



NON-TITLE V  
TECHNICAL SUPPORT DOCUMENT

**PERMIT NUMBER:** 150055  
**BUSINESS NAME:** Vulcan Asphalt LLC  
**SOURCE TYPE:** Asphaltic Concrete Plants with screening.  
**PERMIT ENGINEER:** Ralph Munoz

<b>App. ID(s):</b>	407620
<b>Revision(s):</b>	0.0.0.0
<b>Revision Type(s):</b>	New
<b>Date Prepared:</b>	07/23/2015

**BACT:** No      **MACT:** No      **NSPS:** Yes      **SYNTH MINOR:** Yes      **AIRS:** Yes  
**DUST PLAN REQUIRED:** Yes      **DUST PLAN RECEIVED:** Yes  
**O&M PLAN REQUIRED:** Yes      **O&M PLAN RECEIVED:** Yes  
**PORTABLE SOURCE:** No

**PROCESS DESCRIPTION:**

Sand and Gravel products are purchased and loaded directly to feeder bins by conveyor belts, or are brought by truck or loader and placed in the feeder bin. Products may be all virgin materials, or recycled asphalt product (RAP) can also be mixed with virgin materials. The products are transported to the Hot Mix Asphalt plant (HMA) described below, where they are dried in a large rotating heated drum, then mixed with liquid asphalt cement and supplement to produce asphalt that is used as paving materials for roads. The drum and liquid cement are heated using natural gas. HMA may be stored in silos until loaded into trucks for delivery to customers. The overall throughput of the HMA plant is limited by the amount of material that can be processed by the drum dryer.

**Hot mix asphalt (HMA)** paving materials are a mixture of size-graded, high quality aggregate (which can include reclaimed asphalt pavement [RAP]), and liquid asphalt cement, which is heated and mixed in measured quantities to produce HMA. Emissions from HMA plants include fugitive dust emissions from pave and unpaved roads, and the most significant source of emissions which comes from the asphalt drum dryer. The asphalt drum dryer has emissions of CO, NO<sub>x</sub>, VOC, PM(including PM10 and PM2.5), SO<sub>x</sub> and some Hazardous Air Pollutants (HAPs). Vulcan intends to use used oil to fire the Drum Dryer and liquid cement is heated using Diesel fuel. No alternative fuel will be placed in the permit.

**PERMIT HISTORY:**

Date Received	Revision Number	Description
05/08/2015	0.0.0.0	Submitted application for new permit

**PURPOSE FOR APPLICATION:**

Vulcan Submitted a new permit application for a Hot mix asphalt plant. This HMA plant (referred to as 19<sup>th</sup> Ave Plant) has been permitted as part of the larger CEMEX facility which included crushing, screening, ready-mix concrete, and a second HMA plant referred to as Gomez [Permit Number 970348]. Vulcan has acquired the Gomez HMA plant as well and submitted an application for that operation under Permit Number 150055.

**A. APPLICABLE COUNTY REGULATIONS:**

- Rule 100: General Provisions and Definitions
- Rule 200: Permit Requirements
- Rule 220: Non-Title V Permit Provisions
- Rule 270: Performance Tests
- Rule 280: Fees: Table F – Hot Mix Asphalt Plant
- Rule 300: Visible Emissions

Rule 316: Nonmetallic Mineral Processing

**B. FEDERAL REGULATIONS:**

**40 CFR 60 Subpart I – Standards of Performance for Asphaltic Concrete Plants**

Vulcan Asphalt is subject to the requirements of this subpart for the manufacturing of Asphalt.

**40 CFR 60 Subpart OOO—Standards of Performance for Nonmetallic Mineral Processing Plants**

This subpart is not currently applicable to the Vulcan Asphalt facility as per §60.670(a) and (c) since there are no crushing operations with rated capacity >25 tons per hour. (non portable).

**A.R.S. 49-426.06 Applicability**

A.R.S. 49-426.03 and 49-426.06 pertain to federal and state hazardous air pollutant programs and are applicable to major sources of HAPs. Vulcan Asphalt is not a major source for HAPs and is therefore not subject to this A.R.S.

