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

The file name refers to the reference number, the AP42 chapter and section. The file name "ref02_c01s02.pdf" would mean the reference is from AP42 chapter 1 section 2. The reference may be from a previous version of the section and no longer cited. The primary source should always be checked.

**AP42 Section:** 2.3

**Background Chapter** 4

**Reference:** 6

**Title:** Medical Waste Incineration Emission Test Report, AMI Central Carolina Hospital,

Sanford, North Carolina.
Prepared for the U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards. December 1991.

EMB Report 90-MWI-5.

TABLE 2-6. CDD/CDF STACK GAS CONCENTRATIONS AND EMISSIONS RATES AT CONDITION 1; CENTRAL CAROLINA HOSPITAL (1990)

| | CONCENTRATION a (ng/dscm, as measured) | | | | EMISSIONS (ug/hr) | | | |
|---|---|---|---|---|---|---|---|---|
| CONGENER | RUN 1 | RUN 3 | RUN 10 | AVERAGE | RUN 1 | RUN 3 | RUN 10 | AVERAGE |
| DIOXINS | | | | | | | | |
| 2378 TCDD | 0.22 | (0.419) | (0.130) | 0.26 | 0.34 | (0.688) | (0.208) | 0.41 |
| Other TCDD | 6.17 | 54.5 | 6.77 | 22.5 | 9.73 | 89.5 | 10.8 | 36.7 |
| 12378 PCDD | 0.52 | 1.61 | 0.42 | 0.85 | 0.82 | 2.64 | 0.68 | 1.38 |
| Other PCDD | 5.45 | 44.9 | 6.84 | 19.1 | 8.61 | 73.7 | 11.0 | 31.1 |
| 123478 HxCDD | 0.34 | 1.57 | 0.49 | 0.80 | 0.53 | 2.58 | 0.79 | 1.30 |
| 123678 HxCDD | 0.52 | 2.55 | 0.99 | 1.35 | 0.82 | 4.19 | 1.58 | 2.20 |
| 123789 HxCDD | 1.10 | 4.89 | 1.48 | 2.49 | 1.74 | 8.03 | 2.37 | 4.05 |
| Other HxCDD | 5.12 | 35.4 | 9.45 | 16.6 | 8.07 | 58.1 | 15.1 | 27.1 |
| 1234678-HpCDD | 2.93 | 14.6 | 7.30 | 8.27 | 4.63 | 23.9 | 11.7 | 13.4 |
| Other HpCDD | 3.52 | 17.9 | 8.21 | 9.89 | 5.56 | 29.4 | 13.2 | 16.1 |
| Octa-CDD | 3.45 | 18.7 | 9.13 | 10.4 | 5.45 | 30.6 | 14.6 | 16.9 |
| Total CDD | 29.3 | 197 | 51.2 | 92.5 | 46.3 | 323 | 82.1 | 151 |
| FURANS | | | | | | | | |
| 2378 TCDF | 0.72 | 2.73 | 0.85 | 1.43 | 1.14 | 4.47 | 1.36 | 2.32 |
| Other TCDF | 24.7 | 165 | 30.9 | 73.6 | 38.9 | 271 | 49.5 | 120 |
| 12378 PCDF | 1.10 | 3.95 | 1.37 | 2.14 | 1.74 | 6.48 | 2.20 | 3.48 |
| 23478 PCDF | 2.11 | 10.4 | 3.31 | 5.27 | 3.32 | 17.0 | 5.31 | 8.56 |
| Other PCDF | 23.5 | 125 | 27.4 | 58.7 | 37.1 | 205 | 44.0 | 95.5 |
| 123478 HxCDF | 2.59 | 18.2 | 4.55 | 8.44 | 4.08 | 29.8 | 7.29 | 13.7 |
| 123678 HxCDF | 1.35 | 7.55 | 2.33 | 3.74 | 2.12 | 12.39 | 3.73 | 6.08 |
| 234678 HxCDF | 1.66 | 15.65 | 4.69 | 7.33 | 2.61 | 25.7 | 7.51 | 11.9 |
| 123789 HxCDF | 0.06 | 0.45 | 0.20 | 0.24 | 0.10 | 0.75 | 0.32 | 0.39 |
| Other HxCDF | 7.98 | 51.5 | 15.4 | 25.0 | 12.6 | 84.5 | 24.7 | 40.6 |
| 1234678-HpCDF | 3.31 | 28.4 | 8.49 | 13.4 | 5.23 | 46.6 | 13.6 | 21.8 |
| 1234789-HpCDF | 0.41 | 4.40 | 1.87 | 2.23 | 0.65 | 7.23 | 2.99 | 3.63 |
| Other HpCDF | 2.38 | 24.8 | 8.81 | 12.0 | 3.76 | 40.8 | 14.1 | 19.6 |
| Octa-CDF | 2.00 | 29.0 | 12.9 | 14.6 | 3.16 | 47.6 | 20.6 | 23.8 |
| TOTAL CDF | 73.9 | 487 | 123 | 228 | 117 | 800 | 197 | 371 |
| TOTAL CDD+CDF | 103 | 684 | 174 | 321 | 163 | 1,120 | 279 | 522 |

a ng/dscm = nanogram per dry standard cubic meter. Standard conditions are defined as 1 atm and 68° F.

( ) = estimated maximum possible concentration. [ ] = minimum detection limit

TABLE 2-7. CDD/CDF STACK GAS CONCENTRATIONS AND EMISSIONS RATES AT CONDITION 2; CENTRAL CAROLINA HOSPITAL (1990)

