TABLE 2-3

SULFUR DIOXIDE EMISSION RATES

Lb/Ton Clinker

	Repetition 1	Repetition 2	Repetition 3
Condition I			
Clinker, Ton/Hr	85.64	85.20	81.98
Main Stack			
Emission Rate, Lb/Hr	23.3	36.8	37.2
Emission Rate, Lb/Ton	0.272	0.432	0.454
Bypass Stack			
Emission Rate, Lb/Hr	0.88	0.362	2.14
Emission Rate, Lb/Ton	0.104	0.00425	0.0261
Condition II			
Clinker, Ton/Hr	84.61	85.54	84.70
Main Stack			
Emission Rate, Lb/Hr	24.6	31.2	18.4
Emission Rate, Lb/Ton	0.291	0.365	0.217
Bypass Stack			
Emission Rate, Lb/Hr	20.1	0.547	0.762
Emission Rate, Lb/Ton	0.238	0.00639	0.00900
Condition III			
Clinker, Ton/Hr	85.78	85.38	85.78
Main Stack			
Emission Rate, Lb/Hr	28.0	16.6	17.1
Emission Rate, Lb/Ton	0.326	0.194	0.199
Bypass Stack			
Emission Rate, Lb/Hr	7.26	9.45	3.44
Emission Rate, Lb/Ton	0.0846	0.111	0.0401
Condition IV			
Clinker, Ton/Hr	85.48	85.40	81.85
Main Stack			
Emission Rate, Lb/Hr	95.6	75.9	54.0
Emission Rate, Lb/Ton	1.12	0.889	0.660
Bypass Stack			
Emission Rate, Lb/Hr	8.91	4.23	2.77
Emission Rate, Lb/Ton	0.104	0.0495	0.0338

TABLE 2-4

PCDD/PCDF EMISSIONS SUMMARY

THREE-RUN AVERAGES

Main Stack, Condition I

	Concentration ng/DSCM *	Emission Rate lb/hr
PCDD		
2378-TCDD	ND	ND
Other TCDD	2.51E-002	1.03E-008
12378-PeCDD	6.23E-003	2.54E-009
Other PeCDD	6.73E-002	2.74E-008
123478-HxCDD	1.52E-002	6.20E-009
123678-HxCDD	2.45E-002	9.98E-009
123789-HxCDD	3.67E-002	1.49E-008
Other HxCDD	2.04E-001	8.32E-008
1234678-HpCDD	4.72E-001	1.92E-007
Other HpCDD	4.12E-001	1.68E-007
OCDD	1.62E+000	6.57E-007
Total PCDD	2.88E+000	1.17E-006
PCDF		
2378-TCDF	2.13E-002	8.60E-009
Other TCDF	2.13E-001	8.64E-008
12378-PeCDF	2.79E-002	1.13E-008
23478-PeCDF	4.18E-002	1.70E-008
Other PeCDF	2.05E-001	8.35E-008
123478-HxCDF	1.93E-001	7.87E-008
123678-HxCDF	7.28E-002	2.96E-008
123789-HxCDF	ND	ND
234678-HxCDF	1.67E-001	6.79E-008
Other HxCDF	2.15E-001	8.72E-008
1234678-HpCDF	4.38E-001	1.78E-007
1234789-HpCDF	8.97E-002	3.64E-008
Other HpCDF	2.47E-001	1.00E-007
OCDF	6.46E-001	2.62E-007
Total PCDF	2.58E+000	1.05E-006
Total PCDD/PCDF	5.46E+000	2.22E-006

* 32' F (0° C) -- 29.92 Inches of Mercury (Hg)
ND Not detected or EMPC catches; used as zero (0)

