

Missouri Department of dnr.mo.gov

# NATURAL RESOURCES

Michael L. Parson, Governor

Carol S. Comer, Director

OCT 01 2019

Mr. Duane Mueller  
Safety & Environmental Manager  
Magruder Limestone Co., Inc.  
255 Watson Road  
Troy, Mo 63379

RE: New Source Review - Permit Number: Project Number: 2019-07-019;  
Installation Number: PORT-0797

Dear Mr. Mueller:

Enclosed with this letter is your permit to construct. Please study it carefully and refer to Appendix A for a list of common abbreviations and acronyms used in the permit. Also, note the special conditions on the accompanying pages. The document entitled, "Review of Application for Authority to Construct," is part of the permit and should be kept with this permit in your files. Operation in accordance with these conditions and your new source review permit application is necessary for continued compliance. In addition, please note that Magruder Limestone Co., Inc. PORT-0797 cannot operate with any other plants that have ambient impact limits based on the Air Pollution Control Program's nomographs. Please refer to the permits of any plant that you are operating with to see if their respective permits contain an ambient impact limit. The reverse side of your permit certificate has important information concerning standard permit conditions and your rights and obligations under the laws and regulations of the State of Missouri.

This permit may include requirements with which you may not be familiar. If you would like the department to meet with you to discuss how to understand and satisfy the requirements contained in this permit, an appointment referred to as a Compliance Assistance Visit (CAV) can be set up with you. To request a CAV, please contact your local regional office or fill out an online request. The regional office contact information can be found at the following website: <http://dnr.mo.gov/regions/>. The online CAV request can be found at <http://dnr.mo.gov/cav/compliance.htm>.

If you were adversely affected by this permit decision, you may be entitled to pursue an appeal before the administrative hearing commission pursuant to Sections 621.250 and 643.075.6 RSMo. To appeal, you must file a petition with the administrative hearing commission within thirty days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed; if it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the administrative hearing commission, whose contact information is: Administrative Hearing Commission, United States Post Office



Recycled paper

Mr. Duane Mueller  
Page Two

Building, 131 West High Street, Third Floor, P.O. Box 1557, Jefferson City, Missouri 65102,  
phone: 573-751-2422, fax: 573-751-5018, website: [www.oe.mo.gov/ahc](http://www.oe.mo.gov/ahc).

If you have any questions regarding this, please do not hesitate to contact Russell Osborne, at the department's Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102 or at (573) 751-4817. Thank you for your attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM



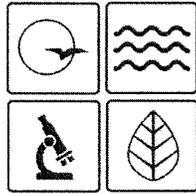
Susan Heckenkamp  
New Source Review Unit Chief

SH:roa

Enclosures

c: Northeast Regional Office  
PAMS File: 2019-07-019

Permit Number: **102019-002**



**MISSOURI**  
DEPARTMENT OF  
NATURAL RESOURCES

**MISSOURI AIR CONSERVATION COMMISSION**

**PERMIT TO CONSTRUCT**

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to construct the air contaminant source(s) described below, in accordance with the laws, rules and conditions as set forth herein.

Permit Number: 102019-002

Project Number: 2019-07-019

Installation ID: PORT-0797

Parent Company: Magruder Limestone Co., Inc.

Parent Company Address: 255 Watson Road, Troy, MO 63379

Installation Name: Magruder Limestone Co., Inc.

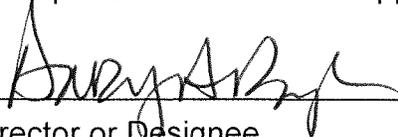
Installation Address: 6581 Highway 61, Frankford, MO 63441

Location Information: Pike County, S35/36, T55N, R4W

Application for Authority to Construct was made for:  
Installation of new SMI Model 5256T rock crusher. This review was conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

Standard Conditions (on reverse) are applicable to this permit.

Standard Conditions (on reverse) and Special Conditions are applicable to this permit.

