# FLIGHT SUMMARY REPORT

**Flight No:** 83-149  
**FSR No:** 1774  
**Date:** 14 July 1983  
**Julian Date:** 195  
**Aircraft No:** 709

**Sensor Package:** RC-10 Camera  
Aerosol Particulate Sampler (APS)

**Purpose of Flight:**  
- #0666 Support  
  Requestor: Lumb  
- #0792 Support  
  Requestor: Pollack

**Area(s) Covered:** Central Valley, California

## SENSOR DATA

<table>
<thead>
<tr>
<th>Accession No.</th>
<th>Sensor ID No.</th>
<th>Sensor Type</th>
<th>Focal Length</th>
<th>Film Type</th>
<th>Filtration</th>
</tr>
</thead>
</table>
| 03238         | 031           | RC-10       | 6"  
153.05mm    | High Definition  
Aerochrome Infrared,  
SO-131       | CC .30B + 2.2AV|

<table>
<thead>
<tr>
<th>Spectral Band</th>
<th>f Stop</th>
<th>Shutter Speed</th>
<th>No. of Frames</th>
<th>% Overlap</th>
<th>Quality</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>510-900nm</td>
<td>4.0</td>
<td>1/110</td>
<td>171</td>
<td>60</td>
<td>Excellent</td>
<td>Non-imaging sensor</td>
</tr>
</tbody>
</table>
FLIGHT SUMMARY

83-149

This flight was flown in support of Flight Requests #0666 (Lumb, NASA/ARC) and #0792 (Pollack, NASA/ARC) under the FY 1983 Airborne Instrumentation Research Program (AIRP) plan. Color infrared photography was acquired over the Central Valley in California (see track map). Additionally, aerosol particulate sampling was acquired throughout the flight above 60,000 feet, but is not depicted on the track map.

Light to moderate cirrus clouds were encountered during portions of the flight. No camera or processing malfunctions were noted, and the quality of the data is rated as excellent.

Aerosol Particulate Sampler

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. 83-149

<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>031</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A-B</td>
<td>5522-5535</td>
<td>18:25:56</td>
<td>18:38:22</td>
<td>65,000/19800</td>
</tr>
<tr>
<td>C-D</td>
<td>5536-5581</td>
<td>18:41:45</td>
<td>19:24:42</td>
<td></td>
</tr>
<tr>
<td>E-F</td>
<td>5582-5620</td>
<td>19:27:54</td>
<td>20:03:58</td>
<td></td>
</tr>
</tbody>
</table>

| 024          | ---           | 18:20:00                  | 21:25:00                  | 65,000/19800        |

- 10% cirrus, fr. 5522
- 5-40% cirrus, frs. 5550-5554
- Clear
- 10% cirrurs, frs. 5638-5640
- 10% light cirrus, frs. 5678-5681
- Clear, 37°34'N, 121°47'W; Fire, Livermore, California

APS #1 and #2 exposed for 3 hours and 5 minutes above 60,000 feet
FLIGHT 83-149
14 JULY 1983
Data Run
RC-10

JNC-43