

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION

MEMORANDUM

November 18 , 2022

TO: Lee Warden, P.E., Permits and Engineering Group Manager

THROUGH: Richard Kienlen, P.E., Manager, New Source Permits Section

THROUGH: Ryan Buntyn, P.E., New Source Permits Section

FROM: William Fulk, E.I., Existing Source Permits Section

SUBJECT: Construction Permit Application No. **2001-306-C (M-5)**
ACG Materials
Mooreland Plant (Facility ID: 5135)
801 SW 6th Street, Mooreland, OK 73852
Latitude N 36.43800°, Longitude W 99.22090°
Section 27, Township 23N, Range 19W
Mooreland, Woodward County, Oklahoma
Driving Directions: From the intersection of SH 50 and U.S. Highway 412 in Mooreland, go west 0.5 miles on U.S. 412, then turn north into the facility.

SECTION I. INTRODUCTION

ACG Materials (ACG) has requested a modification of their Mooreland Plant (SIC 3275, NAICS 327420). Currently, the Mooreland Plant is operating under Permit No. 2001-306-O (M-4) issued on March 30, 2022. In this modification, ACG requests to add new conveyance lines to the β -Hemihydrate Production, add new process equipment units to the α -Hemihydrate Production and Product Mixing areas, and modify and add equipment to the Packaging & Palletizing area. Emission unit identification numbers (EUID#) were standardized with the facility's internal tracking system. (These are not the same from past permit modifications.) The new numbers allow for consistent identification and tracking for this permit and future permit modifications. ACG also requests some corrections be made from the previous permit. The following changes are requested:

Raw Gypsum Storage and Preprocess

Addition to include a generator and associated diesel fuel tanks. ACG wants to be able to use in non-emergency situations as an alternative power source during peak electric power demands. This addition would cause an increase in potential to emit.

α -Hemihydrate Production Area

Addition of a new Hemihydrate production line to the process. Applicant requests to add second line of autoclaves, pan dryers, mills, a screen, and conveyance equipment. The equipment would double the production throughput and would result in an increase in the potential to emit.

Product Mixing

Addition of a second “mixing tower.” The second tower would involve the addition of storage silos/tanks, a minor ingredient blending line, and a series of mixing units and associated air pollution controls. The equipment would double the production throughput and would result in an increase in the potential to emit.

Packing & Palletizing

ACG would like to make some changes to our current packaging methods and add new equipment to the system. The proposed changes include eliminating a manual loading system, adding two automated pallet feeder units, adding a storage silo/tank and associated bulk loadout equipment, and improving air pollution control by adding another baghouse unit. The anticipated equipment changes would result in an increase in the potential to emit.

This facility remains a “synthetic minor” source after the construction.

SECTION II. FACILITY AND PROCESS DESCRIPTION

Facility Description

Gypsum is calcium sulfate dihydrate ($\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$), a white or gray naturally occurring mineral. To produce raw gypsum plaster, gypsum ore must be partially dehydrated or calcined to change its chemical structure to calcium sulfate hemihydrate ($\text{CaSO}_4 \cdot \frac{1}{2}\text{H}_2\text{O}$), commonly called stucco. Then, the hemihydrate is ground to a fine powder, known as raw plaster. The Mooreland Plant produces two grades of plaster, alpha-(α -) hemihydrate and beta-(β -) hemihydrate. The plaster produced in the known traditional or conventional processes is named beta-hemihydrate to service the general gypsum market. The alpha-hemihydrate is produced through a specific treatment process to provide various products for the needs of the construction industry. The details of the treatment are considered a trade secret at the present time. Since the hemihydrate calcining process is very sensitive to free moisture in the gypsum ore, the whole plant is operated in several enclosed buildings. Therefore, the PM fugitive emissions, escaping out of buildings and into the surrounding atmosphere, are not significant. Other emissions are criteria pollutants from fuel-burning equipment, which supply heat to process equipment, such as a roller mill, kettle calciner, and ball mill.

The facility consists of six (6) areas as listed below:

- Area 01 Raw Gypsum Rock Storage and Reclaim
- Area 02 Landplaster Production
- Area 03 β -Hemihydrate Production
- Area 05 α -Hemihydrate Production
- Area 08 Product Mixing Plant
- Area 09 Packing and Pelletizing

Process Description

Incorporating the process/equipment changes, the following process description in this permit is the process description after the modification. No particular effort is made to indicate where a specific process change is made in the process description.

(I). Landplaster and β -Hemihydrate Production

The raw gypsum or gypsum ore is delivered from quarries to the plant site by truck. The raw gypsum is then transferred by a front-end loader to an enclosed storage building to form a stockpile. From the stockpile, the raw gypsum is moved by a front-end loader into a feed hopper, then transferred by two covered belt conveyors (#1-001 and #1-010) to a storage tank (#2-001) in the next building, the Grinding and Drying Building.

In the Grinding and Drying Building, the raw gypsum is transferred from Storage Bin #2-001 to a roller mill (#2-008). In the roller mill, the raw gypsum is ground and heated at the same time. The heat is supplied by a 1.0 MMBTUH air heater (#2-022). After being ground and dried, the raw gypsum becomes landplaster, and goes through a high efficiency air classifier (#2-012) to a powder collecting system. The powder collecting system includes a cyclone collector (#2-016), and a fabric filter dust collector (#2-026). The air exits the dust collecting system through a stack, which is 18" in diameter and 59' tall. From the two collectors, the landplaster is transferred by an air pneumatic conveying system (#2-042) to a surge hopper (#2-045), which is used as a storage tank. From the surge hoppers (#2-045 and #2-046) the landplaster is transferred by an air pneumatic conveying system (#2-055) to two (2) feed silos (#3-001 and #3-101) in the β -Hemihydrate Production Area.

In the β -Hemihydrate Production Area, the landplaster is transferred from the two (2) feed silos (#3-001 and #3-101) to two (2) calcining kettles (#3-010 and #3-110) by two (2) weighing screw conveyors (#3-008 and #3-108). The size of each kettle is 3.6 meters wide and 5.0 meters long with a capacity of 8.5 TPH each. Hot air is supplied to each kettle by two (2) air heaters (#3-016 and #3-116) with a capacity of 20 MMBTUH for each heater. From the kettles, the β -hemihydrate is transferred by gravity to two (2) hot pits (#3-032 and #3-132) for natural cooling. There are two (2) fabric filter dust collectors (#3-038 and #3-138). Each of the fabric filter dust collectors are shared by one (1) kettle and one (1) hot pit, as well as several storage tanks for #3-038. The air passing through dust collector #3-038 exits the building through a stack that is 18" in diameter and 18.3' tall. Similarly, the stack for dust collector #3-138 is 12" in diameter and 30' tall. The flue gases from the two (2) kettle burners (#3-016 and #3-116) exit the building through 2 stacks, which are 42" in diameter by 46.4' tall each. From the hot pits the β -hemihydrate is transferred by two covered screw conveyors per pit (#3-048 and #3-050 for pit #3-032 and #3-148 and #3-150 for pit #3-132) to a bucket elevator (#3-056), then to a surge tank (#3-062) for storage.

From the storage tank, #3-062, the β -hemihydrate is transferred to an Entoleter impact mill (#3-080) for final grinding. The transfer route is completed through two covered screw conveyors (#3-068 and #3-050), one bucket elevator (#3-056), one covered screw conveyor (#3-058), and one loading tank (#3-074). After final grinding, the ground β -hemihydrate is stored in a silo tank (#3-084), then transferred by an air pneumatic conveying system (#3-092) to storage tanks (#3-094, 3-

095, and 3-096). This is the end of the β -Hemihydrate Production. From Storage Tank (#3-094), the β -hemihydrate is transferred by one covered screw conveyor (#3-100) and one covered bucket elevator (#3-101) to one vibratory screen (#3-102), which removes plus 50 mesh particles from the beta plaster. Removed particles are transferred to waste by one discharge chute (#3-104). The screened β -hemihydrate is then transferred by an air pneumatic conveying system (#3-099), and from Storage Tanks, (#3-095, and #3-096), materials are transferred by an air pneumatic conveying system (#3-095-3) to the Product Mixing Plant.

(II). α -Hemihydrate Production

From the stockpile in the storage building, the raw gypsum is moved by a front-end loader into a feed hopper, then transferred by a covered belt conveyor (#1-014) to a vibrating screen (#1-016), then onto a covered belt conveyor (#1-018) to the α -Hemihydrate Production Area in the Grinding and Drying Building. The raw gypsum is loaded into a wash tank (#5-003). After washing, the raw gypsum is moved into autoclaves (#5-008 to #5-013) to receive treatment by steam. The steam is supplied by a boiler (#5-005) with the capacity of 12.2 MMBTUH. From the autoclaves, raw gypsum is dumped into pan dryers (#5-020, #5-021, #5-022, or #5-023), which are each equipped with an electricity-driven hot oil system (#5-022-1, #5-022-2, #5-022-3, or #5-022-4, respectively).

After drying, the α -hemihydrate is transferred to a hammer mill (#5-044) for initial grinding. The transfer route is completed through one covered screw conveyor (#5-024), one bucket elevator (#5-036), one holding hopper (#5-038), one covered feed screw conveyor (#5-040), and one roller crusher (#5-043). The pan dryers (#5-020, #5-021, #5-022, and #5-023) and the bucket elevator (#5-036), share one fabric filter dust collector (#5-030). After initial grinding, the α -hemihydrate is transferred to an Entoleter impact mill (#5-054) for final grinding. The transfer route is completed through two covered screw conveyors (#5-032 and #5-046), one bucket elevator (#5-048), and one covered screw feeder (#5-050).

After final grinding, the α -hemihydrate is transferred through a surge tank (#5-056), then by a covered screw conveyor to five tubular dryers (#5-062-1, #5-062-2, #5-062-3, #5-062-4, and #5-062-5), which are equipped with an electricity-driven hot oil system (#5-064) to remove the excess water. After final drying, the α -hemihydrate is transferred by a bucket elevator (#5-066) to a surge tank (#5-068) for temporary storage. From the surge tank #5-068, the α -hemihydrate goes through a screen (#5-076-1) to separate the required product (particle <325 mesh size). The required product is transferred by an air pneumatic conveying system (#5-082-2) to five storage tanks (#5-081, #5-082, #5-083, #5-084, and #5-085).

The oversized product is recycled to the Entoleter impact mill (#5-054) for further grinding. The transfer route is completed through two covered screw conveyors (#5-078 and #5-046), one bucket elevator (#5-048), and one covered screw feeder (#5-050). This is the end of the α -Hemihydrate Production. The storage tanks (#5-081, #5-082, #5-083, #5-084, #5-085, #3-094, #3-095, and #3-096) share one dust collector. From the storage tanks (#5-081, #5-082, #5-083, #5-084, and #5-085), the α -hemihydrate is transferred by an air pneumatic conveying system (#5-099-3) to the Product Mixing Plant.

(III). Product Mixing Plant and Packing & Palletizing Areas

Based on the end use of the product or specific formulation for the product, the α -hemihydrate and β -hemihydrate are mixed/blended with other materials, such as various additives, vermiculite perlite, cement, fly ash, etc., in these areas. After mixing/blending, the final product is sent to packing/bagging operations. After being filled with final product, the bags are moved to a storage area until they are shipped. Trucks and rail cars can also be loaded by a pneumatic air system.

The remaining equipment at the facility includes various product silos and storage bins that are equipped with baghouse filters for dust collection. The air emissions from this equipment are not considered significant in contrast to the emissions from other sections. Therefore, the detailed operation is not presented.

SECTION III. EQUIPMENT

Incorporating the process/equipment changes, the following equipment lists are after the construction.

Raw Gypsum Rock Storage & Preprocess

EU ID#	Name	Capacity	Throughput TPH
RS-0115	Rock storage building / Facility Gypsum Unloading	2,000 Tons	54
BF-0102	Alpha Line Bin	24"x22"	24
BC-0151	Belt Conveyor	24"x36'	24
IS-0108	Screen	2-D	24
BC-0152	Belt Conveyor	24"x142'	24
BF-0101	Beta Line Bin & Belt Conveyor	24"x18'	30
BC-0150	Belt Conveyor	24"x149'	30
GE-0108*	Generator/ Cat Engine	536 hp	
TBA*	Generator Fuel Tank	1250 gal	
TBA*	Facility Equipment Fuel Tank	110 gal	

*New equipment

Landplaster Production

EU ID#	Name	Capacity	Throughput TPH
RS-0101	Raymond Mill Feed Tank	75 ton	30
SW-0185	Raymond Mill Feed Screw Conveyor	16"x6'	30
RM-0101	66 Raymond Mill #1	-	30
CL-0101	Whizzer Classifier/Raymond Mill #1	8'	30
CY-0101	Cyclone/Raymond Mill#1	19,130 ACFM	-
RA-0101	Upper 16 Rotary Air lock	16"	30
RA-0102	Lower 16 Rotary Air lock	16"	30
EF-0107	System Fan/Raymond Mill #1	-	-

EU ID#	Name	Capacity	Throughput TPH
GB-0101	Gas Burner - Raymond Mill #1	7 MMBTU	-
BH-0104	Baghouse Dust Collector (Landplaster) (Stack 18" Dia. X 59 ft H)	11,600 ACFM	3000 ft ²
EF-0108	Dust Collector Fan	40 hp	-
RA-0103	10 Rotary Air Lock (Landplaster BH)	10"	30
BW-0109	Blower/Raymond Mill	-	-
SS-0101	Ground Landplaster Storage/Tank #45	117 ton	15
SS-0102	Ground Landplaster Storage/Tank #46	104 ton	15
RA-0163	16 Rotary Air lock/Tank #45	16"	15
RA-0105	16 Rotary Air lock/Tank #46	16"	15
BW-0110	Blower/Tank #45 & #46	-	-

Beta Hemihydrate Production

EU ID#	Name	Capacity	Throughput TPH
SS-0124	Dehydrate Feed Tank/Kettle #1	40 ton	15
SW-0103	Incline Twin Screw Conveyor/Kettle #1	12"x12'x10"	15
KT-0101	Kettle #1	26 ton	15
GB-0102	Gas Burner/Kettle #1	20 MMBTU	-
BW-0103	Additive Injection System/Kettle #1	-	-
SS-0104	Hot Pit #1	1700 ft ³	13
SW-0104	Hot Pit #1 Screw Conveyor #1	10"x15"	13
SW-0105	Hot Pit #1 Screw Conveyor #2	10"x15"	13
SW-0106	Hot Pit #1 Screw Conveyor #3	10"x15"	13
SW-0107	Hot Pit #1 Screw Conveyor #4	10"x15"	13
BH-0102	Baghouse Dust Collector/Kettle #1 (Stack 42" Dia. X 46.4 ft H)	11,600 ACFM	3,000 ft ²
EF-0105	Exhaust Fan/Kettle #1 Baghouse	30-hp	-
RA-0106	10" Rotary Airlock/Kettle #1 Baghouse Discharge	10"	13
SW-0108	39' Recycle Screw Conveyor/Kettle #1	6"x39'	13
SS-0110	Dehydrate Feed Tank/Kettle #2	40 ton	15
SW-0113	Incline Twin Screw Conveyor/Kettle #2	12"x12'x10"	15
KT-0102	Kettle #2	26 ton	15
GB-0103	Gas Burner/Kettle #2	20 MMBTU	-
BW-0108	Additive Injection System/Kettle #2	-	-
SS-0111	Hot Pit #2	1700 ft ³	13
SW-0114	Hot Pit#2 Screw Conveyor #1	10"x15"	13
SW-0115	Hot Pit#2 Screw Conveyor #2	10"x15"	13
SW-0116	Hot Pit#2 Screw Conveyor #3	10"x15"	13

EU ID#	Name	Capacity	Throughput TPH
SW-0117	Hot Pit#2 Screw Conveyor #4	10"x15"	13
BH-0103	Baghouse Dust Collector/Kettle #2 (Stack 42" Dia. X 46.4 ft H)	11,600 ACFM	3,000 ft ²
EF-0106*	Exhaust Fan/Kettle #2 Baghouse	TBD	TBD
RA-0113	10 Rotary Airlock/Kettle #2 Baghouse Discharge"	10"	13
SW-0118	Recycle Screw Conveyor/Kettle #2	24'	13
SW-0109	Hot Pits Collection Screw Conveyor	18"x69'	26
SW-0110	Hot Pits Incline Screw Conveyor	20"x46'	26
BE-0104	Bucket Elevator/Hot Pits	46'	26
SW-0111	3Screw Conveyor/Bucket Elevator Discharge	18"x30'	26
SS-0105	Hemihydrate Tank #62, Not Ground	97.5 ton	26
RA-0107	16 Rotary Airlock/Tank #62"	16"	26
SW-0112	1Incline Screw Conveyor/Tank #62 Discharge	13'	26
BV-0102	Bin Vent/Tank #62	-	-
SS-0106	Entoleter Loading Tank #74	39 ton	26
RA-0108	16 Rotary Airlock/Entoleter Loading Tank #74"	16"	26
EN-0102	Mill Entoleter	-	26
GH-0106	Beta Entoleter Discharge Silo	3.5 ton	26
RA-0109	16 Rotary Airlock/ Beta Entoleter Discharge Silo"	16"	26
BW-0104	Blower/Beta Entoleter Discharge	-	-
SS-0107	Ground Beta Storage Tank #94	110 ton	0.5
SW-0192	Screw Conveyor Product Discharge Off IS-0130	12"x8'	0.5
BE-0130	Bucket Elevator From Tank 94 To IS- 0130 Feed	40'	0.5
IS-0130	Incline Screen	1-D	0.5
RA-0159	16 Rotary Air lock/Under IS-0130 Discharge	16"	0.5
BW-0107	Blower/Tank #94	-	-
BV-0103	Bin Vent/Tank #94	-	0.5