  
\_\_\_\_\_  
Director or Designee  
Department of Natural Resources

OCT 01 2019

\_\_\_\_\_  
Effective Date

## STANDARD CONDITIONS:

Permission to construct may be revoked if you fail to begin construction or modification within two years from the effective date of this permit. Permittee should notify the Enforcement and Compliance Section of the Air Pollution Control Program if construction or modification is not started within two years after the effective date of this permit, or if construction or modification is suspended for one year or more.

You will be in violation of 10 CSR 10-6.060 if you fail to adhere to the specifications and conditions listed in your application, this permit and the project review. In the event that there is a discrepancy between the permit application and this permit, the conditions of this permit shall take precedence. Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the Enforcement and Compliance Section of the Department's Air Pollution Control Program of the anticipated date of start up of this (these) air contaminant source(s). The information must be made available within 30 days of actual startup. Also, you must notify the Department's regional office responsible for the area within which you are located within 15 days after the actual start up of this (these) air contaminant source(s).

A copy of the permit application and this permit and permit review shall be kept at the installation address and shall be made available to Department's personnel upon request.

You may appeal this permit or any of the listed special conditions to the Administrative Hearing Commission (AHC), P.O. Box 1557, Jefferson City, MO 65102, as provided in RSMo 643.075.6 and 621.250.3. If you choose to appeal, you must file a petition with the AHC within 30 days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed. If it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC.

If you choose not to appeal, this certificate, the project review and your application and associated correspondence constitutes your permit to construct. The permit allows you to construct and operate your air contaminant source(s), but in no way relieves you of your obligation to comply with all applicable provisions of the Missouri Air Conservation Law, regulations of the Missouri Department of Natural Resources and other applicable federal, state and local laws and ordinances.

The Air Pollution Control Program invites your questions regarding this air pollution permit. Please contact the Construction Permit Unit using the contact information below.

### Contact Information:

Missouri Department of Natural Resources  
Air Pollution Control Program  
P.O. Box 176  
Jefferson City, MO 65102-0176  
(573) 751-4817

The regional office information can be found at the following website:

<http://dnr.mo.gov/regions/>

**GENERAL SPECIAL CONDITIONS:**

The permittee is authorized to construct and operate subject to the following special conditions:

*The special conditions listed in this permit were included based on the authority granted to the Missouri Air Pollution Control Program by the Missouri Air Conservation Law (specifically 643.075) and by the Missouri Rules listed in Title 10, Division 10 of the Code of State Regulations (specifically 10 CSR 10-6.060). For specific details regarding conditions, see 10 CSR 10-6.060 paragraph (3)(E). "Conditions required by permitting authority."*

1. **Equipment Identification Requirement**  
Magruder Limestone Co., Inc. shall maintain easily read permanent markings on each component of the plant. These markings shall be the equipment's serial number or a company assigned identification number that uniquely identifies the individual component.
2. **Relocation of Portable Rock Crushing Plant**
  - A. Magruder Limestone Co., Inc. shall not be operated at any location longer than 24 consecutive months except if the Site Specific Special Conditions of this portable plant, PORT-0797, contain a nonroad engine requirement limiting the portable plant at the site specific location to 12 consecutive months.
  - B. A complete "Portable Source Relocation Request" application must be submitted to the Air Pollution Control Program prior to any relocation of this portable rock crushing plant.
    - 1) If the portable rock crushing plant is moving to a site previously permitted, and if the circumstances at the site have not changed, then the application must be received by the Air Pollution Control Program at least seven days prior to the relocation.
    - 2) If the portable rock crushing plant is moving to a new site, or if circumstances at the site have changed (e.g. the site was only permitted for solitary operation and now another plant is located at the site), then the application must be received by the Air Pollution Control Program at least 21 days prior to the relocation. The application must include written notification of any concurrently operating plants.
3. **Record Keeping Requirement**  
Magruder Limestone Co., Inc. PORT-0797 shall maintain all records required by this permit for not less than five years and shall make them available to Missouri Department of Natural Resources' personnel upon request.
4. **Reporting Requirement**  
Magruder Limestone Co., Inc. PORT-0797 shall report to the Air Pollution Control Program Compliance/Enforcement Section by mail at P.O. Box 176, Jefferson City, MO 65102 or by e-mail at AirComplianceReporting@dnr.mo.gov, no later than 10 days after any exceedances of the limitations imposed by this permit.

