

Flight Report: DISCOVER-AQ Science Flight #10

From: KPMD To: KPMD

Start: 02/06/13 16:19 Z Finish: 02/07/13 00:40 Z

Flight Time: 8.4 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 02 06 13 - 02 07 13](http://airbornescience.nasa.gov/flight_reports/P-3_Orion_02_06_13_-_02_07_13)

Flight	Date	Duration	Cumulative Hours	DISCOVER-AQ Hours remaining	PODEX Hours remaining
<i>Total Allocated</i>				100	21
ECF	1/10/13	1.1	1.1	98.9	21
ECF -2	1/10/13	0.6	1.7	98.3	21
PCF	1/10/13	2.1	3.8	96.2	21
Transit	1/14/13	8.3	12.1	87.9	21
Science Flight – 1	1/16/13	8.4	20.5	79.5	21
Science Flight – 2	1/18/13	7.6	28.1	71.9	21
Science Flight – 3	1/20/13	7.4	35.5	64.5	21
Science Flight – 4	1/21/13	7.6	43.1	56.9	21
Science Flight – 5	1/22/13	7.9	51	49	21
PODEX - 1	1/28/13	5.4	56.4	49	15.6
Science Flight – 6	1/30/13	7.7	64.1	41.3	15.6
Science Flight – 7	1/31/13	7.7	71.8	33.6	15.6
Science Flight – 8	2/1/13	8	79.8	25.6	15.6
PODEX -2	2/3/13	5	84.8	25.6	10.6
Science Flight – 9	2/4/13	7.4	92.2	18.2	10.6
Science Flight – 10	2/6/13	8.4	100.6	9.8	10.6

Comments: This was the final science flight for DISCOVER-AQ. Conditions in the valley were expected to remain polluted, but an unexpected low-level jet created the cleanest near-surface conditions observed during the campaign. Clouds were prevalent over much of the southeastern valley preventing missed approaches on several sites throughout the day, but the interesting observation was that the clean surface conditions contrasted strongly with polluted conditions aloft above clouds and at much higher altitudes than previously observed. This demonstrated that much of the ventilation was related to the lifting of haze rather than advection and transport out of the valley. Conditions cleared enough to allow a missed approach over Porterville before returning at the end of the flight, and instrumented missed approaches were accomplished at Bakersfield and Fresno.