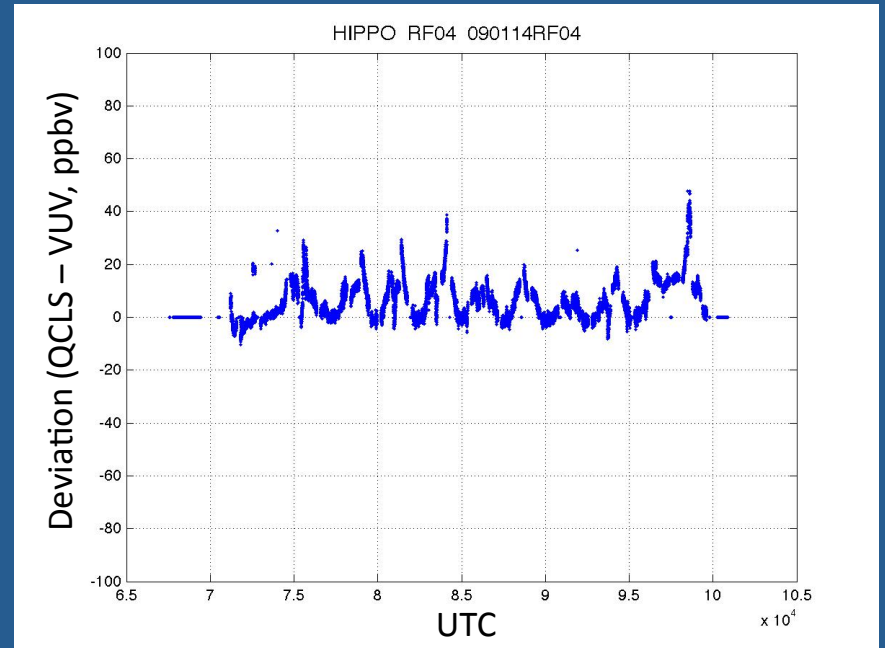
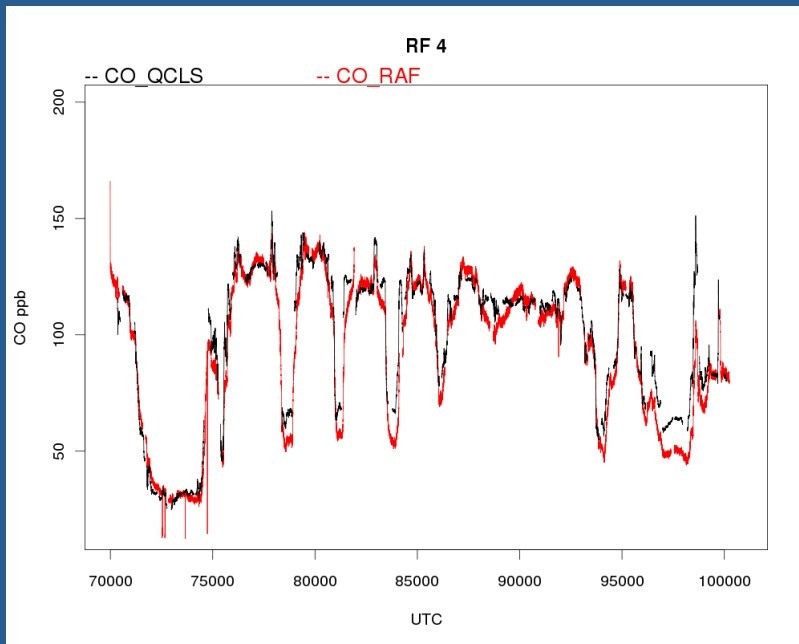


