

PM 2.5 Modeling 10/05/08

Annual Concentration - Max Receptor Location								Annual Concentration - Garfield School							
Year	Current Plant Operation ug/m3	Phase 1 Changes ug/m3	Phase 2 Changes ug/m3	Phase 3 Changes ug/m3	Phase 4 Changes ug/m3	Phase 5 Changes ug/m3	Phase 6 Changes ug/m3	Year	Current Plant Operation ug/m3	Phase 1 Changes ug/m3	Phase 2 Changes ug/m3	Phase 3 Changes ug/m3	Phase 4 Changes ug/m3	Phase 5 Changes ug/m3	Phase 6 Changes ug/m3
2003	19.86	-17.1%	-70.2%	-73.1%	-73.4%	-75.0%	-75.3%	2003	2.91	-19.2%	-37.8%	-43.0%	-43.0%	-47.8%	-48.8%
2004	20.30	-16.7%	-66.9%	-70.0%	-70.3%	-72.1%	-72.3%	2004	2.58	-16.3%	-33.7%	-38.8%	-38.8%	-43.4%	-45.0%
2005	22.17	-28.9%	-69.5%	-72.3%	-72.5%	-74.4%	-74.6%	2005	3.07	-18.2%	-36.2%	-41.4%	-41.7%	-46.3%	-47.6%
2006	19.97	-20.9%	-68.0%	-70.9%	-71.1%	-73.0%	-73.2%	2006	2.66	-15.4%	-30.5%	-36.5%	-36.5%	-40.6%	-42.1%
2007	22.14	-18.5%	-67.7%	-71.5%	-72.4%	-74.2%	-74.4%	2007	3.15	-19.0%	-37.5%	-42.5%	-42.9%	-47.6%	-48.6%

Highest Concentration - Max Receptor Location								Highest Concentration - Garfield School							
Year	Current Plant Operation ug/m3	Phase 1 Changes ug/m3	Phase 2 Changes ug/m3	Phase 3 Changes ug/m3	Phase 4 Changes ug/m3	Phase 5 Changes ug/m3	Phase 6 Changes ug/m3	Year	Current Plant Operation ug/m3	Phase 1 Changes ug/m3	Phase 2 Changes ug/m3	Phase 3 Changes ug/m3	Phase 4 Changes ug/m3	Phase 5 Changes ug/m3	Phase 6 Changes ug/m3
2003	109.70	-1.5%	-66.0%	-69.4%	-69.6%	-71.1%	-71.3%	2003	20.41	-20.6%	-37.5%	-44.8%	-44.9%	-47.5%	-48.4%
2004	115.00	-22.3%	-68.6%	-74.4%	-74.5%	-75.2%	-75.4%	2004	20.67	-24.0%	-27.9%	-35.2%	-35.3%	-35.3%	-35.7%
2005	108.00	-13.8%	-65.6%	-71.0%	-71.0%	-72.4%	-72.4%	2005	28.50	-38.7%	-51.5%	-56.1%	-56.1%	-57.7%	-57.9%
2006	104.00	-3.8%	-61.9%	-68.1%	-68.1%	-69.0%	-69.2%	2006	28.63	-38.8%	-58.2%	-61.9%	-61.9%	-63.8%	-64.7%
2007	110.00	-4.5%	-64.4%	-69.6%	-69.9%	-71.8%	-72.1%	2007	24.47	-18.1%	-34.5%	-35.6%	-35.6%	-43.1%	-43.4%

8th Highest Concentration - Max Receptor Location								8th Highest Concentration - Garfield School							
Year	Current Plant Operation ug/m3	Phase 1 Changes ug/m3	Phase 2 Changes ug/m3	Phase 3 Changes ug/m3	Phase 4 Changes ug/m3	Phase 5 Changes ug/m3	Phase 6 Changes ug/m3	Year	Current Plant Operation ug/m3	Phase 1 Changes ug/m3	Phase 2 Changes ug/m3	Phase 3 Changes ug/m3	Phase 4 Changes ug/m3	Phase 5 Changes ug/m3	Phase 6 Changes ug/m3
2003	82.67	-8.0%	-62.9%	-66.1%	-66.1%	-67.6%	-67.8%	2003	15.61	-17.2%	-31.6%	-36.6%	-36.6%	-41.8%	-42.3%
2004	73.59	-9.1%	-60.3%	-64.0%	-64.1%	-65.7%	-66.0%	2004	15.55	-16.8%	-34.1%	-38.5%	-38.5%	-45.9%	-47.0%
2005	80.14	-26.8%	-64.8%	-68.5%	-68.5%	-69.7%	-70.0%	2005	17.46	-16.8%	-36.4%	-40.3%	-40.4%	-46.5%	-46.6%
2006	68.85	-1.1%	-57.9%	-62.3%	-63.2%	-64.6%	-64.9%	2006	15.02	-18.7%	-29.4%	-35.1%	-35.2%	-39.4%	-40.0%
2007	82.30	-18.3%	-65.2%	-69.1%	-69.1%	-70.0%	-70.2%	2007	18.53	-17.8%	-34.8%	-43.9%	-43.9%	-49.8%	-49.9%

