**Methane Project todos/log**

* Set up dummy files for code to work on
* Make function to create pressure data from NOAA
* IMPORTANT- the volume calculations should pull from a spreadsheet with the container size information
* Double check the program with the results from the notebook
* Catch the case when the entered time doesn’t exist in the lgr data. Currently an error of, “nc-time-axis package is needed” is thrown. The series also doesn’t have a
* ASK NICK- use pressure data from LGR???? Is this accurate?
* Make excel file with container types to automatically calculate container volume
* Made it so that the program finds the pressure for the specific day- make it so that it instead searches for the specific day AND time
* Change so that it checks pressure by the hour- it currently pulls pressure with the 00:00 time on the given date
* Change so that the output files have the gas that was measured along with them
* Change file output format to:
  + - 2020\_07\_29\_17h-30m-30s\_vault-lake\_bucket
  + Yyyy\_mm\_dd\_**hh**h-**mm**m-**ss**s\_location\_collection-device
  + Make so that dashes are automatically added in the locations and measurement devices (str.replace())

**Log**

* **24.08.20**
  + Made new excel file (simon\_masters) to follow for inputting data
  + Made new e0xcel file for r values with which to test
  + Make separate function for calculating chamber volume. Contatiner types:
    - Chamber
    - Chamber with collar
    - Bucket
  + Sample ID is created instead of T1…T2, simply add the start and stop times
  + Automatically clean files, delete everything after “BEGIN PGP MESSAGE”
* **02.09.20**
  + Confirmed that the files cleaned are correct
  + Moved “program run?” column to be first
  + Successfully scans “program run?” for “y”
  + Changed date format to yyyy-mm-dd
  + Naming convention for output files:
    - yyyy-mm-dd\_hh:mm:ss\_location\_collection-instrument
    - the hh:mm:ss is the START TIME
* **04.09.20**
  + Added “measurement devices” list
    - Devices: bucket, chamber,
  + Variables that need to be present and correct, otherwise the program will quit:
    - Date, start time, stop time
  + Made it so that it deletes the 00:00:00 present in the date frame
    - Achieved by pulling the date from the timestamp
  + Start and stop time have to be in the format hh:mm:ss, or program quits
* **08.09.20**
  + Made slope analysis function
  + Properly plots data
  + TODO- check to make sure jupyter notebook program produces identical plots
  + Works for chamber, ran into problems reassigning variables with the bucket- will have to talk to nick about this
* **09.09.20**
  + Confirmed that the jupyter notebook program found the same time series as my own
  + Volume also checks out with that of the jupyter notebook program
  + Started so that different r^2 values are fed in
* **13.09.20**
  + Fixed so that the pressure measurement is pulled from the table at a time of 00:00 on the given date- this uses the date I was told to use by Nick (
  + Changed sampleID file format from hh:mm:ss to hh**꞉**mm**꞉**ss. Yes, they are different! Apparently, this Unicode character is allowed in windows filenames, but the semicolon is not. Pretty funny **꞉)**
  + The output file now has headers and writes to the