



031 600 QKI
19 02 0007
MAT Asphalt, LLC

May 31, 2019

Mr. Raymond Pilapil
Acting Permit Section Manager
Division of Air Pollution Control
Illinois Environmental Protection Agency
1021 North Grand Avenue East
P. O. Box 19506
Springfield, Illinois 62794-9506

IEPA-DIVISION OF RECORDS MANAGEMENT
RELEASABLE

JUN 13 2019
REVIEWER: MJK

RECEIVED
STATE OF ILLINOIS

JUN 03 2019

Environmental Protection Agency
BUREAU OF AIR

Dear Mr. Pilapil:

Re: FESOP Application Revision
MAT Asphalt LLC
4450 South Morgan
Chicago, Illinois (Facility)
ID #031600QKI, Application #19020007

This letter is to correct an error in the Federally Enforceable State Operating Permit (FESOP) application for the Drum Mix Asphalt Plant, submitted to the Illinois Environmental Protection Agency (IEPA) on February 7, 2019. Please accept this as an update to FESOP Application #19020007.

Exhibit 391-1.3 incorrectly used an average moisture content of 3.0% the correct value is 1.5%. Attached is the revised Exhibit 391-1.3 and revised Table 1.

If you have any questions concerning this FESOP revision, please contact Charlie Gjersvik, with GHD, at 217-717-9007.

Yours truly,
MAT ASPHALT LLC

Joe Haughey

Enclosures:

Revised Exhibit 391-1.3 and Revised Table 1

Exhibit 391-1.3 (Revised 05-31-2019)

Storage Pile Loading Fugitive Emission Calculations
 Drum Mix Asphalt Plant FESOP Application
 MAT Asphalt, LLC

Description	Throughput	Emission Factors ^[1]		Emissions	
				Uncontrolled	Controlled ^[2]
	(ton/yr)	(lb/ton)	(ton/yr)		
Loading Material Onto Storage Piles	890,000	PM	2.15E-02	9.56	1.91
		PM ₁₀	1.02E-02	4.52	0.90
		PM _{2.5}	1.54E-03	0.68	0.14

^[1]Emission factors are calculated using the drop equation from AP-42 Section 13.2.4-4, using the parameters below. $E(\text{lb/ton}) = 0.0032 * k * (U/5)^{1.3} / (M/2)^{1.4}$

^[2]Control through wetting of 80%.

Where:

k = Dimensionless Multiplier Based on Particle Size

U = Mean Wind Speed (mph)

M = Average Moisture Content (%)

Pollutant	Multiplier	Wind	Moisture	Emission Factors "E"
	k	U	M	
		(mph)	(%)	(lb/ton)
PM	0.74	20	1.5	0.0215
PM ₁₀	0.35			0.0102
PM _{2.5}	0.053			0.0015

Table 1 (Revised 05-31-2019)

Summary of Emissions
 Drum Mix Asphalt Plant FESOP Application
 MAT Asphalt, LLC

Emission Source Type	Emission Source	Throughput				Annual Emission					
		Material	(unit/mo)	(unit/yr)	(unit)	NOx	CO	PM	PM ₁₀	SO ₂	VOM
						(ton/yr)					
Non-Fugitive	Crush Plant	Aggregate & RAP	55,000	425,000	tons	--	--	5.87	2.05	--	--
	Drum	Aggregate	148,333	890,000	tons	24.48	57.85	14.69	10.24	25.81	14.24
	Truck Loadout	Asphalt Product	148,333	890,000	tons	--	0.60	0.23	0.23	--	1.85
	Silo Filling	Asphalt Product	148,333	890,000	tons	--	0.53	0.26	0.26	--	5.43
	AC Storage Tanks	Asphalt Cement	-	10,000,000	gallons	--	--	--	--	--	0.10
	Other Tanks	Diesel / Gasoline	-	200,000 / 50,000	gallons	--	--	--	--	--	2.90
Non-Fugitive Emission Totals:						24.48	58.98	21.04	12.78	25.81	24.52
Fugitive	Paved Roadways	--	--	--	--	--	--	63.38	12.68	--	--
	Unpaved Roadway	--	--	--	--	--	--	6.49	1.65	--	--
	Storage Piles	--	--	--	--	--	--	1.91	0.90	--	--
	Non-Fugitive Emission Totals:						--	--	71.78	15.23	--
Facility Totals:						24.48	58.98	92.82	28.01	25.81	24.52



Agency ID: 170002238816

Media File Type: AIR

Bureau ID: 031600QKI

Site Name: MAT Asphalt LLC

Site Address1: 2055 W Pershing Ave

Site Address2:

Site City: Chicago

State: IL

Zip: 60609-

**This record has been determined to
be partially or wholly exempt from
public disclosure**

Exemption Type:

Redaction

Exempt Doc #: 34

Document Date: 5/17/2019

Staff: MJK

Document Description: EMAIL: MATTISON TO BERNOTEIT AND BARRIA WITH ATTACHMENT

Category ID: 03M Category Description: AIR PERMIT - CONSTRUCTION/JOINT

Exempt Type: Redaction

Permit ID: 19020007

Date of Determination: 6/13/2019

Barria, German

From: Mattison, Kevin
Sent: Friday, May 17, 2019 12:04 PM
To: Bernoteit, Bob
Cc: Barria, German
Subject: 031600QKI - MATS Asphalt: December 2018 Stack Test Review

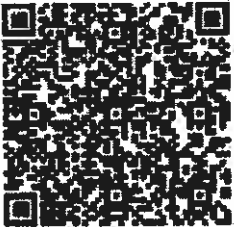
Bob,

As requested, here is the review of the December 2018 stack test at MAT Asphalt.

[REDACTED]