TABLE 2-5

PCDD/PCDF EMISSIONS SUMMARY

THREE-RUN AVERAGES

Bypass Stack, Condition I

	Concentration ng/DSCM •	Emission Rate lb/hr
PCDD		
2378-TCDD	1.36E-003	2.46E-010
Other TCDD	4.77E-002	8.67E-009
12378-PeCDD	1.67E-002	3.04E-009
Other PeCDD	1.83E-001	3.32E-008
123478-HxCDD	4.80E-002	8.71E-009
123678-HxCDD	7.12E-002	1.29E-008
123789-HxCDD	1.09E-001	1.98E-008
Other HxCDD	5.47E-001	9.94E-008
1234678-HpCDD	1.19E+000	2.17E-007
Other HpCDD	9.55E-001	1.74E-007
DCDD	3.60E+000	6.57E-007
Total PCDD	6.77E+000	1.23E-006
PCDF		
2378-TCDF	1.73E-002	3.15E-009
Other TCDF	2.86E-001	5.20E-008
12378-PeCDF	3.66E-002	6.66E-009
23478-PeCDF	5.83E-002	1.06E-008
Other PeCDF	3.90E-001	7.08E-008
123478-HxCDF	3.23E-001	5.89E-008
123678-HxCDF	1.26E-001	2.29E-008
123789-HxCDF	1.42E-002	2.58E-009
234678-HxCDF	2.03E-001	3.69E-008
Other HxCDF	5.78E-001	1.05E-007
1234678-HpCDF	7.85E-001	1.43E-007
1234789-HpCDF	1.62E-001	2.95E-008
Other HpCDF	5.01E-001	9.11E-008
OCDF	1.23E+000	2.24E-007
Total PCDF	4.71E+000	8.57E-007
Total PCDD/PCDF	1.15E+001	2.09E-006

• 32" F (0° C) -- 29.92 Inches of Mercury (Hg)

TABLE 2-6

PCDD/PCDF EMISSIONS SUMMARY

THREE-RUN AVERAGES

Main Stack, Condition II

	Concentration ng/DSCM *	Emission Rate lb/hr
PCDD		
2378-TCDD	2.06E-003	8.50E-010
Other TCDD	6.93E-003	2.86E-009
12378-PeCDD	ND	ND
Other PeCDD	7.00E-002	2.85E-008
123478-HxCDD	2.11E-002	8.70E-009
123678-HxCDD	3.68E-002	1.51E-008
123789-HxCDD	5.10E-002	2.10E-008
Other HxCDD	3.12E-001	1.28E-007
1234678-HpCDD	7.18E-001	2.95E-007
Other HpCDD	5.89E-001	2.41E-007
OCDD	2.30E+000	9.44E-007
Total PCDD	4.11E+000	1.69E-006
PCDF		
2378-TCDF	7.66E-003	3.12E-009
Other TCDF	1.10E-001	4.47E-008
12378-PeCDF	1.64E-002	6.71E-009
23478-PeCDF	2.87E-002	1.17E-008
Other PeCDF	1.28E-001	5.23E-008
123478-HxCDF	1.79E-001	7.34E-008
123678-HxCDF	6.61E-002	2.70E-008
123789-HxCDF	6.83E-003	2.82E-009
234678-HxCDF	1.25E-001	5.11E-008
Other HxCDF	1.69E-001	6.93E-008
1234678-HpCDF	3.87E-001	1.59E-007
1234789-HpCDF	7.64E-002	3.15E-008
Other HpCDF	1.74E-001	7.14E-008
OCDF	6.21E-001	2.55E-007
Total PCDF	2.10E+000	8.59E-007
Total PCDD/PCDF	6.21E+000	2.55E-006

* 32' F (0° C) -- 29.92 Inches of Mercury (Hg)
ND Not detected or EMPC catches; used as zero (0)

