MISSOURI
DEPARTMENT OF
NATURAL RESOURCES

MISSOURI AIR CONSERVATION COMMISSION

PERMIT TO CONSTRUCT

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

Permit Number: 052018-007

Project Number: 2018-03-023
Installation Number: 061-0034

Parent Company: McBee Farms LC

Parent Company Address: 520 North MO Hwy 7, Independence, MO 64056

Installation Name: McBee Farms Grain Storage Facility

Installation Address: 103 Industrial Parkway, Gallatin, MO 64640

Location Information: Daviess County, S18, T59N, R27W

Application for Authority to Construct was made for:
New grain storage facility. This review was conducted in accordance with Section (6), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

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

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

Prepared by
Jordan Hull
New Source Review Unit

Director or Designee
Department of Natural Resources

MAY 22 2018

Effective Date

STANDARD CONDITIONS:

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

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

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

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

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

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

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

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

The regional office information can be found at the following website:
http://dnr.mo.gov/regions/

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

The special conditions listed in this permit were included based on the authority granted the Missouri Air Pollution Control Program by the Missouri Air Conservation Law (specifically 643.075) and by the Missouri Rules listed in Title 10, Division 10 of the Code of State Regulations (specifically 10 CSR 10-6.060). For specific details regarding conditions, see 10 CSR 10-6.060 paragraph (12)(A)10. "Conditions required by permitting authority."

McBee Farms Grain Storage Facility
Daviess County, S18, T59N, R27W

1. PM_{10} Emission Limitation
   A. McBee Farms Grain Storage Facility shall emit less than 15.0 tons of PM_{10} in any consecutive 12-month period from the entire installation as defined in Table 1.

   B. Attachment A or equivalent forms, such as electronic forms, approved by the Air Pollution Control Program shall be used to demonstrate compliance with Special Conditions 1.A.

2. Record Keeping and Reporting Requirements
   A. McBee Farms Grain Storage Facility shall maintain all records required by this permit for not less than five years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request.

   B. McBee Farms Grain Storage Facility shall report to the Air Pollution Control Program's Compliance/Enforcement Section, by mail at P.O. Box 176, Jefferson City, MO 65102 or by email at AirComplianceReporting@dnr.mo.gov, no later than 10 days after the end of the month during which any record required by this permit shows an exceedance of a limitation imposed by this permit.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE
SECTION (6) REVIEW
Project Number: 2018-03-023
Installation ID Number: 061-0034
Permit Number: 052018-007

Installation Address:
McBee Farms Grain Storage Facility
800 Industrial Parkway
Gallatin, MO 64640

Parent Company:
McBee Farms LC
520 North Mo Hwy 7
Independence, MO 64056

Daviess County, S18, T59N, R27W

REVIEW SUMMARY

- McBee Farms Grain Storage Facility has applied for authority construct a new grain storage facility.
- The application was deemed complete on March 14, 2018.
- HAP emissions are not expected from the proposed equipment.
- None of the New Source Performance Standards (NSPS) apply to the installation. 40 CFR Part 60, DD—Standards of Performance for Grain Elevators does not apply as they're below 2.5 million bushels of total storage.
- None of the NESHAPs apply to this installation. None of the currently promulgated MACT regulations apply to the proposed equipment.
- No air pollution control equipment is being used in association with the new equipment.
- This review was conducted in accordance with Section (6) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of PM_{10} are conditioned below de minimis and no refined modeling is required. Potential emissions of PM are above de minimis but below major source levels.
- This installation is located in Daviess County, an attainment/unclassified area for all criteria pollutants.
- This installation is not on the List of Named Installations found in 10 CSR 10-6.020(3)(B), Table 2. The installation's major source level is 250 tons per year and fugitive emissions are not counted toward major source applicability.

1.4 *Natural Gas Combustion* July 1998, and Section 13.2.2 *Unpaved Roads* November 2006. The grain trucks used to transfer grain will all be hopper trucks.

The following table provides an emissions summary for this project. There are no existing potential emissions as this is a new facility. Potential emissions of the project represent the potential of the new equipment, assuming continuous operation (8760 hours per year). The new installation conditioned potential emissions are potential emission of the installation conditioned below the de minimis threshold for PM_{10}.

Table 2: Emissions Summary (tpy)

Pollutant	Regulatory *De Minimis* Levels	Existing Potential Emissions	Potential Emissions of the Project/Installation	New Installation Conditioned Potential
PM	25.0	N/A	614.29	49.98
PM_{10}	15.0	N/A	188.14	<15.0
$PM_{2.5}$	10.0	N/A	30.56	2.44
SOx	40.0	N/A	0.03	0.03
NOx	40.0	N/A	5.5	5.5
VOC	40.0	N/A	0.28	0.28
CO	100.0	N/A	4.33	4.33
GHG (CO_2e)	N/A	N/A	N/A	N/A
GHG (mass)	N/A	N/A	N/A	N/A
HAPs	10.0/25.0	N/A	0.10	0.10

N/A = Not Applicable; N/D = Not Determined

PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (6) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of PM_{10} are conditioned below de minimis and no refined modeling is required. Potential emissions of PM are above de minimis but below major source levels. There are no modeling requirements for PM.

APPLICABLE REQUIREMENTS

McBee Farms Grain Storage Facility shall comply with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements. Compliance with these emission standards, based on information submitted in the application, has been verified at the time this application was approved.

- Ambient air quality modeling was not performed since potential emissions of the application are below de minimis levels. There are no modeling requirements for PM.

- Emissions testing is not required for the equipment as a part of this permit. Testing may be required as part of other state, federal or applicable rules.

- No Operating Permit is required for this installation.

- Approval of this permit is recommended with special conditions.