RAF VUV CO Measurements

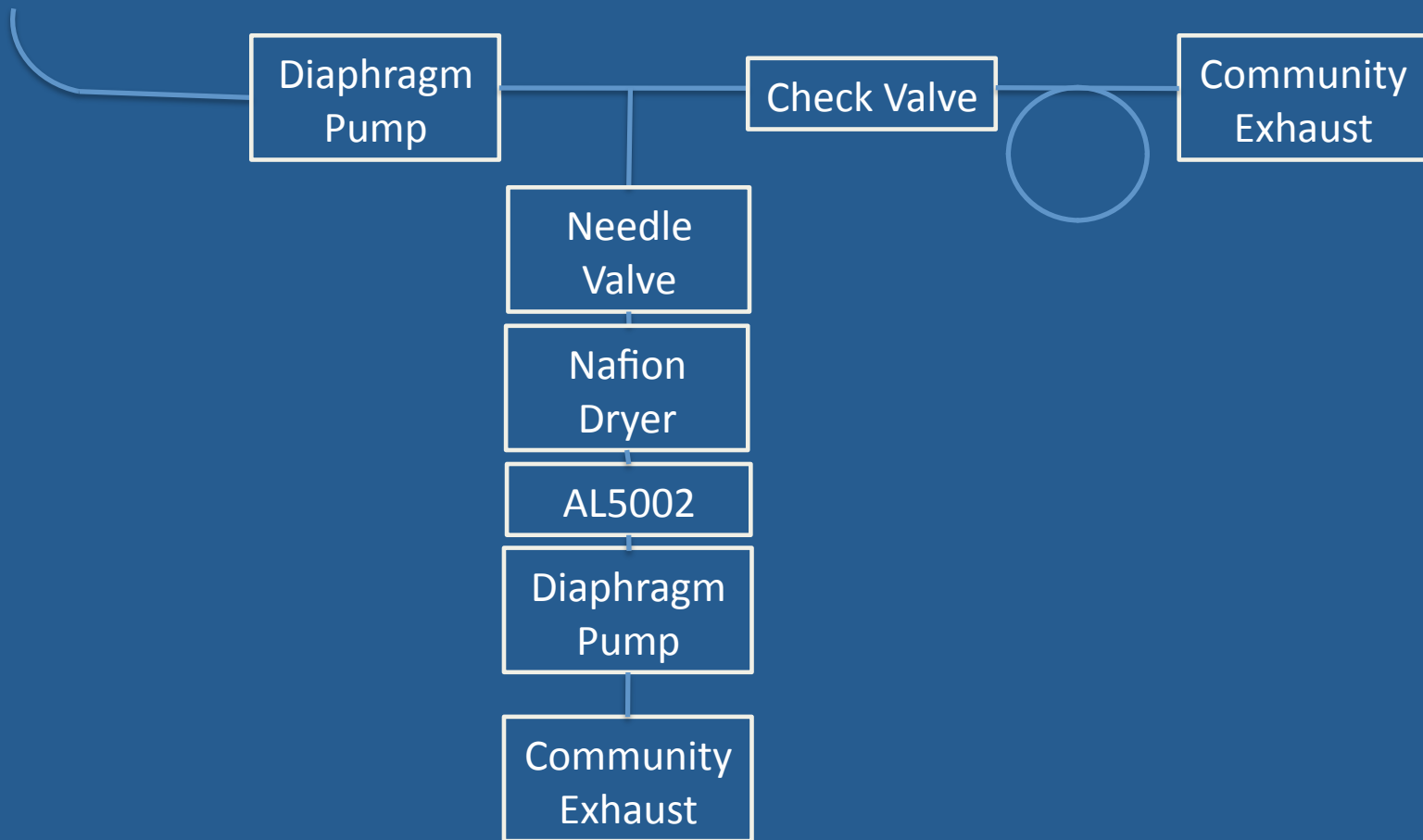
Teresa Campos, Clifford Heizer, and Frank Flocke

with special thanks to Pavel Romashkin, Bruce Daube, and Kirk Ullmann for field support

