

Flight Report: DISCOVER-AQ Science Flight #1

From: KEFD To: KEFD

Start: 09/04/13 13:51 Z Finish: 09/04/13 21:51 Z

Flight Time: 8.0 hours

Log Number: 13P201 PI: James Crawford

Funding Source: Hal Maring - NASA - SMD Radiation Science Program

Official report logged at:

http://airbornescience.nasa.gov/flight_reports/P-3_Orion_09_04_13

Flight	Date	Duration	Cumulative Hours	DISCOVER-AQ Hours remaining
<i>Total Allocated</i>				100
ECF	8/27/13	2.3	2.3	97.7
PCF	8/28/13	2.1	4.4	95.6
Transit	9/2/13	3.9	8.3	91.7
Science Flight - 1	9/4/13	8.0	16.3	83.7

Comments: This was the first science flight for DISCOVER-AQ. Skies were partly cloudy, but were not extensive enough to impede the P-3B from conducting spiral profiles. Profiles were conducted to the maximum planned height (15,500 feet) due to an extensive elevated aerosol layer across the entire flight domain. Scattering profiles showed a maximum aloft while trace gases enhancements were mostly between the surface and 7000 feet. An exception was oxygenated hydrocarbons measured by the PTR-MS which were also enhanced aloft. Air Traffic Control was very cooperative and accommodating with all profiles going smoothly, even for Moody Tower which is on the approach path for Hobby Airport. The depth of the profiles were time consuming, so only three of the eight profiles could be completed on the third circuit before running out of time for a total of 19 profiles. Strategies to reduce the time to complete each circuit will be discussed with the pilots.