INSTALLATION/PROJECT DESCRIPTION

McBee Farms LC is installing a grain storage facility with 9 storage bins, an elevator leg, and conveyor belts to store the grain from their farming operation to store bulk corn during the harvest season in order to feed their cattle the rest of the year. The facility is located at 800 Industrial Parkway in Gallatin, MO. The conveyor carrying capacity is 10,000 bushels per hour or 300 tons/hour. The total bushel size of the facility will be 840,000 bushels. It is a non-commercial facility that is used just for their personal farming operation usage. One 12 MMBtu/hr. natural gas fired mixed flow dryer will be used when necessary to dry corn before storing it in the bins. McBee plans on filling the 840,000 bushels only once annually, and emptying it out throughout the year when needed.

No permits have been issued to McBee Farms Grain Storage Facility from the Air Pollution Control Program.

Table 1- Project Emission Units

Emission Unit	Description	Maximum Hourly Design Rate (MHDR) tph-tons per hour
EP-1	Dump Pit	300 tph
EP-2	Grain Handling	300 tph
EP-3	Storage Bins (9 total)	300 tph
EP-4	Grain Drying	12 MMBtu/hr
EP-5	Truck Load Out	300 tph
EP-6	Haul Roads/ Vehicular Activity	400 feet (300 tph)

EMISSIONS/CONTROLS EVALUATION

The emission factors used in this analysis were obtained from the Environmental Protection Agency (EPA) document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, Section 9.9.1 *Grain Elevators and Processes* May 2003, Section

GENERAL REQUIREMENTS

- *Start-Up, Shutdown, and Malfunction Conditions,* 10 CSR 10-6.050

- *Submission of Emission Data, Emission Fees and Process Information,* 10 CSR 10-6.110
    - Per 10 CSR 10-6.110(4)(B)2.B(II) and (4)(B)2.C(II) a full EIQ is required for the first full calendar year the equipment (or modifications) approved by this permit are in operation.

- *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*, 10 CSR 10-6.170

- *Restriction of Emission of Visible Air Contaminants*, 10 CSR 10-6.220

- *Restriction of Emission of Odors*, 10 CSR 10-6.165

SPECIFIC REQUIREMENTS

- *Restriction of Emission of Particulate Matter from Industrial Processes*, 10 CSR 10-6.400. The storage bin vents' potential emission(EP-3) rate of 7.5 pounds per hour of PM is less than 63.00 lbs/hr (Process Rate Rule), and therefore complies with this regulation.

STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (6), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, it is recommended that this permit be granted with special conditions.

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated March 6, 2018, received March 13, 2018, designating McBee Farms LC as the owner and operator of the installation.

Attachment A – PM_{10} Compliance Worksheet
McBee Farms LC
Davies County, S18, T59N, R27W
Project Number: 2018-03-023
Installation Number: 061-0034

This sheet covers the period from _____ to _____.
(month, year) (month, year)

C1	C2	C3	C4	C5	C6
Month/Year	Monthly grain received by the facility (tons)	Composite PM_{10} Emission Factor (lbs PM_{10}/ton)	Monthly Grain Emissions (lbs)	Monthly Grain Emissions (Tons)	12-Month PM_{10} Emissions (Tons/Year)
(Example) August/2018	10,000	0.121	1210.0	0.605	0.605+ previous 11 months
		0.121			
		0.121			
		0.121			
		0.121			
		0.121			
		0.121			
		0.121			
		0.121			
		0.121			
		0.121			
		0.121			
		0.121			
		0.121			
		0.121			

C1: Enter the Month and Year
C2: Enter the monthly total grain received in units of tons per month
C3: Composite PM_{10} Emission Factor is in units of tons PM_{10} per ton grain received and considers the emissions from all emission units at the installation (EP1-EP-6)
C4 = ((C2 × C3) +SSM) Include the startup, shutdown, and malfunction emissions (SSM Emissions) as reported to the Air Pollution Control Program's Compliance/Enforcement Section according to the provisions of 10 CSR 10-6.050.
C5=C4/2000
C6 = 12-Month Emissions (tons/year) are a rolling total calculated by adding [C5 + the total emissions of the previous eleven (11) months]. A total of less than **15.0** tons of PM_{10} in any consecutive 12-month period indicates compliance.

APPENDIX A

Abbreviations and Acronyms

%.....percent
°F.....degrees Fahrenheit
acfm.....actual cubic feet per minute
BACT.....Best Available Control Technology
BMPs.....Best Management Practices
Btu.....British thermal unit
CAM.....Compliance Assurance Monitoring
CAS.....Chemical Abstracts Service
CEMS.....Continuous Emission Monitor System
CFR.....Code of Federal Regulations
CO.....carbon monoxide
CO_2.....carbon dioxide
CO_2e.....carbon dioxide equivalent
COMS.....Continuous Opacity Monitoring System
CSR.....Code of State Regulations
dscf.....dry standard cubic feet
EIQ.....Emission Inventory Questionnaire
EP.....Emission Point
EPA.....Environmental Protection Agency
EU.....Emission Unit
fps.....feet per second
ft.....feet
GACT.....Generally Available Control Technology
GHG.....Greenhouse Gas
gpm.....gallons per minute
gr.....grains
GWP.....Global Warming Potential
HAP.....Hazardous Air Pollutant
hr.....hour
hp.....horsepower
lb.....pound
lbs/hr.....pounds per hour
MACT.....Maximum Achievable Control Technology
$\mu g/m^3$.....micrograms per cubic meter
m/s.....meters per second
Mgal.....1,000 gallons
MW.....megawatt
MHDR.....maximum hourly design rate
MMBtu....Million British thermal units
MMCF.....million cubic feet
MSDS.....Material Safety Data Sheet
NAAQS....National Ambient Air Quality Standards
NESHAPs National Emissions Standards for Hazardous Air Pollutants
NO_x.....nitrogen oxides
NSPS.....New Source Performance Standards
NSR.....New Source Review
PM.....particulate matter
$PM_{2.5}$.....particulate matter less than 2.5 microns in aerodynamic diameter
PM_{10}.....particulate matter less than 10 microns in aerodynamic diameter
ppm.....parts per million
PSD.....Prevention of Significant Deterioration
PTE.....potential to emit
RACT.....Reasonable Available Control Technology
RAL.....Risk Assessment Level
SCC.....Source Classification Code
scfm.....standard cubic feet per minute
SDS.....Safety Data Sheet
SIC.....Standard Industrial Classification
SIP.....State Implementation Plan
SMAL.....Screening Model Action Levels
SO_x.....sulfur oxides
SO_2.....sulfur dioxide
SSM.....Startup, Shutdown & Malfunction
tph.....tons per hour
tpy.....tons per year
VMT.....vehicle miles traveled
VOC.....Volatile Organic Compound

