APPENDIX A

EMISSION FACTOR CALCULATION SPREADSHEETS

This appendix presents printouts of the detailed spreadsheets that were constructed in order to calculate emission factors for WB/OSB rotary dryers and presses. Table A-1 presents the calculations for WB/OSB rotary dryer filterable PM, filterable PM-10, and condensible PM emission factors. Table A-2 presents the calculations for WB/OSB rotary dryer VOC emission factors. Table A-3 presents the calculations for WB/OSB rotary dryer CO, CO_2, NO_x, SO_2, and chromium emission factors. Table A-4 presents the calculations for WB/OSB rotary dryer speciated organic pollutant emission factors. Table A-5 presents the calculations for WB/OSB press filterable PM, filterable PM-10, condensible PM, NO_x, CO, CO_2, SO_2, VOC, and speciated organic pollutant emission factors.

As discussed in Section 4.3.1.1 of this report, the data available for many of the specific emission factors developed included the results of multiple tests on the same emission source. In such cases, the test-specific emission factors for the same source were averaged first, and that average emission factor then was averaged with the factors for the other sources to yield the candidate emission factors for AP-42. In Tables A-1 through A-4, the emission factor column is divided into two subcolumns, "Test," and "Dryer." The emission factor column labelled "Test" includes the available test-specific emission factors. The emission factor column labelled "Dryer" includes averages of test-specific emission factors for the same dryer. For dryers where only one test-specific emission factor was available, that emission factor appears in both the "Test" and "Dryer" columns. The AP-42 candidate emission factors were developed by averaging the dryer average emission factors in the "Dryer" column. A parallel structure applies to Table A-5 for OSB presses. Data in the shaded rows were not used to develop AP-42 emission factors.

TABLE A-1. SUMMARY OF WB/OSB DRYER EMISSION FACTOR CALCULATIONS--FILTERABLE PM, FILTERABLE PM-10, AND CONDENSIBLE PM(a)

Test Code	Unit code	Pollutant(b)	Firing type(c)	Fuel type(d)	Wood species(e) Primary	%	Second.	%	Emission control device(f)	Test method(g)	No. of runs	Emission factor, Lb/ODT Test	Dryer	Data rating	Comments
23,24	DSA-1	CPM	DFIRE	WREF	PINE SP	100	NA	NA	CYC	M202	3	2.21E+00	2.21E+00	A	
23,24	DSA-2	CPM	DFIRE	WREF	PINE SP	100	NA	NA	CYC	M202	3	1.30E+00	1.30E+00	A	
23,24	DSA-3	CPM	DFIRE	WREF	PINE SP	100	NA	NA	CYC	M202	3	2.04E+00	2.04E+00	A	
Uncontrolled CPM, direct wood-fired, pines												Average	1.85E+00		
												Minimum	1.30E+00		
												Maximum	2.21E+00		
59	DNB-1	CPM	DFIRE	WREF	HWOOD	100	NA	NA	CYC	M202	3	1.88E+00	1.88E+00	A	
Uncontrolled CPM, direct wood-fired, hardwood												Average	1.88E+00		
041-063092A	XD041	CPM	DFIRE	WREF	SY PINE	70	HWOOD	30	CYC	OD7	3	9.10E-01		A	mixed species
041-121792B	XD041	CPM	DFIRE	WREF	SY PINE	70	HWOOD	30	CYC	M5A	3	4.10E-01		A	mixed species
044-102588A	XD044	CPM	DFIRE	SDUST	SPRUCE	50	UFIR	50	CYC	M5	3	4.42E+00		A	mixed species
215-062591A	XD215	CPM	DFIRE	WREF	SY PINE	40	HWOOD	60	CYC	M202	3	1.07E+00		A	mixed species
215-062591C	YD215	CPM	DFIRE	WREF	SY PINE	40	HWOOD	60	CYC	OD7	1	1.52E+00		D	1-run data
215-062591D	YD215	CPM	DFIRE	WREF	SY PINE	40	HWOOD	60	CYC	OD7	1	7.10E-01		D	1-run data
30	DCH-1	CPM	DFIRE	WREF	NS	NS	NS	NS	CYC	M202	3	6.19E-02		B	unkn. species
32	DH1-1	CPM	DFIRE	WREF	NS	NS	NS	NS	CYC	WDNR	3	1.33E+00		B	unkn. species
32	DH1-2	CPM	DFIRE	WREF	NS	NS	NS	NS	CYC	WDNR	3	1.63E+00		B	unkn. species
42	DUR-1	CPM	DFIRE	WREF	NS	NS	NS	NS	CYC	M5	3	2.73E-01		B	unkn. species
42	DUR-2	CPM	DFIRE	WREF	NS	NS	NS	NS	CYC	M5	3	3.61E-01		C	unkn. species
43	DNW-1	CPM	DFIRE	WREF	NS	NS	NS	NS	CYC	M5	3	6.80E-02		B	unkn. species
44	DCO-1	CPM	DFIRE	WREF	NS	NS	NS	NS	CYC	M5	3	5.46E-01		B	unkn. species
44	DCO-2	CPM	DFIRE	WREF	NS	NS	NS	NS	CYC	M5	3	1.16E+00		B	unkn. species
44	DCO-3	CPM	DFIRE	WREF	NS	NS	NS	NS	CYC	M5	3	3.04E+00		B	unkn. species
4	DCO-1	CPM	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M202	3	7.00E-01		A	
4	DCO-1	CPM	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M202	3	3.30E-01	5.15E-01	A	
4	DCO-2	CPM	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M202	2	1.40E+00		B	
4	DCO-2	CPM	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M202	3	6.20E-01	1.01E+00	B	
4	DCO-3	CPM	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M202	3	5.40E-01		A	
4	DCO-3	CPM	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M202	3	2.60E-01	4.00E-01	A	
5	DNW-1	CPM	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M202	3	1.00E+00		A	
5	DNW-1	CPM	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M202	3	6.70E-01	8.35E-01	A	
5	DNW-2	CPM	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M202	3	3.30E-01		A	
5	DNW-2	CPM	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M202	3	8.60E-01	5.95E-01	A	

1	DSL-1	CPM	DFIRE	WREF	SY PINE	100	NA	NA	MCLO	M202	3	1.20E-01		C
3	DSL-1	CPM	DFIRE	WREF	SY PINE	100	NA	NA	MCLO	M202	3	1.20E-01	1.20E-01	B
1	DSL-2	CPM	DFIRE	WREF	SY PINE	100	NA	NA	MCLO	M202	3	5.20E-02		C

TABLE A-1. (Continued)

Test Code	Unit code	Pollutant(b)	Firing type(c)	Fuel type(d)	Wood species(e) Primary	%	Second.	%	Emission control device(f)	Test method(g)	No. of runs	Emission factor, Lb/ODT Test	Dryer	Data rating	Comments
3	DSL-2	CPM	DFIRE	WREF	SY PINE	100	NA	NA	MCLO	M202	3	1.50E-01	1.01E-01	B	
1	DSL-3	CPM	DFIRE	WREF	SY PINE	100	NA	NA	MCLO	M202	3	5.30E-02		B	
3	DSL-3	CPM	DFIRE	WREF	SY PINE	100	NA	NA	MCLO	M202	3	1.20E-01	8.65E-02	C	
1	DSL-4	CPM	DFIRE	WREF	SY PINE	100	NA	NA	MCLO	M202	3	1.00E-01		B	
3	DSL-4	CPM	DFIRE	WREF	SY PINE	100	NA	NA	MCLO	M202	3	1.30E-01	1.15E-01	B	
1	DSL-5	CPM	DFIRE	WREF	SY PINE	100	NA	NA	MCLO	M202	3	6.70E-02		B	
3	DSL-5	CPM	DFIRE	WREF	SY PINE	100	NA	NA	MCLO	M202	3	1.10E-01	8.85E-02	B	
7	DUR-1	CPM	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M202	3	8.00E-01		C	
7	DUR-1	CPM	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M202	3	7.40E-01	7.70E-01	B	
7	DUR-2	CPM	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M202	3	3.80E-01		B	
7	DUR-2	CPM	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M202	3	1.70E-01	2.75E-01	C	
MCLO-controlled CPM, direct wood-fired, pines												Average	4.09E-01		
												Minimum	5.20E-02		
												Maximum	1.40E+00		
												Std. Dev.	3.65E-01		
73	DTO-1	CPM	DFIRE	WREF	HWOOD	90	SWOOD	10	MCLO	WDNR	3	7.60E-01	7.60E-01	A	
73	DTO-2	CPM	DFIRE	WREF	HWOOD	90	SWOOD	10	MCLO	WDNR	3	2.31E-01	2.31E-01	A	
MCLO-controlled CPM, direct wood-fired, hardwood												Average	4.96E-01		
												Minimum	2.31E-01		
												Maximum	7.60E-01		
070-031992A	2D070	CPM	DFIRE	NS	PINE SP	85	HWOOD	15	MCLO	G5T	3	2.79E+00		A	mixed species
070-062891A	1D070	CPM	DFIRE	NS	PINE SP	85	HWOOD	15	MCLO	G5T	2	3.05E+00		B	mixed species
070-062891C	3D070	CPM	DFIRE	NS	PINE SP	85	HWOOD	15	MCLO	G5T	3	1.96E+00		A	mixed species
070-101091A	2D070	CPM	DFIRE	NS	PINE SP	85	HWOOD	15	MCLO	G5T	3	2.11E+00		A	mixed species
070-101091C	3D070	CPM	DFIRE	NS	PINE SP	85	HWOOD	15	MCLO	G5T	3	2.92E+00		A	mixed species
070-101091G	3D070	CPM	DFIRE	NS	PINE SP	85	HWOOD	15	MCLO	G5T	1	1.80E+00		D	mixed species
070-102192A	3D070	CPM	DFIRE	NS	PINE SP	85	HWOOD	15	MCLO	M5/202	3	1.58E+00		A	mixed species
096-012793C	2D096	CPM	DFIRE	DFINE	ASPEN	80	PINE SP	20	MCLO	M202	3	3.81E-01		A	mixed species
10	DEL-1	CPM	DFIRE	WREF	US PINE	60	HWOOD	40	MCLO	M202	3	1.50E+00		A	mixed species
32	DH2-1	CPM	DFIRE	WREF	NS	NS	NS	NS	MCLO	WDNR	3	1.10E+00		B	unkn. species
32	DH2-2	CPM	DFIRE	WREF	NS	NS	NS	NS	MCLO	WDNR	3	2.06E+00		B	unkn. species
94	DDC-1	CPM	DFIRE	WREF	NS	NS	NS	NS	MCLO	M202	3	1.26E+00		A	unkn. species

TABLE A-1. (Continued)

Test Code	Unit code	Pollutant(b)	Firing type(c)	Fuel type(d)	Wood species(e) Primary	%	Second.	%	Emission control device(f)	Test method(g)	No. of runs	Emission factor, Lb/ODT Test	Dryer	Data rating	Comments
088-120892A	1D088	CPM	DFIRE	WREF	PINE SP	100	NA	NA	EFB	M202	3	4.80E-01	4.80E-01	A	
096-060790C	1D096	CPM	DFIRE	DFINE	PINE SP	100	NA	NA	EFB	M202	3	3.78E-01		A	
096-060890C	1D096	CPM	DFIRE	DFINE	PINE SP	100	NA	NA	EFB	M202	3	6.01E-01	4.90E-01	A	
EFB-controlled CPM, direct wood-fired, pines												Average	4.85E-01		
												Minimum	3.78E-01		
												Maximum	6.01E-01		
083-060988A	YD083	CPM	DFIRE	DFINE	ASPEN	95	PINE SP	5	EFB	M5	3	4.80E-01	4.80E-01	A	
083-061088A	XD083	CPM	DFIRE	DFINE	ASPEN	95	PINE SP	5	EFB	M5	3	3.11E-01	3.11E-01	A	
096-060590A	1D096	CPM	DFIRE	DFINE	ASPEN	100	NA	NA	EFB	M202	3	2.96E-01		A	
096-060590C	1D096	CPM	DFIRE	DFINE	ASPEN	100	NA	NA	EFB	M202	3	1.22E-01	2.09E-01	A	
210-021192A	1D210	CPM	DFIRE	DFINE	ASPEN	100	NA	NA	EFB	M202	3	3.53E-01		A	
210-021192B	1D210	CPM	DFIRE	DFINE	ASPEN	100	NA	NA	EFB	M202	3	4.50E-01		A	
210-042292A	1D210	CPM	DFIRE	DFINE	ASPEN	100	NA	NA	EFB	M202	3	5.02E-01		A	
210-042292B	1D210	CPM	DFIRE	DFINE	ASPEN	100	NA	NA	EFB	M202	3	2.88E-01	3.98E-01	A	
EFB-controlled CPM, direct wood-fired, Aspen												Average	3.50E-01		
												Minimum	1.22E-01		
												Maximum	5.02E-01		
												Std. Dev.	1.25E-01		
083-060988A	YD083	CPM	DFIRE	DFINE	ASPEN	95	PINE SP	5	EFB	M5	3	4.80E-01	4.80E-01	A	
083-061088A	XD083	CPM	DFIRE	DFINE	ASPEN	95	PINE SP	5	EFB	M5	3	3.11E-01	3.11E-01	A	
096-060590A	1D096	CPM	DFIRE	DFINE	ASPEN	100	NA	NA	EFB	M202	3	2.96E-01		A	
096-060590C	1D096	CPM	DFIRE	DFINE	ASPEN	100	NA	NA	EFB	M202	3	1.22E-01	2.09E-01	A	
210-021192A	1D210	CPM	DFIRE	DFINE	ASPEN	100	NA	NA	EFB	M202	3	3.53E-01		A	
210-021192B	1D210	CPM	DFIRE	DFINE	ASPEN	100	NA	NA	EFB	M202	3	4.50E-01		A	
210-042292A	1D210	CPM	DFIRE	DFINE	ASPEN	100	NA	NA	EFB	M202	3	5.02E-01		A	
210-042292B	1D210	CPM	DFIRE	DFINE	ASPEN	100	NA	NA	EFB	M202	3	2.88E-01	3.98E-01	A	
225-020792A	1D225	CPM	DFIRE	DFINE	HWOOD	100	NA	NA	EFB	M5	3	3.17E-01		A	
225-020792B	1D225	CPM	DFIRE	DFINE	HWOOD	100	NA	NA	EFB	M5	3	3.54E-01	3.36E-01	A	
97	DDG-1	CPM	DFIRE	WREF	HWOOD	99	SWOOD	1	MCLO/EFB	M202	3	6.60E-01	6.60E-01	A	
EFB-controlled CPM, direct wood-fired, hardwood												Average	3.99E-01		
												Minimum	1.22E-01		
												Maximum	6.60E-01		
												Std. Dev.	1.41E-01		

95	DDG-1	CPM	DFIRE	WREF	HWOOD	99	SWOOD	1	MCLO/EFB	M202	3	1.89E+00	A	suspect data
212-101191A	1D212	CPM	DFIRE	DFINE	HWOOD	10	SWOOD	90	EFB	M5	3	4.68E-01	A	mixed species
10	DEL-1	CPM	DFIRE	WREF	US PINE	60	HWOOD	40	MCLO/EFB	M202	3	7.50E-01	B	mixed species
98,99	DDG-1	CPM	DFIRE	WREF	NS	NS	NS	NS	MCLO/EFB	M202	3	3.05E-01	A	unkn. species

TABLE A-1. (Continued)

Test Code	Unit code	Pollutant(b)	Firing type(c)	Fuel type(d)	Wood species(e) Primary	%	Second.	%	Emission control device(f)	Test method(g)	No. of runs	Emission factor, Lb/ODT Test	Dryer	Data rating	Comments
23,24	DSA-123	CPM	DFIRE	WREF	PINE SP	100	NA	NA	WESP	M202	3	8.34E-01	8.34E-01	A	
WESP-controlled CPM, direct wood-fired, pines												Average	8.34E-01		
54	DMO-1	CPM	DFIRE	WREF	HWOOD	90	SWOOD	10	MCLO/WESP	M202	3	2.54E-01	2.54E-01	A	
73	DTO-12	CPM	DFIRE	WREF	HWOOD	90	SWOOD	10	MCLO/WESP	WDNR	3	8.70E-02	8.70E-02	A	
59	DNB-1	CPM	DFIRE	WREF	HWOOD	100	NA	NA	WESP	M202	3	5.53E-01	5.53E-01	A	
WESP-controlled CPM, direct wood-fired, hardwood												Average	2.98E-01		
												Minimum	8.70E-02		
												Maximum	5.53E-01		
57	DMO-1	CPM	DFIRE	WREF	HWOOD	80	SWOOD	20	MCLO/WESP	M202	3	3.34E-01		A	mixed species
58	DMO-1	CPM	DFIRE	WREF	NS	NS	NS	NS	MCLO/WESP	M202	3	2.57E-01		B	unkn. species
62	DMO-1	CPM	DFIRE	WREF	ASPEN	75	PINE SP	25	MCLO/WESP	M202	3	4.65E-01		A	mixed species
70	DMO-1	CPM	DFIRE	WREF	HWOOD	80	SWOOD	20	MCLO/WESP	M202	3	2.33E-01		A	mixed species
102	DMO-1	CPM	DFIRE	WREF	NS	NS	NS	NS	MCLO/WESP	M202	3	1.94E-01		A	unkn. species
041-063092B	XD041	CPM	DFIRE	WREF	SY PINE	70	HWOOD	30	WESP	OD7	3	4.10E-01		A	mixed species
041-121792A	XD041	CPM	DFIRE	WREF	SY PINE	70	HWOOD	30	WESP	M5A	3	3.50E-01		A	mixed species
044-102588B	XD044	CPM	DFIRE	SDUST	SPRUCE	50	UFIR	50	WESP	M5	3	1.17E-01		A	mixed species
044-102588C	XD044	CPM	DFIRE	SDUST	POPLAR	39	SWOOD	61	WESP	M5	1			NR	
044-102588D	XD044	CPM	DFIRE	SDUST	POPLAR	39	SWOOD	61	WESP	M5	1			NR	
069-081491A	1D069	CPM	DFIRE	FINES	POPLAR	100	NA	NA	WESP	M202	3			NR	
069-081491B	1D069	CPM	DFIRE	FINES	POPLAR	100	NA	NA	WESP	M202	3			NR	
069-081591A	2D069	CPM	DFIRE	FINES	POPLAR	100	NA	NA	WESP	M202	3			NR	
069-081591B	2D069	CPM	DFIRE	FINES	POPLAR	100	NA	NA	WESP	M202	3			NR	
069-081992A	1D069	CPM	DFIRE	FINES	POPLAR	100	NA	NA	WESP	M202	3			NR	
069-081992B	1D069	CPM	DFIRE	FINES	POPLAR	100	NA	NA	WESP	M202	3			NR	
069-082092A	2D069	CPM	DFIRE	FINES	POPLAR	100	NA	NA	WESP	M202	3			NR	
069-082092B	2D069	CPM	DFIRE	FINES	POPLAR	100	NA	NA	WESP	M202	3			NR	
069-121390A	2D069	CPM	DFIRE	FINES	POPLAR	100	NA	NA	WESP	M202	3			NR	
069-121390B	1D069	CPM	DFIRE	FINES	POPLAR	100	NA	NA	WESP	M202	3			NR	
069-121390C	2D069	CPM	DFIRE	FINES	POPLAR	100	NA	NA	WESP	M202	3			NR	
070-031992B	2D070	CPM	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	G5T	3	7.53E-01		A	mixed species
070-042392B	1D070	CPM	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	G5T	3	2.91E-01		A	mixed species
070-042492B	3D070	CPM	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	G5T	3	6.57E-01		A	mixed species
070-062891B	1D070	CPM	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	G5T	3	7.11E-01		A	mixed species

070-062891D	3D070	CPM	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	G5T	3	9.38E-01	A	mixed species
070-101091B	2D070	CPM	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	G5T	3	1.00E+00	A	mixed species
070-101091D	3D070	CPM	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	G5T	3	8.00E-01	A	mixed species
070-101091E	2D070	CPM	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	G5T	1		NR	

TABLE A-1. (Continued)

Test Code	Unit code	Pollutant(b)	Firing type(c)	Fuel type(d)	Wood species(e) Primary	%	Second.	%	Emission control device(f)	Test method(g)	No. of runs	Emission factor, Lb/ODT Test	Dryer	Data rating	Comments
070-101091F	2D070	CPM	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	G5T	1	1.70E+00		D	mixed species
070-101091H	3D070	CPM	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	G5T	1	1.45E+00		D	mixed species
070-102192B	3D070	CPM	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	M5/202	3	5.50E-01		A	mixed species
096-012793A	2D096	CPM	DFIRE	DFINE	ASPEN	80	PINE SP	20	WESP	M202	3	2.85E-01		A	mixed species
215-062591B	XD215	CPM	DFIRE	WREF	SY PINE	40	HWOOD	60	WESP	M202	3	3.57E-01		A	mixed species
38	DH2-12	CPM	DFIRE	WREF	NS	NS	NS	NS	WESP	WDNR	3	5.58E-01		B	unkn. species
75	DRX-12345	CPM	DFIRE	WREF	PINE SP	100	NA	NA	MCLO/RTO	M202	3	1.39E-01	1.39E-01	A	
23,24	DSA-123	CPM	DFIRE	WREF	PINE SP	100	NA	NA	WESP/RTO	M202	3	9.76E-02	9.76E-02	A	
RTO-controlled CPM, direct wood-fired, pines												Average	1.18E-01		
												Minimum	9.76E-02		
												Maximum	1.39E-01		
32	DH1-12	CPM	DFIRE	WREF	NS	NS	NS	NS	EFB/RTO	WDNR	3	3.48E-01		B	unkn. species
32	DH2-12	CPM	DFIRE	WREF	NS	NS	NS	NS	MCLO/EFB/RTO	WDNR	3	1.90E-01		B	unkn. species
42	DUR-12	CPM	DFIRE	WREF	NS	NS	NS	NS	MCLO/RTO	M5	3	1.12E-01		B	unkn. species
43	DNW-1	CPM	DFIRE	WREF	NS	NS	NS	NS	MCLO/RTO	M5	3	6.95E-02		B	unkn. species
44	DCO-123	CPM	DFIRE	WREF	NS	NS	NS	NS	MCLO/RTO	M5	3	9.69E-02		B	unkn. species
59	DNB-1	CPM	DFIRE	WREF	HWOOD	100	NA	NA	WESP/RTO	M202	3	1.24E-01	1.24E-01	A	
RTO-controlled CPM, direct wood-fired, hardwood												Average	1.24E-01		
29	DH1-12	CPM	DFIRE	WREF	NS	NS	NS	NS	WESP/RTO	WDNR	3	2.22E-02		B	unkn. species
38	DH2-12	CPM	DFIRE	WREF	NS	NS	NS	NS	WESP/RTO	WDNR	3	1.99E-02		B	unkn. species
3	DSL-1	CPM-I	DFIRE	WREF	SY PINE	100	NA	NA	MCLO	M202	3	1.40E-02		B	not reported
3	DSL-2	CPM-I	DFIRE	WREF	SY PINE	100	NA	NA	MCLO	M202	3	1.30E-02		B	not reported
3	DSL-3	CPM-I	DFIRE	WREF	SY PINE	100	NA	NA	MCLO	M202	3	2.40E-02		C	not reported
3	DSL-4	CPM-I	DFIRE	WREF	SY PINE	100	NA	NA	MCLO	M202	3	1.30E-02		B	not reported
3	DSL-5	CPM-I	DFIRE	WREF	SY PINE	100	NA	NA	MCLO	M202	3	1.60E-02		B	not reported
4	DCO-1	CPM-I	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M202	3	1.10E-01		A	not reported
4	DCO-1	CPM-I	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M202	3	1.30E-01		A	not reported
4	DCO-2	CPM-I	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M202	2	4.40E-01		B	not reported
4	DCO-2	CPM-I	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M202	3	2.40E-01		B	not reported
4	DCO-3	CPM-I	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M202	3	1.40E-01		A	not reported
4	DCO-3	CPM-I	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M202	3	1.40E-01		A	not reported
5	DNW-1	CPM-I	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M202	3	6.20E-01		A	not reported
5	DNW-1	CPM-I	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M202	3	3.80E-01		A	not reported

5	DNW-2	CPM-I	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M202	3	1.70E-01	A	not reported
5	DNW-2	CPM-I	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M202	3	5.30E-01	A	not reported
7	DUR-1	CPM-I	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M202	3	4.10E-01	C	not reported
7	DUR-1	CPM-I	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M202	3	4.40E-01	B	not reported

TABLE A-1. (Continued)

Test Code	Unit code	Pollutant(b)	Firing type(c)	Fuel type(d)	Wood species(e) Primary	%	Second.	%	Emission control device(f)	Test method(g)	No. of runs	Emission factor, Lb/ODT Test	Dryer	Data rating	Comments
7	DUR-2	CPM-I	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M202	3	1.50E-01		B	not reported
7	DUR-2	CPM-I	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M202	3	5.40E-02		C	not reported
10	DEL-1	CPM-I	DFIRE	WREF	US PINE	60	HWOOD	40	MCLO/EFB	M202	3	4.50E-01		B	not reported
10	DEL-1	CPM-I	DFIRE	WREF	US PINE	60	HWOOD	40	MCLO	M202	3	8.00E-01		A	not reported
3	DSL-1	CPM-O	DFIRE	WREF	SY PINE	100	NA	NA	MCLO	M202	3	1.10E-01		B	not reported
3	DSL-2	CPM-O	DFIRE	WREF	SY PINE	100	NA	NA	MCLO	M202	3	1.40E-01		B	not reported
3	DSL-3	CPM-O	DFIRE	WREF	SY PINE	100	NA	NA	MCLO	M202	3	9.40E-02		C	not reported
3	DSL-4	CPM-O	DFIRE	WREF	SY PINE	100	NA	NA	MCLO	M202	3	1.20E-01		B	not reported
3	DSL-5	CPM-O	DFIRE	WREF	SY PINE	100	NA	NA	MCLO	M202	3	9.80E-02		B	not reported
4	DCO-1	CPM-O	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M202	3	5.90E-01		A	not reported
4	DCO-1	CPM-O	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M202	3	2.00E-01		A	not reported
4	DCO-2	CPM-O	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M202	2	1.00E+00		B	not reported
4	DCO-2	CPM-O	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M202	3	3.70E-01		B	not reported
4	DCO-3	CPM-O	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M202	3	4.00E-01		A	not reported
4	DCO-3	CPM-O	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M202	3	1.30E-01		A	not reported
5	DNW-1	CPM-O	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M202	3	4.10E-01		A	not reported
5	DNW-1	CPM-O	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M202	3	2.90E-01		A	not reported
5	DNW-2	CPM-O	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M202	3	1.60E-01		A	not reported
5	DNW-2	CPM-O	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M202	3	3.30E-01		A	not reported
7	DUR-1	CPM-O	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M202	3	3.90E-01		C	not reported
7	DUR-1	CPM-O	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M202	3	3.10E-01		B	not reported
7	DUR-2	CPM-O	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M202	3	2.30E-01		B	not reported
7	DUR-2	CPM-O	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M202	3	1.20E-01		C	not reported
10	DEL-1	CPM-O	DFIRE	WREF	US PINE	60	HWOOD	40	MCLO/EFB	M202	3	3.00E-01		B	not reported
10	DEL-1	CPM-O	DFIRE	WREF	US PINE	60	HWOOD	40	MCLO	M202	3	6.70E-01		A	not reported
11	DDD-1	CPM-O	DFIRE	SDUST	US PINE	NS	HWOOD	NS	WESP	M5	3	6.70E-02		B	not reported
11	DDD-1	CPM-O	DFIRE	SDUST	US PINE	NS	HWOOD	NS	CYC	M5	3	2.80E+00		B	not reported
23,24	DSA-1	PM	DFIRE	WREF	PINE SP	100	NA	NA	CYC	M5	3	4.15E+00	4.15E+00	A	
23,24	DSA-2	PM	DFIRE	WREF	PINE SP	100	NA	NA	CYC	M5	3	3.76E+00	3.76E+00	A	
23,24	DSA-3	PM	DFIRE	WREF	PINE SP	100	NA	NA	CYC	M5	3	3.89E+00	3.89E+00	A	
Uncontrolled PM, direct wood-fired, pines												Average	3.93E+00		
												Minimum	3.76E+00		
												Maximum	4.15E+00		