EU ID#	Name	Capacity	Throughput TPH
SS-0108	Ground Beta Storage Tank #95	225 ton	12.75
RA-0110	16 Rotary Airlock/Tank #95"	16"	12.75
BV-0104	Bin Vent/Tank #95	-	12.75
BW-0105	Blower/Tanks #95 & #96	-	-
BW-0106	Aerator Blower/Tanks #95 & #96 Roots	225 ton	-
BW-0160	Blower/Tanks #96	-	-
SS-0109	Ground Beta Storage Tank #96	-	12.75
RA-0111	16 Rotary Airlock/Tank #96"	16"	12.75
BV-0105	Bin Vent/Tank #96	-	12.75

*New equipment

Alpha Hemihydrate Production

EU ID#	Name	Capacity	Throughput TPH
WS-0101	Wash Station#1 /Alpha Coarse Rock	-	12
RK-0101	Autoclave Basket/#1	3.9 ton	12
RK-0102	Autoclave Basket/#2	3.9 ton	12
RK-0103	Autoclave Basket/#3	3.9 ton	12
RK-0104	Autoclave Basket/#4	3.9 ton	12
RK-0105	Autoclave Basket/#5	3.9 ton	12
RK-0106	Autoclave Basket/#6	3.9 ton	12
RK-0107	Autoclave Basket/#7	3.9 ton	12
RK-0108	Autoclave Basket/#8	3.9 ton	12
AC-0101	Autoclave #1	-	12
AC-0102	Autoclave #2	-	12
AC-0103	Autoclave #3	-	12
AC-0104	Autoclave #4	-	12
AC-0105	Autoclave #5	-	12
AC-0106	Autoclave #6	-	12
AC-0107	Autoclave #7	-	12
AC-0108	Autoclave #8	-	12
BH-0101	Alpha #1 Dust Collector	8,000 ACFM	2,100ft ²
BV-0101	Bin Vent/Tank #68	-	-
BW-0101	Blower/Alpha #1 Screener 1	-	-
BW-0102	Blower/Tanks #81, #82, #83, #84 & #85	-	-

EU ID#	Name	Capacity	Throughput TPH
BE-0101	Bucket Elevator/ From Pan Dryer Discharge	36'	10
BE-0103	Bucket Elevator/ Reheater Discharge	37'	10
BE-0102	Bucket Elevator/ From Hammer Mill	38'	10
CH-0108	Hoist/Autoclave Baskets	7.5 ton	-
EF-0101	Exhaust Fan/Alpha #1 Dust Collector	-	-
GH-0105	Alpha #1 Tank/Entoleter Discharge	1.5 ton	10
HM-0101	Hammer Mill Alpha #1	-	10
HO-0104	Hot Oil Unit/Reheater Screws	-	10
HO-0101	Hot Oil Unit/Pan Dryer #1	-	-
HO-0102	Hot Oil Unit/Pan Dryer #2	-	-
HO-0103	Hot Oil Unit/Pan Dryer #3	-	-
HO-0105	Hot Oil Unit/Pan Dryer #4	-	-
EN-0101	Entoleter Mill Alpha #1	-	10
PD-0101	Pan Dryer #1	5 ton	10
PD-0102	Pan Dryer #2	5 ton	10
PD-0103	Pan Dryer #3	5 ton	10
PD-0104	Pan Dryer #4	5 ton	10
RC-0103	Alpha #1 Double Roll Crusher	-	10
RA-0114	10 Rotary Airlock/ 1 Dust Collector	10"	10
RA-0161	10 Rotary Airlock/Screener #1"	10"	10
RA-0115	10 Rotary Airlock/Tank #68"	10"	10
IS-0114	Incline Screen	1-D	10
SW-0119	Discharge Screw Conveyor/Pan Dryer #1	4.5"x34"	10
SW-0120	Discharge Screw Conveyor/Pan Dryer #2 & #3	17'	10
SW-0199	Discharge Screw Conveyor/Pan Dryer #4	6.5"x19'	10
SW-0121	Screw Conveyor/Roll Crusher	9'	10
SW-0122	10' Discharge Screw Conveyor/Hammer Mill	10'	10
SW-0124	Reheater Screw #1	27'	10

EU ID#	Name	Capacity	Throughput TPH
SW-0125	Reheater Screw #2	27'	10
SW-0126	Reheater Screw #3	27'	10
SW-0127	Reheater Screw #4	27'	10
SW-0128	Reheater Screw #5	27'	10
SW-0129	Screw Conveyor/Oversize Return	29'	10
SW-0123	Feed Screw/ Alpha Entoleter	6'	10
SW-0193	Screw Conveyor Dust Collector RA-0114 & Discharge To Hammer Mill Discharge	6'x6'	10
SG-0102	2019 Clayton Steam Generator	12.2 MMBTU	-
SS-0113	Screener Feed Tank #68	8 ton	10
SS-0112	Roll Crusher hopper tank	5.5 ton	10
WS-0102*	Wash Station	TBA	12
RK-0109*	Rock Basket	TBA	12
RK-0110*	Rock Basket	TBA	12
RK-0111*	Rock Basket	TBA	12
RK-0112*	Rock Basket	TBA	12
RK-0113*	Rock Basket	TBA	12
RK-0114*	Rock Basket	TBA	12
RK-0115*	Rock Basket	TBA	12
RK-0116*	Rock Basket	TBA	12
AC-0109*	Autoclave	TBA	12
AC-0110*	Autoclave	TBA	12
AC-0111*	Autoclave	TBA	12
AC-0112*	Autoclave	TBA	12
AC-0113*	Autoclave	TBA	12
AC-0114*	Autoclave	TBA	12
AC-0115*	Autoclave	TBA	12
AC-0116*	Autoclave	TBA	12
BH-0150*	Baghouse	9,775 ACFM	-
BW-0157*	Blower/Fan	TBA	-

EU ID#	Name	Capacity	Throughput TPH
BE-0137*	Bucket Elevator	TBA	10
BE-0138*	Bucket Elevator	TBA	10
CH-0109*	Cable Hoist	TBA	-
EF-0188*	Blower/Fan	TBA	-
HM-0111*	Hammer Mill	TBA	10
HO-0106*	Hot Oil Unit	TBA	-
HO-0107*	Hot Oil Unit	TBA	-
HO-0108	Hot Oil Unit	TBA	-
PD-0105*	Pan Dryer	TBA	10
PD-0106*	Pan Dryer	TBA	10
PD-0107*	Pan Dryer	TBA	10
PD-0108*	Pan Dryer	TBA	10
EN-0103*	Impact Mill	TBA	10
RA-0206*	Rotary Airlock	TBA	10
RA-0205*	Rotary Airlock	TBA	10
IS-0155*	Screen	1-D	10
SW-0233*	Screw Conveyor	TBA	10
SW-0234*	Screw Conveyor	TBA	10
SW-0235*	Screw Conveyor	TBA	10
SW-0236*	Screw Conveyor	TBA	10
SW-0237*	Screw Conveyor	TBA	10
SW-0231*	Screw Conveyor	TBA	10
SW-0232*	Screw Conveyor	TBA	10
SW-0230*	Screw Conveyor	TBA	10
GH-0127*	Storage Silo/Tank	TBA	10
GH-0128*	Storage Silo/Tank	TBA	10
SS-0133*	Storage Silo/Tank	TBA	10
CF-0107*	Conveyor	TBA	10
SG-0103*	Steam Generator	12.2 MMBTU	-
VF-0139*	Feeder	TBA	12

EU ID#	Name	Capacity	Throughput TPH
BV-0123	Bin Vent/Tank #81	-	-
BV-0124	Bin Vent/Tank #82	-	-
BV-0111	Bin Vent/Tank #85	-	-
RA-0164	Rotary Airlock Tank SS-0129 #81	-	4
RA-0165	Rotary Airlock Tank SS-0130 #82	-	4
RA-0118	16 Rotary Airlock/Tan #84	16"	4
RA-0117	16 Rotary Airlock/Tank #83	16"	4
RA-0160	16 Rotary Airlock/Tank #85	16"	4
SS-0114	Alpha Storage/Tank#83 (Semi Finished Storage)	110 ton	4
SS-0115	Alpha Storage/Tank#84 (Semi Finished Storage)	45.5 ton	4
SS-0116	Alpha Storage/Tank#85 (Semi Finished Storage)	45.5 ton	4
SS-0129	Tank #81Semi Finish Alpha East Tank	225 ton	4
SS-0130	Tank #82 Semi Finish Alpha West Tank	225 ton	4
BW-0144	Blower/Screeners	-	-
BW-0102	Blower/Tanks #81, #82, #83, #84 & #85	-	-

*New equipment

Product Mixing Plant

EU ID#	Name	Capacity	Throughput TPH
RS-0117	Cement Storage/Pig Trailer HL-29	100 ton	0.75
RS-0118	Fly Ash Storage/Pig Trailer HL-6	100 ton	0.50
RS-0119	Fly Ash Storage/Pig Trailer HL-44	100 ton	0.50
RS-0122	Calcium Storage/Pig Trailer TP-116	100 ton	0.75
BW-0139	Blower Cement Pig Trailer RS-0117 HL-29	2,000 rpm	-
BW-0140	Blower Calcium Pig Trailer RS-0118 HL-6	2,000 rpm	-
BW-0141	Blower Fly Ash Pig Trailer RS-0119 HL-44	2,000 rpm	-
BW-0137	Blower Alpha Pig Trailer RS-0122	-	-
RS-0116	Split Main Ingredient Tank #2A & 2B	50 ton	1.5

EU ID#	Name	Capacity	Throughput TPH
SS-0120	Main Ingredient Tank #4	50 ton	1.0
BV-0121	Shaker Bin Vent Split Tank A	-	0.75
BV-0122	Shaker Bin Vent Split Tank B	-	0.75
BV-0109	Bin Vent/Main Ingredient Tank #4	-	1.0
SW-0131	Screw Conveyor/Tank #2 Split Tank Discharge A	9'	0.75
SW-0186	Screw Conveyor/Tank #2 Split Tank Discharge B	9'	0.75
SW-0133	Screw Conveyor/Tank #4 Discharge	9'	1.0
EF-0125	Exhaust Fan Dust Collector, Alpha-Mixing Tower	25 hp	-
SS-0119	Main Ingredient Tank #3	45 ton	10
SW-0132	Screw Conveyor/Tank #3 Discharge	9'	10
BV-0108	Bin Vent/Main Ingredient Tank #3	-	-
SS-0117	Main Ingredient Tank #1	40 ton	13
SW-0130	Screw Conveyor/Tank #1 Discharge	9'	13
BV-0106	Bin Vent/Main Ingredient Tank #1	-	-
CH-0101	2003-3 Ton Hoist/Mixing Tower	3 ton	N/A
MH-0101	Minor Ingredient Traversing Hopper/300Lb	300 lb	0.25
SW-0134	Minor Ingredient Hopper/8-048	-	0.04
SW-0135	Minor Ingredient Hopper/8-049	-	0.04
SW-0136	Minor Ingredient Hopper/8-050	-	0.04
SW-0137	Minor Ingredient Hopper/8-055	-	0.04
SW-0138	Minor Ingredient Hopper/8-056	-	0.04
SW-0139	Minor Ingredient Hopper/8-064	-	0.04
GH-0107	Weigh Tank Hopper	7 ton	0.25
PM-0101	Forberg Twin Shaft Mixer/Paddle Mixer/Hopper	-	25.5
GH-0108	Mixer Hopper	6 ton	25.8
BW-0111	2003 Cyclone Aire	-	-
SS-0135*	Alpha Storage- Main Ingredient Tank #1	40 ton	23.3
SW-0239*	Screw Feeder	-	23.3
BW-0158*	Aeration (Alpha & Beta Tanks #1 & #2)	-	-

EU ID#	Name	Capacity	Throughput TPH
SS-0134*	Beta Storage- Main Ingredient Tank #2	34 ton	13
SW-0238*	Screw Feeder	-	13
CH-0101*	2003-3 Ton Hoist/Mixing Tower	3 ton	N/A
MH-0102*	Minor Ingredient Traversing Hopper	300 lb	0.25
SW-0240*	Screw Feeder w/40'3" Hopper	TBA	0.04
SW-0241*	Screw Feeder w/3'3" Hopper	TBA	0.04
SW-0242*	Screw Feeder w/3'3" Hopper	TBA	0.04
SW-0243*	Screw Feeder w/40'3" Hopper	TBA	0.04
SW-0244*	Screw Feeder w/40'3" Hopper	TBA	0.04
SW-0220*	Screw Feeder w/ Hopper	TBA	0.04
GH-0129*	Weigh Tank Hopper	TBA	23.25
PM-0106*	Twin Shaft Mixer/ Paddle Mixer	TBA	23.25
GH-0130*	Mixer Gravity Hopper	TBA	23.25
RA-0208*	Rotary Feeder	-	23.25
BW-0159*	Semi-Dense Conveying	-	-
BH-0151*	Baghouse Dust Collector	6,000 ACFM	TBA
RA-0207*	Rotary Airlock	-	23.25
EF-0189*	Dust Collector Fan w/Inlet Damper	-	-

*New equipment

Packing & Palletizing

EU ID#	Name	Capacity	Throughput TPH
FS-0101	Rail Bulk Storage/Tank #130	300 ton	0.98
BW-0113	Aerating System/Rail Bulk Storage Tank #130	-	-
RA-0123	16 Rotary Airlock/Rail Bulk Storage Tank #130"	16"	0.98
BW-0112	Blower/Rail Bulk Storage Tank #130	-	-
BV-0110	Bin Vent/Rail Bulk Storage Tank #130	-	0.98
FS-0102	Rail Bulk Tank #1	100 ton	0.98
RA-0212*	Rail Bulk Tank #1	100 ton	0.98
BV-0126*	Flow Control Valve	-	0.98

EU ID#	Name	Capacity	Throughput TPH
FS-0157*	Rail Tank #1 Load Spout (controlled)	-	1.96
RA-0213*	Rail Bulk Storage/Tank #2	100 ton	1.96
BV-0127*	Flow Control Valve	-	1.96
BV-0125*	Rail Tank #2 Load Spout (controlled)	-	0.98
FS-0103	Rail Tank #3	87.5	0.98
SW-0140	Screw Conveyor/Rail Tank #3	24'	0.98
FS-0104	Rail Tank #4	87.5	0.98
SW-0141	Screw Conveyor/Rail Tank #4	24'	0.98
BH-0106	Baghouse Dust Collector/Rail Tanks #3 & #4	TBA	1.96
RA-0124	10 Rotary Airlock/Rail Tank Dust Collector"	10"	0.98
TBA*	Baghouse Waste Hopper	TBA	1.96
TB-0101	Super Sack Loading/Tank #1	7 ton	8.82
RA-0121	16 Rotary Airlock/Tank #1	16"	8.82
TB-0102	Super Sack Loading/Tank #2	7 ton	8.82
RA-0122	16 Rotary Airlock/Tank #2	16"	8.82
BG-0101	Bagging Tank	9 ton	8.82
BG-0102	Forced Air Bagger	-	8.82
RB-0101	Robot/Bag Placement	-	8.82
PL-0101	Bagger Palletizer	-	8.82
HD-0101	Hooder	-	8.82
SP-0101	Stretch Wrapper	-	8.82
BH-0105	Baghouse Dust Collector/Packaging	5,000 ACFM	-
RA-0120	Rotary Airlock/Packaging Dust Collector"	10"	8.82
TBA*	Baghouse Waste Hopper	TBA	0.44
EF-0109	Dust Collector Fan/Packaging Dust Collector	-	-
TB-0106*	Super Sack Loading Tank #3	TBA	8.82
RA-0209*	Rotary Airlock/Tank #3	16"	8.82
PL-0105*	Supersack #3 Palletizer	-	8.82
TB-0107*	Super Sack Loading Tank #4	TBA	8.82
RA-0210*	Rotary Airlock/Tank #4	16"	8.82

EU ID#	Name	Capacity	Throughput TPH
PL-0106*	Supersack #4 Palletizer	-	8.82
BH-0152*	Baghouse Dust Collector/Supersacks	5,500 ACFM	-
EF-0190*	Dust Collector Fan/Supersacks Dust Collector	-	-
RA-0211*	Rotary Airlock/Supersacks Dust Collector	10"	8.82
TBA*	Baghouse Waste Hopper	TBA	0.44
BC-0209*	Hytrol Conveyor	TBA	8.82

*New equipment

SECTION IV. AIR EMISSIONS

The air emissions are estimated based on the equipment lists shown in Section III, which include equipment after the modification.

