

## EMISSIONS ACTIVITY CATEGORY FORM EARTH MOVING/MINERAL EXTRACTION OPERATIONS

*This form is to be completed for each earth moving/mineral extraction operation conducted at this facility. State/Federal regulations which may apply to earth moving/mineral extraction operations are listed in the instructions. Note: there may be other regulations which apply to this emissions unit which are not included in this list.*

Note: This emissions activity category form does not include all of the fugitive dust emissions units at a typical earth moving/mineral extraction operation. For example, roadways and parking areas and storage piles have other forms which must be completed and submitted if such activities/operations are present at a facility.

1. Reason this form is being submitted (Check one)

New Permit       Renewal or Modification of Air Permit Number(s) (e.g. F001)\_\_\_\_\_

2. Maximum Operating Schedule: \_\_\_\_\_hours per day; \_\_\_\_\_days per year

If the schedule is less than 24 hours/day or 365 days/year, what limits the schedule to less than maximum? See instructions for examples. \_\_\_\_\_

3. Overburden and mineral removal operations:

a. Type of mineral mined:     coal       clay or shale  
 salt       limestone or dolomite  
 other (describe)\_\_\_\_\_

b. Method of mining:       underground       surface (area strip mining)  
 surface (contour strip mining)     surface (auger strip mining)  
 surface (open-pit mining or quarrying)  
 other (describe)\_\_\_\_\_

c. Operations performed:     Overburden removal (dragline)  
 Soil removal by scraper  
 Overburden replacement (scraper unloading)  
 Overburden loading operations  
 Mineral loading operations  
 Drilling operations  
 Bulldozing  
 Blasting operations  
 Grading  
 Other (describe)\_\_\_\_\_

4. Earth moving/mineral extraction operations data:

For each operation, list the material(s) affected by each operation. Enter the additional information, as requested for that specific operation. Enter the hourly and annual operating rates in the units listed in the last column for that row.

Operation	Material(s)	Additional information required	Operating rate (units/hr)	Operating rate (units/yr)	Units
Overburden removal (dragline)		Drop height (ft): Material moisture content (%):			Cubic yards
Soil removal by scraper		Tons removed:			Miles traveled
Overburden replacement (scraper unloading)					Tons replaced
Overburden loading operations		Mean wind speed (mph): Material moisture content (%):			Tons loaded
Mineral loading operations		Mean wind speed (mph): Material moisture content (%):			Tons removed
Drilling operations					Holes
Bulldozing		Material silt content (%): Material moisture content (%):			Hours
Blasting operations		Horizontal blasting area (sq. ft.):			Number of blasts
Grading		Mean vehicle speed (mph):			Miles traveled
Other:					

5. Control methods to be used for control of fugitive dust emissions from earth moving/mineral extraction operations:

For each operation, list the material(s) affected by each operation. Describe the control methods to be used to control fugitive dust emissions from each of the earth moving/mineral extraction operations employed as shown below. If no control measure is entered for a specific operation, such operation will be considered uncontrolled. Also, enter the estimated control efficiency for each control method and the basis.

Operation	Material	Control Measures and/or Operating Practices (describe)	Overall Control Eff. (%)	Basis for Overall Control Efficiency
Overburden removal				
Soil removal by scraper				
Overburden replacement				
Overburden loading				
Mineral loading				
Drilling operations				
Bulldozing				
Blasting operations				
Grading				
Other:				

# INSTRUCTIONS FOR COMPLETION OF THE EMISSIONS ACTIVITY CATEGORY FORM FOR EARTH MOVING/MINERAL EXTRACTION OPERATIONS

## **GENERAL INSTRUCTIONS:**

Provide complete responses to all applicable questions. If an item does not apply to the emissions unit, write in "Not Applicable" or "NA." If the answer is not known, write in "Not Known" or "NK." If you need assistance in understanding a question after reading the instructions below, contact your Ohio EPA District Office or Local Air Agency for assistance. Submittal of an incomplete application will delay application review and processing. In addition, the application may be returned as incomplete if all applicable questions are not answered appropriately.