PTE (tpy)

Pollutant	Existing	Application	Conditioned
PM	N/A	582.02	54.87
PM10	N/A	159.11	<15.0
PM2.5	N/A	25.47	2.40
Sox	N/A	0.03	0.03
Nox	N/A	5.15	5.15
VOC	N/A	0.28	0.28
CO	N/A	4.33	4.33
HAP	N/A	0.10	0.10
GHG (mass)	N/A	N/A	N/A
GHG (CO2e)	N/A	N/A	N/A

Emission units	Emission Points	Point Description	SCC	MHDR (tpy)
EU-1	EP-1	Dump pit	30200552	300
EU-2	EP-2	grain handling	30200530	300
EU-3	EP-3	Storage Bin (9)	30200540	300
EU-4	EP-4	Dry Corn Milling: Grain Drying -	30200742	300
EU-5	EP-5	Truck load out	30200560	300
EU-6	EP-6	haul roads		300 ft unpaved

conveyor		
10,000.00	bushel/ hour	
60	lb/ busel	
		we use 60 lbs/bushel to account for other possible grains unless a specia lcondition is written to make only corn handling permitted
600,000.00	lbs/hour	
300.00	tons/hour	

De Minimis Limit PM10	
247,754.31	limit (tons)/year
495,508,614.74	limit (lbs)/year
8,848,368.12	limit (bushels)/year

Emission Unit	Description	Installation's Designation	MHDR (MMBtu/hr input)	Combined MHDR (MMBtu/hr input)	MHDR (MMcf/hr)	Pollutant		CAS	HAP?	Emission Factor (lb / mmcf)	Emission Factor Source (SCC)	Available Pollutant (lb/hr)	Control Device	PTE (lb/hr)	PTE (tpy)
EP-4	Grain dryer		12.00	12.00	0.012	PM filterable				1.9	1-02-006-02 industrial boiler, natural gas, 10-100MMBtu and 1-02-006-03 < 10MMBtu	0.0224	none	0.0224	0.10
						PM10 cond.				7.6		0.0894	none	0.0894	0.39
						PM2.5 cond.				7.6		0.0894	none	0.0894	0.39
						SOx				0.6		0.0071	none	0.0071	0.03
						NOx				100		1.1765	none	1.1765	5.15
						VOC				5.5		0.0647	none	0.0647	0.28
						CO				84		0.9882	none	0.9882	4.33
						Combined HAPs				1.888		0.0222	none	0.0222	0.09729
						POM aggregate group				6.98E-04		8.21E-06	none	8.21E-06	3.60E-05
					pom	2-Methylnaphthalene		91-57-6	y	2.40E-05		2.824E-07	none	2.82E-07	1.24E-06
					pom	3-Methylchloranthrene		56-49-5	y	1.80E-06		2.118E-08	none	2.12E-08	9.28E-08
					pom	7,12-Dimethylbenzanthracene		57-97-6	y	1.60E-05		1.882E-07	none	1.88E-07	8.24E-07
					pom	Acenaphthene		83-32-9	y	1.80E-06		2.118E-08	none	2.12E-08	9.28E-08
					pom	Acenaphthylene		203-96-8	y	1.80E-06		2.118E-08	none	2.12E-08	9.28E-08
					pom	Anthracene		120-12-7	y	2.40E-06		2.824E-08	none	2.82E-08	1.24E-07
					pom	Benzanthracene		56-55-3	y	1.80E-06		2.118E-08	none	2.12E-08	9.28E-08
						Benzene		71-43-2	y	2.10E-03		2.471E-05	none	2.47E-05	1.08E-04
					pom	Benzo(a)pyrene		50-32-8	y	1.20E-06		1.412E-08	none	1.41E-08	6.18E-08
					pom	Benzo(b)fluoranthene		205-99-2	y	1.80E-06		2.118E-08	none	2.12E-08	9.28E-08
					pom	Benzo(g,h,i)perylene		191-24-2	y	1.20E-06		1.412E-08	none	1.41E-08	6.18E-08
					pom	Benzo(k)fluoranthene		205-82-3	y	1.80E-06		2.118E-08	none	2.12E-08	9.28E-08
						Butane		106-97-8		2.10E+00		2.471E-02	none	2.47E-02	1.08E-01
					pom	Chrysene		218-01-9	y	1.80E-06		2.118E-08	none	2.12E-08	9.28E-08
					pom	Dibenzo(a,h)anthracene		53-70-3	y	1.20E-06		1.412E-08	none	1.41E-08	6.18E-08
						Dichlorobenzene		25321-22-6	y	1.20E-03		1.412E-05	none	1.41E-05	6.18E-05
						Ethane		74-84-0		3.10E+00		3.647E-02	none	3.65E-02	1.60E-01
					pom	Fluoranthene		206-44-0	y	3.00E-06		3.529E-08	none	3.53E-08	1.55E-07
					pom	Fluorene		86-73-7	y	2.80E-06		3.294E-08	none	3.29E-08	1.44E-07
						Formaldehyde		50-00-0	y	7.50E-02		8.824E-04	none	8.82E-04	3.86E-03
						Hexane		110-54-3	y	1.80E+00		2.118E-02	none	0.0212	0.09
					pom	Indeno(1,2,3-cd)pyrene		193-39-5	y	1.80E-06		2.118E-08	none	2.12E-08	9.28E-08
					pom	Naphthalene		91-20-3	y	6.10E-04		7.176E-06	none	7.18E-06	3.14E-05
						Pentane		109-66-0		2.60E+00		3.059E-02	none	3.06E-02	1.34E-01
					pom	Phenanathrene		85-01-8	y	1.70E-05		2.000E-07	none	2.00E-07	8.76E-07
						Propane		74-98-6		1.60E+00		1.882E-02	none	1.88E-02	8.24E-02
					pom	Pyrene		129-00-0	y	5.00E-06		5.882E-08	none	5.88E-08	2.58E-07
						Toluene		108-88-3	y	3.40E-03		4.000E-05	none	4.00E-05	1.75E-04
						Arsenic		7440-38-2	y	2.00E-04		2.353E-06	none	2.35E-06	1.03E-05
						Barium		7440-39-3		4.40E-03		5.176E-05	none	5.18E-05	2.27E-04
						Beryllium		7440-41-7	y	1.20E-05		1.412E-07	none	1.41E-07	6.18E-07
						Cadmium		7440-43-9	y	1.10E-03		1.294E-05	none	1.29E-05	5.67E-05
						Chromium		7440-47-3	y	1.40E-03		1.647E-05	none	1.65E-05	7.21E-05
						Cobalt		7440-48-4	y	8.40E-05		9.882E-07	none	9.88E-07	4.33E-06
						Copper		7440-50-8		8.50E-04		1.000E-05	none	1.00E-05	4.38E-05
						Manganese		7439-96-5	y	3.80E-04		4.471E-06	none	4.47E-06	1.96E-05
						Mercury		7439-97-6	y	2.60E-04		3.059E-06	none	3.06E-06	1.34E-05
						Molybdenum		7439-98-7		1.10E-03		1.294E-05	none	1.29E-05	5.67E-05
						Nickel		7440-02-0	y	2.10E-03		2.471E-05	none	2.47E-05	1.08E-04
						Selenium		7782-49-2	y	2.40E-05		2.824E-07	none	2.82E-07	1.24E-06
						Vanadium		7440-62-2		2.30E-03		2.706E-05	none	2.71E-05	1.19E-04
						Zinc		7440-66-6		2.90E-02		3.412E-04	none	3.41E-04	1.49E-03
						CO2				120,000		1411.7647	none	1411.765	6,183.53
						Methane				2.3		0.0271	none	0.0271	0.12
						N2O				2.2		0.0259	none	0.0259	0.11336
						GHG (mass)									6,183.761
						GHG (CO2e)									6,220.28