Process equipment emission are based on AP-42 factors from 11.19.2-2 (08/04), 11.26-1(11/95), and 11.16-2(7/93).

Process Equipment PM emissions

EU ID#	Throughput TPH	Emission Factors		Control Eff. %	PM ₁₀		PM _{2.5}	
		lb/ton			lb/hr	TPY	lb/hr	TPY
		PM ₁₀	PM _{2.5}					
RS-0115	54	0.000016	0.000016	0	0.0009	0.0038	0.0009	0.0038
BF-0101	30	0.000046	0.000013	0	0.0014	0.0060	0.0004	0.0017
BC-0150	30	0.000046	0.000013	0	0.0014	0.0060	0.0004	0.0017
BF-0102	24	0.000046	0.000013	0	0.0011	0.0048	0.0003	0.0014
BC-0151	24	0.000046	0.000013	0	0.0011	0.0048	0.0003	0.0014
IS-0108	24	0.0087	0.0013	0	0.2088	0.9145	0.0312	0.1367
BC-0152	24	0.000046	0.000013	0	0.0011	0.0048	0.0003	0.0014
RS-0101	30	0.000046	0.000013	0	0.0014	0.0060	0.0004	0.0017
SW-0185	30	0.000046	0.000013	0	0.0014	0.0060	0.0004	0.0017
RM-0101	30	0.001824	0.000924	0	0.0547	0.2397	0.0277	0.1214
CY-0101	30	0.000875	0.000048	0	0.0262	0.1149	0.0014	0.0063
RA-0101	30	0.000046	0.000013	99	<0.0001	0.0001	<0.0001	<0.0001
RA-0102	30	0.000046	0.000013	99	<0.0001	0.0001	<0.0001	<0.0001
RA-0103	30	0.000046	0.000013	99	<0.0001	0.0001	<0.0001	<0.0001
SS-0101	15	0.000046	0.000013	0	0.0007	0.0030	0.0002	0.0009
SS-0102	15	0.000046	0.000013	0	0.0007	0.0030	0.0002	0.0009
RA-0163	15	0.000046	0.000013	99	<0.0001	<0.0001	<0.0001	<0.0001
RA-0105	15	0.000046	0.000013	99	<0.0001	<0.0001	<0.0001	<0.0001
SS-0124	15	0.000046	0.000013	0	0.0007	0.0030	0.0002	0.0009

EU ID#	Throughput	Emission Factors		Control Eff.	PM ₁₀		PM _{2.5}	
	TPH	lb/ton			%	lb/hr	TPY	lb/hr
		PM ₁₀	PM _{2.5}					
SW-0103	15	0.000046	0.000013	0	0.0007	0.0030	0.0002	0.0009
KT-0101	15	0.003780	0.001020	0	0.0567	0.24830	0.0153	0.0670
SW-0104	13	0.000046	0.000013	0	0.0006	0.0026	0.0002	0.0007
SW-0105	13	0.000046	0.000013	0	0.0006	0.0026	0.0002	0.0007
SW-0106	13	0.000046	0.000013	0	0.0006	0.0026	0.0002	0.0007
SW-0107	13	0.000046	0.000013	0	0.0006	0.0026	0.0002	0.0007
RA-0106	13	0.000046	0.000013	99	<0.0001	<0.0001	<0.0001	<0.0001
SW-0108	13	0.000046	0.000013	0	0.0006	0.0026	0.0002	0.0007
SS-0110	15	0.000046	0.000013	0	0.0007	0.0030	0.0002	0.0009
SW-0113	15	0.000046	0.000013	0	0.0007	0.0030	0.0002	0.0009
KT-0102	15	0.003780	0.001020	0	0.0567	0.24830	0.0153	0.0670
SW-0114	13	0.000046	0.000013	0	0.0006	0.0026	0.0002	0.0007
SW-0115	13	0.000046	0.000013	0	0.0006	0.0026	0.0002	0.0007
SW-0116	13	0.000046	0.000013	0	0.0006	0.0026	0.0002	0.0007
SW-0117	13	0.000046	0.000013	0	0.0006	0.0026	0.0002	0.0007
RA-0113	13	0.000046	0.000013	99	<0.0001	<0.0001	<0.0001	<0.0001
SW-0118	13	0.000046	0.000013	0	0.0006	0.0026	0.0002	0.0007
SW-0109	26	0.000046	0.000013	0	0.0012	0.0052	0.0003	0.0015
SW-0110	26	0.000046	0.000013	0	0.0012	0.0052	0.0003	0.0015
BE-0104	26	0.000046	0.000013	0	0.0012	0.0052	0.0003	0.0015
SW-0111	26	0.000046	0.000013	0	0.0012	0.0052	0.0003	0.0015
SS-0105	26	0.000046	0.000013	0	0.0012	0.0052	0.0003	0.0015
RA-0107	26	0.000046	0.000013	99	<0.0001	0.0001	<0.0001	<0.0001
SW-0112	26	0.000046	0.000013	0	0.0012	0.0052	0.0003	0.0015
SS-0106	26	0.000046	0.000013	0	0.0012	0.0052	0.0003	0.0015
RA-0108	26	0.000046	0.000013	99	<0.0001	0.0001	<0.0001	<0.0001
EN-0102	26	0.020000	0.020000	0	0.5200	2.2776	0.5200	2.2776
GH-0106	26	0.000046	0.000013	0	0.0012	0.0052	0.0003	0.0015
RA-0109	26	0.000046	0.000013	99	<0.0001	0.0001	<0.0001	<0.0001
SS-0107	0.5	0.003107	0.000067	0	0.0016	0.0068	<0.0001	0.0001
SW-0192	0.5	0.000046	0.000013	0	<0.0001	0.0001	<0.0001	<0.0001
BE-0130	0.5	0.000046	0.000013	0	<0.0001	0.0001	<0.0001	<0.0001
IS-0130	0.5	0.004885	0.000267	0	0.0024	0.0107	0.0001	0.0006
RA-0159	0.5	0.000046	0.000013	99	<0.0001	<0.0001	<0.0001	<0.0001
SS-0108	12.75	0.003107	0.000067	0	0.0396	0.1735	0.0009	0.0038
RA-0110	12.75	0.000046	0.000013	99	<0.0001	<0.0001	<0.0001	<0.0001
SS-0109	12.75	0.003107	0.000067	0	0.0396	0.1735	0.0009	0.0038
RA-0111	12.75	0.000046	0.000013	99	<0.0001	<0.0001	<0.0001	<0.0001
GH-0105	10	0.000046	0.000013	0	0.0005	0.0020	0.0001	0.0006
HM-0101	10	0.020000	0.020000	0	0.2000	0.8760	0.2000	0.8760
EN-0101	10	0.020000	0.020000	0	0.2000	0.8760	0.2000	0.8760

EU ID#	Throughput TPH	Emission Factors		Control Eff. %	PM ₁₀		PM _{2.5}	
		lb/ton			lb/hr	TPY	lb/hr	TPY
		PM ₁₀	PM _{2.5}					
PD-0101	10	0.000046	0.000013	0	0.0005	0.0020	0.0001	0.0006
PD-0102	10	0.000046	0.000013	0	0.0005	0.0020	0.0001	0.0006
PD-0103	10	0.000046	0.000013	0	0.0005	0.0020	0.0001	0.0006
PD-0104	10	0.000046	0.000013	0	0.0005	0.0020	0.0001	0.0006
RC-0103	10	0.002400	0.002400	0	0.0240	0.1051	0.0240	0.1051
RA-0114	10	0.000046	0.000013	99	<0.0001	<0.0001	<0.0001	<0.0001
RA-0161	10	0.000046	0.000013	99	<0.0001	<0.0001	<0.0001	<0.0001
RA-0115	10	0.000046	0.000013	99	<0.0001	<0.0001	<0.0001	<0.0001
IS-0114	10	0.004885	0.000267	0	0.0488	0.2140	0.0027	0.0117
SW-0119	10	0.000046	0.000013	0	0.0005	0.0020	0.0001	0.0006
SW-0120	10	0.000046	0.000013	0	0.0005	0.0020	0.0001	0.0006
SW-0199	10	0.000046	0.000013	0	0.0005	0.0020	0.0001	0.0006
SW-0121	10	0.000046	0.000013	0	0.0005	0.0020	0.0001	0.0006
SW-0122	10	0.000046	0.000013	0	0.0005	0.0020	0.0001	0.0006
SW-0123	10	0.000046	0.000013	0	0.0005	0.0020	0.0001	0.0006
SW-0124	10	0.000046	0.000013	0	0.0005	0.0020	0.0001	0.0006
SW-0125	10	0.000046	0.000013	0	0.0005	0.0020	0.0001	0.0006
SW-0126	10	0.000046	0.000013	0	0.0005	0.0020	0.0001	0.0006
SW-0127	10	0.000046	0.000013	0	0.0005	0.0020	0.0001	0.0006
SW-0128	10	0.000046	0.000013	0	0.0005	0.0020	0.0001	0.0006
SW-0129	10	0.000046	0.000013	0	0.0005	0.0020	0.0001	0.0006
SW-0193	10	0.000046	0.000013	0	0.0005	0.0020	0.0001	0.0006
SS-0113	10	0.003107	0.000067	0	0.0311	0.1361	0.0007	0.0029
SS-0112	10	0.003107	0.000067	0	0.0311	0.1361	0.0007	0.0029
BE-0137	10	0.000046	0.000013	0	0.0005	0.0020	0.0001	0.0006
BE-0138	10	0.000046	0.000013	0	0.0005	0.0020	0.0001	0.0006
HM-0111	10	0.020000	0.020000	0	0.2000	0.8760	0.2000	0.8760
PD-0105	10	0.000046	0.000013	0	0.0005	0.0020	0.0001	0.0006
PD-0106	10	0.000046	0.000013	0	0.0005	0.0020	0.0001	0.0006
PD-0107	10	0.000046	0.000013	0	0.0005	0.0020	0.0001	0.0006
PD-0108	10	0.000046	0.000013	0	0.0005	0.0020	0.0001	0.0006
EN-0103	10	0.020000	0.020000	0	0.2000	0.8760	0.2000	0.8760
RA-0206	10	0.000046	0.000013	99	0.0005	0.0020	0.0001	0.0006
RA-0205	10	0.000046	0.000013	99	0.0005	0.0020	0.0001	0.0006
IS-0155	10	0.004885	0.000267	0	0.0488	0.2140	0.0027	0.0117
SW-0233	10	0.000046	0.000013	0	0.0005	0.0020	0.0001	0.0006
SW-0234	10	0.000046	0.000013	0	0.0005	0.0020	0.0001	0.0006
SW-0235	10	0.000046	0.000013	0	0.0005	0.0020	0.0001	0.0006
SW-0236	10	0.000046	0.000013	0	0.0005	0.0020	0.0001	0.0006
SW-0237	10	0.000046	0.000013	0	0.0005	0.0020	0.0001	0.0006
SW-0231	10	0.000046	0.000013	0	0.0005	0.0020	0.0001	0.0006

EU ID#	Throughput	Emission Factors		Control Eff.	PM ₁₀		PM _{2.5}	
	TPH	lb/ton			%	lb/hr	TPY	lb/hr
		PM ₁₀	PM _{2.5}					
SW-0232	10	0.000046	0.000013	0	0.0005	0.0020	0.0001	0.0006
SW-0230	10	0.000046	0.000013	0	0.0005	0.0020	0.0001	0.0006
GH-0127	10	0.000046	0.000013	0	0.0005	0.0020	0.0001	0.0006
GH-0128	10	0.000046	0.000013	0	0.0005	0.0020	0.0001	0.0006
SS-0103	10	0.000046	0.000013	0	0.0005	0.0020	0.0001	0.0006
CF-0107	10	0.000046	0.000013	0	0.0005	0.0020	0.0001	0.0006
VF-0139	10	0.000046	0.000013	0	0.0006	0.0024	0.0002	0.0007
RA-0164	4	0.000046	0.000013	99	0.0002	0.0008	0.0001	0.0002
RA-0118	4	0.000046	0.000013	99	0.0002	0.0008	0.0001	0.0002
RA-0117	4	0.000046	0.000013	99	0.0002	0.0008	0.0001	0.0002
RA-0160	4	0.000046	0.000013	99	0.0002	0.0008	0.0001	0.0002
SS-0114	4	0.003107	0.000067	0	0.0124	0.0544	0.0003	0.0012
SS-0115	4	0.003107	0.000067	0	0.0124	0.0544	0.0003	0.0012
SS-0116	4	0.003107	0.000067	0	0.0124	0.0544	0.0003	0.0012
SS-0129	4	0.003107	0.000067	0	0.0124	0.0544	0.0003	0.0012
SS-0130	4	0.003107	0.000067	0	0.0124	0.0544	0.0003	0.0012
RS-0117	0.75	0.000340	0.000340	0	0.0003	0.0011	0.0003	0.0011
RS-0118	0.50	0.000340	0.000340	0	0.0002	0.0007	0.0002	0.0007
RS-0119	0.50	0.000340	0.000340	0	0.0002	0.0007	0.0002	0.0007
RS-0122	0.75	0.000340	0.000340	0	0.0003	0.0011	0.0003	0.0011
RS-0116	1.50	0.003107	0.000067	0	0.0047	0.0204	0.0001	0.0004
SS-0120	1.0	0.003107	0.000067	0	0.0031	0.0136	0.0001	0.0003
SW-0131	0.75	0.000046	0.000013	0	<0.0001	0.0002	<0.0001	<0.0001
SW-0186	0.75	0.000046	0.000013	0	<0.0001	0.0002	<0.0001	<0.0001
SW-0133	1.0	0.000046	0.000013	0	0.0001	0.0002	<0.0001	<0.0001
SS-0119	10	0.003107	0.000067	0	0.0311	0.1361	0.0007	0.0029
SW-0132	10	0.000046	0.000013	0	0.0005	0.0020	0.0001	0.0006
SS-0117	13	0.003107	0.000067	0	0.0404	0.1769	0.0009	0.0038
SW-0130	13	0.000046	0.000013	0	0.0006	0.0026	0.0002	0.0007
MH-0101	0.25	0.072000	0.011000	0	0.0180	0.0788	0.0028	0.0120
SW-0134	0.04	0.072000	0.011000	0	0.0030	0.0131	0.0005	0.0020
SW-0135	0.04	0.072000	0.011000	0	0.0030	0.0131	0.0005	0.0020
SW-0136	0.04	0.072000	0.011000	0	0.0030	0.0131	0.0005	0.0020
SW-0137	0.04	0.072000	0.011000	0	0.0030	0.0131	0.0005	0.0020
SW-0138	0.04	0.072000	0.011000	0	0.0030	0.0131	0.0005	0.0020
SW-0139	0.04	0.072000	0.011000	0	0.0030	0.0131	0.0005	0.0020
GH-0107	0.25	0.000046	0.000013	0	<0.0001	<0.0001	<0.0001	0.0001
PM-0101	25.5	0.000046	0.000013	0	0.0012	0.0051	0.0003	0.0015
GH-0108	25.8	0.000046	0.000013	0	0.0012	0.0052	0.0003	0.0015
SS-0135	23.3	0.000046	0.000013	0	0.0011	0.0047	0.0003	0.0013
SW-0239	23.3	0.000046	0.000013	0	0.0011	0.0047	0.0003	0.0013