**SITE SPECIFIC SPECIAL CONDITIONS:**

The permittee is authorized to construct and operate subject to the following special conditions:

*The special conditions listed in this permit were included based on the authority granted the Missouri Air Pollution Control Program by the Missouri Air Conservation Law (specifically 643.075) and by the Missouri Rules listed in Title 10, Division 10 of the Code of State Regulations (specifically 10 CSR 10-6.060). For specific details regarding conditions, see 10 CSR 10-6.060 paragraph (3)(E). "Conditions required by permitting authority."*

PORT ID Number: PORT-0797

Site ID Number: 163-0005

Site Name: Frankford Quarry

Site Address: 6581 Highway 61, Frankford, MO 63441

Site County: Pike S35/36, T55N, R4W

1. Best Management Practices Requirement  
Magruder Limestone Co., Inc. PORT-0797 shall control fugitive emissions from all of the haul roads and vehicular activity areas at this site by performing BMPs as defined in Attachment AA.
2. Annual PM<sub>10</sub> Emission Limit
  - A. Magruder Limestone Co., Inc. PORT-0797 shall emit less than 15.0 tons of PM<sub>10</sub> in any 12-month period from the entire installation which consists of the equipment listed in Table 1. The SSM emissions as reported to the Air Pollution Control Program's Compliance/Enforcement Section in accordance with the requirements of 10 CSR 10-6.050 *Start-Up, Shutdown, and Malfunction Conditions* shall be included in the limit.
  - B. Magruder Limestone Co., Inc. PORT-0797 shall demonstrate compliance with Special Condition 2.A using Attachment A or another equivalent form that has been approved by the Air Pollution Control Program, including an electronic form.
3. Moisture Content Testing Requirement
  - A. Magruder Limestone Co., Inc. PORT-0797 shall verify that the moisture content of the processed rock is greater than or equal to 1.5 percent by weight.
  - B. Testing shall be conducted according to the method prescribed by the American Society for Testing Materials (ASTM) D-2216, C-566 or another method approved by the Director.
  - C. The initial test shall be conducted no later than 45 days after the start of operation. A second test shall be performed the calendar year following the initial test during the months of July or August.
  - D. The test samples shall be taken from rock that has been processed by the plant or from each source of aggregate (e.g. quarry).

**SITE SPECIFIC SPECIAL CONDITIONS:**

The permittee is authorized to construct and operate subject to the following special conditions:

---

- E. The written analytical report shall include the raw data and moisture content of each sample, the test date and the original signature of the individual performing the test. The report shall be filed on-site or at the Magruder Limestone Co., Inc. PORT-0797 main office within 30 days of completion of the required test.
  
- F. If the moisture content of either of the two tests is less than the moisture content in Special Condition 3.A, another test may be performed within 15 days of the noncompliant test. If the results of that test is less than the moisture content in Special Condition 3.A, Magruder Limestone Co., Inc. PORT-0797 shall either:
  - 1) Apply for a new permit to account for the revised information, or
  - 2) Submit a plan for the installation of wet spray devices to the Compliance/Enforcement Section of the Air Pollution Control Program within 10 days of the second noncompliant test. Plans may be sent by mail to P.O. Box 176, Jefferson City, MO 65102 or by email at [aircompliancereporting@dnr.mo.gov](mailto:aircompliancereporting@dnr.mo.gov). The wet spray devices shall be installed and operational within 40 days of the second noncompliant test.
  
- G. In lieu of testing, Magruder Limestone Co., Inc. PORT-0797 may obtain test results that demonstrate compliance with the moisture content in Special Condition 3.A from the supplier of the aggregate.
  