Natural Gas HHV (Btu/cf)
1,020

100yr GWP 40 CFR 98
Table A-1, Jan 1 2014

CO2	1
CH4	25
N2O	298

Natural gas HHV of 1,020 Btu/cf cited from AP-42 Section 1.4, July 1998.

Dichlorobenzene group CAS 25321-22-6 conservatively assumed as 100% 1,4-dichlorobenzene CAS 106-46-7.
HAPs updated per "Air Pollution Control Program Table of Hazardous Air Pollutants, Screening Model Action Levels, and Risk Assessment Levels" Revision 10, 5/3/2012

GRAIN

	Emission point	Description	Process: Hopper Truck %	Process: Straight Truck %	Process: Rail %	Process: Barge %	MHDR true (tons)	MHDR (tons)	Control Device	Capture Efficiency %	PM Removal Eff %	PM10 Removal Eff %	PM2.5 Removal Eff%	Hours per Year
Receiving	EP-1	Grain Receiving/dump pit	100%	0%			N/A	300	none	0%	0%	0%	0%	8760
Shipping			0%	0%			N/A		none	0%	0%	0%	0%	8760
	EP-5	Truck Loadout	100%		0%		N/A	300	none	0%	0%	0%	0%	8760
	EP-2	Grain Handling	Headhouse & Internal Handling (legs, belts, distributors, scale, etc.) - 30200530				N/A	300	enclosed	100%	95.0%	95.0%	95.0%	8760
	EP-3	Storage Bins (9)	Storage Bin Vents - 30200540				N/A	300	none	0%	0.0%	0.0%	0.0%	8760
	EP-4	Dryer	Grain Drying - Column Dryer - 30200527				N/A	300	sock filter	0%	0.0%	0.0%	0.0%	8760
Process Equipment														
	EP-6	Haul Roads (see Haul Roads tab)							none					

Emission point	PM Emission Factor (lb/ton)	PM10 Emission Factor (lb/ton)	PM2.5 Emission Factor (lb/ton)	Emission Factor SCC	Available PM lb/hr	Available PM10 lb/hr	Available PM2.5 lb/hr	PM Emissions (tpy)	PM10 Emissions (tpy)	PM2.5 Emissions (tpy)
EP-1	0.035	0.0078	0.0013	30200552	10.5	2.34	0.39	45.99	10.25	1.71
				30200552						
EP-5	0.0860	0.0290	0.0049	30200560	25.8	8.7	1.47	113.00	38.11	6.44
EP-2	0.0610	0.0340	0.0058	30200530	18.30000	10.20000	1.74000	4.01	2.23	0.38
EP-3	0.0250	0.0063	0.0011	30200540	7.50000	1.89000	0.33000	32.85	8.28	1.45
EP-4	0.2200	0.0550	0.0094	30200527	66.00000	16.50000	2.82000	289.08	72.27	12.35
EP-4 (NG)								0.10	0.39	0.39
EP-6								96.99	27.58	2.76
							Totals	582.019	159.109	25.475

	Composite PM10	Production Limit	
Grain	0.121087703	247,754.31	tons

Activity Description	MHDR (tons/hr)	(trips/hr)	Truck Types Hopper	Straight	type	type	We*	Wf*
hopper receiving	300.0	10.345	100%				11	40
straight receiving		0.000					0	0
shipping	300.0	10.345	100%				11	40
		0.000					0	0
		0.000					0	0
		0.000					0	0
		0.000					0	0
		0.000					0	0
		0.000					0	0

Truck Type	We (tons)	Wf (tons)
Hopper	11	40
Straight		
type		
type		

truck type row must sum to 100% per each activity

1=empty
2=full
3=both

Activities

Road Segment ID	1	2	3	4	5	6	7	8	9	10	11	12		
D one way (feet)	400													
D one way (miles)	0.076	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
hopper receiving	3													
straight receiving														
shipping	3													
0														
0														
0														
0														
0														
0														

