**Guide to NOAA CMDL Cooperative Air Sampling Network: What to do with Flasks and PFPs?**

It can be overwhelming determining what to do with all those blue flasks and PFPs (Programmable flask packages) that arrive at SIL for analysis. This guide is designed to help with sample flow and turnover.

1. **Arrival of Samples:**

1. Samples arrive on 2 carts; flask cart and PFP cart every Monday, Wednesday and Friday morning between 9-9:30am.
2. The NOAA ‘cart people’ deliver samples from NOAA on Broadway- to contact call *303-497-3405* (receiving department at NOAA). If there are cylinders to be returned, contact them and label where the tank needs to go (usually Duane Kitzis).
3. For cart logistics (ie., cancelling a cart on a CU holiday) contact the cart people to let them know.

2. **Prepping Carts:**

**\*During COVID times, we are performing the sample swap ourselves via the SIL loading dock. Samples are swapped MWF, no carts needed.\***

1. Carts must be *loaded* with finished samples and *tied up* (with cam straps/bungee cords on cart) every MWF mornings (the number of finished flask boxes and PFPs will vary depending on how many samples we can get run before the next cart) – can also be done the night before.
2. **7 PFPs** max go on the PFP cart and **12 flask boxes** max on flask cart (when NOAA asks for ‘full cart’ this is what we return to them).
3. Other labs (C14 and VOC) will put their finished samples directly on carts. **\*COVID times- they will place completed samples in our lab for us to place outside. \***

3. **Unloading/Distribution of Samples:**

1. Carts will arrive with new samples strapped up. **\*Old samples will be taken away and new samples will be left on the loading dock.\***
2. Check sample sheets to see where flasks and PFPs go to next on sample pathway (in general, ~95% of samples will need to be analyzed for **CO2C13** first).
3. Put samples in appropriate pile in flask room. All flasks have a specific table for each analysis (CO2C13, CH4C13, VOC, CO2C14, CH3D). PFPs for CO2C13 are lined up in middle of room; PFPs for other analysis go by corresponding table.

4. **Priority of Samples and Additional Samples**

1. Flasks and PFPs for the NOAA network should be analyzed continuously. If samples begin to get backed up (instruments down), please run samples with older date first (on sample sheet).
2. External calibration tanks will arrive upon request from NOAA. In general, an email is received telling us what analysis needs to be done on these tanks (see *‘External Tank Calibration’* SOP for more details).
3. Large *‘Tank Calibration’* cylinders will arrive occasionally from NOAA. These tanks are denoted by AL-###-##. These are measured at varying pressures overtime. They will need ~15 good data points for CO2 isotopes, then the tank can be passed on to CH4C13 and CO2C14. No calibration report is needed for these tanks.
4. Internal calibration tanks (horizontal tanks on cart) are ran for CO2 isotopes on each CO2 instrument about every 6 months.
5. JRAC – Large calibration tank, currently on Amos. Generally run once a month.
6. From time to time other samples will pop up that are out of the norm. Generally someone will know if a cylinder is arriving to analyze either as a favor or part of a campaign.
7. SIL flasks: Sylvia will let you know what needs to be run, and will add the samples to session builder.