Sub project	Completion Date	Description
Phase 1	3rd Qtr, 2010	Install Fences; replace EP119 w/baghouse; replace EP98 w/ baghouse; extend stacks on EP135, EP136; biogas to GP2; Sharples to atm; DH4 fugitives to stacks, extend stacks 40 feet on EP 108.1-108.3, 125.0, 127.0, 137.0, 164.0
Phase 2	3rd Qtr 2012	Install Wet Feed Receiving; Shut down DH1 EP 40.0, 41.0, 42.0, 85.0; Shut down DH2 EP28.1,28.2,28.3,32.1-32.6
Phase 3	4th Qtr 2013	Increase stack heights on P&S Aerodynes, EP 26.1-26.4, 91.3, 92.3, 101.3, 121.3 40 feet; Increase stack height to 150 feet on Starch #1, #2 Flash Dryers EP 143, 158.
Phase 4	2014	Modify Speciality Products sources EP2A, 2B, 2C, 3, 5, 8 by installing baghouse or extending stack to 90 feet.
Phase 5	4th Qtr 2014	Commence operation of Gluten Plant 3 EP563; shut down GP1, EP43.1, 46.0, 536.0
Phase 6	2015?	Boiler MACT, reduce emissions on GEP stack

Drier House Fugitive Emissions Estimation

Fugitive emission sources inside the building, assume 50% control factor for building DH1, DH2, and DH4 sources, use building dimensions for volume source calculations Estimate emissions as 10% of PM10, generated as smoke. From AP42 factors for wood/bark burning uncontrolled (smoke), PM2.5 is approximately 84% of PM10 emissions Assume all sharp emissions are fugitive

DH1 Fugitive Estimates

#1-6 Driers PM10 Emissions = 4.548 lb/hr

Sharples PM10 Emissions = 0.054 lb/hr

10% PM10 Emissions from Rotary Driers:

$$4.548 \frac{\text{lb}}{\text{hr}} \left| \frac{1}{(1-0.1)} \right. - 4.548 \frac{\text{lb}}{\text{hr}} = \frac{0.51 \text{ lb}}{\text{hr}}$$

$$0.51 \frac{\text{lb}}{\text{hr}} + 0.054 \frac{\text{lb}}{\text{hr}} = 0.56 \frac{\text{lb}}{\text{hr}}$$

$$0.56 \frac{\text{lb}}{\text{hr}} \quad 84 \% \quad \times \quad 50 \% = \boxed{0.235 \text{ lb/hr}}$$

DH2 Fugitive Estimates

#2 Drier PM10 Emissions = 16.22 lb/hr

Sharples PM10 Emissions = 0.054 lb/hr

10% PM10 Emissions from Rotary Driers:

$$16.22 \frac{\text{lb}}{\text{hr}} \left| \frac{1}{(1-0.1)} \right. - 16.22 \frac{\text{lb}}{\text{hr}} = \frac{1.80 \text{ lb}}{\text{hr}}$$

$$1.80 \frac{\text{lb}}{\text{hr}} + 0.054 \frac{\text{lb}}{\text{hr}} = 1.86 \frac{\text{lb}}{\text{hr}}$$

$$1.86 \frac{\text{lb}}{\text{hr}} \quad 84 \% \quad \times \quad 50 \% = \boxed{0.780 \text{ lb/hr}}$$

DH4 Fugitive Estimates

#1-6 Driers PM10 Emissions = 19.41 lb/hr

Sharples PM10 Emissions = 0.162 lb/hr

10% PM10 Emissions from Rotary Driers:

$$19.41 \frac{\text{lb}}{\text{hr}} \left| \frac{1}{(1-0.1)} \right. - 19.41 \frac{\text{lb}}{\text{hr}} = \frac{2.16 \text{ lb}}{\text{hr}}$$

$$2.16 \frac{\text{lb}}{\text{hr}} + 0.162 \frac{\text{lb}}{\text{hr}} = 2.32 \frac{\text{lb}}{\text{hr}}$$

$$2.32 \frac{\text{lb}}{\text{hr}} \quad 84 \% \quad \times \quad 50 \% = \boxed{0.974 \text{ lb/hr}}$$

