ADEQ
OPERATING
AIR PERMIT

Pursuant to the Regulations of the Arkansas Operating Air Permit Program, Regulation 26:

Permit No: 0039-AOP-R6
IS ISSUED TO:
3M Industrial Mineral Products Division
3110 Walters Road
Little Rock, AR 72216
Pulaski County
AFIN: 60-00003

THIS PERMIT AUTHORIZES THE ABOVE REFERENCED PERMITTEE TO INSTALL, OPERATE, AND MAINTAIN THE EQUIPMENT AND EMISSION UNITS DESCRIBED IN THE PERMIT APPLICATION AND ON THE FOLLOWING PAGES. THIS PERMIT IS VALID BETWEEN:

February 26, 2002 AND February 25, 2007

THE PERMITTEE IS SUBJECT TO ALL LIMITS AND CONDITIONS CONTAINED HEREIN.

Signed:

Mike Bates
Chief, Air Division

Date Modified

3M Industrial Mineral Products Division
Permit #: 0039-AOP-R6
AFIN: 60-00003

Table of Contents

3M Industrial Mineral Products Division
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List of Acronyms and Abbreviations

A.C.A.	Arkansas Code Annotated
AFIN	ADEQ Facility Identification Number
CFR	Code of Federal Regulations
CO	Carbon Monoxide
HAP	Hazardous Air Pollutant
lb/hr	Pound Per Hour
MVAC	Motor Vehicle Air Conditioner
No.	Number
NO_x	Nitrogen Oxide
PM	Particulate Matter
PM10	Particulate Matter Smaller Than Ten Microns
SNAP	Significant New Alternatives Program (SNAP)
SO_2	Sulfur Dioxide
SSM	Startup, Shutdown, and Malfunction Plan
Tpy	Tons Per Year
UTM	Universal Transverse Mercator
VOC	Volatile Organic Compound

SECTION I: FACILITY INFORMATION

PERMITTEE:	3M Industrial Mineral Products Division
AFIN:	60-00003
PERMIT NUMBER:	0039-AOP-R6
FACILITY ADDRESS:	3110 Walters Road Little Rock, AR 72216
MAILING ADDRESS	PO Box 165860 Little Rock, AR 72216
COUNTY:	Pulaski
CONTACT POSITION:	Allen Johnson, Environmental Manager
TELEPHONE NUMBER:	(501) 490-1509
REVIEWING ENGINEER:	Karen Cerney
UTM North South (Y):	3840.8, 3839.0
UTM East West (X):	569.7, 564.8
Zone:	15

SECTION II: INTRODUCTION

For informational purposes only, this section does not contain enforceable conditions.

Summary of Permit Activity

This minor modification permit authorizes the facility to increase the airflow for the Dryer No. 1 Baghouse (SN-108) from 26,896 scfm to 44,832 scfm. The proposed change results in a permitted emission increase of 13.5 ton per year (tpy) of PM/PM_{10}.

Process Description

Arch Street

3M mines, crushes, screens, transfers, and loads nepheline syenite mineral at the Arch Street Quarry for further processing into granules by the roofing industry. The mineral is quarried, loaded into trucks, and delivered to primary crushers on-site. After screening and further crushing, the material is loaded to railcars and shipped to the 3M roofing granule facility located at College Station. Particulate emission sources are located throughout the Arch Street Quarry. The primary method of controlling emissions, if necessary, is by water spray with or without surfactant additives at various points throughout the process. Baghouse control may also be used to control particulate emissions from the tertiary crushing and screening circuit (SN-01) when the wet suppression system is not being used, if necessary.

College Station

At the College Station facility, 3M receives, crushes, screens, and transfers nepheline syenite in the production of roofing granules. Raw nepheline syenite is brought into the plant by train car, unloaded, and placed into a raw material stockpile. The nepheline syenite is then screened, crushed, and dried. The dried material is transferred to the crushing and screening plant, where the desired size is achieved by further crushing and screening operations. The material leaving the crushing and screening lines is considered to be in "raw granule form." The raw granules are either sent to the coloring plant or stored for future use.

The first stage in the coloring process is mixing, where the raw granules are mixed with pigments. The pigment-coated granules are fired in kilns and then cooled in coolers. In the coolers, water, neutralizers, and oil are added to cool the granules and prevent dusting. These finished granules undergo a final product screening prior to the finished granule storage/loadout processes. Finished granules are fed to product bins and silos prior to shipping in tank car or truck. Waste mineral and granules are sold as aggregate, shipped away in truck or tank cars, or are stockpiled on site for future use.

Particulate emissions are generated throughout the process and are controlled by baghouses, scrubbers, water spray suppression, and other wet suppression methods including oil coating and foam dust suppression.

Regulations

This facility is subject to regulation under the *Arkansas Air Pollution Control Code* (Regulation 18), *Regulations of the Arkansas Plan of Implementation for Air Pollution Control* (Regulation 19), and *Regulations of the Arkansas Operating Permit Program* (Regulation 26).

This facility is not subject to requirements of the *New Source Performance Standards* (NSPS), 40 CFR Part 60, Subpart OOO, because the mineral processed at the facility has been determined to be not a listed non-metallic mineral in Subpart OOO. The material contains less than 50% of any of the listed components that constitute a non-metallic mineral. See Appendix B.

The facility is not currently subject to *New Source Performance Standards* (NSPS), 40 CFR Part 60, Subpart UUU, because affected equipment was installed before the effective date of April 23, 1986.

The facility is considered a "major source" for Title V and PSD purposes. This facility is subject to applicable portions of the Prevention of Significant Deterioration (PSD) portion of the federal New Source Review (NSR) program. Currently, the facility is not subject to PSD review because no related modifications have increased PM rates by greater than 25 tpy or PM_{10} rates by greater than 15 tpy. If the permittee makes related modifications that exceed significant levels of regulated pollutants, the facility will be required to undergo PSD review for the new equipment.

The facility does not have the potential to be a major source for HAPs at this time.

Operating Scenarios

Operational flexibility is maintained at the Arch Street quarry by overestimating some emissions from the stone processing operations. Emission rates from all equipment are calculated at maximum equipment capacities assuming that they are only controlled with wet suppression. Emissions for the baghouse control device, which may be used, were also estimated. This allows for numerous possibilities of equipment configuration that may or may not include the Tertiary Crusher Baghouse (SN-01). Emissions at Arch Street are dependent on a limited annual throughput.

College Station emissions are based on continuous annual operation at equipment rated maximum capacity except emissions that result from fuel oil combustion at the dryers and kilns. These sources may use natural gas year-round but only limited annual amount of fuel oil/used oil are permitted. The tons per year values listed for these sources in this permit are the sum of the potential natural gas emissions and the limited fuel oil/used oil emissions. The lb/hr emissions listed are the worst case of either oil or gas.

Another variable operating scenario at the College Station plant involves the transport of material from the pugmills in the crushing and screening area to various stockpiles. The two

alternatives are truck transport and a conveyerized transport system. Emissions have been estimated both ways and are double counted in this permit to provide maximum flexibility.

Emission Summary

Emissions from the facility result primarily from the quarrying and processing of stone or fuel combustion at the dryers, kilns, and sodium silicate plant boiler. Various pollutants emitted include particulate matter (PM), particulate matter under 10 microns (PM_{10}), carbon monoxide (CO), nitrogen oxides (NO_X), sulfur dioxide (SO_2), and volatile organic compounds (VOC).

Test data obtained by 3M shows that the rock crushed and used in granule production contains small quantities of naturally occurring elemental compounds regulated by the Department as air emissions of hazardous air pollutants or HAPs pursuant to state regulation, and lead, pursuant to federal regulation. The naturally occurring compounds, regulated by the Department as HAPs, are combinations of naturally occurring elements, which include the elements arsenic, beryllium, cadmium, and manganese.

Other HAPs emitted are a result of the use of coloring pigments at various sources throughout the facility. HAPs are also emitted from burning used oil. These HAPs are arsenic, lead, chromium, manganese, PCB, and cobalt compounds.

See Appendix A for a detailed list of emission rates. The following table summarizes facility-wide annual emission rates:

Table 1

Pollutant	**Plantwide tpy**
PM	977.83
PM_{10}	699.89
NO_X	128.25
SO_2	63.40
VOC	5.90
CO	139.05
lead	0.46
chromium	1.61
arsenic	0.2798
beryllium	0.0017
cadmium	0.0966

Table 1	
Pollutant	**Plantwide tpy**
manganese	2.4721
cobalt	0.2496
PCB	0.02

SECTION III: PERMIT HISTORY

Arch Street

On March 23, 1979, 3M was issued Air Permit #0542-A allowing operation of a quarry at 65th and Arch Street.

On August 31, 1993, Permit #0542-AR-1 was issued which served to include emissions sources not previously addressed, and to quantify all emission sources to be consistent with the current operations at that time.

College Station

Air Permit #0039-A was assigned to the 3M, College Station Plant, on November 20, 1970, as the initial permit for the roofing granule production facility.

Air Permit #0175-A was assigned to 3M, College Station, on December 1, 1973, for the operation of an Aerodyne Model 18,000 SY cyclone to control emissions from a mixer and rotary kiln operation.

Permit #0039-AR-1 was issued on May 23, 1980, to install additional baghouse control devices.

Air Permit #0613-A was assigned to 3M on May 23, 1980, allowing instillation of a portable rotary dryer associated with a Cedarapids 15,000 CFM baghouse. This equipment is no longer on-site.

Permit #0039-AR-2 was issued October 20, 1981, in order to evaluate particulate emissions and perform dispersion modeling of reported emissions to ensure that the *National Ambient Air Quality Standards* (NAAQS) were not threatened.

Permit #0039-AR-3 was issued on August 3, 1983, allowing operation of a portable crusher, associated equipment, and two baghouses. The equipment is no longer on-site.

Permit #0039-AR-4 was issued on November 18, 1987, allowing four new baghouses to control emissions from existing colorizing mixers and kilns at the granule plant.

Permit #0039-AR-5 was issued on August 23, 1991, to allow replacement of an existing cyclone and an ESP with baghouses at the #1 kiln area.

0039-AOP-R0, issued February 26, 2002, was the initial Title V Operating Air Permit for both the College Station and Arch Street facilities. The permit combined both Minor Source Air Permits No. 0542-AR-1 (Arch Street) and No. 0039-AR-5 (College Station). Several modification requests were submitted prior to the issuance of the initial operating permit. The notable changes that occurred during this permitting action were the inclusion of HAP emission estimates and various new sources associated with new material handling systems (SN-59, 60,

61, 62, 211, 212, 213, 302, 303, 310, and 106A). It is also allowed by this permit the use of foam type dust suppressant in place of water suppression in some areas of either the Arch Street or College Station units. Source numbers (SN) in the Title V permit do not necessarily coincide with the source numbers of previous permits.

0039-AOP-R1, issued May 1, 2003, incorporated changes resulting from a minor modification application which was approved on November 27, 2002. The approved minor-mod allowed the permittee the use of alternate pigmenting materials at the College Station Plant which contain compounds of cobalt. Cobalt compounds were permitted from various emission sources located at and downstream from the coloring operations.

0039-AOP-R2, issued May 17, 2004, incorporated changes resulting from a minor modification application which was approved on October 28, 2003. The minor mod approval allowed the permittee to install duct work to route emissions from the bucket elevators (SN-121, 122, and 123) and Rotex Screen sources (SN-189, 131, 132, 133, 134, and 135) to the Cooler Scrubbers (SN-115, 154, and 155).

0039-AOP-R3, issued March 25, 2005, incorporated changes allowed by a minor modification approved by the Department on August 26, 2004. The minor-mod approval allowed the permittee to install and operate a classifier and closed loop cyclone tying into existing bins, Bins 4 and 6. Also, the permittee was allowed to install and operate an additional bin, Bin 6A. This new and existing equipment is controlled using a new 10,000 cfm baghouse which is located atop Bin 4 (SN-105, Filler Baghouse). This new larger baghouse eliminates the need for the former source SN-106A (Loadout Dust System) which was removed from service.

