Table S.1. Heavy metal(loid) concentrations in Salwa Bay sediments.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S.N.** | **As** | **Cr** | **Cu** | **Ni** | **Pb** | **Zn** |
| S 1 | 3.00 | 22.00 | 4.00 | 12.00 | 3.00 | 8.00 |
| S 2 | 3.00 | 9.00 | 2.00 | 8.00 | 3.00 | 8.00 |
| S 3 | 2.00 | 4.00 | 1.00 | 2.00 | 1.50 | 4.00 |
| S 4 | 2.00 | 5.00 | 1.00 | 6.00 | 1.00 | 5.00 |
| S 5 | 3.00 | 5.00 | 2.00 | 5.00 | 2.00 | 5.00 |
| S 6 | 1.50 | 5.00 | 1.00 | 4.00 | 2.00 | 5.00 |
| S 7 | 1.00 | 2.00 | 1.00 | 1.00 | 1.50 | 2.00 |
| S 8 | 3.00 | 3.00 | 1.00 | 0.50 | 1.00 | 3.00 |
| S 9 | 7.00 | 7.00 | 2.00 | 8.00 | 1.30 | 7.00 |
| S 10 | 1.75 | 3.00 | 1.00 | 2.00 | 1.20 | 4.00 |
| S 11 | 2.00 | 4.00 | 1.00 | 4.00 | 2.00 | 4.00 |
| S 12 | 3.00 | 7.00 | 2.00 | 7.00 | 2.00 | 6.00 |
| S 13 | 1.50 | 4.00 | 1.00 | 2.00 | 1.50 | 4.00 |
| S 14 | 2.00 | 2.00 | 1.00 | 1.00 | 1.50 | 2.00 |
| S 15 | 2.00 | 5.00 | 1.00 | 5.00 | 2.00 | 5.00 |
| S 16 | 1.75 | 5.00 | 1.00 | 3.00 | 1.50 | 4.00 |
| S 17 | 3.00 | 4.00 | 1.00 | 3.00 | 1.30 | 4.00 |
| S 18 | 1.80 | 2.00 | 1.00 | 1.00 | 1.50 | 3.00 |
| S 19 | 3.00 | 7.00 | 2.00 | 6.00 | 1.00 | 6.00 |
| S 20 | 3.00 | 21.00 | 3.00 | 18.00 | 2.00 | 12.00 |
| S 21 | 2.00 | 4.00 | 2.00 | 5.00 | 1.60 | 4.00 |
| S 22 | 2.00 | 7.00 | 2.00 | 7.00 | 2.00 | 5.00 |
| S 23 | 1.00 | 3.00 | 1.00 | 2.00 | 1.30 | 3.00 |
| S 24 | 1.75 | 3.00 | 1.00 | 2.00 | 1.50 | 3.00 |
| S 25 | 2.00 | 5.00 | 2.00 | 4.00 | 1.60 | 5.00 |
| S 26 | 1.90 | 1.00 | 1.00 | 0.60 | 1.40 | 3.00 |
| S 27 | 1.80 | 1.00 | 1.00 | 0.50 | 1.10 | 2.00 |
| S 28 | 1.00 | 1.00 | 2.00 | 1.00 | 1.60 | 3.00 |
| S 29 | 1.50 | 3.00 | 1.00 | 2.00 | 1.70 | 3.00 |
| S 30 | 1.60 | 1.00 | 0.70 | 0.50 | 1.40 | 2.00 |

Table S2. The hazard index for possibility of non-carcinogenic effect of HMs on adults and children.