TABLE 2-7

PCDD/PCDF EMISSIONS SUMMARY

THREE-RUN AVERAGES

Bypass Stack, Condition II

	Concentration ng/DSCM *	Emission Rate lb/hr
PCDD		
2378-TCDD	ND	ND
Other TCDD	9.80E-004	1.87E-010
12378-PeCDD	8.00E-004	1.53E-010
Other PeCDD	3.19E-003	6.09E-010
123478-HxCDD	3.01E-003	5.74E-010
123678-HxCDD	3.99E-003	7.61E-010
123789-HxCDD	5.94E-003	1.13E-009
Other HxCDD	2.44E-002	4.65E-009
1234678-HpCDD	9.12E-002	1.7X-008
Other HpCDD	4.36E-002	8.33E-009
OCDD	2.42E-001	4.70E-008
Total PCDD	4.19E-001	8.11E-008
PCDF		
2378-TCDF	3.84E-003	7.48E-010
Other TCDF	2.88E-002	5.60E-009
12378-PeCDF	3.28E-003	6.27E-010
23478-PeCDF	4.70E-003	9.00E-010
Other PeCDF	2.57E-002	4.91E-009
123478-HxCDF	3.79E-002	7.47E-009
123678-HxCDF	7.01E-003	1.34E-009
123789-HxCDF	ND	ND
234678-HxCDF	1.95E-002	3.80E-009
Other HxCDF	1.57E-002	3.10E-009
1234678-HpCDF	9.11E-002	1.80E-008
1234789-HpCDF	2.26E-002	4.48E-009
Other HpCDF	3.03E-002	5.89E-009
OCDF	1.20E-001	2.37E-008
Tote1 PCDF	4.10E-001	8.06E-008
Total PCDD/PCDF	8.29E-001	1.62E-007

• 32' F (0° C) -- 29.92 Inches of Mercury (Hg)
ND Not detected or EMPC catches; used as zero (0)

TABLE 2-8

PCDD/PCDF EMISSIONS SUMMARY

THREE-RUN AVERAGES

Main stack, Condition III

	Concentration ng/DSCM •	Emission Rate lb/hr
PCDD		
2378-TCDD	1.04E-003	4.30E-010
Other TCDD	3.15E-003	1.27E-009
12378-PeCDD	ND	ND
Other PeCDD	1.58E-002	6.39E-009
123478-HxCDD	1.48E-003	5.90E-010
123678-HxCDD	5.32E-003	2.15E-009
123789-HxCDD	8.07E-003	3.27E-009
Other HxCDD	4.56E-002	1.85E-008
1234678-HpCDD	6.05E-002	2.46E-008
Other HpCDD	4.92E-002	2.00E-008
OCDD	1.38E-001	5.61E-008
Total PCDD	3.28E-001	1.33E-007
PCDF		
2378-TCDF	3.32E-003	1.35E-009
Other TCDF	3.21E-002	1.30E-008
12378-PeCDF	1.51E-003	6.23E-010
23478-PeCDF	4.73E-003	1.91E-009
Other PeCDF	2.44E-002	9.87E-009
123478-HxCDF	1.81E-002	7.30E-009
123678-HxCDF	6.12E-003	2.47E-009
123789-HxCDF	6.90E-004	2.75E-010
234678-HxCDF	1.38E-002	5.59E-009
Other HxCDF	2.39E-002	9.70E-009
1234678-HpCDF	3.97E-002	1.61E-008
1234789-HpCDF	2.66E-003	1.06E-009
Other HpCDF	1.55E-002	6.36E-009
DCDF	3.73E-002	1.52E-008
Total PCDF	2.24E-001	9.08E-008
Total PCDD/PCDF	5.52E-001	2.24E-007

• 32° F (0' C) -- 29.92 Inches of Mercury (Hg)
ND Not detected or EMPC catches; used as zero (0)

