly. The temperature is monitored by a PLC unit that will alarm when the temperature is 475F and shut down the kiln when the temperature is 485F. The PLC was operational during this time.	No	<ul style="list-style-type: none"> Currently the facility is using the refurbished monitoring system with the addition of a removeable USB data logger. The USB will be pulled monthly for backup data storage to prevent data loss if the monitoring system is damaged. In addition, the facility installed two temperature probes and one magnehelic gauge to be able to manually document readings (4 times 	<ul style="list-style-type: none"> Completed Completed December 2023 	USB data backup. Temperature gauges and magnehelic gauge have been installed if manual records are needed as an additional back up.

	Rule/Permit Condition Violated	Comments	Dates Violations Occurred	Explanation of Causes and Duration	Violations Ongoing	Summary of Actions Taken/Proposed Corrective Actions	Dates to be Implemented	Reoccurrence Preventative Measures
						<p>per hour) if necessary, as an additional backup system for if the monitoring system is damaged.</p> <ul style="list-style-type: none"> A new data monitoring and recording unit is being purchased. The system will provide real time data, contain a SD card for backup data records, connect to the plant ethernet to print monthly records, and send backup data to the plant server. 		
19	MI-ROP-A6497-2022a, Monitoring/Recordkeeping SC VI.9.	Michigan Brick failed to monitor the temperature of the exhaust gas to the inlet of the baghouse on a continuous basis from April 6 – April 12, 2023.	April 6 – April 12, 2023	A lightning strike caused the screen to not function properly. The temperature is monitored by a PLC unit that will alarm when the temperature is 475F and shut down the kiln when the temperature is 485F. The PLC was operational during this time.	No	<ul style="list-style-type: none"> Currently the facility is using the refurbished monitoring system with the addition of a removeable USB data logger. The USB will be pulled monthly for backup data storage to prevent data loss if the monitoring system is damaged. In addition, the facility installed two temperature probes and one magnehelic gauge to be able to manually document readings (4 times per hour) if necessary, as an additional backup system for if the monitoring system is damaged. A new data monitoring and recording unit is being purchased. The system will provide real time data, contain a SD card for backup data records, connect to the plant ethernet to print monthly records, and send backup data to the plant server. 	<ul style="list-style-type: none"> Completed Completed December 2023 	USB data backup. Temperature gauges and magnehelic gauge have been installed if manual records are needed as an additional back up.
20	MI-ROP-A6497-2015, Monitoring/Recordkeeping, SC VI.1 & VI.2.	Michigan Brick failed to continuously record the baghouse temperature and pressure drop while operating EUKILN01 from February 16 – March 3, 2022.	February 16 – March 3, 2022	A failure of the monitoring equipment caused the gap in recordkeeping. Temperature and pressure drop data was recorded on daily firemen logs. Provided in Attachment E. While records are not continuous the logs demonstrate the	No	<ul style="list-style-type: none"> Currently the facility is using the refurbished monitoring system with the addition of a removeable USB data logger. The USB will be pulled monthly for backup data storage to prevent data loss if the monitoring system is damaged. In addition, the facility installed two temperature probes and one magnehelic gauge to be able to manually document readings (4 times per hour) if necessary, as an 	<ul style="list-style-type: none"> Completed Completed December 2023 	USB data backup. Temperature gauges and magnehelic gauge have been installed if manual records are needed as an additional back up.

	Rule/Permit Condition Violated	Comments	Dates Violations Occurred	Explanation of Causes and Duration	Violations Ongoing	Summary of Actions Taken/Proposed Corrective Actions	Dates to be Implemented	Reoccurrence Preventative Measures
				temperature and pressure drop were monitored. During this time the temperature and pressure drop were monitored through the PLC devices with alarm and shut down controls in working order.		<ul style="list-style-type: none"> additional backup system for if the monitoring system is damaged. A new data monitoring and recording unit is being purchased. The system will provide real time data, contain a SD card for backup data records, connect to the plant ethernet to print monthly records, and send backup data to the plant server. 		
21	MI-ROP-A6497-2015, Reporting, SC VII.4	Michigan Brick failed to identify and report semi-annual CAM monitor downtime events for the period of February 16 – March 3, 2022, for temperature and pressure drop monitoring downtime for the semi-annual period of January – June 2022.	January – June 2022 semiannual reporting	Records review was incomplete.	No	Updated semiannual report submitted.	Completed	Records review quarterly by third party.
22	MI-ROP-A6497-2022a, Monitoring/Recordkeeping, SC VI.5	Michigan Brick failed to conduct and record daily visible emission observations at the kiln stack from August 3, 2022 – April 30, 2023.	August 3, 2022 – April 30, 2023	In the previous ROP the condition for monitoring and recording visible emissions observations was monthly. The facility failed to update inspection schedules to reflect the change.	No	Paperwork has been updated. Staff is aware of daily visible emissions observations requirements.	Completed	Additional review and training on permit conditions has been completed.
23	MI-ROP-A6497-2022a, Reporting, SC VII.1 & VII.2	Michigan Brick failed to identify and report deviations for failure to conduct and record daily visible emission observations at the kiln stack from August 3, 2022 – December 31, 2022, for the semi-annual period July – December 2022.	July – December 2022 semiannual reporting	Records review was incomplete.	No	Updated semiannual report submitted.	Completed	Records review quarterly by third party.
24	MI-ROP-A6497-2022a, Reporting, SC VII.1 & VII.3	Michigan Brick failed to identify and report deviations for failure to conduct and record daily visible emission observations at the kiln stack from August 3, 2022 – December 31, 2022, for the annual period January – December 2022.	January – December 2022 annual reporting	Records review was incomplete.	No	Updated annual report submitted.	Completed	Records review quarterly by third party.
25	Rule 910	Baghouse leaks were identified; therefore, Michigan Brick failed to maintain and operate the baghouse in a satisfactory manner from April 12 – May 17, 2023.	April 12 – May 17, 2023	Michigan Brick was conducting opacity readings per the approved CAM Plan which sets an acceptable range for baghouse	No	Michigan Brick employees noted that the opacity was not what they typically observed therefore they began to investigate and take corrective actions to repair issues identified with the baghouse. During this time Michigan	<ul style="list-style-type: none"> Completed September 30, 2023 	Update CAM Plan.

