AP42 Section:	9.7
Background Chapter	4
Reference:	14
Title:	Stratford Growers, Inc.--PM-10 and Total Particulate Testing, Unloading, Hull Trash, Feeder Trash, Lint Cleaner, Cyclone Robber System, & Motes Trash Cyclones, AIRx Testing, Ventura, CA, October 26-28, 1994.

Filename: F:\PRIVATE\BRI\AP42\COTTON\COTTON14.WQ1

STRATFORD GROWERS - OCT. 26-28, 1994

D. Emission Data/Mass Flux Rates/Emission Factors

Test ID	Parameter	Units	Values reported			
			Run 1	Run 2	Run 3	Run 4
1	Stack temperature	Deg F	89.5	73.2	81.8	
LINT CLEANER CYCLONE (1 OF 6)	Pressure	in. HG	29.89	29.94	29.94	
	Moisture	%	0.95	0.772	0.187	
	Oxygen	%	20.9	20.9	20.9	
	Volumetric flow, actual	acfm	9224	9596	9410	
	Volumetric flow, standard*	dscfm	8637	9292	9021	
	Isokinetic variation	%	96.8	99.7	96.6	
Circle: Production or feed rate Capacity:		bales/hr	18.63	18.23	19.66	
	Pollutant concentrations:					
	Total PM--reported	g	0.0055	0.0309	0.0207	
	Total PM--actual**	g	0.0059	0.0318	0.0207	
	Total PM--reported	G/dscf	0.0025	0.0129	0.0207	
	Total PM--actual	G/dscf	0.00268	0.01328	0.0207	
	PM-10	% OF TOTAL	void	50.1%	54.2%	
	Pollutant mass flux rates:					
	Total PM	lb/hr	0.20	1.06	1.60	0.952
	PM-10	lb/hr		0.530	0.87	0.70
	Emission factors (ENGLISH UNITS):					AVERAGE
	Total PM	lb/bale	0.0107	0.0580	0.081	0.0500
	PM-10	lb/bale		0.0291	0.0441	0.0366

*DSCFM BASED ON A STANDARD TEMPERATURE OF 60 DEGREES FAHRENHEIT

**Actual grams does not include negative reported impinger catches in the calculation of total PM catch.

TO OBTAIN TOTAL PROCESS EMISSION FACTORS, MULTIPLY THE CALCULATED EMISSION FACTORS BY THE TOTAL NUMBER OF PROCESS CYCLONES (6)

Source	Emission factors (ENGLISH UNITS):					AVERAGE
LINT CLEANER	Total PM	lb/bale	0.064	0.35	0.49	0.30
	PM-10	lb/bale		0.17	0.26	0.22
	Emission factors (METRIC UNITS):					AVERAGE
	Filterable PM	kg/bale	0.029	0.16	0.22	0.14
	PM-10	kg/bale		0.079	0.12	0.10

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STRATFORD GROWERS - OCT. 26-28, 1994

D. Emission Data/Mass Flux Rates/Emission Factors

Test ID	Parameter	Units	Values reported			
			Run 1	Run 2	Run 3	Run 4
2	Stack temperature	Deg F	97.4	98.2	94.2	
UNLOADING CYCLONE (1 OF 3)	Pressure	in. HG	29.93	29.93	29.93	
	Moisture	%	0.362	0.225	0.164	
	Oxygen	%	20.9	20.9	20.9	
	Volumetric flow, actual	acfm	4545	4603	4688	
	Volumetric flow, standard*	dscfm	4226	4280	4393	
	Isokinetic variation	%	97.5	97.4	95	
Circle: Production or feed rate Capacity:		bales/hr	17.62	18.29	18.7	
	Pollutant concentrations:					
	Total PM--reported	g	0.1078	0.1424	0.2294	
	Total PM--actual**	g	0.1374	0.1424	0.2294	
	Total PM--reported	G/dscf	0.0371	0.0485	0.0746	
	Total PM--actual	G/dscf	0.0473	0.0485	0.0746	
	PM-10	% OF TOTAL	27.5%	20.5%	20.6%	
	Pollutant mass flux rates:					
	Total PM	lb/hr	1.71	1.78	2.81	2.100
	PM-10	lb/hr	0.471	0.365	0.58	0.47
	Emission factors (ENGLISH UNITS):					AVERAGE
	Total PM	lb/bale	0.0972	0.0973	0.150	0.1149
	PM-10	lb/bale	0.0267	0.0199	0.0309	0.0259

*DSCFM BASED ON A STANDARD TEMPERATURE OF 60 DEGREES FAHRENHEIT

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TO OBTAIN TOTAL PROCESS EMISSION FACTORS, MULTIPLY THE CALCULATED EMISSION FACTORS BY THE TOTAL NUMBER OF PROCESS CYCLONES (3)