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | As | | Cr | | Pb | | Cu | | Ni | | Zn | |
| S.N. | Adult. | Child. | Adult. | Child. | Adult. | Child. | Adult. | Child. | Adult. | Child. | Adult. | Child. |
| S1 | 0.010 | 0.094 | 0.004 | 0.034 | 0.001 | 0.011 | 0.00015 | 0.0014 | 0.001 | 0.005 | 0.00004 | 0.0003 |
| S2 | 0.004 | 0.039 | 0.004 | 0.034 | 0.001 | 0.011 | 0.00007 | 0.0007 | 0.001 | 0.007 | 0.00004 | 0.0003 |
| S3 | 0.002 | 0.017 | 0.003 | 0.030 | 0.001 | 0.005 | 0.00004 | 0.0003 | 0.001 | 0.008 | 0.00002 | 0.0002 |
| S4 | 0.002 | 0.021 | 0.004 | 0.038 | 0.0003 | 0.004 | 0.00004 | 0.0003 | 0.002 | 0.014 | 0.00002 | 0.0002 |
| S5 | 0.002 | 0.022 | 0.003 | 0.030 | 0.001 | 0.007 | 0.00007 | 0.0007 | 0.001 | 0.011 | 0.00002 | 0.0002 |
| S6 | 0.002 | 0.021 | 0.003 | 0.030 | 0.001 | 0.007 | 0.00004 | 0.0003 | 0.002 | 0.020 | 0.00002 | 0.0002 |
| S7 | 0.001 | 0.009 | 0.002 | 0.021 | 0.001 | 0.005 | 0.00004 | 0.0003 | 0.002 | 0.019 | 0.00001 | 0.0001 |
| S8 | 0.001 | 0.013 | 0.004 | 0.034 | 0.0002 | 0.004 | 0.00004 | 0.0003 | 0.0001 | 0.004 | 0.00001 | 0.0001 |
| S9 | 0.003 | 0.030 | 0.004 | 0.034 | 0.001 | 0.005 | 0.00007 | 0.0007 | 0.001 | 0.005 | 0.00003 | 0.0003 |
| S10 | 0.001 | 0.013 | 0.003 | 0.026 | 0.0002 | 0.004 | 0.00004 | 0.0003 | 0.0003 | 0.003 | 0.00002 | 0.0002 |
| S11 | 0.002 | 0.017 | 0.005 | 0.047 | 0.001 | 0.007 | 0.00004 | 0.0003 | 0.001 | 0.005 | 0.00002 | 0.0002 |
| S12 | 0.003 | 0.030 | 0.005 | 0.047 | 0.001 | 0.007 | 0.00007 | 0.0007 | 0.00001 | 0.008 | 0.00003 | 0.0003 |
| S13 | 0.002 | 0.017 | 0.001 | 0.013 | 0.001 | 0.005 | 0.00004 | 0.0003 | 0.0005 | 0.004 | 0.00002 | 0.0002 |
| S14 | 0.001 | 0.009 | 0.003 | 0.030 | 0.001 | 0.005 | 0.00004 | 0.0003 | 0.001 | 0.008 | 0.00001 | 0.0001 |
| S15 | 0.002 | 0.021 | 0.003 | 0.026 | 0.001 | 0.007 | 0.00004 | 0.0003 | 0.001 | 0.006 | 0.00002 | 0.0002 |
| S16 | 0.002 | 0.021 | 0.002 | 0.017 | 0.001 | 0.005 | 0.00004 | 0.0003 | 0.001 | 0.005 | 0.00002 | 0.0002 |
| S17 | 0.002 | 0.017 | 0.007 | 0.064 | 0.001 | 0.005 | 0.00004 | 0.0003 | 0.001 | 0.006 | 0.00002 | 0.0002 |
| S18 | 0.001 | 0.009 | 0.004 | 0.034 | 0.001 | 0.005 | 0.00004 | 0.0003 | 0.001 | 0.007 | 0.00001 | 0.0001 |