Kevin Mattison

Office ☎ 847-294-4019



EPA-DIVISION OF RECORDS MANAGEMENT
RELEASABLE

JUN 13 2019

REVIEWER: MJK

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**SEND
WITNESSED**

REVIEW

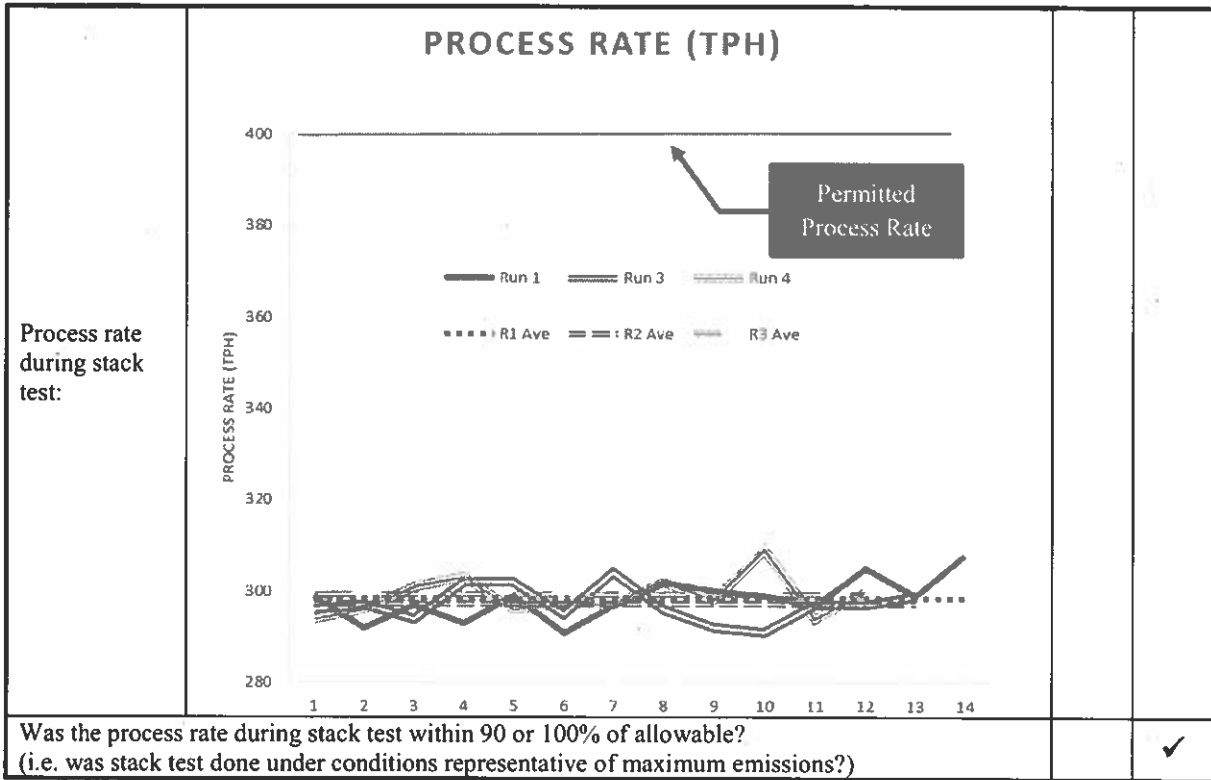


ILLINOIS ENVIRONMENTAL
PROTECTION AGENCY

ID No.:	031600QKI	Test Date:	December 11, 2019
Source Name:	MAT Asphalt, LLC		
Location	2055 West Pershing Avenue, Chicago, Illinois 60609		
Permit No.	17070024	TYPE OF TEST PROGRAM:	
<input type="checkbox"/> FESOP <input type="checkbox"/> Title V <input type="checkbox"/> Lifetime <input checked="" type="checkbox"/> Construction		<input checked="" type="checkbox"/> Initial Performance <input type="checkbox"/> CEMS Certification	<input type="checkbox"/> Annual/Periodic <input type="checkbox"/> Other: _____
Emission Unit(s):	Hot Mix Asphalt Plant		
Control Equipment:	Baghouse		
APPLICABLE RULE:	<input type="checkbox"/> 35 IAC PART ____ <input checked="" type="checkbox"/> 40 CFR PART 60, SUBPART I <input type="checkbox"/> 40 CFR PART 63, SUBPART ____		
SOURCE	Contact	Joseph Haughey	
	Phone Number	773-617-0789	
	Email	jhaughey@matasphalt.com	
TESTING COMPANY	Company Name	Montrose Air Quality Services, LLC	
	Contact	Steve Flaherty	
	Phone Number	847-487-1580 Ext. 12417	
	Email	sflaherty@montrose-env.com	
	Report No.	024AS-473273-RT-238	

Parameters	USEPA REFERENCE METHODS	Yes	No
<input checked="" type="checkbox"/> PM <input type="checkbox"/> PM ₁₀ <input type="checkbox"/> SO ₂ <input type="checkbox"/> NO _x <input checked="" type="checkbox"/> Opacity <input type="checkbox"/> CO <input type="checkbox"/> VOM <input type="checkbox"/> HCl <input type="checkbox"/> DE <input type="checkbox"/> CE <input type="checkbox"/> Metals <input type="checkbox"/> Dioxins/Furans	<input checked="" type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input checked="" type="checkbox"/> 4 <input checked="" type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input checked="" type="checkbox"/> 9 <input type="checkbox"/> 10 <input type="checkbox"/> 12 <input type="checkbox"/> 18 <input type="checkbox"/> 19 <input type="checkbox"/> 20 <input type="checkbox"/> 23 <input type="checkbox"/> 24 <input type="checkbox"/> 25 <input type="checkbox"/> 25 <input type="checkbox"/> 26 <input type="checkbox"/> 29 <input type="checkbox"/> 201 <input type="checkbox"/> 202 <input type="checkbox"/> 204 <input type="checkbox"/> 204 <input type="checkbox"/> ____ <input type="checkbox"/> ____		
Alternative method(s)	NONE		
Did Permittee propose or use proper method(s)?		✓	

Process Information	Yes	No
Construction Permit 17070024 Condition 12: 12a. Emissions from and operation of the asphalt plant shall not exceed the following limits: i. Asphalt Production Limits: Asphalt Concrete Production Rate (Tons/Hour) (Tons/Month) (Tons/Year) 400 148,333 890,000		

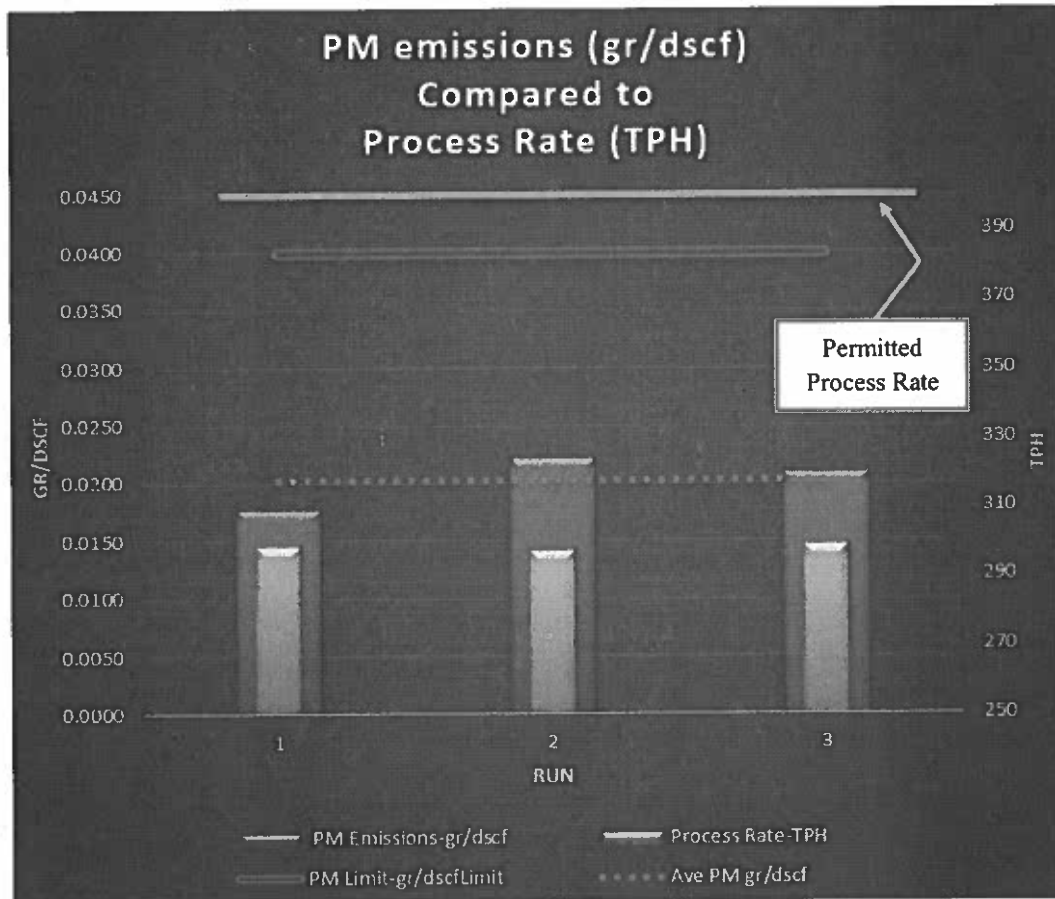


COMPLIANCE DEMONSTRATION			Yes	No
Protocol	Submitted?	Date August 30, 2018	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Submitted timely?	30 days prior to test	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Approved?		<input checked="" type="checkbox"/>	<input type="checkbox"/>
Did testing follow the approved protocol?			<input checked="" type="checkbox"/>	<input type="checkbox"/>
Were raw field & laboratory sheets included with the final report?			<input checked="" type="checkbox"/>	<input type="checkbox"/>
Were three test runs performed?			<input checked="" type="checkbox"/>	<input type="checkbox"/>
Were runs performed for appropriate length of time?			<input checked="" type="checkbox"/>	<input type="checkbox"/>

Emissions:	Pollutant	Emission	Limit	
	PM	0.0203 gr/dscf	0.04 gr/dscf	40 CFR Subpart I 60.92(a)(i)
	Opacity	0.7%	20%	40 CFR Subpart I 60.92(a)(ii)