| | CONCENTRATION a (ng/dscm, as measured) | | | | EMISSIONS (ng/hr) | | | |
|---|---|---|---|---|---|---|---|---|
| CONGENER | RUN 2 | RUN 4 | RUN 8 | AVERAGE | RUN 2 | RUN 4 | RUN 8 | AVERAGE |
| DIOXINS | | | | | | | | |
| 2378 TCDD | 7.27 | 19.2 | 8.54 | 11.7 | 10.8 | 30.9 | 14.2 | 18.6 |
| Other TCDD | 171 | 341 | 215 | 242 | 254 | 549 | 357 | 387 |
| 12378 PCDD | 22.6 | 75.1 | 43.4 | 47.0 | 33.6 | 121 | 72.0 | 75.6 |
| Other PCDD | 150 | 503 | 280 | 311 | 223 | 810 | 465 | 499 |
| 123478 HxCDD | 21.5 | 64.6 | 50.5 | 45.5 | 32.0 | 104 | 83.8 | 73.3 |
| 123678 HxCDD | 25.4 | 82.3 | 52.5 | 53.4 | 37.8 | 133 | 87.2 | 85.9 |
| 123789 HxCDD | 45.1 | 156.4 | 94.2 | 98.6 | 67.3 | 252 | 156 | 159 |
| Other HxCDD | 209 | 614 | 406 | 410 | 312 | 990 | 674 | 658 |
| 1234678-HpCDD | 120 | 335 | 292 | 249 | 180 | 540 | 485 | 402 |
| Other HpCDD | 126 | 365 | 318 | 270 | 188 | 589 | 528 | 435 |
| Octa-CDD | 156 | 254 | 366 | 259 | 233 | 409 | 608 | 416 |
| Total CDD | 1,050 | 2,810 | 2,130 | 2,000 | 1,570 | 4,530 | 3,530 | 3,210 |
| FURANS | | | | | | | | |
| 2378 TCDF | 22.1 | 70.8 | 3.86 | 32.2 | 32.9 | 114 | 6.41 | 51.2 |
| Other TCDF | 659 | 1991 | 151 | 934 | 982 | 3210 | 250 | 1481 |
| 12378 PCDF | 63.5 | 288 | 96.5 | 149 | 94.6 | 465 | 160 | 240 |
| 23478 PCDF | 88.3 | 341 | 123 | 184 | 132 | 550 | 205 | 296 |
| Other PCDF | 1015 | 4596 | 1491 | 2367 | 1512 | 7409 | 2476 | 3799 |
| 123478 HxCDF | 189 | 831 | 403 | 474 | 282 | 1339 | 670 | 764 |
| 123678 HxCDF | 114 | 524 | 244 | 294 | 169 | 844 | 406 | 473 |
| 234678 HxCDF | 111 | 372 | 214 | 233 | 166 | 600 | 356 | 374 |
| 123789 HxCDF | 7.88 | 32.5 | 14.8 | 18.4 | 11.7 | 52.5 | 24.6 | 29.6 |
| Other HxCDF | 649 | 2809.6 | 1382.9 | 1613.8 | 967 | 4529 | 2297 | 2598 |
| 1234678-HpCDF | 301 | 1058 | 684 | 681 | 449 | 1706 | 1137 | 1097 |
| 1234789-HpCDF | 45.5 | 128 | 87.4 | 86.9 | 67.8 | 206 | 145 | 140 |
| Other HpCDF | 242 | 743 | 516 | 500 | 361 | 1197 | 856 | 805 |
| Octa-CDF | 210 | 324 | 322 | 285 | 313 | 523 | 535 | 457 |
| TOTAL CDF | 3,720 | 14,100 | 5,730 | 7,850 | 5,540 | 22,700 | 9,520 | 12,600 |
| | | | | | | | | |
| TOTAL CDD+CDF | 4,770 | 16,900 | 7,860 | 9,850 | 7,110 | 27,300 | 13,100 | 15,800 |

a ng/dscm = nanogram per dry standard cubic meter. Standard conditions are defined as 1 atm and 68° F.

( ) = estimated maximum possible concentration

TABLE 2-8. CDD/CDF STACK GAS CONCENTRATIONS AND EMISSIONS RATES AT CONDITION 3; CENTRAL CAROLINA HOSPITAL (1990)

| | CONCENTRATION a (ng/dscm, as measured) | | | | EMISSIONS (ug/hr) | | | |
|---|---|---|---|---|---|---|---|---|
| CONGENER | RUN 5 | RUN 6 | RUN 9 | AVERAGE | RUN 5 | RUN 6 | RUN 9 | AVERAGE |
| DIOXINS | | | | | | | | |
| 2378 TCDD | 0.25 | (0.074) | 0.83 | 0.38 | 0.41 | (0.125) | 1.37 | 0.64 |
| Other TCDD | 19.7 | 3.77 | 48.1 | 23.9 | 32.6 | 6.38 | 80.0 | 39.7 |
| 12378 PCDD | 0.66 | 0.23 | 1.92 | 0.94 | 1.09 | 0.39 | 3.19 | 1.56 |
| Other PCDD | 12.4 | 3.87 | 38.4 | 18.2 | 20.5 | 6.56 | 63.9 | 30.3 |
| 123478 HxCDD | 0.42 | 0.19 | 1.12 | 0.58 | 0.69 | 0.32 | 1.87 | 0.96 |
| 123678 HxCDD | 0.63 | 0.32 | 1.72 | 0.89 | 1.04 | 0.55 | 2.86 | 1.48 |
| 123789 HxCDD | 1.29 | 0.61 | 2.84 | 1.58 | 2.13 | 1.03 | 4.73 | 2.63 |
| Other HxCDD | 8.25 | 3.93 | 20.3 | 10.8 | 13.6 | 6.65 | 33.8 | 18.0 |
| 1234678-HpCDD | 4.31 | 2.12 | 7.80 | 4.75 | 7.14 | 3.59 | 13.0 | 7.90 |
| Other HpCDD | 4.66 | 2.49 | 9.39 | 5.51 | 7.71 | 4.22 | 15.6 | 9.18 |
| Octa-CDD | 5.98 | 2.56 | 10.1 | 6.21 | 9.90 | 4.33 | 16.8 | 10.3 |
| Total CDD | 58.6 | 20.2 | 143 | 73.8 | 96.9 | 34.1 | 237 | 123 |
| FURANS | | | | | | | | |
| 2378 TCDF | 1.18 | 0.29 | 3.77 | 1.75 | 1.96 | 0.49 | 6.27 | 2.91 |
| Other TCDF | 44.7 | 9.77 | 147 | 67.2 | 74.0 | 16.6 | 245 | 112 |
| 12378 PCDF | 1.43 | 0.54 | 4.13 | 2.03 | 2.36 | 0.91 | 6.87 | 3.38 |
| 23478 PCDF | 2.44 | 0.94 | 6.45 | 3.28 | 4.03 | 1.60 | 10.72 | 5.45 |
| Other PCDF | 22.1 | 8.31 | 84.0 | 38.1 | 36.6 | 14.1 | 140 | 63.4 |
| 123478 HxCDF | 3.17 | 1.62 | 8.00 | 4.26 | 5.24 | 2.74 | 13.3 | 7.09 |
| 123678 HxCDF | 1.64 | 0.81 | 4.20 | 2.21 | 2.71 | 1.37 | 6.98 | 3.69 |
| 234678 HxCDF | 2.26 | 1.28 | 5.56 | 3.03 | 3.74 | 2.17 | 9.24 | 5.05 |
| 123789 HxCDF | 0.11 | 0.06 | 0.27 | 0.15 | 0.19 | 0.10 | 0.45 | 0.25 |
| Other HxCDF | 9.28 | 4.62 | 26.6 | 13.5 | 15.4 | 7.82 | 44.3 | 22.5 |
| 1234678-HpCDF | 6.19 | 2.86 | 11.08 | 6.71 | 10.2 | 4.84 | 18.4 | 11.2 |
| 1234789-HpCDF | 0.80 | 0.57 | 1.46 | 0.94 | 1.32 | 0.97 | 2.42 | 1.57 |
| Other HpCDF | 4.63 | 2.32 | 8.50 | 5.15 | 7.66 | 3.93 | 14.1 | 8.57 |
| Octa-CDF | 4.18 | 4.51 | 8.76 | 5.82 | 6.91 | 7.64 | 14.6 | 9.71 |
| TOTAL CDF | 104 | 38.5 | 320 | 154 | 172 | 65.2 | 532 | 256 |
| TOTAL CDD+CDF | 163 | 58.7 | 462 | 228 | 269 | 99.3 | 769 | 379 |

a ng/dscm = nanogram per dry standard cubic meter. Standard conditions are defined as 1 atm and 68° F.

