

Table 3 - PCDD/Fs concentrations in “certified” fly ash samples (13th Intercal); triplicate analysis

| | Congeners | Certified concentrations | | | Conc. in this study | | |
|-------|---------------------|--------------------------|------|------------|---------------------|-------|-------------|
| | | (ng/g) | | | (ng/g) | | |
| Ash A | 2,3,7,8-TCDD | 0.0066 | ± | 0.0030 | 0.0032 | ± | 0.00040 |
| | 1,2,3,7,8-PeCDD | 0.021 | ± | 0.011 | 0.023 | ± | 0.0040 |
| | 1,2,3,4,7,8-HxCDD | 0.024 | ± | 0.012 | 0.016 | ± | 0.0025 |
| | 1,2,3,6,7,8-HxCDD | 0.071 | ± | 0.021 | 0.053 | ± | 0.0056 |
| | 1,2,3,7,8,9-HxCDD | 0.049 | ± | 0.021 | 0.040 | ± | 0.0060 |
| | 1,2,3,4,6,7,8-HpCDD | 1.6 | ± | 0.82 | 1.2 | ± | 0.067 |
| | OCDD | 8.1 | ± | 3.3 | 5.1 | ± | 0.24 |
| | 2,3,7,8-TCDF | 0.014 | ± | 0.0064 | 0.010 | ± | 0.0010 |
| | 1,2,3,7,8-PeCDF | 0.039 | ± | 0.016 | 0.043 | ± | 0.0055 |
| | 2,3,4,7,8-PeCDF | 0.052 | ± | 0.018 | 0.046 | ± | 0.0050 |
| | 1,2,3,4,7,8-HxCDF | 0.10 | ± | 0.053 | 0.071 | ± | 0.0082 |
| | 1,2,3,6,7,8-HxCDF | 0.13 | ± | 0.045 | 0.093 | ± | 0.0055 |
| | 2,3,4,6,7,8-HxCDF | 0.27 | ± | 0.099 | 0.29 | ± | 0.062 |
| | 1,2,3,7,8,9-HxCDF | 0.033 | ± | 0.034 | 0.030 | ± | 0.0010 |
| | 1,2,3,4,6,7,8-HpCDF | 1.2 | ± | 0.34 | 0.75 | ± | 0.056 |
| | 1,2,3,4,7,8,9-HpCDF | 0.29 | ± | 0.093 | 0.23 | ± | 0.050 |
| | OCDF | 2.7 | ± | 0.93 | 2.4 | ± | 0.62 |
| | Total ng/g | 15 | ± | 6.0 | 10 | ± | 1.15 |
| Ash B | | Certified concentrations | | | Conc. in this study | | |
| | | (ng/g) | | | (ng/g) | | |
| | | 0.021 | ± | 0.0050 | 0.024 | ± | 0.0040 |
| | | 0.11 | ± | 0.033 | 0.096 | ± | 0.0030 |
| | | 0.12 | ± | 0.043 | 0.12 | ± | 0.0090 |
| | | 0.18 | ± | 0.064 | 0.14 | ± | 0.010 |
| | | 0.14 | ± | 0.051 | 0.11 | ± | 0.010 |
| | | 1.6 | ± | 0.75 | 1.5 | ± | 0.10 |
| | | 5.3 | ± | 2.6 | 4.8 | ± | 0.31 |
| | | 0.15 | ± | 0.043 | 0.14 | ± | 0.0080 |
| | | 0.34 | ± | 0.084 | 0.40 | ± | 0.022 |
| | | 0.63 | ± | 0.17 | 0.66 | ± | 0.023 |
| | | 0.74 | ± | 0.24 | 0.68 | ± | 0.040 |
| | | 0.88 | ± | 0.24 | 0.89 | ± | 0.010 |
| | | 1.6 | ± | 0.59 | 1.8 | ± | 0.077 |
| | | 0.20 | ± | 0.17 | 0.23 | ± | 0.012 |
| | | 4.9 | ± | 1.7 | 5.0 | ± | 0.049 |
| | 0.62 | ± | 0.22 | 0.65 | ± | 0.032 | |
| | 3.5 | ± | 1.5 | 3.1 | ± | 0.11 | |
| | Total ng/g | 21 | ± | 8.5 | 20 | ± | 0.83 |

| | Congeners | Certified concentrations | | | Conc. in this study | | |
|-------|---------------------|--------------------------|-----------|--------|---------------------|-----------|---------|
| | | (ng/g) | | | (ng/g) | | |
| Ash C | 2,3,7,8-TCDD | 0.0063 | ± | 0.0033 | 0.0051 | ± | 0.00020 |
| | 1,2,3,7,8-PeCDD | 0.022 | ± | 0.012 | 0.0073 | ± | 0.0033 |
| | 1,2,3,4,7,8-HxCDD | 0.025 | ± | 0.013 | 0.018 | ± | 0.0015 |
| | 1,2,3,6,7,8-HxCDD | 0.072 | ± | 0.032 | 0.060 | ± | 0.0055 |
| | 1,2,3,7,8,9-HxCDD | 0.048 | ± | 0.025 | 0.043 | ± | 0.0026 |
| | 1,2,3,4,6,7,8-HpCDD | 1.5 | ± | 0.50 | 1.3 | ± | 0.062 |
| | OCDD | 8.0 | ± | 2.8 | 6.2 | ± | 0.39 |
| | 2,3,7,8-TCDF | 0.014 | ± | 0.0071 | 0.0096 | ± | 0.0010 |
| | 1,2,3,7,8-PeCDF | 0.037 | ± | 0.014 | 0.033 | ± | 0.0021 |
| | 2,3,4,7,8-PeCDF | 0.054 | ± | 0.019 | 0.047 | ± | 0.0057 |
| | 1,2,3,4,7,8-HxCDF | 0.088 | ± | 0.034 | 0.080 | ± | 0.014 |
| | 1,2,3,6,7,8-HxCDF | 0.13 | ± | 0.042 | 0.10 | ± | 0.012 |
| | 2,3,4,6,7,8-HxCDF | 0.29 | ± | 0.10 | 0.28 | ± | 0.040 |
| | 1,2,3,7,8,9-HxCDF | 0.04 | ± | 0.032 | 0.036 | ± | 0.0026 |
| | 1,2,3,4,6,7,8-HpCDF | 1.2 | ± | 0.34 | 0.96 | ± | 0.092 |
| | 1,2,3,4,7,8,9-HpCDF | 0.28 | ± | 0.10 | 0.30 | ± | 0.047 |
| | OCDF | 2.6 | ± | 0.88 | 2.2 | ± | 0.20 |
| | | Total ng/g | 14 | ± | 5.0 | 12 | ± |