Source	Emission factors (ENGLISH UNITS):					AVERAGE
UNLOADING	Total PM	lb/bale	0.29	0.29	0.45	0.34
	PM-10	lb/bale	0.080	0.060	0.093	0.078
	Emission factors (METRIC UNITS):					AVERAGE
	Total PM	kg/bale	0.13	0.13	0.20	0.16
	PM-10	kg/bale	0.036	0.027	0.042	0.035

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STRATFORD GROWERS - OCT. 26-28, 1994

D. Emission Data/Mass Flux Rates/Emission Factors

Test ID	Parameter	Units	Values reported			
			Run 1	Run 2	Run 3	Run 4
3	Stack temperature	Deg F	90.6	95.4	101.2	
MASTER TRASH CYCLONE (1 OF 1)	Pressure	in. HG	29.93	29.93	29.93	
	Moisture	%	1.528	0.207	0.803	
	Oxygen	%	20.9	20.9	20.9	
	Volumetric flow, actual	acfm	6779	7015	7115	
	Volumetric flow, standard*	dscfm	6307	6556	6542	
	Isokinetic variation	%	99.6	94.8	95.9	
Circle: Production or feed rate Capacity:		bales/hr	20.54	21.49	19.34	
	Pollutant concentrations:					
	Total PM--reported	g	0.0898	0.0770	0.1045	
	Total PM--actual**	g	0.0898	0.0770	0.1045	
	Total PM--reported	G/dscf	0.0382	0.0331	0.0307	
	Total PM--actual	G/dscf	0.0382	0.0331	0.0307	
	PM-10	% OF TOTAL	39.9%	45.2%	9.7%	
	Pollutant mass flux rates:					
	Total PM	lb/hr	2.06	1.86	1.72	1.88
	PM-10	lb/hr	0.824	0.841	0.17	0.61
	Emission factors (ENGLISH UNITS):					AVERAGE
	Total PM	lb/bale	0.10	0.087	0.089	0.092
	PM-10	lb/bale	0.040	0.039	0.0086	0.029

*DSCFM BASED ON A STANDARD TEMPERATURE OF 60 DEGREES FAHRENHEIT

**Actual grams does not include negative reported impinger catches in the calculation of total PM catch.

TO OBTAIN TOTAL PROCESS EMISSION FACTORS, MULTIPLY THE CALCULATED EMISSION FACTORS BY THE TOTAL NUMBER OF PROCESS CYCLONES (1)

Source	Emission factors (ENGLISH UNITS):					AVERAGE
MASTER TRASH	Total PM	lb/bale	0.10	0.087	0.089	0.092
	PM-10	lb/bale	0.040	0.039	0.0086	0.029
	Emission factors (METRIC UNITS):					AVERAGE
	Total PM	kg/bale	0.046	0.039	0.040	0.042
	PM-10	kg/bale	0.018	0.018	0.0039	0.013

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STRATFORD GROWERS - OCT. 26-28, 1994

D. Emission Data/Mass Flux Rates/Emission Factors

Test ID	Parameter	Units	Values reported			
			Run 1	Run 2	Run 3	Run 4
4	Stack temperature	Deg F	87.4	88.8	90.7	
MOTES TRASH CYCLONE (1 OF 1)	Pressure	in. HG	29.96	29.95	29.95	
	Moisture	%	0.438	0.411	0.372	
	Oxygen	%	20.9	20.9	20.9	
	Volumetric flow, actual	acfm	2345	2407	2452	
	Volumetric flow, standard*	dscfm	2221	2274	2309	
	Isokinetic variation	%	87.5	93.9	92.9	
Circle: Production or feed rate Capacity:		bales/hr	22.08	19.49	17.64	
	Pollutant concentrations:					
	Total PM--reported	g	0.1785	0.1251	0.1242	
	Total PM--actual**	g	0.1785	0.1251	0.1242	
	Total PM--reported	G/dscf	0.0813	0.0519	0.0513	
	Total PM--actual	G/dscf	0.0813	0.0519	0.0513	
	PM-10	% OF TOTAL	33.8%	34.0%	32.6%	
	Pollutant mass flux rates:					
	Total PM	lb/hr	1.55	1.01	1.02	1.19
	PM-10	lb/hr	0.523	0.344	0.331	0.399
	Emission factors (ENGLISH UNITS):					AVERAGE
	Total PM	lb/bale	0.070	0.052	0.058	0.060
	PM-10	lb/bale	0.024	0.018	0.019	0.020

*DSCFM BASED ON A STANDARD TEMPERATURE OF 60 DEGREES FAHRENHEIT

**Actual grams does not include negative reported impinger catches in the calculation of total PM catch.

TO OBTAIN TOTAL PROCESS EMISSION FACTORS, MULTIPLY THE CALCULATED EMISSION FACTORS BY THE TOTAL NUMBER OF PROCESS CYCLONES (1)

Source	Emission factors (ENGLISH UNITS):		run 1 void--87% isokinetic			AVERAGE
MOTES TRASH	Total PM	lb/bale		0.052	0.058	0.055
	PM-10	lb/bale		0.018	0.019	0.018
	Emission factors (METRIC UNITS):					AVERAGE
	Total PM	kg/bale		0.024	0.026	0.025
	PM-10	kg/bale		0.0080	0.0085	0.0083