0039-AOP-R4, issued on August 24, 2005, incorporated changes allowed by a minor modification approved by the Department on April 29, 2005. The minor-mod approval allowed the permittee to install and operate an Automated Mixing System associated with Building 8 pigment operations. Emissions from this operation was controlled and vented through the new 10,000 cfm Automated Mixing System Baghouse (SN-311).

0039-AOP-R5, issued on March 29, 2006, allowed the facility to combust used oil at SN-108, SN-111, SN-112, SN-113, and SN-116. Also, emission rates from these sources were revised using the most updated USEPA AP-42 emissions factors. Emissions changes included decreases of PM/PM_{10} by 1.71 tons per year (tpy), NO_X by 43.36 tpy, increases of SO_2 by 7.25 tpy, VOC by 1.99 tpy, CO by 50.5 tpy, lead by 0.4496 tpy, and increases of (miscellaneous HAPs) chromium, arsenic, cadmium, and PCB by 0.1757 tpy, 0.05 tpy, 0.05 tpy, and 0.02 tpy respectively.

SECTION IV: SPECIFIC CONDITIONS

Crushers – Arch St.

Table 2	
SN	**Description**
03	Traylor Crusher
07	Norberg Crusher
09* 60*	Cone Crusher Parallel Crusher
31	Tertiary Crusher
33	Tertiary Crusher

* These two crushers operate in parallel with each other and keep one emission limit

The five crushers listed in Table 2 are each operated at the Arch Street Quarry for the purpose of size reduction of material. The crusher emissions are controlled, if necessary, by either wet suppression (with or without additives), foam dust suppressant, or a combination of each at various points in the process or alternatively, with respect to the tertiary crushers, a baghouse, if necessary, to control emissions.

Specific Conditions

1. From the sources listed in Table 2, the permittee shall not exceed the emission rates set forth in Appendix A of this permit for PM_{10} and lead. Compliance shall be demonstrated by compliance with Specific Conditions 4 and 5. [§19.501 *et seq*. of the *Regulations of the Arkansas Plan of Implementation for Air Pollution Control* (Regulation 19) effective December 19, 2004, and 40 CFR Part 52, Subpart E]

2. From the sources listed in Table 2, the permittee shall not exceed the emission rates set forth in Appendix A for PM, arsenic compounds, beryllium compounds, cadmium compounds, and manganese compounds. Compliance shall be demonstrated by compliance with Specific Conditions 4 and 5. [§18.801 of the *Arkansas Air Pollution Control Code* (Regulation 18) effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

3. The permittee shall not exceed the opacity limits in Table 3. Compliance shall be demonstrated by compliance with Specific Condition 4. [§19.503 and 40 CFR Part 52, Subpart E]

Table 3	
Source	**Opacity Limit**
07, 09, 60	20%

Table 3	
Source	**Opacity Limit**
03, 31, 33	40%

4. Throughout the Arch Street quarry, the permittee shall utilize, as necessary, wet suppression, with or without additives, foam or water on equipment and wet suppression with or without additives on haul roads, as necessary, to prevent excess emissions. This requirement does not apply to equipment SN-30 through SN-33 (Tertiary Crushers and Screens) during operation of SN-01 (Tertiary Crushing and Screening Circuit Baghouse). [§19.303 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

5. The permittee shall not process more than 3,000,000 tons of material at the Arch Street unit per twelve consecutive months. [§19.705, §18.1004, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part §70.6]

6. The permittee shall maintain monthly records demonstrating compliance with Specific Condition 5. Records shall be updated by the 15th day following the previous month and a twelve month rolling total shall be kept. Records shall be made available to Department personnel upon request. The records shall be submitted to the Department in accordance with General Provision 7. [§19.705 and 40 CFR Part 52, Subpart E]

SN-01 – Tertiary Crushing and Screening Circuit Baghouse – Arch St.

Operation of this source is considered an alternate scenario to operation of equipment with this baghouse off. During periods when this source is not operating, the crushing and screening equipment must employ proper wet suppression, foam dust suppressant, or a combination of each.

Specific Conditions

7. The permittee shall not exceed the emission rates set forth in Appendix A of this permit for PM_{10} and lead. Compliance shall be demonstrated by compliance with Specific Conditions 5 and 9. [§19.501 and 40 CFR Part 52]

8. From SN-01, the permittee shall not exceed the emission rates set forth in Appendix A for PM, arsenic compounds, beryllium compounds, cadmium compounds, and manganese compounds. Compliance shall be demonstrated by compliance with Specific Conditions 5. [§18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

9. During periods when SN-01 is operating, the permittee shall not exceed 5% opacity as measured by EPA Reference Method 9. [§18.501 and 40 CFR Part 52, Subpart E]

10. The permittee shall conduct weekly observations of opacity at SN-01:

    The visible emission observations shall be used as a method of compliance verification for the 5% opacity limit at each baghouse. The observations shall be conducted by personnel familiar with the facility's visible emissions. If during the weekly observations, visible emissions are detected which appear to be in excess of the permitted opacity limit, the permittee shall:

    a. Take immediate action to identify the cause of the visible emissions.
    b. Implement all necessary corrective action.
    c. Reassess the visible emissions after corrective action is taken.

        i. If excessive visible emissions are still detected, an opacity reading shall be conducted in accordance with EPA Reference Method 9. This reading shall be conducted by personnel trained and certified in the reference method. If the opacity reading exceeds the permitted limit, further corrective measures shall be taken.
        ii. If no excessive visible emissions are detected, the incident shall be noted in the records as described below.

    The permittee shall maintain weekly records related to all visible emission observations and Method 9 Readings. The records shall be kept on site and made available to Department personnel upon request. The records shall contain the following items:

a. The date and time of each observation/reading.
b. Any observance of visible emissions appearing to be above permitted limits, or any Method 9 reading which indicates exceedance.
c. Any observance of visible emissions appearing to be above permitted limits, or any Method 9 reading which indicates exceedance.
d. The name of the person conducting the observation/reading.

[§18.501 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

11. Reserved.

Conveyer Transfer Points – Arch St.

Table 4	
SN	**Description**
02	Transfer Tower
04	Traylor Crusher Surge Bin
05	No. 20 Conveyer
10	No. 1 Conveyer
11	Transfer Station
12	Load Out Bin
13	Load Out Bin
14	No. 3 Conveyer
15	No. 3A Conveyer
16	A.C. Crusher Surge Bin
19	Feeders
20	No. 4 Conveyer
28	No. 5 Conveyer
29	No. 6 Conveyer
59	Conveyer from AC Crusher
61	Conveyer No. 45
62	Conveyer No. 46

Each of the seventeen sources listed in Table 4 is a point of transfer from one conveyer to another, to a bin, or to a storage pile at the Arch Street Plant. Emissions from conveyers are controlled as necessary by either wet suppression, foam dust suppressant, or a combination of each at various points in the process.

Specific Conditions

12. From the sources listed in Table 4, the permittee shall not exceed the emission rates set forth in Appendix A of this permit for PM_{10} and lead. Compliance with this condition shall be demonstrated by compliance with Specific Conditions 4 and 5. [§19.501 and 40 CFR Part 52, Subpart E]

13. From the sources listed in Table 4, the permittee shall not exceed the emission rates set forth in Appendix A for PM, arsenic compounds, beryllium compounds, cadmium compounds, and manganese compounds. Compliance with this condition shall be demonstrated by compliance with Specific Conditions 4 and 5. [§18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

14. The permittee shall not exceed the opacity limits in Table 5. Compliance shall be demonstrated by compliance with Specific Condition 4. [§19.503 and 40 CFR Part 52, Subpart E]

Table 5

Source	Opacity Limit
2, 12, 13, 16, 19, 20, 28, 29, 59, 61, 62	20%
4, 5, 10, 11, 14, 15	40%

Screens – Arch St.

Table 6	
SN	**Description**
06	Primary Screen
08	Primary Screen
30	Secondary Screen
32	Secondary Screen

The four screens listed in Table 6 are each operated at the Arch Street Plant for the purpose of size separation of crushed material. These screen emissions are controlled by either wet suppression, foam dust suppressant, or a combination of each at various points in the process.

Specific Conditions

15. From the sources listed in Table 6, the permittee shall not exceed the emission rates set forth in Appendix A of this permit for PM_{10} and lead. Compliance shall be demonstrated by compliance with Specific Conditions 4 and 5. [§19.501 and 40 CFR Part 52, Subpart E]

16. From the sources listed in Table 6, the permittee shall not exceed the emission rates set forth in Appendix A for PM, arsenic compounds, beryllium compounds, cadmium compounds, and manganese compounds. Compliance shall be demonstrated by compliance with Specific Conditions 4 and 5. [§18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

17. The permittee shall not exceed an opacity of 40% from any screen at Arch Street. Compliance shall be demonstrated by Specific Condition 4. [§19.503 and 40 CFR Part 52, Subpart E]

Material Loading – Arch St.

Table 7	
SN	**Description**
18	Railroad and Truck Loadout
58	Emergency Railroad Loadout

The two sources listed in Table 7 are each located at the Arch Street Plant. Material is loaded into trucks at the Quarry, and after being resized, it is loaded to rail car or trucks and approximately 80% is shipped to College Station.

Specific Conditions

18. From the sources listed in Table 7, the permittee shall not exceed the emission rates set forth in Appendix A of this permit for PM_{10} and lead. Compliance shall be demonstrated by compliance with Specific Condition 4 and 5. [§19.501 and 40 CFR Part 52, Subpart E]

19. From the sources listed in Table 7, the permittee shall not exceed the emission rates set forth in Appendix A for PM, arsenic compounds, beryllium compounds, cadmium compounds, and manganese compounds. Compliance shall be demonstrated by compliance with Specific Condition 4 and 5. [§18.801and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Stockpiles – Arch St.

Table 8	
SN	**Description**
17	Tertiary Crushing Stockpile
57	Emergency Stockpile

The two stockpiles listed in Table 8 are each located at the Arch Street Plant for the purpose of storage of crushed material.

Specific Conditions

20. From the sources listed in Table 8, the permittee shall not exceed the emission rates set forth in Appendix A of this permit for PM_{10} and lead. Compliance shall be demonstrated by compliance with Specific Condition 4 and 5. [§19.501 and 40 CFR Part 52, Subpart E]

21. From the sources listed in Table 8, the permittee shall not exceed the emission rates set forth in Appendix A for PM, arsenic compounds, beryllium compounds, cadmium compounds, and manganese compounds. Compliance shall be demonstrated by compliance with Specific Conditions 4 and 5. [§18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Miscellaneous Quarrying Activities – Arch St.

Table 9	
SN	**Description**
50	Overburden Removal
51	Drilling
52	Blasting
53	Explosives Detonation
54	Quarry Truck Loading
55	Quarry Truck Traffic

At the Arch Street Quarry, 3M uses typical methods for dislodging the mineral. Drilling and blasting are used to free material, each of which results in particulate emissions. Detonation of the explosives results in the emissions of CO, SO_X, and NO_X. After blasting, the broken mineral must be removed for further processing. At times, soils and weathered stone are removed from the upper surfaces of the quarry prior to blasting for the roofing granule mineral itself. This is recognized as overburden removal.

Quarry truck traffic is another source of particulate emissions. These emissions are controlled using wet suppression on haul roads as necessary.

