

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

May 31, 2023

PERMIT TO INSTALL
115-21A

ISSUED TO
Stoneco of Michigan, Moscow Quarry

LOCATED AT
8760 East Chicago Road
Horton, Michigan 49246

IN THE COUNTY OF
Hillsdale

STATE REGISTRATION NUMBER
N6565

The Air Quality Division has approved this Permit to Install, pursuant to the delegation of authority from the Michigan Department of Environment, Great Lakes, and Energy. This permit is hereby issued in accordance with and subject to Section 5505(1) of Article II, Chapter I, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Pursuant to Air Pollution Control Rule 336.1201(1), this permit constitutes the permittee's authority to install the identified emission unit(s) in accordance with all administrative rules of the Department and the attached conditions. Operation of the emission unit(s) identified in this Permit to Install is allowed pursuant to Rule 336.1201(6).

DATE OF RECEIPT OF ALL INFORMATION REQUIRED BY RULE 203: May 5, 2023	
DATE PERMIT TO INSTALL APPROVED: May 31, 2023	SIGNATURE:
DATE PERMIT VOIDED:	SIGNATURE:
DATE PERMIT REVOKED:	SIGNATURE:

PERMIT TO INSTALL

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COMMON ACRONYMS

AQD	Air Quality Division
BACT	Best Available Control Technology
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CEMS	Continuous Emission Monitoring System
CFR	Code of Federal Regulations
COMS	Continuous Opacity Monitoring System
Department/department/EGLE	Michigan Department of Environment, Great Lakes, and Energy
EU	Emission Unit
FG	Flexible Group
GACS	Gallons of Applied Coating Solids
GC	General Condition
GHGs	Greenhouse Gases
HVLP	High Volume Low Pressure*
ID	Identification
IRSL	Initial Risk Screening Level
ITSL	Initial Threshold Screening Level
LAER	Lowest Achievable Emission Rate
MACT	Maximum Achievable Control Technology
MAERS	Michigan Air Emissions Reporting System
MAP	Malfunction Abatement Plan
MSDS	Material Safety Data Sheet
NA	Not Applicable
NAAQS	National Ambient Air Quality Standards
NESHAP	National Emission Standard for Hazardous Air Pollutants
NSPS	New Source Performance Standards
NSR	New Source Review
PS	Performance Specification
PSD	Prevention of Significant Deterioration
PTE	Permanent Total Enclosure
PTI	Permit to Install
RACT	Reasonable Available Control Technology
ROP	Renewable Operating Permit
SC	Special Condition
SCR	Selective Catalytic Reduction
SNCR	Selective Non-Catalytic Reduction
SRN	State Registration Number
TBD	To Be Determined
TEQ	Toxicity Equivalence Quotient
USEPA/EPA	United States Environmental Protection Agency
VE	Visible Emissions

*For HVLP applicators, the pressure measured at the gun air cap shall not exceed 10 psig.

POLLUTANT / MEASUREMENT ABBREVIATIONS

acfm	Actual cubic feet per minute
BTU	British Thermal Unit
°C	Degrees Celsius
CO	Carbon Monoxide
CO ₂ e	Carbon Dioxide Equivalent
dscf	Dry standard cubic foot
dscm	Dry standard cubic meter
°F	Degrees Fahrenheit
gr	Grains
HAP	Hazardous Air Pollutant
Hg	Mercury
hr	Hour
HP	Horsepower
H ₂ S	Hydrogen Sulfide
kW	Kilowatt
lb	Pound
m	Meter
mg	Milligram
mm	Millimeter
MM	Million
MW	Megawatts
NMOC	Non-Methane Organic Compounds
NO _x	Oxides of Nitrogen
ng	Nanogram
PM	Particulate Matter
PM10	Particulate Matter equal to or less than 10 microns in diameter
PM2.5	Particulate Matter equal to or less than 2.5 microns in diameter
pph	Pounds per hour
ppm	Parts per million
ppmv	Parts per million by volume
ppmw	Parts per million by weight
psia	Pounds per square inch absolute
psig	Pounds per square inch gauge
scf	Standard cubic feet
sec	Seconds
SO ₂	Sulfur Dioxide
TAC	Toxic Air Contaminant
Temp	Temperature
THC	Total Hydrocarbons
tpy	Tons per year
µg	Microgram
µm	Micrometer or Micron
VOC	Volatile Organic Compounds
yr	Year