EU ID#	Throughput	Emission Factors		Control Eff.	PM ₁₀		PM _{2.5}	
	TPH	lb/ton			%	lb/hr	TPY	lb/hr
		PM ₁₀	PM _{2.5}					
SS-0134	13.0	0.000046	0.000013	0	0.0006	0.0026	0.0002	0.0007
SW-0238	13.0	0.000046	0.000013	0	0.0006	0.0026	0.0002	0.0007
MH-0102	0.25	0.072000	0.011000	0	0.0180	0.0788	0.0028	0.0120
SW-0240	0.04	0.072000	0.011000	0	0.0030	0.0131	0.0005	0.0020
SW-0241	0.04	0.072000	0.011000	0	0.0030	0.0131	0.0005	0.0020
SW-0242	0.04	0.072000	0.011000	0	0.0030	0.0131	0.0005	0.0020
SW-0243	0.04	0.072000	0.011000	0	0.0030	0.0131	0.0005	0.0020
SW-0244	0.04	0.072000	0.011000	0	0.0030	0.0131	0.0005	0.0020
SW-0220	0.04	0.072000	0.011000	0	0.0030	0.0131	0.0005	0.0020
GH-0129	23.25	0.000046	0.000013	0	0.0011	0.0047	0.0003	0.0013
PM-0106	23.25	0.000046	0.000013	0	0.0011	0.0047	0.0003	0.0013
GH-0130	23.25	0.000046	0.000013	0	0.0011	0.0047	0.0003	0.0013
RA-0208	23.25	0.000046	0.000013	99	0.0011	0.0047	0.0003	0.0013
RA-0207	23.25	0.000046	0.000013	99	0.0011	0.0047	0.0003	0.0013
FS-0101	0.98	0.003976	0.000217	0	0.0039	0.0171	0.0002	0.0009
RA-0123	0.98	0.000046	0.000013	99	0.0001	0.0002	<0.0001	<0.0001
FS-0102	0.98	0.003976	0.000217	0	0.0039	0.0171	0.0002	0.0009
RA-0212	0.98	0.000046	0.000013	99	0.0001	0.0002	<0.0001	<0.0001
BV-0126	0.98	0.098000	0.026300	0	0.0960	0.4207	0.0258	0.1129
FS-0157	1.96	0.003976	0.000217	0	0.0078	0.0341	0.0004	0.0019
RA-0213	1.96	0.000046	0.000013	99	0.0001	0.0004	<0.0001	0.0001
BV-0127	1.96	0.098000	0.026300	0	0.1921	0.8413	0.0515	0.2258
FS-0103	0.98	0.003976	0.000217	0	0.0039	0.0171	0.0002	0.0009
SW-0140	0.98	0.026300	0.026300	0	0.0258	0.1129	0.0258	0.1129
FS-0104	0.98	0.003976	0.000217	0	0.0039	0.0171	0.0002	0.0009
SW-0141	0.98	0.026300	0.026300	0	0.0258	0.1129	0.0258	0.1129
RA-0124	0.98	0.000046	0.000013	99	0.0001	0.0002	<0.0001	<0.0001
TBA	0.05	0.072000	0.011000	0	0.0035	0.0155	0.0005	0.0024
TB-0101	8.82	0.003976	0.000217	0	0.0351	0.1536	0.0019	0.0084
RA-0121	8.82	0.010200	0.000558	0	0.0900	0.3940	0.0049	0.0216
TB-0102	8.82	0.003976	0.000217	0	0.0351	0.1536	0.0019	0.0084
RA-0122	8.82	0.010200	0.000558	0	0.0900	0.3940	0.0049	0.0216
BG-0101	8.82	0.003976	0.000217	0	0.0351	0.1536	0.0019	0.0084
BG-0102	8.82	0.010200	0.000558	0	0.0900	0.3940	0.0049	0.0216
RA-0120	8.82	0.000046	0.000013	99	0.0004	0.0018	0.0001	0.0005
TBA	0.44	0.072000	0.011000	0	0.0318	0.1391	0.0049	0.0212
TB-0106	8.82	0.003976	0.000217	0	0.0351	0.1536	0.0019	0.0084
RA-0209	8.82	0.010200	0.000558	0	0.0900	0.3940	0.0049	0.0216
TB-0107	8.82	0.003976	0.000217	0	0.0351	0.1536	0.0019	0.0084
RA-0210	8.82	0.010200	0.000558	0	0.0900	0.3940	0.0049	0.0216
RA-0211	8.82	0.000046	0.000013	99	0.0004	0.0018	0.0001	0.0005

EU ID#	Throughput	Emission Factors		Control Eff.	PM ₁₀		PM _{2.5}	
	TPH	lb/ton			%	lb/hr	TPY	lb/hr
		PM ₁₀	PM _{2.5}					
TBA	0.44	0.072000	0.011000	0	0.0318	0.1391	0.0049	0.0212
TOTAL					3.32	14.55	1.65	7.23

Boiler emission are based on emission factors from AP-42 Tables 1.4-1, -2, -3 (7/98)

Boiler Emission Factors

EU ID#	NO _x	CO	VOC
	lb/MMSCF	lb/MMSCF	lb/MMSCF
SG-0102	100	84	5.5
SG-0103	100	84	5.5

Boiler Emissions

EU ID#	CO		NO _x		VOC		PM ₁₀		PM _{2.5}	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
SG-0102	1.004	4.401	1.196	5.239	0.065	0.288	0.090	0.398	0.090	0.398
SG-0103	1.004	4.401	1.196	5.239	0.065	0.288	0.090	0.398	0.090	0.398
TOTAL	2.008	8.80	2.392	10.48	0.13	0.576	0.18	0.796	0.18	0.796

Heater emissions are based on AP-42 factors from Tables 1.4-1, -2, -3 (7/98)

Heater Emission Factors

ID#	NO _x	CO	VOC
	lb/MMSCF	lb/MMSCF	lb/MMSCF
GB-0101	100	84	5.5
GB-0102	100	84	5.5
GB-0103	100	84	5.5

Heater emissions

EU ID#	CO		NO _x		VOC		PM ₁₀		PM _{2.5}	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
GB-0101	0.576	2.525	0.686	3.006	0.037	0.165	0.065	0.228	0.065	0.228
GB-0102	1.647	7.214	1.960	8.588	0.107	0.472	0.149	0.653	0.149	0.653
GB-0103	1.647	7.214	1.960	8.588	0.107	0.472	0.149	0.653	0.149	0.653
TOTAL	3.870	16.953	4.606	20.182	0.251	1.109	0.363	1.534	0.363	1.534

Emissions from the engine, which burns diesel fuel, are based on the EPA Tier 1-4 engine data and on uncontrolled emission factors in AP-42 Tables 3.3-1 (10/96) and 3.3-2 (10/96) in Section 3.3, "Gasoline and Diesel Industrial Engines." The emission factors are based on power output and expressed as lb/hp-hr.

Engine Emission Factors for Diesel-burning Engine

Pollutant	NOx	CO	VOC	PM ₁₀	PM _{2.5}
Emission Factor (lb/hp-hr)	0.0152	0.0187	0.00251	0.00088	0.00088

Crusher/Screen Engine

EU ID#	Manufacture	Model	Capacity
GE-0108	Caterpillar	3516	536-hp

Emissions from the Diesel-burning Engine

EU ID#	NOx		CO		VOC		PM ₁₀		PM _{2.5}	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
GE-0108	8.146	35.68	10.034	43.95	1.344	5.89	0.472	2.07	0.472	2.07

The VOC emissions from the storage tanks are shown as minimal because of very low vapor pressure and small throughput of the stored materials. DEQ Tanks program was used to determine potential emissions of VOC per year from the storage tank for working and breathing losses.

Storage Tank VOC Emissions

EU ID#	Capacity (gallons)	Throughput (gallons/yr)	Content	Emissions	
				lb/hr	TPY
TNK-01	1,250	219,000	Diesel Fuel	<0.01	0.002

Total Facility-Wide Emissions

Process	NOx		CO		VOC		PM ₁₀ ¹		PM _{2.5} ¹	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
Process Equipment	--	--	--	--	--	--	3.32	14.55	1.65	7.23
Boilers and Heaters	7.00	30.66	5.87	25.75	0.384	1.686	0.53	2.33	0.53	2.33
Fuel Tanks	--	--	--	--	<0.01	0.002	--	--	--	--
Engine	8.14	35.68	10.03	43.95	1.344	5.89	0.47	2.07	0.47	2.07
Total	15.14	66.34	15.90	69.71	1.728	7.58	4.32	18.94	2.65	11.63
Previous Total	5.32	23.30	4.47	19.57	0.29	1.28	9.00	39.43		
Difference	9.82	43.04	11.43	50.14	1.438	6.30	-4.68	-20.49		

¹ Previously emissions were permitted as PM not PM₁₀ and PM_{2.5}. The PM₁₀ total reflects 39.43 TPY PM from the previous permit. A particle size distribution was not applied to determine a PM_{2.5} portion from the existing limit.

This facility remains a “synthetic minor” source after the modification, because the criteria pollutants emissions do not exceed the major source threshold, 100 TPY.

Due to specific requirements on the plaster products, purity and cleanliness, the Mooreland plant was designed and operated in an enclosed system. That means, all belt conveyors are completely covered in production areas, such as Areas 02, 03, and 05. The estimated PM emissions are used

only for emission reference and not for the purpose of emission limitation. Therefore, PM emissions from the α -Hemihydrate and β -Hemihydrate Production Areas are not presented in Specific Condition No. 1. In other words, there are no emission sources in production areas due to the complete coverage. Only two boilers, three heaters, one engine, and tanks are presented in Specific Condition No. 1.

Hazardous Air Pollutants (HAPs)

When natural gas is burned, the estimated HAPs emissions from the boilers and heaters are based on the emission factors in AP-42 (7/98), Tables 1.4-3 and 1.4-4, Section 1.4, "Natural Gas Combustion," a natural gas burn rate of 71.4 MMBTUH (two boilers and three heaters together), continuous operation of 8,760 hrs/yr, and 1,020 BTU/SCF average heating value. The estimated potential HAPs and metals emissions from the boilers and heaters are calculated as 0.13 lb/hr and 0.5776 TPY. No individual HAP emission exceeds the major source threshold, 10 TPY, and the total facility-wide HAP emissions do not exceed the major source threshold, 25 TPY. Therefore, the facility is a HAP minor source.

SECTION V. OKLAHOMA AIR POLLUTION CONTROL RULES

OAC 252:100-1 (General Provisions) [Applicable]
Subchapter 1 includes definitions but there are no regulatory requirements.

OAC 252:100-2 (Incorporation by Reference) [Applicable]
This Subchapter incorporates by reference applicable provisions of Title 40 of the Code of Federal Regulations. These requirements are addressed in the "Federal Regulations" section.

OAC 252:100-3 (Air Quality Standards and Increments) [Applicable]
Subchapter 3 enumerates the primary and secondary ambient air quality standards and the significant deterioration increments. At this time, all of Oklahoma is in "attainment" of these standards.

OAC 252:100-5 (Registration, Emissions Inventory and Annual Operating Fees) [Applicable]
Subchapter 5 requires sources of air contaminants to register with Air Quality, file emission inventories annually, and pay annual operating fees based upon total annual emissions of regulated pollutants. Emission inventories have been submitted and fees paid for the past years.

OAC 252:100-7 (Permits for Minor Facilities) [Applicable]
This facility (with control devices listed in this permit) qualifies as a "synthetic minor" source because total controlled emissions of each criteria pollutant do not exceed 100 TPY and HAP emissions do not exceed the 10 TPY for any one HAP or 25 TPY for any aggregate of HAP. This facility is in compliance with OAC 252:100-7.

OAC 252:100-9 (Excess Emissions Reporting Requirements) [Applicable]
Except as provided in OAC 252:100-9-7(a)(1), the owner or operator of a source of excess emissions shall notify the Director as soon as possible but no later than 4:30 p.m. the following working day of the first occurrence of excess emissions in each excess emission event. No later

than thirty (30) calendar days after the start of any excess emission event, the owner or operator of an air contaminant source from which excess emissions have occurred shall submit a report for each excess emission event describing the extent of the event and the actions taken by the owner or operator of the facility in response to this event. Request for mitigation, as described in OAC 252:100-9-8, shall be included in the excess emission event report. Additional reporting may be required in the case of ongoing emission events and in the case of excess emissions reporting required by 40 CFR Parts 60, 61, or 63.

OAC 252:100-13 (Open Burning) [Applicable]
 Open burning of refuse and other combustible material is prohibited except as authorized in the specific examples and under the conditions listed in this subchapter.

OAC 252:100-19 (Particulate Matter) [Applicable]
 Section 19-4 regulates emissions of PM from new and existing fuel-burning equipment, with emission limits based on maximum design heat input rating. Appendix C specifies a PM emission limitation of 0.60 lb/MMBTU for all equipment with a heat input rating of 10 MMBTUH or less. For heat input greater than 10 MMBTUH and less than 1,000 MMBTUH, the allowable emission rate E for heat input X (in MMBTUH) is determined from $E = 1.042808 X^{-0.238561}$ as defined in OAC 252:100 Appendix C. The following table compares anticipated emission rates with respect to the limitations. AP-42, Table 1.4-2 (7/98) lists the total PM emissions for natural gas to be 7.6 lb/MMft³ or about 0.0076 lb/MMBTU. The permit requires the use of natural gas for all fuel-burning equipment to ensure compliance with Subchapter 19.

EU ID#	Name	Heat Input MMBTUH	Emission Limitation lb/MMBTU	Expected Emissions lb/MMBTU
GB-0101	Raymond Mill #1 - Gas Burner	7	0.60	0.00745
GB-0102	Kettle #1 – Gas Burner	20	0.489	0.00745
GB-0103	Kettle #2 – Gas Burner	20	0.489	0.00745
SG-0102	Autoclave #1 – Steam Generator Boiler	12.2	0.551	0.00745
SG-0103	Autoclave #2 – Steam Generator Boiler	12.2	0.551	0.00745

This subchapter also limits emissions of PM from industrial processes, which includes any process, operation, or activity. The emission rate in pounds per hour (E) is not to exceed the rate calculated using the process weight rate in tons per hour (P), for process rates up to 60,000 lb/hr using the formula in Appendix G ($E = 4.10 \times P^{0.67}$) and for process rates over 60,000 lb/hr ($E = 55 \times P^{0.11} - 40$). The rule specifies an emission limitation of 53.55 lb/hr of PM based on a process weight rate of 125 TPH for the plaster plant. Emissions of PM from the plaster plant have been estimated at 3.32 lb/hr, which is less than 53.55 lb/hr. Based on the current operation rate for the individual equipment or emission source, the following table compares anticipated emission rates with respect to the allowable limitations.

EU ID#	Name	Process	PM ₁₀	PM ₁₀
		Weight Rate	Allowable	Anticipated
		TPH	lb/hr	lb/hr
RS-0115	Total Facility Truck Unloading	54	45.3	0.0009
BF-0101	Beta Line Bin & Belt Conveyor	30	40.0	0.0014
BC-0150	Belt Conveyor	30	40.0	0.0014
BF-0102	Alpha Line Bin	24	34.5	0.0011
BC-0151	Belt Conveyor	24	34.5	0.0011
IS-0108	Screen	24	34.5	0.2088
BC-0152	Belt Conveyor	24	34.5	0.0011
RS-0101	Storage Silo/Tank	30	40.0	0.0014
SW-0185	Screw Conveyor	30	40.0	0.0014
RM-0101	Roller Mill	30	40.0	1.2817
CL-0101	Mill Classifier	30	40.0	0.0000
CY-0101	Cyclone	30	40.0	0.0262
RA-0101	Rotary Airlock	30	40.0	0.0000
RA-0102	Rotary Airlock	30	40.0	0.0000
RA-0103	Rotary Airlock	30	40.0	0.0000
SS-0101	Storage Silo/Tank	15	25.2	0.0007
SS-0102	Storage Silo/Tank	15	25.2	0.0007
RA-0163	Rotary Airlock	15	25.2	0.0000
RA-0105	Rotary Airlock	15	25.2	0.0000
SS-0124	Storage Silo/Tank	15	25.2	0.0007
SW-0103	Screw Conveyor	15	25.2	0.0007
KT-0101	Kettle	15	25.2	0.0567
SS-0104	Hot Pit	13	22.9	0.0000
SW-0104	Screw Conveyor	13	22.9	0.0006
SW-0105	Screw Conveyor	13	22.9	0.0006
SW-0106	Screw Conveyor	13	22.9	0.0006
SW-0107	Screw Conveyor	13	22.9	0.0006
BH-0102	Baghouse	15	22.9	0.0000
RA-0106	Rotary Airlock	13	22.9	0.0000
SW-0108	Screw Conveyor	13	22.9	0.0006
SS-0110	Storage Silo/Tank	15	25.2	0.0007
SW-0113	Screw Conveyor	15	25.2	0.0007
KT-0102	Kettle	15	25.2	0.0567
SS-0111	Hot Pit	13	22.9	0.0000
SW-0114	Screw Conveyor	13	22.9	0.0006
SW-0115	Screw Conveyor	13	22.9	0.0006
SW-0116	Screw Conveyor	13	22.9	0.0006
SW-0117	Screw Conveyor	13	22.9	0.0006
BH-0103	Baghouse	15	25.2	0.0000