() = estimated maximum possible concentration

TABLE 2-15. METALS STACK GAS CONCENTRATIONS AND EMISSION RATES FOR CONDITION 1;
CENTRAL CAROLINA HOSPITAL (1990)

| DATE | | 09/20/90 | 09/22/90 | 10/02/90 | |
|---|---|---|---|---|---|
| TIME | | 14:00-18:18 | 09:47-14:00 | 10:15-14:21 | |
| RUN NUMBER | | RUN 1 | RUN 3 | RUN 10 | |
| O2 CONCENTRATION (%V) | | 15.8 | 16.1 | 15.7 | |
| FLOW RATE (dscmm) | | 27.1 | 24.1 | 25.0 | AVERAGE |
| Antimony | (ug/dscm) | 20.8 | 32.3 | 103 | 51.9 |
| | (ug/dscm @7% O2) | 56.3 | 94.1 | 275 | 142 |
| | (g/hr) | 0.034 | 0.047 | 0.154 | 0.078 |
| Arsenic | (ug/dscm) | 43.7 | 4.20 | 0.48 | 16.1 |
| | (ug/dscm @7% O2) | 118 | 12.2 | 1.30 | 43.9 |
| | (g/hr) | 0.071 | 0.006 | 0.001 | 0.026 |
| Barium | (ug/dscm) | 8.82 | 16.2 | 0.275 | 8.43 |
| | (ug/dscm @7% O2) | 23.9 | 47.2 | 0.737 | 23.9 |
| | (g/hr) | 0.014 | 0.023 | 0.000 | 0.013 |
| Beryllium | (ug/dscm) | [0.076] | [0.084] | [0.080] | [0.080] |
| | (ug/dscm @7% O2) | [0.206] | [0.245] | [0.215] | [0.222] |
| | (g/hr) | [0.0001] | [0.0001] | [0.0001] | [0.0001] |
| Cadmium | (ug/dscm) | 5.94 | 173 | [0.197] | 89.5 |
| | (ug/dscm @7% O2) | 16.1 | 504 | [0.529] | 260 |
| | (g/hr) | 0.010 | 0.250 | [0.000] | 0.130 |
| Chromium | (ug/dscm) | 5.87 | 19.84 | 0.509 | 8.74 |
| | (ug/dscm @7% O2) | 15.9 | 57.8 | 1.37 | 25.0 |
| | (g/hr) | 0.010 | 0.029 | 0.001 | 0.013 |
| Lead | (ug/dscm) | 189 | 279 | [0.116] | 234 |
| | (ug/dscm @7% O2) | 512 | 814 | [0.311] | 663 |
| | (g/hr) | 0.308 | 0.404 | [0.000] | 0.356 |
| Mercury | (ug/dscm) | 1.60 | [0.316] | 43.3 | 22.5 |
| | (ug/dscm @7% O2) | 4.32 | [0.921] | 116 | 60.3 |
| | (g/hr) | 0.003 | [0.000] | 0.065 | 0.034 |
| Nickel | (ug/dscm) | [0.763] | 10.0 | [0.801] | 10.0 |
| | (ug/dscm @7% O2) | [2.063] | 29.2 | [2.149] | 29.2 |
| | (g/hr) | [0.001] | 0.014 | [0.001] | 0.014 |
| Silver | (ug/dscm) | [1.249] | [1.376] | [1.310] | [1.312] |
| | (ug/dscm @7% O2) | [3.378] | [4.010] | [3.515] | [3.634] |
| | (g/hr) | [0.002] | [0.002] | [0.002] | [0.002] |
| Thallium | (ug/dscm) | 2.34 | [2.254] | [2.111] | 2.34 |
| | (ug/dscm @7% O2) | 6.34 | [6.568] | [5.665] | 6.34 |
| | (g/hr) | 0.004 | [0.003] | [0.003] | 0.004 |

Note: Run 10 Values do not include the front half catch and therefore are biased low

Values enclosed in brackets represent the minimum detection limits for compounds not detected in the samples. Detection limits are included in the averages unless otherwise indicated.

TABLE 2-16. METALS STACK GAS CONCENTRATIONS AND EMISSION RATES FOR CONDITION 2;
CENTRAL CAROLINA HOSPITAL (1990)