24-Hour PM2.5 Emissions using Particle Size Distribution

kpb 10/04/08

Title V Emission Point Number	Title V Emission Unit Number	Emission Source Description	Similar Emission Source Stack Tests & Date or AP-42	PM10 After Control Emission Factor lb/ton	PM10 Control Efficiency %	PM10 Before Control Emission Factor lb/ton	% of PM10 Emission Factor that is PM2.5 % w/v	PM2.5 Efficiency %	Production Capacity TPH	24-hour Particle Size Distribution Emissions Rate lb/hr	Particle Size Distribution used for Similar Emission Sources
1.0	5201.0	PH, GEP Stack	EP1.0 - 8/29/06			5.640	1.0000	0.860	34.24	27.03590	AP-42 Factor
2.0	5213.0	PH, Ash Silo Dust Collector	EP2.0 - 10/9/07	0.003	0.998	1.267	0.0258	0.991	29.25	0.00860	Ash Sample
14.0	2801.0	WM, #1 Wet Germ Cyclone	EP194.0 - 2/27/03	0.006	0.500	0.011	0.0109	0.100	6.65	0.00074	Germ Sample
15.0	2802.0, 2803.0	WM, #1 & 2 Germ Dryers	EP178.0 - 7/24/07	0.057	0.500	0.113	0.0109	0.100	13.30	0.01479	Germ Sample
24.1	2404.0	Starch, #1 P&S Dryer	EP121.1 - 6/26/02; EP121.3 8/16/05	0.076	0.000	0.076	0.0653	0.000	4.25	0.02121	Belt Dried Starch Sample
25.1	2404.0	Starch, #1 P&S Dryer	EP121.1 - 6/26/02; EP121.3 8/16/05	0.076	0.000	0.076	0.0653	0.000	4.25	0.02121	Belt Dried Starch Sample
26.1	2404.0	Starch, #1 P&S Dryer	EP121.1 - 6/26/02; EP121.3 8/16/05	0.317	0.950	6.344	0.0653	0.800	4.25	0.35211	Belt Dried Starch Sample
24.2	2405.0	Starch, #2 P&S Dryer	EP121.1 - 6/26/02; EP121.3 8/16/05	0.076	0.000	0.076	0.0653	0.000	4.25	0.02121	Belt Dried Starch Sample
25.2	2405.0	Starch, #2 P&S Dryer	EP121.1 - 6/26/02; EP121.3 8/16/05	0.076	0.000	0.076	0.0653	0.000	4.25	0.02121	Belt Dried Starch Sample
26.2	2405.0	Starch, #2 P&S Dryer	EP121.1 - 6/26/02; EP121.3 8/16/05	0.317	0.950	6.344	0.0653	0.800	4.25	0.35211	Belt Dried Starch Sample
24.3	2406.0	Starch, #3 P&S Dryer	EP121.1 - 6/26/02; EP121.3 8/16/05	0.076	0.000	0.076	0.0653	0.000	4.25	0.02121	Belt Dried Starch Sample
25.3	2406.0	Starch, #3 P&S Dryer	EP121.1 - 6/26/02; EP121.3 8/16/05	0.076	0.000	0.076	0.0653	0.000	4.25	0.02121	Belt Dried Starch Sample
26.3	2406.0	Starch, #3 P&S Dryer	EP121.1 - 6/26/02; EP121.3 8/16/05	0.317	0.950	6.344	0.0653	0.800	4.25	0.35211	Belt Dried Starch Sample
24.4	2407.0	Starch, #4 P&S Dryer	EP121.1 - 6/26/02; EP121.3 8/16/05	0.076	0.000	0.076	0.0653	0.000	4.25	0.02121	Belt Dried Starch Sample
25.4	2407.0	Starch, #4 P&S Dryer	EP121.1 - 6/26/02; EP121.3 8/16/05	0.076	0.000	0.076	0.0653	0.000	4.25	0.02121	Belt Dried Starch Sample
26.4	2407.0	Starch, #4 P&S Dryer	EP121.1 - 6/26/02; EP121.3 8/16/05	0.317	0.950	6.344	0.0653	0.800	4.25	0.35211	Belt Dried Starch Sample
28.1	1201.0	DH1, #1 Product Aerodyne	EP139.0 - 8/1/02	0.095	0.950	1.901	0.0229	0.800	3.25	0.02829	Feed After Mill Sample
28.2	1202.0	DH1, #2 Product Aerodyne	EP139.0 - 8/1/02	0.095	0.950	1.901	0.0229	0.800	3.25	0.02829	Feed After Mill Sample
28.3	1203.0	DH1, #3 Product Aerodyne	EP139.0 - 8/1/02	0.095	0.950	1.901	0.0229	0.800	3.25	0.02829	Feed After Mill Sample
32.1	1207.0	DH1, #1 Rotary Dryer	EP137.0 - 2/15/06	0.467	0.037	0.485	0.0229	0.015	1.63	0.01776	Feed After Mill Sample
32.2	1208.0	DH1, #2 Rotary Dryer	EP137.0 - 2/15/06	0.467	0.037	0.485	0.0229	0.015	1.63	0.01776	Feed After Mill Sample
32.3	1209.0	DH1, #3 Rotary Dryer	EP137.0 - 2/15/06	0.467	0.037	0.485	0.0229	0.015	1.63	0.01776	Feed After Mill Sample
32.4	1210.0	DH1, #4 Rotary Dryer	EP137.0 - 2/15/06	0.467	0.037	0.485	0.0229	0.015	1.63	0.01776	Feed After Mill Sample
32.5	1211.0	DH1, #5 Rotary Dryer	EP137.0 - 2/15/06	0.467	0.037	0.485	0.0229	0.015	1.63	0.01776	Feed After Mill Sample
32.6	1212.0	DH1, #6 Rotary Dryer	EP137.0 - 2/15/06	0.467	0.037	0.485	0.0229	0.015	1.63	0.01776	Feed After Mill Sample
38.0	1213.0	DH2, Gluten Day Bin Baghouse	EP38.0 - 1/24/07	0.010	0.995	1.920	0.0106	0.990	6.85	0.00139	Gluten Sample