	Rule/Permit Condition Violated	Comments	Dates Violations Occurred	Explanation of Causes and Duration	Violations Ongoing	Summary of Actions Taken/Proposed Corrective Actions	Dates to be Implemented	Reoccurrence Preventative Measures
				exhaust gas opacity as <10%. The CAM Plan states this indicator range was established during the compliance emissions testing performed in 1994. Michigan Brick employees did not believe that the opacity they observed was greater than 10% and therefore did not believe the baghouse was failing to work within an acceptable range.		Brick did not believe they were operating the baghouse in an unsatisfactory manner as opacity was less than 10%. <ul style="list-style-type: none"> A UV inspection provided corrective actions that included applying sealant to identified gaps and improving fittings. Michigan Brick implemented these corrective actions. Update CAM Plan to state that if during the daily uncertified opacity reading visible emissions are present Michigan Brick will perform and document a Method 9 opacity reading to determine if the opacity is greater than the established acceptable range for baghouse exhaust gas opacity of <10%. Corrective actions will be taken and documented. 		
26	Rule 912(4)	Failure to notify the AQD within 2 business days of the discovery of the malfunction (leaks in baghouse April 12 - May 17, 2023) for air emissions in excess of the 0% opacity standard that continued for more than 2 hours.	April 12 – May 17 2023	Michigan Brick was conducting opacity readings per the approved CAM Plan which sets an acceptable range for baghouse exhaust gas opacity as <10%. The CAM Plan states this indicator range was established during the compliance emissions testing performed in 1994. Michigan Brick employees did not believe that the opacity they observed was greater than 10%.	No	<ul style="list-style-type: none"> Bags were clamped and sealed. Update CAM Plan to state that if during the daily uncertified opacity reading visible emissions are present Michigan Brick will perform and document a Method 9 opacity reading to determine if the opacity is greater than the established acceptable range for baghouse exhaust gas opacity of <10%. Corrective actions will be taken and documented. 	<ul style="list-style-type: none"> Completed September 30, 2023 	Update CAM Plan.
27	Rule 912(5)	Failure to provide a written report within 30 days of the discovery of the malfunction (leaks in baghouse).	May 12, 2023	See line 26.	No	<ul style="list-style-type: none"> Notification submitted 5/17/23. Update CAM Plan and PMP to expand and highlight reporting requirements. 	<ul style="list-style-type: none"> Completed September 30, 2023 	Additional review and training on permit conditions has been completed. Updates to CAM Plan and PMP.

Attachment C

Lime Feed Rate Records
10/4/2022 & 10/5/2022
10/24/2022 & 10/25/2022
11/13/2022

Attachment D
Gore Filtration Products
Pressure Drop Letter



Together, improving life

August 11, 2023

Michigan Brick
3820 Serr Road
Corunna, MI 48817

Attention: Mr. Bill Stevens & Mr. Steve Arnett

W. L. Gore & Associates, Inc. has no concerns with increasing the differential pressure to 7.0" w.g. in the kiln baghouse with regards to the expected performance (emissions and bag life) for Gore part number 83BT28005 as stated in the attached Warranty 00060706 for Michigan Brick.

Best Regards,

A handwritten signature in cursive script that reads "Chris Polizzi".

Mr. Chris Polizzi

Attachment E
Firemen Logs
May 28,2021 – April 12, 2023

Date 3-27-23

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
3/27	2227	54/108	377	350	4.73	34'			
	2100	54/108	377	348	4.74	34'			
	0333	54/110	381	354	4.72	30'			
	0600	54/112	192	175	4.70	28°			
	939	54/115	194	174	4.66	28°			
	1112	54/118	195	176	4.68	30°			
	1345	54/115	194	178	4.70	38°			
	1618	54/114	195	180	4.74	45			
	1851	54/114	195	179	4.74	42			
	2124	54/110	191	177	4.70	35			

Note any changes to the system

Date 1-9-22

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
1/9	2305	52/72	408	384	5.3	24°	6.8	52.6	55
	0132	52/72	410	389	5.3	24°	6.8	52.9	55
	0359	52/70	411	387	5.3	26°	6.8	51.6	55
	0626	52/72	417	389	5.3	26°	6.8	52.11	55
	0953	52/70	413	392	5.2	24°	6.8	51.8	55
	1120	52/70	423	384	5.33	26°	6.8	52.9	55
	1347	52/70	408	386	5.19	18°	6.8	54.4	55
	1614	52/74	405	384	5.25	10°	6.8	56.7	55
	1841	52/72	406	382	5.44	8°	6.8	56.2	55
	2108	52/70	403	380	5.35	4°	6.8	56.9	55

Note any changes to the system

Date 2-3-22

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
2/3	2327	53/80	365	359	5.6	12°	30	50.7	55
	0154	53/78	373	366	5.6	8°	32	51.8	55
	0421	53/80	395	368	5.7	8°	-	52.6	55
	0648	53/82	388	363	5.66	5°	28.3	41.2	55
	0915	53/82	388	361	5.41	6°	29.1	46.5	55
	1142	53/80	382	366	5.58	9°	31.3	66.4	55
	1409	53/80	379	365	5.57	10°	30.4	60.1	55
	1636	53/80	390	370	5.73	10°	30.4	67.0	55
	1903	53/82	385	360	5.58	4°	28.0	54.0	55
	2130	53/80	378	354	5.69	0°	29.0	50.8	55

Note any changes to the system

Slowed lime rate to 28.0 1640
 Inc. lime rate to 29.0 1910

Date 3-1-22

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
3/1	2230	54/80	383	370	5.5	26'	29.5	56.1	55
	0042	54/82	381	367	5.6	25'	29.1	56.6	55
	0254	54/82	383	371	5.5	26'	29.3	55.8	55
	0506	54/82	392	371	5.6	26'	29.5	56.8	55
	0718	54/85	385	373	5.58	28°	29.9	68.8	65
	930	54/85	392	377	5.67	30°	29.8	62.4	65
	1142	54/85	379	360	5.62	35°	29.9	64.3	65
	1354	54/86	374	360	5.88	35°	30.3	66.2	65
	1606	54/85	379	359	5.77	37	31.2	75.7	75
	1818	54/77	378	356	5.80	33	31.4	76.2	75
	2030	54/80	373	366	5.73	26	31.7	77.1	75

Note any changes to the system

615 Inc. lime rate to 65 lbs. per B.S.
 1525 Inc lime to 75 lbs

Date 3-14-22

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
3/14	2309	55/87	177	172	5.2	22°	31.3	74.6	75
	0118	55/90	175	172	5.3	24°	31.2	74.1	75
	0327	55/88	167	170	5.1	28°	31.4	74.3	75
	0536	55/90	172	170	5.2	24°	31.1	76.1	75
	0745	55/95	164	170	5.08	26°	31.4	76.9	75
	0944	55/90	173	170	5.25	30°	31.0	75.8	75
	1203	55/95	185	171	5.42	40°	31.3	76.4	75
	1412	55/95	191	170	5.57	44	31.9	75.9	75
	1732	55/92	188	172	5.54	46	31.1	74.7	75
	1941	55/90	183	169	5.23	33	31.2	75.0	75
	2150	55/90	168	169	5.09	26	31.3	74.9	75

Note any changes to the system

1603 62° In fan Room
 Drive OH 1 NICE

1732
 229
 1941
 2150
 2359

Date 3-17-22

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
3/17	2221	55/90	179	162	5.4	40°	31.3	76.4	75
	0030	55/90	182	163	5.4	44°	31.1	76.9	75
	0239	55/90	185	165	5.2	42°	31.4	75.9	75
	0448	55/90	180	165	5.4	42°	31.3	78.5	75
	0657	55/90	167	161	5.4	44°	30.2	74.0	75
	906	55/90	168	165	5.1	44°	30.5	72.4	11
	1115	55/86	192	174	5.5	54°	30.2	73.6	11
	1324	55/83	188	174	5.3	62°	30.5	66.1	11
	1533	55/88	173	172	5.27	65°	30.7	70.1	75
	1742	55/90	183	178	5.39	63°	31.1	81.4	75
	1951	55/85	185	174	5.43	57°	30.6	73.2	75
	2200	55/85	197	176	5.63	49°	30.6	79.6	75