- 4. Primary Equipment Requirement  
Magruder Limestone Co., Inc. PORT-0797 shall process all rock through the primary crusher (EU-03). Bypassing the primary crusher is prohibited.
  
- 5. Nonroad Engine Requirement  
Magruder Limestone Co., Inc. PORT-0797 's engine shall not remain at one location within this site longer than 12 consecutive months in order for the engines to meet the definition of a nonroad engine as stated in 40 CFR 89.2. These engines shall be moved with its associated equipment at least once every 12 consecutive months at this site.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE  
SECTION (5) REVIEW

Project Number: 2019-07-019  
Installation ID Number: PORT-0797

Permit Number: 102019-002

Magruder Limestone Co., Inc.  
6581 Highway 61  
Frankford, MO 63441

Complete: July 15, 2019

Parent Company:  
Magruder Limestone Co., Inc.  
255 Watson Road  
Troy, Mo 63379

Pike County, S35/36, T55N, R4W

PROJECT DESCRIPTION

Magruder Limestone Co., Inc. is installing a SMI Model 5256T portable rock crusher and LPN Model LS5203 screening plant at Frankford Quarry in Pike County. The quarry is located at 6581 Highway 61, Frankford, MO 63441. The plant will consist of a primary rock crusher (300 tph maximum capacity), six conveyors, and three deck screens. Additionally, there will be one acre of storage piles and 2700 feet of haul roads. Emissions from the haul roads and vehicular activity will be controlled by best management practices. The portable plant consist of the equipment as stated in Table 1.

The rock crusher is supplied power by a 410 hp diesel engine. The screening plant is supplied power by a 240 hp diesel engine. The engines are mounted to the equipment, meeting the definition of non-road engine as defined in 40 CFR 89.2 (1)(i). Therefore, the emissions of the engines were not included in the potential to emit calculations. Although a portable plant is allowed to operate at a site for 24 consecutive months, the diesel engines are only allowed to operate at this site for 12 consecutive months in order to avoid recordkeeping showing that the movement of the diesel engines.

Table 1: Equipment list PORT-0797:

Emission Point	Equipment Description	MHDR
EP-01	Grizzly/feeder	300 tph
EP-02	Primary Crusher SMI	300 tph
EP-03	3 Deck Screen LPN	300 tph
EP-04	6 Conveyors	300 tph
EP-05a	Load-in	300 tph
EP-05b	Load-out	300 tph
EP-05c	Vehicular Activity	0.63 VMT/hr
EP-05d	Wind Erosion	1 Acre
EP-06	Haul Road from Pit	3.41 VMT/hr
EP-07	Customer Haul Road	12.78 VMT/hr

The applicant is using one of the methods described in Attachment AA, "Best Management Practices," to control emissions from haul roads and vehicular activity areas.

This installation is located in Pike County, an attainment/unclassifiable area for all criteria pollutants

This installation is not on the List of Named Installations [10 CSR 10-6.020(3)(B), Table 2].

No permits have been issued to Magruder Limestone Co., Inc. PORT-0797 from the Air Pollution Control Program.

### TABLES

The table below summarizes the emissions of this project. The potential emissions of the process equipment, which excluded emissions from haul roads and wind erosion, are not site specific and should not vary from site to site. The potential emissions of the application represent the emissions of all equipment and activities assuming continuous operation (8760 hours per year). The conditioned potential emissions include emissions from sources that will limit their production to ensure compliance with the annual emission limit.

Table 2: Emissions Summary (tons per year)

Air Pollutant	De Minimis Level/SMAL	<sup>a</sup> Potential Emissions of Process Equipment	<sup>b</sup> Potential Emissions of the Application	Conditioned Potential Emissions
PM	25.0	11.72	117.84	44.59
PM <sub>10</sub>	15.0	4.11	39.64	<15.00
PM <sub>2.5</sub>	10.0	0.47	8.49	3.21
SO <sub>x</sub>	40.0	N/A	N/A	N/A
NO <sub>x</sub>	40.0	N/A	N/A	N/A
VOC	40.0	N/A	N/A	N/A
CO	100.0	N/A	N/A	N/A
Total HAPs	25.0	N/A	N/A	N/A

N/A = Not Applicable

<sup>a</sup>Excludes haul roads and storage piles

<sup>b</sup>Includes site specific haul road and storage pile emissions

### EMISSIONS CALCULATIONS

Emissions for the project were calculated as described below and using emission factors found in the United States EPA document AP-42 *Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources*, Fifth Edition (AP-42).

