**Table S4.** Ion concentrations (mg/L) of pore waters from the two trench-axis sediment cores.

|  |  |  |  |
| --- | --- | --- | --- |
| sample | layer(cmbsf) | NO3- | SO42- |
| T1L10 | 0-3 | 44 | 1160 |
| 6-9 | 43 | 981 |
| 12-15 | 43 | 1223 |
| 18-21 | 44 | 1080 |
| T3L11 | 0-3 | 45 | 503 |
| 6-9 | 46 | 527 |
| 12-15 | 46 | 525 |
| 18-21 | 44 | 542 |

cmbsf: centimeter below seafloor.