40.0	1214.0	DH2, Rotary Dryer	EP40.0 - 8/23/05	2.317	0.999	2317.143	0.0229	0.990	8.00	4.24501	Feed After Mill Sample
40.0	1214.1	DH2, Rotary Dryer Nat. Gas	AP-42			7.600	1.0000	0.990	0.154	0.01157	AP-42 Factor
41.0	1215.0	DH2, Dry End Pickup	EP41.0 - 8/23/05	1.041	0.500	2.083	0.0229	0.100	8.00	0.34342	Feed After Mill Sample
42.0	1216.0	DH2, #1 Mill Aerodyne	EP139.0 - 8/1/02	0.095	0.950	1.901	0.0229	0.800	7.20	0.06268	Feed After Mill Sample
43.1	1217.0	GP1, #1 Scrubber Units	EP46.0 - 8/25/05	3.601	0.999	3601.449	0.0106	0.990	1.35	0.51537	Gluten Sample
43.1	1217.1	GP1, #1 Scrubber Units Nat. Gas	AP-42			7.600	1.0000	0.990	0.025	0.00190	AP-42 Factor
43.1	1217.2	GP1, #2 Scrubber Units	EP46.0 - 8/25/05	3.601	0.999	3601.449	0.0106	0.990	1.35	0.51537	Gluten Sample
43.1	1217.3	GP1, #2 Scrubber Units Nat. Gas	AP-42			7.600	1.0000	0.990	0.025	0.00190	AP-42 Factor
46.0	1221.0	GP1, #3 Unit Scrubber	EP46.0 - 8/25/05	3.601	0.999	3601.449	0.0106	0.990	3.20	1.22161	Gluten Sample
46.0	1221.1	GP1, #3 Unit Scrubber Nat. Gas	AP-42			7.600	1.0000	0.990	0.030	0.00228	AP-42 Factor
60.0	2415.0	Starch WHSE, Quonset Bulk Loading (Track #3 & #4 North Bulk Loading)	EP60.0 - 2/25/03	0.004	0.995	0.880	0.0791	0.990	30.00	0.02088	Flash Dried Starch Sample
66.0	3101.0	Maltrin, #1 Spray Dryer	EP66.0 - 5/18/05	1.387	0.990	138.686	0.0791	0.900	1.50	1.64551	Flash Dried Starch Sample
66.0	3101.1	Maltrin, #1 Spray Dryer Nat. Gas	AP-42			7.600	1.0000	0.900	0.050	0.03850	AP-42 Factor
67.0	3102.0	Maltrin, Product Filter (CS Filter)	EP538.0 - 2/14/06	0.163	0.995	32.520	0.0791	0.990	2.40	0.06174	Flash Dried Starch Sample
68.0	3103.0	Maltrin, Dust System Bag Filter (RJ Filter)	EP538.0 - 2/14/06	0.163	0.995	32.520	0.0791	0.990	0.90	0.02315	Flash Dried Starch Sample
79.0	1224.0	DH3, Primary Dryer	EP79.0 - 8/23/05	0.413	0.500	0.827	0.0229	0.100	1.75	0.02982	Hulls Sample
80.0	1224.0	DH3, Primary Dryer	EP79.0 - 8/23/05	0.413	0.500	0.827	0.0229	0.100	1.75	0.02982	Hulls Sample
81.0	1224.0	DH3, Primary Dryer	EP79.0 - 8/23/05	0.413	0.500	0.827	0.0229	0.100	1.75	0.02982	Hulls Sample
82.0	1224.0	DH3, Primary Dryer	EP79.0 - 8/23/05	0.413	0.500	0.827	0.0229	0.100	1.75	0.02982	Hulls Sample
79.0 - 82.0	1224.1	DH3, Primary Dryer Nat. Gas	AP-42			3.800	1.0000	0.100	0.035	0.11970	AP-42 Factor
85.0	1225.0	DH2, Mill Aerodyne	EP139.0 - 8/1/02	0.095	0.950	1.901	0.0229	0.800	7.20	0.06268	Feed After Mill Sample
91.1	2411.0	Starch, #9 P&S Dryer	EP121.1 - 6/26/02; EP121.3 8/16/05	0.076	0.000	0.076	0.0653	0.000	4.25	0.02121	Belt Dried Starch Sample
91.2	2411.0	Starch, #9 P&S Dryer	EP121.1 - 6/26/02; EP121.3 8/16/05	0.076	0.000	0.076	0.0653	0.000	4.25	0.02121	Belt Dried Starch Sample
91.3	2411.0	Starch, #9 P&S Dryer	EP121.1 - 6/26/02; EP121.3 8/16/05	0.317	0.950	6.344	0.0653	0.800	4.25	0.35211	Belt Dried Starch Sample
92.1	2412.0	Starch, #10 P&S Dryer	EP121.1 - 6/26/02; EP121.3 8/16/05	0.076	0.000	0.076	0.0653	0.000	4.25	0.02121	Belt Dried Starch Sample
92.2	2412.0	Starch, #10 P&S Dryer	EP121.1 - 6/26/02; EP121.3 8/16/05	0.076	0.000	0.076	0.0653	0.000	4.25	0.02121	Belt Dried Starch Sample
92.3	2412.0	Starch, #10 P&S Dryer	EP121.1 - 6/26/02; EP121.3 8/16/05	0.317	0.950	6.344	0.0653	0.800	4.25	0.35211	Belt Dried Starch Sample
95.0	2416.0	Starch WHSE, South Bulk Loading Aerodyne (Track #3 South Bulk Loadout)	EP60.0 - 2/25/03	0.004	0.995	0.880	0.0791	0.990	25.50	0.01775	Flash Dried Starch Sample
96.0	2803.0	WM, #2 Wet Germ Cyclone	EP194.0 - 2/27/03	0.006	0.500	0.011	0.0109	0.100	6.65	0.00074	Germ Sample
97.0	2804.0	WM, #3 Wet Germ Cyclone (#3 Germ Dryer)	EP178.0 - 7/24/07	0.057	0.500	0.113	0.0109	0.100	6.65	0.00740	Germ Sample
98.0	2805.0	Expeller, Dry Germ Cyclone	EP545.0 - 7/26/07	0.048	0.500	0.095	0.0109	0.100	13.30	0.01243	Germ Sample