W

hopper receiving	12.750	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
straight receiving	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
shipping	12.750	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
W	25.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Surface	Unpaved	Unpaved	Unpaved	Unpaved	Unpaved	Unpaved	Unpaved	Unpaved	Unpaved	Unpaved	Unpaved	Unpaved	Unpaved	Unpaved

MHDR'

E(PM2.5) (lbs/VMT):	0.28199	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
E(PM10) (lbs/VMT):	2.81992	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
E(PM30) (lbs/VMT):	9.91659	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Eext(PM2.5) (lbs/VMT):	0.20087	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Eext(PM10) (lbs/VMT):	2.00871	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Eext(PM30) (lbs/VMT):	7.06387	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
hopper receiving	1.567398	0	0	0	0	0	0	0	0	0	0	0	0	0
straight receiving	0	0	0	0	0	0	0	0	0	0	0	0	0	0
shipping	1.567398	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MHDR	3.134796	0	0	0	0	0	0	0	0	0	0	0	0	0

PTE (lb/hr)

PTE (tons/yr)

PTE PM2.5 (lb/hr)	0.883988	0	0	0	0	0	0	0	0	0	0	0	0	0
PTE PM10 (lb/hr)	8.839878	0	0	0	0	0	0	0	0	0	0	0	0	0
PTE PM30 (lb/hr)	31.08649	0	0	0	0	0	0	0	0	0	0	0	0	0
PTE PM2.5 (lb/hr) w/ rain	0.62969	0	0	0	0	0	0	0	0	0	0	0	0	0
PTE PM10 (lb/hr) w/ rain	6.296899	0	0	0	0	0	0	0	0	0	0	0	0	0
PTE PM30 (lb/hr) w/ rain	22.1438	0	0	0	0	0	0	0	0	0	0	0	0	0
PTE PM2.5 (tons/yr)	3.871866	0	0	0	0	0	0	0	0	0	0	0	0	0
PTE PM10 (tons/yr)	38.71866	0	0	0	0	0	0	0	0	0	0	0	0	0
PTE PM30 (tons/yr)	136.1588	0	0	0	0	0	0	0	0	0	0	0	0	0
PTE PM2.5 (tons/yr) w/ rain	2.758042	0	0	0	0	0	0	0	0	0	0	0	0	0
PTE PM10 (tons/yr) w/ rain	27.58042	0	0	0	0	0	0	0	0	0	0	0	0	0
PTE PM30 (tons/yr) w/ rain	96.98985	0	0	0	0	0	0	0	0	0	0	0	0	0

Totals

	PM	PM10	PM2.5
hopper receiving	11.0719	3.14845	0.314845
straight receiving	0	0	0
shipping	11.0719	3.14845	0.314845
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
Sum PTE (lb/hr)	22.1438	6.296899	0.62969
SUM PTE Grain (tpy)	96.98985	27.58042	2.758042
	0	0	0
	0	0	0
SUM PTE total (tpy)	96.98985	27.58042	2.758042

	Conrtol Efficiency %		
Haul Road BMP's	PM	PM10	PM2.5
No Control	0	0	0

Chemical surfactant will be applied to the unpaved haul roads

	Conrtol Efficiency %		
Haul Road BMP's	PM	PM10	PM2.5
No Control	0	0	0
Undocumented Watering	50	50	41.11111
Documented Watering	90	90	74

Haul Road/Unpaved Area/Vehicle Information														
Haul Road ID No.:	1	2	3	4	5	6	7	8	9	10	11	12	0	0
W (tons):	25.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
sL (g/m^2):	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
P:	105	105	105	105	105	105	105	105	105	105	105	105	105	105
N:	365	365	365	365	365	365	365	365	365	365	365	365	365	365
Haul Road - Mbr. Hourly VMT Rate and Emission Factor Calculations														
E($PM_{2.5}$)(lbs/VMT):	0.0160	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
E(PM_{10})(lbs/VMT):	0.0653	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
E(PM_{30}) (lbs/VMT):	0.3264	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Eext($PM_{2.5}$)(lbs/VMT):	0.0149	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Eext(PM_{10})(lbs/VMT):	0.0606	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Eext(PM_{30}) (lbs/VMT):	0.3029	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

E = k(sL)^0.91 * (W)^1.02 where:
E = particulate emission factor (having units matching the units of k)
k = particle size multiplier for particle size range and units of interest
sL = road surface silt loading (grams per square meter) (g/m^2)
W = average weight (tons) of the vehicles traveling the road

Table 13.2.1-1 PARTICLE SIZE MULTIPLIERS FOR PAVED ROAD EQUATION

Size Range	k (lb/VMT)
PM2.5	0.00054
PM10	0.0022
PM15	0.0027
PM30	0.011

Eext = [k(sL)^0.91 * (W)^1.02](1-P/(4N)) where:
k, sL, W and S are as defined above and
Eext = annual average emission factor in the same units as k
P = number of "wet" days with at least 0.01 inch of precipitation during the averaging period
N = number of days in the averaging period (365 for annual)

The equations retain the quality rating of A (D for PM2.5), if applied within the range of source conditions that were
Silt loading:

0.03-400 g/m^2

0.04-570 grains/square foot (ft^2)

Mean vehicle weight:

1.8-38 megagrams (Mg)

2.0-42 tons

Mean vehicle speed:

1-88 kilometers per hour (kph)

1-55 miles per hour (mph)

The upper 95% confidence levels of equation 1 for PM10 is best described with equations using an exponent of 1.14
E95% = k(sL)^1.14 * (W)^1.19

E95%($PM_{2.5}$)(lbs/VMT):	0.0284	0.0000	0.0000	0.0000	0.0000	0.0000
E95%(PM_{10})(lbs/VMT):	0.1157	0.0000	0.0000	0.0000	0.0000	0.0000