Note any changes to the system

Decrease lime rate to 30.6 lbs per hr
 increase lime rate to 31 lbs per hr D6 1320

Date 3-23-22

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
3/23	2224	55/92	177	161	5.4	30°	31.1	76.1	75
	0033	55/92	170	159	5.2	30°	31.1	76.9	75
	0242	55/90	157	161	5.1	30°	31.3	75.6	75
	0451	55/92	165	161	5.1	32°	31.8	75.1	75
	0700	55/95	180	160	5.46	32°	31.2	74.7	75
	909	55/95	184	161	5.53	32°	31.2	82.2	82
	1118	55/94	169	161	5.40	36°	31.3	82.8	82
	1307	55/94	167	162	5.23	40°	31.4	83.7	82
	1536	55/90	184	162	5.24	41	31.3	81.9	82
	1745	55/87	157	161	5.11	35	31.4	82.0	82
	1954	55/89	177	161	5.24	39	31.4	81.9	82
					5.2		31.3	82.2	

Note any changes to the system

905 Inc. ~~lime~~ lime rate to 82.0 per R.S.

Date 3-29-22

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
3/29	2210	53/109	155	161	4.9	16°	32.2	83.3	82
	0101	53/105	176	166	5.1	12°	31.8	83.8	82
	0342	53/105	185	171	5.1	10°	32.1	84.1	82
	0622	53/110	175	169	5.24	10°	31.8	82.7	82
	0902	53/112	197	177	5.38	14°	32.2	88.2	82
	1142	53/110	194	183	5.24	18°	31.8	86.4	82
	1422	53/100	179	179	5.17	35°	31.7	85.9	82
	1655	53/99	177	180	4.97	37°	31.7	84.6	82
	1925	53/100	188	171	5.16	34°	31.5	84.1	82

Note any changes to the system

1641 Cut exhaust to 52Hz

Date 4-16-22

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
4/16	0036	54/102	176	174	4.86	34°			
	0309	54/104	193	172	5.4	30°			
	0542	54/102	190	173	5.2	24°			
	0815	53/100	176	170	5.0	24°			
	1048	53/100	196	172	5.01	29°			
	1321	53/100	195	173	5.43	32°			
	1554	53/100	177	174	4.85	32°			
	1827	53/100	195	170	5.45	27°			
	2100	53/99	176	171	5.23	25°			

Note any changes to the system

0730 Decrease Exhaust to 53hz per b.s. Lc

Date 4-22-22

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
4-22	2326	53/99	184	180	5.24	44°	}	}	}
	0054	53/100	190	179	5.10	34°			
	312	53/99	182	179	5.07	32°			
	530	53/99	204	179	5.45	30°			
	748	53/103	197	180	5.27	34°			
	1006	53/103	204	181	5.48	42°			
	1224	53/102	205	187	5.36	52°			
	1442	53/98	211	184	5.53	50			
	1700	53/96	205	183	5.52	45			
	1918	53/96	207	184	5.46	42			
	2136	53/95	198	180	5.09	40			

Note any changes to the system

105 Inc. lime rate to 32.4

Date 4-6-22

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
4/6	2328	52/92	176	177	5.1	36°			
	0137	52/92	192	173	5.5	34°			
	0346	52/92	169	174	5.1	30°			
	0555	52/92	174	174	4.95	40°			
	0804	52/94	192	173	5.38	42°			
	1013	52/95	184	173	5.18	44°			
	1222	51/90	189	172	5.43	42°			
	1431	51/90	168	172	5.10	45			
	1640	51/90	195	170	5.59	39			
	1849	51/90	176	171	5.19	42			
	2058	51/90	175	173	5.08	38			

Note any changes to the system

1200 SLOWED KILN EXHAUST TO 51 HZ. B₂

Date 4-11-22

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
4/11	2352	51/87	198	184	5.1	42°			
	0201	51/87	193	185	5.1	40°			
	0410	51/88	191	186	5.0	40°			
	0619	51/88	212	188	5.30	40°			
	834	51/86	200	179	5.29	40°			
	1049	51/88	200	181	5.19	50°			
	1304	51/90	206	183	5.39	62°			
	1519	50.5/87	187	180	5.47	60			
	1734	50.5/85	195	177	5.52	52			
	1943	50.7/85	178	175	4.88	48			

Note any changes to the system

1310 SHOWERS KEAN EXHAUST TO 50.5 Hz. B₃
 2036 INC. EXHAUST TO 52 Hz

Date 5-4-22

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
05/04	2344	53/100	399	350	5.4	38'			
	0202	53/98	370	363	5.4	38'			
	0420	53/100	392	368	5.4	38'			
	0630	53/100	213	188	5.40	36°			
	856	53/100	191	187	5.00	38°			
	1114	53/100	194	187	4.98	44°			
	1329	53/100	215	190	5.45	46°			
	1544	53/96	428	377	5.48	53			
	1808	53/100	392	388	5.09	50			
	2032	53/100	386	383	5.15	47			

Note any changes to the system

Inc. exhaust to 54 Hz

Date 7-10-22

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
7/10	0012	55/112	386	341	5.2	55'			
	0236	55/114	366	343	5.5	50'			
	0500	55/114	370	343	5.3	48'			
	0724	55/114	377	339	5.4	50'			
	0948	55/114	372	343	5.5	60'			
	1212	55/115	386	348	5.49	73°			
	1436	55/118	363	350	5.25	89°			
	1700	55/117	343	352	5.79	81°			
	1924	55/113	343	354	5.56	80°			
	2148	55/111	343	352	5.73	73°			

Note any changes to the system

Date 7-14-22

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
7-14-22	0012	55/112	374	338	5.53	60°			
	0236	55/115	370	329	5.36	55°			
	0500	55/114	345	330	5.50	53°			
	0724	55/118	356	333	5.28	54°			
	0948	55/120	370	338	5.47	63°			
	1212	55/118	392	350	5.50	69°			
	1436	55/116	402	357	5.20	85			
	1700	55/113	363	357	5.36	97			
	1924	55/113	381	354	5.36	77			
	2148	55/112	377	343	5.66	65			

Note any changes to the system

Date 7-19-22

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
7/19	2350	55/116	390	345	5.5	74'			
	0214	55/114	365	341	5.5	72'			
	0438	55/115	375	345	5.7	70'			
	0700	54/105	175	175	5.34	70°			
	1150	54/108	180	178	5.51	88°			
	1414	54/110	180	181	5.39	97			
	1639	54/109	205	180	5.86	90			
	1902	54/105	208	183	5.76	88			
	2126	54/105	191	180	5.48	80			

Note any changes to the system

455 SLOWED KILN EXHAUST DOWN TO 54 HZ. P₂

Date 8-6-22

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
8/6	2312	54/106	388	359	5.7	74'			
	0124	54/107	390	359	5.68	74'			
	0336	54/107	370	357	5.36	72'			
	0408	54/104							
	0409	54/104							
	0412	54/104							
	0827	54/106	381	356	5.28	72'			
	1039	54/105	392	359	5.25	80°			
	1251	54/104	374	365	5.44	88°			
	1503	54/105	408	363	5.63	92°			
	1715	54/105	368	365	5.4	92°			
	1927	54/105	399	361	5.6	88°			
	2139	54/105	402	365	5.6	80°			