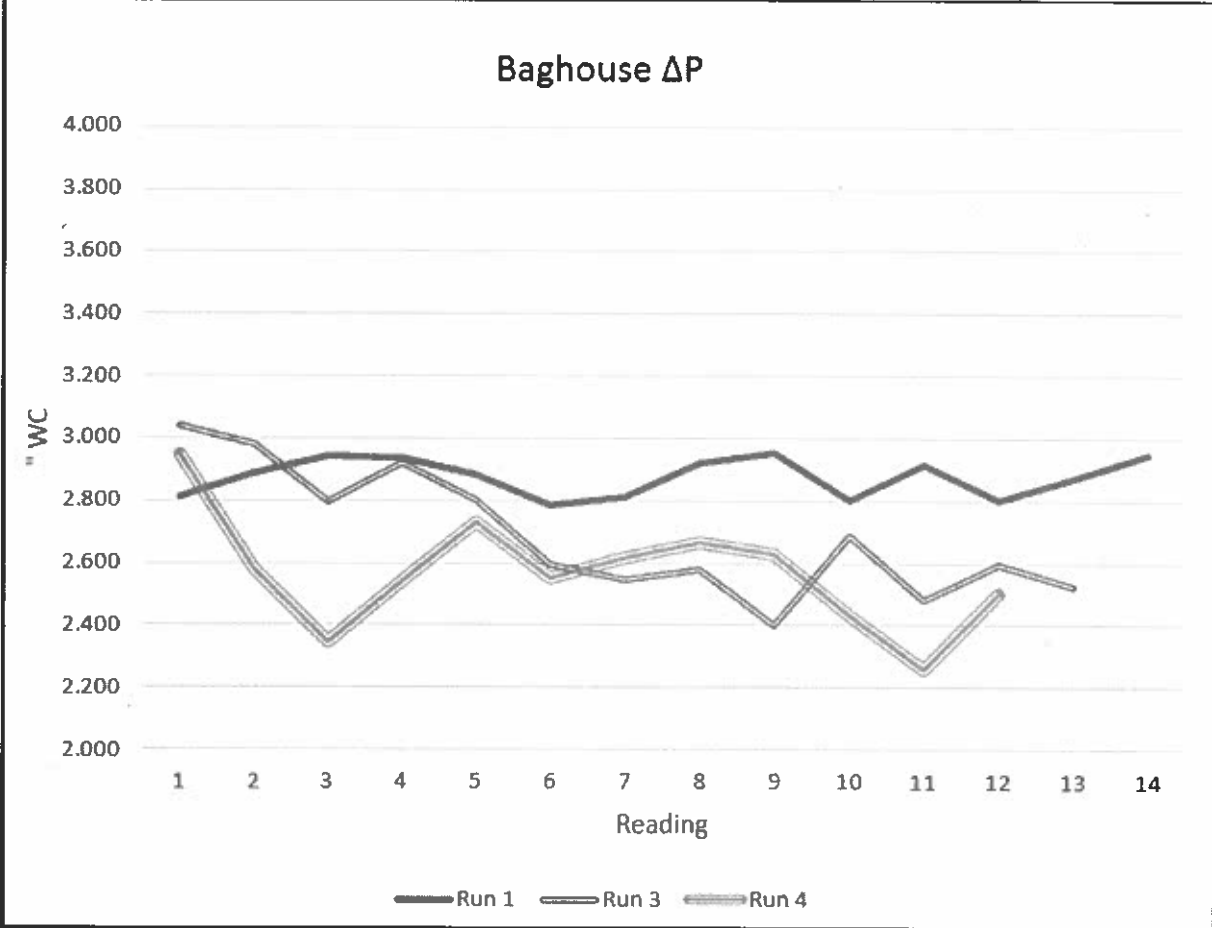


Process Data		Run 1	Run 2	Run 3	Average
	Asphalt Mix	N70 ST SC	N70 ST SC	N70 ST SC	----
	% Virgin Material	62.4%	63.6%	62.9%	63.0%
	%RAP	32.0%	30.9%	31.8%	31.6%
	% Asphalt Content	4.5%	4.5%	4.4%	4.4%
	% Mineral Fill	1.0%	1.0%	1.0%	1.0%
	% of Maximum Production Rate	74.6%	74.3%	74.7%	74.5%
	Asphalt Production Rate (T/hr)	298	297	299	298





Baghouse ΔP ("WC)	Max	2.955	3.039	2.946	2.980
	Min	2.787	2.400	2.260	2.482
	Average	2.878	2.688	2.567	2.711



Are test results in compliance with applicable requirements, permit special conditions, and Agency averaging policy/rule?	Yes	No
	✓	

Comments:

MAT Asphalt, LLC contracted Montrose Air Quality Services, LLC, Wauconda, IL, to conduct particulate emissions testing and opacity measurements on the baghouse exhaust controlling emissions from the 400 T/hr drum mix asphalt plant. Montrose Air Quality Services, LLC utilized USEPA Methods 1, 2, 3, 4, 5, & 9.

Emissions testing was conducted late in the season to comply with the NSPS testing deadline; therefore, MAT Asphalt was unable to operate the plant at 90% of the maximum permitted production rate.

No deviation from the test methods were note while on-site witnessing the stack test or during the review of the test final report.

MAT Asphalt, LLC
 ID No.: 031600QKI
 Application No.: 17070024
 Test Date: December 11, 2018



ILLINOIS ENVIRONMENTAL
 PROTECTION AGENCY

Page 5

While on-site, I witness the null point traverse to document the absence of cyclonic flow; however, this data sheet was missing from the final report. Montrose Air Quality Services, LLC was contacted and provided the missing sheet, which confirms the stack is absent of cyclonic flow and has been attached to this review.

It is recommended that the Illinois EPA accept the final stack test report, which indicates the particulate emissions and opacity from the drum-mix asphalt plant were in compliance while operating at 298 T/hr (74.5% of maximum permitted operating rate). Additionally, it is recommended that future permits limit asphalt production to no more 110% of 298 T/hr (328 TPH) at which the stack test was conducted at until such time a new stack test is performed at a higher production rate and documents compliance.

Please contact the undersigned if you have any questions.

<i>Kevin J. Mattison</i>	May 17, 2019	Test Report Approved	Yes	No
			✓	
REVIEWED BY: Kevin J. Mattison	Date	Compliance Demonstrated? (See comments above)	✓	

Attachment:

1. Cyclonic Flow Field Data Sheet
2. IEPA Calculations

VELOCITY TRAVERSE AND CYCLONIC FLOW VERIFICATION

PLANT NAT Asphalt
 DATE 12-11-19
 LOCATION Chicago, IL
 SOURCE BH Exh.
 STACK ID 60.5"
 PROBE #/TC # SC62
 BAROMETRIC PRESSURE, in. Hg _____
 OPERATORS S. FLAHERTY & R. BURTON

SCHEMATIC OF TRAVERSE POINT LAYOUT

RUN NO. Prelim.
 STATIC, in. H₂O -0.09
 START: 0730 STOP: 0758
 PRE-TEST: ✓ OK POST-TEST: ✓ OK

RUN NO. _____
 STATIC, in. H₂O _____
 START: _____ STOP: _____
 PRE-TEST: _____ POST-TEST: _____

TRAVERSE POINT NUMBER	VELOCITY HEAD, ΔP (in. H ₂ O)	STACK TEMP. (°F)	YAW ANGLE (°)
SE-1	0.61		-2
2	0.63		-3
3	0.64	255	3
4	0.65		2
5	0.63		4
6	0.62		3
7	0.57	257	1
8	0.38		0
9	0.40		1
10	0.43		3
11	0.45	258	3
12	0.48		7
SE-1	0.53		4
2	0.57	257	3
3	0.55		1
4	0.57		5
5	0.54		4
6	0.55		4
7	0.49	256	3
8	0.48		5
9	0.44		4
10	0.44		4
11	0.45	258	3
12	0.42		6
AVERAGE		Est. ~257	

TRAVERSE POINT NUMBER	VELOCITY HEAD, ΔP (in. H ₂ O)	STACK TEMP. (°F)	YAW ANGLE (°)
AVERAGE			

Company Name: MATS Asphalt
 Location: Chicago
 Test Date: December 11, 2018
 Source: Drum-Mix Asphalt Plant
 Identification Number: 031600QKI
 Application Number: 17070024



