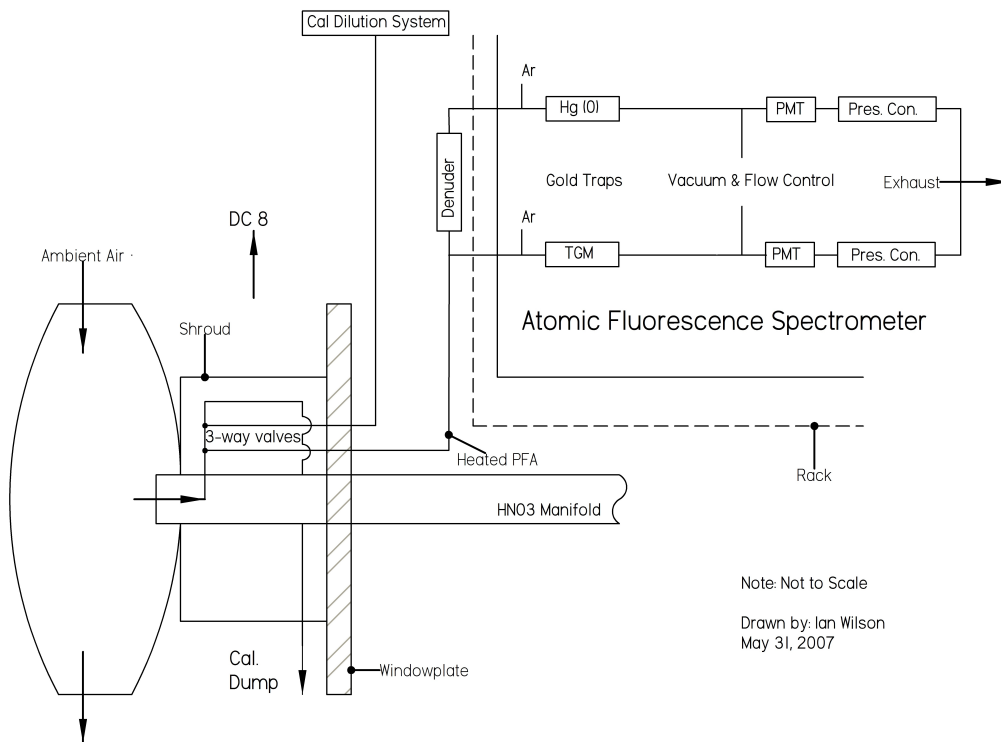


# Experiment: UNHMERC

PI's: Robert Talbot and Huiting Mao

Measurements:  $\text{Hg}^0$ , Total Gaseous Hg (TGM), Difference = Reactive Gaseous Hg (RGM), Particulate Hg in Tropopause Region ( $\text{Hg}^P$ )



- Regional distribution of the TGM/ $\text{Hg}^0$  pair and presence of RGM
- Vertical extent of surface mercury depletion events and scope of  $\text{Hg}^0$  depletion in the upper tropospheric-lower stratospheric region
- Seasonality in  $\text{Hg}^0$  chemical transformations

### Operational Constraints:

Faster the DC-8 flies the better our sampling will be, especially above 30K Ft.

Designed to be insensitive to temperature and pressure changes.  
Calibration requires at least 5-10 minute level flight legs.

### Issues:

Request sampling in tropopause region (below, within, and above).

Request sampling time around O<sub>3</sub> depletion regions.

Vertical information is critical to interpretation of the Hg data.