| DATE | | 09/21/90 | 09/23/90 | 09/27/90 | |
|---|---|---|---|---|---|
| TIME | | 09:46-13:57 | 11:40-15:47 | 13:45-17:50 | |
| RUN NUMBER | | 2 | 4 | 8 | |
| O2 CONCENTRATION (%V) | | 15.69 | 15.16 | 15.56 | |
| FLOW RATE (dscmm) | | 24.45 | 26.26 | 27.04 | AVERAGE |
| Antimony | (ug/dscm) | 265 | 164 | 282 | 237 |
| | (ug/dscm @7% O2) | 706 | 398 | 733 | 612 |
| | (g/hr) | 0.388 | 0.259 | 0.457 | 0.368 |
| Arsenic | (ug/dscm) | 6.40 | 3.81 | 2.65 | 4.29 |
| | (ug/dscm @7% O2) | 17.1 | 9.23 | 6.90 | 11.1 |
| | (g/hr) | 0.009 | 0.006 | 0.004 | 0.007 |
| Barium | (ug/dscm) | 40.3 | 31.4 | 28.9 | 33.5 |
| | (ug/dscm @7% O2) | 108 | 76.1 | 75.1 | 86.2 |
| | (g/hr) | 0.059 | 0.049 | 0.047 | 0.052 |
| Beryllium | (ug/dscm) | [0.083] | 0.446 | 0.437 | 0.442 |
| | (ug/dscm @7% O2) | [0.221] | 1.08 | 1.14 | 1.11 |
| | (g/hr) | [0.0001] | 0.001 | 0.001 | 0.001 |
| Cadmium | (ug/dscm) | 20.8 | 17.5 | 25.8 | 21.3 |
| | (ug/dscm @7% O2) | 55.4 | 42.4 | 67.1 | 55.0 |
| | (g/hr) | 0.030 | 0.028 | 0.042 | 0.033 |
| Chromium | (ug/dscm) | 16.3 | 12.9 | 13.1 | 14.1 |
| | (ug/dscm @7% O2) | 43.6 | 31.2 | 34.1 | 36.3 |
| | (g/hr) | 0.024 | 0.020 | 0.021 | 0.022 |
| Lead | (ug/dscm) | 891 | 500 | 786 | 726 |
| | (ug/dscm @7% O2) | 2380 | 1210 | 2050 | 1880 |
| | (g/hr) | 1.31 | 0.787 | 1.28 | 1.12 |
| Mercury | (ug/dscm) | 4.02 | 2.14 | [0.266] | 3.08 |
| | (ug/dscm @7% O2) | 10.7 | 5.19 | [0.692] | 7.96 |
| | (g/hr) | 0.006 | 0.003 | [0.0004] | 0.005 |
| Nickel | (ug/dscm) | 5.34 | 5.28 | 19.4 | 10.0 |
| | (ug/dscm @7% O2) | 14.2 | 12.8 | 50.5 | 25.8 |
| | (g/hr) | 0.008 | 0.008 | 0.031 | 0.016 |
| Silver | (ug/dscm) | 7.11 | 3.93 | [1.258] | 5.52 |
| | (ug/dscm @7% O2) | 19.0 | 9.51 | [3.275] | 14.2 |
| | (g/hr) | 0.010 | 0.006 | [0.002] | 0.008 |
| Thallium | (ug/dscm) | [2.180] | [2.106] | [2.062] | [2.116] |
| | (ug/dscm @7% O2) | [5.816] | [5.100] | [5.367] | [5.428] |
| | (g/hr) | [0.003] | [0.003] | [0.003] | [0.003] |

Note:

Values enclosed in brackets represent the minimum detection limits for compounds not detected in the samples. Detection limits are not included in the averages unless otherwise indicated.

TABLE 2-17. METALS STACK GAS CONCENTRATIONS AND EMISSION RATES FOR CONDITION 3;
CENTRAL CAROLINA HOSPITAL (1990)

| DATE | | 09/24/90 | 09/25/90 | 09/28/90 | |
|---|---|---|---|---|---|
| TIME | | 11:45-15:52 | 10:10-14:15 | 11:00-15:05 | |
| RUN NUMBER | | 5 | 6 | 9 | |
| O2 CONCENTRATION (%V) | | 15.60 | 15.70 | 15.28 | |
| FLOW RATE (dscmm) | | 27.49 | 25.90 | 28.21 | AVERAGE |
| Antimony | (ug/dscm) | 22.0 | 21.0 | 25.6 | 22.8 |
| | (ug/dscm @7% O2) | 57.6 | 56.1 | 63.3 | 59.0 |
| | (g/hr) | 0.036 | 0.033 | 0.043 | 0.037 |
| Arsenic | (ug/dscm) | 3.78 | 4.90 | 91.7 | 33.5 |
| | (ug/dscm @7% O2) | 9.92 | 13.1 | 227 | 83.3 |
| | (g/hr) | 0.006 | 0.008 | 0.155 | 0.056 |
| Barium | (ug/dscm) | 9.00 | 13.5 | 11.9 | 11.5 |
| | (ug/dscm @7% O2) | 23.6 | 36.0 | 29.4 | 29.7 |
| | (g/hr) | 0.015 | 0.021 | 0.020 | 0.019 |
| Beryllium | (ug/dscm) | [0.075] | [0.078] | [0.073] | [0.075] |
| | (ug/dscm @7% O2) | [0.197] | [0.209] | [0.181] | [0.196] |
| | (g/hr) | [0.0001] | [0.0001] | [0.0001] | [0.0001] |
| Cadmium | (ug/dscm) | 5.11 | 9.72 | 8.91 | 7.91 |
| | (ug/dscm @7% O2) | 13.4 | 26.0 | 22.0 | 20.5 |
| | (g/hr) | 0.008 | 0.015 | 0.015 | 0.013 |
| Chromium | (ug/dscm) | 14.1 | 189 | 11.5 | 71.6 |
| | (ug/dscm @7% O2) | 37.1 | 506 | 28.4 | 190 |
| | (g/hr) | 0.023 | 0.294 | 0.019 | 0.112 |
| Lead | (ug/dscm) | 125 | 75.6 | 157 | 119 |
| | (ug/dscm @7% O2) | 329 | 202 | 389 | 307 |
| | (g/hr) | 0.207 | 0.117 | 0.266 | 0.197 |
| Mercury | (ug/dscm) | 69.6 | [0.273] | [0.215] | 69.6 |
| | (ug/dscm @7% O2) | 182 | [0.730] | [0.532] | 182 |
| | (g/hr) | 0.115 | [0.0004] | [0.0004] | 0.115 |
| Nickel | (ug/dscm) | 12.2 | 292 | 33.3 | 112 |
| | (ug/dscm @7% O2) | 32.0 | 780 | 82.4 | 298 |
| | (g/hr) | 0.020 | 0.454 | 0.056 | 0.177 |
| Silver | (ug/dscm) | [1.226] | [1.277] | [1.188] | [1.230] |
| | (ug/dscm @7% O2) | [3.215] | [3.414] | [2.938] | [3.189] |
| | (g/hr) | [0.002] | [0.002] | [0.002] | [0.002] |
| Thallium | (ug/dscm) | [2.010] | [2.057] | [1.947] | [2.005] |
| | (ug/dscm @7% O2) | [5.272] | [5.499] | [4.816] | [5.196] |
| | (g/hr) | [0.003] | [0.003] | [0.003] | [0.003] |

Note:

Values enclosed in brackets represent the minimum detection limits for compounds not detected in the samples. Detection limits are not included in the averages unless otherwise indicated.