Particulate Matter

Date	12/11/2018	12/11/2018	12/11/2018
Run #	Run 1	Run 3	Run 4
VI (ml)	418.2	351.3	360.7
Y	0.995	1.013	1.013
Vm (ft ³)	38.76	35.195	36.362
Tm (°F)	33.83333333	56.08333333	63.54166667
PB ("Hg)	29.56	29.56	29.56
ΔH ("WC)	1.520833333	1.129583333	1.228333333
Cp	0.84	0.84	0.84
Ts (°F)	246.375	266.5833333	271.0416667
Static P ("H ₂ O)	-0.1	-0.09	-0.09
Ps ("Hg)	29.55264706	29.55338235	29.55338235
√ΔP	0.705124159	0.642476593	0.671342506
%CO ₂	5.6	5.9	6.2
%O ₂	10.1	10	9.9
%CO	0	0	0
Stack L (in)	---	---	---
Stack W (in)	---	---	---
Stack Dia (in)	60.5	60.5	60.5
As (sq ft)	19.96356686	19.96356686	19.96356686
PM Weight (g)	0.0469	0.0519	0.0502
Cond PM (g)			
Blank (g)			
Nozzle Dia (in)	0.281	0.281	0.281
An (sq ft)	0.000430665	0.000430665	0.000430665
Min.	60	60	60
Hour	1	1	1

$Vwc = VI * 0.04707$

Run 1	Vwc = 19.68	SCF
Run 3	Vwc = 16.54	SCF
Run 4	Vwc = 16.98	SCF

$VmStd = Y * Vm * (TsStd/Tm) * (Pb + DH / 13.6) / PsStd$

Run 1	VmStd = 40.89	SCF
Run 3	VmStd = 36.14	SCF
Run 4	VmStd = 36.81	SCF

$Isokinetic = (VmStd * As) / (An * time: min * QsStd)$

Run 1	I = 108.2334	%
Run 3	I = 105.0711	%
Run 4	I = 103.0235	%
Average	I = 105.4427	%

$dscm = Vmstd * 0.028317$

Run 1	1.157951302
Run 3	1.023323984
Run 4	1.042449188

Flow Calculations

$Bwo = Vwc / (VmStd + Vwc)$ $1 - Bwo$

Run 1	Bwo = 0.3250	0.6750
Run 3	Bwo = 0.3139	0.6861
Run 4	Bwo = 0.3156	0.6844

$MD = .44(CO_2) + .32(O_2) + .28(CO) + .28(N_2)$

Run 1	MD = 29.30	lb/lb-mole
Run 3	MD = 29.34	lb/lb-mole
Run 4	MD = 29.39	lb/lb-mole

$Ms = MD(1 - Bwo) + 18(Bwo)$

Run 1	Ms = 25.63	lb/lb-mole
Run 3	Ms = 25.78	lb/lb-mole
Run 4	Ms = 25.79	lb/lb-mole

$Vs = 85.48 * Cp * (Ts/Ps * Ms)^{.5} * Dp$

Run 1	Vs = 48.90	ft/second
Run 3	Vs = 45.05	ft/second
Run 4	Vs = 47.21	ft/second

$Qs = As * Vs * 60$

Run 1	Qs = 58568.0	ACFM
Run 3	Qs = 53959.1	ACFM
Run 4	Qs = 56544.3	ACFM

$QsStd = Qs * (Ps/PsStd) * (TsStd/Ts) * (1 - Bwo)$

Run 1	QsStd = 29189.6	DSCFM
Run 3	QsStd = 26572.3	DSCFM
Run 4	QsStd = 27606.9	DSCFM

$Cs = (Wt * 15.43) / VmStd$

Run 1	Cs = 0.0177	grains/dscf
Run 3	Cs = 0.0222	grains/dscf
Run 4	Cs = 0.0210	grains/dscf
Average	Cs = 0.02030	grains/dscf

$E = (Cs * QsStd * 60) / 7000$

Run 1	E = 4.42769	lbs/hour
Run 3	E = 5.04719	lbs/hour
Run 4	E = 4.97890	lbs/hour
Average	E = 4.81793	lbs/hour

$Cs @ 7\%O_2 = Cs * (14 / (21 - O_2))$

Run 1	Cs@7%O ₂ = 0.02273	grains/dscf
Run 3	Cs@7%O ₂ = 0.028203	grains/dscf
Run 4	Cs@7%O ₂ = 0.026538	grains/dscf
Average	Cs@7%O ₂ = 0.025824	grains/dscf

Company Name: MATS Asphalt
 Location: Chicago
 Test Date: December 11, 2018
 Source: Drum-Mix Asphalt Plant
 Identification Number: 031600QKI
 Application Number: 17070024



Condensable PM		Total PM (including back 1/2)	
Run 1	0 lbs/hr	Run 1	4.42769 lbs/hr
Run 3	0 lbs/hr	Run 3	5.04719 lbs/hr
Run 4	0 lbs/hr	Run 4	4.97890 lbs/hr
Average	0 lbs/hr	Average	4.817929 lbs/hr

RM 5 DGM Calibration		
Pre Test	0.995	
Allowable %5	0.94525	1.04475
Post Test	0.972	Pass

RM 5 DGM Calibration		
Pre Test	1.013	
Allowable %5	0.96235	1.06365
Post Test	0.995	Pass

Alt - 009					
	$Y_{qa} = \frac{\theta}{V_m} \sqrt{\frac{0.0319T_m}{\Delta H_g (P_b + \Delta \frac{H_{avg}}{13.6})}} \frac{29}{M_d} (\sqrt{\Delta H})_{avg}$				
	Run 1	Run 3	Run 4	Average	
Original Y	0.995	1.013	1.013	1.007	
$\Delta H @$	1.943	1.816	1.816	1.858333	
Yqa	0.990	0.991	1.008	0.996	
% Change =	-1%	-2%	0%	-1%	
Allowable Range %5	0.94525	to	1.045	Pass	PASS
				Fail	

Company Name: MATS Asphalt
 Location: Chicago
 Test Date: December 11, 2018
 Source: Drum-Mix Asphalt Plant
 Identification Number: 031600QKI
 Application Number: 17070024



Run 1			
Point No.	ΔP	$\sqrt{\Delta P}$	Ts
1	0.55	0.74162	255
2	0.57	0.754983	256
3	0.53	0.728011	259
4	0.57	0.754983	257
5	0.52	0.72111	257
6	0.5	0.707107	257
7	0.56	0.748331	257
8	0.49	0.7	253
9	0.45	0.67082	251
10	0.46	0.678233	251
11	0.41	0.640312	250
12	0.42	0.648074	249
13	0.63	0.793725	255
14	0.64	0.8	259
15	0.61	0.781025	260
16	0.57	0.754983	261
17	0.53	0.728011	260
18	0.42	0.648074	258
19	0.41	0.640312	258
20	0.39	0.6245	25
21	0.4	0.632456	257
22	0.42	0.648074	257
23	0.46	0.678233	256
24	0.49	0.7	255
25			
26			
27			
28			
29			
30			
31			
32			
33			
34			
35			
36			
37			
38			
39			
40			
41			
42			
43			
44			
45			
46			
47			
48			
Average		0.705124	246.375

Run 1	
Tm	
30	
30	
30	
30	
31	
31	
31	
32	
32	
33	
33	
33	
34	
34	
36	
36	
37	
37	
37	
37	
36	
37	
37	
37	
38	
Average	33.83333

Run 1		
Point No.	ΔH (WC)	$\sqrt{\Delta H}$
1	1.7	1.30384
2	1.7	1.30384
3	1.6	1.264911
4	1.7	1.30384
5	1.6	1.264911
6	1.5	1.224745
7	1.7	1.30384
8	1.5	1.224745
9	1.4	1.183216
10	1.4	1.183216
11	1.2	1.095445
12	1.3	1.140175
13	1.9	1.378405
14	2	1.414214
15	1.9	1.378405
16	1.7	1.30384
17	1.6	1.264911
18	1.3	1.140175
19	1.2	1.095445
20	1.2	1.095445
21	1.2	1.095445
22	1.3	1.140175
23	1.4	1.183216
24	1.5	1.224745
25		
26		
27		
28		
29		
30		
31		
32		
33		
34		
35		
36		
37		
38		
39		
40		
41		
42		
43		
44		
45		
46		
47		
48		
Average	1.520833	1.229631

Company Name: MATS Asphalt
Location: Chicago
Test Date: December 11, 2018
Source: Drum-Mix Asphalt Plant
Identification Number: 031600QKI
Application Number: 17070024