Specific Conditions

22. From the sources listed in Table 9, the permittee shall not exceed the emission rates set forth in Appendix A of this permit for PM_{10} and lead. Compliance shall be demonstrated by compliance with Specific Condition 4 and 5. [§19.501 and 40 CFR Part 52, Subpart E]

23. From the sources listed in Table 9, the permittee shall not exceed the emission rates set forth in Appendix A for PM, arsenic compounds, beryllium compounds, cadmium compounds, and manganese compounds. Compliance shall be demonstrated by compliance with Specific Condition 4 and 5. [§18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Baghouses – College Station

Table 10		
SN	**Description**	**Nameplate Maximum Capacity (SCFM)**
101	Dryer Feed End Baghouse	24,738
102	C & S Line #1 Baghouse	24,738
103	C & S Line #2 Baghouse	24,738
104	C & S Line #3 Baghouse	30,836
105	Filler Baghouse	10,000
106	Product Tripper and Storage Baghouse	10,600
108	Dryer No. 1 Baghouse	44,832
110	No. 7 Filler Tank Baghouse	2,977
111	No. 1 Kiln Baghouse	24,805
112	No. 2 Kiln Baghouse	24,805
113	No. 3 Kiln Baghouse	24,805
114	No. 2 Mixer Baghouse	9,925
116	Dryer No. 2 Baghouse	24,844
117	No. 1 Clay Tank Baghouse	1,500
118	No. 2 Clay Tank Baghouse	1,500
119	No. 3 Clay Tank Baghouse	1,500
124	Coloring Feed End Baghouse	15,213
125	Waste Conveyer Baghouse	1,497
128	No. 3 Mixer Baghouse	9,925
129	No. 1 Mixer Baghouse	9,925
150	IC Circuit - Silo #1 Baghouse	1,445
151	IC Circuit - Silo #2 Baghouse	5,300
152	IC Circuit - Silo #3 Baghouse	3,373
153	Waste Raw Granule Baghouse	14,165
211	Covered Raw Granule Stockpile Baghouse	8,000
311	Automated Mixing System Baghouse	10,000

The sources listed in Table 10 represent baghouse control devices used throughout the College Station unit to control particulate emissions. When properly maintained and operated at the manufacturer's recommended specifications, baghouse control devices can achieve particulate removal at or above 99%.

Each of the baghouses listed in Table 10 has the potential to emit particulates resulting from the granule production. However, two dryers and three kilns also exhaust through five baghouses emitting other criteria pollutants resulting from combustion of fuels. An unlimited amount of natural gas may be used at the dryers and kilns, but diesel and used oil combined usage may not exceed 2.5 million gallons per twelve consecutive months to ensure compliance with annual emission rates.

Specific Conditions

24. From the sources listed in Table 10, the permittee shall not exceed the emission rates set forth in Appendix A of this permit for PM_{10}, SO_2, VOC, CO, NO_x and lead. Compliance with this condition will be demonstrated by compliance with weekly opacity readings of Specific Conditions 28 and fuel requirements of Specific Condition 29. [§19.501 and 40 CFR Part 52, Subpart E]

25. From the sources listed in Table 10, the permittee shall not exceed the emission rates set forth in Appendix A for PM, arsenic compounds, beryllium compounds, cadmium compounds, and manganese compounds. Compliance with this condition will be demonstrated by Specific Condition 28. [§18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

26. From the sources listed in Table 10, the permittee shall not exceed an opacity of 5% as measured by EPA Reference Method 9. [§18.501 and 40 CFR Part 52, Subpart E]

27. During periods of smoking due to re-run of oily material or diesel fuel combustion, SN-111, 112, 113, and 116 shall not exceed 20% opacity as measured by EPA Reference Method 9. [§19.503 and 40 CFR Part 52, Subpart E]

28. The permittee shall conduct weekly observations of opacity for each of the sources listed in Table 10:

    The visible emission observations shall be used as a method of compliance verification for the 5% opacity limit at each baghouse (or 20% for SN-111, 112, 113, 116). The observations shall be conducted by personnel familiar with the facility's visible emissions. If during the weekly observations, visible emissions are detected which appear to be in excess of the permitted opacity limit, the permittee shall:

    a. Take immediate action to identify the cause of the visible emissions.
    b. Implement all necessary corrective action.
    c. Reassess the visible emissions after corrective action is taken.

        i. If excessive visible emissions are still detected, an opacity reading shall be conducted in accordance with EPA Reference Method 9. This reading shall be conducted by personnel trained and certified in the reference method. If the opacity reading exceeds the permitted limit, further corrective measures shall be taken.
        ii. If no excessive visible emissions are detected, the incident shall be noted in the records as described below.

The permittee shall maintain weekly records related to all visible emission observations and Method 9 Readings. The records shall be kept on site and made available to Department personnel upon request. The records shall contain the following items:

a. The date and time of each observation/reading.
b. Any observance of visible emissions appearing to be above permitted limits, or any Method 9 reading which indicates exceedance.
c. Any observance of visible emissions appearing to be above permitted limits, or any Method 9 reading which indicates exceedance.
d. The name of the person conducting the observation/reading.

[§18.501 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

29. The permittee shall not consume more than 2,500,000 gallons of combined diesel/used oil per twelve consecutive months at the dryers and kilns (SN-108, 111 through 113, and 116). [§19.705, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]

30. The permittee shall maintain monthly records to demonstrate compliance with Specific Condition 29. Records shall be updated by the 15th day following the previous month. Records shall be accompanied with a twelve month rolling total. Records shall be kept on-site and made available to Department personnel upon request. Records shall be submitted in accordance with General Provision 7. [§19.705 and 40 CFR Part 52, Subpart E]

31. The permittee shall not consume diesel with fuel bound sulfur content greater than 0.3% by weight. [§19.705, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]

32. The permittee shall not consume used oil with fuel bound sulfur content greater than 0.33% by weight. [§19.705, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]

33. The permittee shall not consume used oil which exceed the levels listed in Table 11, and the used oil shall meet the criteria of 40 C.F.R. §279.11. [§19.705, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]

Table 11	
Constituent	**Maximum Allowable Level (By weight)**
Arsenic	0.5 ppm maximum
Cadmium	0.5 ppm maximum
Chromium	10 ppm maximum
Lead	50 ppm maximum
PCB	2 ppm maximum

34. The permittee shall maintain monthly records to demonstrate compliance with Specific Conditions 31, 32, and 33. Records shall be in the form of supplier certification. Records shall be updated with each delivery of fuel. Records shall be kept on-site for at least one year. Records shall be made available to Department personnel upon request. Records shall be submitted in accordance with General Provision 7. [§19.705 and 40 CFR Part 52, Subpart E]

Cooler Scrubbers – College Station

Table 12	
SN	**Description**
115	No. 1 Cooler Scrubber
154	No. 2 Cooler Scrubber
155	No. 3 Cooler Scrubber

Specific Conditions

35. From the sources listed in Table 12, the permittee shall not exceed the emission rates set forth in Appendix A of this permit for PM_{10}, SO_2, VOC, CO, NO_x, and lead. Compliance with this condition will be demonstrated by compliance with Specific Condition 38 and 40. [§19.501 and 40 CFR Part 52, Subpart E]

36. From the sources listed in Table 12, the permittee shall not exceed the emission rates set forth in Appendix A for PM, arsenic compounds, beryllium compounds, cadmium compounds, and manganese compounds. Compliance with this condition will be demonstrated by compliance with Specific Condition 38 and 40. [§18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

37. From the sources listed in Table 12, the permittee shall not exceed an opacity of 20% measured by EPA Reference Method 9. [§18.501 and 40 CFR Part 52, Subpart E]

38. The permittee shall not exceed 4.8 pounds per hour total particulate matter during operation at each of the sources listed in Table 12. Compliance shall be demonstrated by successful stack testing completed in March 2005 and compliance with Specific Condition 39. [§19.705, §18.1004, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]

39. Reserved.

40. The permittee shall maintain a minimum liquid flow at each scrubber listed in Table 12 of 70 gallons per minute, or the minimum determined during the most recent successful performance testing. The permittee shall install a flow meter at each scrubber and record liquid flow once daily. Records shall be updated daily, kept on-site, and made available to Department personnel upon request. [§18.1004 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Conveyer Transfer Points – College Station

Table 13	
SN	**Description**
107	Feeders at Raw Stockpile
109	Conveyer J.B.
156	Conveyer No. 1
157	Conveyer No. 2
158	Transfer Conveyer No. 20
159	Transfer Conveyer No. 21
160	Transfer Conveyer No. 22
161	Transfer Conveyer No. 23
162	Transfer Conveyer No. 24
163	Transfer Conveyer No. 25
164	Transfer Conveyer No. 33
165	Transfer Conveyer No. 34
166	Transfer Conveyer No. 35
167	Transfer Conveyer No. 36
168	Transfer Conveyer No. 37
169	Transfer Conveyer No. 39
170	Transfer Conveyer No. 40
171	Transfer Conveyer No. 41
172	Transfer Conveyer No. 42
173	Conveyer No. 15
174	Conveyer No. 16
175	Conveyer No. 31
176	Conveyer 31A (Sodium Silicate Plant)
183	Pugmill at Waste Silo #4
184	Pugmill at Waste Silo #4
185	Pugmill at Coloring Waste Bin
212	Conveyer 43
213	Conveyer 44
310	Truck /Railcar Loading Conveyer
401	C-101 Screen Feed Conveyor
402	C-102 Screens Feed Conveyor
403	C-103 Screens Feed Conveyor
404	C-104 Screens Feed Conveyor
405	C-105 Screens Feed Conveyor
406	C-106 Screens Feed Conveyor
407	C-107 Screens Feed Conveyor
408	C-108 Screens Feed Conveyor

Table 13	
SN	**Description**
409	C-109 Screens Feed Conveyor
410	C-110 Screens Feed Conveyor
411	C-111 Screens Feed Conveyor
412	C-112 Screens Feed Conveyor
413	C-113 Screens Feed Conveyor
414	C-114 Screens Feed Conveyor
415	C-115 Screens Feed Conveyor
416	C-116 Screens Feed Conveyor
417	C-117 Screens Feed Conveyor
418	C-118 Screens Feed Conveyor
419	C-119 Screens Feed Conveyor
420	C-120 Screens Feed Conveyor
421	C-121 Screens Feed Conveyor
422	C-122 Screens Feed Conveyor
423	C-123 Screens Feed Conveyor
424	C-124 Screens Feed Conveyor
425	C-125 Screens Feed Conveyor
426	C-126 Screens Feed Conveyor
427	C-127 Screens Feed Conveyor

Specific Conditions

41. From the sources listed in Table 13, the permittee shall not exceed the emission rates set forth in Appendix A of this permit for PM_{10} and lead. Compliance with this condition will be demonstrated by Specific Condition 44. [§19.501 and 40 CFR Part 52, Subpart E]

42. From the sources listed in Table 13, the permittee shall not exceed the emission rates set forth in Appendix A for PM, arsenic compounds, beryllium compounds, cadmium compounds, and manganese compounds. Compliance with this condition will be demonstrated by Specific Condition 44. [§18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

43. The permittee shall not exceed the opacity limits in Table 14. Compliance with this condition will be demonstrated by Specific Condition 44. [§19.503 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Table 14	
Source	**Opacity Limit**
109, 164, 167, 168, 169, 170, 171, 172, 184, 185, 212, 213, 401-427	20%
107, 156, 157, 158, 159, 160, 161, 162, 163, 165, 166, 173, 174, 175, 176, 183, 310	40%

44. The permittee shall utilize wet suppression with or without foam, water spray with or without surfactant additives, or other dust suppressant as the primary methods of controlling emissions when necessary. This shall be used for equipment and haul roads to prevent excess emissions throughout College Station Granule Plant. [§19.303 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Screens – College Station

Table 15		
SN	**Description**	**Opacity Limit**
131*	Screen No. 25	40%
132*	Screen No. 26	40%
133*	Screen No. 29	40%
134*	Screen No. 28	40%
135*	Screen No. 27	40%
428	Screen 1 (S-1)	20%
429	Screen 2 (S-2)	20%
430	Screen 3 (S-3)	20%
431	Screen 4 (S-4)	20%

*Each of these sources are captured and controlled by the scrubber system.