Table 4 - dl-PCBs concentrations in “certified” fly ash samples (13th Intercal); triplicate analysis

| | Congeners | Certified concentrations | | | Conc. in this study | | |
|-------------------|-------------------|--------------------------|--------------------------|-------------|---------------------|---------------------|--------------|
| | | (ng/g) | | | (ng/g) | | |
| Ash A | PCB 81 | 0.0072 | ± | 0.0087 | 0.0019 | ± | 0.0015 |
| | PCB 77 | 0.023 | ± | 0.022 | 0.015 | ± | 0.0026 |
| | PCB 123 | 0.0067 | ± | 0.0054 | 0.0069 | ± | 0.00070 |
| | PCB 118 | 0.094 | ± | 0.098 | 0.14 | ± | 0.010 |
| | PCB 114 | 0.0081 | ± | 0.0077 | 0.0097 | ± | 0.00070 |
| | PCB 105 | 0.035 | ± | 0.031 | 0.074 | ± | 0.015 |
| | PCB 126 | 0.012 | ± | 0.008 | 0.013 | ± | 0.0021 |
| | PCB 167 | 0.013 | ± | 0.012 | 0.0092 | ± | 0.0018 |
| | PCB 156 | 0.025 | ± | 0.023 | 0.017 | ± | 0.0037 |
| | PCB 157 | 0.0069 | ± | 0.0033 | 0.0057 | ± | 0.00090 |
| | PCB 169 | 0.009 | ± | 0.0030 | 0.0060 | ± | 0.0014 |
| | PCB 189 | 0.013 | ± | 0.0047 | 0.0088 | ± | 0.0014 |
| | Total ng/g | 0.25 | ± | 0.23 | 0.30 | ± | 0.042 |
| | Ash B | Congeners | Certified concentrations | | | Conc. in this study | |
| | | (ng/g) | | | (ng/g) | | |
| PCB 81 | | 0.075 | ± | 0.030 | 0.067 | ± | 0.0060 |
| PCB 77 | | 0.19 | ± | 0.080 | 0.18 | ± | 0.013 |
| PCB 123 | | 0.034 | ± | 0.020 | 0.054 | ± | 0.0070 |
| PCB 118 | | 0.28 | ± | 0.17 | 0.51 | ± | 0.023 |
| PCB 114 | | 0.030 | ± | 0.020 | 0.059 | ± | 0.014 |
| PCB 105 | | 0.19 | ± | 0.090 | 0.30 | ± | 0.064 |
| PCB 126 | | 0.23 | ± | 0.060 | 0.25 | ± | 0.015 |
| PCB 167 | | 0.070 | ± | 0.030 | 0.070 | ± | 0.0060 |
| PCB 156 | | 0.16 | ± | 0.059 | 0.16 | ± | 0.010 |
| PCB 157 | | 0.098 | ± | 0.033 | 0.090 | ± | 0.0030 |
| PCB 169 | | 0.12 | ± | 0.040 | 0.10 | ± | 0.0080 |
| PCB 189 | | 0.13 | ± | 0.030 | 0.12 | ± | 0.012 |
| Total ng/g | 1.6 | ± | 0.66 | 2.0 | ± | 0.018 | |
| Ash B | Congeners | Certified concentrations | | | Conc. in this study | | |
| | | (ng/g) | | | (ng/g) | | |
| | PCB 81 | 0.0058 | ± | 0.0050 | 0.0045 | ± | 0.00080 |
| | PCB 77 | 0.019 | ± | 0.014 | 0.017 | ± | 0.0011 |
| | PCB 123 | 0.0072 | ± | 0.0073 | 0.0061 | ± | 0.0014 |
| | PCB 118 | 0.095 | ± | 0.099 | 0.12 | ± | 0.017 |
| | PCB 114 | 0.0062 | ± | 0.0051 | 0.0078 | ± | 0.0016 |
| | PCB 105 | 0.041 | ± | 0.047 | 0.060 | ± | 0.014 |
| | PCB 126 | 0.012 | ± | 0.0067 | 0.013 | ± | 0.00040 |
| | PCB 167 | 0.012 | ± | 0.011 | 0.0094 | ± | 0.0011 |
| | PCB 156 | 0.023 | ± | 0.020 | 0.024 | ± | 0.0013 |

| | | | | | | |
|-------------------|-------------|----------|-------------|-------------|----------|--------------|
| PCB 157 | 0.0080 | ± | 0.0046 | 0.0078 | ± | 0.0012 |
| PCB 169 | 0.0096 | ± | 0.0040 | 0.0078 | ± | 0.0017 |
| PCB 189 | 0.013 | ± | 0.0052 | 0.0095 | ± | 0.0020 |
| Total ng/g | 0.25 | ± | 0.23 | 0.29 | ± | 0.044 |