59	DNB-1	PM	DFIRE	WREF	HWOOD	100	NA	NA	CYC	M5	3	6.03E+00	6.03E+00	A	
Uncontrolled PM, direct wood-fired, hardwood				NOT REPORTED IN AP-42; INCONSISTENT WITH OTHER DATA								Average	6.03E+00		

TABLE A-1. (Continued)

Test Code	Unit code	Pollutant(b)	Firing type(c)	Fuel type(d)	Wood species(e) Primary	%	Second.	%	Emission control device(f)	Test method(g)	No. of runs	Emission factor, Lb/ODT Test	Dryer	Data rating	Comments
041-052192A	XD041	PM	DFIRE	WREF	SY PINE	60	HWOOD	40	CYC	M5	3	5.07E+00		A	mixed species
041-063092A	XD041	PM	DFIRE	WREF	SY PINE	70	HWOOD	30	CYC	OD7	3	6.58E+00		A	mixed species
041-121792B	XD041	PM	DFIRE	WREF	SY PINE	70	HWOOD	30	CYC	M5	3	4.64E+00		A	mixed species
044-102588A	XD044	PM	DFIRE	SDUST	SPRUCE	50	UFIR	50	CYC	M5	3	3.15E+00		A	mixed species
052-011493A	XD052	PM	IHEAT	WREF	HWOOD	50	SY PINE	50	CYC	M5	3	4.53E+00		A	mixed species
215-042089A	XD215	PM	DFIRE	WREF	HWOOD	45	PINE SP	55	CYC	M5	3	4.36E+00		A	mixed species
215-062591A	XD215	PM	DFIRE	WREF	SY PINE	40	HWOOD	60	CYC	M5	3	9.37E-02		A	mixed species
215-062591C	YD215	PM	DFIRE	WREF	SY PINE	40	HWOOD	60	CYC	OD7	1	2.20E-01		D	1-run data
215-062591D	YD215	PM	DFIRE	WREF	SY PINE	40	HWOOD	60	CYC	OD7	1	4.33E-01		D	1-run data
11	DDD-1	PM	DFIRE	SDUST	US PINE	NS	HWOOD	NS	CYC	M5	3	3.90E+00		B	mixed species
30	DCH-1	PM	DFIRE	WREF	NS	NS	NS	NS	CYC	M5	3	1.18E-01		B	unkn. species
32	DH1-1	PM	DFIRE	WREF	NS	NS	NS	NS	CYC	M5	3	3.31E+00		B	unkn. species
32	DH1-2	PM	DFIRE	WREF	NS	NS	NS	NS	CYC	M5	3	3.19E+00		B	unkn. species
42	DUR-1	PM	DFIRE	WREF	NS	NS	NS	NS	CYC	M5	3	4.51E+00		B	unkn. species
42	DUR-2	PM	DFIRE	WREF	NS	NS	NS	NS	CYC	M5	3	5.98E+00		C	unkn. species
43	DNW-1	PM	DFIRE	WREF	NS	NS	NS	NS	CYC	M5	3	3.28E+00		B	unkn. species
44	DCO-1	PM	DFIRE	WREF	NS	NS	NS	NS	CYC	M5	3	4.37E+00		B	unkn. species
44	DCO-2	PM	DFIRE	WREF	NS	NS	NS	NS	CYC	M5	3	4.98E+00		B	unkn. species
44	DCO-3	PM	DFIRE	WREF	NS	NS	NS	NS	CYC	M5	3	4.47E+00		B	unkn. species
3	DSL-1	PM	DFIRE	WREF	SY PINE	100	NA	NA	MCLO	M5	3	2.20E+00	2.20E+00	B	
3	DSL-2	PM	DFIRE	WREF	SY PINE	100	NA	NA	MCLO	M5	3	1.90E+00	1.90E+00	B	
3	DSL-3	PM	DFIRE	WREF	SY PINE	100	NA	NA	MCLO	M5	3	1.60E+00	1.60E+00	C	
3	DSL-4	PM	DFIRE	WREF	SY PINE	100	NA	NA	MCLO	M5	3	1.50E+00	1.50E+00	B	
3	DSL-5	PM	DFIRE	WREF	SY PINE	100	NA	NA	MCLO	M5	3	1.90E+00	1.90E+00	B	
4	DCO-1	PM	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M5	3	2.10E+00	2.10E+00	A	
4	DCO-2	PM	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M5	2	2.20E+00	2.20E+00	B	
4	DCO-3	PM	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M5	3	1.30E+00	1.30E+00	A	
5	DNW-1	PM	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M5	3	3.00E+00	3.00E+00	A	
5	DNW-2	PM	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M5	3	2.60E+00	2.60E+00	A	
7	DUR-1	PM	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M5	3	2.20E+00	2.20E+00	C	
7	DUR-2	PM	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M5	3	2.40E+00	2.40E+00	B	
MCLO-controlled PM, direct wood-fired, pines												Average	2.08E+00		
												Minimum	1.30E+00		

Maximum	3.00E+00
Std. Dev.	4.77E-01

TABLE A-1. (Continued)

Test Code	Unit code	Pollutant(b)	Firing type(c)	Fuel type(d)	Wood species(e) Primary	%	Second.	%	Emission control device(f)	Test method(g)	No. of runs	Emission factor, Lb/ODT Test	Dryer	Data rating	Comments
097-061688A	1D097	PM	DFIRE	DFINE	HWOOD	100	NA	NA	MCLO	M5	3	3.01E+00		A	
097-091289A	1D097	PM	DFIRE	DFINE	HWOOD	100	NA	NA	MCLO	M5	3	2.81E+00	2.91E+00	A	
097-061588A	2D097	PM	DFIRE	DFINE	HWOOD	100	NA	NA	MCLO	M5	3	8.36E+00		A	
097-091189A	2D097	PM	DFIRE	DFINE	HWOOD	100	NA	NA	MCLO	M5	3	8.69E+00	8.53E+00	A	
73	DTO-1	PM	DFIRE	WREF	HWOOD	90	SWOOD	10	MCLO	M5	3	5.49E+00	5.49E+00	A	
73	DTO-2	PM	DFIRE	WREF	HWOOD	90	SWOOD	10	MCLO	M5	3	1.06E+01	1.06E+01	A	
MCLO-controlled PM, direct wood-fired, hardwood												Average	6.88E+00		
												Minimum	2.81E+00		
												Maximum	1.06E+01		
												Std. Dev.	3.22E+00		
32	DH1-12	PM	DFIRE	WREF	NS	NS	NS	NS	EFB/RTO	M5	3	5.38E-01		B	unkn. species
20	DEL-1	PM	DFIRE	WREF	US PINE	60	HWOOD	40	IWS	M5	3	1.50E+00		D	mixed species
21	DEL-1	PM	DFIRE	WREF	US PINE	60	HWOOD	40	IWS	M5	3	1.30E+00		B	mixed species
070-031992A	2D070	PM	DFIRE	NS	PINE SP	85	HWOOD	15	MCLO	G5T	3	2.56E+00		A	mixed species
070-062891A	1D070	PM	DFIRE	NS	PINE SP	85	HWOOD	15	MCLO	G5T	3	2.35E+00		A	mixed species
070-062891C	3D070	PM	DFIRE	NS	PINE SP	85	HWOOD	15	MCLO	G5T	3	3.97E+00		A	mixed species
070-101091A	2D070	PM	DFIRE	NS	PINE SP	85	HWOOD	15	MCLO	G5T	3	4.12E+00		A	mixed species
070-101091C	3D070	PM	DFIRE	NS	PINE SP	85	HWOOD	15	MCLO	G5T	3	1.55E+00		A	mixed species
070-101091G	3D070	PM	DFIRE	NS	PINE SP	85	HWOOD	15	MCLO	G5T	1	1.40E+00		D	1-run data
070-102192A	3D070	PM	DFIRE	NS	PINE SP	85	HWOOD	15	MCLO	M5	3	3.87E+00		A	mixed species
096-012793C	2D096	PM	DFIRE	DFINE	ASPEN	80	PINE SP	20	MCLO	M5	3	2.50E+00		A	mixed species
10	DEL-1	PM	DFIRE	WREF	US PINE	60	HWOOD	40	MCLO	M5	3	3.30E+00		A	mixed species
32	DH2-1	PM	DFIRE	WREF	NS	NS	NS	NS	MCLO	M5	3	3.34E+00		B	unkn. species
32	DH2-2	PM	DFIRE	WREF	NS	NS	NS	NS	MCLO	M5	3	3.34E+00		B	unkn. species
94	DDC-1	PM	DFIRE	WREF	NS	NS	NS	NS	MCLO	M5	3	2.98E+00		A	unkn. species
088-120892A	1D088	PM	DFIRE	WREF	PINE SP	100	NA	NA	EFB	M5	3	7.57E-01	7.57E-01	A	
096-060790C	1D096	PM	DFIRE	DFINE	PINE SP	100	NA	NA	EFB	M5	3	4.40E-01		A	
096-060890C	1D096	PM	DFIRE	DFINE	PINE SP	100	NA	NA	EFB	M5	3	4.89E-01	4.64E-01	A	
EFB-controlled PM, direct wood-fired, pines												Average	6.11E-01		
												Minimum	4.40E-01		
												Maximum	7.57E-01		
212-101191A	1D212	PM	DFIRE	DFINE	HWOOD	10	SWOOD	90	EFB	M5	3	4.69E-01		A	mixed species
096-060590A	1D096	PM	DFIRE	DFINE	ASPEN	100	NA	NA	EFB	M5	3	8.96E-01		A	

096-060590C	1D096	PM	DFIRE	DFINE	ASPEN	100	NA	NA	EFB	M5	3	7.45E-01	8.21E-01	A
210-021192A	1D210	PM	DFIRE	DFINE	ASPEN	100	NA	NA	EFB	M5	3	2.97E+00		A

TABLE A-1. (Continued)

Test Code	Unit code	Pollutant(b)	Firing type(c)	Fuel type(d)	Wood species(e) Primary	%	Second.	%	Emission control device(f)	Test method(g)	No. of runs	Emission factor, Lb/ODT Test	Dryer	Data rating	Comments
210-042292A	1D210	PM	DFIRE	DFINE	ASPEN	100	NA	NA	EFB	M5	3	1.29E+00	2.13E+00	A	
083-060988A	YD083	PM	DFIRE	DFINE	ASPEN	95	PINE SP	5	EFB	M5	3	6.56E-01	6.56E-01	A	
083-061088A	XD083	PM	DFIRE	DFINE	ASPEN	95	PINE SP	5	EFB	M5	3	7.16E-01	7.16E-01	A	
EFB-controlled PM, direct wood-fired, Aspen												Average	1.08E+00		
												Minimum	6.56E-01		
												Maximum	2.97E+00		
												Std. Dev.	8.91E-01		
088-121488A	1D088	PM	DFIRE	WREF	HWOOD	95	SWOOD	5	EFB	M5	3	7.51E-01	7.51E-01	A	
096-060590A	1D096	PM	DFIRE	DFINE	ASPEN	100	NA	NA	EFB	M5	3	8.96E-01		A	
096-060590C	1D096	PM	DFIRE	DFINE	ASPEN	100	NA	NA	EFB	M5	3	7.45E-01	8.21E-01	A	
210-021192A	1D210	PM	DFIRE	DFINE	ASPEN	100	NA	NA	EFB	M5	3	2.97E+00		A	
210-042292A	1D210	PM	DFIRE	DFINE	ASPEN	100	NA	NA	EFB	M5	3	1.29E+00	2.13E+00	A	
211-041191A	1D211	PM	DFIRE	WREF	HWOOD	100	NA	NA	EFB	M5	3	6.36E-01	6.36E-01	A	
225-020792A	1D225	PM	DFIRE	DFINE	HWOOD	100	NA	NA	EFB	M5	3	1.03E+00	1.03E+00	A	
95	DDG-1	PM	DFIRE	WREF	HWOOD	99	SWOOD	1	MCLO/EFB	M5	3	7.79E-01		A	
97	DDG-1	PM	DFIRE	WREF	HWOOD	99	SWOOD	1	MCLO/EFB	M5	3	6.28E-01	7.04E-01	A	
083-061088A	XD083	PM	DFIRE	DFINE	ASPEN	95	PINE SP	5	EFB	M5	3	7.16E-01	7.16E-01	A	
097-061490A	XD097	PM	DFIRE	DFINE	HWOOD	100	NA	NA	EFB	M5	3	6.08E-01		A	
097-080290B	XD097	PM	DFIRE	DFINE	HWOOD	100	NA	NA	EFB	M5	3	8.41E-01		A	
097-100590A	XD097	PM	DFIRE	DFINE	HWOOD	100	NA	NA	EFB	M5	3	6.47E-01		A	
097-122089A	XD097	PM	DFIRE	DFINE	HWOOD	100	NA	NA	EFB	M5	3	1.20E+00	8.25E-01	A	
083-060988A	YD083	PM	DFIRE	DFINE	ASPEN	95	PINE SP	5	EFB	M5	3	6.56E-01	6.56E-01	A	
EFB-controlled PM, direct wood-fired, hardwood												Average	9.18E-01		
												Minimum	6.08E-01		
												Maximum	2.97E+00		
												Std. Dev.	5.94E-01		
10	DEL-1	PM	DFIRE	WREF	US PINE	60	HWOOD	40	MCLO/EFB	M5	3	4.20E-01		B	mixed species
98,99	DDG-1	PM	DFIRE	WREF	NS	NS	NS	NS	MCLO/EFB	M5	3	1.11E+00		A	unkn. species
23,24	DSA-123	PM	DFIRE	WREF	PINE SP	100	NA	NA	WESP	M5	3	2.02E-01	2.02E-01	A	
WESP-controlled PM, direct wood-fired, pines												Average	2.02E-01		
54	DMO-1	PM	DFIRE	WREF	HWOOD	90	SWOOD	10	MCLO/WESP	M5	3	1.02E-01	1.02E-01	A	
73	DTO-12	PM	DFIRE	WREF	HWOOD	90	SWOOD	10	MCLO/WESP	M5	3	2.44E-01	2.44E-01	A	
59	DNB-1	PM	DFIRE	WREF	HWOOD	100	NA	NA	WESP	M5	3	2.63E-01	2.63E-01	A	

WESP-controlled PM, direct wood-fired, hardwood	Average	2.03E-01
	Minimum	1.02E-01
	Maximum	2.63E-01

TABLE A-1. (Continued)

Test Code	Unit code	Pollutant(b)	Firing type(c)	Fuel type(d)	Wood species(e)				Emission control device(f)	Test method(g)	No. of runs	Emission factor, Lb/ODT		Data rating	Comments
					Primary	%	Second.	%				Test	Dryer		
57	DMO-1	PM	DFIRE	WREF	HWOOD	80	SWOOD	20	MCLO/WESP	M5	3	2.49E-01		A	mixed species
58	DMO-1	PM	DFIRE	WREF	NS	NS	NS	NS	MCLO/WESP	M5	3	3.33E-01		B	unkn. species
62	DMO-1	PM	DFIRE	WREF	ASPEN	75	PINE SP	25	MCLO/WESP	M5	3	1.08E-01		A	mixed species
70	DMO-1	PM	DFIRE	WREF	HWOOD	80	SWOOD	20	MCLO/WESP	M5	3	4.42E-01		A	mixed species
102	DMO-1	PM	DFIRE	WREF	NS	NS	NS	NS	MCLO/WESP	M5	3	5.63E-02		A	unkn. species
041-052192B	XD041	PM	DFIRE	WREF	SY PINE	60	HWOOD	40	WESP	M5	3	1.44E+00		A	mixed species
041-063092B	XD041	PM	DFIRE	WREF	SY PINE	70	HWOOD	30	WESP	OD7	3	1.76E+00		A	mixed species
041-121792A	XD041	PM	DFIRE	WREF	SY PINE	70	HWOOD	30	WESP	M5	3	7.41E-01		A	mixed species
044-102588B	XD044	PM	DFIRE	SDUST	SPRUCE	50	UFIR	50	WESP	M5	3	1.91E-01		A	mixed species
044-102588C	XD044	PM	DFIRE	SDUST	POPLAR	39	SWOOD	61	WESP	M5	1			NR	
044-102588C	XD044	PM	DFIRE	SDUST	POPLAR	39	SWOOD	61	WESP	M5	1			NR	
044-102588D	XD044	PM	DFIRE	SDUST	POPLAR	39	SWOOD	61	WESP	M5	1			NR	
052-011493B	XD052	PM	IHEAT	WREF	HWOOD	50	SY PINE	50	WESP	M5	3	6.16E-01		A	mixed species
069-081491A	1D069	PM	DFIRE	FINES	POPLAR	100	NA	NA	WESP	M5	3			NR	
069-081491B	1D069	PM	DFIRE	FINES	POPLAR	100	NA	NA	WESP	M5	3			NR	
069-081591A	2D069	PM	DFIRE	FINES	POPLAR	100	NA	NA	WESP	M5	2			NR	
069-081591B	2D069	PM	DFIRE	FINES	POPLAR	100	NA	NA	WESP	M5	3			NR	
069-081992A	1D069	PM	DFIRE	FINES	POPLAR	100	NA	NA	WESP	M5	3			NR	
069-081992B	1D069	PM	DFIRE	FINES	POPLAR	100	NA	NA	WESP	M5	3			NR	
069-082092A	2D069	PM	DFIRE	FINES	POPLAR	100	NA	NA	WESP	M5	3			NR	
069-082092B	2D069	PM	DFIRE	FINES	POPLAR	100	NA	NA	WESP	M5	3			NR	
069-121390A	2D069	PM	DFIRE	FINES	POPLAR	100	NA	NA	WESP	M5	3			NR	
069-121390B	1D069	PM	DFIRE	FINES	POPLAR	100	NA	NA	WESP	M5	3			NR	
069-121390C	2D069	PM	DFIRE	FINES	POPLAR	100	NA	NA	WESP	M5	3			NR	
070-031992B	2D070	PM	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	G5T	3	4.73E-01		A	mixed species
070-042392B	1D070	PM	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	G5T	4	3.23E-01		D	mixed species
070-042492B	3D070	PM	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	G5T	3	5.69E-01		A	mixed species
070-062891B	1D070	PM	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	G5T	3	2.65E-01		A	mixed species
070-062891D	3D070	PM	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	G5T	3	3.37E-01		A	mixed species
070-101091B	2D070	PM	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	G5T	3	8.90E-01		A	mixed species
070-101091D	3D070	PM	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	G5T	3	3.53E-01		A	mixed species
070-101091E	2D070	PM	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	G5T	1			NR	
070-101091F	2D070	PM	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	G5T	1	8.60E-01		D	1-run data

070-101091H	3D070	PM	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	G5T	1	4.00E-01	D	1-run data
070-102192B	3D070	PM	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	M5	3	5.96E-01	A	mixed species
096-012793A	2D096	PM	DFIRE	DFINE	ASPEN	80	PINE SP	20	WESP	M5	3	2.10E-01	A	mixed species

TABLE A-1. (Continued)

Test Code	Unit code	Pollutant(b)	Firing type(c)	Fuel type(d)	Wood species(e) Primary	%	Second.	%	Emission control device(f)	Test method(g)	No. of runs	Emission factor, Lb/ODT Test	Dryer	Data rating	Comments
215-042089B	XD215	PM	DFIRE	WREF	HWOOD	45	PINE SP	55	WESP	M5	3	3.37E-01		A	mixed species
215-062591B	XD215	PM	DFIRE	WREF	SY PINE	40	HWOOD	60	WESP	M5	3	8.33E-03		A	mixed species
11	DDD-1	PM	DFIRE	SDUST	US PINE	NS	HWOOD	NS	WESP	M5	3	3.60E-01		B	mixed species
38	DH2-12	PM	DFIRE	WREF	NS	NS	NS	NS	WESP	M5	3	3.21E-01		B	unkn. species
75	DRX-12345	PM	DFIRE	WREF	PINE SP	100	NA	NA	MCLO/RTO	M5	3	2.84E-01	2.84E-01	A	
23,24	DSA-123	PM	DFIRE	WREF	PINE SP	100	NA	NA	WESP/RTO	M5	3	5.10E-02	5.10E-02	A	
RTO-controlled PM, direct wood-fired, pines												Average	1.68E-01		
												Minimum	5.10E-02		
												Maximum	2.84E-01		
59	DNB-1	PM	DFIRE	WREF	HWOOD	100	NA	NA	WESP/RTO	M5	3	3.64E-02	3.64E-02	A	
RTO-controlled PM, direct wood-fired, hardwood												Average	3.64E-02		
32	DH2-12	PM	DFIRE	WREF	NS	NS	NS	NS	MCLO/EFB/RTO	M5	3	4.82E-01		B	unkn. species
42	DUR-12	PM	DFIRE	WREF	NS	NS	NS	NS	MCLO/RTO	M5	3	3.48E-01		B	unkn. species
43	DNW-1	PM	DFIRE	WREF	NS	NS	NS	NS	MCLO/RTO	M5	3	1.96E-01		B	unkn. species
44	DCO-123	PM	DFIRE	WREF	NS	NS	NS	NS	MCLO/RTO	M5	3	3.55E-01		B	unkn. species
29	DH1-12	PM	DFIRE	WREF	NS	NS	NS	NS	WESP/RTO	M5	3	7.69E-02		B	unkn. species
37	DHO-12	PM	DFIRE	WREF	NS	NS	NS	NS	WESP/RTO	M5	3	1.33E-03		C	unkn. species
38	DH2-12	PM	DFIRE	WREF	NS	NS	NS	NS	WESP/RTO	M5	3	3.51E-02		B	unkn. species
041-063092A	XD041	PM&CPM	DFIRE	WREF	SY PINE	70	HWOOD	30	CYC	OD7	3	7.55E+00		A	not reported
041-063092B	XD041	PM&CPM	DFIRE	WREF	SY PINE	70	HWOOD	30	WESP	OD7	3	2.32E+00		A	not reported
041-121792A	XD041	PM&CPM	DFIRE	WREF	SY PINE	70	HWOOD	30	WESP	M5	3	1.07E+00		A	not reported
041-121792B	XD041	PM&CPM	DFIRE	WREF	SY PINE	70	HWOOD	30	CYC	M5	3	5.06E+00		A	not reported
044-102588A	XD044	PM&CPM	DFIRE	SDUST	SPRUCE	50	UFIR	50	CYC	M5	3	7.57E+00		A	not reported
044-102588B	XD044	PM&CPM	DFIRE	SDUST	SPRUCE	50	UFIR	50	WESP	M5	3	3.41E-01		A	not reported
044-102588C	XD044	PM&CPM	DFIRE	SDUST	POPLAR	39	SWOOD	61	WESP	M5	1			NR	
044-102588D	XD044	PM&CPM	DFIRE	SDUST	POPLAR	39	SWOOD	61	WESP	M5	1			NR	
069-081491A	1D069	PM&CPM	DFIRE	FINES	POPLAR	100	NA	NA	WESP	M5/202	3			NR	
069-081491B	1D069	PM&CPM	DFIRE	FINES	POPLAR	100	NA	NA	WESP	M5/202	3			NR	
069-081591A	2D069	PM&CPM	DFIRE	FINES	POPLAR	100	NA	NA	WESP	M5/202	3			NR	
069-081591B	2D069	PM&CPM	DFIRE	FINES	POPLAR	100	NA	NA	WESP	M5/202	3			NR	
069-081992A	1D069	PM&CPM	DFIRE	FINES	POPLAR	100	NA	NA	WESP	M5/202	3			NR	
069-081992B	1D069	PM&CPM	DFIRE	FINES	POPLAR	100	NA	NA	WESP	M5/202	3			NR	
069-082092A	2D069	PM&CPM	DFIRE	FINES	POPLAR	100	NA	NA	WESP	M5/202	3			NR	

069-082092B	2D069	PM&CPM	DFIRE	FINES	POPLAR	100	NA	NA	WESP	M5/202	3	NR
069-121390A	2D069	PM&CPM	DFIRE	FINES	POPLAR	100	NA	NA	WESP	M5/202	3	NR
069-121390B	1D069	PM&CPM	DFIRE	FINES	POPLAR	100	NA	NA	WESP	M5/202	3	NR
069-121390C	2D069	PM&CPM	DFIRE	FINES	POPLAR	100	NA	NA	WESP	M5/202	3	NR

TABLE A-1. (Continued)