## **APPLICABLE REGULATIONS:**

*The following State and Federal Regulations may be applicable to earth moving/mineral extraction operations. Note that there may be other regulations which apply to this emissions unit which are not included in this list.*

Federal: 40 CFR 60, (NSPS) Subparts A (General), LL (Metallic Mineral Processing Plants), NN (Phosphate Rock Plants), and OOO (Nonmetallic Mineral Processing Plants)

State: Ohio Administrative Code (OAC) 3745-31-02 (Permit to Install)  
3745-35-02 (Permit to Operate)  
3745-31-05 (Best Available Technology)  
3745-17-07 (B) (visible PE Limits for fugitive dust)  
3745-17-08 (restriction of emission of fugitive dust)  
3745-17-12, 13... (additional requirements based on county of location)

If you would like a copy of these regulations, contact your Ohio EPA District Office or Local Air Agency. State regulations may also be viewed and downloaded from the Ohio EPA website at <http://www.epa.state.oh.us/dapc/regs/regs.html>. Federal regulations may be viewed and downloaded at <http://www.epa.gov/docs/epacfr40/chapt-I.info/subch-C.htm>.

## **CALCULATING EMISSIONS:**

Manufacturers of some types of emissions units and most types of control equipment develop emissions estimates or have stack test data which you can request. Stack testing of the emissions may be done. Emissions unit sampling test data may be either for this emissions unit or a similar one located at the facility or elsewhere. You may develop your own emission factors by mass balance or other knowledge of your process, if you can quantify inputs and outputs accurately. You may be able to do this on a small scale or over a short period of time, if it is not practical during regular production. If you have control equipment, you may be able to quantify the amount of pollutants collected over a known time period or production amount. Any emission factor calculation should include a reference to the origin of the emission factor or control efficiency.

The emissions from earth moving/mineral extraction operations may be estimated using the information from section 13.2.3 of AP-42, Compilation of Air Pollutant Emission Factors, Fifth Edition, Volume I, available from the following website: <http://www.epa.gov/ttn/chief/ap42/index.html>.

## **SPECIFIC INSTRUCTIONS:**

This form is for earth moving/mineral extraction operations which emit fugitive dust. This form should be completed for any such earth moving/mineral extraction operations even if there are other fugitive dust emissions units at the facility for which one or more other emissions unit activity category forms are applicable.

Paragraph (B)(6) of OAC Rule 3745-17-01 defines "fugitive dust" as "...particulate matter which is, or was prior to the installation of control equipment, emitted from any source by means other than a stack." Thus, any emission from mineral extraction operations is defined as "fugitive dust." and the requirements of OAC Rules 3745-17-07(B)(1) (Visible particulate emission limitations for fugitive dust) and 3745-17-08 (Restriction of emission of fugitive dust) may be applicable.

1. Indicate whether this is an application for a new permit or an application for permit renewal. If applying for a permit renewal, provide the 4-character OEPA emissions unit identification number.
2. Provide the maximum number of hours per day and days per year the lime plant is expected to operate. The following are examples of why the maximum number of hours per day may be less than 24 or the maximum number of days per year may be less than 365 (this list is not all-inclusive):
  - The facility can only operate during daylight hours.
  - The process can only operate within a certain range of ambient temperatures.
  - The process is limited by another operation (i.e., a bottleneck).
3. Indicate the type of mineral to be mined, the method of mining, and the operations to be performed at this site. Please include such data for both overburden and mineral removal operations.
4. Complete the table for all operations included in this application. Enter the materials affected by each listed operation, e.g. limestone, dirt, etc. Enter the requested additional information, if any, requested for the listed operation and the operating rates, using the units specified in the last column.
5. For each operation identified in # 4, describe how the emissions are controlled and estimate the percentage of reduction attained. Efficiencies may be determined, in order of preference, by testing, design, published estimation methods or best engineering judgement. For multiple methods, enter them in the blank separated by a slash (/) and do the same for the efficiency.