Title V Emission Point Number	Title V Emission Unit Number	Emission Source Description	Similar Emission Source Stack Tests & Date or AP-42	PM10 After Control Emission Factor lb/ton	PM10 Control Efficiency %	PM10 Before Control Emission Factor lb/ton	% of PM10 Emission Factor that is PM2.5 % w/v	PM2.5 Efficiency %	Production Capacity TPH	24-hour Particle Size Distribution Emissions Rate lb/hr	Particle Size Distribution used for Similar Emission Sources
101.1	2413.0	Starch, #8 P&S Dryer	EP121.1 - 6/26/02; EP121.3 8/16/05	0.076	0.000	0.076	0.0653	0.000	4.25	0.02121	Belt Dried Starch Sample
101.2	2413.0	Starch, #8 P&S Dryer	EP121.1 - 6/26/02; EP121.3 8/16/05	0.076	0.000	0.076	0.0653	0.000	4.25	0.02121	Belt Dried Starch Sample
101.3	2413.0	Starch, #8 P&S Dryer	EP121.1 - 6/26/02; EP121.3 8/16/05	0.317	0.950	6.344	0.0653	0.800	4.25	0.35211	Belt Dried Starch Sample
108.1	1228.0	DH4, #1 Rotary Dryer	EP137.0 - 2/15/06	0.467	0.037	0.485	0.0229	0.015	5.40	0.05903	Feed After Mill Sample
108.2	1229.0	DH4, #2 Rotary Dryer	EP137.0 - 2/15/06	0.467	0.037	0.485	0.0229	0.015	5.40	0.05903	Feed After Mill Sample
108.3	1230.0	DH4, #3 Rotary Dryer	EP137.0 - 2/15/06	0.467	0.037	0.485	0.0229	0.015	5.40	0.05903	Feed After Mill Sample
110.0	1231.0	DH4, #1 Mill Aerodyne	EP139.0 - 8/1/02	0.095	0.950	1.901	0.0229	0.800	5.40	0.04701	Feed After Mill Sample
111.0	1232.0	DH4, #2 Mill Aerodyne	EP139.0 - 8/1/02	0.095	0.950	1.901	0.0229	0.800	5.40	0.04701	Feed After Mill Sample
112.0	1233.0	DH4, #3 Mill Aerodyne	EP139.0 - 8/1/02	0.095	0.950	1.901	0.0229	0.800	5.40	0.04701	Feed After Mill Sample
113.0	1231.1	DH4, #1 Product Baghouse	EP113.0 - 10/7/03	0.021	0.995	4.127	0.0229	0.990	5.40	0.00510	Feed After Mill Sample
114.0	1232.1	DH4, #2 Product Aerodyne	EP139.0 - 8/1/02	0.095	0.950	1.901	0.0229	0.800	5.40	0.04701	Feed After Mill Sample
115.0	1233.1	DH4, #3 Product Aerodyne	EP139.0 - 8/1/02	0.095	0.950	1.901	0.0229	0.800	5.40	0.04701	Feed After Mill Sample
119.0	1234.0	DH WHSE, #1 Feed Cooler	EP167.0 - 8/25/05	0.007	0.500	0.014	0.0229	0.100	25.00	0.00725	Feed After Mill Sample
121.1	2414.0	Starch, #11 P&S Dryer	EP121.1 - 6/26/02; EP121.3 8/16/05	0.076	0.000	0.076	0.0653	0.000	4.25	0.02121	Belt Dried Starch Sample
121.2	2414.0	Starch, #11 P&S Dryer	EP121.1 - 6/26/02; EP121.3 8/16/05	0.076	0.000	0.076	0.0653	0.000	4.25	0.02121	Belt Dried Starch Sample
121.3	2414.0	Starch, #11 P&S Dryer	EP121.1 - 6/26/02; EP121.3 8/16/05	0.317	0.950	6.344	0.0653	0.800	4.25	0.35211	Belt Dried Starch Sample
122.0	2435.0	Starch WHSE, Pearl Starch Storage Bin	EP60.0 - 2/25/03	0.004	0.995	0.880	0.0791	0.990	31.50	0.02192	Flash Dried Starch Sample
125.0	1235.0	DH4, #4 Rotary Dryer	EP137.0 - 2/15/06	0.467	0.037	0.485	0.0229	0.015	5.40	0.05903	Feed After Mill Sample
126.0	2807.0	WM, #4 Germ Dryer	EP178.0 - 7/24/07	0.057	0.500	0.113	0.0109	0.100	6.65	0.00740	Germ Sample
127.0	1236.0	DH4, #5 Rotary Dryer	EP137.0 - 2/15/06	0.467	0.037	0.485	0.0229	0.015	5.40	0.05903	Feed After Mill Sample
128.0	1237.0	DH4, #4 Mill Aerodyne	EP139.0 - 8/1/02	0.095	0.950	1.901	0.0229	0.800	5.40	0.04701	Feed After Mill Sample
129.0	1237.1	DH4, #4 Product Baghouse	EP113.0 - 10/7/03	0.021	0.995	4.127	0.0229	0.990	5.40	0.00510	Feed After Mill Sample
130.0	2434.0	Starch WHSE, Bagger Dust Control	EP130.0 - 2/25/03	0.004	0.995	0.736	0.0791	0.990	36.00	0.02096	Flash Dried Starch Sample
132.1	3111.0	Maltrin, #3 Spray Dryer	EP132.1 - 4/9/03	0.587	0.990	58.664	0.0791	0.900	2.88	1.33410	Flash Dried Starch Sample
132.2	3111.0	Maltrin, #3 Spray Dryer	EP132.1 - 4/9/03	0.587	0.990	58.664	0.0791	0.900	2.88	1.33410	Flash Dried Starch Sample
132.1 - 132.2	3111.1	Maltrin, #3 Spray Dryer Nat. Gas	AP-42			7.600	1.0000	0.900	0.100	0.07240	AP-42 Factor
133.0	3501.0	CoPo, Disc Dryer Product Handling	EP188.0 - 3/15/05	0.169	0.995	33.796	0.0653	0.990	0.33	0.00717	Belt Dried Starch Sample
134.0	3502.0	CoPo, Disc Dryer Product Transfer	EP188.0 - 3/15/05	0.169	0.995	33.796	0.0653	0.990	0.32	0.00706	Belt Dried Starch Sample
135.0	3110.0	Maltrin, #4 Spray Dryer	EP135.0 & 136.0 - 7/25/07	0.466	0.990	46.562	0.0791	0.900	4.17	1.53400	Flash Dried Starch Sample
136.0	3110.0	Maltrin, #4 Spray Dryer	EP135.0 & 136.0 - 7/25/07	0.593	0.990	59.349	0.0791	0.900	4.17	1.95525	Flash Dried Starch Sample