Run 1		VM
Start	787.588	38.76
Stop	826.348	
Start		0
Stop		
Start		0
Stop		
Start		0
Stop		
Total		38.76

Run 1		VL	
Impinger 1	Initial	100	220
	End	320	
Impinger 2	Initial	100	116
	End	216	
Impinger 3	Initial	0	60
	End	60	
Impinger 4	Initial		0
	End		
Impinger 5	Initial		0
	End		
Impinger 6	Initial		0
	End		
Silica Gel	Initial	200	22.2
	End	222.2	
Total			418.2

Company Name: MATS Asphalt
 Location: Chicago
 Test Date: December 11, 2018
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Run 3			
Point No.	ΔP	$\sqrt{\Delta P}$	Ts
1	0.46	0.678233	247
2	0.46	0.678233	251
3	0.51	0.714143	253
4	0.4	0.632456	253
5	0.38	0.616441	270
6	0.37	0.608276	271
7	0.41	0.640312	270
8	0.4	0.632456	268
9	0.38	0.616441	266
10	0.35	0.591608	266
11	0.32	0.565685	265
12	0.31	0.556776	264
13	0.56	0.748331	268
14	0.57	0.754983	270
15	0.58	0.761577	270
16	0.52	0.72111	272
17	0.48	0.69282	273
18	0.47	0.685565	270
19	0.35	0.591608	273
20	0.34	0.583095	271
21	0.34	0.583095	271
22	0.36	0.6	273
23	0.34	0.583095	272
24	0.34	0.583095	271
25			
26			
27			
28			
29			
30			
31			
32			
33			
34			
35			
36			
37			
38			
39			
40			
41			
42			
43			
44			
45			
46			
47			
48			
Average	0.642477	266.5833	

Run 3	
Tm	
48	
49	
50	
50	
51	
52	
53	
54	
54	
55	
56	
56	
57	
57	
58	
58	
58	
59	
60	
61	
61	
62	
63	
64	
Average	56.08333

Run 3		
Point No.	$\Delta H(^{\circ}WC)$	$\sqrt{\Delta H}$
1	1.3	1.140175
2	1.2	1.095445
3	1.4	1.183216
4	1.1	1.048809
5	1	1
6	0.98	0.989949
7	1.1	1.048809
8	1.1	1.048809
9	1.1	1.048809
10	0.94	0.969536
11	0.86	0.927362
12	0.84	0.916515
13	1.5	1.224745
14	1.5	1.224745
15	1.6	1.264911
16	1.4	1.183216
17	1.3	1.140175
18	1.3	1.140175
19	0.94	0.969536
20	0.92	0.959166
21	0.92	0.959166
22	0.97	0.984886
23	0.92	0.959166
24	0.92	0.959166
25		
26		
27		
28		
29		
30		
31		
32		
33		
34		
35		
36		
37		
38		
39		
40		
41		
42		
43		
44		
45		
46		
47		
48		
Average	1.129583	1.05777

Company Name: MATS Asphalt
 Location: Chicago
 Test Date: December 11, 2018
 Source: Drum-Mix Asphalt Plant
 Identification Number: 031600QKI
 Application Number: 17070024



Run 3		VM
Start	210.08	35.288
Stop	245.368	
Start		-0.093
Stop	-0.093	
Start		0
Stop		
Start		0
Stop		
Total		35.195

Leak Check

Run 3		VL	
Impinger 1	Initial	100	230
	End	330	
Impinger 2	Initial	100	100
	End	200	
Impinger 3	Initial	0	12
	End	12	
Impinger 4	Initial		0
	End		
Impinger 5	Initial		0
	End		
Impinger 6	Initial		0
	End		
Silica Gel	Initial	200	9.3
	End	209.3	
Total			351.3

Company Name: MATS Asphalt
 Location: Chicago
 Test Date: December 11, 2018
 Source: Drum-Mix Asphalt Plant
 Identification Number: 031600QKI
 Application Number: 17070024



Run 4			
Point No.	ΔP	$\sqrt{\Delta P}$	Ts
1	0.62	0.787401	271
2	0.63	0.793725	272
3	0.58	0.761577	271
4	0.57	0.754983	271
5	0.52	0.721111	273
6	0.5	0.707107	272
7	0.38	0.616441	271
8	0.35	0.591608	271
9	0.36	0.6	272
10	0.37	0.608276	272
11	0.42	0.648074	271
12	0.4	0.632456	270
13	0.51	0.714143	269
14	0.54	0.734847	270
15	0.52	0.721111	269
16	0.53	0.728011	272
17	0.39	0.6245	271
18	0.39	0.6245	274
19	0.42	0.648074	274
20	0.45	0.67082	271
21	0.39	0.6245	270
22	0.39	0.6245	269
23	0.36	0.6	270
24	0.33	0.574456	269
25			
26			
27			
28			
29			
30			
31			
32			
33			
34			
35			
36			
37			
38			
39			
40			
41			
42			
43			
44			
45			
46			
47			
48			
Average	0.671343	271.0417	

Run 4	
Tm	
65	
65	
65	
65	
65	
65	
65	
64	
64	
64	
64	
64	
64	
64	
64	
64	
64	
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63	
63	
63	
63	
62	
62	
62	
62	
62	
Average	63.54167

Run 4		
Point No.	$\Delta H("WC)$	$\sqrt{\Delta H}$
1	1.7	1.30384
2	1.7	1.30384
3	1.6	1.264911
4	1.5	1.224745
5	1.4	1.183216
6	1.4	1.183216
7	1	1
8	0.95	0.974679
9	0.97	0.984886
10	1	1
11	1.1	1.048809
12	1.1	1.048809
13	1.4	1.183216
14	1.5	1.224745
15	1.4	1.183216
16	1.4	1.183216
17	1	1
18	1.1	1.048809
19	1.1	1.048809
20	1.2	1.095445
21	1	1
22	1.1	1.048809
23	0.97	0.984886
24	0.89	0.943398
25		
26		
27		
28		
29		
30		
31		
32		
33		
34		
35		
36		
37		
38		
39		
40		
41		
42		
43		
44		
45		
46		
47		
48		
Average	1.228333	1.102729

Company Name: MATS Asphalt
 Location: Chicago
 Test Date: December 11, 2018
 Source: Drum-Mix Asphalt Plant
 Identification Number: 031600QKI
 Application Number: 17070024



Run 4		VM
Start	245.777	36.508
Stop	282.285	
Start		-0.146
Stop	-0.146	
Start		0
Stop		
Start		0
Stop		
Total		36.362

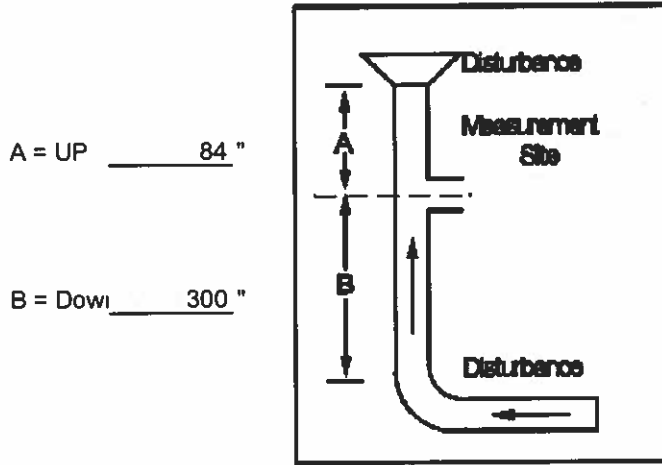
Leak Check

Run 4		VL	
Impinger 1	Initial	100	234
	End	334	
Impinger 2	Initial	100	96
	End	196	
Impinger 3	Initial	0	18
	End	18	
Impinger 4	Initial		0
	End		
Impinger 5	Initial		0
	End		
Impinger 6	Initial		0
	End		
Silica Gel	Initial	200	12.7
	End	212.7	
Total			360.7

Company Name: Builders Asphalt
 Location: Wheeling
 Test Date: July 23-24, 2018
 Source: Drum-Mix Asphalt Plant
 Identification Number: 031497ADO
 Application Number: 17090026



RM 1



A = UP 84 "

B = Down 300 "