Specific Conditions

45. From the sources listed in Table 15, the permittee shall not exceed the emission rates set forth in Appendix A of this permit for PM_{10} and lead. Compliance with this condition will be demonstrated by Specific Condition 44. [§19.501 and 40 CFR Part 52, Subpart E]

46. From the sources listed in Table 15, the permittee shall not exceed the emission rates set forth in Appendix A for PM, arsenic compounds, beryllium compounds, cadmium compounds, and manganese compounds. Compliance with this condition will be demonstrated by Specific Condition 44. [§18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

47. The permittee shall not exceed the opacity limits in Table 15 from the building vent associated with the sources listed. Compliance with this condition will be demonstrated by Specific Condition 44. [§19.503 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Elevators – College Station

Table 16	
SN	**Description**
121	No. 21 Elevator
122	No. 22 Elevator
123	No. 23 Elevator
186	Bucket Elevator No. 18
187	Bucket Elevator No. 19
188	Bucket Elevator No. 20
189	Bucket Elevator No. 24
190	Bucket Elevator No. 25
191	Bucket Elevator No. 27 (Sodium Silicate)

Specific Conditions

48. From the sources listed in Table 16, the permittee shall not exceed the emission rates set forth in Appendix A of this permit for PM_{10} and lead. Compliance with this condition will be demonstrated by Specific Condition 44. [§19.501 and 40 CFR Part 52, Subpart E]

49. From the sources listed in Table 16, the permittee shall not exceed the emission rates set forth in Appendix A for PM, arsenic compounds, beryllium compounds, cadmium compounds, and manganese compounds. Compliance with this condition will be demonstrated by Specific Condition 44. [§18.801and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

50. The permittee shall not exceed the opacity limits in Table 17. Compliance with this condition will be demonstrated by Specific Condition 44. [§19.503 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Table 17	
Source	**Opacity Limit**
190	20%
121, 122, 123, 186, 187, 188, 189, 191	40%

Storage Bins and Stockpiles - College Station

Table 18	
SN	**Description**
199	Product Bin P1
200	Product Bin P2
201	Product Bin P3
202	Product Bin P4
203	Product Bin P5
204	Product Bin P6
205	Product Bin P7
206	Product Bin P8
207	Waste Bin W21
208	Waste Bin W22
209	Waste Bin W23
210	Waste Bin W24
303	Pugmill Discharge Pile
307	Temporary Storage Stockpile
308	Raw Stockpile
438	Screen Feed Bin
439	Crushers Feed Bin
440	11 Grade Bin

Specific Conditions

51. From the sources listed in Table 18, the permittee shall not exceed the emission rates set forth in Appendix A of this permit for PM_{10} and lead. Compliance with this condition will be demonstrated by Specific Condition 44. [§19.501 and 40 CFR Part 52, Subpart E]

52. From the sources listed in Table 18, the permittee shall not exceed the emission rates set forth in Appendix A for PM, arsenic compounds, beryllium compounds, cadmium compounds, and manganese compounds. Compliance with this condition will be demonstrated by Specific Condition 44. [§18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Material Loading/ Unloading and Vehicle Traffic – College Station

Table 19	
SN	**Description**
194	Finished Granule Storage and Loading
195	Waste Granule Storage and Loading
300	Train Car Unload
301	Truck Loading at C & S Pugmill
302	Mineral Unloading at Pugmill Discharge Pile
304	Train Car Unloading – Sodium Silicate
305	Truck Loading at Coloring Pugmill
306	Plant Vehicle Traffic including Baghouse Waste Haul Off

Specific Conditions

53. From the sources listed in Table 19, the permittee shall not exceed the emission rates set forth in Appendix A of this permit for PM_{10} and lead. Compliance with this condition will be demonstrated by Specific Condition 44. [§19.501 and 40 CFR Part 52, Subpart E]

54. From the sources listed in Table 19, the permittee shall not exceed the emission rates set forth in Appendix A for PM, arsenic compounds, beryllium compounds, cadmium compounds, and manganese compounds. Compliance with this condition will be demonstrated by Specific Condition 44. [§18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Sodium Silicate Plant - College Station

Table 20	
SN	**Description**
120	Sodium Silicate Bin
130	Sodium Silicate Plant Boiler
176	Conveyer 31A
191	Bucket Elevator 27
304	Train Car Unload - Sodium Silicate

Sources 120 and 130 are decommissioned equipment. Both pieces of equipment were used in the sodium silicate section of the College Station Plant. 3M currently uses a form of sodium silicate in liquid form; therefore, this equipment is not operating. The factors used for their emissions estimates are currently zero. If the equipment is brought back into service, a permit modification will be required to correct emission rates and conditional requirements. Other equipment listed in table 19 is currently in operation.

SN-130 is a 9.9 MM Btu/hr heat input boiler. The equipment was constructed in 1964, and not modified since. SN-130 is, therefore, exempt from NSPS requirements.

Specific Conditions

55. From the sources listed in Table 20, the permittee shall not exceed the emission rates set forth in Appendix A of this permit for PM_{10}, SO_2, VOC, CO, NO_x and lead. Compliance with this condition will be demonstrated by compliance with Specific Condition 44 and 57. [§19.501 and 40 CFR Part 52, Subpart E]

56. From the sources listed in Table 20, the permittee shall not exceed the emission rates set forth in Appendix A for PM, arsenic compounds, beryllium compounds, cadmium compounds, and manganese compounds. Compliance with this condition will be demonstrated by compliance with Specific Condition 44 and 57. [§18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

57. The permittee shall not operate sources SN-120 or SN-130 at any time without a permit modification to correct the emission rates for these sources. [§19.705, §18.1004, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]

Pigment Usage at Various Sources

Table 21	
SN	**Description**
111	No. 1 Kiln Baghouse
112	No. 2 Kiln Baghouse
113	No. 3 Kiln Baghouse
114	No. 2 Mixer Baghouse
115	No. 1 Cooler Scrubber
121	No. 21 Elevator
122	No. 22 Elevator
123	No. 23 Elevator
131	Screen No. 25
132	Screen No. 26
133	Screen No. 29
134	Screen No. 28
135	Screen No. 27
154	No. 2 Cooler Scrubber
155	No. 3 Cooler Scrubber
158	Transfer Conveyer No. 20
159	Transfer Conveyer No. 21
160	Transfer Conveyer No. 22
161	Transfer Conveyer No. 23
162	Transfer Conveyer No. 24
163	Transfer Conveyer No. 25
164	Transfer Conveyer No. 33
165	Transfer Conveyer No. 34
166	Transfer Conveyer No. 35
167	Transfer Conveyer No. 36
168	Transfer conveyer No. 37
169	Transfer conveyer No. 39
170	Transfer conveyer No. 40
171	Transfer conveyer No. 41
172	Transfer conveyer No. 42
176	Conveyer 31A (Sodium Silicate Plant)
186	Bucket Elevator No. 18
187	Bucket Elevator No. 19
188	Bucket Elevator No. 20
189	Bucket Elevator No. 24
190	Bucket Elevator No. 25
191	Bucket Elevator No. 27 (Sodium Silicate)

Table 21	
SN	**Description**
194	Finished Granule Storage/ Loading
195	Waste Granule Storage/ Loading
199	Product Bin P1
200	Product Bin P2
201	Product Bin P3
202	Product Bin P4
203	Product Bin P5
204	Product Bin P6
205	Product Bin P7
206	Product Bin P8
207	Waste Bin W21
208	Waste Bin W22
209	Waste Bin W23
210	Waste Bin W24
304	Train Car Unload (Sodium Silicate)
305	Truck Loading at Coloring Pugmill
311	Automated Mixing System Baghouse

Coloring pigments are added to granules at an intermediate stage during production. The pigments have a small weight fraction of HAPs and, therefore, impact air emissions at subsequent sources (Table 21). The pigment HAPs have been accounted for these sources in Appendix A.

Specific Conditions

58. From the sources listed in Table 21, the permittee shall not exceed the emission rates set forth in Appendix A for lead, chromium, manganese, and cobalt compounds that result directly from coloring pigment usage at these sources. Compliance shall be demonstrated by compliance with the particulate matter emission limits at these sources and by compliance with Specific Condition 59. [§18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

59. The permittee shall not exceed the HAP content limits in Table 22:

Table 22 – Maximum Content Limits for Finished Granules	
HAP	**Limit**
lead compounds	0.024 lb/ton (.0012% by weight)
chromium compounds	6.5 lb/ton (0.325% by weight)
manganese compounds	0.3 lb/ton (0.015% by weight)
cobalt compounds	4 lb/ton (0.2% by weight)

The permittee shall keep records demonstrating compliance with the finished granule composition limits. Records may be in the form of MSDS sheets, product labels, lab analyses, or calculations using Department approved methodology. Records shall be kept on-site and made available to Department personnel upon request. [§18.1004 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Crushers – College Station

Table 23	
SN	**Description**
432	Crusher 1 (C-1)
433	Crusher 2 (C-2)
434	Crusher 3 (C-3)
435	Crusher 4 (C-4)
436	Crusher 5 (C-5)
437	Crusher 6 (C-6)

The crushers listed in Table 23 are each operated at the College Station location for the purpose of size reduction of material. The crusher emissions are controlled, if necessary, by wet suppression (with or without additives), foam dust suppressant, or a combination of each at various points in the process or alternatively.

Specific Conditions

60. From the sources listed in Table 23, the permittee shall not exceed the emission rates set forth in Appendix A of this permit for PM_{10} and lead. Compliance shall be demonstrated by compliance with Specific Condition 63. [§19.501 *et seq*. of the *Regulations of the Arkansas Plan of Implementation for Air Pollution Control* (Regulation 19) effective December 19, 2004, and 40 CFR Part 52, Subpart E]

61. From the sources listed in Table 23, the permittee shall not exceed the emission rates set forth in Appendix A for PM, arsenic compounds, beryllium compounds, cadmium compounds, and manganese compounds. Compliance shall be demonstrated by compliance with Specific Condition 63. [§18.801 of the *Arkansas Air Pollution Control Code* (Regulation 18) effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

62. The permittee shall not exceed the opacity limits in Table 24. Compliance shall be demonstrated by compliance with Specific Condition 63. [§19.503 and 40 CFR Part 52, Subpart E]

Table 24	
Source	**Opacity Limit**
432, 433, 434, 435, 436, 437	20%

63. Throughout the College Station Plant, the permittee shall utilize, as necessary, wet suppression, with or without additives, foam or water on equipment and wet suppression with or without additives on haul roads, as necessary, to prevent excess emissions. [§19.303 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SECTION V: COMPLIANCE PLAN AND SCHEDULE

According to information submitted to the date of issuance of this permit, 3M is in compliance with the PM_{10} NAAQS. To ensure ongoing compliance, 3M shall continue to operate existing on-site ambient air monitors according to protocols outlined in past monitoring submissions and according to the Department's CEMS conditions found in Appendix D of this permit. The facility shall continue to submit quarterly monitoring reports, with the complete data, in a similar format as previously submitted reports. Any excess in the PM_{10} 24-hour or annual average PM_{10} concentrations shall be summarized, along with an explanation for each exceedance. Concentrations exceeding NAAQS may be cause for reopening of this permit. This schedule for submission shall be followed until the permittee has submitted five years of continuous data. At that point, the permittee may apply for removal of this requirement.

3M is in compliance with the applicable regulations cited in the permit application. 3M will continue to operate in compliance with those identified regulatory provisions. The facility will examine and analyze future regulations that may apply and determine their applicability with any necessary action taken on a timely basis.

