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## Flight Report

<b>Aircraft :</b>	N426NA P-3B Orion
<b>Operating Site(s) From / To :</b>	KWAL/KWAL
<b>Flight Date :</b>	7/28/2011
<b>Flight Number :</b>	1094
<b>Take Off Time :</b>	<b>Local / GMT</b> 1018/1418
<b>Landing Time :</b>	<b>Local / GMT</b> 1803/2203
<b>Flight Time :</b>	7.8
<b>Flt Request # / PI:</b>	11P201 Dr. Jim Crawford (NASA LaRC) N/A [ ]
<b>Purpose of Flight(s) :</b>	Data [ <input checked="" type="checkbox"/> ] Ferry [ <input type="checkbox"/> ] Functional Check [ <input type="checkbox"/> ] Other [ <input type="checkbox"/> ]
<b>Aircraft Status:</b>	Up [ <input checked="" type="checkbox"/> ] Down [ <input type="checkbox"/> ]
<b>Sensor Payload :</b>	DISCOVER-AQ mission configuration
<b>Comments :</b>	<ul style="list-style-type: none"><li>Thirteenth science flight of the DISCOVER-AQ campaign. Flight was successful. Please see mission science report for further science updates.</li></ul>

SUBMITTED BY: Rick McKee \_\_\_\_\_

DATE: 7/28/2011\_\_\_\_\_

## Flight Hours Flown

<b>Flight</b>	<b>Date</b>	<b>Aircraft Flight #</b>	<b>Data Flight#</b>	<b>Duration (hr)</b>	<b>Remaining Hours*</b>
<i>Total Allocated</i>	6/26/2011				100
FCF	6/26/2011	1069		.8	100
DISCOVER-AQ ECF	6/26/2011	1069		1.6	98.4
PPF	6/26/2011	1069		1.1	98.4
PCF #1	6/28/2011	1074		2.6	95.8
Media Event Flight	6/28/2011	1074		.8	95.8
ECF #2	6/29/2011	1077		.9	94.9
PCF #2	6/30/2011	1079		2.8	92.1
Science Flight 1	7/01/2011	1080	#1	7.3	84.8
Science Flight 2	7/02/2011	1081	#2	7.7	77.1
Science Flight 3	7/05/2011	1073	#3	8.0	69.1
Science Flight 4	7/10/2011	1083	#4	7.6	61.5
Science Flight 5	7/11/2011	1071	#5	5.5	56.0
Science Flight 6	7/14/2011	1071	#6	8.1	47.9
Science Flight 7	7/16/2011	1087	#7	5.6	42.3
Science Flight 8	7/20/2011	1088	#8	7.7	34.6
Science Flight 9	7/21/2011	1089	#9	7.7	26.9
Science Flight 10	7/22/2011	1091	#10	7.9	19
Science Flight 11	7/26/2011	1092	#11	7.4	11.6
Science Flight 12	7/27/2011	1093	#12	7.7	3.9
Flight Hours Added	7/28/2011				16
Total remaining					19.9
Science Flight 13	7/28/2011	1094	#13	7.8	12.1

Comments: This afternoon flight was the first to be severely constrained by clouds. After the first UC-12 sortie succeeded in penetrating mid-level clouds <10% of the time, the second sortie was cancelled. Nonetheless, it was important to document air quality for at least one flight where the use of remote sensing was impaired. Conditions were much more variable and much more polluted than the previous two days for both aerosol and gas phase pollution. While overhead clouds may have suppressed ozone chemistry, at least two sites in the area went code orange (Padonia and Rockville) and two others reported rather high ozone for brief periods (Edgewood and Beltsville). The flow on this day was to the northwest, thus Padonia registered higher pollution levels than Essex, which is a less typical condition. At the end of the flight, the suggestion was made to perform a dual highway sampling run going north from Beltsville along the Baltimore-Washington Parkway and then south along I-95. During the first part of this run, the PTR-MS power supply failed. We will want to repeat this maneuver on the last flight.