Emissions from the rock-crushing equipment:

- Calculated using emission factors from AP-42 Section 11.19.2 "Crushed Stone Processing and Pulverized Mineral Processing," August 2004.
- The controlled emission factors were used because the inherent moisture content of the crushed rock is greater than 1.5 % by weight

Emissions from aggregate handling:

- Calculated using emission factors from AP-42 Section 11.19.2 "Crushed Stone Processing and Pulverized Mineral Processing," August 2004.
- The controlled emission factors were used because the inherent moisture content of the crushed rock is greater than 1.5% by weight

Emissions from haul roads and vehicular activity areas:

- Calculated using the predictive equation from AP-42 Section 13.2.2 "Unpaved Roads," November 2006.
- A 90% control efficiency for PM and PM<sub>10</sub> and a 74% control efficiency for PM<sub>2.5</sub> were applied to the emission calculations for the use of BMPs.

Emissions from storage piles:

- Load-in and load-out of storage piles were calculated using the predictive equation from AP-42 Section 13.2.4. "Aggregate Handling And Storage Piles" November 2006
- The moisture content of the aggregate is 1.5 % by weight.
- Emissions from wind erosion of storage piles were calculated using an equation found in the Air Pollution Control Program's Emissions Inventory Questionnaire Form 2.8 "Storage Pile Worksheet."

## PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of PM<sub>10</sub> are conditioned to de minimis levels. Potential emissions of PM are above de minimis levels, but below major levels.

## APPLICABLE REQUIREMENTS

Magruder Limestone Co., Inc. PORT-0797 shall comply with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements. Compliance with these emission standards, based on information submitted in the application, has been verified at the time this application was approved.

## GENERAL REQUIREMENTS

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110.
- No operating permit is required.
- *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*, 10 CSR 10-6.170
- *Restriction of Emission of Visible Air Contaminants*, 10 CSR 10-6.220
- *Restriction of Emission of Odors*, 10 CSR 10-6.165

## SPECIFIC REQUIREMENTS

- 40 CFR 60 Subpart OOO, "Standards of Performance for Nonmetallic Mineral Processing Plants" applies to the equipment.
- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPS) or National Emission Standards for Hazardous Air Pollutants for Source Categories (MACTS) apply to the proposed equipment.

## STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, it is recommended that this permit be granted with special conditions.

## PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated July 10, 2019, received July 15, 2019, designating Magruder Limestone Co., Inc. as the owner and operator of the installation.