Test Code	Unit code	Pollutant(b)	Firing type(c)	Fuel type(d)	Wood species(e)				Emission control device(f)	Test method(g)	No. of runs	Emission factor, Lb/ODT		Data rating	Comments
					Primary	%	Second.	%				Test	Dryer		
070-031992A	2D070	PM&CPM	DFIRE	NS	PINE SP	85	HWOOD	15	MCLO	G5T	3	5.34E+00		A	not reported
070-031992B	2D070	PM&CPM	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	G5T	3	1.23E+00		A	not reported
070-042392B	1D070	PM&CPM	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	G5T	4	6.14E-01		D	not reported
070-042492B	3D070	PM&CPM	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	G5T	3	1.23E+00		A	not reported
070-062891A	1D070	PM&CPM	DFIRE	NS	PINE SP	85	HWOOD	15	MCLO	G5T	3	5.40E+00		A	not reported
070-062891B	1D070	PM&CPM	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	G5T	3	9.76E-01		A	not reported
070-062891C	3D070	PM&CPM	DFIRE	NS	PINE SP	85	HWOOD	15	MCLO	G5T	3	5.94E+00		A	not reported
070-062891D	3D070	PM&CPM	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	G5T	3	1.27E+00		A	not reported
070-101091A	2D070	PM&CPM	DFIRE	NS	PINE SP	85	HWOOD	15	MCLO	G5T	3	6.23E+00		A	not reported
070-101091B	2D070	PM&CPM	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	G5T	3	1.89E+00		A	not reported
070-101091C	3D070	PM&CPM	DFIRE	NS	PINE SP	85	HWOOD	15	MCLO	G5T	3	4.46E+00		A	not reported
070-101091D	3D070	PM&CPM	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	G5T	3	1.15E+00		A	not reported
070-101091E	2D070	PM&CPM	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	G5T	1			NR	
070-101091F	2D070	PM&CPM	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	G5T	1	2.57E+00		D	not reported
070-101091G	3D070	PM&CPM	DFIRE	NS	PINE SP	85	HWOOD	15	MCLO	G5T	1	3.20E+00		D	not reported
070-101091H	3D070	PM&CPM	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	G5T	1	1.85E+00		D	not reported
070-102192A	3D070	PM&CPM	DFIRE	NS	PINE SP	85	HWOOD	15	MCLO	M5/202	3	5.45E+00		A	not reported
070-102192B	3D070	PM&CPM	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	M5/202	3	1.15E+00		A	not reported
083-060988A	YD083	PM&CPM	DFIRE	DFINE	ASPEN	95	PINE SP	5	EFB	M5	3	1.14E+00		A	not reported
083-061088A	XD083	PM&CPM	DFIRE	DFINE	ASPEN	95	PINE SP	5	EFB	M5	3	1.02E+00		A	not reported
088-120892A	1D088	PM&CPM	DFIRE	WREF	PINE SP	100	NA	NA	EFB	M5/202	3	1.24E+00		A	not reported
096-012793A	2D096	PM&CPM	DFIRE	DFINE	ASPEN	80	PINE SP	20	WESP	M5/202	3	4.96E-01		A	not reported
096-012793C	2D096	PM&CPM	DFIRE	DFINE	ASPEN	80	PINE SP	20	MCLO	M5/202	3	2.88E+00		A	not reported
096-060590A	1D096	PM&CPM	DFIRE	DFINE	ASPEN	100	NA	NA	EFB	M5/202	3	1.19E+00		A	not reported
096-060590C	1D096	PM&CPM	DFIRE	DFINE	ASPEN	100	NA	NA	EFB	M5/202	3	8.67E-01		A	not reported
096-060790C	1D096	PM&CPM	DFIRE	DFINE	PINE SP	100	NA	NA	EFB	M5/202	3	8.18E-01		A	not reported
096-060890C	1D096	PM&CPM	DFIRE	DFINE	PINE SP	100	NA	NA	EFB	M5/202	3	1.09E+00		A	not reported
127-062591A	1D127	PM&CPM	DFIRE	WDUST	ASPEN	95	PINE SP	5	EFB	M5	3	1.79E+00		A	not reported
127-082190A	1D127	PM&CPM	DFIRE	WDUST	ASPEN	95	PINE SP	5	EFB	M5	3	2.14E+00		A	not reported
210-021192A	1D210	PM&CPM	DFIRE	DFINE	ASPEN	100	NA	NA	EFB	M5/202	3	3.32E+00		A	not reported
210-042292A	1D210	PM&CPM	DFIRE	DFINE	ASPEN	100	NA	NA	EFB	M5/202	3	1.79E+00		A	not reported
211-012892A	3D211	PM&CPM	DFIRE	DFINE	HWOOD	100	NA	NA	EFB	M5	3	8.94E-01		A	not reported
211-012992B	1D211	PM&CPM	DFIRE	WREF	HWOOD	100	NA	NA	EFB	M5	3	6.02E-01		A	not reported

211-013092A	2D211	PM&CPM	DFIRE	DFINE	HWOOD	100	NA	NA	EFB	M5	3	7.37E-01	A	not reported
212-101191A	1D212	PM&CPM	DFIRE	DFINE	HWOOD	10	SWOOD	90	EFB	M5	3	9.38E-01	A	not reported
215-062591A	XD215	PM&CPM	DFIRE	WREF	SY PINE	40	HWOOD	60	CYC	M5/202	3	4.60E+00	A	not reported

TABLE A-1. (Continued)

Test Code	Unit code	Pollutant(b)	Firing type(c)	Fuel type(d)	Wood species(e) Primary	%	Second.	%	Emission control device(f)	Test method(g)	No. of runs	Emission factor, Lb/ODT Test	Dryer	Data rating	Comments
215-062591B	XD215	PM&CPM	DFIRE	WREF	SY PINE	40	HWOOD	60	WESP	M5/202	3	6.83E-01		A	not reported
215-062591C	YD215	PM&CPM	DFIRE	WREF	SY PINE	40	HWOOD	60	CYC	OD7	2	3.74E+00		B	not reported
215-062591D	YD215	PM&CPM	DFIRE	WREF	SY PINE	40	HWOOD	60	CYC	OD7	2	3.22E+00		B	not reported
225-020792A	1D225	PM&CPM	DFIRE	DFINE	HWOOD	100	NA	NA	EFB	M5	3	1.35E+00		A	not reported
1	DSL-1	PM10	DFIRE	WREF	SY PINE	100	NA	NA	MCLO	M201A	3	2.30E+00	2.30E+00	C	
1	DSL-2	PM10	DFIRE	WREF	SY PINE	100	NA	NA	MCLO	M201A	3	2.10E+00	2.10E+00	C	
1	DSL-3	PM10	DFIRE	WREF	SY PINE	100	NA	NA	MCLO	M201A	3	1.90E+00	1.90E+00	B	
1	DSL-4	PM10	DFIRE	WREF	SY PINE	100	NA	NA	MCLO	M201A	3	2.40E+00	2.40E+00	B	
1	DSL-5	PM10	DFIRE	WREF	SY PINE	100	NA	NA	MCLO	M201A	3	2.40E+00	2.40E+00	B	
4	DCO-1	PM10	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M201A	3	2.80E+00	2.80E+00	A	
4	DCO-2	PM10	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M201A	3	2.70E+00	2.70E+00	B	
4	DCO-3	PM10	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M201A	3	2.30E+00	2.30E+00	A	
5	DNW-1	PM10	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M201A	3	3.00E+00	3.00E+00	A	
5	DNW-2	PM10	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M201A	3	2.90E+00	2.90E+00	A	
7	DUR-1	PM10	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M201A	3	2.20E+00	2.20E+00	B	
7	DUR-2	PM10	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M201A	3	2.50E+00	2.50E+00	C	
Multiclone-controlled PM-10, direct wood-fired, pines												Average	2.46E+00		
												Minimum	1.90E+00		
												Maximum	3.00E+00		
												Std. Dev.	3.34E-01		
210-021192B	1D210	PM10	DFIRE	DFINE	ASPEN	100	NA	NA	EFB	M201A	3	1.82E+00		A	
210-042292B	1D210	PM10	DFIRE	DFINE	ASPEN	100	NA	NA	EFB	M201A	3	5.51E-01	1.19E+00	A	
EFB-controlled PM-10, direct wood-fired, Aspen												Average	1.19E+00		
												Minimum	5.51E-01		
												Maximum	1.82E+00		
210-021192B	1D210	PM10	DFIRE	DFINE	ASPEN	100	NA	NA	EFB	M201A	3	1.82E+00		A	
210-042292B	1D210	PM10	DFIRE	DFINE	ASPEN	100	NA	NA	EFB	M201A	3	5.51E-01	1.19E+00	A	
225-020792B	1D225	PM10	DFIRE	DFINE	HWOOD	100	NA	NA	EFB	M201A	3	8.21E-01	8.21E-01	A	
EFB-controlled PM-10, direct wood-fired, hardwood												Average	1.00E+00		
												Minimum	5.51E-01		
												Maximum	1.82E+00		
210-021192B	1D210	PM10&CPM	DFIRE	DFINE	ASPEN	100	NA	NA	EFB	M201A/202	3	2.27E+00		A	not reported
210-042292B	1D210	PM10&CPM	DFIRE	DFINE	ASPEN	100	NA	NA	EFB	M201A/202	3	8.39E-01		A	not reported

211-012892B	3D211	PM10&CPM	DFIRE	DFINE	HWOOD	100	NA	NA	EFB	M201A	3	1.36E+00		A	not reported

TABLE A-1. (Continued)

Test Code	Unit code	Pollutant(b)	Firing type(c)	Fuel type(d)	Wood species(e) Primary	%	Second.	%	Emission control device(f)	Test method(g)	No. of runs	Emission factor, Lb/ODT Test	Dryer	Data rating	Comments
211-012992A	1D211	PM10&CPM	DFIRE	WREF	HWOOD	100	NA	NA	EFB	M201A	3	9.56E-01		A	not reported
211-013092B	2D211	PM10&CPM	DFIRE	DFINE	HWOOD	100	NA	NA	EFB	M201A	3	7.00E-01		A	not reported
225-020792B	1D225	PM10&CPM	DFIRE	DFINE	HWOOD	100	NA	NA	EFB	M201A	3	1.18E+00		A	not reported

(a) NS = not specified. NA = not applicable. NR = not rated. Lb/ODT = pounds of pollutant per oven-dried ton of wood material out of dryer.

(b) Pollutant codes are identified in Table 4-6.

(c) Firing types: DFIRE = direct firing; IHEAT = indirect firing.

(d) Fuel types: WREF = wood residue; SDUST = sanderdust; FINES = unspecified fines; DFINE = unspecified dry fines.

(e) Wood species: SY PINE = Southern yellow pine; HWOOD = unspecified hardwood; SPRUCE = spruce; UFIR = unspecified fir; POPLAR = poplar; SWOOD = unspecified softwood; PINE SP = unknown pine species; ASPEN = aspen; US PINE = unspecified southern pines.

(f) Emission control devices: CYC = cyclone; MCLO = multiclone; EFB = electrified filter bed; WESP = wet electrostatic precipitator. RTO = regenerative thermal oxidizer; IWS = ionizing wet scrubber.

(g) Test method: M202 = EPA Method 202; OD7 = ODEQ7; M5 = EPA Method 5; M5A = EPA Method 5A; WDNR = Wisconsin Department of Natural Resources method; G5T = Georgia 5T; M201A = EPA Method 201A.

TABLE A-2. SUMMARY OF WB/OSB DRYER EMISSION FACTOR CALCULATIONS--VOC(a)

Test Code	Unit code	Pollutant(b)	Firing type(c)	Fuel type(d)	Wood species(e) Primary	%	Second.	%	Emission control device(f)	Test method(g)	No. of runs	Emission factor, Lb/ODT Test	Dryer	Data rating	Comments
3	DSL-3	VOC	DFIRE	WREF	SY PINE	100	NA	NA	MCLO	M25A	3	#######		C	Discarded
3	DSL-1	VOC	DFIRE	WREF	SY PINE	100	NA	NA	MCLO	M25A	3	#######	#######	B	+FOR(0.0667)
3	DSL-2	VOC	DFIRE	WREF	SY PINE	100	NA	NA	MCLO	M25A	3	#######	#######	B	+FOR(0.0667)
3	DSL-4	VOC	DFIRE	WREF	SY PINE	100	NA	NA	MCLO	M25A	3	#######	#######	B	+FOR(0.0667)
3	DSL-5	VOC	DFIRE	WREF	SY PINE	100	NA	NA	MCLO	M25A	3	#######	#######	B	+FOR(0.0667)
23,24	DSA-1	VOC	DFIRE	WREF	PINE SP	100	NA	NA	CYC	M25A	3	#######	#######	A	+FOR(0.0667)
23,24	DSA-2	VOC	DFIRE	WREF	PINE SP	100	NA	NA	CYC	M25A	3	#######	#######	A	+FOR(0.0667)
23,24	DSA-3	VOC	DFIRE	WREF	PINE SP	100	NA	NA	CYC	M25A	3	#######	#######	A	+FOR(0.0667)
4	DCO-1	VOC	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M25A	3	#######	#######	A	+FOR(0.0667)
4	DCO-2	VOC	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M25A	3	#######	#######	B	+FOR(0.0667)
4	DCO-3	VOC	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M25A	3	#######	#######	A	+FOR(0.0667)
5	DNW-1	VOC	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M25A	3	#######	#######	A	+FOR(0.0667)
5	DNW-2	VOC	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M25A	3	#######	#######	A	+FOR(0.0667)
7	DUR-2	VOC	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M25A	3	#######	#######	B	+FOR(0.0667)
75	DRX-1	VOC	DFIRE	WREF	PINE SP	100	NA	NA	MCLO	M25A	3	#######	#######	A	+FOR(0.0667)
75	DRX-2	VOC	DFIRE	WREF	PINE SP	100	NA	NA	MCLO	M25A	3	#######	#######	A	+FOR(0.0667)
75	DRX-3	VOC	DFIRE	WREF	PINE SP	100	NA	NA	MCLO	M25A	3	#######	#######	A	+FOR(0.0667)
75	DRX-4	VOC	DFIRE	WREF	PINE SP	100	NA	NA	MCLO	M25A	3	#######	#######	A	+FOR(0.0667)
75	DRX-5	VOC	DFIRE	WREF	PINE SP	100	NA	NA	MCLO	M25A	3	#######	#######	A	+FOR(0.0667)
088-120892A	1D088	VOC	DFIRE	WREF	PINE SP	100	NA	NA	EFB	M25A	3	#######	#######	A	+FOR(0.0667)
Uncontrolled VOC as propane, direct wood-fired, pines												Average	#######		
												Minimum	#######		
												Maximum	#######		
												Std. Dev.	#######		
7	DUR-1	VOC	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M25A	3	#######		C	Discarded
73	DTO-1	VOC	DFIRE	WREF	HWOOD	90	SWOOD	10	MCLO	M25A	3	9.06E-01		C	Discarded
73	DTO-2	VOC	DFIRE	WREF	HWOOD	90	SWOOD	10	MCLO	M25A	3	2.07E-01		C	Discarded
070-031992A	2D070	VOC	DFIRE	NS	PINE SP	85	HWOOD	15	MCLO	M25	3	#######		A	mixed species
070-042392A	1D070	VOC	DFIRE	NS	PINE SP	85	HWOOD	15	MCLO	M25	3	#######		A	mixed species
070-042492A	3D070	VOC	DFIRE	NS	PINE SP	85	HWOOD	15	MCLO	M25	3	#######		A	mixed species
070-062891A	1D070	VOC	DFIRE	NS	PINE SP	85	HWOOD	15	MCLO	M25	2	#######		B	mixed species
070-062891C	3D070	VOC	DFIRE	NS	PINE SP	85	HWOOD	15	MCLO	M25	3	#######		A	mixed species

070-101091A	2D070	VOC		DFIRE	NS	PINE SP	85	HWOOD	15	MCLO		M25A	3	#######	A	mixed species
070-101091A	2D070	VOC		DFIRE	NS	PINE SP	85	HWOOD	15	MCLO		M25	3	#######	A	mixed species

TABLE A-2. (Continued)

Test Code	Unit code	Pollutant(b)	Firing type(c)	Fuel type(d)	Wood species(e)				Emission control device(f)	Test method(g)	No. of runs	Emission factor, Lb/ODT		Data rating	Comments
					Primary	%	Second.	%				Test	Dryer		
070-101091C	3D070	VOC	DFIRE	NS	PINE SP	85	HWOOD	15	MCLO	M25	3	#######		A	mixed species
070-101091C	3D070	VOC	DFIRE	NS	PINE SP	85	HWOOD	15	MCLO	M25A	3	#######		A	mixed species
070-102192A	3D070	VOC	DFIRE	NS	PINE SP	85	HWOOD	15	MCLO	M25A	3	#######		A	mixed species
096-012693E	2D096	VOC	DFIRE	DFINE	ASPEN	80	PINE SP	20	MCLO	M25	3	#######		A	mixed species
041-052192A	XD041	VOC	DFIRE	WREF	SY PINE	60	HWOOD	40	CYC	M25A	3	#######		A	mixed species
044-102588A	XD044	VOC	DFIRE	SDUST	SPRUCE	50	UFIR	50	CYC	M25	3	#######		A	mixed species
052-011493A	XD052	VOC	IHEAT	WREF	HWOOD	50	SY PINE	50	CYC	M25	3	#######		A	mixed species
052-011493A	XD052	VOC	IHEAT	WREF	HWOOD	50	SY PINE	50	CYC	M25A	3	#######		A	mixed species
215-042089A	XD215	VOC	DFIRE	WREF	HWOOD	45	PINE SP	55	CYC	M25	3	#######		A	mixed species
215-062591A	XD215	VOC	DFIRE	WREF	SY PINE	40	HWOOD	60	CYC	M25	3	#######		A	mixed species
215-062591A	XD215	VOC	DFIRE	WREF	SY PINE	40	HWOOD	60	CYC	M25A	3	#######		A	mixed species
215-062591C	YD215	VOC	DFIRE	WREF	SY PINE	40	HWOOD	60	CYC	M25	2	#######		B	mixed species
215-062591E	YD215	VOC	DFIRE	WREF	SY PINE	40	HWOOD	60	CYC	M25	2	#######		B	mixed species
29	DH1-1	VOC	DFIRE	WREF	NS	NS	NS	NS	CYC	M25A	3	#######		B	unkn. species
29	DH1-2	VOC	DFIRE	WREF	NS	NS	NS	NS	CYC	M25A	3	#######		B	unkn. species
30	DCH-1	VOC	DFIRE	WREF	NS	NS	NS	NS	CYC	M25A	3	#######		B	unkn. species
32	DH1-1	VOC	DFIRE	WREF	NS	NS	NS	NS	CYC	M25A	3	#######		B	unkn. species
32	DH1-2	VOC	DFIRE	WREF	NS	NS	NS	NS	CYC	M25A	3	#######		B	unkn. species
37	DHO-1	VOC	DFIRE	WREF	NS	NS	NS	NS	CYC	M25A	3	7.83E-01		C	unkn. species
37	DHO-2	VOC	DFIRE	WREF	NS	NS	NS	NS	CYC	M25A	3	#######		C	unkn. species
38	DH2-1	VOC	DFIRE	WREF	NS	NS	NS	NS	CYC	M25A	3	#######		B	unkn. species
38	DH2-2	VOC	DFIRE	WREF	NS	NS	NS	NS	CYC	M25A	3	#######		B	unkn. species
42	DUR-1	VOC	DFIRE	WREF	NS	NS	NS	NS	CYC	M25A	3	#######		C	unkn. species
42	DUR-2	VOC	DFIRE	WREF	NS	NS	NS	NS	CYC	M25A	3	#######		C	unkn. species
43	DNW-1	VOC	DFIRE	WREF	NS	NS	NS	NS	CYC	M25A	3	#######		C	unkn. species
44	DCO-1	VOC	DFIRE	WREF	NS	NS	NS	NS	CYC	M25A	3	#######		B	unkn. species
44	DCO-2	VOC	DFIRE	WREF	NS	NS	NS	NS	CYC	M25A	3	#######		B	unkn. species
44	DCO-3	VOC	DFIRE	WREF	NS	NS	NS	NS	CYC	M25A	3	#######		B	unkn. species
10	DEL-1	VOC	DFIRE	WREF	US PINE	60	HWOOD	40	MCLO	M25A	3	#######		A	mixed species
10	DEL-1	VOC	DFIRE	WREF	US PINE	60	HWOOD	40	MCLO	M25	3	#######		A	mixed species
32	DH2-1	VOC	DFIRE	WREF	NS	NS	NS	NS	MCLO	M25A	3	#######		C	unkn. species
32	DH2-2	VOC	DFIRE	WREF	NS	NS	NS	NS	MCLO	M25A	3	#######		C	unkn. species

94	DDC-1	VOC	DFIRE	WREF	NS	NS	NS	NS	MCLO	M25A	3	#######	A	unkn. species
070-101091E	2D070	VOC	DFIRE	NS	PINE SP	85	HWOOD	15	MCLO	M25A	1	#######	D	1-run data
070-101091E	2D070	VOC	DFIRE	NS	PINE SP	85	HWOOD	15	MCLO	M25	1	#######	D	1-run data

TABLE A-2. (Continued)

Test Code	Unit code	Pollutant(b)	Firing type(c)	Fuel type(d)	Wood species(e) Primary	%	Second.	%	Emission control device(f)	Test method(g)	No. of runs	Emission factor, Lb/ODT Test	Dryer	Data rating	Comments
070-101091C	3D070	VOC	DFIRE	NS	PINE SP	85	HWOOD	15	MCLO	M25A	1	#######		D	1-run data
070-101091C	3D070	VOC	DFIRE	NS	PINE SP	85	HWOOD	15	MCLO	M25	1	#######		D	1-run data
127-082190A	1D127	VOC	DFIRE	WDUST	ASPEN	95	PINE SP	5	EFB	M25	3	#######		A	
127-102290A	1D127	VOC	DFIRE	WDUST	ASPEN	96	PINE SP	4	EFB	M25A	3	#######	#######	A	+FOR(0.108)
210-021192C	1D210	VOC	DFIRE	DFINE	ASPEN	100	NA	NA	EFB	M25	3	#######		A	
210-022489A	1D210	VOC	DFIRE	DFINE	ASPEN	100	NA	NA	EFB	M25	3	#######		A	
210-042292C	1D210	VOC	DFIRE	DFINE	ASPEN	100	NA	NA	EFB	M25	3	#######	#######	A	
127-092289A	2D127	VOC	DFIRE	WDUST	ASPEN	100	NA	NA	EFB	M25	3	#######	#######	A	
083-082990A	XD083	VOC	DFIRE	DFINE	ASPEN	95	PINE SP	5	EFB	M25A	3	#######	#######	A	+FOR(0.108)
Uncontrolled VOC as propane, direct wood-fired, Aspen												Average	#######		
												Minimum	#######		
												Maximum	#######		
												Std. Dev.	#######		
088-030989A	1D088	VOC	DFIRE	WREF	HWOOD	95	SWOOD	5	EFB	M25A	3	7.27E-01		A	+FOR(0.084)
088-120892E	1D088	VOC	DFIRE	WREF	HWOOD	95	PINE SP	5	EFB	M25A	3	#######		A	+FOR(0.084)
088-121488A	1D088	VOC	DFIRE	WREF	HWOOD	95	SWOOD	5	EFB	M25A	3	#######	#######	A	+FOR(0.084)
097-061688E	1D097	VOC	DFIRE	DFINE	HWOOD	100	NA	NA	MCLO	M25	3	#######	#######	A	
127-082190A	1D127	VOC	DFIRE	WDUST	ASPEN	95	PINE SP	5	EFB	M25	3	#######		A	
127-102290A	1D127	VOC	DFIRE	WDUST	ASPEN	96	PINE SP	4	EFB	M25A	3	#######	#######	A	+FOR(0.084)
210-021192C	1D210	VOC	DFIRE	DFINE	ASPEN	100	NA	NA	EFB	M25	3	#######		A	
210-022489A	1D210	VOC	DFIRE	DFINE	ASPEN	100	NA	NA	EFB	M25	3	#######		A	
210-042292C	1D210	VOC	DFIRE	DFINE	ASPEN	100	NA	NA	EFB	M25	3	#######	#######	A	
211-012992E	1D211	VOC	DFIRE	WREF	HWOOD	100	NA	NA	EFB	M25A	3	#######		A	+FOR(0.084)
211-041191A	1D211	VOC	DFIRE	WREF	HWOOD	100	NA	NA	EFB	M25A	3	#######	#######	A	+FOR(0.084)
225-020792D	1D225	VOC	DFIRE	DFINE	HWOOD	100	NA	NA	EFB	M25	3	9.66E-01	9.66E-01	A	
097-061688C	2D097	VOC	DFIRE	DFINE	HWOOD	100	NA	NA	MCLO	M25	3	#######	#######	A	
127-092289A	2D127	VOC	DFIRE	WDUST	ASPEN	100	NA	NA	EFB	M25	3	#######	#######	A	
211-013092A	2D211	VOC	DFIRE	DFINE	HWOOD	100	NA	NA	EFB	M25A	3	#######	#######	A	+FOR(0.084)
211-012892A	3D211	VOC	DFIRE	DFINE	HWOOD	100	NA	NA	EFB	M25A	3	#######	#######	A	+FOR(0.084)
95	DDG-1	VOC	DFIRE	WREF	HWOOD	99	SWOOD	1	MCLO/EFB	M25A	3	9.90E-01		A	+FOR(0.084)
97	DDG-1	VOC	DFIRE	WREF	HWOOD	99	SWOOD	1	MCLO/EFB	M25A	3	#######	#######	A	+FOR(0.084)
54	DMO-1	VOC	DFIRE	WREF	HWOOD	90	SWOOD	10	MCLO/WESP	M25A	3	#######	#######	A	+FOR(0.084)

59	DNB-1	VOC	DFIRE	WREF	HWOOD	100	NA	NA	CYC	M25A	3	#######		A	+FOR(0.084)
59	DNB-1	VOC	DFIRE	WREF	HWOOD	100	NA	NA	WESP	M25A	3	#######	#######	A	+FOR(0.084)

TABLE A-2. (Continued)