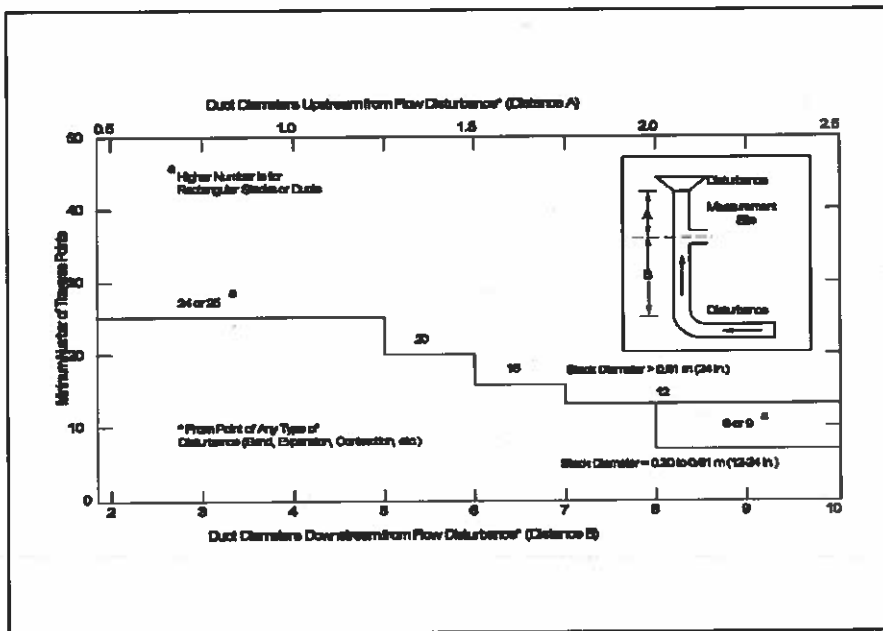
Eq Dia = $2(LxW)/(L+W)$

L "	---	Square Stack
W "	---	Square Stack
Stack Dia	60.5	Circular Stack
As (sq ft)	19.96357	Circular Stack
Eq Dia	---	Square Stack

Flow Disturbance, Duct Dia.		
	Actual	Minimum
up	1.38843	0.5
down	4.958678	2.0

Minimum Number of sampling points per Method 1 (fig. 1-1): 24

If min disturbance dist not met, verify location complies with section 11.5, alternative location



Company Name: Builders Asphalt
 Location: Wheeling
 Test Date: July 23-24, 2018
 Source: Drum-Mix Asphalt Plant
 Identification Number: 031497ADO
 Application Number: 17090026

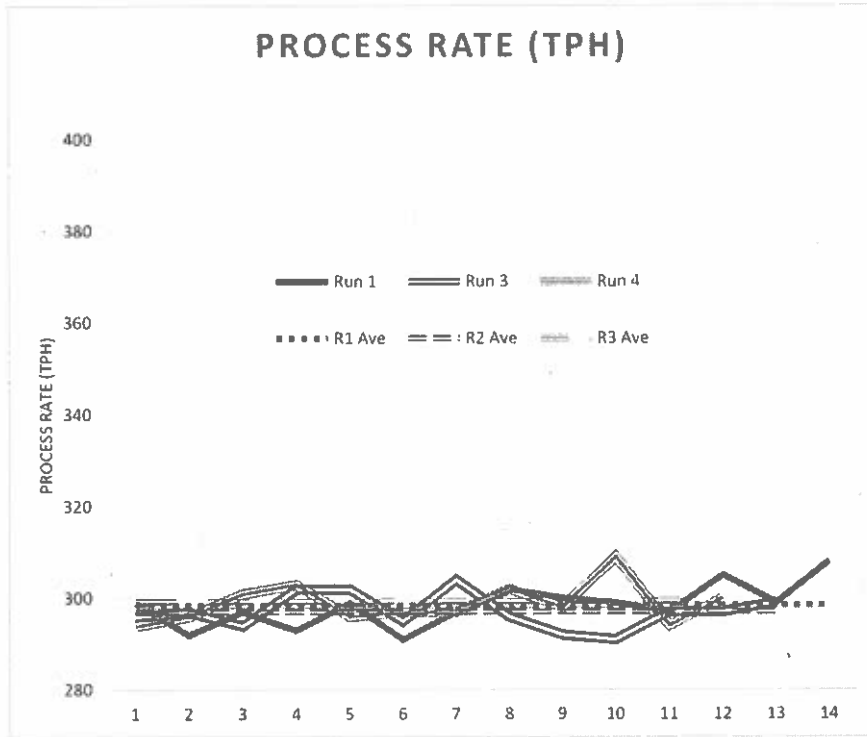


Traverse Point	Angel			Ri
	α	Pitch (P)	Yaw (Y)	
1	2			
2	3			
3	3			
4	2			
5	4			
6	3			
7	1			
8	0			
9	1			
10	3			
11	5			
12	7			
13	4			
14	3			
15	1			
16	5			
17	4			
18	4			
19	3			
20	5			
21	4			
22	4			
23	3			
24	6			
25				
26				
27				
28				
29				
30				
31				
32				
33				
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43				
44				
45				
46				
47				
48				
49				
50				
51				
52				
Average	3.33333		Ravg	#DIV/0!
Std Dev	1.6594			

USEPA Method 1 Section 11.5
 Sample minimum of:
 40 pts circular
 42 pts rectangle
 $R_{avg} = \text{Sum}(R_i/n)$
 < 20
 Standard Deviation
 < 10
 std Dev #DIV/0!

Company Name: Builders Asphalt, LLC
 Location: Skokie
 Test Date: May 19 23, 2017
 Source: Hot Mix Asphalt Plant
 Identification Number: 031288AOY
 Application Number: 16010037

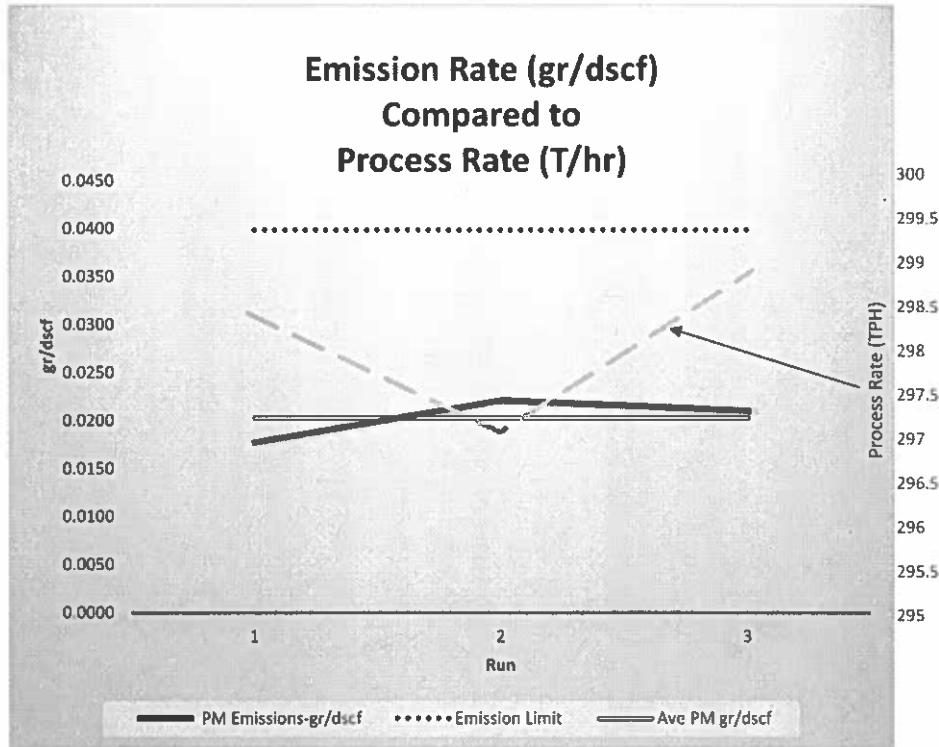
Process Data



Time	7:57-9:15	12:28-13:40	14:10-15:16			
Reading	Run 1	Run 3	Run 4	R1 Ave	R2 Ave	R3 Ave
1	299	296	294	298	297	299
2	292	297	296	298	297	299
3	297	294	301	298	297	299
4	293	302	303	298	297	299
5	299	302	296	298	297	299
6	291	295	297	298	297	299
7	297	304	297	298	297	299
8	302	296	302	298	297	299
9	300	292	298	298	297	299
10	299	291	309	298	297	299
11	297	297	294	298	297	299
12	305	297	300	298	297	299
13	299	299		298	297	
14	308			298		