Note any changes to the system

#1 TRANSFER DRIVE PNEU WORKING

Date 9-20-22

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
9/20	2318	55.5/116	374	357	5.67	58°			
	0130	55.5/117	390	350	5.4	56°			
	0342	55.5/117	371	342	5.8	54°			
	0554	55.5/117	384	352	5.4	52°			
	0806	55.5/118	386	350	5.58	53°			
	1018	55.5/120	404	354	5.74	64°			
	1230	56/123	397	356	5.98	69°			
	1442	56/124	210	181	5.99	70			
	1654	56/121	183	181	5.47	68			
	1906	56/120	193	179	5.59	60			
	2118	56/119	187	176	5.46	58			

Note any changes to the system

1025 Inc exhaust to 56 Hz per RS J.S.

Date 11-9-22

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
11/9	7330	57/126	365	345	5.5	30'			
	0142	57/126	361	347	5.5	30'			
	0354	57/126	365	345	5.5	28'			
	0606	57/130	183	174	5.52	28°			
	818	57/133	183	174	5.57	38°			
	1030	56.5/128	184	176	5.40	46°			
	1242	56.5/125	184	174	5.43	40°			
	2454	56.5/127	375	354	5.70	60'			
	1706	56.5/128	366	350	5.71	59°			
	1918	56.5/128	348	347	5.72	55°			
	2130	56.5/125	368	348	5.70	55°			

Note any changes to the system

9:40 slowed kiln exhaust to 56.5 Hz. B₅

Date 6-7-21

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
6/7	2256	53/76	421	400	5.3	76°	11.2	92	83
	114	53/76	416	392	5.3	74°	11	87.3	83
	332	53/80	413	393	5.2	72°	11	83.3	11
	550	53/79	412	389	5.3	70°	11	83.8	11
	808	53/78	410	392	5.16	71°	11.0	83.3	83
	1026	53/78	408	390	5.3	79°	11.0	92.06	83
	1244	53/78	413	383	5.3	79°	11.0	89.94	83
	1502	53/80	409	394	5.19	80	10.8	83.0	83
	1720	53/77	411	392	5.18	75	10.8	86.9	83
	1938	53/76	411	390	5.29	74	10.8	84.1	83
	2156	53/80	409	396	5.24	68	10.8	87.2	83

Note any changes to the system

Decreased lime rate to 11 2300 DLB
 Decreased lime to 10.8 = 83 lbs per hour J.S

Date 6-9-21

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
6/9	2314	53/80	407	384	5.2	71°	10	85.9	83
	182	53/79	401	387	5.2	69°	11	84.6	11
	350	53/79	406	386	5.3	68°	11	87.4	11
	608	53/78	406	384	5.35	65°	10.0	86.1	83
	826	53/85	408	385	5.2	70°	10.0	78.04	83
	1047	53/78	405	391	5.2	78°	10	81.21	83
	1302	53/78	411	391	5.2	84	10.0	82.53	-
	1520	53/88	413	397	5.26	88	10.5	86.2	83
	1738	53/88	418	395	5.42	84	10.5	84.7	83
	1956	53/78	417	393	5.4	78	10.5	84.5	83

Note any changes to the system

Increase lime rate to 10.5 @ 887° from 10.0 = 83 lbs/hr charge

Date 6-17-61

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
6/17	2330	53/78	386	370	5.35	57°	10.8	81.6	83
	0154	53/77	399	377	5.56	54°	10.8	78.3	83
	0418	53/77	392	368	5.53	47°	11.0	80.6	83
	0442	53/78	392	369	5.54	44°	11.2	81.1	83
	0906	53/80	392	371	5.59	58°	11.2	84.4	--
	1130	53/80	399	380	5.42	76°	10.1	78.1	76
	1309	53/80	404	380	5.57	82°	10.1	78.9	--
	1630	53/78	407	381	5.6	82°	10.1	79.6	--
	1900	53/78	386	371	5.4	80°	10.1	78.4	=
	2130	53/75	385	370	5.4	72°	10.1	81.7	=

Note any changes to the system

Inc lime to 11.0 = 83 lbs per hrs JS.
 Inc lime to 11.2 = 83 lbs per hrs JS.
 Cut lime rate to 10.1 = 76 lbs.
 Cut lime rate to 9.8 per hr

Date 6-19-21

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
4/19	0730	53/77	379	363	5.35	71°	10.2	80.2	76
	0800	53/76	382	364	5.44	67°	10.2	84.3	76
	0830	53/80	376	361	5.41	64°	10.2	83.7	76
	0600	53/80	383	364	5.54	63°	10.2	84.3	76
	0830	54/84	387	370	5.65	66°	10.0	78.8	76
	1100	54/83	393	370	5.66	65	9.9	72.8	76
	1330	54/87	382	364	5.61	64	9.9	78.1	76
	1600	54/85	393	365	5.90	60	9.9	78.7	76
	1830	54/85	394	372	5.80	67	9.9	77.9	76
	2100	54/85	395	373	5.80	65	9.9	78.0	76

Note any changes to the system

Decreased lime to 10.0 = 76 lbs per hr JS.
 Bill inc exhaust fan 1 Hz 53.0 to 54.0 JS

Date 6/22/21

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
6/22	2300	54/83	381	367	5.4	46°	10.2	78.3	76
-	0730	54/89	378	358	5.7	40°	10.1	81.7	11
-	0400	54/85	374	361	5.6	38°	10.1	75.3	4
-	0630	54/87	373	359	5.64	37°	10.1	76.4	76
	0900	54/86	378	357	5.69	47°	10.1	77.7	76
	1130	54/85	384	362	5.60	54°	10.1	87.0	76
	1400	54/85	388	366	5.52	60°	9.8	80.9	76
	1630	54/85	382	368	5.62	58°	9.6	81.7	--
	1900	54/88	383	367	5.53	58°	9.6	78.9	--
	2130	54/89	385	366	5.44	50°	9.6	77.1	--

Note any changes to the system

Cut lime rate to 9.6 lbs.

Date 7/5/21

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
7/5	2303	53/84	407	382	5.5	76	10	75.9	76
	0203	53/83	393	374	5.4	72	10	74.6	
	0503	53/85	402	376	5.4	68	10	77.5	
	0803	53/84	394	374	5.43	70	10.0	77.5	
	1103	53/82	403	382	5.44	80	10.0	69.8	
	1403	53/80	413	386	5.46	93	10.0	71.2	
	1703	53/81	411	385	5.53	90	10.0	870.8	
	2003	53/83	404	383	5.45	86	10.0	77.0	

Note any changes to the system

Date 7/6/21

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
7/6	2303	53/83	397	378	5.5	82	10	73.2	76
	0203	53/82	392	375	5.4	76	10	70.1	
	6503	53/83	386	369	5.6	70	10	73.3	
	0803	53/85	388	371	5.55	71°	10.0	70.1	
	1055	53/86	392	372	5.47	78°	10.2	73.5	
	1346	53/82	406	381	5.55	87°	10.2	77.2	
	1637	53/80	403	385	5.42	90	10.2	78.7	
	1925	53/82	409	390	5.39	87	10.2	76.2	

Note any changes to the system

Inc lime rate to 10.2 = 76 lbs per hours JS.

