Supplement Table S1. Thirteen trace element concentrations of two background seawater samples and aqueous samples near the Taichung coal-fired power plant (CFPP), and coal combustion residual (CCR) disposal sites.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Site** | | CFPP seawater cooling channel | CFPP southern drainage port | CFPP eastern drainage port | Changhua CCR disposal site | Changhua CCR disposal site | Changhua CCR disposal site | Changhua CCR disposal site | Changhua CCR disposal site | Intertidal zone 3.5 km SW of Changhua CCR | Historic CCR disposal site | Historic CCR disposal site | Yunlin oyster farm |
| **Sample ID** | | 10-BGA | 11-BGC | 12-AY | 4-S2 | 5-00 | 7-OD | 6-BG | 8-CD | 9-BGS | 1-BG1 | 2-BG2 | 3-S1 |
| **Date** | | 10/03/2017 | 10/03/2017 | 10/03/2017 | 10/03/17 | 10/03/17 | 10/03/17 | 10/03/17 | 10/03/17 | 10/03/17 | 9/24/17 | 9/24/17 | 9/26/17 |
| **Time** | | 14:50 | 15:30 | 15:50 | 10:15 | 10:15 | 11:00 | 11:00 | 11:00 | 11:40 | 10:00 | 10:00 | 9:00 |
| **pH** | | 8.04 | 7.92 | 7.73 | 8.3 | 8.3 | 9.1 | 9.1 | 9.6 | 8.18 | - | - | - |
| **Temp** | | 38.1 | 33.6 | 30.8 | 32.7 | 32.7 | 32.9 | 30.3 | 31.7 | 31.6 | - | - | - |
| **Matrix** | | Seawater | Effluent | Effluent | Water | Water | Water | effluent water | effluent water | seawater-background | effluent | fresh water | seawater |
| **Latitude (decimal degree)** | | 24.213637 | 24.207553 | 24.213222 | 24.15425 | 24.15425 | 24.15127778 | 24.15127778 | 24.15127778 | 24.12458333 | 23.98128889 | 23.98128889 | 23.72440833 |
| **Longitude (decimal degree)** | | 120.468423 | 120.481928 | 120.491889 | 120.4266667 | 120.4269444 | 120.4247222 | 120.4247222 | 120.4247222 | 120.40305556 | 120.3441667 | 120.3441667 | 120.1691667 |
| **Element** | LOD | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L | µg/L |
| **Aluminium** | 10.0 | 78.1 | 12.7 | 7.1 | 7.1 | 118 | 561 | 7.1 | 1,870 | 217 | 22,200 | 179 | 7.1 |
| **Arsenic** | 0.50 | 2.1 | 0.35 | 2.1 | 0.35 | 0.35 | 6.1 | 0.35 | 27.3 | 0.35 | 20.5 | 0.35 | 0.35 |
| **Boron** | 50.0 | 260 | 35.36 | 35.36 | 2,800 | 4,370 | 2,860 | 2,940 | 481 | 2,680 | 4,200 | 4,550 | 4,550 |
| **Cadmium** | 0.080 | 0.057 | 0.057 | 0.057 | 0.057 | 0.057 | 0.057 | 0.057 | 0.057 | 0.057 | 0.057 | 0.057 | 0.057 |
| **Chromium (total)** | 0.50 | 0.35 | 0.35 | 0.35 | 0.35 | 0.35 | 0.35 | 0.35 | 0.35 | 0.35 | 42.3 | 0.35 | 0.35 |
| **Cobalt** | 0.50 | 2.2 | 0.35 | 0.35 | 0.35 | 0.35 | 0.35 | 0.35 | 5.5 | 0.35 | 9.7 | 0.35 | 0.35 |
| **Iron** | 50.0 | 4,370 | 509 | 35.36 | 59.8 | 119 | 439 | 35.36 | 3,090 | 177 | 31,400 | 182 | 68.3 |
| **Lead** | 0.10 | 0.13 | 0.13 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 7.9 | 0.07 | 0.07 |
| **Manganese** | 0.50 | 625 | 17.9 | 96.4 | 207 | 0.35 | 67.8 | 0.35 | 774 | 16.1 | 311 | 5.4 | 0.35 |
| **Selenium** | 0.50 | 0.35 | 0.35 | 0.35 | 0.35 | 0.35 | 0.35 | 0.35 | 0.35 | 0.35 | 0.35 | 0.35 | 0.35 |
| **Strontium** | 0.50 | 2,510 | 51.2 | 67.2 | 4,780 | 7,380 | 4,770 | 4,880 | 868 | 4,650 | 7,980 | 7,650 | 7,490 |
| **Thallium** | 0.10 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 |
| **Vanadium** | 1.0 | 11.3 | 1.2 | 0.71 | 0.71 | 0.71 | 0.71 | 0.71 | 10.8 | 0.71 | 76.4 | 0.71 | 0.71 |

Every result below the level of detection (LOD) was replaced with a value derived from a commonly accepted calculation = LOD/√2.

LOD = Limit of Detection.