Typical HIPPO-1 Performance

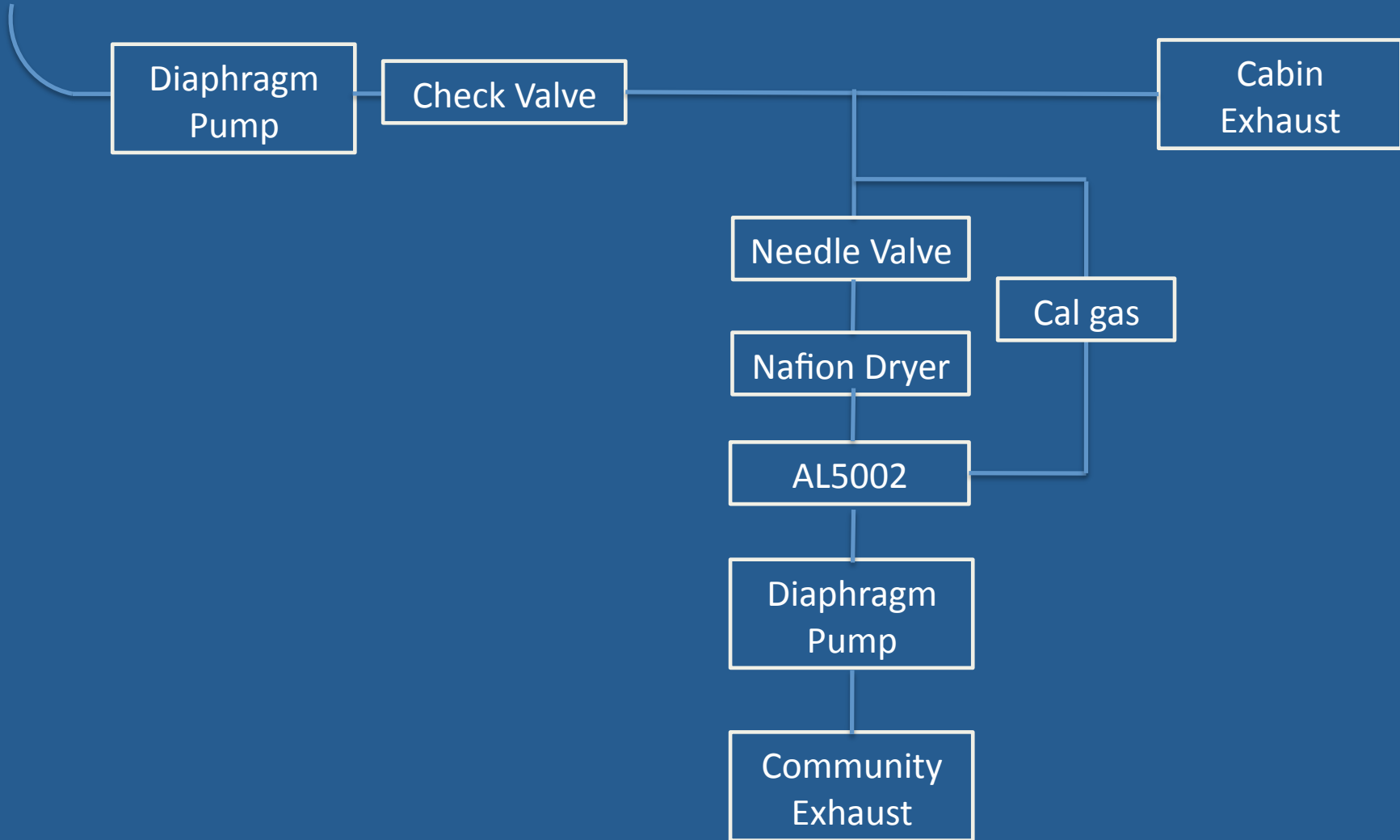


HIPPO-1 Inlet configuration



- Chemical interference observed during TF01.
- Changes to inlet manifold plumbing to address this problem.
- Time and certification requirements did not allow for major changes.
- Modifications created a 'memory tube' that resulted in a long averaging volume resulting and poor instrument time response.