EU ID#	Name	Process	PM ₁₀	PM ₁₀
		Weight Rate	Allowable	Anticipated
		TPH	lb/hr	lb/hr
RA-0113	Rotary Airlock	13	22.9	0.0000
SW-0118	Screw Conveyor	13	22.9	0.0006
SW-0109	Screw Conveyor	26	36.4	0.0012
SW-0110	Screw Conveyor	26	36.4	0.0012
BE-0104	Bucket Elevator Conveyor	26	36.4	0.0012
SW-0111	Screw Conveyor	26	36.4	0.0012
SS-0105	Storage Silo/Tank	26	36.4	0.0012
RA-0107	Rotary Airlock	26	36.4	0.0000
SW-0112	Screw Conveyor	26	36.4	0.0012
SS-0106	Storage Silo/Tank	26	36.4	0.0012
RA-0108	Rotary Airlock	26	36.4	0.0000
EN-0102	Impact Mill	26	36.4	0.5200
GH-0106	Storage Silo/Tank	26	36.4	0.0012
RA-0109	Rotary Airlock	26	36.4	0.0000
SS-0107	Storage Silo/Tank	0.5	2.6	0.0016
SW-0192	Screw Conveyor	0.5	2.6	0.0000
BE-0130	Bucket Elevator Conveyor	0.5	2.6	0.0000
IS-0130	Screen	0.5	2.6	0.0024
RA-0159	Rotary Airlock	0.5	2.6	0.0000
BV-0103	Bin Vent	0.5	2.6	0.0000
SS-0108	Storage Silo/Tank	12.75	22.6	0.0396
RA-0110	Rotary Airlock	12.75	22.6	0.0000
BV-0104	Bin Vent	12.75	22.6	0.0000
SS-0109	Storage Silo/Tank	12.75	22.6	0.0396
RA-0111	Rotary Airlock	12.75	22.6	0.0000
BV-0105	Bin Vent	12.75	22.6	0.0000
WS-0101	Wash Station	12	21.7	0.0000
RK-0101	Rock Basket	12	21.7	0.0000
RK-0102	Rock Basket	12	21.7	0.0000
RK-0103	Rock Basket	12	21.7	0.0000
RK-0104	Rock Basket	12	21.7	0.0000
RK-0105	Rock Basket	12	21.7	0.0000
RK-0106	Rock Basket	12	21.7	0.0000
RK-0107	Rock Basket	12	21.7	0.0000
RK-0108	Rock Basket	12	21.7	0.0000
AC-0101	Autoclave	12	21.7	0.0000
AC-0102	Autoclave	12	21.7	0.0000
AC-0103	Autoclave	12	21.7	0.0000
AC-0104	Autoclave	12	21.7	0.0000
AC-0105	Autoclave	12	21.7	0.0000
AC-0106	Autoclave	12	21.7	0.0000

EU ID#	Name	Process	PM ₁₀	PM ₁₀
		Weight Rate	Allowable	Anticipated
		TPH	lb/hr	lb/hr
AC-0107	Autoclave	12	21.7	0.0000
AC-0108	Autoclave	12	21.7	0.0000
BH-0101	Baghouse	12	21.7	0.0000
BV-0101	Bin Vent	12	21.7	0.0000
BE-0101	Bucket Elevator	10	19.2	0.0000
BE-0103	Bucket Elevator	10	19.2	0.0000
BE-0102	Bucket Elevator	10	19.2	0.0000
GH-0105	Storage Silo/Tank	10	19.2	0.0005
HM-0101	Hammer Mill	10	19.2	0.2000
EN-0101	Impact Mill	10	19.2	0.2000
PD-0101	Pan Dryer	10	19.2	0.0005
PD-0102	Pan Dryer	10	19.2	0.0005
PD-0103	Pan Dryer	10	19.2	0.0005
PD-0104	Pan Dryer	10	19.2	0.0005
RC-0103	Roll Crusher	10	19.2	0.0240
RA-0114	Rotary Airlock	10	19.2	0.0000
RA-0161	Rotary Airlock	10	19.2	0.0000
RA-0115	Rotary Airlock	10	19.2	0.0000
IS-0114	Screen	10	19.2	0.0488
SW-0119	Screw Conveyor	10	19.2	0.0005
SW-0120	Screw Conveyor	10	19.2	0.0005
SW-0199	Screw Conveyor	10	19.2	0.0005
SW-0121	Screw Conveyor	10	19.2	0.0005
SW-0122	Screw Conveyor	10	19.2	0.0005
SW-0124	Screw Conveyor	10	19.2	0.0005
SW-0125	Screw Conveyor	10	19.2	0.0005
SW-0126	Screw Conveyor	10	19.2	0.0005
SW-0127	Screw Conveyor	10	19.2	0.0005
SW-0128	Screw Conveyor	10	19.2	0.0005
SW-0129	Screw Conveyor	10	19.2	0.0005
SW-0123	Screw Conveyor	10	19.2	0.0005
SW-0193	Screw Conveyor	10	19.2	0.0005
SS-0113	Storage Silo/Tank	10	19.2	0.0311
SS-0112	Storage Silo/Tank	10	19.2	0.0311
WS-0102	Wash Station	12	21.7	0.0000
RK-0109	Rock Basket	12	21.7	0.0000
RK-0110	Rock Basket	12	21.7	0.0000
RK-0111	Rock Basket	12	21.7	0.0000
RK-0112	Rock Basket	12	21.7	0.0000
RK-0113	Rock Basket	12	21.7	0.0000
RK-0114	Rock Basket	12	21.7	0.0000

EU ID#	Name	Process	PM ₁₀	PM ₁₀
		Weight Rate	Allowable	Anticipated
		TPH	lb/hr	lb/hr
RK-0115	Rock Basket	12	21.7	0.0000
RK-0116	Rock Basket	12	21.7	0.0000
AC-0109	Autoclave	12	21.7	0.0000
AC-0110	Autoclave	12	21.7	0.0000
AC-0111	Autoclave	12	21.7	0.0000
AC-0112	Autoclave	12	21.7	0.0000
AC-0113	Autoclave	12	21.7	0.0000
AC-0114	Autoclave	12	21.7	0.0000
AC-0115	Autoclave	12	21.7	0.0000
AC-0116	Autoclave	12	21.7	0.0000
BH-0150	Baghouse	12	21.7	0.0000
BE-0137	Bucket Elevator	10	19.2	0.0000
BE-0138	Bucket Elevator	10	19.2	0.0005
HM-0111	Hammer Mill	10	19.2	0.2000
PD-0105	Pan Dryer	10	19.2	0.0005
PD-0106	Pan Dryer	10	19.2	0.0005
PD-0107	Pan Dryer	10	19.2	0.0005
PD-0108	Pan Dryer	10	19.2	0.0005
EN-0103	Impact Mill	10	19.2	0.2000
RA-0206	Rotary Airlock	10	19.2	0.0005
RA-0205	Rotary Airlock	10	19.2	0.0005
IS-0155	Screen	10	19.2	0.0488
SW-0233	Screw Conveyor	10	19.2	0.0005
SW-0234	Screw Conveyor	10	19.2	0.0005
SW-0235	Screw Conveyor	10	19.2	0.0005
SW-0236	Screw Conveyor	10	19.2	0.0005
SW-0237	Screw Conveyor	10	19.2	0.0005
SW-0231	Screw Conveyor	10	19.2	0.0005
SW-0232	Screw Conveyor	10	19.2	0.0005
SW-0230	Screw Conveyor	10	19.2	0.0005
GH-0127	Storage Silo/Tank	10	19.2	0.0005
GH-0128	Storage Silo/Tank	10	19.2	0.0005
SS-0133	Storage Silo/Tank	10	19.2	0.0005
CF-0107	Conveyor	10	19.2	0.0005
VF-0139	Feeder	12	21.7	0.0006
BV-0123	Bin Vent	4	10.4	0.0000
BV-0124	Bin Vent	4	10.4	0.0000
BV-0111	Bin Vent	12	21.7	0.0000
RA-0164	Rotary Airlock	4	10.4	0.0002
RA-0165	Rotary Airlock	4	10.4	0.0002
RA-0118	Rotary Airlock	4	10.4	0.0002

EU ID#	Name	Process	PM ₁₀	PM ₁₀
		Weight Rate	Allowable	Anticipated
		TPH	lb/hr	lb/hr
RA-0117	Rotary Airlock	4	10.4	0.0002
RA-0160	Rotary Airlock	4	10.4	0.0002
SS-0114	Storage Silo/Tank	4	10.4	0.0124
SS-0115	Storage Silo/Tank	4	10.4	0.0124
SS-0116	Storage Silo/Tank	4	10.4	0.0124
SS-0129	Storage Silo/Tank	4	10.4	0.0124
SS-0130	Storage Silo/Tank	4	10.4	0.0124
RS-0117	Storage Silo/Tank	0.75	3.4	0.0003
RS-0118	Storage Silo/Tank	0.50	2.6	0.0002
RS-0119	Storage Silo/Tank	0.50	2.6	0.0002
RS-0122	Storage Silo/Tank	0.75	3.4	0.0003
RS-0116	Storage Silo/Tank	1.50	5.4	0.0047
SS-0120	Storage Silo/Tank	1.0	4.1	0.0031
BV-0121	Bin Vent	0.75	3.4	0.0000
BV-0122	Bin Vent	0.75	3.4	0.0000
BV-0109	Bin Vent	1.0	4.1	0.0000
SW-0131	Screw Conveyor	0.75	3.4	0.0000
SW-0186	Screw Conveyor	0.75	3.4	0.0000
SW-0133	Screw Conveyor	1.0	4.1	0.0000
SS-0119	Storage Silo/Tank	10.0	19.2	0.0311
SW-0132	Screw Conveyor	10.0	19.2	0.0005
BV-0108	Bin Vent	10.0	19.2	0.0000
SS-0117	Storage Silo/Tank	13.0	22.9	0.0404
SW-0130	Screw Conveyor	13.0	22.9	0.0006
BV-0106	Bin Vent	13.0	22.9	0.0000
MH-0101	Hopper	0.25	1.6	0.0180
SW-0134	Screw Conveyor	0.04	0.5	0.0030
SW-0135	Screw Conveyor	0.04	0.5	0.0030
SW-0136	Screw Conveyor	0.04	0.5	0.0030
SW-0137	Screw Conveyor	0.04	0.5	0.0030
SW-0138	Screw Conveyor	0.04	0.5	0.0030
SW-0139	Screw Conveyor	0.04	0.5	0.0030
GH-0107	Hopper	0.25	1.6	0.0000
PM-0101	Hopper	25.5	35.9	0.0012
GH-0108	Hopper	25.8	36.2	0.0012
SS-0135	Storage Silo/Tank	23.3	35.7	0.0011
SW-0239	Screw Conveyor	23.3	35.7	0.0011
SS-0134	Storage Silo/Tank	13.0	22.9	0.0006
SW-0238	Screw Conveyor	13.0	22.9	0.0006
MH-0102	Hopper	0.25	1.6	0.0180
SW-0240	Screw Conveyor	0.04	0.5	0.0030

EU ID#	Name	Process	PM ₁₀	PM ₁₀
		Weight Rate	Allowable	Anticipated
		TPH	lb/hr	lb/hr
SW-0241	Screw Conveyor	0.04	0.5	0.0030
SW-0242	Screw Conveyor	0.04	0.5	0.0030
SW-0243	Screw Conveyor	0.04	0.5	0.0030
SW-0244	Screw Conveyor	0.04	0.5	0.0030
SW-0220	Screw Conveyor	0.04	0.5	0.0030
GH-0129	Hopper	23.25	33.8	0.0011
PM-0106	Hopper	23.25	33.8	0.0011
GH-0130	Hopper	23.25	33.8	0.0011
RA-0208	Rotary Airlock	23.25	33.8	0.0011
BH-0151	Baghouse	23.25	33.8	0.0000
RA-0207	Rotary Airlock	23.25	33.8	0.0011
FS-0101	Storage Silo/Tank	0.98	4.0	0.0039
RA-0123	Rotary Airlock	0.98	4.0	0.0000
BV-0110	Bin Vent	0.98	4.0	0.0000
FS-0102	Storage Silo/Tank	0.98	4.0	0.0039
RA-0212	Rotary Airlock	0.98	4.0	0.0000
BV-0126	Truck/Rail Loadout	0.98	4.0	0.0960
FS-0157	Storage Silo/Tank	1.96	6.4	0.0078
RA-0213	Rotary Airlock	1.96	6.4	0.0001
BV-0127	Truck/Rail Loadout	1.96	6.4	0.1921
BV-0125	Bin Vent	0.98	4.0	0.0000
FS-0103	Storage Silo/Tank	0.98	4.0	0.0039
SW-0140	Truck/Rail Loadout	0.98	4.0	0.0258
FS-0104	Storage Silo/Tank	0.98	4.0	0.0039
SW-0141	Truck/Rail Loadout	0.98	4.0	0.0258
BH-0106	Baghouse	1.96	6.4	0.0000
RA-0124	Rotary Airlock	0.98	4.0	0.0000
WH-001	Hopper	0.05	0.6	0.0035
TB-0101	Storage Silo/Tank	8.82	17.6	0.0351
RA-0121	SuperSac Packaging	8.82	17.6	0.0900
TB-0102	Storage Silo/Tank	8.82	17.6	0.0351
RA-0122	SuperSac Packaging	8.82	17.6	0.0900
BG-0101	Storage Silo/Tank	8.82	17.6	0.0351
BG-0102	Bagger Packaging	8.82	17.6	0.0900
RB-0101	Robot	8.82	17.6	0.0000
PL-0101	Palletizer	8.82	17.6	0.0000
HD-0101	Hooder	8.82	17.6	0.0000
SP-0101	Stretch Wrapper	8.82	17.6	0.0000
BH-0105	Baghouse	8.82	17.6	0.0000
RA-0120	Rotary Airlock	8.82	17.6	0.0004
WH-002	Hopper	0.44	2.4	0.0318

EU ID#	Name	Process	PM ₁₀	PM ₁₀
		Weight Rate	Allowable	Anticipated
		TPH	lb/hr	lb/hr
TB-0106	Storage Silo/Tank	8.82	17.6	0.0351
RA-0209	Packaging	8.82	17.6	0.0900
PL-0105	Palletizer	8.82	17.6	0.0000
TB-0107	Storage Silo/Tank	8.82	17.6	0.0351
RA-0210	Packaging	8.82	17.6	0.0900
PL-0106	Palletizer	8.82	17.6	0.0000
BH-0152	Baghouse	8.82	17.6	0.0000
RA-0211	Rotary Airlock	8.82	17.6	0.0004
WH-003g	Hopper	0.44	2.4	0.0318
BC-0209	Belt Conveyor	8.82	17.6	0.0000

In summary, all PM emission rates in the facility are in compliance with OAC 252:100-19.

OAC 252:100-25 (Visible Emissions and Particulates) [Not Applicable]

This subchapter states no person shall allow or permit the discharge of any fumes, aerosol, mist, gas, smoke, vapor, particulate matter, or any combination thereof, of a shade or density greater than 20 percent equivalent opacity except for short-term occurrences. At no time may the opacity exceed 20 percent for one six-minute period in any consecutive 60 minutes nor more three such periods in any consecutive 24 hours. In no case shall the average of any six-minute period exceed 60% opacity. The permit requires proper maintenance and operation of the baghouses to comply with the opacity standards. Subchapter 25 does not apply to facilities which are subject to an opacity standard under NSPS and all equipment is subject to NSPS Subpart OOO.

OAC 252:100-29 (Fugitive Dust) [Applicable]

This subchapter prohibits the handling, transportation, or disposition of any substance or material, which is likely to be scattered by the air or wind, or is susceptible to being wind-borne, that would be classified as air pollution, without taking reasonable precautions or measures to minimize atmospheric pollution. The rule further prohibits discharge of visible fugitive dust beyond the property line on which the emissions originated in such a manner as to damage or interfere with the use of adjacent properties, or cause air quality standards to be exceeded, or to interfere with the maintenance of air quality standards. This subchapter is applicable to all facilities, both existing and new. "Reasonable precautions" to control dust shall include water-fogging, use of hoods, fans, and dust collectors, and covering open materials. A baghouse is used for the loading/transferring operations to control emissions. In addition, the whole plant is constructed and operated inside of various buildings.

OAC 252:100-31 (Sulfur Compounds) [Applicable]

Part 2 limits the ambient air concentration of hydrogen sulfide (H₂S) emissions from any facility to 0.2 ppmv (24-hour average) at standard conditions which is equivalent to 283 µg/m³. Fuel-burning equipment fired with commercial natural gas will not have the potential to exceed the H₂S ambient air concentration limit.

Part 5 limits sulfur dioxide emissions from new petroleum or natural gas process equipment (constructed after July 1, 1972). For gaseous fuels the limit is 0.2 lb/MMBTU heat input averaged over 3 hours. The permit requires the use of pipeline natural gas as defined in Part 72 having 0.5 grains of total reduced sulfur (TRS) per 100 SCF to ensure compliance with Subchapter 31.

OAC 252:100-33 (Nitrogen Oxides) [Not Applicable]
This subchapter limits NO_x emissions from new fuel-burning equipment with rated heat input greater than or equal to 50 MMBTUH to emissions of 0.2 lb of NO_x per MMBTU. The boilers and heaters have capacities below the 50 MMBTUH threshold.

OAC 252:100-35 (Carbon Monoxide) [Not Applicable]
None of the following affected processes are located at this facility: gray iron cupola, blast furnace, basic oxygen furnace, petroleum catalytic cracking unit, or petroleum catalytic reforming unit.

OAC 252:100-37 (Volatile Organic Compounds) [Applicable]
Part 3 requires storage tanks constructed after December 28, 1974, with a capacity of 400 gallons or more and containing a VOC with a vapor pressure greater than 1.5 psia at maximum storage temperature to be equipped with a permanent submerged fill pipe or with an organic vapor recovery system. There is one 1,250-gal tank present at the facility, but its vapor pressure is less than 1.5 psia.

Part 3 requires VOC loading facilities with a throughput equal to or less than 40,000 gallons per day to be equipped with a system for submerged filling of tank trucks or trailers if the capacity of the vehicle is greater than 200 gallons. This facility does not have the physical equipment (loading arm and pump) to conduct this type of loading and is not subject to this requirement.