SECTION VI: PLANTWIDE CONDITIONS

1. The permittee shall notify the Director in writing within thirty (30) days after commencing construction, completing construction, first placing the equipment and/or facility in operation, and reaching the equipment and/or facility target production rate. [Regulation 19, §19.704, 40 CFR Part 52, Subpart E, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

2. If the permittee fails to start construction within eighteen months or suspends construction for eighteen months or more, the Director may cancel all or part of this permit. [Regulation 19, §19.410(B) and 40 CFR Part 52, Subpart E]

3. The permittee must test any equipment scheduled for testing, unless stated in the Specific Conditions of this permit or by any federally regulated requirements, within the following time frames: (1) new equipment or newly modified equipment within sixty (60) days of achieving the maximum production rate, but no later than 180 days after initial start up of the permitted source or (2) operating equipment according to the time frames set forth by the Department or within 180 days of permit issuance if no date is specified. The permittee must notify the Department of the scheduled date of compliance testing at least fifteen (15) days in advance of such test. The permittee shall submit the compliance test results to the Department within thirty (30) days after completing the testing. [Regulation 19, §19.702 and/or Regulation 18 §18.1002 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

4. The permittee must provide: [Regulation 19, §19.702 and/or Regulation 18, §18.1002 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

    a. Sampling ports adequate for applicable test methods;
    b. Safe sampling platforms;
    c. Safe access to sampling platforms; and
    d. Utilities for sampling and testing equipment.

5. The permittee must operate the equipment, control apparatus and emission monitoring equipment within the design limitations. The permittee shall maintain the equipment in good condition at all times. [Regulation 19, §19.303 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

6. This permit subsumes and incorporates all previously issued air permits for this facility. [Regulation 26 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

7. The permittee must comply with the standards for labeling of products using ozone-depleting substances. [40 CFR Part 82, Subpart E]

    a. All containers containing a class I or class II substance stored or transported, all products containing a class I substance, and all products directly manufactured

with a class I substance must bear the required warning statement if it is being introduced to interstate commerce pursuant to §82.106.

b. The placement of the required warning statement must comply with the requirements pursuant to §82.108.
c. The form of the label bearing the required warning must comply with the requirements pursuant to §82.110.
d. No person may modify, remove, or interfere with the required warning statement except as described in §82.112.

8. The permittee must comply with the standards for recycling and emissions reduction, except as provided for MVACs in Subpart B. [40 CFR Part 82, Subpart F]

a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to §82.156.
b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to §82.158.
c. Persons performing maintenance, service repair, or disposal of appliances must be certified by an approved technician certification program pursuant to §82.161.
d. Persons disposing of small appliances, MVACs, and MVAC like appliances must comply with record keeping requirements pursuant to §82.166. ("MVAC like appliance" as defined at §82.152)
e. Persons owning commercial or industrial process refrigeration equipment must comply with leak repair requirements pursuant to §82.156.
f. Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to §82.166.

9. If the permittee manufactures, transforms, destroys, imports, or exports a class I or class II substance, the permittee is subject to all requirements as specified in 40 CFR Part 82, Subpart A, Production and Consumption Controls.

10. If the permittee performs a service on motor (fleet) vehicles when this service involves ozone depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements as specified in 40 CFR part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners.

The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term "MVAC" as used in Subpart B does not include the air tight sealed refrigeration system used as refrigerated cargo, or the system used on passenger buses using HCFC 22 refrigerant.

11. The permittee can switch from any ozone depleting substance to any alternative listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 CFR Part 82, Subpart G.

SECTION VII: INSIGNIFICANT ACTIVITIES

The following sources are insignificant activities. Any activity that has a state or federal applicable requirement shall be considered a significant activity even if this activity meets the criteria of §304 of Regulation 26 or listed in the table below. Insignificant activity determinations rely upon the information submitted by the permittee in an application dated September 15, 2005.

Description	Category
550 Gallon Gasoline Tank (Arch Street)	A-13
12,000 Gallon Diesel Tank (College Station)	A-13
270 Gallon Gasoline Tank (College Station)	A-13
20,000 Gallon Oil Tank (College Station)	A-13
20,000 Gallon Oil Tank (College Station)	A-13
Emissions at crushers where small quantities of metallic materials are potentially emitted as a direct result of crusher wear	A-13

SECTION VIII: GENERAL PROVISIONS

1. Any terms or conditions included in this permit which specify and reference Arkansas Pollution Control & Ecology Commission Regulation 18 or the Arkansas Water and Air Pollution Control Act (A.C.A. §8-4-101 et seq.) as the sole origin of and authority for the terms or conditions are not required under the Clean Air Act or any of its applicable requirements, and are not federally enforceable under the Clean Air Act. Arkansas Pollution Control & Ecology Commission Regulation 18 was adopted pursuant to the Arkansas Water and Air Pollution Control Act (A.C.A. §8-4-101 et seq.). Any terms or conditions included in this permit which specify and reference Arkansas Pollution Control & Ecology Commission Regulation 18 or the Arkansas Water and Air Pollution Control Act (A.C.A. §8-4-101 et seq.) as the origin of and authority for the terms or conditions are enforceable under this Arkansas statute. [40 CFR 70.6(b)(2)]

2. This permit shall be valid for a period of five (5) years beginning on the date this permit becomes effective and ending five (5) years later. [40 CFR 70.6(a)(2) and §26.701(B) of the Regulations of the Arkansas Operating Air Permit Program (Regulation 26), effective August 10, 2000]

3. The permittee must submit a complete application for permit renewal at least six (6) months before permit expiration. Permit expiration terminates the permittee's right to operate unless the permittee submitted a complete renewal application at least six (6) months before permit expiration. If the permittee submits a complete application, the existing permit will remain in effect until the Department takes final action on the renewal application. The Department will not necessarily notify the permittee when the permit renewal application is due. [Regulation 26, §26.406]

4. Where an applicable requirement of the Clean Air Act, as amended, 42 U.S.C. 7401, et seq. (Act) is more stringent than an applicable requirement of regulations promulgated under Title IV of the Act, the permit incorporates both provisions into the permit, and the Director or the Administrator can enforce both provisions. [40 CFR 70.6(a)(1)(ii) and Regulation 26, §26.701(A)(2)]

5. The permittee must maintain the following records of monitoring information as required by this permit. [40 CFR 70.6(a)(3)(ii)(A) and Regulation 26, §26.701(C)(2)]

    a. The date, place as defined in this permit, and time of sampling or measurements;
    b. The date(s) analyses performed;
    c. The company or entity performing the analyses;
    d. The analytical techniques or methods used;
    e. The results of such analyses; and
    f. The operating conditions existing at the time of sampling or measurement.

6. The permittee must retain the records of all required monitoring data and support information for at least five (5) years from the date of the monitoring sample,

measurement, report, or application. Support information includes all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. [40 CFR 70.6(a)(3)(ii)(B) and Regulation 26, §26.701(C)(2)(b)]

7. The permittee must submit reports of all required monitoring every six (6) months. If permit establishes no other reporting period, the reporting period shall end on the last day of the anniversary month of the initial Title V permit. The report is due within thirty (30) days of the end of the reporting period. Although the reports are due every six months, each report shall contain a full year of data. The report must clearly identify all instances of deviations from permit requirements. A responsible official as defined in Regulation No. 26, §26.2 must certify all required reports. The permittee will send the reports to the address below: [40 C.F.R. 70.6(a)(3)(iii)(A) and Regulation 26, §26.701(C)(3)(a)]

    Arkansas Department of Environmental Quality
    Air Division
    ATTN: Compliance Inspector Supervisor
    Post Office Box 8913
    Little Rock, AR 72219

8. The permittee shall report to the Department all deviations from permit requirements, including those attributable to upset conditions as defined in the permit.

    a. For all upset conditions (as defined in Regulation19, § 19.601), the permittee will make an initial report to the Department by the next business day after the discovery of the occurrence. The initial report my be made by telephone and shall include:

        i. The facility name and location
        ii. The process unit or emission source deviating from the permit limit,
        iii. The permit limit, including the identification of pollutants, from which deviation occurs,
        iv. The date and time the deviation started,
        v. The duration of the deviation,
        vi. The average emissions during the deviation,
        vii. The probable cause of such deviations,
        viii. Any corrective actions or preventive measures taken or being taken to prevent such deviations in the future, and
        ix. The name of the person submitting the report.

    The permittee shall make a full report in writing to the Department within five (5) business days of discovery of the occurrence. The report must include, in addition to the information required by the initial report, a schedule of actions taken or planned to eliminate future occurrences and/or to minimize the amount the permit's limits were exceeded and to reduce the length of time the limits were exceeded. The

permittee may submit a full report in writing (by facsimile, overnight courier, or other means) by the next business day after discovery of the occurrence, and the report will serve as both the initial report and full report.

b. For all deviations, the permittee shall report such events in semi-annual reporting and annual certifications required in this permit. This includes all upset conditions reported in 8a above. The semi-annual report must include all the information as required by the initial and full reports required in 8a.

[Regulation 19, §19.601 and §19.602, Regulation 26, §26.701(C)(3)(b), and 40 CFR 70.6(a)(3)(iii)(B)]

9. If any provision of the permit or the application thereof to any person or circumstance is held invalid, such invalidity will not affect other provisions or applications hereof which can be given effect without the invalid provision or application, and to this end, provisions of this Regulation are declared to be separable and severable. [40 CFR 70.6(a)(5), Regulation 26, §26.701(E), and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

10. The permittee must comply with all conditions of this Part 70 permit. Any permit noncompliance with applicable requirements as defined in Regulation 26 constitutes a violation of the Clean Air Act, as amended, 42 U.S.C. §7401, et seq. and is grounds for enforcement action; for permit termination, revocation and reissuance, for permit modification; or for denial of a permit renewal application. [40 CFR 70.6(a)(6)(i) and Regulation 26, §26.701(F)(1)]

11. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity to maintain compliance with the conditions of this permit. [40 CFR 70.6(a)(6)(ii) and Regulation 26, §26.701(F)(2)]

12. The Department may modify, revoke, reopen and reissue the permit or terminate the permit for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. [40 CFR 70.6(a)(6)(iii) and Regulation 26, §26.701(F)(3)]

13. This permit does not convey any property rights of any sort, or any exclusive privilege. [40 CFR 70.6(a)(6)(iv) and Regulation 26, §26.701(F)(4)]

14. The permittee must furnish to the Director, within the time specified by the Director, any information that the Director may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee must also furnish to the Director copies of records required by the permit. For information the permittee claims confidentiality, the Department may require the permittee to furnish such records directly to the Director

along with a claim of confidentiality. [40 CFR 70.6(a)(6)(v) and Regulation 26, §26.701(F)(5)]

15. The permittee must pay all permit fees in accordance with the procedures established in Regulation 9. [40 CFR 70.6(a)(7) and Regulation 26, §26.701(G)]

16. No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes provided for elsewhere in this permit. [40 CFR 70.6(a)(8) and Regulation 26, §26.701(H)]

17. If the permit allows different operating scenarios, the permittee shall, contemporaneously with making a change from one operating scenario to another, record in a log at the permitted facility a record of the operational scenario. [40 CFR 70.6(a)(9)(i) and Regulation 26, §26.701(I)(1)]

18. The Administrator and citizens may enforce under the Act all terms and conditions in this permit, including any provisions designed to limit a source's potential to emit, unless the Department specifically designates terms and conditions of the permit as being federally unenforceable under the Act or under any of its applicable requirements. [40 CFR 70.6(b) and Regulation 26, §26.702(A) and (B)]

19. Any document (including reports) required by this permit must contain a certification by a responsible official as defined in Regulation 26, §26.2. [40 CFR 70.6(c)(1) and Regulation 26, §26.703(A)]

20. The permittee must allow an authorized representative of the Department, upon presentation of credentials, to perform the following: [40 CFR 70.6(c)(2) and Regulation 26, §26.703(B)]

    a. Enter upon the permittee's premises where the permitted source is located or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
    b. Have access to and copy, at reasonable times, any records required under the conditions of this permit;
    c. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit; and
    d. As authorized by the Act, sample or monitor at reasonable times substances or parameters for assuring compliance with this permit or applicable requirements.