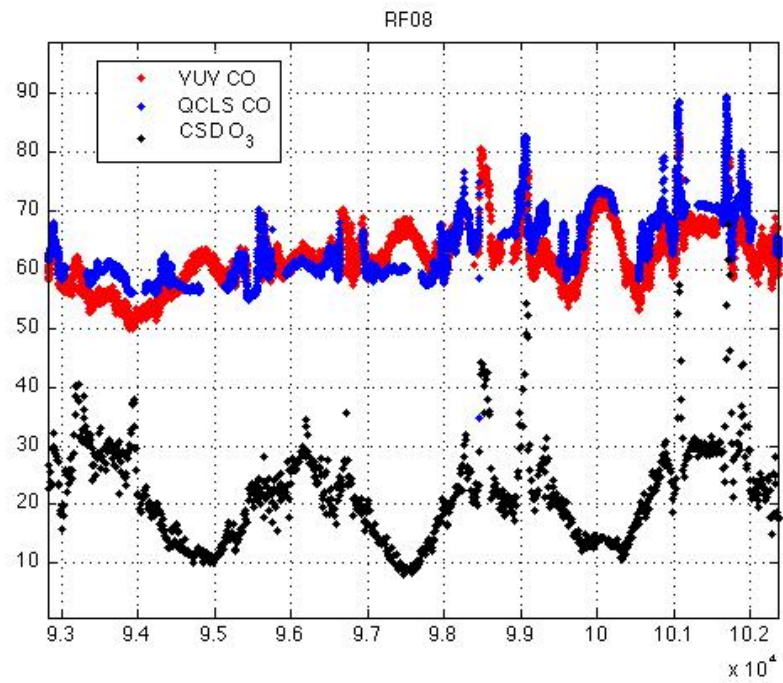
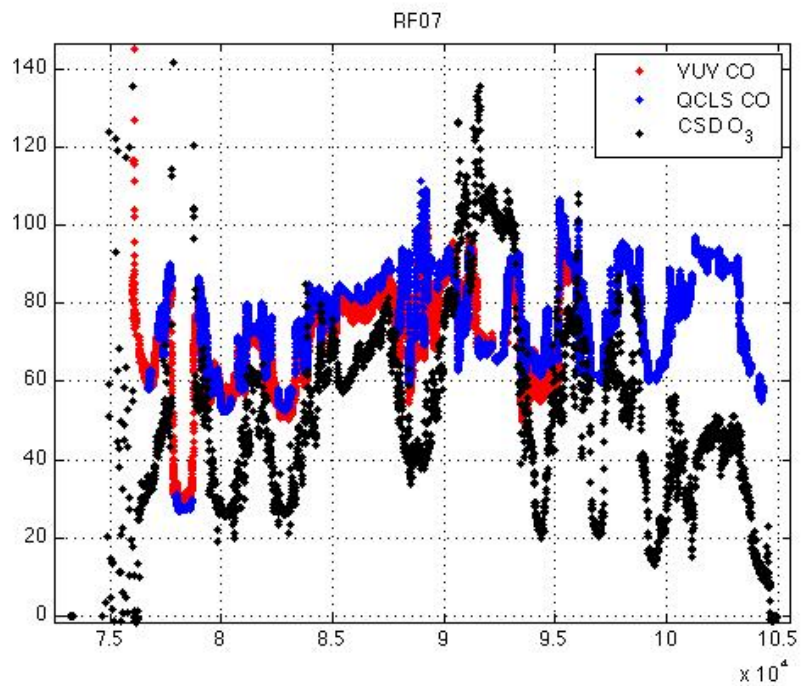
