**Data sets used in the analysis presented in the manuscript “Use of Semi-Permeable Bag Materials to Facilitate On-Site Treatment of Biological Agent-Contaminated Waste”**

The datasets used for the analysis presented in this manuscript were provided by Jacobs contractors operating under Contract 68HERC20D0018, Task Order 68HERC21F0320. Most of the data are in tabular format, with the exception of Figures 3a and 3b which were generated using MS Excel. The underlying data for those 2 figures are included in the SDMP.

Fig. 3. Test 1 chlorine dioxide concentrations (Panel A) and Test 1 observed environmental conditions (Panel B).

Data for Panel A and B are included in the SDMP as Environmental parameters\_3000ppm\_3hour\_Test1.xlsx.

|  |  |  |  |
| --- | --- | --- | --- |
| **Panel** | **Dataset** | **X values** | **Y values** |
| A | Train Samples | 'Chemical measurements'!$E$2:$E$10 | 'Chemical measurements'!$L$2:$L$10 |
| A | Test Chamber (EMS) | 'Test Chamber (EMS)'!$C$2:$C$2516 | 'Test Chamber (EMS)'!$H$2:$H$2516 |
| A | Glovebox (GMP) | 'Glovebox (GMP)'!$D$2:$D$1840 | 'Glovebox (GMP)'!$I$2:$I$1840 |
| B | Temperature | 'Test Chamber (EMS)'!$C$2:$C$2516 | 'Test Chamber (EMS)'!$E$2:$E$2516 |
| B | Relative Humidity | 'Test Chamber (EMS)'!$C$2:$C$2516 | 'Test Chamber (EMS)'!$F$2:$F$2516 |
| B | Small Chamber Pressure | 'Test Chamber (EMS)'!$C$2:$C$2516 | 'Test Chamber (EMS)'!$J$2:$J$2516 |
| B | Glovebox Pressure | 'Test Chamber (EMS)'!$C$2:$C$2516 | 'Test Chamber (EMS)'!$D$2:$D$2516 |

**Data Variables and Column Headings**

**Test Chamber (EMS) Worksheet**

|  |  |
| --- | --- |
| Column1 | Date/time of measurement in date/time format |
| Time (fraction of day) | Converting date/time to date and time for calculations and plotting |
| Time Hours | Converting date/time to date and time for calculations and plotting |
| Glovebox Pressure | Glovebox pressure in inches of water |
| Temp | Test chamber temperature in degrees Celsius |
| RH | Relative humidity, % |
| ClO2 (mg/L) | chlorine dioxide concentration |
| ClO2 PPM | chlorine dioxide concentration |
| CT (PPM-hrs) | concentration of ClO2 x time |
| Small Test Chamber Pressure (in water) | Test chamber pressure in inches of water |

**Glovebox (GMP) Worksheet**

|  |  |
| --- | --- |
| Column1 | time of measurement |
| Column2 | Date of measurement |
| Column3 | Converting date/time to date and time for calculations and plotting |
| Column8 | Relative Humidity (%) |
| Column4 | Glovebox Pressure (inches of water) |
| Column5, 6, 7 | Not Used |
| ClO2 PPM | chlorine dioxide concentration |
| CT (PPM-hrs) | concentration of ClO2 x time |

**Chemical measurements Worksheet**

|  |  |
| --- | --- |
| Sampling event | Run number |
| Sample Start | Start time |
| Sample End | End time |
| Time (as a number) | start time as time serial number  |
| Time as a Fraction of day | start time as fraction of day |
| STS titrant Volume (mL) | volume of STS titrant |
| STS Normality | normality of STS titrant |
| Volume (L of air) | amount of air through glove box |
| Sample Time | total sampling time, min |
| CL (mg/L) | ClO2 liquid concentration |
| CG (mg/L) | ClO2 gas concentration |
| ClO2 (ppm) | ClO2 concentration in chamber |
| Yt | Yt: is calibration factor, we used NIST STS, which is a bit of a deviation from using the chlorite standard but still traceable |
| Ym | Ym: calibration factor for sampling box, metlab cal performed 12/01/2021 Average totalizer Y: 0.963 |