Part 5 limits the VOC content of coatings from any coating line or other coating operation. This facility does not normally conduct coating or painting operations except for routine maintenance of the facility and equipment. Routine maintenance operation emits less than 100 pounds per day of VOC, therefore is exempt from Part 5.

Part 7 requires fuel-burning and refuse-burning equipment to be operated to minimize emissions of VOC. Temperature and available air must be sufficient to provide essentially complete combustion. The equipment at this location is subject to this requirement.

Part 7 requires all effluent water separator openings which receive water containing more than 200 gallons per day of any VOC, to be sealed or the separator to be equipped with an external floating roof or a fixed roof with an internal floating roof or a vapor recovery system. No effluent water separators are located at this facility.

OAC 252:100-42 (Toxic Air Contaminants (TAC)) [Applicable]
This subchapter regulates TAC that are emitted into the ambient air in areas of concern (AOC). Any work practice, material substitution, or control equipment required by the Department prior to June 11, 2004, to control a TAC, shall be retained, unless a modification is approved by the Director. Since no AOC has been designated there are no specific requirements for this facility at this time.

OAC 252:100-43 (Testing, Monitoring, and Recordkeeping) [Applicable]
This subchapter provides general requirements for testing, monitoring and recordkeeping and applies to any testing, monitoring or recordkeeping activity conducted at any stationary source.

To determine compliance with emissions limitations or standards, the Air Quality Director may require the owner or operator of any source in the state of Oklahoma to install, maintain and operate monitoring equipment or to conduct tests, including stack tests, of the air contaminant source. All required testing must be conducted by methods approved by the Air Quality Director and under the direction of qualified personnel. A notice-of-intent to test and a testing protocol shall be submitted to Air Quality at least 30 days prior to any EPA Reference Method stack tests. Emissions and other data required to demonstrate compliance with any federal or state emission limit or standard, or any requirement set forth in a valid permit shall be recorded, maintained, and submitted as required by this subchapter, an applicable rule, or permit requirement. Data from any required testing or monitoring not conducted in accordance with the provisions of this subchapter shall be considered invalid. Nothing shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed.

SECTION VI. FEDERAL REGULATIONS

NSPS, 40 CFR Part 60

[Subparts Dc, OOO, and IIII Applicable]

Subpart Dc lists Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units constructed before June 9, 1989, and which have a capacity between 10 and 100 MMBTUH. All boilers/heaters were constructed in 2002 except for one of the calcining kettle heaters (#3-110). Boilers/heaters with capacities less than 30 MMBTUH are required only to keep records of fuels used. Calcining kettle heaters, #3-010 and #3-110, are subject to this subpart. The calcining kettle heater (#3-010) was constructed in 2002. The calcining kettle heater (#3-110) was constructed in 2015. Therefore, records of the fuels used for #3-010 and #3-110 must be kept. These requirements are incorporated into the permit.

Subpart OOO affects facilities in Nonmetallic Mineral Processing Plants (NMPP) if those plants either (1) are in a fixed location and have a capacity of 25 TPH or more, or (2) are portable and have a capacity of 150 TPH or more. The following facilities at a nonmetallic minerals processing plant which commenced construction or modification after August 31, 1983, are affected by Subpart OOO each crusher, grinding mill, bucket elevator, screening operation, belt conveyor, bagging operation, storage bin, and enclosed truck or railcar loading operation. An amended subpart was published in the Federal Register on April 28, 2009. The amendments affect facilities which commence construction, modification, or reconstruction on or after April 22, 2008. Excluded from the list of affected facilities are truck dumping and transfer points from belt conveyors to stockpiles.

For affected facilities which commence construction, modification, or reconstruction after August 31, 1983, but before April 22, 2008, Subpart OOO specifies the following standards for fugitive dust emissions of particulate matter: (1) no fugitive emissions discharge from any crusher greater than 15% opacity, (2) no fugitive discharge from any other affected facility greater than 10% opacity, and (3) no discharge of stack emissions which contain more than 0.022 gr/dscf PM or which exhibit more than 7% opacity. However, for affected facilities which commence construction, modification, or reconstruction on or after April 22, 2008, Subpart OOO specifies the following standards for fugitive dust emissions of particulate matter: (1) no fugitive emissions discharge from any crusher greater than 12% opacity, (2) no fugitive discharge from any other affected facility greater than 7% opacity, (3) no discharge of stack emissions which contain more than 0.014 gr/dscf PM or which exhibit more than 7% opacity. The majority of the equipment at

the facility was constructed in 2002 and prior to April 22, 2008, therefore, most equipment at the facility is not subject to the amended Subpart OOO promulgated on April 28, 2009. The equipment at the facility was constructed after April 22, 2008, and is subject to the amended Subpart OOO standards. Storage tanks are subject to the amended Subpart NSPS OOO as they were constructed after April 22, 2008.

Subpart UUU (Calciners and Dryers in the Mineral Industries) affects equipment which commenced construction after April 23, 1986. Subpart UUU prohibits discharge of particulate matter in excess of 0.04 gr/dscf from calciners and prohibit discharges in excess of 10% opacity unless the discharges are processed by a wet scrubber. However, the dryers and grinding equipment (such as roller mill and ball mill) used in the gypsum plant are among the 17 mineral industries which are exempted and not subject to this subpart per 40 CFR §60.730(b) and §60.731. NSPS Subpart IIII, Stationary Compression Ignition Internal Combustion Engines (CI-ICE). This subpart affects stationary compression ignition (CI) internal combustion engines (ICE) based on power and displacement ratings, depending on date of construction, beginning with those constructed after July 11, 2005. For the purposes of this subpart, the date that construction commences is the date the engine is ordered by the owner or operator. Stationary CI-ICE in Subpart IIII means any internal combustion engine, except combustion turbines, that converts heat energy into mechanical work and is not mobile. Stationary ICE differ from mobile ICE in that a stationary internal combustion engine is not a non-road engine as defined at 40 CFR 1068.30 (excluding paragraph (2)(ii) of that definition), and is not used to propel a motor vehicle, aircraft, or a vehicle used solely for competition. Stationary ICE includes reciprocating ICE, rotary ICE, and other ICE, except combustion turbines. 40 CFR 1068.30 states “Non-road engine” means:

- (1) Except as discussed in paragraph (2) of this definition, a non-road engine is an internal combustion engine that meets any of the following criteria:
 - (i) It is (or will be) used in or on a piece of equipment that is self-propelled or serves a dual purpose by both propelling itself and performing another function (such as garden tractors, off-highway mobile cranes and bulldozers).
 - (ii) It is (or will be) used in or on a piece of equipment that is intended to be propelled while performing its function (such as lawnmowers and string trimmers).
 - (iii) By itself or in or on a piece of equipment, it is portable or transportable, meaning designed to be and capable of being carried or moved from one location to another. Indicia of transportability include, but are not limited to, wheels, skids, carrying handles, dolly, trailer, or platform.
- (2) An internal combustion engine is not a non-road engine if it meets any of the following criteria:
 - (i) The engine is used to propel a motor vehicle, an aircraft, or equipment used solely for competition.
 - (ii) The engine is regulated under 40 CFR part 60, (or otherwise regulated by a federal New Source Performance Standard promulgated under section 111 of the Clean Air Act (42 U.S.C. 7411)). Note that this criterion does not apply for engines meeting any of the criteria of paragraph (1) of this definition that are voluntarily certified under 40 CFR part 60.
 - (iii) The engine otherwise included in paragraph (1)(iii) of this definition remains or will remain at a location for more than 12 consecutive months or a shorter period of time for an engine located at a seasonal source. A location is any single site at a building, structure,

facility, or installation. For any engine (or engines) that replaces an engine at a location and that is intended to perform the same or similar function as the engine replaced, include the time period of both engines in calculating the consecutive time period. An engine located at a seasonal source is an engine that remains at a seasonal source during the full annual operating period of the seasonal source. A seasonal source is a stationary source that remains in a single location on a permanent basis (i.e., at least two years) and that operates at that single location approximately three months (or more) each year. See §1068.31 for provisions that apply if the engine is removed from the location.

There is one CI engine constructed after July 11, 2005, at this facility, therefore, this subpart is applicable.

NSPS Subpart JJJJ, Stationary Spark Ignition Internal Combustion Engines (SI-ICE). There are no SI-ICE engines at this facility, therefore, this subpart is not applicable.

NESHAP, 40 CFR Part 61

[Not Applicable]

There are no emissions of any of the regulated pollutants: arsenic, asbestos, beryllium, benzene, coke oven emissions, mercury, radionuclides or vinyl chloride except for trace amounts of benzene. Subpart J, Equipment Leaks of Benzene, only applies to process streams which contain more than 10% benzene by weight. Analysis of Oklahoma natural gas indicates a maximum benzene content of less than 1%.

NESHAP, 40 CFR Part 63

[ZZZZ Applicable]

Subpart ZZZZ, Reciprocating Internal Combustion Engines (RICE). Subpart ZZZZ establishes national emission limitations and operating limitations for hazardous air pollutants (HAP) emitted from stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAP emissions. You are subject to this subpart if you own or operate a stationary RICE at a major or area source of HAP emissions, except if the stationary RICE is being tested at a stationary RICE test cell/stand.

- (a) A stationary RICE is any internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ from mobile RICE in that a stationary RICE is not a non-road engine as defined at 40 CFR 1068.30, and is not used to propel a motor vehicle or a vehicle used solely for competition.

The one engine at this facility is subject to this subpart and will comply by complying with NSPS Subpart IIII.

Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial and Institutional Boilers and Process Heaters. On January 31, 2013, the EPA took final action on its reconsideration of certain issues in the emission standards for the control of HAP from industrial, commercial, and institutional boilers and process heaters at major sources of HAP. The facility is a minor source of HAP and this subpart is not applicable.

Subpart CCCCC, Gasoline Dispensing Facilities. This subpart establishes emission limitations and management practices for HAP emitted from the loading of gasoline storage tanks at gasoline dispensing facilities (GDF) located at an area source. GDF means any stationary facility which dispenses gasoline into the fuel tank of a motor vehicle. The affected source includes each gasoline cargo tank during the delivery of product to a GDF and also includes each storage tank. If a GDF has

a monthly throughput of less than 10,000 gallons of gasoline, it must not allow gasoline to be handled in a manner that would result in vapor releases to the atmosphere for extended periods of time. Measures to be taken include, but are not limited to, the following:

- 1) Minimize gasoline spills;
- 2) Clean up spills as expeditiously as practicable;
- 3) Cover all open gasoline containers and all gasoline storage tank fill-pipes with a gasketed seal when not in use;
- 4) Minimize gasoline sent to open waste collection systems that collect and transport gasoline to reclamation and recycling devices, such as oil/water separators.

Subpart JJJJJ, National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial and Institutional Boilers Area Sources. This subpart applies to new and existing industrial, commercial, and institutional boilers located at area sources of HAPs. The boilers located at the facility are considered to be existing. Gas-fired boilers are not subject to any requirements under this subpart.

SECTION VII. COMPLIANCE

Tier Classification and Public Review

This application has been classified as Tier I per OAC 252:4-7-32 based on the fact that this is a modification of a construction permit for a minor facility.

The draft permit will undergo public notice on the DEQ's web site as required in OAC 252:4-7-13(g). The public, tribal governments, and the EPA will have 30 days to comment on the draft permit. Permits available for public review and comment are found at this location:

<https://www.deq.ok.gov/permits-for-public-review/>

The applicant has submitted an affidavit that they are not seeking a permit for land use or for any operation upon land owned by others without their knowledge. The affidavit certifies that the applicant owns the property.

Environmental Justice Review

All people should be protected from the impacts of environmental pollution regardless of race, national origin, or income. DEQ is committed to ensuring such protection through the development, implementation, and consistent enforcement of environmental laws and regulations.

AQD has determined that no communities with environmental justice concerns are impacted by the issuance of this permit. This determination is based on this permit qualifying as a minor source under OAC 252:100-7.

Inspection

An initial compliance inspection was conducted on February 26, 2020. Present for the inspection were Mr. Mark Hearrell, Plant Manager, and Mr. Austin Burrus, Project Manager, of ACG Materials, and Ms. Dawn Powless, Environmental Program Specialist of DEQ. It was verified that four pieces of equipment, #3-100 covered conveyer, #3-101 covered elevator, #3-102 vibratory screen, and #3-104 discharge chute, were constructed and their operating tests were performed on January 6, 2020. All four equipment were constructed in enclosed buildings. All conveyors and bucket elevators are covered. All required records are maintained in the plant office at the site.

Fee Paid

A fee of \$2,000 for an Authorization to Construct was paid.

SECTION VIII. SUMMARY

The facility is being constructed as described in the permit application. Ambient air quality standards are not threatened at this site. There are no active Air Quality compliance and enforcement issues concerning this facility. Issuance of the construction permit is recommended, contingent on public review.

**PERMIT TO CONSTRUCT
AIR POLLUTION CONTROL FACILITY
SPECIFIC CONDITIONS**

**ACG Materials
Mooreland Plant**

Permit No. 2001-306-C (M-5)

The permittee is authorized to construct in conformity with the specifications submitted to and received by Air Quality on February 25, 2022. The Evaluation Memorandum dated November 18, 2022, explains the derivation of applicable permit requirements and estimates of emissions; however, it does not contain limitations or permit requirements. Commencing construction/continuing operations under this permit constitutes acceptance of, and consent to the conditions contained herein:

1. Points of emissions and emissions limitations for each point:

EU ID#	NO _x		CO		VOC		PM ₁₀		PM _{2.5}	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
RS-0115	--	--	--	--	--	--	0.0009	0.0038	0.0009	0.0038
BF-0101	--	--	--	--	--	--	0.0014	0.0060	0.0004	0.0017
BC-0150	--	--	--	--	--	--	0.0014	0.0060	0.0004	0.0017
BF-0102	--	--	--	--	--	--	0.0011	0.0048	0.0003	0.0014
BC-0151	--	--	--	--	--	--	0.0011	0.0048	0.0003	0.0014
IS-0108	--	--	--	--	--	--	0.2088	0.9145	0.0312	0.1367
BC-0152	--	--	--	--	--	--	0.0011	0.0048	0.0003	0.0014
RS-0101	--	--	--	--	--	--	0.0014	0.0060	0.0004	0.0017
SW-0185	--	--	--	--	--	--	0.0014	0.0060	0.0004	0.0017
RM-0101	--	--	--	--	--	--	0.0547	0.2397	0.0277	0.1214
CY-0101	--	--	--	--	--	--	0.0262	0.1149	0.0014	0.0063
RA-0101	--	--	--	--	--	--	<0.0001	0.0001	<0.0001	<0.0001
RA-0102	--	--	--	--	--	--	<0.0001	0.0001	<0.0001	<0.0001
RA-0103	--	--	--	--	--	--	<0.0001	0.0001	<0.0001	<0.0001
SS-0101	--	--	--	--	--	--	0.0007	0.0030	0.0002	0.0009
SS-0102	--	--	--	--	--	--	0.0007	0.0030	0.0002	0.0009

EU ID#	NOx		CO		VOC		PM ₁₀		PM _{2.5}	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
RA-0163	--	--	--	--	--	--	<0.0001	<0.0001	<0.0001	<0.0001
RA-0105	--	--	--	--	--	--	<0.0001	<0.0001	<0.0001	<0.0001
SS-0124	--	--	--	--	--	--	0.0007	0.0030	0.0002	0.0009
SW-0103	--	--	--	--	--	--	0.0007	0.0030	0.0002	0.0009
KT-0101	--	--	--	--	--	--	0.0567	0.24830	0.0153	0.0670
SW-0104	--	--	--	--	--	--	0.0006	0.0026	0.0002	0.0007
SW-0105	--	--	--	--	--	--	0.0006	0.0026	0.0002	0.0007
SW-0106	--	--	--	--	--	--	0.0006	0.0026	0.0002	0.0007
SW-0107	--	--	--	--	--	--	0.0006	0.0026	0.0002	0.0007
RA-0106	--	--	--	--	--	--	<0.0001	<0.0001	<0.0001	<0.0001
SW-0108	--	--	--	--	--	--	0.0006	0.0026	0.0002	0.0007
SS-0110	--	--	--	--	--	--	0.0007	0.0030	0.0002	0.0009
SW-0113	--	--	--	--	--	--	0.0007	0.0030	0.0002	0.0009
KT-0102	--	--	--	--	--	--	0.0567	0.24830	0.0153	0.0670
SW-0114	--	--	--	--	--	--	0.0006	0.0026	0.0002	0.0007
SW-0115	--	--	--	--	--	--	0.0006	0.0026	0.0002	0.0007
SW-0116	--	--	--	--	--	--	0.0006	0.0026	0.0002	0.0007
SW-0117	--	--	--	--	--	--	0.0006	0.0026	0.0002	0.0007
RA-0113	--	--	--	--	--	--	<0.0001	<0.0001	<0.0001	<0.0001
SW-0118	--	--	--	--	--	--	0.0006	0.0026	0.0002	0.0007
SW-0109	--	--	--	--	--	--	0.0012	0.0052	0.0003	0.0015
SW-0110	--	--	--	--	--	--	0.0012	0.0052	0.0003	0.0015
BE-0104	--	--	--	--	--	--	0.0012	0.0052	0.0003	0.0015