Haul Road Unit Emission Factor Haulers Information

Haul Road ID No.:		1	2	3	4	5	6	7	8	9	10	11	12	0	0
	W (tons):	25.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	s (%):	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3
	P (days):	105	105	105	105	105	105	105	105	105	105	105	105	105	105
E(PM2.5) (lbs/VMT):		0.2820	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
E(PM10) (lbs/VMT):		2.8199	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
E(PM30) (lbs/VMT):		9.9166	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Eext(PM2.5) (lbs/VMT):		0.2009	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Eext(PM10) (lbs/VMT):		2.0087	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Eext(PM30) (lbs/VMT):		7.0639	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

E = k (s/12)^a * (W/3)^b where:
E = size-specific emission factor (lb/VMT)
s = surface material silt content (%)
W = mean vehicle weight (tons)

Constants for Equation

	Constant		
Particle Size	k(lb/VMT)	a	b
PM2.5	0.15	0.9	0.45
PM10	1.5	0.9	0.45
PM30	4.9	0.7	0.45

Eext = E[(365-P)/365] where E is defined above and:
Eext = annual size-specific emission factor extrapolated for natural mitigation (lb/VMT)
P = number of days in a year with at least 0.01 inch of precipitation

SCC	LEVEL3	LEVEL4	CONTROL	Pmcon-EF	PM-EF	PM10-EF	PM2.5-EF	UNIT	MEASURE	MATERIAL	ACTION	NOTES	Dupcount	Dupreason
30200527	Feed and Grain Terminal Elevators	Grain Drying - Column Dryer - 30200527	UNCONTROLLED		2.20E-01	5.50E-02	9.40E-03	Lb	Tons	Grain	Processed	Weight of t	0	
30200528	Feed and Grain Terminal Elevators	Grain Drying - Rack Dryer - 30200528	UNCONTROLLED		3.00E+00	7.50E-01	1.30E-01	Lb	Tons	Grain	Processed	Weight of t	0	
30200528	Feed and Grain Terminal Elevators	Grain Drying - Rack Dryer w/ Screen- 30200528	SCREEN		4.70E-01	1.20E-01	2.00E-02	Lb	Tons	Grain	Processed	Weight of t	0	
30200530	Feed and Grain Terminal Elevators	Headhouse & Internal Handling (legs, belts, distributors, scale, etc.) - 30200530	UNCONTROLLED		6.10E-02	3.40E-02	5.80E-03	Lb	Tons	Grain	Processed	Weight of t	0	
30200537	Feed and Grain Terminal Elevators	Grain Cleaning - Internal Vibrating - 30200537	SINGLE CYCLONE		7.50E-02	1.90E-02	3.20E-03	Lb	Tons	Grain	Processed	Weight of t	0	
30200540	Feed and Grain Terminal Elevators	Storage Bin Vents - 30200540	UNCONTROLLED		2.50E-02	6.30E-03	1.10E-03	Lb	Tons	Grain	Processed	Based on ar	0	
30200551	Feed and Grain Terminal Elevators	Unloading (Receiving) from Straight Trucks - 30200551	UNCONTROLLED		1.80E-01	5.90E-02	1.00E-02	Lb	Tons	Grain	Processed	Weight of t	0	
30200552	Feed and Grain Terminal Elevators	Unloading (Receiving) from Hopper Trucks - 30200552	UNCONTROLLED		3.50E-02	7.80E-03	1.30E-03	Lb	Tons	Grain	Processed	Weight of t	0	
30200553	Feed and Grain Terminal Elevators	Unloading (Receiving) from Railcars - 30200553	UNCONTROLLED		3.20E-02	7.80E-03	1.30E-03	Lb	Tons	Grain	Processed	Weight of t	0	
30200555	Feed and Grain Terminal Elevators	Unloading (Receiving) from Ships - 30200555	UNCONTROLLED		1.50E-01	3.80E-02	5.00E-03	Lb	Tons	Grain	Processed		0	
30200556	Feed and Grain Terminal Elevators	Unloading (Receiving) from Barges - Continuous Barge Unloader - 30200556	UNCONTROLLED		2.90E-02	7.30E-03	1.90E-03	Lb	Tons	Grain	Processed		0	
30200557	Feed and Grain Terminal Elevators	Unloading (Receiving) from Barges - Marine Leg - 30200557	UNCONTROLLED		1.50E-01	3.80E-02	5.00E-03	Lb	Tons	Grain	Processed		0	
30200560	Feed and Grain Terminal Elevators	Loading (Shipping) into Trucks (unspecified type) - 30200560	UNCONTROLLED		8.60E-02	2.90E-02	4.90E-03	Lb	Tons	Grain	Processed	Weight of t	0	
30200563	Feed and Grain Terminal Elevators	Loading (Shipping) into Railcars - 30200563	UNCONTROLLED		2.70E-02	2.20E-03	3.70E-04	Lb	Tons	Grain	Processed	Weight of t	0	
30200564	Feed and Grain Terminal Elevators	Loading (Shipping) into Barges - 30200564	UNCONTROLLED		1.60E-02	4.00E-03	5.50E-04	Lb	Tons	Grain	Processed		0	
30200565	Feed and Grain Terminal Elevators	Loading (Shipping) into Ships - 30200565	UNCONTROLLED		4.80E-02	1.20E-02	2.20E-03	Lb	Tons	Grain	Processed		0	
30200708	Grain Millings	Barley Malting: Grain Receiving - 30200708	FABRIC FILTER		1.60E-02	1.60E-02		Lb	Tons	Grain	Processed	Weight of t	0	
30200709	Grain Millings	Barley Malting: Gas-fired Malt Kiln - 30200709	UNCONTROLLED	8.80E-02	1.90E-01	1.70E-01	7.50E-02	Lb	Tons	Grain	Processed	Condensible	0	
30200711	Grain Millings	Durum Milling: Grain Receiving - Straight truck - 30200711	UNCONTROLLED		1.80E-01	5.90E-02		Lb	Tons	Grain	Received	Weight of t	3	Grain receiving - Straight
30200711	Grain Millings	Durum Milling: Grain Receiving - Hopper Truck - 30200711	UNCONTROLLED		3.50E-02	7.80E-03		Lb	Tons	Grain	Received	Weight of t	3	Grain receiving - Hopper
30200711	Grain Millings	Durum Milling: Grain Receiving - Railcar - 30200711	UNCONTROLLED		3.20E-02	7.80E-03		Lb	Tons	Grain	Received	Weight of t	3	Grain receiving - Railcar
30200721	Grain Millings	Rye: Grain Receiving - Straight truck - 30200721	UNCONTROLLED		1.80E-01	5.90E-02		Lb	Tons	Grain	Received	Weight of t	3	Grain receiving - Straight
30200721	Grain Millings	Rye: Grain Receiving - Hopper truck - 30200721	UNCONTROLLED		3.50E-02	7.80E-03		Lb	Tons	Grain	Received	Weight of t	3	Grain receiving - Hopper