TABLE 2-20. METALS AND PM EMISSIONS SAMPLING AND FLUE GAS PARAMETERS
CENTRAL CAROLINA HOSPITAL (1990)

| | TEST CONDITION 1 | | | |
|---|---|---|---|---|
| RUN NUMBER | 1 | 3 | 10 | AVERAGE |
| DATE | 09/20/90 | 09/22/90 | 10/02/90 | |
| Total Sampling Time (min.) | 240 | 240 | 240 | NA |
| Average Sampling Rate (dscfm) | 0.42 | 0.39 | 0.40 | 0.40 |
| Metered Volume (dscf) | 101.81 | 92.41 | 97.02 | 97.08 |
| Metered Volume (dscm) | 2.883 | 2.617 | 2.748 | 2.749 |
| Average Stack Temperature (°F) | 751.5 | 759.0 | 749.4 | 753.3 |
| O2 Concentration (%V) | 15.8 | 16.1 | 15.7 | 15.9 |
| CO2 Concentration (%V) | 3.1 | 3.1 | 3.4 | 3.2 |
| Stack Gas Moisture (%V) | 9.4 | 9.9 | 8.1 | 9.1 |
| Volumetric Flow Rate (dscfm) | 956.00 | 850.54 | 882.08 | 896.21 |
| Volumetric Flow Rate (dscmm) | 27.07 | 24.09 | 24.98 | 25.38 |
| Percent Isokinetic | 97.0 | 98.9 | 100 | NA |
| | TEST CONDITION 2 | | | |
| RUN NUMBER | 2 | 4 | 8 | AVERAGE |
| DATE | 09/21/90 | 09/23/90 | 09/27/90 | |
| Total Sampling Time (min.) | 240 | 240 | 240 | NA |
| Average Sampling Rate (dscfm) | 0.39 | 0.41 | 0.42 | 0.41 |
| Metered Volume (dscf) | 93.92 | 98.89 | 101.01 | 97.94 |
| Metered Volume (dscm) | 2.660 | 2.801 | 2.861 | 2.774 |
| Average Stack Temperature (°F) | 809.4 | 778.9 | 766.3 | 784.9 |
| O2 Concentration (%V) | 15.7 | 15.2 | 15.6 | 15.5 |
| CO2 Concentration (%V) | 3.76 | 4.0 | 3.9 | 3.9 |
| Stack Gas Moisture (%V) | 8.4 | 7.8 | 6.8 | 7.7 |
| Volumetric Flow Rate (dscfm) | 863.34 | 927.14 | 954.69 | 915.05 |
| Volumetric Flow Rate (dscmm) | 24.45 | 26.26 | 27.04 | 25.91 |
| Percent Isokinetic | 99.1 | 97.1 | 96.3 | NA |
| | TEST CONDITION 3 | | | |
| RUN NUMBER | 5 | 6 | 9 | AVERAGE |
| DATE | 09/24/90 | 09/25/90 | 09/28/90 | |
| Total Sampling Time (min.) | 240 | 240 | 240 | NA |
| Average Sampling Rate (dscfm) | 0.43 | 0.42 | 0.45 | 0.43 |
| Metered Volume (dscf) | 103.67 | 99.55 | 106.98 | 103.40 |
| Metered Volume (dscm) | 2.936 | 2.819 | 3.030 | 2.928 |
| Average Stack Temperature (°F) | 746.4 | 724.6 | 770.9 | 747.3 |
| O2 Concentration (%V) | 15.6 | 15.7 | 15.3 | 15.5 |
| CO2 Concentration (%V) | 3.5 | 3.4 | 3.7 | 3.5 |
| Stack Gas Moisture (%V) | 8.3 | 8.6 | 9.0 | 8.6 |
| Volumetric Flow Rate (dscfm) | 970.52 | 914.65 | 996.12 | 960.43 |
| Volumetric Flow Rate (dscmm) | 27.49 | 25.90 | 28.21 | 27.20 |
| Percent Isokinetic | 97.3 | 99.1 | 97.8 | NA |

NA = Not Applicable

TABLE 2-22. PARTICULATE MATTER CONCENTRATIONS AND EMISSIONS RESULTS; CENTRAL CAROLINA HOSPITAL (1990)

| DATE | SAMPLING CONDITION | RUN NUMBER | TIME | FLUE GAS CONCENTRATION | | | | FLUE GAS EMISSION RATE | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | (grains/dscf) | (grains/dscf @7% O2) | (grams/dscm) | (grams/dscm @7% O2) | (lb/hr) | (kg/hr) |
| 09/20/90 | 1 | 1 | 14:00-18:18 | 0.015 | 0.042 | 0.035 | 0.095 | 0.126 | 0.057 |
| 09/22/90 | 1 | 3 | 09:47-14:00 | 0.015 | 0.044 | 0.035 | 0.101 | 0.110 | 0.050 |
| 10/02/90 | 1 | 10 | 10:15-14:21 | 0.015 | 0.042 | 0.035 | 0.095 | 0.117 | 0.053 |
| | | | AVERAGES: | 0.015 | 0.043 | 0.035 | 0.097 | 0.118 | 0.053 |
| 09/21/90 | 2 | 2 | 09:46-13:57 | 0.068 | 0.181 | 0.155 | 0.413 | 0.501 | 0.227 |
| 09/23/90 | 2 | 4 | 11:40-15:47 | 0.384 | 0.931 | 0.879 | 2.129 | 3.054 | 1.385 |
| 09/27/90 | 2 | 8 | 13:45-17:50 | 0.093 | 0.243 | 0.213 | 0.555 | 0.763 | 0.346 |
| | | | AVERAGES: | 0.182 | 0.451 | 0.416 | 1.033 | 1.439 | 0.653 |
| 09/24/90 | 3 | 5 | 11:45-15:52 | 0.015 | 0.038 | 0.033 | 0.088 | 0.122 | 0.055 |
| 09/25/90 | 3 | 6 | 10:10-14:15 | 0.023 | 0.061 | 0.052 | 0.140 | 0.179 | 0.081 |
| 09/28/90 | 3 | 9 | 11:00-15:05 | 0.019 | 0.048 | 0.044 | 0.109 | 0.165 | 0.075 |
| | | | AVERAGES: | 0.019 | 0.049 | 0.043 | 0.112 | 0.155 | 0.070 |

TABLE 2-25. SUMMARY OF HCl RESULTS FOR EACH CONDITION; CENTRAL CAROLINA HOSPITAL (1990)