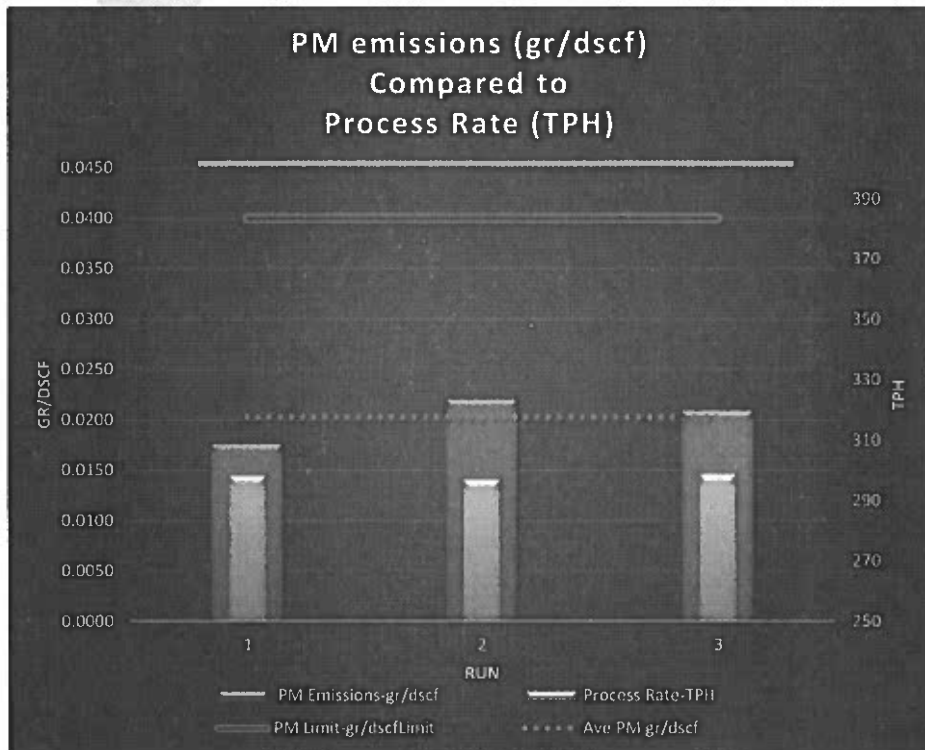
Company Name: Builders Asphalt, LLC
 Location: Skokie
 Test Date: May 19 23, 2017
 Source: Hot Mix Asphalt Plant
 Identification Number: 031288AOY
 Application Number: 16010037

Process Data



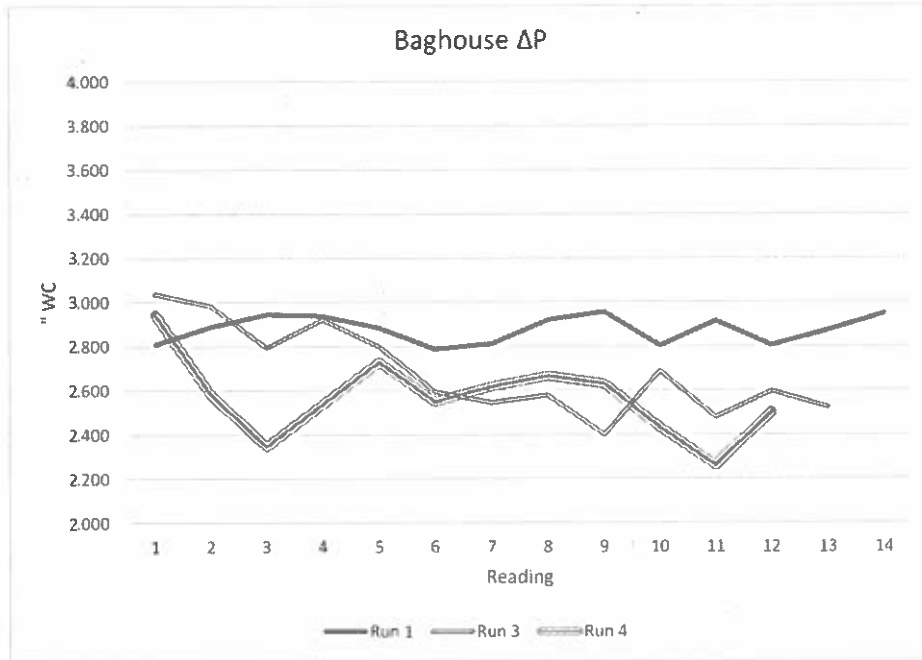
Emission Rate

Run	PM Emission	PM Limit-gr	Ave PM gr/dscf	THP	Capacity TP	Production Rate (TPH)
1	0.0177	0.04	0.0203	298	400	Run 1
2	0.0221	0.04	0.0203	297	400	298.42857
3	0.0210	0.04	0.0203	299	400	74.6%



Company Name: Builders Asphalt, LLC
 Location: Skokie
 Test Date: May 19 23, 2017
 Source: Hot Mix Asphalt Plant
 Identification Number: 031288AOY
 Application Number: 16010037

Process Data



Baghouse Differential Pressure

Time

Reading	Run 1	Run 3	Run 4
1	2.810	3.039	2.946
2	2.891	2.982	2.580
3	2.945	2.794	2.347
4	2.939	2.922	2.539
5	2.885	2.799	2.729
6	2.787	2.594	2.550
7	2.811	2.545	2.618
8	2.920	2.579	2.666
9	2.955	2.400	2.630
10	2.803	2.688	2.431
11	2.915	2.479	2.260
12	2.804	2.597	2.503
13	2.872	2.523	
14	2.948		

	ave			
max	2.955	3.039	2.946	2.980
min	2.787	2.400	2.260	2.482
ave	2.878	2.688	2.567	2.711

Company Name: Builders Asphalt, LLC
 Location: Skokie
 Test Date: May 19 23, 2017
 Source: Hot Mix Asphalt Plant
 Identification Number: 031288AOY
 Application Number: 16010037

Process Data



% Virgin Material				
Time	Reading	Run 1	Run 3	Run 4
1		61.7	62.5	63.3
2		63.2	64.4	63.4
3		62.6	64.4	63.5
4		63.6	63.6	63.0
5		62.2	63.7	61.8
6		61.9	62.5	62.8
7		61.4	64.0	62.9
8		60.1	62.7	62.8
9		60.8	64.9	63.1
10		62.5	63.8	63.0
11		64.2	63.4	63.0
12		63.4	63.3	62.3
13		62.5	63.3	
14		63.5		
Average		62.4	63.6	62.9

% RAP				
Time	Reading	Run 1	Run 3	Run 4
1		32.9	30.3	31.3
2		31.5	30.3	31.3
3		32.0	30.3	31.2
4		31.2	31.1	31.5
5		32.4	30.9	32.9
6		32.9	31.5	31.9
7		33.3	30.5	31.9
8		34.4	32.0	31.7
9		33.7	30.0	31.6
10		30.8	30.8	31.6
11		30.5	31.2	31.7
12		31.4	31.4	32.4
13		30.5	31.4	
14		31.0		
Average		32.0	30.9	31.8

% Asphalt Content (+A/C)				
Time	Reading	Run 1	Run 3	Run 4
1		4.5	4.5	4.5
2		4.6	4.3	4.5
3		4.5	4.4	4.4
4		4.4	4.4	4.4
5		4.4	4.5	4.4
6		4.5	4.4	4.4
7		4.4	4.4	4.3
8		4.3	4.5	4.5
9		4.4	4.5	4.4
10		4.5	4.6	4.3
11		4.5	4.5	4.3
12		4.3	4.5	4.5
13		4.5	4.4	
14		4.5		
Average		4.5	4.5	4.4