30200721	Grain Millings	Rye: Grain Receiving - Railcar - 30200721	UNCONTROLLED		3.20E-02	7.80E-03		Lb	Tons	Grain	Received	Weight of t	3	Grain receiving - Railcar
30200722	Grain Millings	Rye: Precleaning/Handling - 30200722	UNCONTROLLED		6.10E-02	3.40E-02		Lb	Tons	Grain	Processed	Weight of P	0	
30200731	Grain Millings	Wheat: Grain Receiving - Straight truck - 30200731	UNCONTROLLED		1.80E-01	5.90E-02		Lb	Tons	Grain	Received	Weight of t	3	Grain receiving - Straight
30200731	Grain Millings	Wheat: Grain Receiving - 30200731	UNCONTROLLED		3.50E-02	7.80E-03		Lb	Tons	Grain	Received	Weight of t	3	Grain receiving - Hopper
30200731	Grain Millings	Wheat: Grain Receiving - 30200731	UNCONTROLLED		3.20E-02	7.80E-03		Lb	Tons	Grain	Received	Weight of t	3	Grain receiving - Railcar
30200732	Grain Millings	Wheat: Precleaning/Handling - 30200732	UNCONTROLLED		6.10E-02	3.40E-02		Lb	Tons	Grain	Processed	Weight of P	0	
30200733	Grain Millings	Wheat: Cleaning House - 30200733	SINGLE CYCLONE		1.20E-02	6.00E-03		Lb	Tons	Grain	Processed	Weight of t	0	
30200734	Grain Millings	Wheat: Millhouse - 30200734	UNCONTROLLED		7.00E+01	3.50E+01		Lb	Tons	Grain	Processed	Weight of t	0	
30200741	Grain Millings	Dry Corn Milling: Grain Receiving - Straight truck - 30200741	UNCONTROLLED		1.80E-01	5.90E-02		Lb	Tons	Grain	Received	Weight of t	3	Grain receiving - Straight
30200741	Grain Millings	Dry Corn Milling: Grain Receiving - Hopper truck - 30200741	UNCONTROLLED		3.50E-02	7.80E-03		Lb	Tons	Grain	Received	Weight of t	3	Grain receiving - Hopper
30200741	Grain Millings	Dry Corn Milling: Grain Receiving - Railcar - 30200741	UNCONTROLLED		3.20E-02	7.80E-03		Lb	Tons	Grain	Received	Weight of t	3	Grain receiving - Railcar
30200742	Grain Millings	Dry Corn Milling: Grain Drying - 30200742	UNCONTROLLED		2.20E-01	5.50E-02		Lb	Tons	Grain	Processed	Weight of t	2	Column dryer
30200742	Grain Millings	Dry Corn Milling: Grain Drying - 30200742	UNCONTROLLED		3.00E+00	7.50E-01		Lb	Tons	Grain	Processed	Weight of t	2	Rack dryer
30200742	Grain Millings	Dry Corn Milling: Grain Drying - 30200742	SCREEN		4.70E-01	1.20E-01		Lb	Tons	Grain	Processed	Weight of t	0	
30200743	Grain Millings	Dry Corn Milling: Precleaning/Handling - 30200743	UNCONTROLLED		6.10E-02	3.40E-02		Lb	Tons	Grain	Processed		0	
30200744	Grain Millings	Dry Corn Milling: Cleaning House - 30200744	SINGLE CYCLONE		7.50E-02	1.90E-02		Lb	Tons	Grain	Processed		0	
30200760	Grain Millings	Oat: General - Straight truck - 30200760	UNCONTROLLED		1.80E-01	5.90E-02		Lb	Tons	Grain	Received	Weight of t	3	Grain receiving - Straight
30200760	Grain Millings	Oat: General - Hopper truck - 30200760	UNCONTROLLED		3.50E-02	7.80E-03		Lb	Tons	Grain	Received	Weight of t	3	Grain receiving - Hopper
30200760	Grain Millings	Oat: General - Railcar - 30200760	UNCONTROLLED		3.20E-02	7.80E-03		Lb	Tons	Grain	Received	Weight of t	3	Grain receiving - Railcar
30200760	Grain Millings	Oat: General - 30200760	SINGLE CYCLONE		7.50E-02	1.90E-02		Lb	Tons	Grain	Received	Weight of t	0	
30200773	Grain Millings	Rice: Drying - 30200773	UNCONTROLLED		6.30E-02	3.12E-02		Lb	Tons	Grain	Processed	Weight of t	0	
30200775	Grain Millings	Rice: Paddy Cleaning - 30200775	FABRIC FILTER		3.10E-03	3.10E-03		Lb	Tons	Grain	Processed	Weight of t	0	
30200776	Grain Millings	Rice: Mill House - 30200776	FABRIC FILTER		2.70E-01	2.70E-01		Lb	Tons	Grain	Processed	Weight of t	0	
30200777	Grain Millings	Rice: Aspirator - 30200777	FABRIC FILTER		3.00E-03	3.00E-03		Lb	Tons	Grain	Processed	Weight of t	0	
30200778	Grain Millings	Rice: Cleaning/Millhouse - 30200778	FABRIC FILTER		1.70E-02	1.70E-02		Lb	Tons	Grain	Processed	Weight of t	0	
30200802	Feed Manufacture	Feed Manufacture - Receiving - 30200802	UNCONTROLLED		1.70E-02	2.50E-03		Lb	Tons	Grain	Received	Weight of t	0	
30200803	Feed Manufacture	Feed Manufacture - Shipping - 30200803	UNCONTROLLED		3.30E-03	8.00E-04		Lb	Tons	Grain	Processed	Weight of t	0	
30200807	Feed Manufacture	Feed Manufacture - Grain Cleaning - 30200807	SINGLE CYCLONE		7.50E-02	1.90E-02		Lb	Tons	Grain	Processed	Weight of t	0	
30200816	Feed Manufacture	Feed Manufacture - Pellet Cooler - 30200816 (Cyclone)	SINGLE CYCLONE	5.90E-02	3.60E-01	1.80E-01		Lb	Tons	Grain	Processed	Condensible	0	
30200816	Feed Manufacture	Feed Manufacture - Pellet Cooler - 30200816 (HE Cyclone)	CENTRIFUGAL COLLECTOR (CYCLON		1.50E-01	7.50E-02		Lb	Tons	Grain	Processed	Weight of t	0	
30200817	Feed Manufacture	Feed Manufacture - Hammermill - 30200817 (Cyclone)	SINGLE CYCLONE		6.70E-02	3.40E-02	5.78E-03	Lb	Tons	Grain	Processed	Weight of t	0	
30200817	Feed Manufacture	Feed Manufacture - Hammermill - 30200817 (Baghouse)	BAGHOUSE		1.20E-02	1.20E-02	2.04E-03	Lb	Tons	Grain	Processed	Weight of t	0	
30200818	Feed Manufacture	Feed Manufacture - Flaker - 30200818	SINGLE CYCLONE		1.50E-01	7.50E-02	1.28E-02	Lb	Tons	Grain	Processed	Weight of t	0	
30200819	Feed Manufacture	Feed Manufacture - Grain Cracker - 30200819	SINGLE CYCLONE		2.40E-02	1.20E-02	2.04E-03	Lb	Tons	Grain	Processed	Weight of t	0	
		Feed Manufacture - Hammermill - 30200817 (Uncontrolled)	UNCONTROLLED		1.34E+00	6.80E-01	2.89E-02	Lb	Tons					
		Feed Manufacture - Flaker - 30200818 (Uncontrolled)	UNCONTROLLED		3.00E+00	1.50E+00	9.88E-02	Lb	Tons					
		Feed Manufacture - Grain Cracker - 30200819 (Uncontrolled)	UNCONTROLLED		4.80E+00	2.40E+00	1.02E-02	Lb	Tons					