135.0 - 136.0	3110.1	Maltrin, #4 Spray Dryer Nat. Gas	AP-42			7.600	1.0000	0.900	0.105	0.07940	AP-42 Factor
137.0	1238.0	DH4, #6 Rotary Dryer	EP137.0 - 2/15/06	0.467	0.037	0.485	0.0229	0.015	8.00	0.08745	Feed After Mill Sample
138.0	1239.0	DH4, #5 Milling Aerodyne	EP139.0 - 8/1/02	0.095	0.950	1.901	0.0229	0.800	13.40	0.11665	Feed After Mill Sample
139.0	1239.1	DH4, #5 Product Aerodyne	EP139.0 - 8/1/02	0.095	0.950	1.901	0.0229	0.800	8.00	0.06964	Feed After Mill Sample
140.0	1240.0	DH4, #6 Mill Aerodyne	EP139.0 - 8/1/02	0.095	0.950	1.901	0.0229	0.800	13.40	0.11665	Feed After Mill Sample
141.0	1240.1	DH4, #6 Product Aerodyne	EP139.0 - 8/1/02	0.095	0.950	1.901	0.0229	0.800	8.00	0.06964	Feed After Mill Sample
142.0	5210.0	PH, Boiler #10	EP142.0 - 7/24/07			7.600	1.0000	0.000	0.16	0.00000	AP-42 Factor
143.0	2431.0	Starch, #1 Flash Dryer	EP143.0 - 10/12/04	0.844	0.990	84.423	0.0791	0.900	11.35	7.57937	Flash Dried Starch Sample
144.0	2436.0	Starch WHSE, Food Grade Bagger Dust Collector	EP130.0 - 2/25/03	0.004	0.995	0.736	0.0791	0.990	15.00	0.00873	Flash Dried Starch Sample
145.0	2418.0	Starch WHSE, Food Grade Bulk Loading	EP60.0 - 2/25/03	0.004	0.995	0.880	0.0791	0.990	11.35	0.00790	Flash Dried Starch Sample
147.0	2808.0	WM, #1 Corn Cleaner	EP147.0 - 2/16/06	0.002	0.995	0.368	0.0351	0.990	204.00	0.02632	Corn Dust Sample
149.0	2419.0	Starch WHSE, Food Grade Silo, #1 Bin Vent	EP60.0 - 2/25/03	0.004	0.995	0.880	0.0791	0.990	10.50	0.00731	Flash Dried Starch Sample
150.0	2420.0	Starch WHSE, Food Grade Silo, #2 Bin Vent	EP60.0 - 2/25/03	0.004	0.995	0.880	0.0791	0.990	10.50	0.00731	Flash Dried Starch Sample
151.0	2421.0	Starch WHSE, Food Grade Silo, #3 Bin Vent	EP60.0 - 2/25/03	0.004	0.995	0.880	0.0791	0.990	10.50	0.00731	Flash Dried Starch Sample
152.0	2422.0	Starch WHSE, Food Grade Silo, #4 Bin Vent	EP60.0 - 2/25/03	0.004	0.995	0.880	0.0791	0.990	10.50	0.00731	Flash Dried Starch Sample
153.0	5211.0	PH, Boiler #11	EP142.0 - 7/24/07			7.600	1.0000	0.000	0.16	0.00000	AP-42 Factor
154.0	3105.0	Maltrin, #1 Agglomerator	EP538.0 - 2/14/06	0.163	0.995	32.520	0.0791	0.990	0.90	0.02315	Flash Dried Starch Sample
155.0	2423.0	Starch WHSE, Super Sacker	EP130.0 - 2/25/03	0.004	0.995	0.736	0.0791	0.990	45.00	0.02620	Flash Dried Starch Sample
156.0	3106.0	Maltrin, #2 Agglomerator	EP538.0 - 2/14/06	0.163	0.995	32.520	0.0791	0.990	0.90	0.02315	Flash Dried Starch Sample
157.0	3107A	Maltrin, Bagger (Supersack Bin Receiver)	EP157.0 - 8/17/05	0.021	0.995	4.159	0.0791	0.990	6.00	0.01974	Flash Dried Starch Sample
158.0	2424.0	Starch, #2 Flash Dryer	EP143.0 - 10/12/04	0.844	0.990	84.423	0.0791	0.900	15.63	10.43416	Flash Dried Starch Sample
159.0	2425.0	Starch WHSE, #5 Starch Silo (N)	EP60.0 - 2/25/03	0.004	0.995	0.880	0.0791	0.990	15.63	0.01087	Flash Dried Starch Sample
160.0	2426.0	Starch WHSE, #6 Starch Silo (E)	EP60.0 - 2/25/03	0.004	0.995	0.880	0.0791	0.990	15.63	0.01087	Flash Dried Starch Sample
161.0	2427.0	Starch WHSE, #7 Starch Silo (S)	EP60.0 - 2/25/03	0.004	0.995	0.880	0.0791	0.990	15.63	0.01087	Flash Dried Starch Sample
162.0	2428.0	Starch WHSE, #8 Starch Silo (W)	EP60.0 - 2/25/03	0.004	0.995	0.880	0.0791	0.990	15.63	0.01087	Flash Dried Starch Sample
163.0	2432.0	Starch WHSE, Track 3A Loadout	EP163.0 - 8/18/05	0.008	0.995	1.553	0.0791	0.990	15.63	0.01920	Flash Dried Starch Sample
164.0	1241.0	DH4, #7 Rotary Dryer	EP137.0 - 2/15/06	0.467	0.037	0.485	0.0229	0.015	8.00	0.08745	Feed After Mill Sample
167.0	1242.0	DH WHSE, #2 Feed Cooler	EP167.0 - 8/25/05	0.007	0.995	1.407	0.0229	0.900	25.00	0.00806	Feed After Mill Sample
168.0	3107.0	Maltrin, #5 Spray Dryer	EP168.0 & 169.0 - 1/9/07	0.121	0.990	12.092	0.0791	0.900	6.50	0.62170	Flash Dried Starch Sample
169.0	3107.0	Maltrin, #5 Spray Dryer	EP168.0 & 169.0 - 1/9/07	0.084	0.990	8.425	0.0791	0.900	6.50	0.43318	Flash Dried Starch Sample
168.0 - 169.0	3107.1	Maltrin, #5 Spray Dryer Nat. Gas	AP-42			7.600	1.0000	0.900	0.095	0.07220	AP-42 Factor
171.0	2429.0	Starch WHSE, #9 Starch Silo (NE)	EP60.0 - 2/25/03	0.004	0.995	0.880	0.0791	0.990	15.63	0.01087	Flash Dried Starch Sample
172.0	2430.0	Starch WHSE, #10 Starch Silo (NW)	EP60.0 - 2/25/03	0.004	0.995	0.880	0.0791	0.990	15.63	0.01087	Flash Dried Starch Sample
173.0	1244.0	GP2, #4 Gluten Flash Dryer	EP173.0 - 2/28/07	0.973	0.990	97.327	0.0106	0.250	5.16	3.99256	Gluten Sample