Date 7/8/21

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
7/8	0219	53/84	407	384	5.5	68	10.2	72.4	76
	0059	53/85	410	383	5.7	64	10.2	75.4	
	0339	53/82	399	380	5.4	64	10.2	75.9	
	0619	53/85	403	375	5.52	63°	10.2	76.2	
	0859	53/85	408	380	5.65	63°	10.2	50.7	50
	1145	53/85	408	379	5.59	65°	10.2	45.7	
	1415	53/85	400	373	5.99	70°	7.4	47.8	
	1645	53/84	399	379	5.54	70°	7.6	50.4	
	1915	53/85	412	384	5.77	65°	7.6	49.7	
	2145	53/85	408	381	5.84	60°	7.4	51.2	

Note any changes to the system

Decreased lime rate + lbs per hr 7.0 = 50 lbs per hr J.S.
 Inc. lime rate to 7.4 = 50 lbs per hrs J.S.
 Inc. lime rate to 7.6 = 50 lbs.

Date 7/19/21

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
7/19	2230	53/85	370	355	5.5	64	7.0	49.4	50
	6221	53/88	378	357	5.6	64	7.0	52.3	50
	6512	53/88	377	356	5.5	62	7.0	49.7	50
	0803	53/87	389	361	5.54	63°	7.0	50.2	50
	1030	53/88	386	363	5.59	71°	7.0	50.5	50
	1316	53/86	396	369	5.42	79°	7.0	52.1	50
	1550	53/83	390	368	5.54	83°	7.0	51.8	50
	1830	53/88	401	375	5.5	82°	7.0	51	50
	2110	53/88	395	370	5.6	74°	7.0	52.3	50
7/20	2350	53/85	392	373	5.5	71°	7.0	50.2	50
	0230	53/86	392	366	5.5	66°	7.0	49.7	50
	0510	53/83	386	364	5.5	62	7.0	49.2	50
	0750	53/88	382	362	5.45	63°	7.0	51.8	50
	1030	53/88	390	368	5.52	72°	7.0	51.5	50
	1310	53/87	391	370	5.51	81°	7.0	52.1	50
	1550	53/82	398	374	5.58	83°	7.0	51.8	50
		Note any changes to the system							
	1830	53/85	399	379	5.5	76°	7.0	52.9	50
	2110	53/84	392	373	5.5	70°	7.0	50.5	50

Date 8/2/21

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
8/2	2237	53/85	365	343	5.3	54	6.8	49.4	50
	0101	53/87	365	340	5.5	50	6.8	50.4	-
	0325	53/87	357	338	5.4	48°	6.8	50.5	-
	0549	53/88	351	331	5.3	48°	6.8	51.8	
	0813	53/87	346	322	5.61	52°	6.8	57.6	50
	1037	53/90	357	332	5.45	61°	6.8	47.0	50
	1301	53/88	365	339	5.51	68°	6.6	51.3	50
	1525	53/88	371	347	5.58	72	6.6	49.7	50
	1749	53/90	360	345	5.34	73	6.6	50.2	50
	2013	53/86	364	349	5.35	70	6.6	51.4	50

Note any changes to the system

Decreased lime speed to 6.6 = 50 lbs Per hrs JS.

Date 8-27-21

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
8/27	2321	55/90	377	356	5.41	71°	7.2	51.5	50
	0136	55/93	378	357	5.44	72°	7.2	52.1	60
	0351	55/93	390	362	5.54	69	7.2	51.8	50
	0606	55/93	389	363	5.47	70°	7.2	51.5	50
	821	55/98	4.00	370	6.03	68°	7.2	51.0	↓
	1036	55/100	391	344	5.57	71°	7.2	51.2	↓
	1251	55/95	384	363	5.61	78°	7.2	51.7	↓
	1506	55/93	397	372	5.50	92	7.2	48.4	50
	1721	55/90	391	370	5.52	81	7.2	49.9	50
205/	1721	55/92	381	358	5.33	77	7.2	50.1	50
	2151	55/							50

Note any changes to the system

2051
215
2306
0121
336
551
806
1021

Date 9-2-21

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
9/2	2221	55/99	354	334	5.5	56°	7.2	51	50
	0036	55/100	359	335	5.3	52°	7.2	49.7	1
	0251	55/95	355	332	5.3	48°	7.2	49.4	
	0506	55/96	370	335	5.4	46°	7.2	51.5	
	0721	55/100	363	339	5.62	46°	7.2	50.8	
	0936	54/70	411	380	5.40	54°	7.2	52.9	
	1151	54/85	427	396	5.66	65°	7.2	51.7	
	1406	55/84	410	400	5.57	69	7.2	51.4	
	1621	54/82	412	400	5.68	70	8.6	69.7	72
	1836	54/86	414	383	5.92	72	8.6	66.4	
	2050	54/84	391	361	5.20	58	9.1	91.6	

Note any changes to the system

1615 Inc. lime rate to 8.6 = 72 ~~66.4~~ HR

1836 Inc lime rate to 9.1

Date 9-23-21

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
9/23	2310	53/86	380	360	5.23	41°	8.9	69.3	72
	0134	53/84	381	360	5.12	40°	8.9	70.6	72
	0358	53/83	379	354	5.19	40°	8.9	68.7	72
	422	53/84	381	352	5.26	40°	8.9	69.7	72
	846	53/84	379	352	5.19	40°	8.9	70.3	
	1110	53/88	393	367	5.28	42°	8.9	69.8	
	1234	53/88	392	365	5.29	46°	8.9	68.8	
	1558	53/86	392	364	5.28	43	8.9	72.2	72
	1822	53/86	373	355	5.20	41	8.9	70.9	72
	2046	53/86	385	354	5.23	41°	8.9	70.1	72

Note any changes to the system

250 Inc, draft to 54 HZ. JT

Date 9-30-21

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
9/30	2308	52/85	400	373	5.2	52°	9.7	71.9	72
	0832	53/86	396	376	5.2	44°	9.7	70.1	72
	0956	53/85	395	373	5.1	42°	9.7	72.4	72
	0920	53/86	406	377	5.29	57°	9.7	74.3	72
	1234	53/86	404	380	5.31	61°	9.7	77.5	72
	1546	53/90	419	390	5.59	68°	9.2	66.66	72
	1858	53/85	401	384	5.18	67°	9.3	68.51	72

Note any changes to the system

cut lime rate to 9.2 = 72 lbs
 Change Lime RATE TO 9.3 = 72 lbs @ 4:00
 INCREASE TO 9.4 @ 1855

Date 10-1-21

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
10/1	2210	53/85	405	380	5.2	52°	9.4	64.8	72
	0110	53/84	407	386	5.1	50°	9.7	71.9	72
	0410	53/85	407	381	5.2	48°	9.7	72.2	72
	0710	53/90	399	376	5.31	44°	9.7	75.1	72
	1010	53/87	397	379	5.22	57°	9.7	76.1	72
	1301	53/83	419	391	5.38	68°	9.3	71.6	72
	1552	53/84	418	398	5.16	65°	9.3	77.5	72
	1843	53/80	417	396	5.27	70°	9.3	77.5	72
	2134	53/80	406	387	5.12	60°	9.1	71.6	72

