TO: Airborne Science Program
NASA Headquarters
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Flight Report

| Aircraft : | N426NA P-3B Orion | | | |
|----------------------------------|---|--|--|--|
| Operating Site(s) From / To : | KWAL/KWAL | | | |
| Flight Date : | 7/01/2011 | | | |
| Flight Number : | 1080 | | | |
| Take Off Time : | Local / GMT 1019/1419 | | | |
| Landing Time : | Local / GMT 1739/2139 | | | |
| Flight Time : | 7.3 hrs. | | | |
| Flt Request # / Pl: | 11P201 Dr. Jim Crawford (NASA LaRC) N/A [] | | | |
| Purpose of Flight(s) : | Data [] Ferry [] Functional Check [x] Other [] | | | |
| Aircraft Status: | Up [x] Down [] | | | |
| Sensor Payload : | DISCOVER-AQ mission configuration | | | |
| Comments : | Today's flight was the first science mission flight for DISCOVER-AQ. This flight successfully flew in the Baltimore Washington corridor measuring column abundances and surface concentrations for key trace gases and aerosols throughout the day. | | | |

| SUBMITTED BY: R. McKee | DATE: 7/01/2011 |
|------------------------|-----------------|
| <u> </u> | |

Flight Hours Flown

| Flight | Date | Aircraft Flight # | Data Flight# | Duration (hr) | Remaining Hours* |
|--------------------|-----------|----------------------|-----------------|------------------|---------------------|
| Total Allocated | 6/26/2011 | i ligitt # | i iigiitii | () | 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 | Х | 7.3 | 84.8 |
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Comments: All instruments worked well during the first DISCOVER-AQ Science Flight. DLH was able to take data after finalizing integration on the previous day. Conditions aloft were very clean and pollution levels in the boundary layer were moderate. Skies remained clear throughout the flight. Execution of the flight plan went very well with only the last spiral over Essex being compromised by air traffic considerations. The ability to fly over ground sites was improved from the test flight. Strategies for tightening the spirals were discussed after the flight and will be implemented on the next flight tomorrow. Ground sites were operational, although Pandoras were not operational at Beltsville and Essex. Balloon launches at Beltsville and Edgewood were timed well with overflights of the P-3B. These should be corrected before the next flight.