Title V Emission Point Number	Title V Emission Unit Number	Emission Source Description	Similar Emission Source Stack Tests & Date or AP-42	PM10 After Control Emission Factor lb/ton	PM10 Control Efficiency %	PM10 Before Control Emission Factor lb/ton	% of PM10 Emission Factor that is PM2.5 % w/w	PM2.5 Efficiency %	Production Capacity TPH	24-hour Particle Size Distribution Emissions Rate lb/hr	Particle Size Distribution used for Similar Emission Sources
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173.0	1244.1	GP2, #4 Gluten Flash Dryer Nat. Gas	AP-42			7.600	1.0000	0.250	0.035	0.19930	AP-42 Factor
174.0	1245.0	GP2, #4 Gluten Pre-Mill Cooling System	EP174.0 - 8/24/05	0.088	0.995	17.660	0.0106	0.990	5.16	0.00483	Gluten Sample
175.0	3108.0	Maltrin, Product Silo Receiver	EP157.0 - 8/17/05	0.021	0.995	4.159	0.0791	0.990	11.50	0.03784	Flash Dried Starch Sample
176.0	3109.0	Maltrin, Nuisance Dust Collector	EP157.0 - 8/17/05	0.021	0.995	4.159	0.0791	0.990	11.50	0.03784	Flash Dried Starch Sample
177.0	5212.0	PH, Boiler #12	EP142.0 - 7/24/07			7.600	1.0000	0.000	0.30	2.28000	AP-42 Factor
178.0	2872.0	WM, #5 Germ Dryer	EP178.0 - 7/24/07	0.057	0.500	0.054	0.0109	0.100	13.80	0.00727	Germ Sample
179.0	1258.0	GP2, #1 Feed Truck Loadout (West)	EP179.0 - 8/25/05	0.004	0.995	0.730	0.0229	0.990	126.00	0.02107	Feed After Mill Sample
180.0	1259.0	GP2, #2 Feed Truck Loadout (East)	EP179.0 - 8/25/05	0.004	0.995	0.730	0.0229	0.990	126.00	0.02107	Feed After Mill Sample
181.1	6005.0	Elevator, South Corn Rail Receiving	EP490.0 - 10/13/03	0.001	0.995	0.202	0.0351	0.990	350.00	0.02482	Corn Dust Sample
181.2	6006.0	Elevator, South Corn Rail Receiving (South Corn Truck Receiving)	EP490.0 - 10/13/03	0.001	0.995	0.202	0.0351	0.990	350.00	0.02482	Corn Dust Sample
182.0	3115.0	Maltrin, #1 Bulk Filter Aid Storage Bin	EP2.0 - 10/9/07	0.003	0.995	0.633	0.0791	0.990	0.71	0.00036	Flash Dried Starch Sample
183.0	3112.0	Maltrin, #2 Bulk Filter Aid Storage Bin	EP2.0 - 10/9/07	0.003	0.995	0.633	0.0791	0.990	0.71	0.00036	Flash Dried Starch Sample
184.0	3113.0	Maltrin, #3 Bulk Filter Aid Storage Bin	EP2.0 - 10/9/07	0.003	0.995	0.633	0.0791	0.990	0.71	0.00036	Flash Dried Starch Sample
185.0	3114.0	Maltrin, #1 Bulk Carbon Storage Bin	EP2.0 - 10/9/07	0.003	0.995	0.633	0.0791	0.990	0.12	0.00006	Flash Dried Starch Sample
186.0	3116.0	Maltrin, #6 Spray Dryer	EP186.0 - 2/14/06	0.190	0.990	19.039	0.0791	0.900	4.48	0.67467	Flash Dried Starch Sample
187.0	3116.0	Maltrin, #6 Spray Dryer	EP186.0 - 2/14/06	0.190	0.990	19.039	0.0791	0.900	4.48	0.67467	Flash Dried Starch Sample
186.0 - 187.0	3116.1	Maltrin, #6 Spray Dryer Nat. Gas	AP-42			7.600	1.0000	0.900	0.127	8.09632	AP-42 Factor
188.0	2501.0	G-Starch, G-Starch Process	EP188.0 - 3/15/05	0.169	0.995	33.796	0.0791	0.990	7.50	0.20049	Flash Dried Starch Sample
189.0	5215.0	PH, Lime Silo	EP60.0 - 2/25/03	0.004	0.995	0.880	0.0258	0.990	10.00	0.00227	Ash Sample
190.1 A	1256.0	GP2, Gluten Loadout Transfer Baghouse	EP190.1A - 2/27/03	0.003	0.995	0.667	0.0106	0.990	32.00	0.00226	Gluten Sample