GENERAL CONDITIONS

1. The process or process equipment covered by this permit shall not be reconstructed, relocated, or modified, unless a Permit to Install authorizing such action is issued by the Department, except to the extent such action is exempt from the Permit to Install requirements by any applicable rule. **(R 336.1201(1))**
2. If the installation, construction, reconstruction, relocation, or modification of the equipment for which this permit has been approved has not commenced within 18 months, or has been interrupted for 18 months, this permit shall become void unless otherwise authorized by the Department. Furthermore, the permittee or the designated authorized agent shall notify the Department via the Supervisor, Permit Section, Air Quality Division, Michigan Department of Environment, Great Lakes, and Energy, P.O. Box 30260, Lansing, Michigan 48909-7760, if it is decided not to pursue the installation, construction, reconstruction, relocation, or modification of the equipment allowed by this Permit to Install. **(R 336.1201(4))**
3. If this Permit to Install is issued for a process or process equipment located at a stationary source that is not subject to the Renewable Operating Permit program requirements pursuant to Rule 210 (R 336.1210), operation of the process or process equipment is allowed by this permit if the equipment performs in accordance with the terms and conditions of this Permit to Install. **(R 336.1201(6)(b))**
4. The Department may, after notice and opportunity for a hearing, revoke this Permit to Install if evidence indicates the process or process equipment is not performing in accordance with the terms and conditions of this permit or is violating the Department's rules or the Clean Air Act. **(R 336.1201(8), Section 5510 of Act 451, PA 1994)**
5. The terms and conditions of this Permit to Install shall apply to any person or legal entity that now or hereafter owns or operates the process or process equipment at the location authorized by this Permit to Install. If the new owner or operator submits a written request to the Department pursuant to Rule 219 and the Department approves the request, this permit will be amended to reflect the change of ownership or operational control. The request must include all of the information required by subrules (1)(a), (b), and (c) of Rule 219 and shall be sent to the District Supervisor, Air Quality Division, Michigan Department of Environment, Great Lakes, and Energy. **(R 336.1219)**
6. Operation of this equipment shall not result in the emission of an air contaminant which causes injurious effects to human health or safety, animal life, plant life of significant economic value, or property, or which causes unreasonable interference with the comfortable enjoyment of life and property. **(R 336.1901)**
7. The permittee shall provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant which continue for more than one hour in excess of any applicable standard or limitation, or emissions of any air contaminant continuing for more than two hours in excess of an applicable standard or limitation, as required in Rule 912, to the Department. The notice shall be provided not later than two business days after start-up, shutdown, or discovery of the abnormal condition or malfunction. Written reports, if required, must be filed with the Department within 10 days after the start-up or shutdown occurred, within 10 days after the abnormal condition or malfunction has been corrected, or within 30 days of discovery of the abnormal condition or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5). **(R 336.1912)**
8. Approval of this permit does not exempt the permittee from complying with any future applicable requirements which may be promulgated under Part 55 of 1994 PA 451, as amended or the Federal Clean Air Act.
9. Approval of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.
10. Operation of this equipment may be subject to other requirements of Part 55 of 1994 PA 451, as amended and the rules promulgated thereunder.

11. Except as provided in subrules (2) and (3) or unless the special conditions of the Permit to Install include an alternate opacity limit established pursuant to subrule (4) of Rule 301, the permittee shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of density greater than the most stringent of the following. The grading of visible emissions shall be determined in accordance with Rule 303 (R 336.1303). **(R 336.1301)**
 - a) A six-minute average of 20 percent opacity, except for one six-minute average per hour of not more than 27 percent opacity.
 - b) A visible emission limit specified by an applicable federal new source performance standard.
 - c) A visible emission limit specified as a condition of this Permit to Install.
12. Collected air contaminants shall be removed as necessary to maintain the equipment at the required operating efficiency. The collection and disposal of air contaminants shall be performed in a manner so as to minimize the introduction of contaminants to the outer air. Transport of collected air contaminants in Priority I and II areas requires the use of material handling methods specified in Rule 370(2). **(R 336.1370)**
13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with Rule 1001 and Rule 1003, under any of the conditions listed in Rule 1001. **(R 336.2001)**

EMISSION UNIT SPECIAL CONDITIONS

EMISSION UNIT SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Flexible Group ID
EUPROCESS	A combination of process equipment (screens, crushers, feeders, conveyors, etc.) used to reduce larger materials down to smaller sizes, classify and sort materials into various product types, material handling and transporting of material to storage areas. Control methods include equipment enclosures or enclosed within a building, water sprays, drop chutes and/or pant legs for transfer points.	FGCRUSHING
EUTRUCKTRAFFIC	Truck traffic for delivery of material products to customers; truck traffic from quarry pit to processing area and loader traffic associated with processing equipment, storage pile handling and loading delivery trucks. All commercial truck areas and unpaved road portions from the quarry pit to the process area.	FGCRUSHING
EUSTORAGE	Open area stock piles of various material sizes and product types. Water spray of material products are used when necessary for material storage piles.	FGCRUSHING

Changes to the equipment described in this table are subject to the requirements of R 336.1201, except as allowed by R 336.1278 to R 336.1291.