EU ID#	NOx		CO		VOC		PM ₁₀		PM _{2.5}	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
SW-0111	--	--	--	--	--	--	0.0012	0.0052	0.0003	0.0015
SS-0105	--	--	--	--	--	--	0.0012	0.0052	0.0003	0.0015
RA-0107	--	--	--	--	--	--	<0.0001	0.0001	<0.0001	<0.0001
SW-0112	--	--	--	--	--	--	0.0012	0.0052	0.0003	0.0015
SS-0106	--	--	--	--	--	--	0.0012	0.0052	0.0003	0.0015
RA-0108	--	--	--	--	--	--	<0.0001	0.0001	<0.0001	<0.0001
EN-0102	--	--	--	--	--	--	0.5200	2.2776	0.5200	2.2776
GH-0106	--	--	--	--	--	--	0.0012	0.0052	0.0003	0.0015
RA-0109	--	--	--	--	--	--	<0.0001	0.0001	<0.0001	<0.0001
SS-0107	--	--	--	--	--	--	0.0016	0.0068	<0.0001	0.0001
SW-0192	--	--	--	--	--	--	<0.0001	0.0001	<0.0001	<0.0001
BE-0130	--	--	--	--	--	--	<0.0001	0.0001	<0.0001	<0.0001
IS-0130	--	--	--	--	--	--	0.0024	0.0107	0.0001	0.0006
RA-0159	--	--	--	--	--	--	<0.0001	<0.0001	<0.0001	<0.0001
SS-0108	--	--	--	--	--	--	0.0396	0.1735	0.0009	0.0038
RA-0110	--	--	--	--	--	--	<0.0001	<0.0001	<0.0001	<0.0001
SS-0109	--	--	--	--	--	--	0.0396	0.1735	0.0009	0.0038
RA-0111	--	--	--	--	--	--	<0.0001	<0.0001	<0.0001	<0.0001
GH-0105	--	--	--	--	--	--	0.0005	0.0020	0.0001	0.0006
HM-0101	--	--	--	--	--	--	0.2000	0.8760	0.2000	0.8760
EN-0101	--	--	--	--	--	--	0.2000	0.8760	0.2000	0.8760
PD-0101	--	--	--	--	--	--	0.0005	0.0020	0.0001	0.0006
PD-0102	--	--	--	--	--	--	0.0005	0.0020	0.0001	0.0006

EU ID#	NOx		CO		VOC		PM ₁₀		PM _{2.5}	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
PD-0103	--	--	--	--	--	--	0.0005	0.0020	0.0001	0.0006
PD-0104	--	--	--	--	--	--	0.0005	0.0020	0.0001	0.0006
RC-0103	--	--	--	--	--	--	0.0240	0.1051	0.0240	0.1051
RA-0114	--	--	--	--	--	--	<0.0001	<0.0001	<0.0001	<0.0001
RA-0161	--	--	--	--	--	--	<0.0001	<0.0001	<0.0001	<0.0001
RA-0115	--	--	--	--	--	--	<0.0001	<0.0001	<0.0001	<0.0001
IS-0114	--	--	--	--	--	--	0.0488	0.2140	0.0027	0.0117
SW-0119	--	--	--	--	--	--	0.0005	0.0020	0.0001	0.0006
SW-0120	--	--	--	--	--	--	0.0005	0.0020	0.0001	0.0006
SW-0199	--	--	--	--	--	--	0.0005	0.0020	0.0001	0.0006
SW-0121	--	--	--	--	--	--	0.0005	0.0020	0.0001	0.0006
SW-0122	--	--	--	--	--	--	0.0005	0.0020	0.0001	0.0006
SW-0123	--	--	--	--	--	--	0.0005	0.0020	0.0001	0.0006
SW-0124	--	--	--	--	--	--	0.0005	0.0020	0.0001	0.0006
SW-0125	--	--	--	--	--	--	0.0005	0.0020	0.0001	0.0006
SW-0126	--	--	--	--	--	--	0.0005	0.0020	0.0001	0.0006
SW-0127	--	--	--	--	--	--	0.0005	0.0020	0.0001	0.0006
SW-0128	--	--	--	--	--	--	0.0005	0.0020	0.0001	0.0006
SW-0129	--	--	--	--	--	--	0.0005	0.0020	0.0001	0.0006
SW-0193	--	--	--	--	--	--	0.0005	0.0020	0.0001	0.0006
SS-0113	--	--	--	--	--	--	0.0311	0.1361	0.0007	0.0029
SS-0112	--	--	--	--	--	--	0.0311	0.1361	0.0007	0.0029
BE-0137	--	--	--	--	--	--	0.0005	0.0020	0.0001	0.0006

EU ID#	NOx		CO		VOC		PM ₁₀		PM _{2.5}	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
BE-0138	--	--	--	--	--	--	0.0005	0.0020	0.0001	0.0006
HM-0111	--	--	--	--	--	--	0.2000	0.8760	0.2000	0.8760
PD-0105	--	--	--	--	--	--	0.0005	0.0020	0.0001	0.0006
PD-0106	--	--	--	--	--	--	0.0005	0.0020	0.0001	0.0006
PD-0107	--	--	--	--	--	--	0.0005	0.0020	0.0001	0.0006
PD-0108	--	--	--	--	--	--	0.0005	0.0020	0.0001	0.0006
EN-0103	--	--	--	--	--	--	0.2000	0.8760	0.2000	0.8760
RA-0206	--	--	--	--	--	--	0.0005	0.0020	0.0001	0.0006
RA-0205	--	--	--	--	--	--	0.0005	0.0020	0.0001	0.0006
IS-0155	--	--	--	--	--	--	0.0488	0.2140	0.0027	0.0117
SW-0233	--	--	--	--	--	--	0.0005	0.0020	0.0001	0.0006
SW-0234	--	--	--	--	--	--	0.0005	0.0020	0.0001	0.0006
SW-0235	--	--	--	--	--	--	0.0005	0.0020	0.0001	0.0006
SW-0236	--	--	--	--	--	--	0.0005	0.0020	0.0001	0.0006
SW-0237	--	--	--	--	--	--	0.0005	0.0020	0.0001	0.0006
SW-0231	--	--	--	--	--	--	0.0005	0.0020	0.0001	0.0006
SW-0232	--	--	--	--	--	--	0.0005	0.0020	0.0001	0.0006
SW-0230	--	--	--	--	--	--	0.0005	0.0020	0.0001	0.0006
GH-0127	--	--	--	--	--	--	0.0005	0.0020	0.0001	0.0006
GH-0128	--	--	--	--	--	--	0.0005	0.0020	0.0001	0.0006
SS-0103	--	--	--	--	--	--	0.0005	0.0020	0.0001	0.0006
CF-0107	--	--	--	--	--	--	0.0005	0.0020	0.0001	0.0006
VF-0139	--	--	--	--	--	--	0.0006	0.0024	0.0002	0.0007

EU ID#	NOx		CO		VOC		PM ₁₀		PM _{2.5}	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
RA-0164	--	--	--	--	--	--	0.0002	0.0008	0.0001	0.0002
RA-0118	--	--	--	--	--	--	0.0002	0.0008	0.0001	0.0002
RA-0117	--	--	--	--	--	--	0.0002	0.0008	0.0001	0.0002
RA-0160	--	--	--	--	--	--	0.0002	0.0008	0.0001	0.0002
SS-0114	--	--	--	--	--	--	0.0124	0.0544	0.0003	0.0012
SS-0115	--	--	--	--	--	--	0.0124	0.0544	0.0003	0.0012
SS-0116	--	--	--	--	--	--	0.0124	0.0544	0.0003	0.0012
SS-0129	--	--	--	--	--	--	0.0124	0.0544	0.0003	0.0012
SS-0130	--	--	--	--	--	--	0.0124	0.0544	0.0003	0.0012
RS-0117	--	--	--	--	--	--	0.0003	0.0011	0.0003	0.0011
RS-0118	--	--	--	--	--	--	0.0002	0.0007	0.0002	0.0007
RS-0119	--	--	--	--	--	--	0.0002	0.0007	0.0002	0.0007
RS-0122	--	--	--	--	--	--	0.0003	0.0011	0.0003	0.0011
RS-0116	--	--	--	--	--	--	0.0047	0.0204	0.0001	0.0004
SS-0120	--	--	--	--	--	--	0.0031	0.0136	0.0001	0.0003
SW-0131	--	--	--	--	--	--	<0.0001	0.0002	<0.0001	<0.0001
SW-0186	--	--	--	--	--	--	<0.0001	0.0002	<0.0001	<0.0001
SW-0133	--	--	--	--	--	--	0.0001	0.0002	<0.0001	<0.0001
SS-0119	--	--	--	--	--	--	0.0311	0.1361	0.0007	0.0029
SW-0132	--	--	--	--	--	--	0.0005	0.0020	0.0001	0.0006
SS-0117	--	--	--	--	--	--	0.0404	0.1769	0.0009	0.0038
SW-0130	--	--	--	--	--	--	0.0006	0.0026	0.0002	0.0007
MH-0101	--	--	--	--	--	--	0.0180	0.0788	0.0028	0.0120

EU ID#	NOx		CO		VOC		PM ₁₀		PM _{2.5}	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
SW-0134	--	--	--	--	--	--	0.0030	0.0131	0.0005	0.0020
SW-0135	--	--	--	--	--	--	0.0030	0.0131	0.0005	0.0020
SW-0136	--	--	--	--	--	--	0.0030	0.0131	0.0005	0.0020
SW-0137	--	--	--	--	--	--	0.0030	0.0131	0.0005	0.0020
SW-0138	--	--	--	--	--	--	0.0030	0.0131	0.0005	0.0020
SW-0139	--	--	--	--	--	--	0.0030	0.0131	0.0005	0.0020
GH-0107	--	--	--	--	--	--	<0.0001	<0.0001	<0.0001	0.0001
PM-0101	--	--	--	--	--	--	0.0012	0.0051	0.0003	0.0015
GH-0108	--	--	--	--	--	--	0.0012	0.0052	0.0003	0.0015
SS-0135	--	--	--	--	--	--	0.0011	0.0047	0.0003	0.0013
SW-0239	--	--	--	--	--	--	0.0011	0.0047	0.0003	0.0013
SS-0134	--	--	--	--	--	--	0.0006	0.0026	0.0002	0.0007
SW-0238	--	--	--	--	--	--	0.0006	0.0026	0.0002	0.0007
MH-0102	--	--	--	--	--	--	0.0180	0.0788	0.0028	0.0120
SW-0240	--	--	--	--	--	--	0.0030	0.0131	0.0005	0.0020
SW-0241	--	--	--	--	--	--	0.0030	0.0131	0.0005	0.0020
SW-0242	--	--	--	--	--	--	0.0030	0.0131	0.0005	0.0020
SW-0243	--	--	--	--	--	--	0.0030	0.0131	0.0005	0.0020
SW-0244	--	--	--	--	--	--	0.0030	0.0131	0.0005	0.0020
SW-0220	--	--	--	--	--	--	0.0030	0.0131	0.0005	0.0020
GH-0129	--	--	--	--	--	--	0.0011	0.0047	0.0003	0.0013
PM-0106	--	--	--	--	--	--	0.0011	0.0047	0.0003	0.0013
GH-0130	--	--	--	--	--	--	0.0011	0.0047	0.0003	0.0013

EU ID#	NOx		CO		VOC		PM ₁₀		PM _{2.5}	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
RA-0208	--	--	--	--	--	--	0.0011	0.0047	0.0003	0.0013
RA-0207	--	--	--	--	--	--	0.0011	0.0047	0.0003	0.0013
FS-0101	--	--	--	--	--	--	0.0039	0.0171	0.0002	0.0009
RA-0123	--	--	--	--	--	--	0.0001	0.0002	<0.0001	<0.0001
FS-0102	--	--	--	--	--	--	0.0039	0.0171	0.0002	0.0009
RA-0212	--	--	--	--	--	--	0.0001	0.0002	<0.0001	<0.0001
BV-0126	--	--	--	--	--	--	0.0960	0.4207	0.0258	0.1129
FS-0157	--	--	--	--	--	--	0.0078	0.0341	0.0004	0.0019
RA-0213	--	--	--	--	--	--	0.0001	0.0004	<0.0001	0.0001
BV-0127	--	--	--	--	--	--	0.1921	0.8413	0.0515	0.2258
FS-0103	--	--	--	--	--	--	0.0039	0.0171	0.0002	0.0009
SW-0140	--	--	--	--	--	--	0.0258	0.1129	0.0258	0.1129
FS-0104	--	--	--	--	--	--	0.0039	0.0171	0.0002	0.0009
SW-0141	--	--	--	--	--	--	0.0258	0.1129	0.0258	0.1129
RA-0124	--	--	--	--	--	--	0.0001	0.0002	<0.0001	<0.0001
TBA	--	--	--	--	--	--	0.0035	0.0155	0.0005	0.0024
TB-0101	--	--	--	--	--	--	0.0351	0.1536	0.0019	0.0084
RA-0121	--	--	--	--	--	--	0.0900	0.3940	0.0049	0.0216
TB-0102	--	--	--	--	--	--	0.0351	0.1536	0.0019	0.0084
RA-0122	--	--	--	--	--	--	0.0900	0.3940	0.0049	0.0216
BG-0101	--	--	--	--	--	--	0.0351	0.1536	0.0019	0.0084
BG-0102	--	--	--	--	--	--	0.0900	0.3940	0.0049	0.0216
RA-0120	--	--	--	--	--	--	0.0004	0.0018	0.0001	0.0005

EU ID#	NO _x		CO		VOC		PM ₁₀		PM _{2.5}	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
TBA	--	--	--	--	--	--	0.0318	0.1391	0.0049	0.0212
TB-0106	--	--	--	--	--	--	0.0351	0.1536	0.0019	0.0084
RA-0209	--	--	--	--	--	--	0.0900	0.3940	0.0049	0.0216
TB-0107	--	--	--	--	--	--	0.0351	0.1536	0.0019	0.0084
RA-0210	--	--	--	--	--	--	0.0900	0.3940	0.0049	0.0216
RA-0211	--	--	--	--	--	--	0.0004	0.0018	0.0001	0.0005
TBA	--	--	--	--	--	--	0.0318	0.1391	0.0049	0.0212
SG-0102	1.196	5.239	1.004	4.401	0.065	0.288	0.090	0.398	0.090	0.398
SG-0103	1.196	5.239	1.004	4.401	0.065	0.288	0.090	0.398	0.090	0.398
GB-0101	0.686	3.006	0.576	2.525	0.037	0.165	0.065	0.228	0.065	0.228
GB-0102	1.960	8.588	1.647	7.214	0.107	0.472	0.149	0.653	0.149	0.653
GB-0103	1.960	8.588	1.647	7.214	0.107	0.472	0.149	0.653	0.149	0.653
GE-0108	8.146	35.68	10.034	43.95	1.344	5.89	0.472	2.07	0.472	2.07
TNK-01	--	--	--	--	<0.01	0.02	--	--	--	--

2. The permittee shall conduct the following compliance verification methods for these emission units.
 - (1). The baghouse(s) shall be operated at a pressure differential of at least 1 inch WC. At least once per day, while operating, the permittee shall record the pressure differential on any baghouse serving an above-listed operation.
 - (2). The permittee shall conduct Method 9 or Method 22 visual observations of emissions from the stacks listed above at least once per week during which a unit operates. In no case shall the observation period be less than six minutes in duration. If visible emissions are observed for six minutes in duration for any observation period and such emissions are not the result of a malfunction, then the permittee shall conduct, for the identified points, within 24 hours, a visual observation of emissions, in accordance with 40 CFR Part 60, Appendix A, Method 9.
 - a. When four consecutive weekly visible emission observations or Method 9 observations show no visible emissions, or no emissions of a shade or density greater than twenty

- (20) percent equivalent opacity, the frequency may be reduced to monthly visual observations. Upon any showing of non-compliance the observation frequency shall revert to weekly.
- b. If a Method 9 observation exceeds 20% opacity the permittee shall conduct at least three additional Method 9 observations within the next 24-hours.
 - c. If more than one six-minute Method 9 observation exceeds 20% opacity in any consecutive 60 minutes; or more than three six-minute Method 9 observations in any consecutive 24 hours exceeds 20% opacity; or if any six-minute Method 9 observation exceeds 60% opacity; the owner or operator shall comply with the provisions for excess emissions during start-up, shutdown, and malfunction of air pollution control equipment.
3. The fuel-burning equipment shall be fired with pipeline quality natural gas. Pipeline-quality natural gas is subject (under Part 72) to a limit of 0.5 grains of total reduced sulfur (TRS) per 100 SCF. Compliance can be shown by the following method: for pipeline grade natural gas, a current gas company bill. Compliance shall be demonstrated at least once every calendar year.
 4. The permittee shall be authorized to operate the facility continuously (24 hours per day, every day of the year), up to maximum process rates of 125 tons per hour and 1,095,000 tons per year.
 5. Each crusher, grinding mill, screening operation, bucket elevator or belt conveyor, which commenced construction, reconstruction, or modification after August 31, 1983, is subject to federal New Source Performance Standards (NSPS), 40 CFR Part 60, Subpart OOO (Standards of Performance for Nonmetallic Minerals Processing Plants), and shall comply with all applicable standards: [40 CFR §§ 60.670 to 60.676]
 - a. § 60.670 Am I subject to this subpart?
 - b. § 60.671 What definitions apply to this subpart?
 - c. § 60.672 The standard of particulate matter (PM).
 - d. § 60.673 The definition of reconstruction.
 - e. § 60.674 The monitoring of operations.
 - f. § 60.675 The performance test methods and procedures.
 - g. § 60.676 The reporting and recordkeeping.
 6. The Calcining Kettle Heaters are subject to federal NSPS, 40 CFR Part 60 Subpart DC. Pursuant to Subpart DC, the permittee shall keep records of fuels used in the heaters each month.[40 CFR §§ 60.40C to 60.48C]
 - a. §60.40C Applicability and delegation of authority.
 - b. §60.41C Definitions.
 - c. §60.42C Standard for sulfur dioxide (SO₂).
 - d. §60.43C Standard for particulate matter (PM).
 - e. §60.44C Compliance and performance test methods and procedures for sulfur dioxide.
 - f. §60.45C Compliance and performance test methods and procedures for particulate matter.
 - g. §60.46C Emission monitoring for sulfur dioxide.