Test Code	Unit code	Pollutant(b)	Firing type(c)	Fuel type(d)	Wood species(e) Primary	%	Second.	%	Emission control device(f)	Test method(g)	No. of runs	Emission factor, Lb/ODT Test	Dryer	Data rating	Comments
39	DTH-1	VOC	DFIRE	WREF	HWOOD	100	NA	NA	CYC	M25A	3	8.28E-01		A	+FOR(0.084)
39	DTH-1	VOC	DFIRE	WREF	HWOOD	100	NA	NA	WESP	M25A	3	#######	#######	A	+FOR(0.084)
083-082990A	XD083	VOC	DFIRE	DFINE	ASPEN	95	PINE SP	5	EFB	M25A	3	#######	#######	A	+FOR(0.084)
097-100590E	XD097	VOC	DFIRE	DFINE	HWOOD	100	NA	NA	EFB	M25	3	#######		A	
097-122189A	XD097	VOC	DFIRE	DFINE	HWOOD	100	NA	NA	EFB	M25	3	#######	#######	A	
Uncontrolled VOC as propane, direct wood-fired, hardwood												Average	#######		
												Minimum	7.27E-01		
												Maximum	#######		
												Std. Dev.	7.65E-01		
212-101191E	1D212	VOC	DFIRE	DFINE	HWOOD	10	SWOOD	90	EFB	M25	3	#######		A	mixed species
10	DEL-1	VOC	DFIRE	WREF	US PINE	60	HWOOD	40	MCLO/EFB	M25A	3	#######		B	mixed species
10	DEL-1	VOC	DFIRE	WREF	US PINE	60	HWOOD	40	MCLO/EFB	M25	3	#######		B	mixed species
98,99	DDG-1	VOC	DFIRE	WREF	NS	NS	NS	NS	MCLO/EFB	M25A	3	2.79E-01		A	unkn. species
096-060590E	1D096	VOC	DFIRE	DFINE	ASPEN	100	NA	NA	EFB	M25A	1	4.79E-01		D	1-run data
096-060590L	1D096	VOC	DFIRE	DFINE	ASPEN	100	NA	NA	EFB	M25A	1	#######		D	1-run data
096-060790C	1D096	VOC	DFIRE	DFINE	PINE SP	100	NA	NA	EFB	M25A	1	#######		D	1-run data
096-060890C	1D096	VOC	DFIRE	DFINE	PINE SP	100	NA	NA	EFB	M25A	1	#######		D	1-run data
73	DTO-12	VOC	DFIRE	WREF	HWOOD	90	SWOOD	10	MCLO/WESP	M25A	3	5.23E-01		C	discarded
70	DMO-1	VOC	DFIRE	WREF	HWOOD	80	SWOOD	20	MCLO/WESP	M25A	3	#######		A	mixed species
070-031992E	2D070	VOC	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	M25	3	#######		A	mixed species
070-042392E	1D070	VOC	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	M25	3	#######		A	mixed species
070-042492E	3D070	VOC	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	M25	3	#######		A	mixed species
070-062891E	1D070	VOC	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	M25	3	#######		A	mixed species
070-062891L	3D070	VOC	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	M25	3	#######		A	mixed species
070-101091E	2D070	VOC	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	M25A	2	#######		B	mixed species
070-101091E	2D070	VOC	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	M25	3	#######		B	mixed species
070-101091L	3D070	VOC	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	M25A	3	#######		A	mixed species
070-101091L	3D070	VOC	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	M25	3	#######		A	mixed species
070-102192E	3D070	VOC	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	M25A	3	#######		A	mixed species
096-012693A	2D096	VOC	DFIRE	DFINE	ASPEN	80	PINE SP	20	WESP	M25	3	#######		A	mixed species
041-052192E	XD041	VOC	DFIRE	WREF	SY PINE	60	HWOOD	40	WESP	M25A	3	#######		A	mixed species
044-102588E	XD044	VOC	DFIRE	SDUST	SPRUCE	50	UFIR	50	WESP	M25	3	#######		A	mixed species

052-011493E	XD052	VOC		IHEAT	WREF	HWOOD	50	SY PINE	50	WESP	M25A	3	#######	A	mixed species
052-011493E	XD052	VOC		IHEAT	WREF	HWOOD	50	SY PINE	50	WESP	M25	3	#######	A	mixed species
215-042089E	XD215	VOC		DFIRE	WREF	HWOOD	45	PINE SP	55	WESP	M25	3	#######	A	mixed species

TABLE A-2. (Continued)

Test Code	Unit code	Pollutant(b)	Firing type(c)	Fuel type(d)	Wood species(e) Primary	%	Second.	%	Emission control device(f)	Test method(g)	No. of runs	Emission factor, Lb/ODT Test	Dryer	Data rating	Comments
215-062591E	XD215	VOC	DFIRE	WREF	SY PINE	40	HWOOD	60	WESP	M25	3	#######		A	mixed species
215-062591E	XD215	VOC	DFIRE	WREF	SY PINE	40	HWOOD	60	WESP	M25A	3	#######		A	mixed species
044-092193A	XD044	VOC	DFIRE	SDUST	NS	NS	NA	NA	WESP	M25A	3			NR	
044-092193E	XD044	VOC	DFIRE	SDUST	SPRUCE	50	UFIR	50	WESP	M25A	3			NR	
069-071592E	1D069	VOC	DFIRE	FINES	POPLAR	100	NA	NA	WESP	M25A	3			NR	
069-071692E	2D069	VOC	DFIRE	FINES	POPLAR	100	NA	NA	WESP	M25A	2			NR	
069-081491A	1D069	VOC	DFIRE	FINES	POPLAR	100	NA	NA	WESP	M25A	2			NR	
069-081491E	1D069	VOC	DFIRE	FINES	POPLAR	100	NA	NA	WESP	M25A	3			NR	
069-081591A	2D069	VOC	DFIRE	FINES	POPLAR	100	NA	NA	WESP	M25A	3			NR	
069-081591E	2D069	VOC	DFIRE	FINES	POPLAR	100	NA	NA	WESP	M25A	3			NR	
070-101091F	2D070	VOC	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	M25	1	#######		D	1-run data
070-101091F	2D070	VOC	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	M25A	1	#######		D	1-run data
070-101091F	3D070	VOC	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	M25A	1	#######		D	1-run data
070-101091F	3D070	VOC	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	M25	1	#######		D	1-run data
75	DRX-1234E	VOC	DFIRE	WREF	PINE SP	100	NA	NA	MCLO/RTO	M25A	3	1.71E-01	1.71E-01	A	+FOR(0.0337)
23,24	DSA-123	VOC	DFIRE	WREF	PINE SP	100	NA	NA	WESP/RTO	M25A	3	4.94E-01	4.94E-01	B	+FOR(0.0337)
RTO-controlled VOC as propane, direct wood-fired, pines												Average	3.32E-01		
												Minimum	1.71E-01		
												Maximum	4.94E-01		
59	DNB-1	VOC	DFIRE	WREF	HWOOD	100	NA	NA	WESP/RTO	M25A	3	3.59E-02	3.59E-02	A	+FOR(0.0169)
RTO-controlled VOC as propane, direct wood-fired, hardwood												Average	3.59E-02		
42	DUR-12	VOC	DFIRE	WREF	NS	NS	NS	NS	MCLO/RTO	M25A	3	1.16E-01		C	unkn. species
43	DNW-1	VOC	DFIRE	WREF	NS	NS	NS	NS	MCLO/RTO	M25A	3	6.33E-02		C	unkn. species
44	DCO-123	VOC	DFIRE	WREF	NS	NS	NS	NS	MCLO/RTO	M25A	3	2.35E-01		B	unkn. species
32	DH1-12	VOC	DFIRE	WREF	NS	NS	NS	NS	EFB/RTO	M25A	3	3.65E-01		B	unkn. species
32	DH2-12	VOC	DFIRE	WREF	NS	NS	NS	NS	MCLO/EFB/RTC	M25A	3	1.82E-01		B	unkn. species
29	DH1-12	VOC	DFIRE	WREF	NS	NS	NS	NS	WESP/RTO	M25A	3	1.03E-01		B	unkn. species
37	DHO-12	VOC	DFIRE	WREF	NS	NS	NS	NS	WESP/RTO	M25A	3	3.95E-02		B	unkn. species
38	DH2-12	VOC	DFIRE	WREF	NS	NS	NS	NS	WESP/RTO	M25A	3	2.71E-01		B	unkn. species

(a) NS = not specified. NA = not applicable. Lb/ODT = pounds of pollutant per oven-dried ton of wood material out of dryer.

(b) Pollutant codes are identified in Table 4-6. Factors for VOC on an as propane basis.

(c) Firing types: DFIRE = direct firing; IHEAT = indirect firing.

(d) Fuel types: WREF = wood residue; SDUST = sanderdust; FINES = unspecified fines; DFINE = unspecified dry fines;
WDUST = unspecified wood dust.

TABLE A-2. (Continued)

(e) Wood species: SY PINE = Southern yellow pine; HWOOD = unspecified hardwood; SPRUCE = spruce; UFIR = unspecified fir; POPLAR = poplar; SWOOD = unspecified softwood; PINE SP = unknown pine species; ASPEN = aspen; US PINE = unspecified southern pines.

(f) Emission control devices: CYC = cyclone; MCLO = multiclone; EFB = electrified filter bed; WESP = wet electrostatic precipitator; RTO = regenerative thermal oxidizer.

(g) Test method: M25 = EPA Method 25; M25A = EPA Method 25A.

TABLE A-3. SUMMARY OF WB/OSB DRYER EMISSION FACTOR CALCULATIONS--CO, CO2, NOX, SO2, AND CHROMIUM(a)

Test Code	Unit code	Pollutant(b)	Firing type(c)	Fuel type(d)	Wood species(e) Primary	%	Second.	%	Emission control device(f)	Test method(g)	No. of runs	Emission factor, Lb/ODT Test	Dryer	Data rating	Comments
088-120892A	1D088	CO	DFIRE	WREF	PINE SP	100	NA	NA	EFB	M10	3	#######	#######	A	
096-060590A	1D096	CO	DFIRE	DFINE	ASPEN	100	NA	NA	EFB	M10	3	5.99E-01		A	
096-060590C	1D096	CO	DFIRE	DFINE	ASPEN	100	NA	NA	EFB	M10	3	#######		A	
096-060790C	1D096	CO	DFIRE	DFINE	PINE SP	100	NA	NA	EFB	M10	3	4.46E-01		A	
096-060890C	1D096	CO	DFIRE	DFINE	PINE SP	100	NA	NA	EFB	M10	3	6.20E-01	8.22E-01	A	
127-082190A	1D127	CO	DFIRE	WDUST	ASPEN	95	PINE SP	5	EFB	M10	3	#######		A	
127-102290A	1D127	CO	DFIRE	WDUST	ASPEN	96	PINE SP	4	EFB	M10	3	#######	#######	A	
210-013090A	1D210	CO	DFIRE	DFINE	ASPEN	100	NA	NA	EFB	M10	3	#######		A	
210-021192A	1D210	CO	DFIRE	DFINE	ASPEN	100	NA	NA	EFB	M10	3	#######		A	
210-022489A	1D210	CO	DFIRE	DFINE	ASPEN	100	NA	NA	EFB	M10	3	#######		A	
210-042292A	1D210	CO	DFIRE	DFINE	ASPEN	100	NA	NA	EFB	M10	3	#######		A	
210-042292E	1D210	CO	DFIRE	DFINE	ASPEN	100	NA	NA	EFB	M10	3	#######	#######	A	
211-012992E	1D211	CO	DFIRE	WREF	HWOOD	100	NA	NA	EFB	M10	3	#######	#######	A	
225-020792A	1D225	CO	DFIRE	DFINE	HWOOD	100	NA	NA	EFB	M10	3	#######		A	
225-041990A	1D225	CO	DFIRE	DFINE	HWOOD	100	NA	NA	EFB	M10	3	#######	#######	A	
096-012793A	2D096	CO	DFIRE	DFINE	ASPEN	80	PINE SP	20	WESP	M10	3	#######	#######	A	
127-091289A	2D127	CO	DFIRE	WDUST	ASPEN	100	NA	NA	EFB	M10	3	#######	#######	A	
211-013092A	2D211	CO	DFIRE	DFINE	HWOOD	100	NA	NA	EFB	M10	3	#######	#######	A	
211-012892A	3D211	CO	DFIRE	DFINE	HWOOD	100	NA	NA	EFB	M10	3	#######	#######	A	
44	DCO-1	CO	DFIRE	WREF	NS	NS	NS	NS	CYC	M10	3	#######		B	
4	DCO-1	CO	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M10	9	#######	#######	A	
44	DCO-2	CO	DFIRE	WREF	NS	NS	NS	NS	CYC	M10	3	#######		B	
4	DCO-2	CO	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M10	5	#######	#######	B	
44	DCO-3	CO	DFIRE	WREF	NS	NS	NS	NS	CYC	M10	3	#######		B	
4	DCO-3	CO	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M10	9	#######	#######	A	
95	DDG-1	CO	DFIRE	WREF	HWOOD	99	SWOOD	1	MCLO/EFB	M10	3	#######		A	
97	DDG-1	CO	DFIRE	WREF	HWOOD	99	SWOOD	1	MCLO/EFB	M10	3	#######		A	
98,99	DDG-1	CO	DFIRE	WREF	NS	NS	NS	NS	MCLO/EFB	M10	3	#######	#######	A	
10	DEL-1	CO	DFIRE	WREF	US PINE	60	HWOOD	40	MCLO/EFB	M10	3	#######	#######	B	
29	DH1-1	CO	DFIRE	WREF	NS	NS	NS	NS	CYC	M10	3	#######		B	
32	DH1-1	CO	DFIRE	WREF	NS	NS	NS	NS	CYC	M10	3	#######	#######	B	
29	DH1-2	CO	DFIRE	WREF	NS	NS	NS	NS	CYC	M10	3	#######		B	

32	DH1-2	CO	DFIRE	WREF	NS	NS	NS	NS	CYC	M10	3	#######	#######	B
38	DH2-1	CO	DFIRE	WREF	NS	NS	NS	NS	CYC	M10	3	#######		B

TABLE A-3. (Continued)

Test Code	Unit code	Pollutant(b)	Firing type(c)	Fuel type(d)	Wood species(e)				Emission control device(f)	Test method(g)	No. of runs	Emission factor, Lb/ODT		Data rating	Comments
					Primary	%	Second.	%				Test	Dryer		
32	DH2-1	CO	DFIRE	WREF	NS	NS	NS	NS	MCLO	M10	3	#######	#######	B	
38	DH2-2	CO	DFIRE	WREF	NS	NS	NS	NS	CYC	M10	3	#######		B	
32	DH2-2	CO	DFIRE	WREF	NS	NS	NS	NS	MCLO	M10	3	#######	#######	B	
54	DMO-1	CO	DFIRE	WREF	HWOOD	90	SWOOD	10	MCLO/WESP	M10	3	#######		A	
57	DMO-1	CO	DFIRE	WREF	HWOOD	80	SWOOD	20	MCLO/WESP	M10	3	#######		B	
70	DMO-1	CO	DFIRE	WREF	HWOOD	80	SWOOD	20	MCLO/WESP	M10	3	#######	#######	A	
59	DNB-1	CO	DFIRE	WREF	HWOOD	100	NA	NA	CYC	M10	3	#######		A	
59	DNB-1	CO	DFIRE	WREF	HWOOD	100	NA	NA	WESP	M10	3	#######	#######	A	
5	DNW-1	CO	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M10	9	#######	#######	A	
5	DNW-2	CO	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M10	9	#######	#######	A	
75	DRX-1	CO	DFIRE	WREF	PINE SP	100	NA	NA	MCLO	M10	3	#######	#######	A	
75	DRX-2	CO	DFIRE	WREF	PINE SP	100	NA	NA	MCLO	M10	3	#######	#######	A	
75	DRX-3	CO	DFIRE	WREF	PINE SP	100	NA	NA	MCLO	M10	3	#######	#######	A	
75	DRX-4	CO	DFIRE	WREF	PINE SP	100	NA	NA	MCLO	M10	3	#######	#######	A	
75	DRX-5	CO	DFIRE	WREF	PINE SP	100	NA	NA	MCLO	M10	3	#######	#######	A	
23,24	DSA-1	CO	DFIRE	WREF	PINE SP	100	NA	NA	CYC	M10	3	#######	#######	A	
23,24	DSA-123	CO	DFIRE	WREF	PINE SP	100	NA	NA	WESP	M10	3	#######	#######	A	
23,24	DSA-2	CO	DFIRE	WREF	PINE SP	100	NA	NA	CYC	M10	3	#######	#######	A	
23,24	DSA-3	CO	DFIRE	WREF	PINE SP	100	NA	NA	CYC	M10	3	#######	#######	A	
3	DSL-1	CO	DFIRE	WREF	SY PINE	100	NA	NA	MCLO	M10	3	#######	#######	B	
3	DSL-2	CO	DFIRE	WREF	SY PINE	100	NA	NA	MCLO	M10	3	#######	#######	B	
3	DSL-4	CO	DFIRE	WREF	SY PINE	100	NA	NA	MCLO	M10	3	#######	#######	B	
3	DSL-5	CO	DFIRE	WREF	SY PINE	100	NA	NA	MCLO	M10	3	5.30E-01	5.30E-01	B	
60	DTO-12	CO	DFIRE	WREF	HWOOD	90	SWOOD	10	MCLO/WESP	M10	3	3.46E-01		A	
73	DTO-12	CO	DFIRE	WREF	HWOOD	90	SWOOD	10	MCLO/WESP	M10	3	#######	#######	A	
42	DUR-1	CO	DFIRE	WREF	NS	NS	NS	NS	CYC	M10	3	#######	#######	B	
041-052192E	XD041	CO	DFIRE	WREF	SY PINE	60	HWOOD	40	WESP	M10	3	#######	#######	A	
097-100590A	XD097	CO	DFIRE	DFINE	HWOOD	100	NA	NA	EFB	M10	3	#######		A	
097-122089A	XD097	CO	DFIRE	DFINE	HWOOD	100	NA	NA	EFB	M10	3	#######	#######	A	
215-062591E	XD215	CO	DFIRE	WREF	SY PINE	40	HWOOD	60	WESP	M10	3	#######	#######	A	
Uncontrolled CO, direct wood-fired												Average	#######		
												Minimum	3.46E-01		

Maximum	#######
Std. Dev.	#######

TABLE A-3. (Continued)

Test Code	Unit code	Pollutant(b)	Firing type(c)	Fuel type(d)	Wood species(e) Primary	%	Second.	%	Emission control device(f)	Test method(g)	No. of runs	Emission factor, Lb/ODT Test	Dryer	Data rating	Comments
070-031992E	2D070	CO	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	M10B	3	#######		A	unkn. fuel
070-042392E	1D070	CO	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	M10B	3	#######		A	unkn. fuel
070-042492E	3D070	CO	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	M10B	3	#######		A	unkn. fuel
37	DHO-1	CO	DFIRE	WREF	NS	NS	NS	NS	CYC	M10	3	#######		C	discarded
37	DHO-2	CO	DFIRE	WREF	NS	NS	NS	NS	CYC	M10	3	#######		C	discarded
42	DUR-2	CO	DFIRE	WREF	NS	NS	NS	NS	CYC	M10	3	#######		C	discarded
43	DNW-1	CO	DFIRE	WREF	NS	NS	NS	NS	CYC	M10	3	#######		C	discarded
3	DSL-3	CO	DFIRE	WREF	SY PINE	100	NA	NA	MCLO	M10	3	5.00E-01		C	discarded
7	DUR-1	CO	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M10	6	#######		C	discarded
7	DUR-2	CO	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M10	9	9.80E-01		C	discarded
58	DMO-1	CO	DFIRE	WREF	NS	NS	NS	NS	MCLO/WESP	M10	3	#######		C	discarded
044-092193A	XD044	CO	DFIRE	SDUST	NS	NS	NA	NA	WESP	M10	3			NR	
044-092193E	XD044	CO	DFIRE	SDUST	SPRUCE	50	UFIR	50	WESP	M10	3			NR	
052-011493E	XD052	CO	IHEAT	WREF	HWOOD	50	SY PINE	50	WESP	M10	3	#######		D	suspect data
069-071592A	1D069	CO	DFIRE	FINES	POPLAR	100	NA	NA	WESP	M10	3			NR	
069-071692A	2D069	CO	DFIRE	FINES	POPLAR	100	NA	NA	WESP	M10	1			NR	
069-071692A	2D069	CO	DFIRE	FINES	POPLAR	100	NA	NA	WESP	M10	2			NR	
070-062891E	1D070	CO	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	M3	3	#######		C	Method 3 data
070-102192E	3D070	CO	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	?	3	#######		D	unkn. method
35	DTO-12	CO	DFIRE	NGAS	HWOOD	90	SWOOD	10	MCLO/WESP	M10	3	#######		A	
60	DTO-12	CO	DFIRE	NGAS	HWOOD	90	SWOOD	10	MCLO/WESP	M10	3	2.40E-01	7.15E-01	A	
Uncontrolled CO, direct natural gas-fired												Average	7.15E-01		
												Minimum	2.40E-01		
												Maximum	#######		
44	DCO-123	CO	DFIRE	WREF	NS	NS	NS	NS	MCLO/RTO	M10	3	#######	#######	B	
32	DH1-12	CO	DFIRE	WREF	NS	NS	NS	NS	EFB/RTO	M10	3	#######		B	
29	DH1-12	CO	DFIRE	WREF	NS	NS	NS	NS	WESP/RTO	M10	3	#######	#######	B	
32	DH2-12	CO	DFIRE	WREF	NS	NS	NS	NS	MCLO/EFB/RTC	M10	3	#######		B	
38	DH2-12	CO	DFIRE	WREF	NS	NS	NS	NS	WESP/RTO	M10	3	#######		B	
38	DH2-12	CO	DFIRE	WREF	NS	NS	NS	NS	WESP/RTO	M10	3	#######	#######	B	
37	DHO-12	CO	DFIRE	WREF	NS	NS	NS	NS	WESP/RTO	M10	3	6.97E-01	6.97E-01	B	
59	DNB-1	CO	DFIRE	WREF	HWOOD	100	NA	NA	WESP/RTO	M10	3	6.53E-01	6.53E-01	A	

75	DRX-12345	CO		DFIRE	WREF	PINE SP	100	NA	NA	MCLO/RTO	M10	3	7.12E-01	7.12E-01	A

TABLE A-3. (Continued)

Test Code	Unit code	Pollutant(b)	Firing type(c)	Fuel type(d)	Wood species(e) Primary	%	Second.	%	Emission control device(f)	Test method(g)	No. of runs	Emission factor, Lb/ODT Test	Dryer	Data rating	Comments
23,24	DSA-123	CO	DFIRE	WREF	PINE SP	100	NA	NA	WESP/RTO	M10	3	#######	#######	A	
42	DUR-12	CO	DFIRE	WREF	NS	NS	NS	NS	MCLO/RTO	M10	3	#######	#######	B	
RTO-controlled CO, direct wood-fired												Average	#######		
												Minimum	6.53E-01		
												Maximum	#######		
												Std. Dev.	#######		
43	DNW-1	CO	DFIRE	WREF	NS	NS	NS	NS	MCLO/RTO	M10	3	#######		C	discarded
070-062891A	1D070	CO	DFIRE	NS	PINE SP	85	HWOOD	15	MCLO	M3	3	#######		C	Method 3 data
30	DCH-1	CO2	DFIRE	WREF	NS	NS	NS	NS	CYC	M3	3	#######	#######	B	
4	DCO-1	CO2	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M3	9	#######	#######	B	
4	DCO-3	CO2	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M3	9	#######	#######	B	
94	DDC-1	CO2	DFIRE	WREF	NS	NS	NS	NS	MCLO	M3	3	#######	#######	A	
11	DDD-1	CO2	DFIRE	SDUST	US PINE	NS	HWOOD	NS	CYC	M3	3	#######	#######	B	
95	DDG-1	CO2	DFIRE	WREF	HWOOD	99	SWOOD	1	MCLO/EFB	M3	3	#######		A	
97	DDG-1	CO2	DFIRE	WREF	HWOOD	99	SWOOD	1	MCLO/EFB	M3	3	#######		A	
98,99	DDG-1	CO2	DFIRE	WREF	NS	NS	NS	NS	MCLO/EFB	M3	3	#######		A	
98,99	DDG-1	CO2	DFIRE	WREF	NS	NS	NS	NS	MCLO/EFB	M3	3	#######		A	
106	DDG-1	CO2	DFIRE	WREF	HWOOD	99	SWOOD	1	MCLO/EFB	M3A	3	#######	#######	A	
10	DEL-1	CO2	DFIRE	WREF	US PINE	60	HWOOD	40	MCLO	M3	6	#######	#######	B	
29	DH1-1	CO2	DFIRE	WREF	NS	NS	NS	NS	CYC	M3A	3	#######		B	
32	DH1-1	CO2	DFIRE	WREF	NS	NS	NS	NS	CYC	M3	3	#######	#######	B	
29	DH1-2	CO2	DFIRE	WREF	NS	NS	NS	NS	CYC	M3A	3	#######		B	
32	DH1-2	CO2	DFIRE	WREF	NS	NS	NS	NS	CYC	M3	3	#######	#######	B	
38	DH2-1	CO2	DFIRE	WREF	NS	NS	NS	NS	CYC	M3A	3	#######		B	
32	DH2-1	CO2	DFIRE	WREF	NS	NS	NS	NS	MCLO	M3	3	#######	#######	B	
38	DH2-12	CO2	DFIRE	WREF	NS	NS	NS	NS	WESP	M3A	3	#######	#######	B	
32	DH2-2	CO2	DFIRE	WREF	NS	NS	NS	NS	MCLO	M3	3	#######	#######	B	
57	DMO-1	CO2	DFIRE	WREF	HWOOD	80	SWOOD	20	MCLO/WESP	M3	3	#######		A	
57	DMO-1	CO2	DFIRE	WREF	HWOOD	80	SWOOD	20	MCLO/WESP	M3	3	#######		A	
62	DMO-1	CO2	DFIRE	WREF	ASPEN	75	PINE SP	25	MCLO/WESP	M3A	3	#######		A	
70	DMO-1	CO2	DFIRE	WREF	HWOOD	80	SWOOD	20	MCLO/WESP	M3A	3	#######		A	
70	DMO-1	CO2	DFIRE	WREF	HWOOD	80	SWOOD	20	MCLO/WESP	M3A	3	#######	#######	A	

59	DNB-1	CO2	DFIRE	WREF	HWOOD	100	NA	NA	CYC	M3A	3	#######	A
59	DNB-1	CO2	DFIRE	WREF	HWOOD	100	NA	NA	CYC	M3A	3	#######	A

TABLE A-3. (Continued)