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Commodity	Weight per bushel (lb)
Alfalfa	60
Barley	48
Clover, Alsike	60
Clover, Crimson	60
Clover, Ladino	60
Clover, White	60
Clover, Red	60
Clover Sweet	60
Corn, shelled	56
Corn, ear	70
Cotton	32
Cowpeas	60
Flax	60
Grass, Brome (smooth)	14
Grass, Blue	14
Grass, Fescue (tall)	14
Grass, Orchard	14
Grass, Redtop	14
Grass, Timothy	45
Lespedeza	40-50
Millet	50
Oats	32
Rapeseed	60
Rye	56
Sorghum, forage	50
Sorghum, grain	56
Soybeans	60
Sudan grass	28
Sunflower (oil type)	24-32
Trefoil, Birdsfoot	60
Vetch	60
Wheat	60

Commodity	Weight per bushel
Apples	48 lbs.
Lima Beans (unshelled)	30 lbs.
Pole Beans	28 lbs.
Snap Beans	30 lbs.
Shelled Corn	56 lbs.
Corn (in ear)	70 lbs.
Cowpeas	60 lbs.
Cucumbers	48 lbs.
Eggplant	33 lbs.
English Peas (in hull)	30 lbs.
Muscadines	50 lbs.
Okra	26 lbs.
Mustard Greens	18 lbs.
Onions	57 lbs.
Peaches	50 lbs.
Field Peas	25 lbs.
Sweet Potatoes (green)	55 lbs.
Sweet Potatoes (dry)	50 lbs.
Spinach	20 lbs.
Tomatoes	53 lbs.
Turnips (without tops)	54 lbs.
Turnip Greens (dry)	16 lbs.
Turnip Greens (wet)	18 lbs.

Missouri Department of NATURAL RESOURCES
dnr.mo.gov
Eric R. Greitens, Governor
Carol S. Comer, Director

MAY 2 2 2018

Mr. Steven McBee
Managing Member
McBee Farms Grain Storage Facility
520 North Mo Hwy 7
Independence, MO 64056

RE: New Source Review Permit - Project Number: 2018-03-023

Dear Mr. McBee:

Enclosed with this letter is your permit to construct. Please study it carefully and refer to Appendix A for a list of common abbreviations and acronyms used in the permit. Also, note the special conditions on the accompanying pages. The document entitled, "Review of Application for Authority to Construct," is part of the permit and should be kept with this permit in your files. Operation in accordance with these conditions, your new source review permit application and with your amended operating permit is necessary for continued compliance. The reverse side of your permit certificate has important information concerning standard permit conditions and your rights and obligations under the laws and regulations of the State of Missouri.

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

If you were adversely affected by this permit decision, you may be entitled to pursue an appeal before the administrative hearing commission pursuant to Sections 621.250 and 643.075.6 RSMo. To appeal, you must file a petition with the administrative hearing commission within thirty days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed; if it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the administrative hearing commission, whose contact information is: Administrative Hearing Commission, United States Post Office Building, 131 West High Street, Third Floor, P.O. Box 1557, Jefferson City, Missouri 65102, phone: 573-751-2422, fax: 573-751-5018, website: www.oa.mo.gov/ahc.

If you have any questions regarding this permit, please do not hesitate to contact Jordan Hull, at the Department of Natural Resources' Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102 or at (573) 751-4817. Thank you for your attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Susan Heckenkamp
New Source Review Unit Chief

SH:jhj

Enclosures

c: Kansas City Regional Office
PAMS File: 2018-03-023

Permit Number: 052018-007