## APPENDIX A

### Abbreviations and Acronyms

% .....	percent	MMBtu.....	Million British thermal units
°F .....	degrees Fahrenheit	MMCF .....	million cubic feet
acfm.....	actual cubic feet per minute	MSDS .....	Material Safety Data Sheet
BACT.....	Best Available Control Technology	NAAQS ....	National Ambient Air Quality Standards
BMPs.....	Best Management Practices	NESHAPs..	National Emissions Standards for Hazardous Air Pollutants
Btu.....	British thermal unit	NO <sub>x</sub> .....	nitrogen oxides
CAM .....	Compliance Assurance Monitoring	NSPS.....	New Source Performance Standards
CAS .....	Chemical Abstracts Service	NSR .....	New Source Review
CEMS .....	Continuous Emission Monitor System	PM .....	particulate matter
CFR.....	Code of Federal Regulations	PM <sub>2.5</sub> .....	particulate matter less than 2.5 microns in aerodynamic diameter
CO .....	carbon monoxide	PM <sub>10</sub> .....	particulate matter less than 10 microns in aerodynamic diameter
CO <sub>2</sub> .....	carbon dioxide	ppm.....	parts per million
CO <sub>2e</sub> .....	carbon dioxide equivalent	PSD .....	Prevention of Significant Deterioration
COMS.....	Continuous Opacity Monitoring System	PTE.....	potential to emit
CSR .....	Code of State Regulations	RACT.....	Reasonable Available Control Technology
dscf.....	dry standard cubic feet	RAL.....	Risk Assessment Level
EIQ.....	Emission Inventory Questionnaire	SCC .....	Source Classification Code
EP .....	Emission Point	scfm .....	standard cubic feet per minute
EPA .....	Environmental Protection Agency	SDS .....	Safety Data Sheet
EU .....	Emission Unit	SIC.....	Standard Industrial Classification
fps.....	feet per second	SIP .....	State Implementation Plan
ft .....	feet	SMAL.....	Screening Model Action Levels
GACT .....	Generally Available Control Technology	SO <sub>x</sub> .....	sulfur oxides
GHG.....	Greenhouse Gas	SO <sub>2</sub> .....	sulfur dioxide
gpm .....	gallons per minute	SSM.....	startup, shutdown, & malfunction
gr .....	grains	tph .....	tons per hour
GWP .....	Global Warming Potential	tpy.....	tons per year
HAP.....	Hazardous Air Pollutant	VMT.....	vehicle miles traveled
hr .....	hour	VOC .....	Volatile Organic Compound
hp.....	horsepower		
lb.....	pound		
lbs/hr .....	pounds per hour		
MACT.....	Maximum Achievable Control Technology		
µg/m <sup>3</sup> .....	micrograms per cubic meter		
m/s .....	meters per second		
Mgal .....	1,000 gallons		
MW .....	megawatt		
MHDR .....	maximum hourly design rate		

## Attachment AA: Best Management Practices

Haul roads and vehicular activity areas shall be maintained in accordance with at least one of the following options when the plant is operating.

1. Pavement
  - A. The operator shall pave the area with materials such as asphalt, concrete or other materials approved by the Air Pollution Control Program. The pavement will be applied in accordance with industry standards to achieve control of fugitive emissions while the plant is operating.
  - B. Maintenance and repair of the road surface will be conducted as necessary to ensure that the physical integrity of the pavement is adequate to achieve control of fugitive emissions from these areas while the plant is operating.
  - C. The operator shall periodically wash or otherwise clean all of the paved portions of the haul roads as necessary to achieve control of fugitive emissions from these areas while the plant is operating.
  
2. Application of Chemical Dust Suppressants
  - A. The operator shall apply a chemical dust suppressant (such as magnesium chloride, calcium chloride, lignosulfonates, etc.) to unpaved areas.
  - B. The quantities of the chemical dust suppressant shall be applied and maintained in accordance with the manufacturer's recommendation (if available) and in sufficient quantities to achieve control of fugitive emissions from these areas while the plant is operating.
  - C. The operator shall record the time, date and the amount of material applied for each application of the chemical dust suppressant agent on the above areas. The operator shall keep these records with the plant for not less than five (5) years and make these records available to Department of Natural Resources' personnel upon request.
  
3. Application of Water-Documented Daily
  - A. The operator shall apply water to unpaved areas. Water shall be applied at a rate of 100 gallons per day per 1,000 square feet of unpaved or untreated surface area while the plant is operating.
  - B. Precipitation may be substituted for watering if the precipitation is greater than one quarter of one inch and is sufficient to control fugitive emissions.
  - C. Watering may also be suspended when the ground is frozen, during periods of freezing conditions when watering would be inadvisable for traffic safety reasons, or when there will be no traffic on the roads.
  - D. The operator shall record the date, volume of water application and total surface area of active haul roads or the amount of precipitation that day. The operators shall also record the rationale for not watering (e.g. freezing conditions or not operating).
  - E. The operator shall keep these records with the plant for not less than five (5) years, and the operator shall make these records available to Department of Natural Resources' personnel upon request.