% Mineral Fill				
Time	Reading	Run 1	Run 3	Run 4
1		1	1	1
2		1	1	1
3		1	1	1
4		1	1	1
5		1	1	1
6		1	1	1
7		1	1	1
8		1	1	1
9		1	1	1
10		1	1	1
11		1	1	1
12		1	1	1
13		1	1	
14		1		
Average		1	1	1



MAT Asphalt, LLC

May 8, 2019

Mr. Raymond Pilapil
Permit Section Manager
Division of Air Pollution Control
Illinois Environmental Protection Agency
1021 North Grand Avenue East
P. O. Box 19506
Springfield, Illinois 62794-9506

RECEIVED
STATE OF ILLINOIS

MAY 10 2019

Environmental Protection Agency
BUREAU OF AIR

Dear Mr. Pilapil:

IEPA-DIVISION OF RECORDS MANAGEMENT
RELEASABLE

JUN 13 2019

REVIEWER: MJK

Re: Fugitive Particulate Matter Control Operating Program
MAT Asphalt LLC
2033 West Pershing Avenue
Chicago, Illinois (Facility)
ID #031600QKI

The purpose of this transmittal is to submit an updated Fugitive Particulate Matter Control Operating Program to meet the requirements of 35 Ill. Adm. Code 212.309 for the MAT Asphalt LLC facility located at 2033 West Pershing Avenue, Chicago, Cook County, Illinois.

If you have any questions concerning this plan, please contact Charlie Gjersvik, with GHD, at 217-717-9007.

Yours truly,
MAT ASPHALT LLC


Joe Haughey
Plant Manager

1.0 Overview

This document constitutes the Operating Program for Fugitive Particulate Matter Control for the MAT Asphalt, LLC facility located at 2033 West Pershing Avenue, Chicago, Illinois. This document is designed such that it complies with the regulatory requirements of 35 IAC 212.309, 35 IAC 212.310, and 35 IAC 212.312. Pursuant to 35 IAC 212.309(a), fugitive emissions from storage piles, conveyor loading operations, traffic areas, screening operations, materials collected by pollution control equipment, and any units for which spraying or choke-feeding is required must be operated under the provisions of an operating program.

This Operating Program is designed to minimize the opportunity for fugitive PM emissions at the Facility to leave the property. This Operating Program has been prepared to reflect the fugitive PM emission sources currently in operation as of September 2018 and will be revised as appropriate to reflect any future changes in operations.

2.0 General Source Information

2.1: 35 IAC 212.310(a) - Name and Address of the Source

MAT Asphalt, LLC
2033 West Pershing Avenue
Chicago, Illinois 60609

2.2: 35 IAC 212.310(b) - Owner or Operator Responsible for Execution of the Operating Program Joe Haughey

The Plant Manager/Joe Haughey (or their designee) is responsible for inspection and maintenance tasks for the Facility, and for ensuring that all procedures outlined in this Operating Program are enacted.

2.3: 35 IAC 212.310(c) - Map or Diagram of the Source

A map of the Facility showing approximate locations of storage piles, conveyor loading operations, normal traffic pattern access areas surrounding storage piles and normal traffic patterns within the source is provided in Appendix A to this Operating Program.

2.4: Source Description

MAT Asphalt, LLC conducts asphalt production, material processing, material storage and material and product transport operations at the Facility. Various materials including, but not limited to, asphalt, aggregate, asphalt shingles, and recycled asphalt pavement are loaded and unloaded via truck at the Facility.

3.0 BEST MANAGEMENT PRACTICES FOR FUGITIVE DUST CONTROL

3.1: Property Lines

Monitoring: USEPA Method 22 observations will be conducted on each Property Line of the plant at least once per day.

3.2: Storage Piles

Primary Method of Fugitive Dust Control: Sprayed by Water Truck at least once per day.

Secondary Method of Fugitive Dust Control: If water truck is unavailable due to repairs, water will be applied via hoses at least once per day.

Requirements: Maintain 1.5% moisture content in materials handled and processed.

Monitoring: USEPA Method 22 observations will be conducted on each storage piles at least once per day. Moisture Content is measured at least once per day.

The Facility has outdoor storage piles of various materials. Water truck will apply water during loading into and unloading

out of the outdoor storage piles to minimize wind erosion. Additional water application will be utilized based on visual observations as determined by site personnel and documented in the Method 22 Material Monitoring Record. These measures will not be utilized during periods when no visual emissions are observed utilizing USEPA Method 22, storage piles maintain or exceed 1.5% moisture content as measured daily by MAT personnel via Humboldt brand Aggrameter <https://www.humboldtmg.com/trident-moisture-probe.html> or if accumulated rainfall of at least 0.25" in the past 24 hours, storage piles are frozen or covered in snow, or temperatures are below 32C.

3.3: Crushing, Screening, and Conveying of materials

Primary Method of Fugitive Dust Control: Sprayed by Water Truck at least once per day.

Secondary Method of Fugitive Dust Control: If water truck is unavailable due to repairs, water will be applied via hoses at least once per day.

Requirements: Maintain 1.5% moisture content in materials handled and processed.

Monitoring: USEPA Method 22 observations will be conducted on each process at least once per day.

The Facility has outdoor crushing, screening, and conveying various materials. Water truck will apply water during loading into and unloading out of the outdoor storage piles to minimize wind erosion. Additional water application will be utilized based on measured moisture content and USEPA Method 22 observations as determined by site personnel and documented within the records.

3.4: Front-end Loader Material Movements

Fugitive Dust Control: Material is wet

Requirements: Maintain 1.5% moisture content in materials handled and processed.

Monitoring Requirement: USEPA Method 22 during material transfers at least once per day.

When using a front end loader or similar equipment to either load or unload materials, water spray is used, to control fugitive dust based on visual observations determined by site personnel and documented in the Method 22 Material Monitoring Record.

3.5: Roadways

Primary Method of Fugitive Dust Control: Sweeper is used on paved roadways at least once per week. Water truck will apply water on unpaved roadways at least once per day.

Secondary Method of Fugitive Dust Control: If Sweeper is unavailable due to repairs, water will be applied via water truck at least once per week.

Applicable Regulations: 35 IAC 212.306

Monitoring: Method 22 observations will be performed on each leg of roadways within the plant, entrance to the plant, and exit of the plant:

The Facility currently has both paved and unpaved roadways. By October 1, 2018, all roadways will be paved. All Roadways have been paved with Hot Mix Asphalt To minimize emissions from vehicle traffic, all unpaved surfaces are watered daily. Paved roads are swept on a weekly basis unless there is sufficient precipitation. Control activities are documented in the Water and Stabilizer Records table in Appendix B. Further, an on-site speed limit of 10 MPH is posted and enforced on all plant roads.

In addition, a chemical dust suppressant will be applied to all unpaved roadways at least twice per year, in the late Spring and Fall, and shall make a third application in the Summer, if necessary. Chemical Dust Suppressant Applications shall be recorded in the Water and Stabilizer Records Table in Appendix B.

4.0: Recordkeeping and Reporting

4.1: Recordkeeping:

Records shall be maintained on site in written or electronic form. The MAT Plant is equipped with electronic daily reports containing the all required data input as dictated below "Records of Method 22 Observation Logs"

4.1.1: Records of Method 22 Observation Logs shall contain the following information:

- Observer's Name
- Weather conditions
- Wind speed and direction
- Time of observation
- Area or operation observed
- A determination if dust was observed
- Corrective Actions taken if visible emissions were observed

4.1.2: Sweeping and Watering Logs:

- Driver's Name
- Weather conditions
- Wind speed and direction
- Time of treatment
- Area or operation treated
- Type of treatment conducted

4.1.3: Retention of Records

These records will be maintained in accordance with Permits issued by the Illinois EPA These records will be available for inspection and copying by Agency representatives during normal working hours.

4.2: REPORTING

MAT Asphalt will notify the Illinois EPA of any deviations from this plan in accordance with permits issued by the Illinois EPA.

5.0: Amendments or Revisions to this Operating Program

In accordance with 35 IAC 212.312, all portions of this operating program related to the state fugitive dust rules contained in 35 IAC 212 will be updated as necessary to reflect changes in operations or procedures at the Facility. If this plan is revised, MAT Asphalt will submit a copy of the revised plan to the Illinois EPA.

APPENDIX A: SITE DIAGRAM

APPENDIX B: RECORDKEEPING