21. The permittee shall submit a compliance certification with the terms and conditions contained in the permit, including emission limitations, standards, or work practices. The permittee must submit the compliance certification annually within 30 days following the last day of the anniversary month of the initial Title V permit. The permittee must also

submit the compliance certification to the Administrator as well as to the Department. All compliance certifications required by this permit must include the following: [40 CFR 70.6(c)(5) and Regulation 26, §26.703(E)(3)]

a. The identification of each term or condition of the permit that is the basis of the certification;
b. The compliance status;
c. Whether compliance was continuous or intermittent;
d. The method(s) used for determining the compliance status of the source, currently and over the reporting period established by the monitoring requirements of this permit;
e. and Such other facts as the Department may require elsewhere in this permit or by §114(a)(3) and §504(b) of the Act.

22. Nothing in this permit will alter or affect the following: [Regulation 26, §26.704(C)]

a. The provisions of Section 303 of the Act (emergency orders), including the authority of the Administrator under that section;
b. The liability of the permittee for any violation of applicable requirements prior to or at the time of permit issuance;
c. The applicable requirements of the acid rain program, consistent with §408(a) of the Act or,
d. The ability of EPA to obtain information from a source pursuant to §114 of the Act.

23. This permit authorizes only those pollutant emitting activities addressed in this permit. [A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

APPENDIX A

Emission Rate Tables

3M Industrial Minerals – Little Rock
Permit #: 0039-AOP-R5
AFIN: 60-00003

lb/hr

SN	Source Description	PM	PM_{10}	NO_X	SO_2	VOC	CO	lead	chromium	manganese	cobalt	arsenic	cadmium	PCB
1	Tertiary Crushing Baghouse	2.6	2.6											
2	Transfer Tower	0.1	0.1											
3	Traylor Primary Crusher	1.1	0.9											
4	Traylor Crusher Surge Bin	0.2	0.1											
5	No. 20 Conveyer	0.2	0.1											
6	Primary Screen	2.8	1.3											
7	A.C. Primary Crusher	1.1	0.9											
8	Primary Screen	2.8	1.3											
9	Cone Secondary Crusher	1.1	0.9											
10	No. 1 Crusher	0.2	0.1											
11	Transfer Station	0.2	0.1											
12	Load Out Bin	0.2	0.1											
13	Load Out Bin	0.2	0.1											
14	No. 3 Conveyer	0.2	0.1											
15	No. 3A Conveyer	0.2	0.1											
16	A.C. Crusher Surge Bin	0.2	0.1											
17	Tertiary Crushing Stock Pile	0.1	0.1											
18	Railroad Loadout	0.2	0.1											
19	Feeders	0.2	0.1											
20	No. 4 Conveyers	0.2	0.1											
28	No. 5 Conveyer	0.2	0.1											
29	No. 6 Conveyer	0.2	0.1											
30	Screen	1.3	0.6											
31	Crusher	0.9	0.4											
32	Screen	1.3	0.6											
33	Crusher	0.9	0.4											
50	Overburden Removal	13.0	6.3											
51	Drilling	0.3	0.1											
52	Blasting	9.4	4.7											

lb/hr

SN	Source Description	PM	PM_{10}	NO_X	SO_2	VOC	CO	lead	chromium	manganese	cobalt	arsenic	cadmium	PCB
53	Blasting Explosive (ANFO)			13.6	1.6		53.6							
54	Quarry Truck Loading	0.3	0.2											
55	Quarry Truck Traffic	19.3	8.7											
57	Emergency Stockpile	0.5	0.5											
58	Emergency Railroad Loadout	0.1	0.0											
59	Conveyer from AC Crusher	0.2	0.1											
60	Parallel Crusher	bubbled with SN-09												
61	No. 45 Conveyer	0.2	0.1											
62	No. 46 Conveyer	0.2	0.1											
101	Dryer Feed End Baghouse (BH)	5.0	5.0											
102	C & S Line #1 (BH)	5.0	5.0											
103	C & S Line # 2 (BH)	5.0	5.0											
104	C & S Line #3 (BH)	5.0	5.0											
105	Filler Baghouse	1.7	1.7											
106	Product Tripper and Storage Baghouse	5.0	5.0											
107	Feeders	0.1	0.0											
108	Dryer No. 1 (BH)	7.7	7.7	10.1	24.8	0.4	6.0	0.20	0.04			0.0019	0.0019	0.0074
109	Conveyer J.B.	0.1	0.0											
110	No. 7 Filler Tank (BH)	1.0	1.0											
111	No. 1 Kiln (BH)	5.6	4.3	7.1	17.7	0.3	4.2	0.13	0.02	0.0008	0.0031	0.0018	0.0019	0.0074
112	No. 2 Kiln (BH)	5.6	4.3	7.1	17.7	0.3	4.2	0.13	0.02	0.0008	0.0031	0.0018	0.0019	0.0074
113	No. 3 Kiln (BH)	5.6	4.3	7.1	17.7	0.3	4.2	0.13	0.02	0.0008	0.0031	0.0018	0.0019	0.0074
114	No. 2 Mixer (BH)	2.4	2.4					0.00	0.01	0.0004	0.0013			
115	No. 1 Cooler (Scrubber)	4.8	4.8					0.00	0.02	0.0007	0.0027			
116	Dryer No. 2 (BH)	8.0	4.3	2.9	7.1	0.2	1.7	0.05	0.04			0.0019	0.0019	0.0074
117	No. 1 Clay Tank (BH)	3.0	3.0											
118	No. 2 Clay Tank (BH)	3.0	3.0											
119	No. 3 Clay Tank (BH)	3.0	3.0											
120	Sodium Silicate Bin	0.0	0.0											
121	No. 21 Elevator	1.5	1.5					0.00	0.00	0.0002	0.0008			
122	No. 22 Elevator	1.5	1.5					0.00	0.00	0.0002	0.0008			
123	No. 23 Elevator	1.5	1.5					0.00	0.00	0.0002	0.0008			
124	Coloring Feed End (BH)	5.0	5.0											

lb/hr

SN	Source Description	PM	PM_{10}	NO_X	SO_2	VOC	CO	lead	chromium	manganese	cobalt	arsenic	cadmium	PCB
125	Waste Conveyer Baghouse	3.0	3.0					0.00	0.01	0.0005	0.0017			
128	No. 3 Mixer (BH)	2.4	2.4					0.00	0.01	0.0004	0.0013			
129	No. 1 Mixer (BH)	2.4	2.4					0.00	0.01	0.0004	0.0013			
130	Sodium Silicate Plant Boiler	0.0	0.0	0.0	0.0	0.0	0.0							
131	Screen No. 25	0.1	0.1					0.00	0.00	0.0000	0.0001			
132	Screen No. 26	0.1	0.1					0.00	0.00	0.0000	0.0001			
133	Screen No. 29	0.1	0.1					0.00	0.00	0.0000	0.0001			
134	Screen No. 28	0.1	0.1					0.00	0.00	0.0000	0.0001			
135	Screen No. 27	0.1	0.1					0.00	0.00	0.0000	0.0001			
150	IC Circuit - Silo #1(BH)	0.3	0.3											
151	IC Circuit - Silo #2 (BH)	1.1	1.1											
152	IC Circuit - Silo #3 (BH)	0.8	0.8											
153	Waste Raw Granule (BH)	2.4	2.4											
154	No. 2 Cooler (Scrubber)	4.8	4.8					0.00	0.02	0.0007	0.0027			
155	No. 3 Cooler (Scrubber)	4.8	4.8					0.00	0.02	0.0007	0.0027			
156	Conveyer No. 1	2.2	1.1											
157	Conveyer No. 2	2.4	1.1											
158	Transfer Conveyer No. 20	0.0	0.0					0.00	0.00	0.0000	0.0000			
159	Transfer Conveyer No. 21	0.2	0.0					0.00	0.00	0.0000	0.0001			
160	Transfer Conveyer No. 22	0.1	0.0					0.00	0.00	0.0000	0.0001			
161	Transfer Conveyer No. 23	0.0	0.0					0.00	0.00	0.0000	0.0000			
162	Transfer Conveyer No. 24	0.0	0.0					0.00	0.00	0.0000	0.0000			
163	Transfer Conveyer No. 25	0.0	0.0					0.00	0.00	0.0000	0.0000			
164	Transfer Conveyer No. 33	0.0	0.0					0.00	0.00	0.0000	0.0000			
165	Transfer Conveyer No. 34	0.0	0.0					0.00	0.00	0.0000	0.0000			
166	Transfer Conveyer No. 35	0.0	0.0					0.00	0.00	0.0000	0.0000			
167	Transfer Conveyer No. 36	0.0	0.0					0.00	0.00	0.0000	0.0000			

lb/hr

SN	Source Description	PM	PM_{10}	NO_X	SO_2	VOC	CO	lead	chromium	manganese	cobalt	arsenic	cadmium	PCB
168	Transfer Conveyer No. 37	0.0	0.0					0.00	0.00	0.0000	0.0000			
169	Transfer Conveyer No. 39	0.0	0.0					0.00	0.00	0.0000	0.0000			
170	Transfer Conveyer No. 40	0.0	0.0					0.00	0.00	0.0000	0.0000			
171	Transfer Conveyer No. 41	0.0	0.0					0.00	0.00	0.0000	0.0000			
172	Transfer Conveyer No. 42	0.0	0.0					0.00	0.00	0.0000	0.0000			
173	Conveyer No. 15	0.5	0.2											
174	Conveyer No. 16	0.4	0.2											
175	Conveyer No. 31	0.0	0.0											
176	Conveyer 31A (Sodium Silicate Plant)	0.2	0.1					0.00	0.00	0.0000	0.0001			
183	Pugmill	0.0	0.0											
184	Pugmill	0.0	0.0											
185	Pugmill	0.0	0.0											
186	Bucket Elevator No. 18	0.0	0.0					0.00	0.00	0.0000	0.0000			
187	Bucket Elevator No. 19	0.0	0.0					0.00	0.00	0.0000	0.0000			
188	Bucket Elevator No. 20	0.0	0.0					0.00	0.00	0.0000	0.0000			
189	Bucket Elevator No. 24	1.2	1.2					0.00	0.00	0.0002	0.0007			
190	Bucket Elevator No. 25	0.0	0.0					0.00	0.00	0.0000	0.0000			
191	Bucket Elevator No. 27 (Sodium Silicate)	0.1	0.0					0.00	0.00	0.0000	0.0001			
194	Finished Granule Storage/ Loading	0.1	0.0					0.00	0.00	0.0000	0.0000			
195	Waste Granule Storage/ Loading	0.0	0.0					0.00	0.00	0.0000	0.0000			
199	Product Bin P1	4.9	2.3					0.00	0.02	0.0007	0.0027			
200	Product Bin P2	4.9	2.3					0.00	0.02	0.0007	0.0027			
201	Product Bin P3	4.9	2.3					0.00	0.02	0.0007	0.0027			
202	Product Bin P4	4.9	2.3					0.00	0.02	0.0007	0.0027			
203	Product Bin P5	4.9	2.3					0.00	0.02	0.0007	0.0027			
204	Product Bin P6	4.9	2.3					0.00	0.02	0.0007	0.0027			
205	Product Bin P7	4.9	2.3					0.00	0.02	0.0007	0.0027			
206	Product Bin P8	4.9	2.3					0.00	0.02	0.0007	0.0027			
207	Waste Bin W21	2.9	1.4					0.00	0.01	0.0004	0.0016			
208	Waste Bin W22	2.9	1.4					0.00	0.01	0.0004	0.0016			