**40 CFR Part 279 Standards for the Management of Used Oil**

Vulcan Asphalt is not subject to some of the used oil management practices of this subpart since the Drum Dryer is fired with natural gas.

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**BACT:**

Sources exceeding the thresholds of Rule 241-Permits for New Sources and Modifications to Existing sources, must demonstrate the use of Best Available Control Technology (BACT).

Vulcan has taken a limit on material throughput using performance testing data on the Drum Dryer to avoid triggering BACT for NOx and CO.

**C. AIR POLLUTION CONTROL EQUIPMENT/EMISSION CONTROL SYSTEM(s):**

System description	Quantity	Comments:
Spray Bars		For control of fugitive dust from HMA and Screening; Dust Control Plan submitted with application.
Baghouse – GENCOR installed 1989 – 50000 CFM.		O &M Plan submitted with application

**D. EMISSIONS:**

**Major Source Determination**

According to Rule 100 Section 200.60(c), the fugitive emissions of a stationary source shall not be considered in determining whether it is a major stationary source unless the source belongs to one of the listed source categories shown in Rule 100 Section 200.60(c) or if the source is being regulated by NSPS promulgated as of August 7, 1980. The facility is subject to one NSPS: The HMA plant (Subpart I) applicability is explained above; Subpart I was in effect prior to August 7, 1980. Therefore, fugitive emissions from the HMA plant will be evaluated to determine if the source is considered a major source.

Fugitive emissions from the HMA plant loadout and silo filling, loader dumping, paved and unpaved haul roads, were quantified using AP-42 emission factors and formulas and the proposed throughputs given within the permit application.

**Hot Mix Asphalt Plant(s):**

**Process Emissions/Drum Dryer (Products of Combustion/HAPs):**

The material processing rates of the facility while burning fuel oil were taken from the permit application:

**400 tons of Hot Mix Asphalt /hour**

**8.5 hours/day**

**3,400 tons of Hot Mix Asphalt/day**

**1,140,000 tons/year**

Emission Factors for the Drum Dryers were taken from Performance testing Data conducted March 30<sup>th</sup> 2010 burning natural gas.

NOx: 0.0399 lbs/ton of asphaltic concrete produced

PM: 0.0051 lbs/ton of asphaltic concrete produced

PM10: 0.0051 lbs/ton of asphaltic concrete produced

CO: 0.0710 lbs/ton of asphaltic concrete produced

SOx: 0.0326 lbs/ton of asphaltic concrete produced

Current county policy is to place these emission factors into the permit if the source is close to exceeding an application threshold (such as Title V or rule 241 BACT) in order to verify accuracy. The source took a limit on material throughput using the performance testing data to avoid triggering BACT for SOx and NOx

Fugitive Emissions/Load Out and Silo Filling Operations(PM10/PM/VOC/CO/HAPs):

Fugitive emissions from truck load-out and silo filling operations were estimated using AP-42 Chapter Section 11.1. The Hot Mix Asphalt material was reported to be heated to a temperature around 325 degrees F and has an initial maximum moisture content of 5%. Using this information, the following equation were used to calculate load-out:

$$PM10 EF = 0.000181 + 0.00141(-V)e^{((0.0251)(T+460)-20.43)}$$

$$VOC EF = 0.0172(-V)e^{((0.0251)(T+460)-20.43)}$$

$$CO EF = 0.00558(-V)e^{((0.0251)(T+460)-20.43)}$$

And silo filling operations:

$$PM10 EF = 0.000332 + 0.00105(-V)e^{((0.0251)(T+460)-20.43)}$$

$$VOC EF = 0.0504(-V)e^{((0.0251)(T+460)-20.43)}$$

$$CO EF = 0.00488(-V)e^{((0.0251)(T+460)-20.43)}$$

Where;

V = Asphalt Volatility, as determined by ASTM Method D2872-88. Site Specific Asphalt Volatility was not known; therefore, a default value of -0.5 was used.

T = HMA mix temperature in F. Site Specific Temperature was estimated to be 325 degrees F.