Test Code	Unit code	Pollutant(b)	Firing type(c)	Fuel type(d)	Wood species(e) Primary	%	Second.	%	Emission control device(f)	Test method(g)	No. of runs	Emission factor, Lb/ODT Test	Dryer	Data rating	Comments
59	DNB-1	CO2	DFIRE	WREF	HWOOD	100	NA	NA	WESP	M3A	3	#######		A	
59	DNB-1	CO2	DFIRE	WREF	HWOOD	100	NA	NA	WESP	M3A	3	#######	#######	A	
5	DNW-1	CO2	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M3	9	#######		B	
5	DNW-2	CO2	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M3	9	#######	#######	B	
23,24	DSA-1	CO2	DFIRE	WREF	PINE SP	100	NA	NA	CYC	M3A	3	#######		A	
23,24	DSA-1	CO2	DFIRE	WREF	PINE SP	100	NA	NA	CYC	M3A	3	#######	#######	A	
23,24	DSA-123	CO2	DFIRE	WREF	PINE SP	100	NA	NA	WESP	M3A	3	#######	#######	A	
23,24	DSA-2	CO2	DFIRE	WREF	PINE SP	100	NA	NA	CYC	M3A	3	#######		A	
23,24	DSA-2	CO2	DFIRE	WREF	PINE SP	100	NA	NA	CYC	M3A	3	#######	#######	A	
23,24	DSA-3	CO2	DFIRE	WREF	PINE SP	100	NA	NA	CYC	M3A	3	#######		A	
23,24	DSA-3	CO2	DFIRE	WREF	PINE SP	100	NA	NA	CYC	M3A	3	#######	#######	A	
3	DSL-1	CO2	DFIRE	WREF	SY PINE	100	NA	NA	MCLO	M3	3	#######	#######	B	
3	DSL-2	CO2	DFIRE	WREF	SY PINE	100	NA	NA	MCLO	M3	3	#######	#######	B	
3	DSL-4	CO2	DFIRE	WREF	SY PINE	100	NA	NA	MCLO	M3	3	#######	#######	B	
3	DSL-5	CO2	DFIRE	WREF	SY PINE	100	NA	NA	MCLO	M3	3	#######	#######	B	
73	DTO-1	CO2	DFIRE	WREF	HWOOD	90	SWOOD	10	MCLO	M3	3	#######		A	
73	DTO-1	CO2	DFIRE	WREF	HWOOD	90	SWOOD	10	MCLO	M3	3	#######	#######	A	
73	DTO-12	CO2	DFIRE	WREF	HWOOD	90	SWOOD	10	MCLO/WESP	M3	3	#######		A	
73	DTO-12	CO2	DFIRE	WREF	HWOOD	90	SWOOD	10	MCLO/WESP	M3	3	#######		A	
73	DTO-12	CO2	DFIRE	WREF	HWOOD	90	SWOOD	10	MCLO/WESP	M3	3	#######	#######	A	
73	DTO-2	CO2	DFIRE	WREF	HWOOD	90	SWOOD	10	MCLO	M3	3	#######		A	
73	DTO-2	CO2	DFIRE	WREF	HWOOD	90	SWOOD	10	MCLO	M3	3	#######	#######	A	
Uncontrolled CO2, direct wood-fired												Average	#######		
												Minimum	#######		
												Maximum	#######		
												Std. Dev.	#######		
37	DHO-1	CO2	DFIRE	WREF	NS	NS	NS	NS	CYC	M3A	3	#######		C	discarded
37	DHO-2	CO2	DFIRE	WREF	NS	NS	NS	NS	CYC	M3A	3	#######		C	discarded
3	DSL-3	CO2	DFIRE	WREF	SY PINE	100	NA	NA	MCLO	M3	3	#######		C	discarded
4	DCO-2	CO2	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M3	5	#######		C	discarded
7	DUR-1	CO2	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M3	9	#######		C	discarded
7	DUR-2	CO2	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M3	9	#######		C	discarded

75	DRX-1	CO2	DFIRE	WREF	PINE SP	100	NA	NA	MCLO	M3A	3	#######	D	discarded
75	DRX-2	CO2	DFIRE	WREF	PINE SP	100	NA	NA	MCLO	M3A	3	#######	D	discarded

TABLE A-3. (Continued)

Test Code	Unit code	Pollutant(b)	Firing type(c)	Fuel type(d)	Wood species(e) Primary	%	Second.	%	Emission control device(f)	Test method(g)	No. of runs	Emission factor, Lb/ODT Test	Dryer	Data rating	Comments
75	DRX-3	CO2	DFIRE	WREF	PINE SP	100	NA	NA	MCLO	M3A	3	#######		D	discarded
75	DRX-4	CO2	DFIRE	WREF	PINE SP	100	NA	NA	MCLO	M3A	3	#######		D	discarded
75	DRX-5	CO2	DFIRE	WREF	PINE SP	100	NA	NA	MCLO	M3A	3	#######		D	discarded
32	DH1-12	CO2	DFIRE	WREF	NS	NS	NS	NS	EFB/RTO	M3	3	#######		B	
32	DH1-12	CO2	DFIRE	WREF	NS	NS	NS	NS	EFB/RTO	M3	2	#######		B	
32	DH1-12	CO2	DFIRE	WREF	NS	NS	NS	NS	EFB/RTO	M3	3	#######		B	
32	DH1-12	CO2	DFIRE	WREF	NS	NS	NS	NS	EFB/RTO	M3	3	#######		B	
29	DH1-12	CO2	DFIRE	WREF	NS	NS	NS	NS	WESP/RTO	M3A	3	#######		B	
29	DH1-12	CO2	DFIRE	WREF	NS	NS	NS	NS	WESP/RTO	M3A	3	#######		B	
29	DH1-12	CO2	DFIRE	WREF	NS	NS	NS	NS	WESP/RTO	M3A	3	#######	#######	B	
32	DH2-12	CO2	DFIRE	WREF	NS	NS	NS	NS	MCLO/EFB/RTC	M3	3	#######		B	
32	DH2-12	CO2	DFIRE	WREF	NS	NS	NS	NS	MCLO/EFB/RTC	M3	2	#######		B	
32	DH2-12	CO2	DFIRE	WREF	NS	NS	NS	NS	MCLO/EFB/RTC	M3	3	#######		B	
32	DH2-12	CO2	DFIRE	WREF	NS	NS	NS	NS	MCLO/EFB/RTC	M3	3	#######		B	
38	DH2-12	CO2	DFIRE	WREF	NS	NS	NS	NS	WESP/RTO	M3A	3	#######		B	
38	DH2-12	CO2	DFIRE	WREF	NS	NS	NS	NS	WESP/RTO	M3A	3	#######		B	
38	DH2-12	CO2	DFIRE	WREF	NS	NS	NS	NS	WESP/RTO	M3A	3	#######		B	
38	DH2-12	CO2	DFIRE	WREF	NS	NS	NS	NS	WESP/RTO	M3A	3	#######	#######	B	
37	DHO-12	CO2	DFIRE	WREF	NS	NS	NS	NS	WESP/RTO	M3A	3	#######	#######	B	
59	DNB-1	CO2	DFIRE	WREF	HWOOD	100	NA	NA	WESP/RTO	M3A	3	#######		A	
59	DNB-1	CO2	DFIRE	WREF	HWOOD	100	NA	NA	WESP/RTO	M3A	3	#######	#######	A	
75	DRX-12345	CO2	DFIRE	WREF	PINE SP	100	NA	NA	MCLO/RTO	M3A	3	#######		A	
75	DRX-12345	CO2	DFIRE	WREF	PINE SP	100	NA	NA	MCLO/RTO	M3A	3	#######	#######	A	
23,24	DSA-123	CO2	DFIRE	WREF	PINE SP	100	NA	NA	WESP/RTO	M3A	3	#######		A	
23,24	DSA-123	CO2	DFIRE	WREF	PINE SP	100	NA	NA	WESP/RTO	M3A	3	#######	#######	A	
RTO-controlled CO2, direct wood-fired												Average	#######		
												Minimum	#######		
												Maximum	#######		
												Std. Dev.	#######		
60	DTO-12	CO2	DFIRE	NGAS	HWOOD	90	SWOOD	10	MCLO/WESP	M3A	3	#######	#######	A	
Uncontrolled CO2, direct natural gas-fired												Average	#######		
35	DTO-12	CO2	DFIRE	NGAS	HWOOD	90	SWOOD	10	MCLO/WESP	M3	3	#######		D	discarded

TABLE A-3. (Continued)

Test Code	Unit code	Pollutant(b)	Firing type(c)	Fuel type(d)	Wood species(e)				Emission control device(f)	Test method(g)	No. of runs	Emission factor, Lb/ODT		Data rating	Comments
					Primary	%	Second.	%				Test	Dryer		
088-120892-A	1D088	NOX	DFIRE	WREF	PINE SP	100	NA	NA	EFB	M7	3	5.28E-01	5.28E-01	A	
127-082190-A	1D127	NOX	DFIRE	WDUST	ASPEN	95	PINE SP	5	EFB	M7	3	#######	#######	A	
210-022489-A	1D210	NOX	DFIRE	DFINE	ASPEN	100	NA	NA	EFB	M7	3	7.62E-01	7.62E-01	A	
127-091289-A	2D127	NOX	DFIRE	WDUST	ASPEN	100	NA	NA	EFB	M7	3	#######	#######	A	
30	DCH-1	NOX	DFIRE	WREF	NS	NS	NS	NS	CYC	M7	3	1.59E-01	1.59E-01	B	
44	DCO-1	NOX	DFIRE	WREF	NS	NS	NS	NS	CYC	M7E	3	6.53E-01	6.53E-01	B	
44	DCO-2	NOX	DFIRE	WREF	NS	NS	NS	NS	CYC	M7E	2	9.44E-01		B	
44	DCO-2	NOX	DFIRE	WREF	NS	NS	NS	NS	CYC	M7E	3	9.88E-01	9.66E-01	B	
44	DCO-3	NOX	DFIRE	WREF	NS	NS	NS	NS	CYC	M7E	3	7.45E-01	7.45E-01	B	
95	DDG-1	NOX	DFIRE	WREF	HWOOD	99	SWOOD	1	MCLO/EFB	M7	3	4.68E-01		A	
97	DDG-1	NOX	DFIRE	WREF	HWOOD	99	SWOOD	1	MCLO/EFB	M7	3	7.63E-01		A	
98,99	DDG-1	NOX	DFIRE	WREF	NS	NS	NS	NS	MCLO/EFB	M7	3	2.85E-01		A	
106	DDG-1	NOX	DFIRE	WREF	HWOOD	99	SWOOD	1	MCLO/EFB	M7E	3	5.30E-01	5.12E-01	A	
10	DEL-1	NOX	DFIRE	WREF	US PINE	60	HWOOD	40	MCLO/EFB	M7E	3	5.00E-01	5.00E-01	B	
29	DH1-1	NOX	DFIRE	WREF	NS	NS	NS	NS	CYC	M7E	3	5.11E-01		B	
32	DH1-1	NOX	DFIRE	WREF	NS	NS	NS	NS	CYC	M7	3	6.41E-01	5.76E-01	B	
29	DH1-2	NOX	DFIRE	WREF	NS	NS	NS	NS	CYC	M7E	3	6.36E-01		B	
32	DH1-2	NOX	DFIRE	WREF	NS	NS	NS	NS	CYC	M7	3	3.86E-01	5.11E-01	B	
38	DH2-1	NOX	DFIRE	WREF	NS	NS	NS	NS	CYC	M7E	3	3.65E-01		B	
32	DH2-1	NOX	DFIRE	WREF	NS	NS	NS	NS	MCLO	M7	3	4.23E-01	3.94E-01	B	
38	DH2-12	NOX	DFIRE	WREF	NS	NS	NS	NS	WESP	M7E	3	1.70E-01	1.70E-01	B	
38	DH2-2	NOX	DFIRE	WREF	NS	NS	NS	NS	CYC	M7E	3	5.01E-01		B	
32	DH2-2	NOX	DFIRE	WREF	NS	NS	NS	NS	MCLO	M7	3	3.33E-01	4.17E-01	B	
59	DNB-1	NOX	DFIRE	WREF	HWOOD	100	NA	NA	CYC	M7E	3	5.05E-01		A	
59	DNB-1	NOX	DFIRE	WREF	HWOOD	100	NA	NA	WESP	M7E	3	3.02E-01	4.04E-01	A	
75	DRX-1	NOX	DFIRE	WREF	PINE SP	100	NA	NA	MCLO	M7E	3	#######	#######	A	
75	DRX-2	NOX	DFIRE	WREF	PINE SP	100	NA	NA	MCLO	M7E	3	8.34E-01	8.34E-01	A	
75	DRX-3	NOX	DFIRE	WREF	PINE SP	100	NA	NA	MCLO	M7E	3	4.92E-01	4.92E-01	A	
75	DRX-4	NOX	DFIRE	WREF	PINE SP	100	NA	NA	MCLO	M7E	3	6.22E-01	6.22E-01	A	
75	DRX-5	NOX	DFIRE	WREF	PINE SP	100	NA	NA	MCLO	M7E	3	#######	#######	A	
23,24	DSA-1	NOX	DFIRE	WREF	PINE SP	100	NA	NA	CYC	M7E	3	6.01E-01	6.01E-01	A	
23,24	DSA-123	NOX	DFIRE	WREF	PINE SP	100	NA	NA	WESP	M7E	3	5.06E-02	5.06E-02	A	

23,24	DSA-2	NOX	DFIRE	WREF	PINE SP	100	NA	NA	CYC	M7E	3	6.13E-01	6.13E-01	A
23,24	DSA-3	NOX	DFIRE	WREF	PINE SP	100	NA	NA	CYC	M7E	3	7.67E-01	7.67E-01	A

TABLE A-3. (Continued)

Test Code	Unit code	Pollutant(b)	Firing type(c)	Fuel type(d)	Wood species(e) Primary	%	Second.	%	Emission control device(f)	Test method(g)	No. of runs	Emission factor, Lb/ODT Test	Dryer	Data rating	Comments
60	DTO-12	NOX	DFIRE	WREF	HWOOD	90	SWOOD	10	MCLO/WESP	M7E	3	7.10E-01		A	
73	DTO-12	NOX	DFIRE	WREF	HWOOD	90	SWOOD	10	MCLO/WESP	M7	3	6.31E-01	6.71E-01	A	
42	DUR-1	NOX	DFIRE	WREF	NS	NS	NS	NS	CYC	M7E	3	#######	#######	B	
097-100590A	XD097	NOX	DFIRE	DFINE	HWOOD	100	NA	NA	EFB	M7	3	3.77E-01	3.77E-01	A	
215-062591E	XD215	NOX	DFIRE	WREF	SY PINE	40	HWOOD	60	WESP	M7E	3	5.23E-01	5.23E-01	A	
Uncontrolled NOx, direct wood-fired												Average	6.49E-01		
												Minimum	5.06E-02		
												Maximum	#######		
												Std. Dev.	3.05E-01		
37	DHO-1	NOX	DFIRE	WREF	NS	NS	NS	NS	CYC	M7E	3	3.98E-01		C	discarded
37	DHO-2	NOX	DFIRE	WREF	NS	NS	NS	NS	CYC	M7E	3	2.52E-01		C	discarded
42	DUR-2	NOX	DFIRE	WREF	NS	NS	NS	NS	CYC	M7E	3	#######		C	discarded
43	DNW-1	NOX	DFIRE	WREF	NS	NS	NS	NS	CYC	M7E	3	8.80E-01		C	discarded
052-011493E	XD052	NOX	IHEAT	WREF	HWOOD	50	SY PINE	50	WESP	M7	3	5.95E-01	5.95E-01	A	not reported
Uncontrolled NOx, indirect wood heat			NCASI Dryer A table indicates IHEAT; Dryer B table indicates DFIRE									Average	5.95E-01		
044-092193A	XD044	NOX	DFIRE	SDUST	NS	NS	NA	NA	WESP	M7E	3			NR	
044-092193E	XD044	NOX	DFIRE	SDUST	SPRUCE	50	UFIR	50	WESP	M7E	3			NR	
069-071592A	1D069	NOX	DFIRE	FINES	POPLAR	100	NA	NA	WESP	M7	3			NR	
069-071692A	2D069	NOX	DFIRE	FINES	POPLAR	100	NA	NA	WESP	M7	2			NR	
44	DCO-123	NOX	DFIRE	WREF	NS	NS	NS	NS	MCLO/RTO	M7E	3	#######	#######	B	
32	DH1-12	NOX	DFIRE	WREF	NS	NS	NS	NS	EFB/RTO	M7	3	5.29E-01		B	
29	DH1-12	NOX	DFIRE	WREF	NS	NS	NS	NS	WESP/RTO	M7E	3	4.18E-01	4.74E-01	B	
32	DH2-12	NOX	DFIRE	WREF	NS	NS	NS	NS	MCLO/EFB/RTO	M7	3	4.72E-01		B	
38	DH2-12	NOX	DFIRE	WREF	NS	NS	NS	NS	WESP/RTO	M7E	3	3.29E-01	4.01E-01	B	
37	DHO-12	NOX	DFIRE	WREF	NS	NS	NS	NS	WESP/RTO	M7E	3	3.30E-01	3.30E-01	B	
59	DNB-1	NOX	DFIRE	WREF	HWOOD	100	NA	NA	WESP/RTO	M7E	3	4.69E-01	4.69E-01	A	
75	DRX-12345	NOX	DFIRE	WREF	PINE SP	100	NA	NA	MCLO/RTO	M7E	3	9.29E-01	9.29E-01	A	
23,24	DSA-123	NOX	DFIRE	WREF	PINE SP	100	NA	NA	WESP/RTO	M7E	3	5.74E-02	5.74E-02	A	
42	DUR-12	NOX	DFIRE	WREF	NS	NS	NS	NS	MCLO/RTO	M7E	3	#######	#######	B	
RTO-controlled NOx, direct wood-fired												Average	6.00E-01		
												Minimum	5.74E-02		
												Maximum	#######		

													Std. Dev.	3.42E-01	
43	DNW-1	NOX	DFIRE	WREF	NS	NS	NS	NS	MCLO/RTO	M7E	3	#######		C	discarded

TABLE A-3. (Continued)

Test Code	Unit code	Pollutant(b)	Firing type(c)	Fuel type(d)	Wood species(e) Primary	%	Second.	%	Emission control device(f)	Test method(g)	No. of runs	Emission factor, Lb/ODT Test	Dryer	Data rating	Comments
35	DTO-12	NOX	DFIRE	NGAS	HWOOD	90	SWOOD	10	MCLO/WESP	M7	3	6.82E-01	6.82E-01	A	
Uncontrolled NOx, direct natural gas-fired												Average	6.82E-01		
070-031992E	2D070	NOX	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	M7E	2	1.60E-01		C	unkn. fuel
070-042492E	3D070	NOX	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	M7E	3	3.53E-01		A	unkn. fuel
59	DNB-1	SO2	DFIRE	WREF	HWOOD	100	NA	NA	WESP/RTO	M6C	3	1.38E-02	1.38E-02	A	
RTO-controlled SO2, direct wood-fired												Average	1.38E-02		
75	DRX-1234	CHROMIUM	DFIRE	WREF	PINE SP	100	NA	NA	MCLO/RTO	M29	3	6.30E-05	6.30E-05	A	
RTO-controlled chromium, direct wood-fired, pines												Average	6.30E-05		

(a) NS = not specified. NA = not applicable. Lb/ODT = pounds of pollutant per oven-dried ton of wood material out of dryer.

(b) Pollutant codes are identified in Table 4-6.

(c) Firing types: DFIRE = direct firing; IHEAT = indirect firing.

(d) Fuel types: WREF = wood residue; SDUST = sanderdust; FINES = unspecified fines; DFINE = unspecified dry fines; WDUST = unspecified wood dust; NGAS = natural gas.

(e) Wood species: SY PINE = Southern yellow pine; HWOOD = unspecified hardwood; SPRUCE = spruce; UFIR = unspecified fir; POPLAR = poplar; SWOOD = unspecified softwood; PINE SP = unknown pine species; ASPEN = aspen; US PINE = unspecified southern pines.

(f) Emission control devices: CYC = cyclone; MCLO = multiclone; EFB = electrified filter bed; WESP = wet electrostatic precipitator; RTO = regenerative thermal oxidizer.

(g) Test method: M10 = EPA Method 10; M10B = EPA Method 10B; M3 = EPA Method 3; M3A = EPA Method 3A; M7 = EPA Method 7; M7E = EPA Method 7E; M6C = EPA Method 6C; M29 = EPA Method 29.

TABLE A-4. SUMMARY OF WB/OSB DRYER EMISSION FACTOR CALCULATIONS--SPECIATED ORGANIC COMPOUNDS(a)

Test Code	Unit code	Pollutant(b)	Firing type(c)	Fuel type(d)	Wood species(e) Primary	%	Second.	%	Emission control device(f)	Test method(g)	No. of runs	Emission factor, Lb/ODT Test	Dryer	Data rating	Comments
32	DH1-12	1METHNAPTH	DFIRE	WREF	NS	NS	NS	NS	EFB/RTO	MM5	3	1.21E-05		B	unkn. species
32	DH2-12	1METHNAPTH	DFIRE	WREF	NS	NS	NS	NS	MCLO/EFB/RTO	MM5	3	2.27E-06		B	unkn. species
32	DH1-12	ACENAPTH	DFIRE	WREF	NS	NS	NS	NS	EFB/RTO	MM5	3	1.15E-05		B	unkn. species
32	DH2-12	ACENAPTH	DFIRE	WREF	NS	NS	NS	NS	MCLO/EFB/RTO	MM5	3	2.56E-06		B	unkn. species
215-062591A	XD215	ACETALD	DFIRE	WREF	SY PINE	40	HWOOD	60	WESP	M0011	3	1.34E-01		A	mixed species
215-062591B	XD215	ACETALD	DFIRE	WREF	SY PINE	40	HWOOD	60	WESP	M0011	3	9.00E-02		A	mixed species
215-062591A	XD215	ACETONE	DFIRE	WREF	SY PINE	40	HWOOD	60	WESP	M0011	3	4.63E-02		A	mixed species
215-062591B	XD215	ACETONE	DFIRE	WREF	SY PINE	40	HWOOD	60	WESP	M0011	3	3.13E-02		A	mixed species
215-062591A	XD215	ACROLEIN	DFIRE	WREF	SY PINE	40	HWOOD	60	WESP	M0011	3	3.43E-02		A	mixed species
215-062591B	XD215	ACROLEIN	DFIRE	WREF	SY PINE	40	HWOOD	60	WESP	M0011	3	3.17E-02		A	mixed species
29	DH1-12	BENZENE	DFIRE	WREF	NS	NS	NS	NS	WESP/RTO	M18	3	2.93E-03		B	unkn. species
32	DH1-12	BENZENE	DFIRE	WREF	NS	NS	NS	NS	EFB/RTO	M18	3	1.97E-03		B	unkn. species
32	DH2-12	BENZENE	DFIRE	WREF	NS	NS	NS	NS	MCLO/EFB/RTO	M18	3	6.43E-04		B	unkn. species
73	DTO-12	BENZENE	DFIRE	WREF	HWOOD	90	SWOOD	10	MCLO/WESP	M18	3	1.58E-03	1.58E-03	A	
Uncontrolled benzene, direct wood-fired, hardwood												Average	1.58E-03		
29	DH1-12	BENZOAP	DFIRE	WREF	NS	NS	NS	NS	WESP/RTO	MM5	3	1.13E-06		B	unkn. species
32	DH1-12	BENZOAP	DFIRE	WREF	NS	NS	NS	NS	EFB/RTO	MM5	3	7.08E-06		B	unkn. species
32	DH2-12	BENZOAP	DFIRE	WREF	NS	NS	NS	NS	MCLO/EFB/RTO	MM5	3	3.44E-06		B	unkn. species
38	DH2-12	BENZOAP	DFIRE	WREF	NS	NS	NS	NS	WESP/RTO	MM5	3	1.97E-06		B	unkn. species
73	DTO-12	BENZOAP	DFIRE	WREF	HWOOD	90	SWOOD	10	MCLO/WESP	MM5	3	3.00E-06	3.00E-06	C	
Uncontrolled benzo-a-pyrene, direct wood-fired, hardwood												Average	3.00E-06		
215-062591A	XD215	BUTYLALDEH	DFIRE	WREF	SY PINE	40	HWOOD	60	WESP	M0011	3	2.70E-02		A	mixed species
215-062591B	XD215	BUTYLALDEH	DFIRE	WREF	SY PINE	40	HWOOD	60	WESP	M0011	3	7.83E-03		A	mixed species
215-062591A	XD215	CROTONALDE	DFIRE	WREF	SY PINE	40	HWOOD	60	WESP	M0011	3	1.01E-02		A	mixed species
215-062591B	XD215	CROTONALDE	DFIRE	WREF	SY PINE	40	HWOOD	60	WESP	M0011	3	1.13E-02		A	mixed species
23,24	DSA-1	FOR	DFIRE	WREF	PINE SP	100	NA	NA	CYC	M0011	3	1.30E-01	1.30E-01	A	
23,24	DSA-2	FOR	DFIRE	WREF	PINE SP	100	NA	NA	CYC	M0011	3	1.41E-01	1.41E-01	A	
23,24	DSA-3	FOR	DFIRE	WREF	PINE SP	100	NA	NA	CYC	M0011	3	1.20E-01	1.20E-01	A	
2	DSL-1	FOR	DFIRE	WREF	SY PINE	100	NA	NA	MCLO	M0011	3	1.70E-02	1.70E-02	B	
2	DSL-2	FOR	DFIRE	WREF	SY PINE	100	NA	NA	MCLO	M0011	3	3.10E-02	3.10E-02	C	
2	DSL-3	FOR	DFIRE	WREF	SY PINE	100	NA	NA	MCLO	M0011	3	5.40E-02	5.40E-02	C	
2	DSL-4	FOR	DFIRE	WREF	SY PINE	100	NA	NA	MCLO	M0011	3	6.10E-02	6.10E-02	C	
2	DSL-5	FOR	DFIRE	WREF	SY PINE	100	NA	NA	MCLO	M0011	3	4.50E-02	4.50E-02	C	

4	DCO-1	FOR	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M0011	3	4.60E-02	4.60E-02	A	
4	DCO-2	FOR	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M0011	3	4.70E-02	4.70E-02	B	

TABLE A-4. (Continued)

