Airborne Instrumentation Research Project

Flight Summary Report

Flight No. 77-057
Date 16 May 1977

FSR- 979

NASA
National Aeronautics and Space Administration
Ames Research Center
Moffett Field, California 94035

Airborne Missions and Applications Division
FLIGHT SUMMARY REPORT

Flight No: 77-057
FSR No: 979
Sensor Package: RC-10 / Aerosol Particulate Sampler (APS)

Purpose of Flight:
#0488 Support
Requestor: Robie
#0047 Support
Requestor: Ferry

Area(s) Covered: Sacramento Valley, California

SENSOR DATA

Accession No: 02484
Sensor ID No: 036 024
Sensor Type: RC-10 APS
Focal Length: 6" 153.19mm

Film Type: High Definition Aerochrome Infrared, SO-127

Filtration: CC .05C+.05B+2.2AV

Spectral Band: 510-900nm
f Stop: 4
Shutter Speed: 1/100
No. of Frames: 88
% Overlap: 60
Quality: Excellent
Remarks: Non-imaging sensor
FLIGHT SUMMARY

77-057

This flight was flown in support of Flight Requests #0488 (Robie, California Department of Water Resources) and #0047 (Ferry, NASA/ARC) under the FY 1977 Airborne Instrumentation Research Program (AIRP) plan. Photographic coverage was obtained over the Sacramento Valley in California (see Track Map). Aerosol Particulate Sampler (APS) data was collected on ascent east of Oakland, California.

Light scattered cumulus clouds were encountered over most of the valley with some heavy cumulus over Shasta Dam. The imagery obtained is of excellent quality with no camera or processing malfunctions noted.

The APS has been developed and is operated by Dr. Guy Ferry of the NASA-Ames Research Center Atmospheric Experiments Branch. The sampler is a non-imaging sensor designed to gather high altitude dust particles for laboratory research.
## FLIGHT LINE DATA

**FLIGHT NO. 77-057**

<table>
<thead>
<tr>
<th>Check Points</th>
<th>Frame Numbers</th>
<th>Time (GMT—hr, min, sec)</th>
<th>Altitude, MSL feet/meters</th>
<th>Cloud Cover/Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>RC-10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A-B</td>
<td>6764-6791</td>
<td>17:24:26</td>
<td>17:49:26</td>
<td>10-80% cumulus, frs. 6770-6772; 0-10% cumulus, frs. 6782-6791</td>
</tr>
<tr>
<td>C-D</td>
<td>6792-6818</td>
<td>17:52:50</td>
<td>18:17:30</td>
<td>10-70% cumulus, frs. 6792-6802; 10-20% cumulus, frs. 6814-6818</td>
</tr>
<tr>
<td>E-F</td>
<td>6819-6834</td>
<td>18:20:57</td>
<td>18:34:52</td>
<td>10-20% cumulus, frs. 6819-6820; 10% cumulus, frs. 6824-6828</td>
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<tr>
<td>G-H</td>
<td>6835-6851</td>
<td>18:38:20</td>
<td>18:53:01</td>
<td>0-10% cumulus, frs. 6835-6851</td>
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<tr>
<td>APS</td>
<td></td>
<td>17:06:--</td>
<td>17:08:--</td>
<td>60,000/18300</td>
</tr>
<tr>
<td></td>
<td></td>
<td>17:11:--</td>
<td>17:13:--</td>
<td>50,000/15250</td>
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<tr>
<td></td>
<td></td>
<td>17:19:--</td>
<td>17:21:--</td>
<td>40,000/12200</td>
</tr>
</tbody>
</table>

**Cloud Cover/Remarks:**
- APS #1 opened and closed
- APS #2 opened and closed
- APS #3 opened and closed