190.2 B	1257.0	GP2, Gluten Truck Loadout Bin Vent	EP190.1A - 2/27/03	0.003	0.995	0.667	0.0106	0.990	32.00	0.00226	Gluten Sample
191.0	5220.0	PH, Bulk Salt Tank Vent	EP60.0 - 2/25/03	0.004	0.995	0.880	0.0258	0.990	22.50	0.00511	Ash Sample
192.0	3201.0	Corn Bran Dryer	EP79.0 - 8/23/05	0.413	0.995	82.667	0.0292	0.990	0.18	0.00434	Hulls Sample
194.0	2894.0	WM, #3 Germ Transfer System & Receiving Cyclone	EP194.0 - 2/27/03	0.006	0.500	0.011	0.0351	0.100	28.00	0.01003	Corn Dust Sample
471.0	2437.0	Starch WHSE, Industrial Modified Starch Bin Vent	EP60.0 - 2/25/03	0.004	0.995	0.880	0.0791	0.990	18.00	0.01253	Flash Dried Starch Sample
490.0	6003.0	Elevator, Grain Unloading "A"	EP490.0 - 10/13/03	0.001	0.995	0.202	0.0351	0.990	525.00	0.03722	Corn Dust Sample
531.0	1260.0	GP1, Pneumatic Transport System	EP531.0 - 10/8/03	0.082	0.995	16.444	0.0106	0.990	5.10	0.00889	Gluten Sample
536.0	1261.0	GP1, Hulls' Milling System (3rd Unit Baghouse)	EP113.0 - 10/7/03	0.021	0.995	4.127	0.0292	0.990	1.71	0.00206	Hulls Sample
537.0	2440.0	Starch WHSE, Modified Starch Pneumatic Transfer System	EP60.0 - 2/25/03	0.004	0.995	0.880	0.0791	0.990	16.00	0.01114	Flash Dried Starch Sample
538.0	3120.0	Maltrin, #1 Spray Dryer System Cooler	EP538.0 - 2/14/06	0.163	0.995	32.520	0.0791	0.990	1.50	0.03859	Flash Dried Starch Sample
542.0	6210.0	WWT, #1 Digester Biogas Flare	AP-42			7.600	1.0000	0.000	0.04	0.27360	AP-42 Factor
543.0	6212.0	WWT, #3 Digester Biogas Flare	AP-42			7.600	1.0000	0.000	0.02	0.13580	AP-42 Factor
544.0	6301.0	Dist., Fermenter #1	EP544.0 - 10/25/06	0.006	0.999	5.850	0.0229	0.990	8.7300	0.01170	Feed After Mill Sample
545.0	2876.0	Expeller, #1 Spent Germ Pickup	EP545.0 - 7/26/07	0.048	0.995	9.524	0.0109	0.990	16.42	0.01705	Germ Sample
E-1 (545.0)	U-1 (6330.0)	Ground & Whole Grains Unloading	EP490.0 - 10/13/03	0.001	0.500	0.002	0.0109	0.100	30.00	0.00059	Germ Sample
E-2A (546.1)	U-2 (6331.0)	Pellet Cooler (1)	EP E-2A - 2/28/07	0.028	0.500	0.056	0.0109	0.100	20.00	0.01091	Germ Sample
E-2B (546.2)	U-2 (6331.0)	Pellet Cooler (1)	EP E-2A - 2/28/07	0.028	0.500	0.056	0.0109	0.100	20.00	0.01091	Germ Sample
E-2C (546.3)	U-2 (6331.0)	Pellet Cooler (1)	EP E-2A - 2/28/07	0.028	0.500	0.056	0.0109	0.100	20.00	0.01091	Germ Sample
E-3 (547.0)	U-3 (6332.0)	Pellet Screen	EP E-2A - 2/28/07	0.028	0.500	0.056	0.0109	0.100	20.00	0.01091	Germ Sample
E-4 (548.0)	U-4 (6333.0)	Pellet Cooler (2)	EP E-4 - 11/14/06	0.007	0.998	2.771	0.0109	0.991	2.50	0.00068	Germ Sample
E-5 (549.0)	U-5 (6334.0)	Ingredient Mixer	EP E-2A - 2/28/07	0.028	0.500	0.056	0.0109	0.100	20.00	0.01091	Germ Sample
E-7 (550.0)	U-7 (6335.0)	SBM Bin	AP-42	0.004	0.000	0.004	0.0109	0.000	20.00	0.00089	Germ Sample
E-8 (551.0)	U-8 (6336.0)	Pellet Conveyor	EP E-2A - 2/28/07	0.028	0.500	0.056	0.0109	0.100	20.00	0.01091	Germ Sample
E-9 (552.0)	U-9 (6337.0)	Loadout Bins	AP-42	0.004	0.000	0.004	0.0109	0.000	20.00	0.00089	Germ Sample
E-10 (553.0)	U-10 (6338.0)	Pellet Cooler (3)	EP E-10 - 9/14/04	0.019	0.998	7.576	0.0109	0.991	4.00	0.00297	Germ Sample

NOTE: Not similar to a particle size distribution so AP-42 was used.