2020 GHG Data SOP

Since March 2020, Bobbie has been running GHG samples for us on the GC. She’s been uploading data [here](https://drive.google.com/drive/u/1/folders/188VTuPZxlzD8olJaSnl2WyUlHejrwFw3) (but only grad students can access the analytical lab google drive). This includes the raw files from the GC as well as the ‘atmospheric conditions’ you’ll need for correcting the data. Thus far we have been using an Excel sheet to copy and paste data from the run for correction which can be found on GitHub: Reservoir -> Data -> DataNotYetUploadedToEDI -> Raw\_GHG -> 2021 -> GHG\_MEGA\_GC\_SHEET\_EXCEL\_2021.xls. You’ll also need all of the field sheets to identify the vial numbers (on the Reservoir Drive [here](https://drive.google.com/drive/u/0/folders/1vOwoBUCDQX8NUnR4xxgknApBySIHbwBA)). Detailed steps are below:

1. Open the ‘Mega GC Excel sheet’ from GitHub (Reservoir -> Data -> DataNotYetUploadedToEDI -> Raw\_GHG -> 2021 -> GHG\_MEGA\_GC\_SHEET\_EXCEL\_2021.xls).
2. Copy and paste the SAMPLES from the raw GHG file into the first worksheet (ppm calc from GC).
3. Copy and paste the information for the Rolling air (sample labeled ‘air’) into the ‘Rolling Air’ worksheet and the information for the Rolling Air+100 (sample labeled ‘air+100’) into the ‘Rolling Air+100’ worksheet.
4. From the ‘ppm calc from GC’ worksheet, copy the Date Acquired and Sample name information into the ‘Concentration calc’ worksheet as Preparation Date and Sample identification.
5. From the ‘ppm calc from GC’ worksheet, copy the calculated ppm in headspace for CH4 and CO2 (the last green columns in this worksheet) into the ‘Concentration calc’ worksheet as Measured headspace CH4 and measured headspace CO2 (in the yellow columns).
6. Go to the file on github (in the Raw folder) named, Headspace preparation conditions Summer 2021.
7. Find the Lab temp and Weather Station BP for the analysis day and put this into the ‘Concentration calc’ worksheet under the Lab Temp and Weather report columns. Drag these values for all of that day’s samples!
8. The worksheet will automatically calculate the concentration of CH4 and CO2 in the water sample based on this information (in the green columns!).
9. You’ll then need to use the field sheet from the sampling day (the day before the run date) to identify the collection date, depth, and reservoir. There will be two reps for each sample (usually!) – label the first sample as rep 1 and the second as rep 2.
10. Push any updates to GitHub!