Test Code	Unit code	Pollutant(b)	Firing type(c)	Fuel type(d)	Wood species(e) Primary	%	Second.	%	Emission control device(f)	Test method(g)	No. of runs	Emission factor, Lb/ODT Test	Dryer	Data rating	Comments
4	DCO-3	FOR	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M0011	3	5.10E-02	5.10E-02	A	
5	DNW-1	FOR	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M0011	3	2.40E-02	2.40E-02	A	
5	DNW-2	FOR	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M0011	3	5.60E-02	5.60E-02	A	
7	DUR-1	FOR	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M0011	3	1.50E-01	1.50E-01	C	
7	DUR-2	FOR	DFIRE	WREF	US PINE	100	NA	NA	MCLO	M0011	3	2.80E-02	2.80E-02	B	
Uncontrolled formaldehyde, direct wood-fired, pines												Average	6.67E-02		
												Minimum	1.70E-02		
												Maximum	1.50E-01		
												Std. Dev.	4.49E-02		
041-052192A	XD041	FOR	DFIRE	WREF	SY PINE	60	HWOOD	40	CYC	P&CAM125	2	3.70E-02		B	mixed species
044-102588A	XD044	FOR	DFIRE	SDUST	SPRUCE	50	UFIR	50	CYC	P&CAM125	3	5.83E-03		A	mixed species
215-042089A	XD215	FOR	DFIRE	WREF	HWOOD	45	PINE SP	55	CYC	NM1501	3	2.82E-01		A	mixed species
215-062591A	XD215	FOR	DFIRE	WREF	SY PINE	40	HWOOD	60	CYC	M0011	3	4.06E-01		A	mixed species
42	DUR-1	FOR	DFIRE	WREF	NS	NS	NS	NS	CYC	M0011	3	1.30E-01		B	unkn. species
42	DUR-2	FOR	DFIRE	WREF	NS	NS	NS	NS	CYC	M0011	3	1.65E-01		C	unkn. species
43	DNW-1	FOR	DFIRE	WREF	NS	NS	NS	NS	CYC	M0011	3	1.18E-01		B	unkn. species
44	DCO-1	FOR	DFIRE	WREF	NS	NS	NS	NS	CYC	M0011	3	1.26E-01		B	unkn. species
44	DCO-2	FOR	DFIRE	WREF	NS	NS	NS	NS	CYC	M0011	3	1.38E-01		B	unkn. species
44	DCO-3	FOR	DFIRE	WREF	NS	NS	NS	NS	CYC	M0011	3	1.05E-01		B	unkn. species
070-062891A	1D070	FOR	DFIRE	NS	PINE SP	85	HWOOD	15	MCLO	M0011	2	3.50E-03		B	mixed species
070-062891C	3D070	FOR	DFIRE	NS	PINE SP	85	HWOOD	15	MCLO	MM0011	3	2.43E-02		A	mixed species
070-102292A	3D070	FOR	DFIRE	NS	PINE SP	85	HWOOD	15	MCLO	M0011	3	2.74E-01		A	mixed species
070-102292A	3D070	FOR	DFIRE	NS	PINE SP	85	HWOOD	15	MCLO	TO-11	3	5.46E-01		A	mixed species
096-012693B	2D096	FOR	DFIRE	DFINE	ASPEN	80	PINE SP	20	MCLO	M0011	3	9.23E-02		A	mixed species
94	DDC-1	FOR	DFIRE	WREF	NS	NS	NS	NS	MCLO	M0011	3	6.47E-02		A	unkn. species
210-021192D	1D210	FOR	DFIRE	DFINE	ASPEN	100	NA	NA	EFB	M0011	3	1.26E-01		A	
210-042292D	1D210	FOR	DFIRE	DFINE	ASPEN	100	NA	NA	EFB	M0011	3	8.87E-02	1.08E-01	A	
Uncontrolled formaldehyde, direct wood-fired, Aspen												Average	1.08E-01		
												Minimum	8.87E-02		
												Maximum	1.26E-01		
088-120892B	1D088	FOR	DFIRE	WREF	HWOOD	95	PINE SP	5	EFB	M0011	3	1.01E-01	1.01E-01	A	
210-021192D	1D210	FOR	DFIRE	DFINE	ASPEN	100	NA	NA	EFB	M0011	3	1.26E-01		A	
210-042292D	1D210	FOR	DFIRE	DFINE	ASPEN	100	NA	NA	EFB	M0011	3	8.87E-02	1.08E-01	A	

211-012992C	1D211	FOR	DFIRE	WREF	HWOOD 100	NA	NA	EFB	M0011	3	1.92E-04	1.92E-04	A	
225-020792C	1D225	FOR	DFIRE	DFINE	HWOOD 100	NA	NA	EFB	M0011	3	1.54E-01	1.54E-01	A	
211-013092C	2D211	FOR	DFIRE	DFINE	HWOOD 100	NA	NA	EFB	M0011	3	1.34E-04	1.34E-04	A	

TABLE A-4. (Continued)

Test Code	Unit code	Pollutant(b)	Firing type(c)	Fuel type(d)	Wood species(e) Primary	%	Second.	%	Emission control device(f)	Test method(g)	No. of runs	Emission factor, Lb/ODT Test	Dryer	Data rating	Comments
211-012892C	3D211	FOR	DFIRE	DFINE	HWOOD	100	NA	NA	EFB	M0011	3	1.65E-04	1.65E-04	A	
95	DDG-1	FOR	DFIRE	WREF	HWOOD	99	SWOOD	1	MCLO/EFB	M0011	3	1.07E-01		A	
97	DDG-1	FOR	DFIRE	WREF	HWOOD	99	SWOOD	1	MCLO/EFB	M0011	3	7.78E-02	9.24E-02	A	
54	DMO-1	FOR	DFIRE	WREF	HWOOD	90	SWOOD	10	MCLO/WESP	M0011	3	2.15E-01	2.15E-01	A	
59	DNB-1	FOR	DFIRE	WREF	HWOOD	100	NA	NA	CYC	M0011	3	5.69E-02		A	
59	DNB-1	FOR	DFIRE	WREF	HWOOD	100	NA	NA	WESP	M0011	3	2.67E-01	1.62E-01	A	
73	DTO-1	FOR	DFIRE	WREF	HWOOD	90	SWOOD	10	MCLO	M0011	3	4.40E-02	4.40E-02	A	
73	DTO-12	FOR	DFIRE	WREF	HWOOD	90	SWOOD	10	MCLO/WESP	M0011	3	1.04E-01	1.04E-01	A	
73	DTO-2	FOR	DFIRE	WREF	HWOOD	90	SWOOD	10	MCLO	M0011	3	2.75E-02	2.75E-02	A	
Uncontrolled formaldehyde, direct wood-fired, hardwood												Average	8.40E-02		
												Minimum	1.34E-04		
												Maximum	2.67E-01		
												Std. Dev.	7.77E-02		
211-041191A	1D211	FOR	DFIRE	WREF	HWOOD	100	NA	NA	EFB	MN3500	3	7.87E-01		D	N3500
096-060590A	1D096	FOR	DFIRE	DFINE	ASPEN	100	NA	NA	EFB	MN3500	3	3.32E-02		D	N3500
096-060590C	1D096	FOR	DFIRE	DFINE	ASPEN	100	NA	NA	EFB	MN3500	3	7.58E-02		D	N3500
096-060790C	1D096	FOR	DFIRE	DFINE	PINE SP	100	NA	NA	EFB	MN3500	3	1.34E-03		D	N3500
096-060890C	1D096	FOR	DFIRE	DFINE	PINE SP	100	NA	NA	EFB	MN3500	3	8.50E-03		D	N3500
174-041191A	1D174	FOR	DFIRE	SDUST	HWOOD	40	SWOOD	60	EFB	N3500	3	9.00E-01		D	mixed species
174-041191B	2D174	FOR	DFIRE	FINES	HWOOD	40	SWOOD	60	EFB	N3500	3	2.30E-01		D	mixed species
98,99	DDG-1	FOR	DFIRE	WREF	NS	NS	NS	NS	MCLO/EFB	M0011	3	5.57E-02		A	unkn. species
35	DTO-12	FOR	DFIRE	NGAS	HWOOD	90	SWOOD	10	MCLO/WESP	M0011	3	3.62E-02	3.62E-02	A	
Uncontrolled formaldehyde, direct natural gas-fired, hardwood												Average	3.62E-02		
069-071692C	2D069	FOR	DFIRE	FINES	POPLAR	100	NA	NA	WESP	M0011	1	NS		NR	
069-081491A	1D069	FOR	DFIRE	FINES	POPLAR	100	NA	NA	WESP	M0011	3	NS		NR	
069-081491B	1D069	FOR	DFIRE	FINES	POPLAR	100	NA	NA	WESP	M0011	3	NS		NR	
069-081591A	2D069	FOR	DFIRE	FINES	POPLAR	100	NA	NA	WESP	M0011	2	NS		NR	
069-081591B	2D069	FOR	DFIRE	FINES	POPLAR	100	NA	NA	WESP	M0011	2	NS		NR	
57	DMO-1	FOR	DFIRE	WREF	HWOOD	80	SWOOD	20	MCLO/WESP	M0011	3	6.76E-02		A	mixed species
70	DMO-1	FOR	DFIRE	WREF	HWOOD	80	SWOOD	20	MCLO/WESP	M0011	3	2.88E-01		A	mixed species
041-052192B	XD041	FOR	DFIRE	WREF	SY PINE	60	HWOOD	40	WESP	P&CAM125	2	7.80E-02		B	mixed species
044-092193A	XD044	FOR	DFIRE	SDUST	NS	NS	NA	NA	WESP	TO-5	3	NS		NR	unkn. species
044-092193A	XD044	FOR	DFIRE	SDUST	NS	NS	NA	NA	WESP	M0011	3	NS		NR	unkn. species

044-092193B	XD044	FOR	DFIRE	SDUST	SPRUCE	50	UFIR	50	WESP	M0011	3	NS	NR	mixed species
044-092193B	XD044	FOR	DFIRE	SDUST	SPRUCE	50	UFIR	50	WESP	TO-5	3	NS	NR	mixed species

TABLE A-4. (Continued)

Test Code	Unit code	Pollutant(b)	Firing type(c)	Fuel type(d)	Wood species(e) Primary	%	Second.	%	Emission control device(f)	Test method(g)	No. of runs	Emission factor, Lb/ODT Test	Dryer	Data rating	Comments
044-102588B	XD044	FOR	DFIRE	SDUST	SPRUCE	50	UFIR	50	WESP	P&CAM125	3	2.60E-03		A	mixed species
044-102588C	XD044	FOR	DFIRE	SDUST	POPLAR	39	SWOOD	61	WESP	P&CAM125	1	NS		NR	mixed species
044-102588D	XD044	FOR	DFIRE	SDUST	POPLAR	39	SWOOD	61	WESP	P&CAM125	1	NS		NR	mixed species
070-031992B	2D070	FOR	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	M0011	3	4.97E-02		A	mixed species
070-042392B	1D070	FOR	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	M0011	3	2.30E-01		A	mixed species
070-042492B	3D070	FOR	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	M0011	3	4.11E-01		A	mixed species
070-062891B	1D070	FOR	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	M0011	3	4.33E-03		A	mixed species
070-062891D	3D070	FOR	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	MM0011	3	1.13E-02		A	mixed species
070-102292B	3D070	FOR	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	M0011	3	3.48E-01		A	mixed species
070-102292B	3D070	FOR	DFIRE	NS	PINE SP	85	HWOOD	15	WESP	TO-11	3	4.28E-01		A	mixed species
096-012693A	2D096	FOR	DFIRE	DFINE	ASPEN	80	PINE SP	20	WESP	M0011	3	6.23E-02		A	mixed species
215-042089B	XD215	FOR	DFIRE	WREF	HWOOD	45	PINE SP	55	WESP	NM1501	3	2.78E-01		A	mixed species
215-062591B	XD215	FOR	DFIRE	WREF	SY PINE	40	HWOOD	60	WESP	M0011	3	2.73E-01		A	mixed species
23,24	DSA-123	FOR	DFIRE	WREF	PINE SP	100	NA	NA	WESP/RTO	M0011	3	3.37E-02	3.37E-02	A	
RTO-controlled formaldehyde, direct wood-fired, pines												Average	3.37E-02		
59	DNB-1	FOR	DFIRE	WREF	HWOOD	100	NA	NA	WESP/RTO	M0011	3	1.69E-02	1.69E-02	A	
RTO-controlled formaldehyde, direct wood-fired, hardwood												Average	1.69E-02		
42	DUR-12	FOR	DFIRE	WREF	NS	NS	NS	NS	MCLO/RTO	M0011	3	5.39E-03		B	unkn. species
43	DNW-1	FOR	DFIRE	WREF	NS	NS	NS	NS	MCLO/RTO	M0011	3	8.23E-03		B	unkn. species
44	DCO-123	FOR	DFIRE	WREF	NS	NS	NS	NS	MCLO/RTO	M0011	3	3.72E-02		B	unkn. species
32	DH1-12	FOR	DFIRE	WREF	NS	NS	NS	NS	EFB/RTO	M0011	3	5.52E-02		B	unkn. species
32	DH2-12	FOR	DFIRE	WREF	NS	NS	NS	NS	MCLO/EFB/RTO	M0011	3	5.30E-02		B	unkn. species
29	DH1-12	FOR	DFIRE	WREF	NS	NS	NS	NS	WESP/RTO	M0011	3	9.05E-02		B	unkn. species
38	DH2-12	FOR	DFIRE	WREF	NS	NS	NS	NS	WESP/RTO	M0011	3	1.17E-01		B	unkn. species
94	DDC-1	HCYANIDE	DFIRE	WREF	NS	NS	NS	NS	MCLO	MM5	3	3.25E-03		A	unkn. species
32	DH1-12	NAPHTHALENE	DFIRE	WREF	NS	NS	NS	NS	EFB/RTO	MM5	3	2.75E-04		B	unkn. species
32	DH2-12	NAPHTHALENE	DFIRE	WREF	NS	NS	NS	NS	MCLO/EFB/RTO	MM5	3	1.68E-04		B	unkn. species
32	DH1-12	PHENANTH	DFIRE	WREF	NS	NS	NS	NS	EFB/RTO	MM5	3	6.74E-06		B	unkn. species
32	DH2-12	PHENANTH	DFIRE	WREF	NS	NS	NS	NS	MCLO/EFB/RTO	MM5	3	2.56E-06		B	unkn. species
29	DH1-12	PHENOL	DFIRE	WREF	NS	NS	NS	NS	WESP/RTO	MM5	3	3.60E-03		B	unkn. species
32	DH1-12	PHENOL	DFIRE	WREF	NS	NS	NS	NS	EFB/RTO	MM5	3	2.92E-03		B	unkn. species
32	DH2-12	PHENOL	DFIRE	WREF	NS	NS	NS	NS	MCLO/EFB/RTO	MM5	3	3.74E-03		B	unkn. species
38	DH2-12	PHENOL	DFIRE	WREF	NS	NS	NS	NS	WESP/RTO	MM5	3	3.63E-03		B	unkn. species

73	DTO-12	PHENOL	DFIRE	WREF	HWOOD	90	SWOOD	10	MCLO/WESP	MM5	3	4.96E-03	4.96E-03	C	
Uncontrolled phenol, direct wood-fired, hardwood												Average	4.96E-03		

TABLE A-4. (Continued)

Test Code	Unit code	Pollutant(b)	Firing type(c)	Fuel type(d)	Wood species(e) Primary	%	Second.	%	Emission control device(f)	Test method(g)	No. of runs	Emission factor, Lb/ODT Test	Dryer	Data rating	Comments
94	DDC-1	PHENOL	DFIRE	WREF	NS	NS	NS	NS	MCLO	MM5	3	3.40E-03		A	unkn. species
215-062591A	XD215	PROPIONALD	DFIRE	WREF	SY PINE	40	HWOOD	60	WESP	M0011	3	1.03E-02		A	mixed species
215-062591B	XD215	PROPIONALD	DFIRE	WREF	SY PINE	40	HWOOD	60	WESP	M0011	3	9.33E-03		A	mixed species

(a) NS = not specified. NA = not applicable. Lb/ODT = pounds of pollutant per oven-dried ton of wood material out of dryer.

(b) Pollutant codes are identified in Table 4-6.

(c) Firing type: DFIRE = direct firing.

(d) Fuel types: WREF = wood residue; SDUST = sanderdust; FINES = unspecified fines; DFINE = unspecified dry fines; NGAS = natural gas.

(e) Wood species: SY PINE = Southern yellow pine; HWOOD = unspecified hardwood; SPRUCE = spruce; UFIR = unspecified fir; POPLAR = poplar; SWOOD = unspecified softwood; PINE SP = unknown pine species; ASPEN = aspen; US PINE = unspecified southern pines.

(f) Emission control devices: CYC = cyclone; MCLO = multiclone; EFB = electrified filter bed; WESP = wet electrostatic precipitator; RTO = regenerative thermal oxidizer.

(g) Test method: MM5 = a modification of EPA Method 5; M0011 = BIF Method 0011; M18 = EPA Method 18; P&CAM125 = P&CAM 125; NM1501 = NIOSH Method 1501; MM0011 = modified BIF Method 0011; TO-11 = TO-11; MN3500 = modified NIOSH Method 3500; N3500 = NIOSH Method 3500; TO-5 = TO-5.

TABLE A-5. SUMMARY OF EMISSION FACTOR CALCULATIONS FOR WB/OSB PRESSES(a)

Test Code	Unit code	Pollutant(b)	Wood species(c)				Resin type(d)	Control device(e)	Test method(f)	No. of runs	Emission factor, Lb/MSF 3/8		Data Rating	Comment
			Primary	%	Second.	%					Test	Press		
044-062392A	1P044	CO	SPRUCE	50	UFIR	50	PF	NONE	M10	2	1.29E-01	1.29E-01	B	
088-121092A	1P088	CO	HWOOD	95	PINE SP	5	PF/MDI	NONE	M10	3	8.60E-02	8.60E-02	A	
096-060490A	1P096	CO	ASPEN	100	NA	NA	PF/MDI	NONE	M10	3	1.13E-01		A	
096-060490C	1P096	CO	ASPEN	100	NA	NA	PF/MDI	NONE	M10	3	1.36E-01		A	
096-060590E	1P096	CO	ASPEN	100	NA	NA	PF/MDI	NONE	M10	3	5.27E-02		A	
096-060590F	1P096	CO	ASPEN	100	NA	NA	PF/MDI	NONE	M10	3	4.67E-02		A	
096-060690B	1P096	CO	ASPEN	60	PINE SP	40	PF/MDI	NONE	M10	3	3.58E-02		A	
096-060690C	1P096	CO	ASPEN	60	PINE SP	40	PF/MDI	NONE	M10	3	6.61E-02		A	
096-060790A	1P096	CO	PINE SP	100	NA	NA	PF/MDI	NONE	M10	3	6.59E-02		A	
096-060790B	1P096	CO	PINE SP	100	NA	NA	PF/MDI	NONE	M10	3	5.72E-02		A	
096-060890A	1P096	CO	PINE SP	100	NA	NA	PF/MDI	NONE	M10	3	6.11E-02		A	
096-060890B	1P096	CO	PINE SP	100	NA	NA	PF/MDI	NONE	M10	3	3.99E-02	6.74E-02	A	
210-021292D	1P210	CO	ASPEN	100	NA	NA	MDI	NONE	M10	3	2.03E-01	2.03E-01	A	
211-022592A	1P211	CO	HWOOD	100	NA	NA	PF/MDI	NONE	M10	3	8.37E-02	8.37E-02	A	
49,50	PDG-1	CO	POPLAR	90	PINE SP	10	PF/MDI	NONE	M10	3	2.12E-01	2.12E-01	A	
29	PH1-1	CO	NS	NS	NS	NS	PF/MDI	NONE	M10	3	6.17E-02	6.17E-02	A	
38	PH2-1	CO	NS	NS	NS	NS	PF/MDI	NONE	M10	3	1.12E-01	1.12E-01	A	
52	PHO-1	CO	POPLAR	90	HWOOD	10	PF/MDI	NONE	M10	3	1.31E-01	1.31E-01	A	
59	PNB-1	CO	HWOOD	100	NA	NA	MDI	NONE	M10	3	5.93E-02	5.93E-02	A	
23,24	PSA-1	CO	PINE SP	100	NA	NA	PF/MDI	NONE	M10	3	3.10E-02		A	
36	PSA-1	CO	NS	NS	NS	NS	PF/MDI	NONE	M10	3	6.30E-02	4.70E-02	A	
47	PSL-1	CO	SY PINE	100	NA	NA	PF/MDI	NONE	M10	3	4.80E-02	4.80E-02	B	
39	PTH-1	CO	HWOOD	100	NA	NA	MDI	NONE	M10	3	6.60E-02	6.60E-02	A	
60	PTO-1	CO	HWOOD	90	SWOOD	10	PF/MDI	NONE	M10	3	2.70E-01		A	
71	PTO-1	CO	NS	NS	NS	NS	PF/MDI	NONE	M10	3	1.11E-01		A	
73	PTO-1	CO	HWOOD	90	SWOOD	10	PF/MDI	NONE	M10	3	5.14E-02	1.44E-01	A	
Uncontrolled CO											Average	1.04E-01		
											Minimum	3.10E-02		
											Maximum	2.70E-01		
											Std. Dev.	5.94E-02		
29	PH1-1	CO	NS	NS	NS	NS	PF/MDI	RTO	M10	3	2.12E-01		A	
56	PH1-1	CO	NS	NS	NS	NS	PF/MDI	RTO	M10	3	1.12E-01	1.62E-01	B	
38	PH2-1	CO	NS	NS	NS	NS	PF/MDI	RTO	M10	3	2.08E-01		A	

56	PH2-1	CO	NS	NS	NS	NS	PF/MDI	RTO	M10	3	1.63E-01	1.86E-01	B
52	PHO-1	CO	POPLAR	90	HWOOD	10	PF/MDI	RTO	M10	3	2.15E-01	2.15E-01	A
75	PRX-1	CO	PINE SP	100	NA	NA	PF/MDI	RTO	M10	3	5.13E-02	5.13E-02	A

TABLE A-5. (Continued)

Test Code	Unit code	Pollutant(b)	Wood species(c) Primary	%	Second.	%	Resin type(d)	Control device(e)	Test method(f)	No. of runs	Emission factor, Lb/MSF 3/8 Test	Press	Data Rating	Comment
23,24	PSA-1	CO	PINE SP	100	NA	NA	PF/MDI	RTO	M10	3	1.57E-01		A	
36	PSA-1	CO	NS	NS	NS	NS	PF/MDI	RTO	M10	3	1.03E-01	1.30E-01	A	
47	PSL-1	CO	SY PINE	100	NA	NA	PF/MDI	RTO	M10	3	8.41E-01	8.41E-01	B	
RTO-controlled CO											Average	2.64E-01		
											Minimum	5.13E-02		
											Maximum	8.41E-01		
											Std. Dev.	2.36E-01		
30	PCH-1	CO2	NS	NS	NS	NS	MDI	NONE	M3	3	6.88E+00	6.88E+00	A	
94	PDC-1	CO2	NS	NS	NS	NS	PF/MDI	NONE	M3	3	3.68E+00		A	
94	PDC-1	CO2	NS	NS	NS	NS	PF/MDI	NONE	M3	3	3.92E+00	3.80E+00	A	
49,50	PDG-1	CO2	POPLAR	90	PINE SP	10	PF/MDI	NONE	M3	3	1.48E+02		A	
49,50	PDG-1	CO2	POPLAR	90	PINE SP	10	PF/MDI	NONE	M3	3	1.33E+02		A	
95	PDG-1	CO2	HWOOD	99	SWOOD	1	PF/MDI	NONE	M3	3	9.84E+00		A	
96	PDG-1	CO2	HWOOD	95	SWOOD	5	PF/MDI	NONE	M3A	3	1.34E+01		A	
97	PDG-1	CO2	HWOOD	99	SWOOD	1	PF/MDI	NONE	M3	3	9.61E+00		A	
98,99	PDG-1	CO2	NS	NS	NS	NS	PF/MDI	NONE	M3	3	9.54E+00		A	
105	PDG-1	CO2	NS	NS	NS	NS	PF/MDI	NONE	M3A	3	4.23E+00	4.68E+01	A	
56	PH2-1	CO2	NS	NS	NS	NS	PF/MDI	NONE	M3	3	5.41E+00	5.41E+00	B	
40,41	PHO-1	CO2	NS	NS	NS	NS	PF/MDI	NONE	M3	3	1.31E+01	1.31E+01	A	
57	PMO-1	CO2	HWOOD	80	SWOOD	20	PF/MDI	NONE	M3	3	8.47E+00		A	
57	PMO-1	CO2	HWOOD	80	SWOOD	20	PF/MDI	NONE	M3	3	8.24E+00		A	
57	PMO-1	CO2	HWOOD	80	SWOOD	20	PF/MDI	NONE	M3	3	8.42E+00		A	
70	PMO-1	CO2	HWOOD	80	SWOOD	20	PF/MDI	NONE	M3A	3	7.72E+00		A	
70	PMO-1	CO2	HWOOD	80	SWOOD	20	PF/MDI	NONE	M3A	3	7.79E+00		A	
70	PMO-1	CO2	HWOOD	80	SWOOD	20	PF/MDI	NONE	M3A	3	8.12E+00	8.13E+00	A	
59	PNB-1	CO2	HWOOD	100	NA	NA	MDI	NONE	M3A	3	6.83E+00		A	
59	PNB-1	CO2	HWOOD	100	NA	NA	MDI	NONE	M3A	3	4.75E+00		A	
59	PNB-1	CO2	HWOOD	100	NA	NA	MDI	NONE	M3A	3	7.11E+00	6.23E+00	A	
23,24	PSA-1	CO2	PINE SP	100	NA	NA	PF/MDI	NONE	M3A	3	3.32E+00		A	
36	PSA-1	CO2	NS	NS	NS	NS	PF/MDI	NONE	M3A	3	2.29E+00		A	
36	PSA-1	CO2	NS	NS	NS	NS	PF/MDI	NONE	M3A	3	2.60E+00		A	
36	PSA-1	CO2	NS	NS	NS	NS	PF/MDI	NONE	M3A	3	2.27E+00		A	
36	PSA-1	CO2	NS	NS	NS	NS	PF/MDI	NONE	M3A	3	2.55E+00		A	

76,77	PSA-1	CO2	NS	NS	NS	NS	PF/MDI	NONE	M3	3	4.99E+00	A
76,77	PSA-1	CO2	NS	NS	NS	NS	PF/MDI	NONE	M3	3	4.99E+00	A
76,77	PSA-1	CO2	NS	NS	NS	NS	PF/MDI	NONE	M3	3	5.01E+00	A

TABLE A-5. (Continued)