Vapors from the HMA loaded into transport trucks continue following load-out operations. The VOC emissions for the 8-minute period immediately following load-out were estimated using an emission factor of 0.0011 lb/ton of asphalt loaded. This emissions factor is from AP -42 Chapter 11.1-9. Carbon monoxide emissions can be estimated by multiplying the TOC emissions by 0.32 (the ratio of truck load-out CO emissions to truck load-out THC emissions).

HAP emissions from loadout and silo filling operations were estimated using EPA AP-42 Chapter 11.1 Tables 11.1-15 and 11.1-16.

Unpaved Roads/Dust from HMA

Fugitive emissions from Unpaved roads were based on emission factors from AP-42 Chapter 11.19.2 and Maricopa County Air Quality Department help sheet for vehicle on unpaved roads. Emission factors are uncontrolled; therefore, a control efficiency of 70% is typical based on Implementation of Rule 316 requirements. The Site is paved, however, there are some unpaved vehicle miles traveled for the transportation of RAP.

[http://www.maricopa.gov/qa/divisions/planning\\_analysis/docs/Instructions/VMt.pdf](http://www.maricopa.gov/qa/divisions/planning_analysis/docs/Instructions/VMt.pdf)

It was assumed vehicles travel 10 mph or less and that the roads are watered for dust control ; therefore the following emission factors were used:

Fugitive Emissions From Vehicle Traffic	Vehicle Miles Travelled	EF (lb/VMT)	Control Efficiency	Emissions (tons/yr)
Light Duty Vehicles @15 mph	0 VMT/yr	0.44	90%	0.0
Medium Duty Vehicles @15 mph	0 VMT/yr	0.86	90%	0.0
Heavy Duty Vehicles @15 mph	21,952 VMT/yr	3.2	90%	3.5

These emissions were included in the total facility wide PTE to determine major source status since they are from the Asphalt plant operations.

Scalping Screens and conveyor emissions were calculated using the Emission Inventory helpsheet for sand and gravel operations:

[http://www.maricopa.gov/qa/divisions/planning\\_analysis/docs/Instructions/SandAndGravel.pdf](http://www.maricopa.gov/qa/divisions/planning_analysis/docs/Instructions/SandAndGravel.pdf)

See calculation sheet for details.

Asphalt storage tanks:

Vapor Pressure from asphalt storage tanks can be found using Antoin's Equation in the following form:

A = 75,350.06

B = 9.00346

These values should be inserted into the Antoine's equation in the following form:

$$\log_{10} P = \frac{-0.05223A}{T} + B$$

where:

P = vapor pressure, mm Hg

T = absolute temperature 435.9 Kelvin

A = 75,350.06

B = 9.00346

Solving for P in the above , P = 0.9439 mm Hg (0.01825200095038 psia)

According to MCAQD Appendix D Insignificant Activities, an activity that handles no more than 12,000 gallons of a liquid with a vapor pressure less than 1.5 psia is considered Insignificant. The Vapor pressure of Asphalt storage tanks is much less than the 1.5 psia outlined in Appendix D and is therefore not included at this time. If the source comes close to a significant threshold for VOC, the emissions from the asphalt storage tanks may be used in the future to determine the sources status.

Hot Oil Heater:

The two Hot Oil/Asphalt heaters both have a rating of 2.198 MMbtu/hr.

The Asphalt heater was assumed to run 24 hrs/day and 8760 hours per year for conservative emission calculation purposes.

Emission factors were taken from EPA AP-42 Chapter 1.3 table 1.3-1 and 1.3-3 since the heater uses diesel or on-spec used oil.

<b>Emission Summary</b>									
		<b>Emission (tons/year)</b>							
		<b>CO</b>	<b>NOx</b>	<b>SOx</b>	<b>PM2.5</b>	<b>PM10</b>	<b>PM</b>	<b>VOC</b>	<b>HAPS</b>
Drum Mix		40.47	22.74	18.58	2.91	2.91	2.91	1.37	5.97
Loadout & Silo Filling		2.07			0.63	0.63	0.63	9.52	0.18
Screen & Conveyor					0.92226	0.92226	2.7		
Heater		0.70	2.81	1.00	0.28	0.28	0.28	0.08	
Total Daily Emission (lbs/day)									
Total Annual Emission (tons/year)		<b>43.25</b>	<b>25.55</b>	<b>19.58</b>	<b>4.74</b>	<b>4.74</b>	<b>6.57</b>	<b>10.96</b>	<b>6.15</b>
Fugitive from stockpile & road					3.58	3.58	3.58		