lb/hr

SN	Source Description	PM	PM_{10}	NO_X	SO_2	VOC	CO	lead	chromium	manganese	cobalt	arsenic	cadmium	PCB
209	Waste Bin W23	2.9	1.4					0.00	0.01	0.0004	0.0016			
210	Waste Bin W24	2.9	1.4					0.00	0.01	0.0004	0.0016			
211	Covered Raw Granule Stockpile (BH)	1.4	1.4											
212	Conveyer No. 43	0.0	0.0											
213	Conveyer No. 44	0.0	0.0											
300	Train Car Unload	0.0	0.0											
301	Truck Loading at C & S Pugmill	0.1	0.0											
302	Mineral Unloading at Wet Stockpile	0.0	0.0											
303	Wet Stockpile Fugitives	1.1	1.1											
304	Train Car unload (Sodium Silicate)	0.1	0.0					0.00	0.00	0.0000	0.0001			
305	Truck Loading at Coloring Pugmill	0.1	0.0					0.00	0.00	0.0000	0.0000			
306	Plant Vehicle Traffic/ BH waste haul off	8.9	1.7											
307	Temporary Storage Stock Pile Drop	7.5	3.6											
308	Raw Stock Pile	24.8	11.8											
310	Truck/ Railcar Loading	0.0	0.0											
311	Automated Mixing System (BH)	1.8	1.8					0.00	0.01	0.0003	0.0010			
401	C-101 Screen Feed Conveyor	0.07	0.03											
402	C-102 Screens Feed Conveyor	0.05	0.02											
403	C-103 Screens Feed Conveyor	0.05	0.02											
404	C-104 Screens Feed Conveyor	0.01	0.01											
405	C-105 Screens Feed Conveyor	0.01	0.01											
406	C-106 Screens Feed Conveyor	0.01	0.01											
407	C-107 Screens Feed Conveyor	0.01	0.01											
408	C-108 Screens Feed Conveyor	0.07	0.03											
409	C-109 Screens Feed Conveyor	0.07	0.03											
410	C-110 Screens Feed Conveyor	0.02	0.01											
411	C-111 Screens Feed Conveyor	0.02	0.01											
412	C-112 Screens Feed Conveyor	0.02	0.01											

lb/hr

SN	Source Description	PM	PM_{10}	NO_X	SO_2	VOC	CO	lead	chromium	manganese	cobalt	arsenic	cadmium	PCB
413	C-113 Screens Feed Conveyor	0.02	0.01											
414	C-114 Screens Feed Conveyor	0.02	0.01											
415	C-115 Screens Feed Conveyor	0.02	0.01											
416	C-116 Screens Feed Conveyor	0.05	0.02											
417	C-117 Screens Feed Conveyor	0.05	0.02											
418	C-118 Screens Feed Conveyor	0.07	0.03											
419	C-119 Screens Feed Conveyor	0.07	0.03											
420	C-120 Screens Feed Conveyor	0.07	0.03											
421	C-121 Screens Feed Conveyor	0.05	0.02											
422	C-122 Screens Feed Conveyor	0.05	0.02											
423	C-123 Screens Feed Conveyor	0.03	0.01											
424	C-124 Screens Feed Conveyor	0.05	0.02											
425	C-125 Screens Feed Conveyor	0.05	0.02											
426	C-126 Screens Feed Conveyor	0.05	0.02											
427	C-127 Screens Feed Conveyor	0.06	0.02											
428	Screen 1 (S-1)	0.11	0.04											
429	Screen 2 (S-2)	0.11	0.04											
430	Screen 3 (S-3)	0.11	0.04											
431	Screen 4 (S-4)	0.11	0.04											
432	Crusher 1 (C-1)	0.11	0.05											
433	Crusher 2 (C-2)	0.11	0.05											
434	Crusher 3 (C-3)	0.11	0.05											
435	Crusher 4 (C-4)	0.11	0.05											
436	Crusher 5 (C-5)	0.11	0.05											
437	Crusher 6 (C-6)	0.11	0.05											
438	Screen Feed Bin	0.06	0.02											
439	Crushers Feed Bin	0.07	0.03											
440	11 Grade Bin	0.05	0.02											
	total pounds per hour	**277.8**	**184.2**	**48.1**	**86.6**	**1.5**	**73.9**	**0.64**	**0.41**	**0.0153**	**0.0570**	**0.0091**	**0.0093**	**0.0370**

* Five sources bubble (SN-108, SN-111, SN-112, SN-113, and SN-116) emission rate

3M Industrial Minerals – Little Rock
Permit #: 0039-AOP-R5
AFIN: 60-00003

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SN	Source Description	PM	PM_{10}	NO_X	SO_2	VOC	CO	lead	chromium	manganese	cobalt	arsenic	cadmium	PCB
1	Tertiary Crushing Baghouse	11.26	11.26											
2	Transfer Tower	0.35	0.35											
3	Traylor Primary Crusher	4.91	4.12											
4	Traylor Crusher Surge Bin	0.15	0.07											
5	No. 20 Conveyer	0.15	0.07											
6	Primary Screen	2.65	1.26											
7	A.C. Primary Crusher	1.05	1.05											
8	Primary Screen	2.65	1.26											
9	Cone Secondary Crusher	4.91	4.13											
10	No. 1 Crusher	0.40	0.40											
11	Transfer Station	0.15	0.40											
12	Load Out Bin	0.15	0.07											
13	Load Out Bin	0.15	0.07											
14	No. 3 Conveyer	0.15	0.07											
15	No. 3A Conveyer	0.15	0.07											
16	A.C. Crusher Surge Bin	0.15	0.07											
17	Tertiary Crushing Stock Pile	0.40	0.40											
18	Railroad Loadout	0.15	0.07											
19	Feeders	0.15	0.07											
20	No. 4 Conveyer	0.40	0.40											
28	No. 5 Conveyer	0.66	0.31											
29	No. 6 Conveyer	0.66	0.31											
30	Screen	2.65	1.26											
31	Crusher	1.86	0.89											
32	Screen	2.65	1.26											

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SN	Source Description	PM	PM_{10}	NO_X	SO_2	VOC	CO	lead	chromium	manganese	cobalt	arsenic	cadmium	PCB
33	Crusher	1.86	0.89											
50	Overburden Removal	56.94	27.38											
51	Drilling	1.18	0.57											
52	Blasting	0.24	0.12											
53	Blasting Explosive (ANFO)			12.75	1.50		50.25							
54	Quarry Truck Loading	1.49	0.70											
55	Quarry Truck Traffic	18.06	8.13											
57	Emergency Stockpile	1.79	1.79											
58	Emergency Railroad Loadout	0.35	0.18											
59	Conveyer from AC Crusher	0.70	0.35											
60	Parallel Crusher	bubbled with SN-09												
61	No. 45 Conveyer	0.70	0.35											
62	No. 46 Conveyer	0.70	0.35											
101	Dryer Feed End (BH)	21.90	21.90											
102	C & S Line #1 (BH)	21.90	21.90											
103	C & S Line # 2 (BH)	21.90	21.90											
104	C & S Line #3 (BH)	21.90	21.90											
105	Filler Baghouse	7.53	7.53											
106	Product Tripper and Storage Baghouse	21.90	21.90											
107	Feeders	0.35	0.18											
108	Dryer No. 1 (BH)	33.70	33.70	31.10	61.9*	1.80	26.20	0.46*	9.00E-02			0.005*	0.005*	0.02*
109	Conveyer J.B.	0.35	0.18											
110	No. 7 Filler Tank (BH)	4.38	4.38											
111	No. 1 Kiln (BH)	24.53	18.63	21.90	*	1.20	18.40	*	7.89E-02	3.68E-03	1.37E-02	*	*	*
112	No. 2 Kiln (BH)	24.53	18.63	21.90	*	1.20	18.40	*	7.89E-02	3.68E-03	1.37E-02	*	*	*

tpy

SN	Source Description	PM	PM_{10}	NO_X	SO_2	VOC	CO	lead	chromium	manganese	cobalt	arsenic	cadmium	PCB
113	No. 3 Kiln (BH)	24.53	18.63	21.90	*	1.20	18.40	*	7.89E-02	3.68E-03	1.37E-02	*	*	*	
114	No. 2 Mixer (BH)	10.51	10.51					1.24E-04	3.38E-02	1.58E-03	5.89E-03				
115	No. 1 Cooler (Cyclone)	21.02	21.02					2.47E-04	6.76E-02	3.15E-03	1.18E-02				
116	Dryer No. 2 (BH)	35.04	18.65	18.70	*	0.50	7.40	*	9.00E-02			*	*	*	
117	No. 1 Clay Tank (BH)	13.14	13.14												
118	No. 2 Clay Tank (BH)	13.14	13.14												
119	No. 3 Clay Tank (BH)	13.14	13.14												
120	Silica Bin	0.00	0.00					0.00E+00	0.00E+00	0.00E+00	0.00E+00				
121	No. 21 Elevator	6.57	6.57					7.73E-05	2.11E-02	9.86E-04	3.68E-03				
122	No. 22 Elevator	6.57	6.57					7.73E-05	2.11E-02	9.86E-04	3.68E-03				
123	No. 23 Elevator	6.57	6.57					7.73E-05	2.11E-02	9.86E-04	3.68E-03				
124	Coloring Feed End (BH)	21.90	21.90												
125	Waste Conveyer Baghouse	13.14	13.14					1.55E-04	4.23E-02	1.97E-03	7.36E-03				
128	No. 3 Mixer (BH)	10.51	10.51					1.24E-04	3.38E-02	1.58E-03	5.89E-03				
129	No. 1 Mixer (BH)	10.51	10.51					1.24E-04	3.38E-02	1.58E-03	5.89E-03				
130	Sodium Silicate Plant Boiler	0.00	0.00	0.00	0.00	0.00	0.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00				
131	Screen No. 25	0.57	0.31					6.70E-06	1.83E-03	8.54E-05	3.19E-04				
132	Screen No. 26	0.57	0.31					6.70E-06	1.83E-03	8.54E-05	3.19E-04				
133	Screen No. 29	0.57	0.31					6.70E-06	1.83E-03	8.54E-05	3.19E-04				
134	Screen No. 28	0.57	0.31					6.70E-06	1.83E-03	8.54E-05	3.19E-04				
135	Screen No. 27	0.57	0.31					6.70E-06	1.83E-03	8.54E-05	3.19E-04				
150	IC Circuit - Silo #1(BH)	1.31	1.31												
151	IC Circuit - Silo #2 (BH)	4.82	4.82												
152	IC Circuit - Silo #3 (BH)	3.50	3.50												
153	Waste Raw Granule (BH)	10.64	10.64												
154	No. 2 Cooler (Cyclone)	21.02	21.02					2.47E-04	6.76E-02	3.15E-03	1.18E-02				
155	No. 3 Cooler (Cyclone)	21.02	21.02					2.47E-04	6.76E-02	3.15E-03	1.18E-02				
156	Conveyer No. 1	9.77	4.64												

tpy

SN	Source Description	PM	PM_{10}	NO_X	SO_2	VOC	CO	lead	chromium	manganese	cobalt	arsenic	cadmium	PCB
157	Conveyer No. 2	10.29	4.91											
158	Transfer Conveyer No. 20	0.09	0.04				1.03E-06	2.82E-04	1.31E-05	4.91E-05				
159	Transfer Conveyer No. 21	0.88	0.04				1.03E-05	2.82E-03	1.31E-04	4.91E-04				
160	Transfer Conveyer No. 22	0.44	0.00				5.15E-06	1.41E-03	6.57E-05	2.45E-04				
161	Transfer Conveyer No. 23	0.18	0.09				2.06E-06	5.64E-04	2.63E-05	9.81E-05				
162	Transfer Conveyer No. 24	0.18	0.09				2.06E-06	5.64E-04	2.63E-05	9.81E-05				
163	Transfer Conveyer No. 25	0.09	0.04				1.03E-06	2.82E-04	1.31E-05	4.91E-05				
164	Transfer Conveyer No. 33	0.13	0.04				1.55E-06	4.23E-04	1.97E-05	7.36E-05				
165	Transfer Conveyer No. 34	0.18	0.09				2.06E-06	5.64E-04	2.63E-05	9.81E-05				
166	Transfer Conveyer No. 35	0.18	0.09				2.06E-06	5.64E-04	2.63E-05	9.81E-05				
167	Transfer Conveyer No. 36	0.09	0.04				1.03E-06	2.82E-04	1.31E-05	4.91E-05				
168	Transfer Conveyer No. 37	0.09	0.04				1.03E-06	2.82E-04	1.31E-05	4.91E-05				
169	Transfer Conveyer No. 39	0.18	0.09				2.06E-06	5.64E-04	2.63E-05	9.81E-05				
170	Transfer Conveyer No. 40	0.18	0.09				2.06E-06	5.64E-04	2.63E-05	9.81E-05				
171	Transfer Conveyer No. 41	0.18	0.09				2.06E-06	5.64E-04	2.63E-05	9.81E-05				