Test Code	Unit code	Pollutant(b)	Wood species(c) Primary	%	Second.	%	Resin type(d)	Control device(e)	Test method(f)	No. of runs	Emission factor, Lb/MSF 3/8 Test	Press	Data Rating	Comment
76,77	PSA-1	CO2	NS	NS	NS	NS	PF/MDI	NONE	M3	3	5.08E+00	3.68E+00	A	
39	PTH-1	CO2	HWOOD	100	NA	NA	MDI	NONE	M3A	3	4.22E+00	4.22E+00	A	
60	PTO-1	CO2	HWOOD	90	SWOOD	10	PF/MDI	NONE	M3A	3	1.06E+01		A	
71	PTO-1	CO2	NS	NS	NS	NS	PF/MDI	NONE	M3	3	4.36E+01		A	
73	PTO-1	CO2	HWOOD	90	SWOOD	10	PF/MDI	NONE	M3	3	9.44E+00		A	
73	PTO-1	CO2	HWOOD	90	SWOOD	10	PF/MDI	NONE	M3	3	9.61E+00		A	
73	PTO-1	CO2	HWOOD	90	SWOOD	10	PF/MDI	NONE	M3	3	9.53E+00	1.66E+01	A	
Uncontrolled CO2											Average	1.15E+01		
											Minimum	2.27E+00		
											Maximum	1.48E+02		
											Std. Dev.	3.16E+01		
29	PH1-1	CO2	NS	NS	NS	NS	PF/MDI	RTO	M3A	3	4.22E+00		A	
29	PH1-1	CO2	NS	NS	NS	NS	PF/MDI	RTO	M3A	3	5.64E+01		A	
29	PH1-1	CO2	NS	NS	NS	NS	PF/MDI	RTO	M3A	3	6.79E+01		A	
56	PH1-1	CO2	NS	NS	NS	NS	PF/MDI	RTO	M3	3	5.24E+01		B	
56	PH1-1	CO2	NS	NS	NS	NS	PF/MDI	RTO	M3	3	5.84E+01		B	
56	PH1-1	CO2	NS	NS	NS	NS	PF/MDI	RTO	M3	3	5.92E+01	4.98E+01	B	
38	PH2-1	CO2	NS	NS	NS	NS	PF/MDI	RTO	M3A	3	4.67E+00		A	
38	PH2-1	CO2	NS	NS	NS	NS	PF/MDI	RTO	M3A	3	4.75E+00		A	
56	PH2-1	CO2	NS	NS	NS	NS	PF/MDI	RTO	M3	3	6.87E+01		B	
56	PH2-1	CO2	NS	NS	NS	NS	PF/MDI	RTO	M3	3	6.71E+01		B	
56	PH2-1	CO2	NS	NS	NS	NS	PF/MDI	RTO	M3	3	5.09E+00	3.01E+01	B	
75	PRX-1	CO2	PINE SP	100	NA	NA	PF/MDI	RTO	M3A	3	6.46E+01	6.46E+01	A	
23,24	PSA-1	CO2	PINE SP	100	NA	NA	PF/MDI	RTO	M3A	3	3.10E+00		A	
23,24	PSA-1	CO2	PINE SP	100	NA	NA	PF/MDI	RTO	M3A	3	3.61E+00		A	
36	PSA-1	CO2	NS	NS	NS	NS	PF/MDI	RTO	M3A	3	3.46E+01		A	
36	PSA-1	CO2	NS	NS	NS	NS	PF/MDI	RTO	M3A	3	3.60E+01		A	
36	PSA-1	CO2	NS	NS	NS	NS	PF/MDI	RTO	M3A	3	2.14E+01		A	
36	PSA-1	CO2	NS	NS	NS	NS	PF/MDI	RTO	M3A	3	3.82E+01	2.28E+01	A	
RTO-controlled CO2											Average	4.18E+01		
											Minimum	3.10E+00		
											Maximum	6.87E+01		
											Std. Dev.	2.64E+01		

40,41	PHO-1	CO2	NS	NS	NS	NS	PF/MDI	RTO	M3	1	1.29E+01	NR

TABLE A-5. (Continued)

Test Code	Unit code	Pollutant(b)	Wood species(c) Primary	%	Second.	%	Resin type(d)	Control device(e)	Test method(f)	No. of runs	Emission factor, Lb/MSF 3/8 Test	Press	Data Rating	Comment
210-021292C	1P210	CPM	ASPEN	100	NA	NA	MDI	NONE	M202	3	2.42E-02	2.42E-02	A	
30	PCH-1	CPM	NS	NS	NS	NS	MDI	NONE	M202	3	1.22E-01	1.22E-01	A	
39	PTH-1	CPM	HWOOD	100	NA	NA	MDI	NONE	M202	3	1.01E-02	1.01E-02	A	
59	PNB-1	CPM	HWOOD	100	NA	NA	MDI	NONE	M202	3	2.62E-02	2.62E-02	A	
Uncontrolled CPM, MDI resin											Average	4.56E-02		
											Minimum	1.01E-02		
											Maximum	1.22E-01		
044-062392A	1P044	CPM	SPRUCE	50	UFIR	50	PF	NONE	OD7	2	3.21E-01		B	
044-062392B	1P044	CPM	SPRUCE	50	UFIR	50	PF	NONE	OD7	2	2.39E-01		B	
044-092393A	1P044	CPM	SPRUCE	50	UFIR	50	PF	NONE	OD7	3	1.83E-01	2.48E-01	A	
Uncontrolled CPM, PF resin											Average	2.48E-01		
											Minimum	1.83E-01		
											Maximum	3.21E-01		
088-121092A	1P088	CPM	HWOOD	95	PINE SP	5	PF/MDI	NONE	M202	3	2.32E-01	2.32E-01	A	
096-060490A	1P096	CPM	ASPEN	100	NA	NA	PF/MDI	NONE	M202	3	1.03E-01		A	
096-060490C	1P096	CPM	ASPEN	100	NA	NA	PF/MDI	NONE	M202	3	1.40E-01		A	
096-060590E	1P096	CPM	ASPEN	100	NA	NA	PF/MDI	NONE	M202	3	8.97E-02		A	
096-060590F	1P096	CPM	ASPEN	100	NA	NA	PF/MDI	NONE	M202	3	5.02E-02		A	
096-060690B	1P096	CPM	ASPEN	60	PINE SP	40	PF/MDI	NONE	M202	3	1.41E-01		A	
096-060690C	1P096	CPM	ASPEN	60	PINE SP	40	PF/MDI	NONE	M202	3	1.06E-01		A	
096-060790A	1P096	CPM	PINE SP	100	NA	NA	PF/MDI	NONE	M202	3	4.58E-02		A	
096-060790B	1P096	CPM	PINE SP	100	NA	NA	PF/MDI	NONE	M202	3	4.35E-02		A	
096-060890A	1P096	CPM	PINE SP	100	NA	NA	PF/MDI	NONE	M202	3	5.77E-02		A	
096-060890B	1P096	CPM	PINE SP	100	NA	NA	PF/MDI	NONE	M202	3	2.33E-01	1.01E-01	A	
211-022592A	1P211	CPM	HWOOD	100	NA	NA	PF/MDI	NONE	M5	3	3.00E-03		A	
211-022692A	1P211	CPM	HWOOD	100	NA	NA	PF/MDI	NONE	M5	3	1.45E-02	8.75E-03	A	
096-012893A	2P096	CPM	NS	NS	NS	NS	PF/MDI	NONE	M202	3	5.18E-02	5.18E-02	A	
56	PH1-1	CPM	NS	NS	NS	NS	PF/MDI	NONE	WDNR	3	8.72E-02	8.72E-02	A	
56	PH2-1	CPM	NS	NS	NS	NS	PF/MDI	NONE	WDNR	3	1.38E-01	1.38E-01	A	
40,41	PHO-1	CPM	NS	NS	NS	NS	PF/MDI	NONE	M202	3	5.73E-02	5.73E-02	A	
54	PMO-1	CPM	HWOOD	90	SWOOD	10	PF/MDI	NONE	M202	3	1.15E-02		A	
57	PMO-1	CPM	HWOOD	80	SWOOD	20	PF/MDI	NONE	M202	3	5.17E-02		A	
70	PMO-1	CPM	HWOOD	80	SWOOD	20	PF/MDI	NONE	M202	3	1.03E-01	5.54E-02	A	

36	PSA-1	CPM	NS	NS	NS	NS	PF/MDI	NONE	M202	3	1.92E-01	1.92E-01	A
47	PSL-1	CPM	SY PINE	100	NA	NA	PF/MDI	NONE	M5	3	1.47E-01	1.47E-01	B
60	PTO-1	CPM	HWOOD	90	SWOOD	10	PF/MDI	NONE	M202	3	8.67E-01		A

TABLE A-5. (Continued)

Test Code	Unit code	Pollutant(b)	Wood species(c) Primary	%	Second.	%	Resin type(d)	Control device(e)	Test method(f)	No. of runs	Emission factor, Lb/MSF 3/8 Test	Press	Data Rating	Comment
71	PTO-1	CPM	NS	NS	NS	NS	PF/MDI	NONE	M202	3	9.75E-02		A	
73	PTO-1	CPM	HWOOD	90	SWOOD	10	PF/MDI	NONE	WDNR	3	1.09E-01	3.58E-01	A	
7	PUR-1	CPM	US PINE	100	NA	NA	PF/MDI	NONE	M202	3	2.20E-01	2.20E-01	A	
Uncontrolled CPM, PF/MDI resins											Average	1.37E-01		
											Minimum	3.00E-03		
											Maximum	8.67E-01		
											Std. Dev.	1.64E-01		
29	PH1-1	CPM	NS	NS	NS	NS	PF/MDI	RTO	WDNR	3	4.69E-02		A	
56	PH1-1	CPM	NS	NS	NS	NS	PF/MDI	RTO	WDNR	3	9.54E-02	7.12E-02	A	
38	PH2-1	CPM	NS	NS	NS	NS	PF/MDI	RTO	WDNR	3	1.52E-02		A	
56	PH2-1	CPM	NS	NS	NS	NS	PF/MDI	RTO	WDNR	3	8.82E-02	5.17E-02	A	
40,41	PHO-1	CPM	NS	NS	NS	NS	PF/MDI	RTO	M202	3	2.24E-02	2.24E-02	A	
75	PRX-1	CPM	PINE SP	100	NA	NA	PF/MDI	RTO	M202	3	1.95E-02	1.95E-02	A	
23,24	PSA-1	CPM	PINE SP	100	NA	NA	PF/MDI	RTO	M202	3	1.59E-01		A	
36	PSA-1	CPM	NS	NS	NS	NS	PF/MDI	RTO	M202	3	3.76E-01	2.68E-01	A	
47	PSL-1	CPM	SY PINE	100	NA	NA	PF/MDI	RTO	M5	3	6.21E-02	6.21E-02	B	
RTO-controlled CPM, PF/MDI resins											Average	8.24E-02		
											Minimum	1.52E-02		
											Maximum	3.76E-01		
											Std. Dev.	1.14E-01		
4	PCO-1	CPM	US PINE	100	NA	NA	NS	NONE	M202	3	4.00E-01		A	
4	PCO-1	CPM-I	US PINE	100	NA	NA	NS	NONE	M202	3	5.60E-02		A	
7	PUR-1	CPM-I	US PINE	100	NA	NA	PF/MDI	NONE	M202	3	6.80E-02		A	
4	PCO-1	CPM-O	US PINE	100	NA	NA	NS	NONE	M202	3	3.50E-01		A	
7	PUR-1	CPM-O	US PINE	100	NA	NA	PF/MDI	NONE	M202	3	1.50E-01		A	
210-021292D	1P210	FOR	ASPEN	100	NA	NA	MDI	NONE	M0011	3	9.98E-02	9.98E-02	A	
59	PNB-1	FOR	HWOOD	100	NA	NA	MDI	NONE	M0011	3	2.78E-02	2.78E-02	A	
Uncontrolled formaldehyde, MDI resin											Average	6.38E-02		
											Minimum	2.78E-02		
											Maximum	9.98E-02		
225-041990B	1P225	FOR	HWOOD	100	NA	NA	MDI	NONE	MN3500	3	1.50E-01		D	+ unloader
174-041191C	1P174	FOR	PINE SP	60	HWOOD	40	NS	NONE		3	9.40E-02		D	
4	PCO-1	FOR	US PINE	100	NA	NA	NS	NONE	M0011	3	4.80E-02		A	

TABLE A-5. (Continued)

Test Code	Unit code	Pollutant(b)	Wood species(c)				Resin type(d)	Control device(e)	Test method(f)	No. of runs	Emission factor, Lb/MSF 3/8		Data Rating	Comment
			Primary	%	Second.	%					Test	Press		
044-062392A	1P044	FOR	SPRUCE	50	UFIR	50	PF	NONE	P&CAM125	2	7.40E-03		B	
044-062392B	1P044	FOR	SPRUCE	50	UFIR	50	PF	NONE	P&CAM125	2	1.02E-02		B	
044-062392A	1P044	FOR	SPRUCE	50	UFIR	50	PF	NONE	TO-5	2	1.80E-03		B	
044-062392B	1P044	FOR	SPRUCE	50	UFIR	50	PF	NONE	TO-5	2	3.05E-03	5.61E-03	B	
069-062492A	1P069	FOR	POPLAR	100	NA	NA	PF	NONE	M0011	3	5.07E-02	5.07E-02	C	
070-012793A	1P070	FOR	PINE SP	85	HWOOD	15	PF	NONE	M0011	3	7.30E-02	7.30E-02	A	
Uncontrolled formaldehyde, PF resin											Average	4.31E-02		
											Minimum	1.80E-03		
											Maximum	7.30E-02		
											Std. Dev.	3.00E-02		
088-121092C	1P088	FOR	HWOOD	95	PINE SP	5	PF/MDI	NONE	M0011	3	4.07E-02	4.07E-02	A	
211-022592B	1P211	FOR	HWOOD	100	NA	NA	PF/MDI	NONE	M0011	3	6.53E-02	6.53E-02	A	
096-012993A	2P096	FOR	NS	NS	NS	NS	PF/MDI	NONE	M0011	3	4.77E-02	4.77E-02	A	
225-020692D	2P225	FOR	HWOOD	100	NA	NA	PF/MDI	NONE	M0011	3	1.54E-01	1.54E-01	A	
94	PDC-1	FOR	NS	NS	NS	NS	PF/MDI	NONE	M0011	3	1.63E-02	1.63E-02	A	
49,50	PDG-1	FOR	POPLAR	90	PINE SP	10	PF/MDI	NONE	M0011	3	3.21E-02		A	
95	PDG-1	FOR	HWOOD	99	SWOOD	1	PF/MDI	NONE	M0011	3	6.04E-02		A	
97	PDG-1	FOR	HWOOD	99	SWOOD	1	PF/MDI	NONE	M0011	3	5.95E-02		A	
98,99	PDG-1	FOR	NS	NS	NS	NS	PF/MDI	NONE	M0011	3	7.53E-02	5.68E-02	A	
52	PHO-1	FOR	POPLAR	90	HWOOD	10	PF/MDI	NONE	ACET	3	9.54E-02	9.54E-02	A	
54	PMO-1	FOR	HWOOD	90	SWOOD	10	PF/MDI	NONE	M0011	3	6.57E-02		A	
57	PMO-1	FOR	HWOOD	80	SWOOD	20	PF/MDI	NONE	M0011	3	4.79E-02		A	
70	PMO-1	FOR	HWOOD	80	SWOOD	20	PF/MDI	NONE	M0011	3	3.73E-02	5.03E-02	A	
23,24	PSA-1	FOR	PINE SP	100	NA	NA	PF/MDI	NONE	M0011	3	4.75E-02		A	
36	PSA-1	FOR	NS	NS	NS	NS	PF/MDI	NONE	M0011	3	4.28E-02		A	
76,77	PSA-1	FOR	NS	NS	NS	NS	PF/MDI	NONE	M0011	3	5.71E-03	3.20E-02	A	
73	PTO-1	FOR	HWOOD	90	SWOOD	10	PF/MDI	NONE	M0011	3	2.30E-02	2.30E-02	A	
7	PUR-1	FOR	US PINE	100	NA	NA	PF/MDI	NONE	M0011	3	1.10E-01	1.10E-01	A	
Uncontrolled formaldehyde, PF/MDI resins											Average	6.29E-02		
											Minimum	5.71E-03		
											Maximum	1.54E-01		
											Std. Dev.	3.55E-02		
088-121588C	2P088	FOR	HWOOD	95	SWOOD	5	PF/MDI	NONE	MN3500	3	1.91E-01		D	+ unloader

096-060490A	1P096	FOR	ASPEN	100	NA	NA	PF/MDI	NONE	MN3500	3	1.77E-02	D
096-060490C	1P096	FOR	ASPEN	100	NA	NA	PF/MDI	NONE	MN3500	3	2.03E-02	D
096-060590E	1P096	FOR	ASPEN	100	NA	NA	PF/MDI	NONE	MN3500	3	1.57E-02	D

TABLE A-5. (Continued)

Test Code	Unit code	Pollutant(b)	Wood species(c) Primary	%	Second.	%	Resin type(d)	Control device(e)	Test method(f)	No. of runs	Emission factor, Lb/MSF 3/8 Test	Press	Data Rating	Comment
096-060590F	1P096	FOR	ASPEN	100	NA	NA	PF/MDI	NONE	MN3500	3	1.47E-02		D	
096-060690B	1P096	FOR	ASPEN	60	PINE SP	40	PF/MDI	NONE	MN3500	3	7.94E-03		D	
096-060690C	1P096	FOR	ASPEN	60	PINE SP	40	PF/MDI	NONE	MN3500	3	7.57E-03		D	
096-060790A	1P096	FOR	PINE SP	100	NA	NA	PF/MDI	NONE	MN3500	3	8.00E-03		D	
096-060790B	1P096	FOR	PINE SP	100	NA	NA	PF/MDI	NONE	MN3500	3	9.53E-03		D	
096-060890A	1P096	FOR	PINE SP	100	NA	NA	PF/MDI	NONE	MN3500	3	6.10E-03		D	
096-060890B	1P096	FOR	PINE SP	100	NA	NA	PF/MDI	NONE	MN3500	3	5.17E-03		D	
29	PH1-1	FOR	NS	NS	NS	NS	PF/MDI	RTO	M0011	3	4.24E-03		A	
56	PH1-1	FOR	NS	NS	NS	NS	PF/MDI	RTO	M0011	3	1.88E-03	3.06E-03	A	
38	PH2-1	FOR	NS	NS	NS	NS	PF/MDI	RTO	M0011	3	3.32E-03		A	
56	PH2-1	FOR	NS	NS	NS	NS	PF/MDI	RTO	M0011	3	2.52E-03	2.92E-03	A	
52	PHO-1	FOR	POPLAR	90	HWOOD	10	PF/MDI	RTO	ACET	3	4.27E-03	4.27E-03	A	
23,24	PSA-1	FOR	PINE SP	100	NA	NA	PF/MDI	RTO	M0011	3	1.29E-03		A	
36	PSA-1	FOR	NS	NS	NS	NS	PF/MDI	RTO	M0011	3	1.41E-03	1.35E-03	A	
47	PSL-1	FOR	SY PINE	100	NA	NA	PF/MDI	RTO	M0011	5	9.69E-03	9.69E-03	B	
RTO-controlled formaldehyde, PF/MDI resins											Average	4.26E-03		
											Minimum	1.29E-03		
											Maximum	9.69E-03		
											Std. Dev.	2.73E-03		
096-092790A	1P096	MDI	ASPEN	100	NA	NA	MDI	NONE	N347	3	1.87E-03		A	
096-092790B	1P096	MDI	ASPEN	80	PINE SP	20	MDI	NONE	N347	3	8.03E-04	1.34E-03	A	
59	PNB-1	MDI	HWOOD	100	NA	NA	MDI	NONE	1,2-PP	3	2.10E-03	2.10E-03	A	
Uncontrolled MDI, MDI resin											Average	1.72E-03		
											Minimum	8.03E-04		
											Maximum	2.10E-03		
088-031193A	1P088	MDI	HWOOD	95	SWOOD	5	PF/MDI	NONE	N347	3	3.97E-03		A	
088-031193B	1P088	MDI	HWOOD	95	SWOOD	5	PF/MDI	NONE	N347	3	5.93E-03	4.95E-03	A	
096-012893B	2P096	MDI	NS	NS	NS	NS	PF/MDI	NONE	N347	3	1.37E-03	1.37E-03	A	
94	PDC-1	MDI	NS	NS	NS	NS	PF/MDI	NONE	N347	3	7.67E-04	7.67E-04	A	
49,50	PDG-1	MDI	POPLAR	90	PINE SP	10	PF/MDI	NONE	1,2-PP	3	6.37E-04		A	
97	PDG-1	MDI	HWOOD	99	SWOOD	1	PF/MDI	NONE	1,2-PP	3	4.98E-03		A	
98,99	PDG-1	MDI	NS	NS	NS	NS	PF/MDI	NONE	1,2-PP	3	2.54E-03		A	
95	PDG-1	MDI	HWOOD	99	SWOOD	1	PF/MDI	NONE	N347	3	5.35E-03		A	

97	PDG-1	MDI	HWOOD	99	SWOOD	1	PF/MDI	NONE	N347	3	6.90E-03		A
98,99	PDG-1	MDI	NS	NS	NS	NS	PF/MDI	NONE	N347	3	3.91E-03		A
105	PDG-1	MDI	NS	NS	NS	NS	PF/MDI	NONE	N347	3	1.68E-03	3.71E-03	A

TABLE A-5. (Continued)

Test Code	Unit code	Pollutant(b)	Wood species(c) Primary	%	Second.	%	Resin type(d)	Control device(e)	Test method(f)	No. of runs	Emission factor, Lb/MSF 3/8 Test	Press	Data Rating	Comment
54	PMO-1	MDI	HWOOD	90	SWOOD	10	PF/MDI	NONE	1,2-PP	3	1.78E-05		A	
70	PMO-1	MDI	HWOOD	80	SWOOD	20	PF/MDI	NONE	1,2-PP	3	6.32E-04		A	
57	PMO-1	MDI	HWOOD	80	SWOOD	20	PF/MDI	NONE	N347	3	1.40E-03	6.83E-04	A	
36	PSA-1	MDI	NS	NS	NS	NS	PF/MDI	NONE	1,2-PP	3	3.51E-04		A	
76,77	PSA-1	MDI	NS	NS	NS	NS	PF/MDI	NONE	N347	3	1.40E-03	8.76E-04	A	
Uncontrolled MDI, PF/MDI resins											1,2-PP Ave.	1.53E-03		
											N347 Ave.	3.27E-03		
											Average	2.06E-03		
											Minimum	1.78E-05		
											Maximum	6.90E-03		
											Std. Dev.	2.23E-03		
29	PH1-1	MDI	NS	NS	NS	NS	PF/MDI	RTO	1,2-PP	3	2.61E-05		A	
56	PH1-1	MDI	NS	NS	NS	NS	PF/MDI	RTO	1,2-PP	3	3.09E-05	2.85E-05	A	
56	PH2-1	MDI	NS	NS	NS	NS	PF/MDI	RTO	1,2-PP	3	4.75E-05	4.75E-05	A	
23,24	PSA-1	MDI	PINE SP	100	NA	NA	PF/MDI	RTO	1,2-PP	3	2.63E-05		C	
36	PSA-1	MDI	NS	NS	NS	NS	PF/MDI	RTO	1,2-PP	3	9.70E-06	1.80E-05	A	
47	PSL-1	MDI	SY PINE	100	NA	NA	PF/MDI	RTO	NM142	3	2.17E-04	2.17E-04	B	
RTO-controlled MDI, PF/MDI resins											Average	7.78E-05		
											Minimum	9.70E-06		
											Maximum	2.17E-04		
											Std. Dev.	7.81E-05		
069-062492A	1P069	NAPHTHALENE	POPLAR	100	NA	NA	PF	NONE	NM1501	3	5.60E-03	5.60E-03	A	
070-012893A	1P070	NAPHTHALENE	PINE SP	85	HWOOD	15	PF	NONE	NM1501	3	4.15E-04	4.15E-04	A	
Uncontrolled naphthalene, PF resin											Average	3.01E-03		
											Minimum	4.15E-04		
											Maximum	5.60E-03		
044-062392A	1P044	NOX	SPRUCE	50	UFIR	50	PF	NONE	M7E	2	5.50E-03	5.50E-03	B	
49,50	PDG-1	NOX	POPLAR	90	PINE SP	10	PF/MDI	NONE	M7E	3	3.72E-02	3.72E-02	A	
29	PH1-1	NOX	NS	NS	NS	NS	PF/MDI	NONE	M7E	3	9.25E-02	9.25E-02	A	
38	PH2-1	NOX	NS	NS	NS	NS	PF/MDI	NONE	M7E	3	4.55E-02	4.55E-02	A	
52	PHO-1	NOX	POPLAR	90	HWOOD	10	PF/MDI	NONE	M7E	3	3.52E-02	3.52E-02	A	
59	PNB-1	NOX	HWOOD	100	NA	NA	MDI	NONE	M7E	3	3.13E-02	3.13E-02	A	
23,24	PSA-1	NOX	PINE SP	100	NA	NA	PF/MDI	NONE	M7E	3	7.62E-02	7.62E-02	A	

TABLE A-5. (Continued)