  

		<b>Emission (lbs/day)</b>							
		<b>CO</b>	<b>NOx</b>	<b>SOx</b>	<b>PM2.5</b>	<b>PM10</b>	<b>PM</b>	<b>VOC</b>	<b>HAPS</b>
Drum Mix		241	136	111	17	17	17	8	36
Loadout & Silo Filling		10			3	3	3	50	1
Screen & Conveyor					6	6	16		
Heater		4	16	6	2	2	2	1	
Total Daily Emission (lbs/day)									
Total Annual Emission (tons/year)		<b>255.58</b>	<b>151.66</b>	<b>116.84</b>	<b>27.94</b>	<b>27.94</b>	<b>38.83</b>	<b>58.67</b>	<b>36.48</b>

**E. HAP EMISSION IMPACTS:**

Based on the material throughput for the HMA plants, HAP emissions were calculated using AP-42 Chapter 11.1 table 10 and 11 emission factors. Hourly concentrations were found using BREEZE AERMOD and information about stack's in previous permit applications

- Asphalt dryers stacks dimensions were assumed to be the same as Mesa Material permit #990621.

**Asphalt Plant**

Pollutant	Emission Rate (lb/hr)	Concentration (µg/m <sup>3</sup> )		Ambient Air Concentration (µg/m <sup>3</sup> )	
		1-Hour	Annual	Acute	Chronic
Acetaldehyde	0.128	5.63E-01	4.50E-02	3.06E+05	8.62E-01
Benzene	0.112	4.92E-01	3.94E-02	1.28E+06	2.43E-01
Formaldehyde	0.296	1.30E+00	1.04E-01	1.70E+04	1.46E-01
Xylenes	1.08	4.75E+00	3.80E-01	1.74E+06	1.04E+03
Napthalene	1.44E-02	6.33E-02	5.06E-03	7.50E+04	5.58E-02
Arsenic	2.24E-04	9.85E-04	7.88E-05	2.50E+03	4.41E-04
Beryllium	6.00E-05	2.64E-04	2.11E-05	1.30E+01	7.90E-04
Cadmium	2.44E-04	1.07E-03	8.58E-05	2.50E+02	1.05E-03
Hex-Chromium	1.92E-05	8.44E-05	6.75E-06	1.00E+02	1.58E-04
Manganese	2.76E-03	1.21E-02	9.71E-04	2.50E+03	5.21E-02
Nickel	1.20E-03	5.28E-03	4.22E-04	5.00E+03	7.90E-03

The annual concentrations of Formaldehyde, Napthalene and Nickel are all below the Ambient Air Concentrations. (the highest emissions)

**F. PERFORMANCE TESTING:**

Performance Testing was conducted on the HMA drum dryer baghouse exhaust in 2010. The results are outlined below:

HMA Plant (Gomez):

Pollutant	Run 1 TPH = 178.8	Run 2 TPH = 184.9	Run 3 TPH = 179	Average / TPH
CO	11.766 lbs/hr	10.438 lbs/hr	9.891 lbs/hr	0.059 lbs/ton
NOx	5.446 lbs/hr	6.157 lbs/hr	6.456 lbs/hr	0.033 lbs/ton
SOx	5.744 lbs/hr	4.820 lbs/hr	4.183 lbs/hr	0.027 lbs/ton
PM/PM10	0.4644 lbs/hr	0.9427 lbs/hr	0.9091 lbs/hr	0.00425 lbs/ton
VOC	0.427 lbs/hr	0.393 lbs/hr	0.248 lbs/hr	0.002 lbs/ton

None of the runs were Invalidated for this HMA plan, therefore all the averages were used for emission calculation purposes. The source requested a 20% buffer on these emission factors to allow for operational flexibility during performance testing.

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The permit will require performance testing every 5 years for all pollutants. However; the source is approaching significant thresholds such as Rule 241 BACT / Title V for NOx and SOx therefore this permit will increase the testing requirements for NOx and SOx to annually. These pollutants need to be verified on a more regular basis than every 5 years.