| TEST RUN NUMBER | MEASURED CONCENTRATIONS | | | | EMISSION RATE (g/hr) |
|---|---|---|---|---|---|
| | (mg/dscm) | (mg/dscm @7% O2) | (ppmv) | (ppmv @7% O2) | |
| RUN 1A | 29.4 | 79.3 | 19.4 | 52.3 | 47.1 |
| RUN 1B | 54.1 | 135 | 35.7 | 88.9 | 86.6 |
| RUN 1C | 62.3 | 169 | 41.1 | 111 | 99.8 |
| AVERAGE | 48.6 | 128 | 32.1 | 84.1 | 77.8 |
| RUN 2A | 802 | 1,764 | 529 | 1,164 | 1,186 |
| RUN 2B | 674 | 2,109 | 444 | 1,391 | 996 |
| RUN 2C | NA | NA | NA | NA | NA |
| AVERAGE | 738 | 1,936 | 487 | 1,277 | 1,091 |
| RUN 3A | 101 | 278 | 66.8 | 184 | 156 |
| RUN 3B | 96.7 | 285 | 63.8 | 188 | 149 |
| RUN 3C | NA | NA | NA | NA | NA |
| AVERAGE | 99.0 | 282 | 65.3 | 186 | 153 |
| RUN 4A | 327 | 715 | 216 | 471 | 521 |
| RUN 4B | 1,276 | 3,068 | 841 | 2,024 | 2,033 |
| RUN 4C | 1,342 | 3,415 | 885 | 2,253 | 2,138 |
| AVERAGE | 981 | 2,399 | 647 | 1,583 | 1,564 |
| RUN 5A | 49.7 | 131 | 32.8 | 86.4 | 82.0 |
| RUN 5B | 48.1 | 117 | 31.7 | 77.1 | 79.4 |
| RUN 5C | 73.1 | 206 | 48.2 | 136 | 121 |
| AVERAGE | 57.0 | 151 | 37.6 | 100 | 94.1 |
| RUN 6A | 47.8 | 125 | 31.5 | 82.2 | 77.6 |
| RUN 6B | 43.3 | 111 | 28.6 | 73.1 | 70.3 |
| RUN 6C | 50.5 | 134 | 33.3 | 88.2 | 82.0 |
| AVERAGE | 47.2 | 123 | 31.1 | 81.2 | 76.6 |
| RUN 8A | 630 | 1,334 | 416 | 880 | 1,035 |
| RUN 8B | 868 | 2,436 | 572 | 1,607 | 1,424 |
| RUN 8C | 1,430 | 4,201 | 943 | 2,771 | 2,347 |
| AVERAGE | 976 | 2,657 | 644 | 1,753 | 1,602 |
| RUN 9A | 120 | 283 | 79.1 | 187 | 201 |
| RUN 9B | 60.0 | 141 | 39.6 | 93.0 | 101 |
| RUN 9C | 104 | 271 | 68.4 | 179 | 174 |
| AVERAGE | 94.5 | 232 | 62.3 | 153 | 159 |
| RUN 10A | 97.0 | 252 | 64.0 | 166 | 150 |
| RUN 10B | 40.0 | 97.9 | 26.4 | 64.6 | 62.0 |
| RUN 10C | 36.1 | 100.5 | 23.8 | 66.3 | 56.0 |
| AVERAGE | 57.7 | 150.1 | 38.1 | 99.0 | 89.5 |

NA = Not Applicable (Runs not completed)

TABLE 2-26. SUMMARY OF HF RESULTS FOR EACH CONDITION; CENTRAL CAROLINA HOSPITAL (1990)

| TEST RUN NUMBER | MEASURED CONCENTRATIONS | | | | EMISSION RATE (g/hr) |
|---|---|---|---|---|---|
| | (mg/dscm) | (mg/dscm @7% O2) | (ppmv) | (ppmv @7% O2) | |
| RUN 1A | (0.628) | (1.695) | (0.755) | (2.038) | (1.006) |
| RUN 1B | (1.075) | (2.678) | (1.292) | (3.218) | (1.721) |
| RUN 1C | (1.216) | (3.288) | (1.462) | (3.954) | (1.947) |
| AVERAGE | 0.97 | 2.55 | 1.17 | 3.07 | 1.56 |
| RUN 2A | 7.23 | 15.9 | 8.69 | 19.1 | 10.7 |
| RUN 2B | 19.7 | 61.7 | 23.7 | 74.2 | 29.1 |
| RUN 2C | NA | NA | NA | NA | NA |
| AVERAGE | 13.5 | 38.8 | 16.2 | 46.6 | 19.9 |
| RUN 3A | (1.825) | (5.013) | (2.194) | (6.027) | (2.817) |
| RUN 3B | 3.35 | 9.90 | 4.03 | 11.9 | 5.18 |
| RUN 3C | NA | NA | NA | NA | NA |
| AVERAGE | 2.59 | 7.45 | 3.11 | 8.96 | 4.00 |
| RUN 4A | 7.17 | 15.7 | 8.61 | 18.8 | 11.4 |
| RUN 4B | 2.98 | 7.17 | 3.58 | 8.62 | 4.75 |
| RUN 4C | 4.21 | 10.7 | 5.06 | 12.9 | 6.71 |
| AVERAGE | 4.79 | 11.2 | 5.75 | 13.4 | 7.63 |
| RUN 5A | (0.835) | (2.202) | (1.004) | (2.648) | (1.379) |
| RUN 5B | (1.296) | (3.149) | (1.558) | (3.786) | (2.141) |
| RUN 5C | (1.439) | (4.057) | (1.730) | (4.878) | (2.377) |
| AVERAGE | 1.19 | 3.14 | 1.43 | 3.77 | 1.97 |
| RUN 6A | (0.734) | (1.914) | (0.882) | (2.300) | (1.192) |
| RUN 6B | (0.670) | (1.715) | (0.805) | (2.061) | (1.088) |
| RUN 6C | (0.948) | (2.510) | (1.140) | (3.018) | (1.539) |
| AVERAGE | 0.78 | 2.05 | 0.94 | 2.46 | 1.27 |
| RUN 8A | 8.89 | 18.8 | 10.7 | 22.6 | 14.6 |
| RUN 8B | 6.96 | 19.5 | 8.37 | 23.5 | 11.4 |
| RUN 8C | 3.99 | 11.7 | 4.79 | 14.1 | 6.54 |
| AVERAGE | 6.61 | 16.7 | 7.95 | 20.1 | 10.9 |
| RUN 9A | (0.939) | (2.220) | (1.129) | (2.669) | (1.576) |
| RUN 9B | (1.279) | (3.008) | (1.538) | (3.617) | (2.146) |
| RUN 9C | (1.416) | (3.707) | (1.702) | (4.455) | (2.376) |
| AVERAGE | 1.21 | 2.98 | 1.46 | 3.58 | 2.03 |
| RUN 10A | 3.32 | 8.63 | 3.99 | 10.4 | 5.15 |
| RUN 10B | (0.955) | (2.337) | (1.148) | (2.809) | (1.481) |
| RUN 10C | (1.117) | (3.111) | (1.343) | (3.741) | (1.732) |
| AVERAGE | 1.80 | 4.69 | 2.16 | 5.64 | 2.79 |

NA = Not Applicable (runs not completed)