Note any changes to the system

increase lime to 97 lbs per hr
 cut lime rate to 9.3 = 72 lbs per hrs JS
 Inc. lime rate to 9.1. JT

Date 10-5-21

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
10/5	7230	53/84	400	380	5.3	56°	9.1	73	72
	0110	53/86	394	377	5.2	54°	9.1	71.9	72
	0350	53/85	401	385	5.3	54°	9.1	72	72
	0630	53/84	410	384	5.38	56°	9.1	74.1	72
	910	53/86	401	381	5.33	56°	9.1	73.3	72
	1150	53/84	405	384	5.26	60°	9.1	72.7	72
	1430	53/85	412	388	5.40	64	9.1	71.7	72
	1710	53/84	408	390	5.31	67	9.1	70.9	72
	1950	53/84	409	386	5.42	60	9.1	71.0	72

Note any changes to the system

Date 10-8-21

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
10/8	2230	54/88	391	373	5.51	62°	9.1	74.3	72
	0110	54/88	398	374	5.51	62°	9.1	74.07	72
	0350	54/87	410	383	5.57	61°	9.1	72.4	72
	630	54/88	410	385	5.48	58°	9.1	73.9	72
	910	54/90	405	386	5.34	61°	9.1	73.0	72
	1150	54/88	428	398	5.20	68°	9.1	72.7	72
	1410	54/88	402	379	5.20	69	9.1	71.4	72
	1850	54/86	406	382	5.30	63	9.1	72.5	72
	2130	54/86	401	379	5.33	60	9.1	72.9	72

Note any changes to the system

Date 10-19-21

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
10/19	2322	54/90	376	370	5.3	44°	9.1	68.8	72
	0147	54/90	397	370	5.4	40°	9.1	69.3	72
	0411	54/90	384	360	5.4	36°	9.1	71.7	72
	0635	54/90	381	352	5.44	38°	9.1	72.4	72
	859	54/92	377	352	5.35	44°	9.1	73.9	72
	1123	54/90	375	358	5.47	56°	9.1	73.1	72
	1347	53/98	382	363	5.64	75°	9.1	73.9	72
	1611	55/95	395	369	5.60	67	9.1	72.4	72
	1835	55/93	405	383	5.45	64	9.1	73.1	72
	2059	55/85	411	382	5.53	55	9.1	72.0	72

Note any changes to the system

1125 Inc. draft to 5542 per R.S.

Date 10-21-21

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
10/21	0825 0825	55/95	374	354	5.50	59°	9.1	71.7	72
	0147	55/95	382	359	5.43	59°	9.1	71.4	72
	0411	55/95	385	360	5.49	54°	9.1	72.2	72
	0635	55/95	380	360	5.47	54°	9.1	72.9	72
	0859	55/95	379	359	5.44	54°	9.1	74.8	
	1123	55/95	385	357	5.93	60°	9.1	74.3	
	1347	55/95	374	355	5.33	60°	9.1	73.8	
	1638	54/91	377	351	5.33	50	9.1	72.4	72
	1929	54/90	373	352	5.20	43	9.1	73.4	72

Note any changes to the system

Slowed draft down to 54 Hz.

Date 10-22-21

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
10/22	2220	54/90	371	344	5.62	40°	9.1	71.9	72
	0111	54/90	375	347	5.31	35°	9.1	71.1	72
	0404	52/90	374	355	5.22	32°	9.1	69.5	72
	0653	54/88	380	353	5.51	30°	9.1	71.3	72
	0933	54/90	372	347	5.38	32°	9.1	72.4	
	1213	54/90	373	353	5.40	40°	9.1	71.1	
	1545	54/95	370	351	5.35	42	9.1	72.0	72
	1825	54/92	368	344	5.48	40	9.1	71.8	72
	2105	54/90	371	346	5.50	37	9.1	72.4	72

Note any changes to the system

Date 10-25-20

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
10/25	2345	54/90	369	349	5.4	38°	9.1	72.7	72
	0225	54/88	366	347	5.3	38°	9.1	71.9	72
	0505	54/90	370	352	5.3	38°	9.1	72.4	72
	0745	54/95	373	348	5.53	37°	9.1	69.9	72
	1025	54/95	367	348	5.26	37°	9.1	65.3	72
	1256	54/93	363	355	5.45	37°	9.6	75.3	72
	1526	54/92	375	355	5.27	41	9.3	72.9	72
	1756	54/90	376	351	5.48	41	9.3	73.7	72
	2026	54/90	376	357	5.43	40	9.3	73.0	72

Note any changes to the system

Lime rate 9.3 = 72 lbs per hours

Date 10-28-71

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
10/28	7267	54/90	387	309	5.4	42'	9.1	73.2	72
	0028	54/90	391	373	5.4	42'	9.1	72.2	72
	0249	54/90	393	370	5.4	44'	9.1	72.4	72
	0510	54/86	391	370	5.4	44'	9.1	70.1	72
	0731	54/92	384	368	5.25	42°	9.1	64.02	72
	0952	54/91	393	374	5.36	45°	9.1	62.6	72
	1213	54/90	400	375	5.44	52°	9.3	65.6	72
	1434	54/89	401	376	5.46	55	9.4	69.7	72
	1655	54/87	401	378	5.37	55	9.4	68.2	72
	1916	54/87	399	374	5.37	49	9.4	67.7	72
	2137	54/90	392	370	5.40	46	9.4	71.4	72

Note any changes to the system

Increased to ~~9.3~~ 9.3 = 72 lbs per hr JS.

Increased to 9.4 = 72 lbs per hr JS.

Date 10-29-21

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
10/29	2358	54/88	396	376	5.3	44'	9.4	70.6	72
	0219	54/90	395	369	5.3	42'	9.4	70.9	72
	0440	54/85	399	370	5.4	42'	9.4	72.7	72
	0701	54/89	394	366	5.36	44°	9.4	73.01	72
	0927	54/90	392	373	5.25	47°	9.4	73.2	72
	1143	55/92	398	370	5.48	49°	9.4	73.01	72
	1404	55/93	405	378	5.50	49	9.4	72.5	72
	1625	55/90	405	379	5.53	49	9.4	73.10	72
	1946	55/91	404	378	5.54	47	9.4	71.9	72
	2107	55/91	398	377	5.28	46	9.4	72.4	72

Note any changes to the system

~~925 Inc exhaust drive to 55 Hz from 54 Hz~~
 925 Inc exhaust drive to 55 Hz from 54 Hz

Date 11-2-21

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
11/2	0018	55/95	388	354	5.7	30'	9.3	72.2	72
	0248	55/95	375	356	5.6	32'	9.3	71.9	72
	0502	55/95	374	357	5.5	30'	9.5	68.2	72
	0728	55/98	384	360	5.54	30°	9.5	82.9	72
	0943	55/100	384	343	5.57	30°	9.1	79.1	
	1204	55/100	392	364	6.00	35°	9.0	76.6	
	1425	55/98	376	358	5.48	37	9.0	73.01	72
	1725	55/95	390	361	5.68	37	9.0	72.7	72
	1945	55/98	376	352	5.78	30	9.0	72.0	72
									72

