

Note: This is a reference cited in AP 42, *Compilation of Air Pollutant Emission Factors, Volume I Stationary Point and Area Sources*. AP42 is located on the EPA web site at [www.epa.gov/ttn/chief/ap42/](http://www.epa.gov/ttn/chief/ap42/)

The file name refers to the reference number, the AP42 chapter and section. The file name "ref02\_c01s02.pdf" would mean the reference is from AP42 chapter 1 section 2. The reference may be from a previous version of the section and no longer cited. The primary source should always be checked.

<b>AP42 Section:</b>	<b>9.7</b>
<b>Background Chapter</b>	<b>4</b>
<b>Reference:</b>	<b>8</b>
<b>Title:</b>	<b>West Valley Cotton Growers--PM10 &amp; Total Particulate Testing--Battery Condenser and #3 Dryer/Cleaner Cyclones, BTC Environmental, Inc., Ventura, CA, October 28, 1993.</b>

WEST VALLEY COTTON GROWERS  
RIVERDALE, CA

COTTON8.WQ1

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 R	530.1	541.6	550.4	
Battery condenser cyclone	Moisture	%	1	1	0.6	
	Oxygen	%	20.9	20.9	20.9	
	Volumetric flow, actual	acfm	6710	7579	7460	
	Volumetric flow, standard	dscfm	6474	7163	6937	
	Isokinetic variation	%	100.2	98.1	97.3	
Circle: Production or feed rate Capacity:		bales/hr	16	20.9	22.3	
Battery condenser controlled by a single 80" 1D-3D cyclone	Pollutant concentrations:					
	Total PM	g/dscf	0.0152	0.0131	0.0131	
	Filterable PM	% of total	99.01%	93.42%	93.96%	
	Condensible PM	% of total	0.99%	6.58%	6.04%	
	Pollutant mass flux rates:					
	Total PM	lb/hr	0.843	0.804	0.779	
	Filterable PM	lb/hr	0.835	0.751	0.732	
	Condensible PM	lb/hr	0.00831	0.0529	0.0471	
	Emission factors:					
	Total PM	lb/bale	0.0527	0.0385	0.0349	0.0420
	Filterable PM	lb/bale	0.0522	0.0360	0.0328	0.0403
Condensible PM	lb/bale	0.000519	0.00253	0.00211	0.00172	

Use total PM data only--condensible PM considered negligible

Test ID	Parameter	Units	Values reported			
			Run 1	Run 2	Run 3	Run 4
2	Stack temperature	Deg R	528.3	539.3	549.4	
Battery condenser cyclone	Moisture	%	1.491	1.12	1.35	
	Oxygen	%	20.9	20.9	20.9	
	Volumetric flow, actual	acfm	6257	7817	7500	
	Volumetric flow, standard	dscfm	6030	7408	6935	
	Isokinetic variation	%	80.2	85.1	85.1	
Circle: Production or feed rate Capacity:		bales/hr	16	20.9	22.3	
Battery condenser controlled by a single 80" 1D-3D cyclone	Pollutant concentrations:					
	PM-10	% of PM	43.87%	50.49%	24.32%	
	Pollutant mass flux rates:					
	PM-10	lb/hr	0.37	0.41	0.19	
	Emission factors:					
PM-10	lb/bale	0.0231	0.0194	0.0085	0.0170	

Test ID	Parameter	Units	Values reported			
			Run 1	Run 2	Run 3	Run 4
3	Stack temperature	Deg R	556.7	559.5	553.6	
#3 Dryer/ cleaner cyclone	Moisture	%	1	0.8	0.7	
	Oxygen	%	20.9	20.9	20.9	
	Volumetric flow, actual	acfm	2156	2233	2200	
	Volumetric flow, standard	dscfm	1965	2030	2022	
	Isokinetic variation	%	97.9	97.7	90.5	
Circle: Production or feed rate Capacity:		bales/hr	23.2	24.3	22.7	
Controlled by three 38" 1D-3D cyclones	Pollutant concentrations:					
	Total PM	g/dscf	0.0441	0.0346	0.0307	
	Filterable PM	% of total	81.24%	98.26%	94.24%	
	Condensable PM	% of total	18.76%	1.74%	5.76%	
	Pollutant mass flux rates:					
	Total PM	lb/hr	0.743	0.602	0.532	
	Filterable PM	lb/hr	0.603	0.592	0.501	
	Condensable PM	lb/hr	0.13932	0.0105	0.0306	
	Emission factors:					
	Total PM	lb/bale	0.0464	0.0288	0.0239	0.0330
	Filterable PM	lb/bale	0.0377	0.0283	0.0225	0.0295
	Condensable PM	lb/bale	0.008707	0.00050	0.00137	0.00353

Multiply single cyclone emission factors by three to determine total process emissions

3 cyclone Emission factors:						
Total PM	lb/bale	0.14	0.086	0.072	0.099	

Test ID	Parameter	Units	Values reported			
			Run 1	Run 2	Run 3	Run 4
4	Stack temperature	Deg R	556.6	556.8	554	
#3 Dryer/ cleaner cyclone	Moisture	%	0.776	1.717	1.05	
	Oxygen	%	20.9	20.9	20.9	
	Volumetric flow, actual	acfm	2151	2194	2168	
	Volumetric flow, standard	dscfm	1966	1985	1984	
	Isokinetic variation	%	83	83.6	84	
Circle: Production or feed rate Capacity:		bales/hr	23.2	24.3	22.7	
Controlled by three 38" 1D-3D cyclones	Pollutant concentrations:					
	PM-10	% of PM	36.23%	28.14%	41.19%	
	Pollutant mass flux rates:					
	PM-10	lb/hr	0.27	0.17	0.22	
	Emission factors:					
PM-10	lb/bale	0.0168	0.0081	0.0098	0.0116	

Multiply single cyclone emission factors by three to determine total process emissions

3 cyclone Emission factors:						
PM-10	lb/bale	0.050	0.024	0.029	0.035	