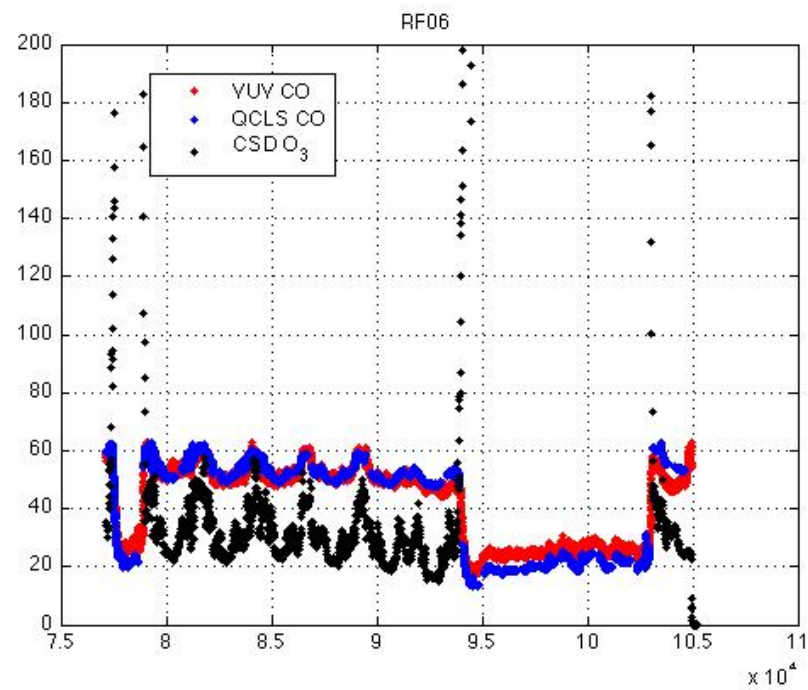
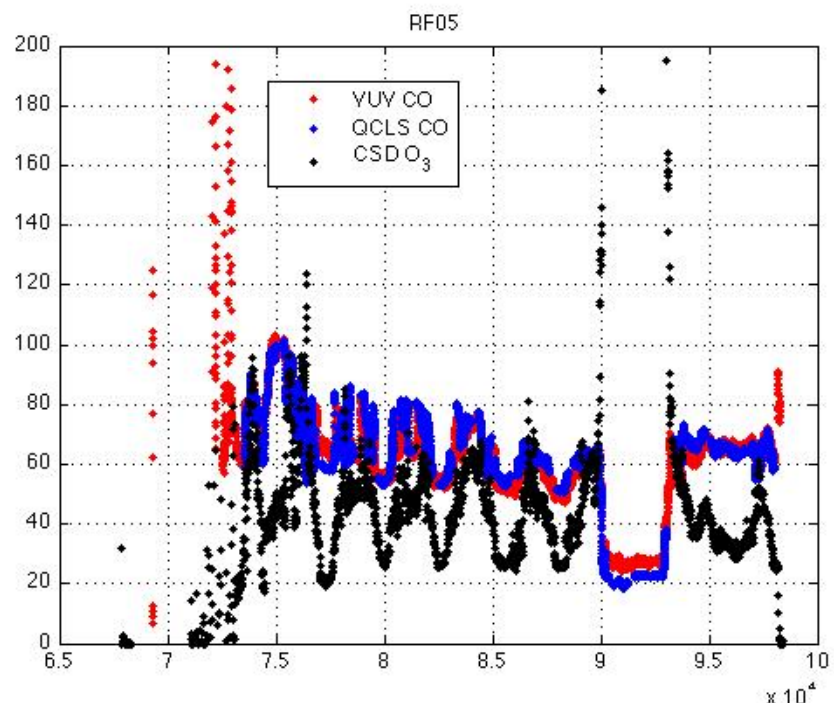
HIPPO-2 Inlet configuration