| S19 | 0.003 | 0.030 | 0.006 | 0.060 | 0.0001 | 0.004 | 0.00007 | 0.0007 | 0.001 | 0.008 | 0.00003 | 0.0003 |
| S20 | 0.010 | 0.090 | 0.008 | 0.077 | 0.001 | 0.007 | 0.00011 | 0.0010 | 0.002 | 0.019 | 0.00006 | 0.0005 |
| S21 | 0.002 | 0.017 | 0.003 | 0.030 | 0.001 | 0.006 | 0.00007 | 0.0007 | 0.001 | 0.008 | 0.00002 | 0.0002 |
| S22 | 0.003 | 0.030 | 0.003 | 0.026 | 0.001 | 0.007 | 0.00007 | 0.0007 | 0.001 | 0.008 | 0.00002 | 0.0002 |
| S23 | 0.001 | 0.013 | 0.004 | 0.034 | 0.001 | 0.005 | 0.00004 | 0.0003 | 0.001 | 0.007 | 0.00001 | 0.0001 |
| S24 | 0.001 | 0.013 | 0.004 | 0.038 | 0.001 | 0.005 | 0.00004 | 0.0003 | 0.001 | 0.006 | 0.00001 | 0.0001 |
| S25 | 0.002 | 0.021 | 0.005 | 0.047 | 0.001 | 0.006 | 0.00007 | 0.0007 | 0.001 | 0.006 | 0.00002 | 0.0002 |
| S26 | 0.0005 | 0.004 | 0.002 | 0.017 | 0.001 | 0.005 | 0.00004 | 0.0003 | 0.001 | 0.005 | 0.00001 | 0.0001 |
| S27 | 0.0005 | 0.004 | 0.001 | 0.013 | 0.000 | 0.004 | 0.00004 | 0.0003 | 0.001 | 0.006 | 0.00001 | 0.0001 |
| S28 | 0.0005 | 0.004 | 0.001 | 0.013 | 0.001 | 0.006 | 0.00007 | 0.0007 | 0.001 | 0.008 | 0.00001 | 0.0001 |
| S29 | 0.0005 | 0.013 | 0.003 | 0.030 | 0.001 | 0.006 | 0.00004 | 0.0003 | 0.001 | 0.008 | 0.00001 | 0.0001 |
| S30 | 0.0014 | 0.004 | 0.009 | 0.085 | 0.001 | 0.005 | 0.00003 | 0.0002 | 0.001 | 0.011 | 0.00001 | 0.0001 |
| Min. | 0.00047 | 0.0043 | 0.0014 | 0.013 | 0.00039 | 0.0037 | 2.59E-05 | 0.00024 | 6.019E-06 | 0.0032 | 9.17E-06 | 8.54E-05 |
| Max. | 0.01010 | 0.094 | 0.0091 | 0.085 | 0.0012 | 0.011 | 0.00015 | 0.0014 | 0.0021 | 0.0199 | 5.50E-05 | 0.00051 |
| Aver. | 0.0024 | 0.022 | 0.0038 | 0.035 | 0.00064 | 0.0060 | 5.40E-05 | 0.00050 | 0.00086 | 0.0082 | 2.05E-05 | 0.00019 |

Table S. 3. The excess lifetime cancer risk (ELCR) for children and adults.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| S.N. | As | | Cr | | Pb | | |
| Adults | Children | Adults | Children | Adults | Children |
| S1 | 6.19E-06 | 5.76E-05 | 1.51E-05 | 0.000141 | 3.51E-08 | 3.27E-07 |
| S2 | 6.19E-06 | 5.76E-05 | 6.19E-06 | 5.76E-05 | 3.51E-08 | 3.27E-07 |
| S3 | 4.13E-06 | 3.84E-05 | 2.75E-06 | 2.56E-05 | 1.75E-08 | 1.63E-07 |