Note any changes to the system

increase lime rate 0.5 lbs per hr L
 cut lime rate to 9.1 J
 cut lime rate to 9.0 J

Date 11-9-21

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
11/9	2275	52/85	394	372	5.77	40°	7.0	44.9	50
	0125	52/85	399	373	5.68	40°	7.2	49.4	50
	0425	52/85	402	376	5.60	36°	7.2	48.1	50
	0725	52/87	400	374	5.56	42°	7.2	46.5	50
	1025	52/87	397	381	5.23	45°	7.2	51.8	50
	1325	52/87	406	381	5.24	48°	7.2	52.1	50
	1625	53/90	404	385	5.19	46°	7.2	51.7	50
	1845	53/88	391	375	5.49	42°	7.2	52.2	50
	2125	53/88	394	372	5.36	36°	7.2	51.9	50

Note any changes to the system

increase Lime rate 7.2 lbs Per Hr LC

Date 11-10-21

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
11/10	0005	53/88	390	369	5.3	30'	7.2	38.1	50
	0245	53/90	396	375	5.3	28'	7.4	48.7	50
	0525	53/90	388	376	5.4	24'	7.4	50.2	50
	0805	53/86	392	372	5.90	38°	7.4	50.9	50
	1045	53/90	396	377	5.83	50°	7.4	51.7	50
	1325	53/86	404	379	5.41	52°	7.4	48.8	50
	1545	53/87	397	381	5.64	52'	7.4	51.2	50
	1815	53/90	391	373	5.83	44	7.4	58.1	50
	2045	53/88	397	371	5.94	40	7.4	48.9	50

Note any changes to the system

Increase lime rate 7.4 lbs Hr LC

Date 11-11-21

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
11/11	2315	53/88	396	374	5.8	36°	7.4	50.5	50
	0145	53/88	353	377	5.7	44°	7.4	50.8	50
	0415	53/88	396	375	5.8	44°	7.4	54.4	50
	0645	53/87	394	371	5.96	43°	7.2	54.2	50
	0915	53/89	404	379	5.70	48°	7.0	50.2	50
	1130	53/88	402	384	5.47	54°	7.0	51.05	50
	1354	53/88	403	381	5.36	60°	7.0	51.5	50
	1608	53/88	402	382	5.15	52°	7.0	50.1	50
	1842	53/88	400	375	5.34	40°	7.0	51.7	50
	2106	53/86	407	382	5.38	42°	7.0	49.6	50

Note any changes to the system

cut lime rate 7.2 lbs per hr to
 cut lime rate to 7.0 = 50 lbs per hr JS.

Date 11-18-21

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
11/18	0000	53/87	399	374	5.65	39°	7.0	43.1	50
	0224	53/86	401	378	5.36	35°	7.0	42.5	50
	0448	53/86	397	379	5.39	33°	7.0	44.7	50
	712	53/89	404	377	5.60	30°	7.0	45.8	50
	936	53/40	409	381	5.67	32°	7.3	53.6	↓
	1200	53/90	411	384	5.62	32°	7.1	48.7	↓
	1425	53/86	398	378	5.18	29	7.1	49.9	50
	1648	53/86	402	381	5.18	26	7.1	47.7	50
	1912	53/86	404	380	5.22	25	7.1	47.9	50
	2136	53/86	397	373	5.12	25	7.1	48.2	50

Note any changes to the system

Inc. lime rate to 7.3
 cut lime rate to 7.1

Date 11-29-21

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
11/29	0232	53/86	391	374	5.1	22'	7.1	47.8	50
	0200	53/84	394	373	5.3	20'	7.1	48.1	50
	0419	53/87	391	368	5.3	18'	7.1	49.2	50
	0636	53/88	393	371	5.31	18°	7.1	49.6	50
	854	53/90	382	365	5.20	18°	7.1	48.8	50
	1109	53/90	389	372	5.15	26°	7.1	49.3	50
	1324	53/90	393	372	5.31	30°	7.1	44.6	50
	1539	53/90	382	369	5.30	30	7.1	46.7	50
	1754	53/86	394	376	5.23	29	7.1	47.2	50
	2009	53/86	382	365	5.21	22	7.1	45.1	50

Note any changes to the system

Inc. lime rate to 7.2

Date 12-1-81

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
12/1	2230	54/90	398	380	5.2	241	7.2	49.7	50
	0040	54/90	392	375	5.3	241	7.2	48.4	50
	0300	54/90	396	372	5.3	22'	7.0	55.2	50
	0512	54/90	399	379	5.2	22	7.0	50.2	50
	0721	54/95	395	376	5.26	24°	7.0	49.4	50
	0936	54/95	399	380	5.53	26°	7.0	50.7	50
	1148	54/96	401	379	5.54	30°	7.0	48.4	50
	1400	54/95	406	383	5.30	32°	7.0	48.8	50
	1612	54/88	408	382	5.25	33	7.0	49.4	50
	1824	54/87	407	385	5.32	32	7.0	48.9	50
	2036	54/87	405	384	5.19	32	7.0	47.9	50

Note any changes to the system

cut lime rate 7.0 lbs per hr LC

Date 12-2-21

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
12/2	2248	54/88	399	373	5.38	34°	7.0	48.8	50
	0100	54/87	403	383	5.15	37°	7.0	48.4	50
	0312	54/88	409	383	5.35	39°	7.0	44.1	50
	0524	54/90	417	391	5.32	40°	7.0	40.7	50
	736	54/92	404	384	5.24	42°	7.2	53.7 50	50
	948	54/90	410	385	5.52	42°	7.2	53.9	50
	1000	54/90	404	387	5.10	40°	7.0	49.5	50
	1412	54/90	408	385	5.37	38	7.0	51.2	50
	1624	54/88	401	385	5.18	38	7.0	49.7	50
	1835	54/88	399	379	5.65	34	7.0	50.4	50
	2048	54/90	404	385	5.78	30	7.0	49.4	50

Note any changes to the system

Inc lime rate to 7.7 = 50 lbs JS
cut lime rate to 7.0

Date 12-3-21

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
12/3	0300	54/88	395	376	5.72	26°	7.0	50	50
	0112	54/92	407	383	5.56	26°	7.0	48.9	50
	0324	54/98	401	381	6.06	26°	7.0	49.7	50
	0536	54/92	405	385	5.81	25°	7.0	48.4	50
	748	54/90	413	390	5.24	26°	7.0	49.6	50
	1000	54/92	409	389	5.13	28°	7.2	53.8	55
	1212	54/92	404	388	5.21	26°	7.2	54.7	55
	1424	54/90	410	390	5.29	30	7.2	56.2	55
	1636	54/87	404	385	5.27	28	7.2	49.9	55
	1848	54/87	401	384	5.18	30	7.2	53.7	55
	2100	54/86	406	389	5.19	29	7.2	54.1	55

Note any changes to the system

INC LIME LOS TO 55. ¹²

Inc. lime rate to 7.2 to = 55

Date 12-6-21

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
12/6	2336	54/86	356	378	5.1	34°	7.2	51.8	55
	0148	54/86	411	385	5.3	34°	7.2	51.05	55
	0400	54/86	409	385	5.2	34°	7.2	50.5	55
	0612	54/92	409	383	5.38	31°	7.2	47.3	55
	0824	54/89	403	384	5.13	30°	7.2	53.4	55
	1036	53/90	404	380	5.19	27°	7.2	53.1	55
	1248	53/87	393	376	5.11	27°	7.2	51.5	55
	1500	53/86	401	377	5.13	25	7.2	53.2	55
	1712	53/84	397	373	5.19	22	7.2	52.1	55
	1924	53/85	384	365	5.27	20	7.2	52.7	55
	2136	53/85	392	360	5.35	17	7.2	54.1	55

Note any changes to the system

1030 cut exhaust drive to 53 Hz per BS. J.S.