TABLE 2-9

PCDD/PCDF EMISSIONS SUMMARY

THREE-RUN AVERAGES

Bypass Stack, Condition III

	Concentration ng/DSCM *	Emission Rate lb/hr
PCDD		
2378-TCDD	ND	ND
Other TCDD	5.43E-004	1.00E-010
12378-PeCDD	ND	ND
Other PeCDD	No	ND
123478-HxCDD	ND	ND
123678-HxCDD	9.57E-003	1.73E-009
123789-HxCDD	1.03E-002	1.87E-009
Other HxCDD	5.72E-002	1.04E-008
1234678-HpCDD	1.39E-001	2.53E-008
Other HpCDD	7.18E-002	1.29E-008
OCDD	3.65E-001	6.62E-008
Total PCDD	6.53E-001	1.18E-007
PCDF		
2378-TCDF	2.04E-003	3.73E-010
Other TCDF	1.74E-002	3.18E-009
12378-PeCDF	6.48E-003	1.18E-009
23478-PeCDF	1.1DE-002	2.00E-009
Other PeCDF	1.85E-002	3.38E-009
123478-HxCDF	4.15E-002	7.58E-009
123678-HxCDF	2.29E-002	4.16E-009
123789-HxCDF	3.43E-003	6.27E-010
234678-HxCDF	1.78E-002	3.20E-009
Other HxCDF	5.08E-002	9.28E-009
1234678-HpCDF	1.36E-001	2.48E-008
1234789-HpCDF	5.04E-002	9.18E-009
Other HpCDF	1.17E-001	2.13E-008
OCDF	2.81E-001	5.13E-008
Total PCDF	7.76E-001	1.42E-007
Tote1 PCDD/PCDF	1.43E+000	2.60E-007

* 32° F (0° C) -- 29.92 Inches of Mercury (Hg)
ND Not detected or EMPC catches; used as zero (0)

TABLE 2-10

SEMIVOLATILE EMISSIONS SUMMARY

THREE-RUN AVERAGES

Main Stack, Condition I

	Concentration PPMVD	Emission Rate lbs/hr
Phenol	< l.lOE-03	< 1.883-03
bis(2-Chloroethyl)ether	< 3.973-05	< 1.02E-04
2-Chlorophenol	< 5.28E-05	< 1.22E-04
1,3-Dichlorobenzene	< 3.613-05	< 9.583-05
1,4-Dichlorobenzene	< 3.45E-05	< 9.133-05
Benzyl alcohol	< l.lOE-04	< 2.13E-04
1,2-Dichlorobenzene	< 3.443-05	< 9.11E-05
2-Methylphenol	< 7.023-05	< 1.373-04
bis(2-Chloroisopropyl)ether	< 2.87E-05	< 8.823-05
4-Methylphenol	< 6.963-05	< 1.363-04
N-Nitroso-di-n-propylamine	< 4.523-05	< 1.06E-04
Hexachloroethane	< 5.963-05	< 2.543-04
Nitrobenzene	< 2.613-05	< 5.813-05
Isophorone	< 1.493-05	< 3.71E-05
2-Nitrophenol	< 5.253-05	< 1.323-04
2,4-Dimethylphenol	< 4.843-05	< 1.08E-04
Benzoic acid	7.43E-02	1.64E-01
bis(2-Chloroethoxy)methane	< 2.253-05	< 6.313-05
2,4-Dichlorophenol	< 2.61E-05	< 7.683-05
1,2,4-Trichlorobenzene	< 2.13E-05	< 6.993-05
Naphthalene	8.10E-02	1.87E-01
4-Chloroaniline	< 2.623-05	< 6.043-05
Hexachlorobutadiene	< 2.513-05	< 1.18E-04
4-Chloro-3-methylphenol	< 4.12E-05	< 1.06E-04
2-Methylnaphthalene	< 1.553-05	< 3.983-05
Hexachlorocyclopentadiene	< 4.043-05	< 1.993-04
2,4,6-Trichlorophenol	< 3.283-05	< 1.17E-04
2,4,5-Trichlorophenol	< 2.64E-05	< 9.423-05
2-Chloronaphthalene	< 1.19E-05	< 3.483-05
2-Nitroaniline	< 4.023-05	< l.OOE-04
Dimethylphthalate	< 8.623-06	< 3.023-05
Acenaphthylene	< 8.913-06	< 2.453-05
3-Nitroaniline	< 3.493-05	< 8.683-05
Acenaphthene	< l-333-05	< 3.713-05
2,4-Dinitrophenol	< 1.05E-04	< 3.50E-04
4-Nitrophenol	< 9.173-04	< 2.323-03
Dibenzofuran	< 8.293-04	< 2.51E-03
2,4-Dinitrotoluene	< 2.84E-05	< 9.333-05
2,6-Dinitrotoluene	< 3.11E-05	< 1.02E-04

< Indicates the value is below the detection limit

(continued next page)