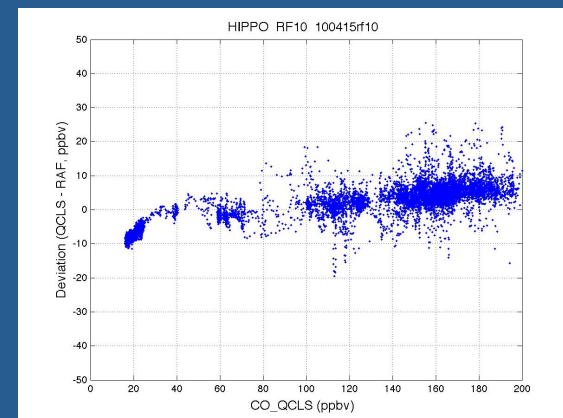
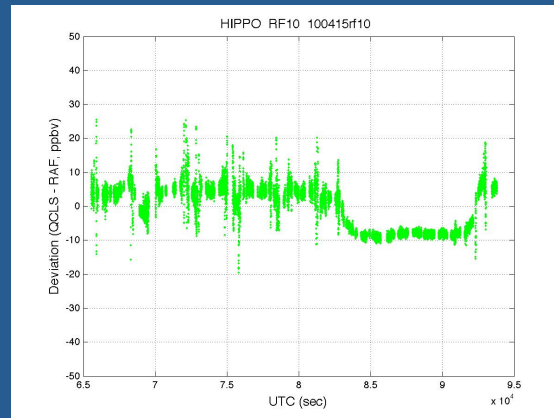
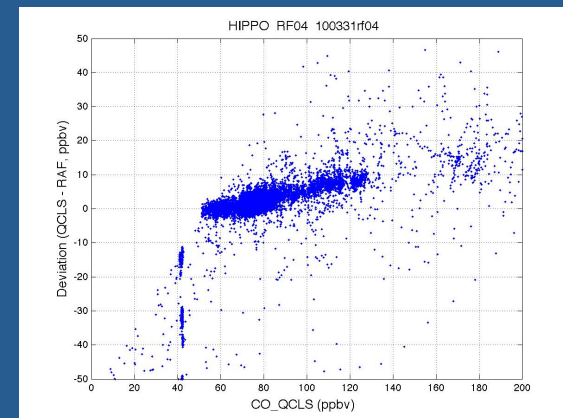
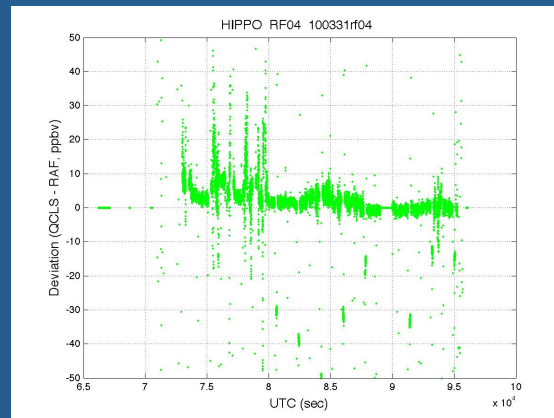
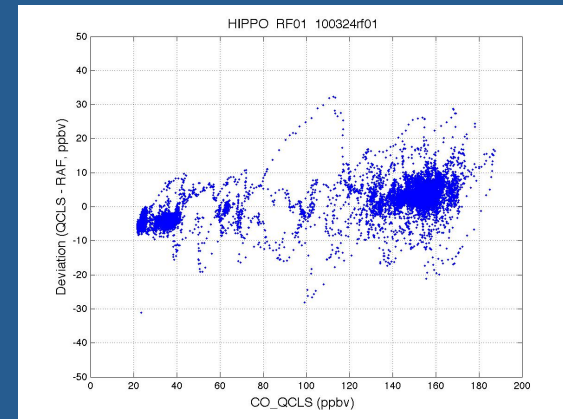
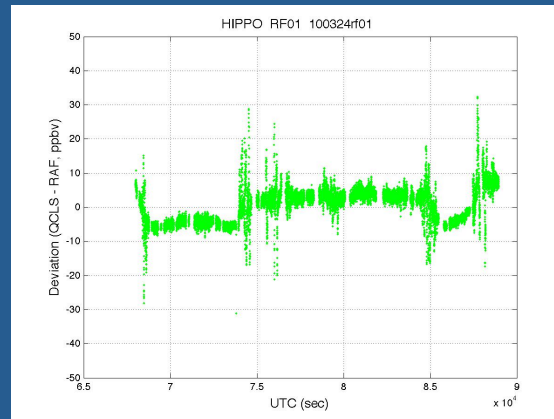
- Changes Implemented After HIPPO-1:
 - vent to cabin, isolated from community exhaust
 - shorten line length by > 20 feet
 - insert calibration line just downstream of pickoff point
- Additional tweaks after HIPPO-2:
 - sent dedicated support staff to 2 ground stops
 - change gas module line materials

Improved Agreement

Flight Number	HIPPO-2 RMS Difference (QCLS-VUV)	HIPPO-3 RMS Difference (QCLS-VUV)
1	4.1 ppbv	5.2 ppbv
2	11.6	13.9
3	9.5	12.8
4	4.0	7.2
5	4.2	1.2
6	3.7	1.1
7	6.0	1.3
8	4.9	2.3
9	9.8	6.2
10	11.0	5.2



HIPPO-3 Real Time Data Very Preliminary Intercomparison



- For HIPPO-2 and -3, agreement with QCLS instrument is very good
- Where there are differences, typical magnitude is within a ± 10 ppbv range
- No adjustment has been made for the difference in time response,
- Nor for lab characterizations of remaining altitude-dependent cal slope changes.

- Data Readiness:
- HIPPO-1 data have been processed and cleaned up to the extent possible.
- HIPPO-2, -3 data will undergo refinement. Changes will be small and will include a time shift of a few seconds.
- Targeted deadlines are feasible for our group.

The Remainder of HIPPO-2 Intercomparison Time Series