MCAQD has written a policy which allows sources to do additional monitoring instead of annual testing mentioned above. For NOx/CO, Vulcan has chosen to conduct semi annual burner tune-ups and optimizations and monitor CO and NOx once per quarter with a handheld or continuous analyzer. In order to get out of annual testing for SOx, the source has proposed to also monitor for SOx with a hand held combustion device. See specs below

These requirements were voluntarily accepted monitoring requirements and will be placed in the permit as an alternative to the annual testing requirements.



Vulcan Materials  
Testo 350 quote 831



350 Literature -  
2013.pdf



Testo 350 Trade-In  
2015 Brochure.pdf

Non-compliance with the alternative compliance methods does not solely mean the source goes back to annual testing. It is the discretion of the control officer to determine if the change in methodology is warranted or if a violation has occurred.

**G. REGULATORY REQUIREMENTS AND MONITORING:**

Fugitive Emissions from paved/unpaved roads were calculated from the HMA Plants. With this modification, PM emissions from all sources have been calculated and included in the total site wide emission limitations. Fugitive emissions are only counted for Categorical sources (see MCAQD Rule 100). Vehicle miles traveled were estimated based off the material throughput limits for the two HMA plants and is considered the most accurate for what is projected of the site.

The HMA plant alternative compliance policy was used in lieu of annual testing requirements for NOx with this permit. Both options were placed in the permit for operational flexibility.

The template for Rule 316 Sources not subject to 40 CFR 60 Subpart OOO.

<b>Asphalt Dryer - Batch Mix with a Baghouse</b>						
<b>Fuel = Used oil</b>						
<b>Company:</b>						
<b>Permit:</b>						
<b>Asphalt Drum Dryer - Used Oil Fired Performance Testing Data</b>						
Daily operating days are used to determined the maximum allowable daily throughout of asphalt						
<b>Asphalt Throughput</b>	1,140,000	tons/yr				
<b>Rated Capacity</b>	3,400	tons/day				
	400	tons/hr				
<b>Operating Schedule</b>						
Hours per Day	8.5	hrs/day				
Days per Year	365	days/yr				
	Asphalt Throughput	Emission Factors		Emissions		AP-42
				tons/yr	lbs/day	
<b>CO</b>	1,140,000 tons/yr	0.071	lbs/ton	40.47	241	0.400
<b>NOx</b>	1,140,000 tons/yr	0.040	lbs/ton	22.74	136	0.120
<b>VOC</b>	1,140,000 tons/yr	0.0024	lbs/ton	1.37	8	0.036
<b>SOx</b>	1,140,000 tons/yr	0.033	lbs/ton	18.58	111	0.088
<b>PM10</b>	1,140,000 tons/yr	0.005	lbs/ton	2.91	17	0.027
<b>PM</b>	1,140,000 tons/yr	0.005	lbs/ton	2.91	17	0.042

### Asphalt Loadout and Silo Filling

AP-42, Table 11.1-14. Predictive Emission Factor Equations for Load-out and Silo Filling Operations

<b>Asphalt Throughput</b>	1,140,000	tons/yr
<b>Rated Capacity</b>	3,400	tons/day
	400	tons/hr
<b>Operating Schedule</b>		
Hours per Day	7	hrs/day
Days per Year	365	days/yr
Asphalt Volatility	-0.5	
HMA Mix Temperature	325	°F

(Use default if source-specific data is not available)  
 (Use default if source-specific data is not available)