tpy

SN	Source Description	PM	PM_{10}	NO_X	SO_2	VOC	CO	lead	chromium	manganese	cobalt	arsenic	cadmium	PCB
172	Transfer Conveyer No. 42	0.18	0.09				2.06E-06	5.64E-04	2.63E-05	9.81E-05				
173	Conveyer No. 15	2.01	0.96											
174	Conveyer No. 16	1.93	0.92											
175	Conveyer No. 31	0.04	0.00											
176	Conveyer 31A (Sodium Silicate Plant)	0.79	0.39				9.27E-06	2.54E-03	1.18E-04	4.42E-04				
183	Pugmill	0.18	0.09											
184	Pugmill	0.13	0.04											
185	Pugmill	0.09	0.04											
186	Bucket Elevator No. 18	0.09	0.04				1.03E-06	2.82E-04	1.31E-05	4.91E-05				
187	Bucket Elevator No. 19	0.09	0.04				1.03E-06	2.82E-04	1.31E-05	4.91E-05				
188	Bucket Elevator No. 20	0.09	0.04				1.03E-06	2.82E-04	1.31E-05	4.91E-05				
189	Bucket Elevator No. 24	5.17	5.17				6.08E-05	1.66E-02	7.75E-04	2.89E-03				
190	Bucket Elevator No. 25	0.09	0.04				1.03E-06	2.82E-04	1.31E-05	4.91E-05				
191	Bucket Elevator No. 27 (Sodium Silicate)	0.39	0.18				4.64E-06	1.27E-03	5.91E-05	2.21E-04				
194	Finished Granule Storage/ Loading	0.22	0.13				2.58E-06	7.05E-04	3.29E-05	1.23E-04				
195	Waste Granule Storage/ Loading	0.09	0.04				1.03E-06	2.82E-04	1.31E-05	4.91E-05				
199	Product Bin P1	21.46	10.21				2.52E-04	6.91E-02	3.22E-03	1.20E-02				
200	Product Bin P2	21.46	10.21				2.52E-04	6.91E-02	3.22E-03	1.20E-02				
201	Product Bin P3	21.46	10.21				2.52E-04	6.91E-02	3.22E-03	1.20E-02				
202	Product Bin P4	21.46	10.21				2.52E-04	6.91E-02	3.22E-03	1.20E-02				
203	Product Bin P5	21.46	10.21				2.52E-04	6.91E-02	3.22E-03	1.20E-02				
204	Product Bin P6	21.46	10.21				2.52E-04	6.91E-02	3.22E-03	1.20E-02				
205	Product Bin P7	21.46	10.21				2.52E-04	6.91E-02	3.22E-03	1.20E-02				
206	Product Bin P8	21.46	10.21				2.52E-04	6.91E-02	3.22E-03	1.20E-02				
207	Waste Bin W21	12.88	6.13				1.51E-04	4.14E-02	1.93E-03	7.21E-03				
208	Waste Bin W22	12.88	6.13				1.51E-04	4.14E-02	1.93E-03	7.21E-03				
209	Waste Bin W23	12.88	6.13				1.51E-04	4.14E-02	1.93E-03	7.21E-03				

tpy

SN	Source Description	PM	PM_{10}	NO_X	SO_2	VOC	CO	lead	chromium	manganese	cobalt	arsenic	cadmium	PCB
210	Waste Bin W24	12.88	6.13					1.51E-04	4.14E-02	1.93E-03	7.21E-03			
211	Covered Raw Granule Stockpile (BH)	6.00	6.00											
212	Conveyer No. 43	0.09	0.09											
213	Conveyer No. 44	0.09	0.09											
300	Train Car Unload	0.13	0.04											
301	Truck Loading at C & S Pugmill	0.31	0.18											
302	Mineral Unloading at Wet Stockpile	0.09	0.09											
303	Wet Stockpile Fugitives	4.60	4.60											
304	Train Car unload (Sodium Silicate)	0.39	0.18					4.64E-06	1.27E-03	5.91E-05	2.21E-04			
305	Truck Loading at Coloring Pugmill	0.22	0.13					2.58E-06	7.05E-04	3.29E-05	1.23E-04			
306	Plant Vehicle Traffic/ BH waste haul off	8.36	1.63											
307	Temporary Storage Stock Pile Drop	32.94	15.68											
308	Raw Stock Pile	49.01	23.34											
310	Truck/ Railcar Loading	0.18	0.18											
311	Automated mixing System (BH)	7.88	7.88					9.27E-05	2.54E-02	1.18E-03	4.42E-03			
401	C-101 Screen Feed Conveyor	0.31	0.10											
402	C-102 Screens Feed Conveyor	0.20	0.07											
403	C-103 Screens Feed Conveyor	0.20	0.07											
404	C-104 Screens Feed Conveyor	0.04	0.02											
405	C-105 Screens Feed Conveyor	0.04	0.02											
406	C-106 Screens Feed Conveyor	0.04	0.02											
407	C-107 Screens Feed Conveyor	0.04	0.02											

tpy

SN	Source Description	PM	PM_{10}	NO_X	SO_2	VOC	CO	lead	chromium	manganese	cobalt	arsenic	cadmium	PCB
408	C-108 Screens Feed Conveyor	0.31	0.10											
409	C-109 Screens Feed Conveyor	0.31	0.10											
410	C-110 Screens Feed Conveyor	0.06	0.02											
411	C-111 Screens Feed Conveyor	0.06	0.02											
412	C-112 Screens Feed Conveyor	0.06	0.02											
413	C-113 Screens Feed Conveyor	0.06	0.02											
414	C-114 Screens Feed Conveyor	0.06	0.02											
415	C-115 Screens Feed Conveyor	0.06	0.02											
416	C-116 Screens Feed Conveyor	0.20	0.07											
417	C-117 Screens Feed Conveyor	0.20	0.07											
418	C-118 Screens Feed Conveyor	0.31	0.10											
419	C-119 Screens Feed Conveyor	0.31	0.10											
420	C-120 Screens Feed Conveyor	0.31	0.10											
421	C-121 Screens Feed Conveyor	0.20	0.07											
422	C-122 Screens Feed Conveyor	0.20	0.07											
423	C-123 Screens Feed Conveyor	0.10	0.04											
424	C-124 Screens Feed Conveyor	0.20	0.07											
425	C-125 Screens Feed Conveyor	0.20	0.07											
426	C-126 Screens Feed Conveyor	0.20	0.07											

tpy

SN	Source Description	PM	PM_{10}	NO_X	SO_2	VOC	CO	lead	chromium	manganese	cobalt	arsenic	cadmium	PCB
427	C-127 Screens Feed Conveyor	0.30	0.10											
428	Screen 1 (S-1)	0.50	0.20											
429	Screen 2 (S-2)	0.50	0.20											
430	Screen 3 (S-3)	0.50	0.20											
431	Screen 4 (S-4)	0.50	0.20											
432	Crusher 1 (C-1)	0.50	0.21											
433	Crusher 2 (C-2)	0.50	0.21											
434	Crusher 3 (C-3)	0.50	0.21											
435	Crusher 4 (C-4)	0.50	0.21											
436	Crusher 5 (C-5)	0.50	0.21											
437	Crusher 6 (C-6)	0.50	0.21											
438	Screen Feed Bin	0.30	0.10											
439	Crushers Feed Bin	0.31	0.10											
440	11 Grade Bin	0.20	0.07											
	total tons per year	977.83	699.89	128.25	63.40	5.90	139.05	4.64E-01	1.61E+00	6.69E-02	2.50E-01	5.00E-03	5.00E-03	2.00E-02

* Five sources bubble (SN-108, SN-111, SN-112, SN-113, and SN-116) emission rate

3M Industrial Minerals – Little Rock
Permit #: 0039-AOP-R6
AFIN: 60-00003

HAPs and lead

The facility shall not emit hazardous air pollutants in excess amounts in the following table. These emissions occur from operations involving mined material and naturally occurring elements and do not include pigments addressed separately in this permit. Compliance is demonstrated by compliance with the PM emission rates.

Hazardous Air Pollutant/ lead	Weight fraction of PM	lb/hr*	tpy**
lead	5.40E-06	0.0015	0.0052
arsenic	1.30E-06	0.0004	0.2748
beryllium	1.80E-06	0.0005	0.0017
cadmium	4.00E-07	0.0001	0.0916
manganese	6.00E-04	0.1636	2.4052

* Emission rate, as a fraction of lb/hr PM emission rate at each individual source totaled plantwide

** not including pigment HAPs

The following table includes the naturally occurring HAPs from the previous table, the HAPs from pigments, and HAPs from burning used oil to result

in the total plantwide pounds per hour and tons per year of HAPs

Hazardous Air Pollutant/ lead	plantwide lb/hr	plantwide tpy
lead	0.64	0.4592
chromium	0.41	1.61
arsenic	0.0095	0.2798
beryllium	0.0005	0.0017
cadmium	0.0094	0.0966
manganese	0.1789	2.4721
cobalt	0.0570	0.2496
PCB	0.0370	0.02

APPENDIX B

40 CFR 60, Subpart “OOO” Determination from EPA Region 6

APPENDIX C

Sample Compliance Forms

3M Industrial Mineral Products

AFIN: 60-00003, 39-AOP-R6

Arch Street Throughput Example

Specific Conditions 5 and 6

Monthly Throughput Records

Month	Monthly Throughput at Arch Street	12 mo Total (Limit: 3,000,000 tons)
March 02		(1)
April 02		(1)
May 02		(1)
June 02		(1)
July 02		(1)
August 02		(1)
September 02		(1)
October 02		(1)
November 02		(1)
December 02		(1)
January 03		(1)
February 03		

(1) Consecutive 12- Month Totals Not Required For The First Eleven Months Of The Title V Permit.

3M Industrial Mineral Products

AFIN: 60-00003, 39-AOP-R6

SN-108, 111, 112, 113, and 116

Specific Conditions 29, 30, 31, 32, and 33

Monthly Dryer and Kiln Diesel/Used Oil Records Example

Month	Maximum Sulfur Content, Max. 0.3 % for Diesel Max. 0.33 for Used Oil	Maximum Constituent in Used Oil See Specific Condition 33	Monthly Total, gal	12 mo Total (Limit: 2,500,000 gal for diesel and used oil combined)
March 02				(1)
April 02				(1)
May 02				(1)
June 02				(1)
July 02				(1)
August 02				(1)
September 02				(1)
October 02				(1)
November 02				(1)
December 02				(1)
January 03				(1)
February 03				

(1) Consecutive 12- Month Totals Not Required For The First Eleven Months Of The Title V Permit.

3M Industrial Mineral Products

AFIN: 60-00003 39-AOP-R6

Scrubber Liquid Flow Rate

Specific Condition 40

Daily Flow Checks Example

Date	Scrubber Flow (Minimum Flow Determined by Compliance Test)		
	Cooler Scrubber #1 (SN-115) Minimum Flow = 70 GPM	Cooler Scrubber #2 (SN-154) Minimum Flow = 70 GPM	Cooler Scrubber #3 (SN-155) Minimum Flow = 70 GPM

APPENDIX D

ADEQ CEMS Conditions

APPENDIX E

40 C.F.R. §279.11