Date 12-7-21

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
12/7	2348	53/86	395	371	5.2	24°	7.2	52.3	55
	0200	53/88	394	372	5.1	12°	7.2	51.8	55
	0412	53/87	398	373	5.3	10°	7.2	52.11	55
	0624	53/90	380	363	5.15	9°	7.2	53.1	55
	0836	53/92	387	369	5.19	8°	7.2	52.3	55
	1048	54/91	396	372	5.29	10°	7.2	53.1	55
	1300	54/88	391	366	5.30	14°	7.2	53.4	55
	1512	54/95	395	374	5.38	14	7.2	52.7	55
	1724	54/95	385	365	5.23	13	7.2	52.4	55
	1936	54/91	390	371	5.34	13	7.2	53.0	55
	2148	54/92	387	368	5.26	14	7.2	51.9	55

Note any changes to the system

Toe exhaust drive back to 5447 Per BS J.S.

Date 12-9-21

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
12/9	2248	54/80	379	364	5.4	12'	7.2	52.3	55
	0100	54/80	387	365	5.7	12'	7.2	52.1	55
	0312	54/80	378	360	5.5	10'	7.2	50.5	55
	0524	54/80	380	361	5.4	12'	7.2	50.2	55
	0736	54/85	376	358	5.60	17°	7.2	48.6	55
	0948	54/83	380	366	5.44	21°	7.2	48.9	55
	1200	54/83	389	369	5.51	25°	7.2	55.2	55
	1412	54/82	387	372	5.45	26°	7.4	54.8	55
	1624	54/82	393	372	5.49	28°	7.4	56.2	55
	1836	54/80	380	365	5.41	28°	7.4	53.3	55
	2048	54/80	395	372	5.40	28°	7.4	57.4	55

Note any changes to the system

Inc lime rate to 7.4 = 55 lbs per hr JS.

Date 12-13-21

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
12/13	2336	54/78	389	373	5.4	34	7.5	50.5	55
	0148	54/77	391	373	5.4	32	7.5	51.3	55
	0400	54/77	397	377	5.5	32	7.5	54.7	55
	0612	54/76	396	372	5.76	30°	7.5	53.4	55
	0824	54/75	393	374	5.41	30°	7.5	52.6	55
	1036	54/77	399	378	5.59	36°	7.5	58.2	55
	1248	54/80	396	374	5.60	48°	7.2	53.7	55
	1500	54/77	397	378	5.54	43	7.2	52.4	55
	1712	54/80	389	378	5.56	39	7.2	53.1	55
	1924	54/80	380	369	5.44	30	7.2	53.9	55
	2136	54/81	388	367	5.65	27	2.3	52.7	55

Note any changes to the system

Cut lime rate to 7.2

Date 12-14-21

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
12/14	2348	54/80	387	370	5.6	22°	7.2	51.3	55
	0200	54/80	392	372	5.6	22°	7.2	51.8	55
	0412	54/80	389	373	5.4	18°	7.2	52.6	55
	0624	54/80	382	367	5.81	18°	7.2	53.8	55
	0836	54/80	380	367	5.52	22°	7.2	49.8	53
	1048	54/80	384	373	5.53	34°	7.5	54.2	55
	1200	54/80	388	374	5.52	45°	7.5	53.1	55
	1512	54/82	395	375	5.61	44	7.5	55.4	55
	1724	54/79	388	372	5.67	40	7.5	54.0	55
	1936	54/80	383	367	5.57	37	7.5	52.7	55
	2148	54/80	388	372	5.47	37	7.5	52.9	55

Note any changes to the system

Inc. lime rate to 7.5.

Date 12/20/21

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
12/20	2221	54/80	383	363	5.6	20	7.5	51.8	55
	0042	54/80	387	366	5.7	20	7.5	52.1	55
	0303	54/80	396	371	5.7	20	7.5	51.6	55
	0524	54/80	395	374	5.6	20	7.5	51.5	55
	0745	54/82	379	353	5.63	20°	7.5	55.2	55
	01006	54/83	374	351	5.73	22°	7.5	55.02	55
	1227	53/79	365	349	5.45	29°	7.5	54.7	55
	1448	53/78	377	354	5.43	33	7.5	53.7	55
	1709	53/75	372	356	5.38	30	7.5	52.0	55
	1930	53/75	376	353	5.45	28	7.5	54.2	55
	2151	53/76	367	348	5.45	27	7.5	53.7	55

Note any changes to the system

cut exhaust drive to 53 Hz per B.S. J.S.

Date 12-26-21

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
12/26	0003	53/74	416	390	5.4	24'	7.5	51.3	55
	0224	53/75	415	388	5.4	22'	7.5	50.5	55
	0445	53/75	402	382	5.3	20'	7.5	51.6	55
	0706	53/75	411	383	5.5	18'	7.5	52.3	55
	0927	53/75	409	390	5.3	18'	7.5	50.5	55
	1148	53/70	412	384	5.4	18°	7.5	51.6	55
	1409	53/72	406	384	5.35	25°	7.5	53.3	55
	1630	53/72	411	384	5.49	26°	7.5	52.7	55
	1851	53/74	405	383	5.34	24°	7.5	54.1	55
	2112	53/72	401	381	5.32	22°	7.5	52.8	55

Note any changes to the system

57

Date 12-30-21

Firemen

Before every charge, record the following readings for #1 kiln.

Date	Time	Exhaust Amps	Cooler temp.	Baghouse temp.	Baghouse D.P.	Outside temp	Controller Speed rate	Lime lbs per hr act	Lime lbs Per hr.
12-30-21	2203	53/75	409	385	5.32	21	7.5	54.1	55
	0024	53/74	409	381	5.53	19°	7.5	55.5	55
	0245	53/74	406	380	5.45	20°	7.5	60.5	55
	0506	53/74	402	382	5.36	20°	7.5	56.6	55
	0727	53/73	410	382	5.50	20°	7.4	55.9	55
	0948	53/75	404	383	5.58	20°	7.4	56.3	55
	1009	53/74	411	383	5.49	22°	7.4	55.2	55
	1436	52/70	414	388	5.42	26	7.4	53.7	55
	1712	52/71	408	387	5.26	25	7.4	54.9	55
	1948	52/73	400	381	5.24	26	7.4	55.0	55

Note any changes to the system

Slowed 1335 Exhaust fan to 52 Hz.