( ) = Maximum estimated concentration

TABLE 2-27. SUMMARY OF HBr RESULTS AT EACH CONDITION; CENTRAL CAROLINA HOSPITAL (1990)

| TEST RUN NUMBER | MEASURED CONCENTRATIONS | | | | EMISSION RATE (g/hr) |
|---|---|---|---|---|---|
| | (mg/dscm) | (mg/dscm @7% O2) | (ppmv) | (ppmv @7% O2) | |
| RUN 1A | 0.69 | 1.85 | 0.20 | 0.55 | 1.10 |
| RUN 1B | 0.73 | 1.82 | 0.22 | 0.54 | 1.17 |
| RUN 1C | 0.66 | 1.78 | 0.20 | 0.53 | 1.05 |
| AVERAGE | 0.69 | 1.82 | 0.21 | 0.54 | 1.11 |
| RUN 2A | 2.32 | 5.11 | 0.69 | 1.52 | 3.43 |
| RUN 2B | 0.85 | 2.65 | 0.25 | 0.79 | 1.25 |
| RUN 2C | NA | NA | NA | NA | NA |
| AVERAGE | 1.58 | 3.88 | 0.47 | 1.15 | 2.34 |
| RUN 3A | 0.66 | 1.82 | 0.20 | 0.54 | 1.02 |
| RUN 3B | 0.74 | 2.20 | 0.22 | 0.65 | 1.15 |
| RUN 3C | NA | NA | NA | NA | NA |
| AVERAGE | 0.70 | 2.01 | 0.21 | 0.60 | 1.09 |
| RUN 4A | 1.80 | 3.93 | 0.53 | 1.17 | 2.86 |
| RUN 4B | 2.02 | 4.85 | 0.60 | 1.44 | 3.22 |
| RUN 4C | 0.89 | 2.26 | 0.26 | 0.67 | 1.41 |
| AVERAGE | 1.57 | 3.68 | 0.47 | 1.09 | 2.50 |
| RUN 5A | [0.108] | [0.285] | [0.032] | [0.084] | [0.178] |
| RUN 5B | [0.109] | [0.265] | [0.032] | [0.078] | [0.180] |
| RUN 5C | [0.108] | [0.305] | [0.032] | [0.090] | [0.178] |
| AVERAGE | [0.108] | [0.285] | [0.032] | [0.084] | [0.179] |
| RUN 6A | (0.530) | (1.382) | (0.158) | (0.412) | (0.861) |
| RUN 6B | [0.109] | [0.279] | [0.032] | [0.082] | [0.177] |
| RUN 6C | [0.111] | [0.294] | [0.033] | [0.087] | [0.180] |
| AVERAGE | 0.53 | 1.38 | 0.16 | 0.41 | 0.86 |
| RUN 8A | 2.10 | 4.43 | 0.62 | 1.32 | 3.44 |
| RUN 8B | 2.48 | 6.96 | 0.74 | 2.07 | 4.07 |
| RUN 8C | 2.57 | 7.54 | 0.76 | 2.24 | 4.21 |
| AVERAGE | 2.38 | 6.31 | 0.71 | 1.88 | 3.91 |
| RUN 9A | 0.63 | 1.49 | 0.19 | 0.44 | 1.06 |
| RUN 9B | [0.113] | [0.266] | [0.034] | [0.080] | [0.190] |
| RUN 9C | (0.521) | (1.364) | (0.155) | (0.406) | (0.874) |
| AVERAGE | 0.58 | 1.43 | 0.17 | 0.42 | 0.96 |
| RUN 10A | 0.62 | 1.60 | 0.18 | 0.48 | 0.96 |
| RUN 10B | 0.73 | 1.80 | 0.22 | 0.53 | 1.14 |
| RUN 10C | (0.541) | (1.507) | (0.161) | (0.448) | (0.839) |
| AVERAGE | 0.63 | 1.64 | 0.19 | 0.49 | 0.98 |

NA = Not applicable (runs not completed)

[ ] = Minimum detection limit; ( ) = maximum estimated concentration

TABLE 2-29. CONTINUOUS EMISSIONS MONITORING TEST AVERAGES FOR O2, CO2, CO, and HCl; CENTRAL CAROLINA HOSPITAL (1990)

| DATE | RUN NUMBER/ MANUAL TEST TYPE | CONDITION | TEST TIME a | MOISTURE | OXYGEN (%vol.dry) | CO2 (%vol.dry) | CO actual (ppmV,dry) | CO corrected b (ppmV,dry) @7% O2 | HCL c actual (ppmV,wet) | HCL c corrected d (ppmV,dry) @7% O2 |
|---|---|---|---|---|---|---|---|---|---|---|
| 09/20/90 | 1 | 1 | 14:00 - 18:18 | 9.39 | 15.8 | 3.14 | 42.1 | 119 | 107 | 305 |
| 09/22/90 | 3 | 1 | 9:47 - 14:00 | 9.57 | 16.1 | 3.07 | 14.9 | 40.6 | 33.6 | 110 |
| 10/02/90 | 10 | 1 | 10:15-14:21 | 7.88 | 15.7 | 3.37 | 30.6 | 81 | 64.6 | 143 |
| | AVERAGE | | | 8.95 | 15.9 | 3.19 | 29.2 | 80.2 | 68.4 | 186 |
| 09/21/90 | 2 | 2 | 9:45 - 13:57 | 7.98 | 15.7 | 3.76 | 132 | 407 | 413 | 1273 |
| 09/23/90 | 4 | 2 | 11:43 - 15:47 | 7.35 | 15.2 | 4.01 | 1187 | 2780 | 568 | 1480 |
| 09/27/90 | 8 | 2 | 13:45 - 17:50 | 6.78 | 15.6 | 3.87 | 181 | 453 | 445 | 1350 |
| | AVERAGE | | | 7.37 | 15.5 | 3.88 | 500 | 1213 | 475 | 1368 |
| 09/24/90 | 5 | 3 | 11:45 - 15:52 | 7.96 | 15.6 | 3.46 | 37.6 | 104 | 33.9 | 90.3 |
| 09/25/90 | 6 | 3 | 10:10 - 14:15 | 8.29 | 15.7 | 3.40 | 65.3 | 196 | 45.8 | 138 |
| 09/28/90 | 9 | 3 | 11:00 - 15:05 | 8.93 | 15.3 | 3.67 | 36.1 | 107 | 55.6 | 164 |
| | AVERAGE | | | 8.39 | 15.5 | 3.51 | 46.3 | 136 | 45.1 | 131 |

a For metals/CDD/CDF runs.
b Averages are corrected to 7% oxygen (corrected value = actual * (13.9 /(20.9 - O2)). 30 second values were corrected and then averaged.
c HCl concentrations were determined by manual methods as well. A comparison of CEM vs. manual results is presented in Section 2.6.
d Averages are corrected to 7% oxygen and for moisture, where the corrected value = actual * 13.9/(20.9 - O2) * (1/(1 - moist). Thirty second values were corrected and then averaged.