- h. §60.47_C Emission monitoring for particulate matter.
 - i. §60.48_C Reporting and recordkeeping requirements.
7. The permittee shall not cause nor permit the discharge of any visible fugitive dust beyond the property line on which the emissions originated in such a manner as to damage or interfere with the use of adjacent properties, or cause air quality standards to be exceeded, or to interfere with the maintenance of air quality standards.
 8. Reasonable precautions shall be taken to minimize fugitive dust emissions from loading and unloading operations, roads, and stockpiles. These precautions shall include, but not limited to:
 - a. Use of water or chemicals on roads, stockpiles, and materials during transfer operations.
 - b. Application of other coatings or coverings to substances becoming airborne or wind-borne.
 - c. Covering material in trucks.
 - d. Planting and maintaining vegetation coverings or windbreaks.
 - e. Locate stockpiles as to provide minimum exposure to high winds and avoid open spaces in line with neighboring homes and businesses.
 9. The permittee shall maintain records of operations as listed below. These records shall be maintained on-site for at least five years after the date of recording and shall be provided to regulatory personnel upon request.
 - a. Production of alpha-(α -) hemihydrate and beta-(β -) hemihydrate (monthly and 12-month rolling totals).
 - b. For the fuel(s) burned, the appropriate document(s) as described in Specific Condition No. 3.
 - c. Inspection and maintenance of baghouses (weekly).
 - d. Natural gas usage (monthly and 12-month rolling totals).
 - e. Pressure differentials on each baghouse for roller mill and calcining kettle (daily).
 - f. Records required by NSPS Subparts Dc and OOO.
 - g. Records as required by Specific Condition No. 3.
 10. The permittee shall submit an application for an operating permit within 180 days of starting operation under this permit.

**MINOR SOURCE PERMIT TO OPERATE / CONSTRUCT
AIR POLLUTION CONTROL FACILITY
STANDARD CONDITIONS
(February 13, 2020)**

- A. The issuing Authority for the permit is the Air Quality Division (AQD) of the Oklahoma Department of Environmental Quality (DEQ) in accordance with and under the authority of the Oklahoma Clean Air Act. The permit does not relieve the holder of the obligation to comply with other applicable federal, state, or local statutes, regulations, rules, or ordinances. This specifically includes compliance with the rules of the other Divisions of DEQ: Land Protection Division and Water Quality Division.
- B. A duly issued construction permit or authorization to construct or modify will terminate and become null and void (unless extended as provided in OAC 252:100-7-15(g)) if the construction is not commenced within 18 months after the date the permit or authorization was issued, or if work is suspended for more than 18 months after it is commenced. [OAC 252:100-7-15(f)]
- C. The recipient of a construction permit shall apply for a permit to operate (or modified operating permit) within 180 days following the first day of operation. [OAC 252:100-7-18(a)]
- D. Unless specified otherwise, the term of an operating permit shall be unlimited.
- E. Notification to the Air Quality Division of DEQ of the sale or transfer of ownership of this facility is required and shall be made in writing by the transferor within 30 days after such date. A new permit is not required. [OAC 252:100-7-2(f)]
- F. The following limitations apply to the facility unless covered in the Specific Conditions:
1. No person shall cause or permit the discharge of emissions such that National Ambient Air Quality Standards (NAAQS) are exceeded on land outside the permitted facility. [OAC 252:100-3]
 2. All facilities that emit air contaminants are required to file an emission inventory and pay annual operating fees based on the inventory. Instructions are available on the Air Quality section of the DEQ web page. www.deq.ok.gov. [OAC 252:100-5]
 3. Deviations that result in emissions exceeding those allowed in this permit shall be reported consistent with the requirements of OAC 252:100-9, Excess Emission Reporting Requirements. [OAC 252:100-9]
 4. Open burning of refuse and other combustible material is prohibited except as authorized in the specific examples and under the conditions listed in the Open Burning subchapter. [OAC 252:100-13]
 5. No particulate emissions from new fuel-burning equipment with a rated heat input of 10 MMBTUH or less shall exceed 0.6 lbs/MMBTU. [OAC 252:100-19]
 6. No discharge of greater than 20% opacity is allowed except for short-term occurrences which consist of not more than one six-minute period in any consecutive 60 minutes, not to exceed three such periods in any consecutive 24 hours. In no case shall the average of any six-minute period exceed 60% opacity. [OAC 252:100-25]
 7. No visible fugitive dust emissions shall be discharged beyond the property line on which the emissions originate in such a manner as to damage or to interfere with the use of adjacent

- properties, or cause air quality standards to be exceeded, or interfere with the maintenance of air quality standards. [OAC 252:100-29]
8. No sulfur oxide emissions from new gas-fired fuel-burning equipment shall exceed 0.2 lbs/MMBTU. No existing source shall exceed the listed ambient air standards for sulfur dioxide. [OAC 252:100-31]
 9. Volatile Organic Compound (VOC) storage tanks built after December 28, 1974, and with a capacity of 400 gallons or more storing a liquid with a vapor pressure of 1.5 psia or greater under actual conditions shall be equipped with a permanent submerged fill pipe or with an organic material vapor-recovery system. [OAC 252:100-37-15(b)]
 10. All fuel-burning equipment shall at all times be properly operated and maintained in a manner that will minimize emissions of VOCs. [OAC 252:100-37-36]
- G. Any owner or operator subject to provisions of NSPS shall provide written notification as follows: [40 CFR 60.7 (a)]
1. A notification of the date construction (or reconstruction as defined under §60.15) of an affected facility is commenced postmarked no later than 30 days after such date. This requirement shall not apply in the case of mass-produced facilities which are purchased in completed form.
 2. A notification of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies, unless that change is specifically exempted under an applicable subpart or in §60.14(e). This notice shall be postmarked 60 days or as soon as practicable before the change is commenced and shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility before and after the change, and the expected completion date of the change. The Administrator may request additional relevant information subsequent to this notice.
 3. A notification of the actual date of initial start-up of an affected facility postmarked within 15 days after such date.
 4. If a continuous emission monitoring system is included in the construction, a notification of the date upon which the test demonstrating the system performance will commence, along with a pretest plan, postmarked no less than 30 days prior to such a date.
- H. Any owner or operator subject to provisions of NSPS shall maintain records of the occurrence and duration of any start-up, shutdown, or malfunction in the operation of an affected facility or any malfunction of the air pollution control equipment. [40 CFR 60.7 (b)]
- I. Any owner or operator subject to the provisions of NSPS shall maintain a file of all measurements and other information required by this subpart recorded in a permanent file suitable for inspection. This file shall be retained for at least five years following the date of such measurements, maintenance, and records. [40 CFR 60.7 (f)]
- J. Any owner or operator subject to the provisions of NSPS shall conduct performance test(s) and furnish to AQD a written report of the results of such test(s). Test(s) shall be conducted within 60 days after achieving the maximum production rate at which the facility will be operated, but not later than 180 days after initial start-up. [40 CFR 60.8]

Ms. Dana Henry
Corporate Environmental Manager
Harrison Gypsum, LLC dba ACG Materials
1550 Double Drive
Norman, Oklahoma 73069

SUBJECT: Application for Construction Permit No. **2001-306-C (M-5)**
ACG Materials-Mooreland Plant (Facility ID: 5135)
Latitude N 36.43800°, Longitude W 99.22090°
801 SW 6th Street, Section 27, Township 23N, Range 19W
Mooreland, Woodward County, Oklahoma

Dear Ms. Henry:

Enclosed is the permit authorizing operation of the above referenced facility. Please note that this permit is issued subject to standard and specific conditions, which are attached. These conditions must be carefully followed since they define the limits of the permit and will be confirmed by periodic inspections.

Also note that you are required to annually submit an emissions inventory for this facility. An emissions inventory must be completed on approved AQD forms and submitted by April 1st of every year. Any questions concerning the form or submittal process should be referred to the Emissions Inventory Staff at (405) 702-4100.

Thank you for your cooperation in this matter. If we may be of further service, or you have any questions about this permit, please contact the permit writer at william.fulk@deq.ok.gov, or at (405) 702-4194.

Sincerely,

DRAFT

Lee Warden, P.E.
Permits and Engineering Group Manager
AIR QUALITY DIVISION

Enclosure



PERMIT

AIR QUALITY DIVISION
STATE OF OKLAHOMA
DEPARTMENT OF ENVIRONMENTAL QUALITY
707 NORTH ROBINSON, SUITE 4100
P. O. BOX 1677
OKLAHOMA CITY, OKLAHOMA 73101-1677

PERMIT No. 2001-306-C (M-5)

ACG Materials,

having complied with the requirements of the law, is hereby granted permission to construct their Mooreland Plant located at 801 SW 6th Street (also State Highway 50), Mooreland, (Section 27, Township 23N, Range 19W), Woodward County, Oklahoma, subject to Standard Conditions dated February, 13, 2020, and Specific Conditions, both attached.

DRAFT

Lee Warden, P.E.
Permits and Engineering Group Manager

Issuance Date

Department of Environmental Quality (DEQ)
Air Quality Division (AQD)
Acronym List
9-10-21

ACFM	Actual Cubic Feet per Minute	GDF	Gasoline Dispensing Facility
AD	Applicability Determination	GEP	Good Engineering Practice
AFRC	Air-to-Fuel Ratio Controller	GHG	Greenhouse Gases
API	American Petroleum Institute	GR	Grain(s) (gr)
ASTM	American Society for Testing and Materials	H₂CO	Formaldehyde
		H₂S	Hydrogen Sulfide
BACT	Best Available Control Technology	HAP	Hazardous Air Pollutants
BAE	Baseline Actual Emissions	HC	Hydrocarbon
BBL	Barrel(s)	HCFC	Hydrochlorofluorocarbon
BHP	Brake Horsepower (bhp)	HFR	Horizontal Fixed Roof
BTU	British thermal unit (Btu)	HON	Hazardous Organic NESHAP
		HP	Horsepower (hp)
C&E	Compliance and Enforcement	HR	Hour (hr)
CAA	Clean Air Act	I&M	Inspection and Maintenance
CAM	Compliance Assurance Monitoring	IBR	Incorporation by Reference
CAS	Chemical Abstract Service	ICE	Internal Combustion Engine
CAAA	Clean Air Act Amendments	LAER	Lowest Achievable Emission Rate
CC	Catalytic Converter	LB	Pound(s) [Mass] (lb, lbs, lbm)
CCR	Continuous Catalyst Regeneration	LB/HR	Pound(s) per Hour (lb/hr)
CD	Consent Decree	LDAR	Leak Detection and Repair
CEM	Continuous Emission Monitor	LNG	Liquefied Natural Gas
CFC	Chlorofluorocarbon	LT	Long Ton(s) (metric)
CFR	Code of Federal Regulations	M	Thousand (Roman Numeral)
CI	Compression Ignition	MAAC	Maximum Acceptable Ambient Concentration
CNG	Compressed Natural Gas	MACT	Maximum Achievable Control Technology
CO	Carbon Monoxide or Consent Order	MM	Prefix used for Million (Thousand-Thousand)
COA	Capable of Accommodating	MMBTU	Million British Thermal Units (MMBtu)
COM	Continuous Opacity Monitor	MMBTUH	Million British Thermal Units per Hour (MMBtu/hr)
D	Day	MMSCF	Million Standard Cubic Feet (MMscf)
DEF	Diesel Exhaust Fluid	MMSCFD	Million Standard Cubic Feet per Day
DG	Demand Growth	MSDS	Material Safety Data Sheet
DSCF	Dry Standard (At Standard Conditions) Cubic Foot (Feet)	MWC	Municipal Waste Combustor
		MWe	Megawatt Electrical
EGU	Electric Generating Unit	NA	Nonattainment
EI	Emissions Inventory	NAAQS	National Ambient Air Quality Standards
EPA	Environmental Protection Agency	NAICS	North American Industry Classification System
ESP	Electrostatic Precipitator	NESHAP	National Emission Standards for Hazardous Air Pollutants
EUG	Emissions Unit Group	NH₃	Ammonia
EUSGU	Electric Utility Steam Generating Unit	NMHC	Non-methane Hydrocarbon
FCE	Full Compliance Evaluation	NGL	Natural Gas Liquids
FCCU	Fluid Catalytic Cracking Unit	NO₂	Nitrogen Dioxide
FEL	Federally Enforceable Limit(s)	NO_x	Nitrogen Oxides
FESOP	Federally Enforceable State Operating Permit	NOI	Notice of Intent
FIP	Federal Implementation Plan		
FR	Federal Register		
GACT	Generally Achievable Control Technology		
GAL	Gallon (gal)		

NSCR	Non-Selective Catalytic Reduction	SIP	State Implementation Plan
NSPS	New Source Performance Standards	SNCR	Selective Non-Catalytic Reduction
NSR	New Source Review	SO₂	Sulfur Dioxide
		SO_x	Sulfur Oxides
O₃	Ozone	SOP	Standard Operating Procedure
O&G	Oil and Gas	SRU	Sulfur Recovery Unit
O&M	Operation and Maintenance		
O&NG	Oil and Natural Gas	T	Tons
OAC	Oklahoma Administrative Code	TAC	Toxic Air Contaminant
OC	Oxidation Catalyst	TEG	Triethylene Glycol
		THC	Total Hydrocarbons
PAH	Polycyclic Aromatic Hydrocarbons	TPY	Tons per Year
PAE	Projected Actual Emissions	TRS	Total Reduced Sulfur
PAL	Plant-wide Applicability Limit	TSP	Total Suspended Particulates
Pb	Lead	TV	Title V of the Federal Clean Air Act
PBR	Permit by Rule		
PCB	Polychlorinated Biphenyls	µg/m³	Micrograms per Cubic Meter
PCE	Partial Compliance Evaluation	US EPA	U. S. Environmental Protection Agency
PEA	Portable Emissions Analyzer		
PFAS	Per- and Polyfluoroalkyl Substance	VFR	Vertical Fixed Roof
PM	Particulate Matter	VMT	Vehicle Miles Traveled
PM_{2.5}	Particulate Matter with an Aerodynamic Diameter <= 2.5 Micrometers	VOC	Volatile Organic Compound
		VOL	Volatile Organic Liquid
PM₁₀	Particulate Matter with an Aerodynamic Diameter <= 10 Micrometers	VRT	Vapor Recovery Tower
		VRU	Vapor Recovery Unit
POM	Particulate Organic Matter or Polycyclic Organic Matter	YR	Year
ppb	Parts per Billion		
ppm	Parts per Million	2SLB	2-Stroke Lean Burn
ppmv	Parts per Million Volume	4SLB	4-Stroke Lean Burn
ppmvd	Parts per Million Dry Volume	4SRB	4-Stroke Rich Burn
PSD	Prevention of Significant Deterioration		
psi	Pounds per Square Inch		
psia	Pounds per Square Inch Absolute		
psig	Pounds per Square Inch Gage		
RACT	Reasonably Available Control Technology		
RATA	Relative Accuracy Test Audit		
RAP	Regulated Air Pollutant or Reclaimed Asphalt Pavement		
RFG	Refinery Fuel Gas		
RICE	Reciprocating Internal Combustion Engine		
RO	Responsible Official		
ROAT	Regional Office at Tulsa		
RVP	Reid Vapor Pressure		
SCC	Source Classification Code		
SCF	Standard Cubic Foot		
SCFD	Standard Cubic Feet per Day		
SCFM	Standard Cubic Feet per Minute		
SCR	Selective Catalytic Reduction		
SER	Significant Emission Rate		
SI	Spark Ignition		
SIC	Standard Industrial Classification		