FLEXIBLE GROUP SPECIAL CONDITIONS

FLEXIBLE GROUP SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FGCRUSHING	A nonmetallic mineral crushing facility consisting of crusher(s) and associated process equipment including grinding mills, drills, screening operations, bucket elevators, belt conveyors, loading and bagging operations, storage bins, enclosed truck or railcar loading stations and any other material handling equipment operated at the site. Each crusher and screen shall be equipped with a water spray.	EUPROCESS, EUSTORAGE, EUTRUCKTRAFFIC

FGCRUSHING FLEXIBLE GROUP CONDITIONS

DESCRIPTION

A nonmetallic mineral crushing facility consisting of crusher(s) and associated process equipment including grinding mills, drills, screening operations, bucket elevators, belt conveyors, loading and bagging operations, storage bins, enclosed truck or railcar loading stations and any other material handling equipment operated at the site. Each crusher and screen shall be equipped with a water spray.

Emission Unit: EUPROCESS, EUSTORAGE, EUTRUCKTRAFFIC

POLLUTION CONTROL EQUIPMENT

Water Sprays.

I. EMISSION LIMIT(S)

1. Visible emissions from FGCRUSHING shall not exceed the limits in the following table:
(R 336.1205, R 336.1301, R 336.1901, 40 CFR 60.670)

	Equipment	Opacity Limit (%)
a)	Any equipment enclosed within a building	No visible emissions
b)	All crushers	15
c)	Screens	10
d)	Rock drills	5
e)	Conveyors/Transfer points	10
f)	Wash screens and all subsequent equipment downstream up to the next crusher or storage bin	No visible emissions
g)	All equipment controlled by a baghouse dust collector	7
h)	Wheel loaders and truck traffic	5
i)	Material storage piles	5
j)	Any other process equipment which is part of the nonmetallic mineral crushing facility or related processes	10

II. MATERIAL LIMIT(S)

1. The permittee shall not process any asbestos tailing or asbestos containing waste materials in FGCRUSHING pursuant to the National Emission Standards for Hazardous Air Pollutants, 40 CFR Part 61, Subpart M.
(40 CFR Part 61 Subpart M)
2. The permittee shall not process more than 3,000,000 tons of material through FGCRUSHING per 12-month rolling time period as determined at the end of each calendar month. **(R 336.1901, 40 CFR 52.21 (c) & (d))**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate FGCRUSHING unless the fugitive dust control plan for all plant roadways, the plant yard, all material storage piles, and all material handling operations specified in Appendix B has been implemented and is maintained. **(R 336.1371, R 336.1901)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. Each crusher and screen shall be equipped with a water spray. A baghouse dust collector may be installed in lieu of water spray for any particular piece of equipment. The control equipment shall be properly operated as necessary to comply with all emission limits. **(R 336.1205, R 336.1301, R 336.1303, R 336.1331, and R 336.1910)**
2. The permittee shall install and maintain a belt scale on the transfer conveyor portion of FGCRUSHING which continuously shows the daily throughput rate for the conveyor. **(R 336.1901, 40 CFR 52.21 (c) & (d))**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. Upon request of the AQD District Supervisor, verification of visible emission rates and particulate emission rates from all NSPS subject crushers, screens, all transfer points on conveyors, and all other miscellaneous equipment associated with FGCRUSHING and covered by the NSPS Subpart OOO, by testing at owner's expense, in accordance with 40 CFR Part 60 Subparts A and OOO, will be required. No less than 14 days prior to the anticipated test date, visible emission observation procedures must be approved by the District Supervisor. Also, no less than 7 days prior to the anticipated test date, the permittee shall notify the District Supervisor of the test date. If after the anticipated test date has been submitted to the District Supervisor, there is a delay in conducting the test, the permittee shall submit to the District Supervisor notice of the new test date. This notification shall be done a minimum of 3 days prior to the rescheduled test taking place. Verification of visible emissions includes the submittal of a complete report of opacity observations to the AQD within 30 days following the last date of the test. **(R 336.1301, R 336.2001, 40 CFR Part 60 Subparts A & OOO)**

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the 15th day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(40 CFR 52.21 (c) & (d))**
2. The permittee shall keep daily and monthly records of the amount of material processed through FGCRUSHING. Further the permittee shall calculate on a monthly basis, the yearly throughput rate based upon the most recent 12-month rolling time period. The permittee shall keep records of the amount of material processed on file and make them available to the Department upon request. **(40 CFR 52.21 (c) & (d))**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all provisions of the federal Standards of Performance for Nonmetallic Mineral Processing Plants as specified in 40 CFR Part 60, Subparts A and OOO, as they apply to FGCRUSHING. **(40 CFR Part 60, Subparts A & OOO)**