Test Code	Unit code	Pollutant(b)	Wood species(c) Primary	%	Second.	%	Resin type(d)	Control device(e)	Test method(f)	No. of runs	Emission factor, Lb/MSF 3/8 Test	Press	Data Rating	Comment
47	PSL-1	NOX	SY PINE	100	NA	NA	PF/MDI	NONE	M7E	3	1.06E-02	1.06E-02	B	
39	PTH-1	NOX	HWOOD	100	NA	NA	MDI	NONE	M7E	3	7.36E-03	7.36E-03	A	
Uncontrolled NOx											Average	3.79E-02		
											Minimum	5.50E-03		
											Maximum	9.25E-02		
											Std. Dev.	3.02E-02		
29	PH1-1	NOX	NS	NS	NS	NS	PF/MDI	RTO	M7E	3	3.53E-01		A	
56	PH1-1	NOX	NS	NS	NS	NS	PF/MDI	RTO	M7E	3	2.91E-01	3.22E-01	B	
38	PH2-1	NOX	NS	NS	NS	NS	PF/MDI	RTO	M7E	3	3.06E-01		A	
56	PH2-1	NOX	NS	NS	NS	NS	PF/MDI	RTO	M7E	3	2.04E-01	2.55E-01	B	
52	PHO-1	NOX	POPLAR	90	HWOOD	10	PF/MDI	RTO	M7E	3	3.43E-01	3.43E-01	A	
75	PRX-1	NOX	PINE SP	100	NA	NA	PF/MDI	RTO	M7E	3	6.40E-02	6.40E-02	A	
23,24	PSA-1	NOX	PINE SP	100	NA	NA	PF/MDI	RTO	M7E	3	4.25E-01	4.25E-01	A	
47	PSL-1	NOX	SY PINE	100	NA	NA	PF/MDI	RTO	M7E	3	2.48E-01	2.48E-01	B	
RTO-controlled NOx											Average	2.76E-01		
											Minimum	6.40E-02		
											Maximum	4.25E-01		
											Std. Dev.	1.10E-01		
044-062392A	1P044	PHENOL	SPRUCE	50	UFIR	50	PF	NONE	TO-8	2	1.49E-02		B	
044-062392B	1P044	PHENOL	SPRUCE	50	UFIR	50	PF	NONE	TO-8	2	6.45E-02	3.97E-02	B	
069-062492A	1P069	PHENOL	POPLAR	100	NA	NA	PF	NONE	N3500	3	4.52E-02	4.52E-02	A	
070-012893A	1P070	PHENOL	PINE SP	85	HWOOD	15	PF	NONE	MM5	3	7.30E-02	7.30E-02	A	
Uncontrolled phenol, PF resin											Average	5.26E-02		
											Minimum	1.49E-02		
											Maximum	7.30E-02		
088-120992D	1P088	PHENOL	HWOOD	95	PINE SP	5	PF/MDI	NONE	M5X	3	9.67E-03		A	
088-120992E	1P088	PHENOL	HWOOD	95	PINE SP	5	PF/MDI	NONE	N347	3	1.10E-02	1.03E-02	A	
088-121588C	2P088	PHENOL	HWOOD	95	SWOOD	5	PF/MDI	NONE	M604	3	7.80E-03	7.80E-03	A	+ unloader
94	PDC-1	PHENOL	NS	NS	NS	NS	PF/MDI	NONE	MM5	3	7.85E-03	7.85E-03	A	
95	PDG-1	PHENOL	HWOOD	99	SWOOD	1	PF/MDI	NONE	MM5	3	2.18E-02		A	
97	PDG-1	PHENOL	HWOOD	99	SWOOD	1	PF/MDI	NONE	MM5	3	2.02E-02		A	
98,99	PDG-1	PHENOL	NS	NS	NS	NS	PF/MDI	NONE	MM5	3	5.79E-03	1.59E-02	A	
23,24	PSA-1	PHENOL	PINE SP	100	NA	NA	PF/MDI	NONE	MM5	3	1.83E-03		C	

36	PSA-1	PHENOL	NS	NS	NS	NS	PF/MDI	NONE	MM5	3	1.58E-03	A

TABLE A-5. (Continued)

Test Code	Unit code	Pollutant(b)	Wood species(c) Primary	%	Second.	%	Resin type(d)	Control device(e)	Test method(f)	No. of runs	Emission factor, Lb/MSF 3/8 Test	Press	Data Rating	Comment
76,77	PSA-1	PHENOL	NS	NS	NS	NS	PF/MDI	NONE	MM5	3	2.06E-05	1.14E-03	A	
73	PTO-1	PHENOL	HWOOD	90	SWOOD	10	PF/MDI	NONE	MM5	3	6.80E-02	6.80E-02	C	
Uncontrolled phenol, PF/MDI resins											Average	1.85E-02		
											Minimum	2.06E-05		
											Maximum	6.80E-02		
											Std. Dev.	1.92E-02		
23,24	PSA-1	PHENOL	PINE SP	100	NA	NA	PF/MDI	RTO	MM5	3	2.13E-03		C	
36	PSA-1	PHENOL	NS	NS	NS	NS	PF/MDI	RTO	MM5	3	1.75E-03	1.94E-03	A	
47	PSL-1	PHENOL	SY PINE	100	NA	NA	PF/MDI	RTO	NMS330	5	3.21E-03	3.21E-03	B	
RTO-controlled phenol, PF/MDI resins											Average	2.58E-03		
											Minimum	1.75E-03		
											Maximum	3.21E-03		
210-021292C	1P210	PM	ASPEN	100	NA	NA	MDI	NONE	M5	3	1.80E-01	1.80E-01	A	
30	PCH-1	PM	NS	NS	NS	NS	MDI	NONE	M5	3	2.55E-01	2.55E-01	A	
39	PTH-1	PM	HWOOD	100	NA	NA	MDI	NONE	M5	3	7.99E-02	7.99E-02	A	
59	PNB-1	PM	HWOOD	100	NA	NA	MDI	NONE	M5	3	1.37E-01	1.37E-01	A	
Uncontrolled PM, MDI resin											Average	1.63E-01		
											Minimum	7.99E-02		
											Maximum	2.55E-01		
044-062392A	1P044	PM	SPRUCE	50	UFIR	50	PF	NONE	M5	2	2.38E-01		B	
044-062392B	1P044	PM	SPRUCE	50	UFIR	50	PF	NONE	M5	2	2.54E-01		B	
044-092393A	1P044	PM	SPRUCE	50	UFIR	50	PF	NONE	M5	3	1.47E-01	2.13E-01	A	
069-062492A	1P069	PM	POPLAR	100	NA	NA	PF	NONE	M5	3	2.65E-02	2.65E-02	A	
Uncontrolled PM, PF resin											Average	1.20E-01		
											Minimum	2.65E-02		
											Maximum	2.54E-01		
088-121092A	1P088	PM	HWOOD	95	PINE SP	5	PF/MDI	NONE	M5	3	1.28E-01	1.28E-01	A	
096-060490A	1P096	PM	ASPEN	100	NA	NA	PF/MDI	NONE	M5	3	1.19E-01		A	
096-060490C	1P096	PM	ASPEN	100	NA	NA	PF/MDI	NONE	M5	3	6.50E-02		A	
096-060590E	1P096	PM	ASPEN	100	NA	NA	PF/MDI	NONE	M5	3	3.18E-02		A	
096-060590F	1P096	PM	ASPEN	100	NA	NA	PF/MDI	NONE	M5	3	5.02E-02		A	
096-060690B	1P096	PM	ASPEN	60	PINE SP	40	PF/MDI	NONE	M5	3	4.03E-02		A	
096-060690C	1P096	PM	ASPEN	60	PINE SP	40	PF/MDI	NONE	M5	3	5.11E-02		A	

096-060790A	1P096	PM	PINE SP	100	NA	NA	PF/MDI	NONE	M5	3	4.67E-02	A
096-060790B	1P096	PM	PINE SP	100	NA	NA	PF/MDI	NONE	M5	3	6.09E-02	A
096-060890A	1P096	PM	PINE SP	100	NA	NA	PF/MDI	NONE	M5	3	8.65E-02	A

TABLE A-5. (Continued)

Test Code	Unit code	Pollutant(b)	Wood species(c) Primary	%	Second.	%	Resin type(d)	Control device(e)	Test method(f)	No. of runs	Emission factor, Lb/MSF 3/8 Test	Press	Data Rating	Comment
096-060890B	1P096	PM	PINE SP	100	NA	NA	PF/MDI	NONE	M5	3	6.45E-02	6.16E-02	A	
211-022592A	1P211	PM	HWOOD	100	NA	NA	PF/MDI	NONE	M5	3	5.77E-02	5.77E-02	A	
096-012893A	2P096	PM	NS	NS	NS	NS	PF/MDI	NONE	M5	3	9.69E-02	9.69E-02	A	
56	PH1-1	PM	NS	NS	NS	NS	PF/MDI	NONE	M5	3	1.21E-01	1.21E-01	A	
56	PH2-1	PM	NS	NS	NS	NS	PF/MDI	NONE	M5	3	2.94E+00	2.94E+00	A	
40,41	PHO-1	PM	NS	NS	NS	NS	PF/MDI	NONE	M5	3	1.71E-02	1.71E-02	A	
54	PMO-1	PM	HWOOD	90	SWOOD	10	PF/MDI	NONE	M5	3	6.39E-02		A	
57	PMO-1	PM	HWOOD	80	SWOOD	20	PF/MDI	NONE	M5	3	9.71E-02		A	
70	PMO-1	PM	HWOOD	80	SWOOD	20	PF/MDI	NONE	M5	3	1.36E-01	9.90E-02	A	
36	PSA-1	PM	NS	NS	NS	NS	PF/MDI	NONE	M5	3	4.49E-02		A	
76,77	PSA-1	PM	NS	NS	NS	NS	PF/MDI	NONE	M5	3	1.38E-01	9.15E-02	A	
47	PSL-1	PM	SY PINE	100	NA	NA	PF/MDI	NONE	M5	3	2.40E-01	2.40E-01	B	
60	PTO-1	PM	HWOOD	90	SWOOD	10	PF/MDI	NONE	M5	3	2.81E-01		A	
71	PTO-1	PM	NS	NS	NS	NS	PF/MDI	NONE	M5	3	7.75E-02		A	
73	PTO-1	PM	HWOOD	90	SWOOD	10	PF/MDI	NONE	M5	3	1.36E-01	1.65E-01	A	
7	PUR-1	PM	US PINE	100	NA	NA	PF/MDI	NONE	M5	3	4.10E-01	4.10E-01	A	
Uncontrolled PM, PF/MDI resins											Average	3.69E-01		
											Minimum	1.71E-02		
											Maximum	2.94E+00		
											Std. Dev.	5.62E-01		
29	PH1-1	PM	NS	NS	NS	NS	PF/MDI	RTO	M5	3	4.64E-02		A	
56	PH1-1	PM	NS	NS	NS	NS	PF/MDI	RTO	M5	3	7.61E-02	6.13E-02	A	
38	PH2-1	PM	NS	NS	NS	NS	PF/MDI	RTO	M5	3	2.73E-02		A	
56	PH2-1	PM	NS	NS	NS	NS	PF/MDI	RTO	M5	3	1.90E-01	1.09E-01	A	
40,41	PHO-1	PM	NS	NS	NS	NS	PF/MDI	RTO	M5	3	9.75E-03	9.75E-03	A	
75	PRX-1	PM	PINE SP	100	NA	NA	PF/MDI	RTO	M5	3	1.58E-02	1.58E-02	A	
23,24	PSA-1	PM	PINE SP	100	NA	NA	PF/MDI	RTO	M5	3	1.29E-02		A	
36	PSA-1	PM	NS	NS	NS	NS	PF/MDI	RTO	M5	3	2.51E-02	1.90E-02	A	
47	PSL-1	PM	SY PINE	100	NA	NA	PF/MDI	RTO	M5	3	7.91E-02	7.91E-02	B	
RTO-controlled PM, PF/MDI resins											Average	4.89E-02		
											Minimum	9.75E-03		
											Maximum	1.90E-01		
											Std. Dev.	5.74E-02		

4	PCO-1	PM	US PINE	100	NA	NA	NS	NONE	M5	3	4.60E-01	A
044-062392A	1P044	PM&CPM	SPRUCE	50	UFIR	50	PF	NONE	M5/OD7	2	5.59E-01	B
044-062392B	1P044	PM&CPM	SPRUCE	50	UFIR	50	PF	NONE	M5/OD7	2	4.66E-01	B

TABLE A-5. (Continued)

Test Code	Unit code	Pollutant(b)	Wood species(c) Primary	%	Second.	%	Resin type(d)	Control device(e)	Test method(f)	No. of runs	Emission factor, Lb/MSF 3/8 Test	Press	Data Rating	Comment
044-092393A	1P044	PM&CPM	SPRUCE	50	UFIR	50	PF	NONE	M5	3	3.31E-01		A	
088-121092A	1P088	PM&CPM	HWOOD	95	PINE SP	5	PF/MDI	NONE	M5/202	3	3.60E-01		A	
096-012893A	2P096	PM&CPM	NS	NS	NS	NS	PF/MDI	NONE	M5/202	3	1.49E-01		A	
096-060490A	1P096	PM&CPM	ASPEN	100	NA	NA	PF/MDI	NONE	M5/202	3	1.75E-01		A	
096-060490C	1P096	PM&CPM	ASPEN	100	NA	NA	PF/MDI	NONE	M5/202	3	1.78E-01		A	
096-060590E	1P096	PM&CPM	ASPEN	100	NA	NA	PF/MDI	NONE	M5/202	3	1.22E-01		A	
096-060590F	1P096	PM&CPM	ASPEN	100	NA	NA	PF/MDI	NONE	M5/202	3	1.01E-01		A	
096-060690B	1P096	PM&CPM	ASPEN	60	PINE SP	40	PF/MDI	NONE	M5/202	3	1.28E-01		A	
096-060690C	1P096	PM&CPM	ASPEN	60	PINE SP	40	PF/MDI	NONE	M5/202	3	1.57E-01		A	
096-060790A	1P096	PM&CPM	PINE SP	100	NA	NA	PF/MDI	NONE	M5/202	3	9.29E-02		A	
096-060790B	1P096	PM&CPM	PINE SP	100	NA	NA	PF/MDI	NONE	M5/202	3	1.04E-01		A	
096-060890A	1P096	PM&CPM	PINE SP	100	NA	NA	PF/MDI	NONE	M5/202	3	1.44E-01		A	
096-060890B	1P096	PM&CPM	PINE SP	100	NA	NA	PF/MDI	NONE	M5/202	3	2.74E-01		A	
210-021292C	1P210	PM&CPM	ASPEN	100	NA	NA	MDI	NONE	M5/202	3	2.04E-01		A	
211-022592A	1P211	PM&CPM	HWOOD	100	NA	NA	PF/MDI	NONE	M5	3	6.07E-02		A	
044-092393A	1P044	PM10	SPRUCE	50	UFIR	50	PF	NONE	M201A	3	1.04E-01	1.04E-01	A	
Uncontrolled PM-10, PF resin											Average	1.04E-01		
211-022692A	1P211	PM10	HWOOD	100	NA	NA	PF/MDI	NONE	M201A	3	1.08E-01	1.08E-01	A	
Uncontrolled PM-10, PF/MDI resins											Average	1.08E-01		
044-092393A	1P044	PM10&CPM	SPRUCE	50	UFIR	50	PF	NONE	M201A/OD7	3	2.87E-01		A	
211-022692A	1P211	PM10&CPM	HWOOD	100	NA	NA	PF/MDI	NONE	M5/202	3	1.23E-01		A	
225-020692B	2P225	PM10&CPM	HWOOD	100	NA	NA	PF/MDI	NONE	M201A	3	3.37E-01		A	
49,50	PDG-1	SO2	POPLAR	90	PINE SP	10	PF/MDI	NONE	M6C	3	3.73E-02	3.73E-02	A	
Uncontrolled SO2											Average	3.73E-02		
210-021292B	1P210	VOC	ASPEN	100	NA	NA	MDI	NONE	M25	3	5.39E-01		A	
210-022389A	1P210	VOC	ASPEN	100	NA	NA	MDI	NONE	M25	3	3.91E-01	4.65E-01	A	+ unloader
30	PCH-1	VOC	NS	NS	NS	NS	MDI	NONE	M25A	3	9.34E-01	9.34E-01	A	+FOR(0.0638)
39	PTH-1	VOC	HWOOD	100	NA	NA	MDI	NONE	M25A	3	2.81E-01	2.81E-01	A	+FOR(0.0638)
59	PNB-1	VOC	HWOOD	100	NA	NA	MDI	NONE	M25A	3	1.05E-01	1.05E-01	A	+FOR(0.0638)
Uncontrolled VOC as propane, MDI resin											Average	4.46E-01		
											Minimum	1.05E-01		
											Maximum	9.34E-01		
											Std. Dev.	3.14E-01		

044-062392A	1P044	VOC	SPRUCE	50	UFIR	50	PF	NONE	M25A	2	1.52E-01		B	+FOR(0.0431)
044-092393A	1P044	VOC	SPRUCE	50	UFIR	50	PF	NONE	M25A	3	2.65E-01	2.09E-01	A	+FOR(0.0431)
069-062492A	1P069	VOC	POPLAR	100	NA	NA	PF	NONE	M25A	3	8.09E-02	8.09E-02	A	+FOR(0.0431)

TABLE A-5. (Continued)

Test Code	Unit code	Pollutant(b)	Wood species(c) Primary	%	Second.	%	Resin type(d)	Control device(e)	Test method(f)	No. of runs	Emission factor, Lb/MSF 3/8 Test	Press	Data Rating	Comment
127-082090A	1P127	VOC	ASPEN	100	NA	NA	PF	NONE	M25	3	4.39E-01		A	
127-092289C	1P127	VOC	ASPEN	100	NA	NA	PF	NONE	M25	3	1.52E+00	9.81E-01	A	
212-100991A	1P212	VOC	HWOOD	10	SWOOD	90	PF	NONE	M25	3	8.10E-01	8.10E-01	A	+ unloader
Uncontrolled VOC as propane, PF resin											Average	5.20E-01		
											Minimum	8.09E-02		
											Maximum	1.52E+00		
											Std. Dev.	5.45E-01		
083-011990A	1P083	VOC	ASPEN	95	PINE SP	5	PF/MDI	NONE	M25A	3	9.95E-01		A	+FOR(0.0629); + unloader
083-012090A	1P083	VOC	ASPEN	95	PINE SP	5	PF/MDI	NONE	M25A	3	5.06E-01	7.50E-01	A	+FOR(0.0629); + unloader
088-121092A	1P088	VOC	HWOOD	95	PINE SP	5	PF/MDI	NONE	M25A	3	2.17E-01	2.17E-01	A	+FOR(0.0629)
211-022692B	1P211	VOC	HWOOD	100	NA	NA	PF/MDI	NONE	M25A	3	2.58E-01	2.58E-01	A	+FOR(0.0629)
088-121588C	2P088	VOC	HWOOD	95	SWOOD	5	PF/MDI	NONE	M25A	3	1.88E-01	1.88E-01	A	+FOR(0.0629); + unloader
096-012893C	2P096	VOC	NS	NS	NS	NS	PF/MDI	NONE	M25	3	2.59E-01	2.59E-01	A	
225-020692C	2P225	VOC	HWOOD	100	NA	NA	PF/MDI	NONE	M25	3	3.33E-01	3.33E-01	A	
94	PDC-1	VOC	NS	NS	NS	NS	PF/MDI	NONE	M25A	3	1.76E-01		A	+FOR(0.0629)
94	PDC-1	VOC	NS	NS	NS	NS	PF/MDI	NONE	M25A	3	1.76E-01	1.76E-01	A	+FOR(0.0629)
49,50	PDG-1	VOC	POPLAR	90	PINE SP	10	PF/MDI	NONE	M25A	3	2.31E-01		A	+FOR(0.0629)
95	PDG-1	VOC	HWOOD	99	SWOOD	1	PF/MDI	NONE	M25A	3	1.47E-01		A	+FOR(0.0629)
96	PDG-1	VOC	HWOOD	95	SWOOD	5	PF/MDI	NONE	M25A	3	4.33E-01		A	+FOR(0.0629)
97	PDG-1	VOC	HWOOD	99	SWOOD	1	PF/MDI	NONE	M25A	3	2.83E-01		A	+FOR(0.0629)
98,99	PDG-1	VOC	NS	NS	NS	NS	PF/MDI	NONE	M25A	3	3.14E-01	2.82E-01	A	+FOR(0.0629)
29	PH1-1	VOC	NS	NS	NS	NS	PF/MDI	NONE	M25A	3	2.07E-01		A	+FOR(0.0629)
56	PH1-1	VOC	NS	NS	NS	NS	PF/MDI	NONE	M25A	3	3.57E-01	2.82E-01	A	+FOR(0.0629)
38	PH2-1	VOC	NS	NS	NS	NS	PF/MDI	NONE	M25A	3	6.40E-01		A	+FOR(0.0629)
56	PH2-1	VOC	NS	NS	NS	NS	PF/MDI	NONE	M25A	3	4.62E-01	5.51E-01	A	+FOR(0.0629)
40,41	PHO-1	VOC	NS	NS	NS	NS	PF/MDI	NONE	M25A	3	2.35E-01	2.35E-01	A	+FOR(0.0629)
54	PMO-1	VOC	HWOOD	90	SWOOD	10	PF/MDI	NONE	M25A	3	2.62E-01		A	+FOR(0.0629)
57	PMO-1	VOC	HWOOD	80	SWOOD	20	PF/MDI	NONE	M25A	3	3.27E-01		A	+FOR(0.0629)
70	PMO-1	VOC	HWOOD	80	SWOOD	20	PF/MDI	NONE	M25A	3	2.01E-01	2.63E-01	A	+FOR(0.0629)
75	PRX-1	VOC	PINE SP	100	NA	NA	PF/MDI	NONE	M25A	3	1.07E+00	1.07E+00	A	+FOR(0.0629)
23,24	PSA-1	VOC	PINE SP	100	NA	NA	PF/MDI	NONE	M25A	3	2.59E+00		A	+FOR(0.0629)
36	PSA-1	VOC	NS	NS	NS	NS	PF/MDI	NONE	M25A	3	1.97E-01		A	+FOR(0.0629)

TABLE A-5. (Continued)

Test Code	Unit code	Pollutant(b)	Wood species(c) Primary	%	Second.	%	Resin type(d)	Control device(e)	Test method(f)	No. of runs	Emission factor, Lb/MSF 3/8 Test	Press	Data Rating	Comment
76,77	PSA-1	VOC	NS	NS	NS	NS	PF/MDI	NONE	M25A	3	1.67E-01	9.86E-01	B	+FOR(0.0629)
47	PSL-1	VOC	SY PINE	100	NA	NA	PF/MDI	NONE	M25A	5	1.82E+00	1.82E+00	B	+FOR(0.0629)
7	PUR-1	VOC	US PINE	100	NA	NA	PF/MDI	NONE	M25A	3	1.26E+00	1.26E+00	A	+FOR(0.0629)
Uncontrolled VOC as propane, PF/MDI resins											Average	5.58E-01		
											Minimum	1.47E-01		
											Maximum	2.59E+00		
											Std. Dev.	5.67E-01		
73	PTO-1	VOC	HWOOD	90	SWOOD	10	PF/MDI	NONE	M25A	3	2.52E-01		C	+FOR(0.0629)
29	PH1-1	VOC	NS	NS	NS	NS	PF/MDI	RTO	M25A	3	1.86E-02		A	+FOR(0.00426)
56	PH1-1	VOC	NS	NS	NS	NS	PF/MDI	RTO	M25A	3	1.77E-02	1.81E-02	A	+FOR(0.00426)
38	PH2-1	VOC	NS	NS	NS	NS	PF/MDI	RTO	M25A	3	4.42E-02		A	+FOR(0.00426)
56	PH2-1	VOC	NS	NS	NS	NS	PF/MDI	RTO	M25A	3	1.36E-02	2.89E-02	A	+FOR(0.00426)
40,41	PHO-1	VOC	NS	NS	NS	NS	PF/MDI	RTO	M25A	3	1.00E-02	1.00E-02	A	+FOR(0.00426)
75	PRX-1	VOC	PINE SP	100	NA	NA	PF/MDI	RTO	M25A	3	5.04E-02	5.04E-02	A	+FOR(0.00426)
23,24	PSA-1	VOC	PINE SP	100	NA	NA	PF/MDI	RTO	M25A	3	5.47E-02		B	+FOR(0.00426)
36	PSA-1	VOC	NS	NS	NS	NS	PF/MDI	RTO	M25A	3	1.01E-02	3.24E-02	A	+FOR(0.00426)
47	PSL-1	VOC	SY PINE	100	NA	NA	PF/MDI	RTO	M25A	5	1.01E-01	1.01E-01	B	+FOR(0.00426)
RTO-controlled VOC as propane, PF/MDI resins											Average	4.02E-02		
											Minimum	1.00E-02		
											Maximum	1.01E-01		
											Std. Dev.	3.04E-02		
096-060490A	1P096	VOC	ASPEN	100	NA	NA	PF/MDI	NONE	M25A	1	5.77E-02		D	
096-060490C	1P096	VOC	ASPEN	100	NA	NA	PF/MDI	NONE	M25A	1	8.21E-02		D	
096-060590E	1P096	VOC	ASPEN	100	NA	NA	PF/MDI	NONE	M25A	1	9.17E-02		D	
096-060590F	1P096	VOC	ASPEN	100	NA	NA	PF/MDI	NONE	M25A	1	3.04E-02		D	
096-060690B	1P096	VOC	ASPEN	60	PINE SP	40	PF/MDI	NONE	M25A	1	1.55E-01		D	
096-060690C	1P096	VOC	ASPEN	60	PINE SP	40	PF/MDI	NONE	M25A	1	2.68E-01		D	
096-060790A	1P096	VOC	PINE SP	100	NA	NA	PF/MDI	NONE	M25A	1	8.66E-01		D	
096-060790B	1P096	VOC	PINE SP	100	NA	NA	PF/MDI	NONE	M25A	1	9.09E-01		D	
096-060890A	1P096	VOC	PINE SP	100	NA	NA	PF/MDI	NONE	M25A	1	1.12E+00		D	
096-060890B	1P096	VOC	PINE SP	100	NA	NA	PF/MDI	NONE	M25A	1	6.89E-01		D	
4	PCO-1	VOC	US PINE	100	NA	NA	NS	NONE	M25A	3	1.71E+00		A	

(a) NS = not specified. NA = not applicable. Lb/MSF 3/8 = pounds of pollutant per thousand square feet of 3/8-in. thick panel.

(b) Pollutant codes are identified in Table 4-6. Factors for VOC on an as propane basis.

(c) Wood species: SPRUCE = spruce; UFIR = unspecified fir; POPLAR = poplar; HWOOD = unspecified hardwood; PINE SP = unknown pine species; ASPEN = aspen; SWOOD = unspecified softwood.

TABLE A-5. (Continued)

(d) Resin type: PF = phenol-formaldehyde; MDI = methylene bisphenyl isocyanate.

(e) Control device: RTO = regenerative thermal oxidizer.

(f) Test method: M10 = EPA Method 10; M3 = EPA Method 3; M3A = EPA Method 3A; M202 = EPA Method 202; OD7 = ODEQ 7; M5 = EPA Method 5; WDNR = Wisconsin Department of Natural Resources method; M0011 = BIF Method 0011; N3500 = NIOSH 3500; MN3500 = modified NIOSH 3500; P&CAM125 = P&CAM 125; TO-5 = TO-5; ACET = NCASI Acetylacetone Method; N347 = NIOSH P&CAM 347; 1,2-PP = 1-(2-pyridyl) piperazine method for MDI; NM142 = NIOSH Method 142; NM1501 = NIOSH Method 1501; M7E = EPA Method 7E; TO-8 = TO-8; MM5 = modified EPA Method 5; M5X = EPA Method 5 type train wtih NaOH in the impingers; M604 = EPA Method 604; NMS330 = NIOSH Method S330; M201A = EPA Method 201A; M6C = EPA Method 6C; M25 = EPA Method 25; M25A = EPA Method 25A.