Source	Pollutant	Equation	Emission Factor	Emissions		
			lbs/ton	lbs/hr	lbs/day	lbs/year
Drum mix or batch mix plant	PM/PM10	$EF = 0.000181 + 0.00141 (-V)e^{((0.0251)(T+460)-20.43)}$	0.000522	<b>0.2088</b>	1.5	595
load-out	VOC	$EF = 0.0172(-V)e^{((0.0251)(T+460)-20.43)}$	0.004159	<b>1.6636</b>	11.6	4741
(SCC 3-05-002-14)	CO	$EF = 0.00558(-V)e^{((0.0251)(T+460)-20.43)}$	0.001349	<b>0.5396</b>	3.8	1538
Silo filling	PM/PM10	$EF = 0.000332 + 0.00105 (-V)e^{((0.0251)(T+460)-20.43)}$	0.000586	<b>0.2344</b>	1.6	668
(SCC 3-05-002-13)	VOC	$EF = 0.0504(-V)e^{((0.0251)(T+460)-20.43)}$	0.012187	<b>4.8748</b>	34.1	13893
	CO	$EF = 0.00488(-V)e^{((0.0251)(T+460)-20.43)}$	0.00118	<b>0.472</b>	3.3	1345
Transport truck emissions following load-out	VOC		0.0011	<b>0.44</b>	3.7	1,254
	CO		0.000352	<b>0.1408</b>	1.2	401
Total	PM/PM10			<b>0.4432</b>	<b>3.1024</b>	<b>1263.12</b>
	VOC			<b>6.9784</b>	<b>49.5</b>	<b>19036</b>
	CO			<b>1.1524</b>	<b>10.2</b>	<b>4146</b>

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## Diesel Hot Oil Heater Calculation Worksheet (Small Boiler < 100 MMBtu/hr)

**Company:** \_\_\_\_\_

**Permit:** \_\_\_\_\_

Input rating of equipment, Btu/hr

1)	2,198,000	Btu/hr	CEMENT HEATER
2)	2,198,000		
3)			
4)			
5)			
Totals	4,396,000	Btu/hr	

### **Emission factors (AP-42 Chapter 1.3: Fuel Oil Combustion )**

Table 1.3-1: Criteria Pollutant Emission Factors For Distillate Oil Combustion

Table 1.3-3: Emission Factors For Total Organic Compounds

Assumes the use of #2 diesel fuel.

CO:	5 lb/10 <sup>3</sup> gal	<u>Constants</u>
NOx:	20 lb/10 <sup>3</sup> gal	0.001 ft <sup>3</sup> /Btu for Natural Gas
SOx	7.1 lb/10 <sup>3</sup> gal	24 hr/day
PM10:	2 lb/10 <sup>3</sup> gal	365 day/yr
VOC:	0.556 lb/10 <sup>3</sup> gal	137,000 BTU/gallon of diesel fuel

Emissions

	<u>Daily Emissions<sup>a</sup></u>	<u>Annual Emissions<sup>b</sup></u>
CO:	4.0 lbs/day	1,405 lbs/yr
NOx:	16.0 lbs/day	5,622 lbs/yr
SOx	6.0 lbs/day	1,996 lbs/yr
PM10:	2.0 lbs/day	562 lbs/yr
VOC:	1.0 lbs/day	156 lbs/yr

**Emission from Scalping Screen and Conveyors (Optional)**

<b>Capacity:</b>	400	tons/hour
	3,400	tons/day
	1,140,000	tons/year

	Material Throughput	# of Units	Emission Factors	Emissions (lbs/hr)	Emissions (lbs/day)	Emissions (lbs/yr)
			PM-10	PM-10	PM-10	PM-10
Screening with watering <sup>1</sup>	1,140,000 tons/yr	2	0.00074	0.59	5.03	1687
Conveyors <sup>1,2</sup>	1,140,000 tons/yr	3	0.000046	0.06	0.47	157
<b>Total:</b>				0.6	5.5	1,845

	Material Throughput	# of Units	Emission Factors	Emissions (lbs/hr)	Emissions (lbs/day)	Emissions (lbs/yr)
			PM	PM	PM	PM
Screening with watering <sup>1</sup>	1,140,000 tons/yr	2	0.00220	1.76	14.96	5016
Conveyors <sup>1,2</sup>	1,140,000 tons/yr	3	0.000140	0.17	1.43	479
<b>Total:</b>				1.9	16.4	5,495

**Fugitive Emissions from Stockpiles**

Stockpile Acreage	Emission Factors (lbs/acre-year)		Abatement Efficiency	Annual Emissions	
	PM2.5	PM10		PM2.5	PM10
2	630	630	90%	126	126

PM-10 Emission factors from MCAQD 2008 Emission Inventory Helpsheet for Sand and Gravel Plants.