Footnotes:

¹ This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

APPENDIX A

Equipment Description	ID Number	Control Device
Primary Crusher/Feeder	41.0031	Water Spray
Jaw Discharge/Conveyor	41.0031A	Water Spray
Conveyor	47.0482-3	Residual Moisture
Conveyor	47.0589	Residual Moisture
Conveyor	47.0924	Residual Moisture
Conveyor	47.0274	Residual Moisture
Conveyor	47.0270	Residual Moisture
Stacker	47.0286	Residual Moisture
Screen-2ns	43.0117	Residual Moisture
Screw	42.0039NEW	Residual Moisture
Conveyor	47.0258	Residual Moisture
Conveyor	47.0482-2	Residual Moisture
Conveyor	47.0482-1	Residual Moisture
Stacker	47.0578	Residual Moisture
Conveyor	47.0261	Residual Moisture
Stacker	47.0617	Residual Moisture
Conveyor	47.0266	Residual Moisture
Conveyor	47.0231	Residual Moisture
Stacker – Surge	47.0200	Residual Moisture
Feeder – Vibrating	45.0025	Residual Moisture
Tunnel Conveyor	47.0278	Residual Moisture
Conveyor	41.0061	Residual Moisture
Crusher	41.0033	Water Spray
Pony Conveyor Crusher	41.0033A	Residual Moisture
Conveyor Screen Feed	47.0282	Residual Moisture
Screen	41.0032NEW	Residual Moisture
Crusher	41.0048	Water Spray
Conveyor (Crusher Return)	47.0279	Residual Moisture
Conveyor	47.0277	Residual Moisture
Conveyor	47.0363	Residual Moisture
Conveyor	47.0289	Residual Moisture
Conveyor	47.0288	Residual Moisture
Conveyor	47.0321	Residual Moisture
Conveyor	42.0280	Residual Moisture
Stacker	47.0283	Residual Moisture
Conveyor	47.0047	Residual Moisture
Conveyor	47.9759	Residual Moisture
Conveyor	47.9760	Residual Moisture

Equipment Description	ID Number	Control Device
Conveyor	C-4	Residual Moisture
Conveyor	47.9715	Residual Moisture
Conveyor	C-7	Residual Moisture
Wash Screen	S-1	Residual Moisture
Water Wheel	W-1	Residual Moisture
Stacker	47.0285	Residual Moisture
Dredge	16.0266	Residual Moisture
Wash Screen	43.0069	Residual Moisture
Screen	47.0051	Residual Moisture
Screw	42.0041	Residual Moisture
Conveyor	47.0296	Residual Moisture
Stacker	47.0284	Residual Moisture
Conveyor (Cone Discharge)	41.0032B	Residual Moisture
Stacker	47.0305	Residual Moisture
Sandscrew	42.0017	Residual Moisture
Wash Screen	42.0024	Residual Moisture
Feeder	45.0027	Residual Moisture
Conveyor	47.0103	Residual Moisture

APPENDIX B

Nuisance Minimization Plan for Fugitive Dust

I. Site Roadways / Plant Yard

- A. The dust on the site roadways and the plant yard shall be controlled by applications of water, calcium chloride or other acceptable and approved fugitive dust control compounds. Applications of dust suppressants shall be done as often as necessary to meet all applicable emission limits. A record of all watering/dust suppressant applications shall be kept on file and be made available to the AQD upon request.
- B. All paved roadways and the plant yards shall be swept as needed between applications.
- C. Any material spillage on roads shall be cleaned up immediately.

II. Plant

The drop distance at each transfer point shall be reduced to the minimum the equipment can achieve. The transfer point from the re-circulating belt to the feed belt shall be equipped with an enclosed chute.

III. Storage Piles

- A. Stockpiling of all nonmetallic minerals shall be performed to minimize drop distance and control potential dust problems.
- B. Stockpiles shall be watered on an as needed basis in order to meet the opacity limit of 5 percent. Equipment to apply water or dust suppressant shall be available at the site or on call for use at the site within a given operating day. A record of all watering/dust suppressant applications shall be kept on file and be made available to the AQD upon request.

IV. Truck Traffic

On-site vehicles shall be loaded to prevent their contents from dropping, leaking, blowing or otherwise escaping. This shall be accomplished by loading so that no part of the load shall come in contact within 6 inches of the top of any side board, side panel or tailgate. Otherwise, the truck shall be tarped.

V. AQD/EGLE Inspection

The provisions and procedures of this plan are subject to adjustment by written notification from the AQD if, following an inspection, the AQD finds the fugitive dust requirements and/or permitted emission limits are not being met.