| S4 | 4.13E-06 | 3.84E-05 | 3.44E-06 | 3.2E-05 | 1.17E-08 | 1.09E-07 |
| S5 | 6.19E-06 | 5.76E-05 | 3.44E-06 | 3.2E-05 | 2.34E-08 | 2.18E-07 |
| S6 | 3.09E-06 | 2.88E-05 | 3.44E-06 | 3.2E-05 | 2.34E-08 | 2.18E-07 |
| S7 | 2.06E-06 | 1.92E-05 | 1.38E-06 | 1.28E-05 | 1.75E-08 | 1.63E-07 |
| S8 | 6.19E-06 | 5.76E-05 | 2.06E-06 | 1.92E-05 | 1.17E-08 | 1.09E-07 |
| S9 | 1.44E-05 | 0.000135 | 4.81E-06 | 4.48E-05 | 1.52E-08 | 1.42E-07 |
| S10 | 3.61E-06 | 3.36E-05 | 2.06E-06 | 1.92E-05 | 1.4E-08 | 1.31E-07 |
| S11 | 4.13E-06 | 3.84E-05 | 2.75E-06 | 2.56E-05 | 2.34E-08 | 2.18E-07 |
| S12 | 6.19E-06 | 5.76E-05 | 4.81E-06 | 4.48E-05 | 2.34E-08 | 2.18E-07 |
| S13 | 3.09E-06 | 2.88E-05 | 2.75E-06 | 2.56E-05 | 1.75E-08 | 1.63E-07 |
| S14 | 4.13E-06 | 3.84E-05 | 1.38E-06 | 1.28E-05 | 1.75E-08 | 1.63E-07 |
| S15 | 4.13E-06 | 3.84E-05 | 3.44E-06 | 3.2E-05 | 2.34E-08 | 2.18E-07 |
| S16 | 3.61E-06 | 3.36E-05 | 3.44E-06 | 3.2E-05 | 1.75E-08 | 1.63E-07 |
| S17 | 6.19E-06 | 5.76E-05 | 2.75E-06 | 2.56E-05 | 1.52E-08 | 1.42E-07 |
| S18 | 3.71E-06 | 3.46E-05 | 1.38E-06 | 1.28E-05 | 1.75E-08 | 1.63E-07 |
| S19 | 6.19E-06 | 5.76E-05 | 4.81E-06 | 4.48E-05 | 1.17E-08 | 1.09E-07 |
| S20 | 6.19E-06 | 5.76E-05 | 1.44E-05 | 0.000135 | 2.34E-08 | 2.18E-07 |
| S21 | 4.13E-06 | 3.84E-05 | 2.75E-06 | 2.56E-05 | 1.87E-08 | 1.74E-07 |
| S22 | 4.13E-06 | 3.84E-05 | 4.81E-06 | 4.48E-05 | 2.34E-08 | 2.18E-07 |
| S23 | 2.06E-06 | 1.92E-05 | 2.06E-06 | 1.92E-05 | 1.52E-08 | 1.42E-07 |
| S24 | 3.61E-06 | 3.36E-05 | 2.06E-06 | 1.92E-05 | 1.75E-08 | 1.63E-07 |
| S25 | 4.13E-06 | 3.84E-05 | 3.44E-06 | 3.2E-05 | 1.87E-08 | 1.74E-07 |
| S26 | 3.92E-06 | 3.65E-05 | 6.88E-07 | 6.41E-06 | 1.64E-08 | 1.52E-07 |
| S27 | 3.71E-06 | 3.46E-05 | 6.88E-07 | 6.41E-06 | 1.29E-08 | 1.2E-07 |
| S28 | 2.06E-06 | 1.92E-05 | 6.88E-07 | 6.41E-06 | 1.87E-08 | 1.74E-07 |
| S29 | 3.09E-06 | 2.88E-05 | 2.06E-06 | 1.92E-05 | 1.99E-08 | 1.85E-07 |
| S30 | 3.3E-06 | 3.07E-05 | 6.88E-07 | 6.41E-06 | 1.64E-08 | 1.52E-07 |
| Min. | 2.06E-06 | 1.92E-05 | 6.88E-07 | 6.41E-06 | 1.17E-08 | 1.09E-07 |
| Max. | 1.44E-05 | 0.000135 | 1.51E-05 | 0.000141 | 3.51E-08 | 3.27E-07 |
| Aver. | 4.6E-06 | 4.28E-05 | 3.55E-06 | 3.31E-05 | 1.91E-08 | 1.78E-07 |