**Data Analysis Software Overview**

Simon Peterson

August 29, 2020

The Katey Anthony lab at UAF currently uses a Jupyter notebook python program to analyze lake gas emission data. The current program requires the user to change the code to analyze different gases, times, emission sites, containers, and r values (for curve fitting) in an unintuitive, error-prone, and time-consuming process. The proposed software will automate the data entry process, allowing the scientists to use their time to analyze the data instead of entering numbers and manually running the program for each 3 minute collection interval. The program will edit a master spreadsheet for easy access to historic data that can then be pulled by other excel programs for analysis of specific locations, times, and other factors. It will also output graphs showing the flux change over the 3 mi nute interval, the selected data points, and the r value used to fit the curve. The contract time for the project is 50 hours at $20/hr, and will be done by Simon Peterson in close cooperation with Katey Anthony and PhD student Nicholas Hasson.