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STRATFORD GROWERS - OCT. 26-28, 1994

D. Emission Data/Mass Flux Rates/Emission Factors

Test ID	Parameter	Units	Values reported			
			Run 1	Run 2	Run 3	Run 4
5	Stack temperature	Deg F	100.2	100	96.6	
CYCLONE ROBBER SYSTEM (1 OF 2)	Pressure	in. HG	29.94	29.94	29.94	
	Moisture	%	0.729	0.011	0.213	
	Oxygen	%	20.9	20.9	20.9	
	Volumetric flow, actual	acfm	6530	6733	7014	
	Volumetric flow, standard*	dscfm	6021	6256	6543	
	Isokinetic variation	%	93.7	93.2	91	
Circle: Production or feed rate Capacity:		bales/hr	18.58	20.43	19.7	
	Pollutant concentrations:					
	Total PM--reported	g	0.0817	0.0793	0.0954	
	Total PM--actual**	g	0.0860	0.0793	0.0954	
	Total PM--reported	G/dscf	0.0321	0.0302	0.0355	
	Total PM--actual	G/dscf	0.0338	0.0302	0.0355	
	PM-10	% OF TOTAL	44.0%	20.5%	20.4%	
	Pollutant mass flux rates:					
	Total PM	lb/hr	1.74	1.62	1.99	1.78
	PM-10	lb/hr	0.767	0.332	0.406	0.502
	Emission factors (ENGLISH UNITS):					AVERAGE
	Total PM	lb/bale	0.094	0.079	0.10	0.091
	PM-10	lb/bale	0.041	0.016	0.021	0.026

*DSCFM BASED ON A STANDARD TEMPERATURE OF 60 DEGREES FAHRENHEIT

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TO OBTAIN TOTAL PROCESS EMISSION FACTORS, MULTIPLY THE CALCULATED EMISSION FACTORS BY THE TOTAL NUMBER OF PROCESS CYCLONES (2)

Source	Emission factors (ENGLISH UNITS):					AVERAGE
CYCLONE ROBBER SYSTEM	Total PM	lb/bale	0.19	0.16	0.20	0.18
	PM-10	lb/bale	0.083	0.032	0.041	0.052
	Emission factors (METRIC UNITS):					AVERAGE
	Total PM	kg/bale	0.085	0.072	0.092	0.083
	PM-10	kg/bale	0.037	0.015	0.019	0.024

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STRATFORD GROWERS - OCT. 26-28, 1994

D. Emission Data/Mass Flux Rates/Emission Factors

Test ID	Parameter	Units	Values reported			
			Run 1	Run 2	Run 3	Run 4
6	Stack temperature	Deg F	74.1	78.9	84.4	
FEEDER TRASH CYCLONE (1 OF 1)	Pressure	in. HG	29.89	29.89	29.89	
	Moisture	%	0.686	0.499	0.245	
	Oxygen	%	20.9	20.9	20.9	
	Volumetric flow, actual	acfm	5717	5800	5682	
	Volumetric flow, standard*	dscfm	5522	5563	5409	
	Isokinetic variation	%	94.7	93.7	92.3	
Circle: Production or feed rate Capacity:		bales/hr	18.47	20.55	20.61	
	Pollutant concentrations:					
	Total PM--reported	g	0.0435	0.0450	0.0478	
	Total PM--actual**	g	0.0435	0.0450	0.0478	
	Total PM--reported	G/dscf	0.0153	0.0159	0.0187	
	Total PM--actual	G/dscf	0.0153	0.0159	0.0187	
	PM-10	% OF TOTAL	25.3%	28.1%	15.5%	
	Pollutant mass flux rates:					
	Total PM	lb/hr	0.72	0.76	0.87	0.78
	PM-10	lb/hr	0.183	0.213	0.134	0.177
	Emission factors (ENGLISH UNITS):					AVERAGE
	Total PM	lb/bale	0.039	0.037	0.042	0.039
	PM-10	lb/bale	0.0099	0.010	0.0065	0.0089

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TO OBTAIN TOTAL PROCESS EMISSION FACTORS, MULTIPLY THE CALCULATED EMISSION FACTORS BY THE TOTAL NUMBER OF PROCESS CYCLONES (1)

Source	Emission factors (ENGLISH UNITS):					AVERAGE
~~CYCLONE~~ ~~ROBBER~~ ~~SYSTEM~~ GIN STAND FEEDER TRASH	Total PM	lb/bale	0.039	0.037	0.042	0.039
	PM-10	lb/bale	0.0099	0.010	0.0065	0.0089
	Emission factors (METRIC UNITS):					AVERAGE
	Total PM	kg/bale	0.018	0.017	0.019	0.018
	PM-10	kg/bale	0.0045	0.0047	0.0030	0.0041