TABLE 2-30. CONTINUOUS EMISSIONS MONITORING TEST AVERAGES FOR O2, SO2, NOx, and THC; CENTRAL CAROLINA HOSPITAL (1990)

| DATE | RUN NUMBER | CONDITION | TEST TIME a | MOISTURE (%volume) | OXYGEN (%vol.dry) | SO2 actual (ppmV,dry) | SO2 corrected b (ppmV,dry) | NOX actual mV,d | NOX corrected b (ppmV,dry) | THC actual (ppm C,wet) | THC corrected c (ppm C, dry) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 09/20/90 | 1 | 1 | 14:00-18:18 | 9.39 | 15.8 | 40.2 | 106 | 132 | 340 | 7.15 | 23.0 |
| 09/22/90 | 3 | 1 | 9:47-14:00 | 9.57 | 16.1 | 42.1 | 119 | 109 | 289 | 9.84 | 32.3 |
| 10/02/90 | 10 | 1 | 10:15-14:21 | 7.88 | 15.7 | 31.4 | 80.7 | 125 | 313 | 2.52 | 7.74 |
| | AVERAGE | | | 8.95 | 15.9 | 37.9 | 102 | 122 | 314 | 6.50 | 21.0 |
| 09/21/90 | 2 | 2 | 9:45-13:57 | 7.98 | 15.7 | 15.0 | 37.2 | 79.9 | 208 | 23.0 | 82.7 |
| 09/23/90 | 4 | 2 | 11:40-15:47 | 7.35 | 15.2 | 18.2 | 44.2 | 62.9 | 143 | 60.2 | 183 |
| 09/27/90 | 8 | 2 | 13:45-17:50 | 6.78 | 15.6 | 19.0 | 47.0 | 73.7 | 195 | 30.0 | 91.3 |
| | AVERAGE: | | | 7.37 | 15.5 | 17.4 | 42.8 | 72.2 | 182 | 37.7 | 119 |
| 09/24/90 | 5 | 3 | 11:45-15:52 | 7.96 | 15.6 | 51.5 | 134 | 150 | 384 | 3.79 | 11.7 |
| 09/25/90 | 6 | 3 | 10:10-14:15 | 8.29 | 15.7 | 51.1 | 135 | 153 | 402 | 5.63 | 17.9 |
| 09/28/90 | 9 | 3 | 11:00-15:05 | 8.93 | 15.3 | 43.1 | 108 | 165 | 397 | 3.62 | 11.7 |
| | AVERAGE: | | | 8.39 | 15.5 | 48.6 | 126 | 156 | 394 | 4.35 | 13.8 |

a Time is for metals and CDD/CDF runs.
b SO2 and NOx are corrected to 7.0% oxygen, where the corrected value = actual * 13.9/(20.9 - O2).
c THC is corrected to 7.0% oxygen and corrected for moisture where the corrected value = actual * 13.9/(20.9 - O2) * 1/(1 - moist).

NOTE: For all CEM Data, 30 second values were corrected and then averaged.

TABLE 3-1. PROCESS DATA SUMMARY FOR EMISSIONS TESTING AT AMI CENTRAL CAROLINA HOSPITAL

| Test Run No. | Test Date | Target Test Conditions | | | | Daily Operation (a) | | | | | | Actual Test Conditions (b) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Charge Rate | | Charge Type (c) | Charge Freq (min) | Secondary Chamber Setpoint Temp (F) | Preheat time (min) | Charge Time before test (min) | Hours of Charging (hr/d) | Total Waste Charged (lb/d) | Ash (% of Waste Charged) | Charge Rate | | Charge Freq (min) | Avg Primary Chamber Temp (F) | Avg Sec. Chamber Temp (F) | Stack Gas Conditions | | Avg gas Res. time in Sec Chamb (d) (sec) |
| | | (lb/hr) | (lb/chrg) | | | | | | | | | (lb/hr) | (lb/chrg) | | | | Flow Rate (acfm) | Avg Temp (F) | |
| 1 | 9/20/90 | 100 | 25 | P | 15 | 1900 | 20 | 0 | 4.3 | 503 | 4.2 | 106 | 36 | 20 | 1418 | 1485 | 2425 | 752 | 0.12 |
| 2 | 9/21/90 | 160 | 40 | H | 15 | 1600 | 20 | 0 | 6 | 1016 | 13.7 (e) | 163 | 41 | 15 | 1397 | 1734 | 2270 | 809 | 0.11 |
| 3 | 9/22/90 | 100 | 25 | P | 15 | 1900 | 20 | 0 | 4.5 | 588 | 3.8 | 118 | 45 | 23 | 1499 | 1499 | 2201 | 759 | 0.13 |
| 4 | 9/23/90 | 160 | 40 | H | 15 | 1600 | 20 | 0 | 6.1 | 906 | 19.1 (e) | 153 | 39 | 15 | 1555 | 1576 | 2383 | 779 | 0.11 |
| 5 | 9/24/90 | 160 | 40 | P | 15 | 1600 | 20 | 0 | 4.1 | 675 | 6.7 (e) | 169 | 48 | 17 | 1444 | 1481 | 2423 | 746 | 0.12 |
| 6 | 9/25/90 | 160 | 40 | P | 15 | 1600 | 20 | 0 | 4.1 | 697 | 5.9 | 144 | 46 | 19 | 1421 | 1462 | 2233 | 725 | 0.12 |
| 7 | 9/26/90 | 160 | 40 | H | 15 | 1600 | 20 | 0 | 4.5 | 769 | 19.1 (e) | 163 | 41 | 15 | 1297 | 1669 | (f) | (f) | (f) |
| 8 | 9/27/90 | 160 | 40 | H | 15 | 1600 | 20 | 0 | 4.3 | 727 | 18.9 (e) | 161 | 40 | 15 | 1458 | 1691 | 2383 | 766 | 0.11 |
| 9 | 9/28/90 | 160 | 40 | P | 15 | 1600 | 20 | 0 | 4.8 | 867 | 8.9 | 168 | 42 | 15 | 1445 | 1523 | 2556 | 771 | 0.11 |
| 10 | 10/2/90 | 100 | 25 | P | 15 | 1900 | 20 | 0 | 4.3 | 454 | 3.8 | 100 | 28 | 17 | 1445 | 1474 | 2272 | 749 | 0.12 |

(a) From start-up until burndown is initiated.
(b) Includes port changes and times for all trains; not just the method 5 trains.
(c) P = Pathological waste and H = Hospital waste.
(d) Residence time is based on the secondary chamber volume of 0.21 m3 (7.5 ft3) and is calculated as follows for Run 1:

$$\text{Res. time, sec} = \frac{(7.5\ ft3)(60s/min)(752+460F)}{(2425\ acfm)(1485+460F)}$$

(e) Ash was wet due to quenching.
(f) Not reported because Run 7 was invalidated.