PM Emission factors taken from AP-42 Chapter 11.19.2 Crushed Stone Processing.

**Fugitive Emission from Unpaved Road**

Fugitive Emissions From Vehicle Traffic	Vehicle Miles Travelled	EF (lb/VMT)	Control Efficiency	Emissions (tons/yr)
Light Duty Vehicles @15 mph	0 VMT/yr	0.44	90%	0.0
Medium Duty Vehicles @15 mph	0 VMT/yr	0.86	90%	0.0
Heavy Duty Vehicles @15 mph	21,952 VMT/yr	3.2	90%	3.5

		Emission (tons/year)							
		CO	NOx	SOx	PM2.5	PM10	PM	VOC	HAPS
Drum Mix		40.47	22.74	18.58	2.91	2.91	2.91	1.37	5.97
Loadout & Silo Filling		2.07			0.63	0.63	0.63	9.52	0.18
Screen & Conveyor					0.92226	0.92226	2.7		
Heater		1.62	1.93	0.01	0.15	0.15	0.15	0.11	
Total Daily Emission (lbs/day)									
Total Annual Emission (tons/year)		<b>44.16</b>	<b>24.67</b>	<b>18.59</b>	<b>4.61</b>	<b>4.61</b>	<b>6.43</b>	<b>10.99</b>	<b>6.15</b>
Fugitive from stockpile & road					3.58	3.58	3.58		
		Emission (lbs/day)							
		CO	NOx	SOx	PM2.5	PM10	PM	VOC	HAPS
Drum Mix		241	136	111	17	17	17	8	36
Loadout & Silo Filling		10			3	3	3	50	1
Screen & Conveyor					6	6	16		
Heater		9	11	1	1	1	1	1	
Total Daily Emission (lbs/day)									
Total Annual Emission (tons/year)		<b>260.58</b>	<b>146.66</b>	<b>111.84</b>	<b>26.94</b>	<b>26.94</b>	<b>37.83</b>	<b>58.67</b>	<b>36.48</b>

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# NON-TITLE V COMPLETENESS DETERMINATION CHECKLIST

**Items 1-15 Front page:** Items 1 to 15 (14 for Renewals) must be completed.

*Notes to engineer:*

- For renewal applications the source must either answer 'No' to questions 2-5 or submit an application for a permit modification.
- Item 8: Many applicants do not know the SIC code or NAICS code for their industry. For a new application the code can be obtained by doing an on-line search. <http://www.osha.gov/pls/imis/sicsearch.html>
- Items 5, 7 and 14: These may be the same for many applicants.

Complete:  Incomplete:

**Item 16:** A simple site diagram has been included, preferably on a standard size paper. Detailed blueprints or construction drawings are not required.

Complete:  Incomplete:  N/A:

**Item 17:** A simple process flow diagram on a standard size paper is preferred. A process flow diagram may not be needed for some small businesses.

Complete:  Incomplete:  N/A:

**Item 18:** An O&M plan is required only for a control device. An O&M plan is not required for a spray booth. Instead of including the O&M plan with the application, an applicant may submit it after receiving the permit.

Complete:  Incomplete:  N/A:

**Item 19:** A dust control plan, if required, must accompany the permit application. The plan will be reviewed and approved by the dust compliance group.

Complete:  Incomplete:  N/A:

**Item 20:** The applicant needs to complete only those sections of the permit application that are applicable.

Complete:  Incomplete:  N/A:

*Notes to engineer:*

- Concerning Section Z: Many applicants will not be able to perform these engineering calculations. We will accept the permit application with a blank Section Z.

Instructions for completing Sections A, B, C, D, E-1, E-2, F, G, H, I, J, K-1, K-2, K-3, K-4, L, M, X-1, X-2, Y and Z of the permit application are included at the beginning of each section and are self-explanatory.

In general, a material safety data sheet (MSDS) is required for each chemical used, stored or processed at the facility. Exceptions are for very common materials, such as gasoline, diesel, acetone, etc.

Business name: \_\_\_\_\_

Permit number: \_\_\_\_\_

Completeness review completed.

Application determined to be: Complete:  Incomplete:

Permit Engineer: \_\_\_\_\_

Date: \_\_\_\_\_