

## Flight Summary Report: AVE 2004 Mission, Data Flight #4, 05 November 2004

**Aircrew:** Andrew Roberts and Brian Barnett

**Duration:** 5.2 hrs

**Takeoff:** 11:35

**Gear Up:** 11:35

**Gear Down:** 16:33

**Landing:** 16:43

**Point 3:** N30° 28'    W94° 01'

**Point 5:** N41° 16'    W97° 08'

**Point 6:** N40° 00'    W95° 07'

**Point 9:** N37° 03'    W94° 13'

**Point 13:** N34° 06'    W93° 22'

**Point 17:** N31° 08'    W92° 33'

### **Flight Profile:**

- We took off and climbed out in completely clear air.
- ATC vectored us so far to the north that we had to fly to the southeast to pick up Point 3. We turned north on-track just north of Point 3, and leveled off at FL 550 at 12:03, with no clouds above or below the aircraft.
- At 1:05, ATC announced that there were Pilot Reports of light/moderate turbulence in and around the St. Louis area between FL 350 and FL 390.
- At 13:41, the satellite was overhead. We were in severe clear.
- At 13:45, we overflew a jet that had a small, dissipating contrail.
- By 13:47, we were just on the edge of a very thin, high cirrus layer.
- We arrived at Point 5 at 13:56, and turned to the southeast, still overflying the thin, broken cirrus layer.
- We started a descent from FL 550 down to FL 290 at 14:03 over a thicker, solid cirrus layer. The cloud was optically opaque.
- At 14:11, we plunged into the top of the cirrus layer at FL 390, and came out of the bottom of the layer at FL 340.
- At 14:16, we arrived at Point 6, turned to the south, and leveled off at FL 290 with the cirrus overhead.
- By 14:23, the cirrus layer had dissipated and we were back into clear skies above and below the aircraft for the rest of the flight.
- At 14:43, we started a climb prior to reaching Point 9. We arrived at Point 9, FL 410 at 14:49. We continued our climb on up to FL 563 where we leveled off at 15:02.
- We started a descent at 15:09, arriving at Point 13, FL 410, at 15:17.
- ATC leveled us off at FL 370 at 15:20.
- At 15:28, ATC made us climb to FL 390, and then descend back down to FL 370 at 15:35.
- We started a climb up to max altitude at 15:45, arriving at Point 17, FL 410, at 15:48.
- At 15:53, we started a turn back to the west.
- We leveled off at FL 590 at 16:04, and started our final descent at 16:06.

- At 16:10, there was a smoke layer just off the left side of the aircraft that we overflew for a few minutes. Burning fields were the cause of the layer.

### **Instrument Issues:**

#### **CAFS**

- I manually reset CAFS at 12:27.
- At 12:54, CAFS Upper failed. OFF – 12:54, ON – 12:55, and light went out.
- At 13:02, CAFS Lower failed. OFF – 13:02, ON – 13:03, and light went out.
- At 13:32, CAFS Upper failed. OFF – 13:32, ON – 13:33, and light went out.
- At 13:48, CAFS Lower failed. OFF – 13:48, ON – 13:49, and light went out.
- I manually reset CAFS at 14:43.
- I manually reset CAFS at 15:45.

#### **SHIS**

- At 14:08, S-HIS Sound failed. I reset at 14:16 at the bottom of the descent.
- At 15:12, S-HIS Sound failed. I reset at 15:19 at the bottom of the descent.
- At 16:10, S-HIS Sound failed. I reset at 16:27 when things smoothed out some.

#### **CPL**

- I turned the CPL laser off at 14:11, and back on at 14:14 when we went through the cirrus.