

AFI 51-503 AIRCRAFT ACCIDENT INVESTIGATION REPORT
STATEMENT OF FACTS

1. AUTHORITY:

Under the provisions of Air Force Instruction (AFI) 51-503, on 6 July 1998, the Twelfth Air Force Commander, Lieutenant General Lansford E. Trapp, Jr., appointed Lt Col James E. Rowland to conduct an aircraft accident investigation after an F-16C aircraft, SN 85-1550 collided with the ground near Ainsworth, Nebraska. The investigation was conducted at Sioux City Air National Guard Base (ANGB), Iowa from 10 July through 26 July 98. The technical advisors were Mister Victor F. LaPuma (Legal), Major Daniel L. Vandivort (Medical) and Captain Lee J. Mitchell (Maintenance) (Tab Y-1 through Y-6).

2. PURPOSE:

An aircraft accident investigation is convened under AFI 51-503. The investigation is intended primarily to gather and preserve evidence for claims, litigation, disciplinary and adverse administrative actions, and for all other purposes other than mishap prevention. In addition to setting forth factual information concerning the accident, the board president is also required to state his opinion concerning the accident (if there is clear and convincing evidence to support that opinion), or to describe those factors, if any, that in the opinion of the board president, substantially contributed to the accident. This investigation is separate and apart from the safety investigation conducted under AFI 91-204. The report is available for public dissemination under the Freedom of Information Act (5 U.S.C. 552) and AFI 37-131. Accident board members were convened to investigate the Class A aircraft accident involving an F-16C aircraft, SN 85-1550, which impacted the ground near Ainsworth, Nebraska on 13 May 1998. The pilot of the aircraft safely ejected from the aircraft, however, he did sustain injuries (Tab X-1). There was minimal damage to private and public property (Tab P-2, Tab BB-1 through BB-5). Total loss of government property was \$16,298,357.00 (Tab M-2).

3. SUMMARY OF FACTS:

a. History of Flight Activity:

The mission began with the flight briefing at approximately 0800 Local (L) at the 174th Fighter Squadron (FS)/185th Fighter Wing (FW) Sioux City ANGB, Iowa on 13 May 1998. The flight was briefed as a two ship Surface Attack Tactics sortie to IR-508 (low level route) and the O'Neill Military Operating Area (MOA). The call signs were Bat 41 and Bat 42. The flight took off from Sioux City ANGB at 0935L (Tab V-3, Tab V-16, Tab DD-1). At approximately 1002L, while in the IR-508 low level route structure, Bat 42, the mishap aircraft (MA), collided with a minimum of 5 American White Pelicans (AWP) (Tab J-14). A minimum of one AWP possibly penetrated the windscreen. A minimum of one AWP, or a substantial proportion of one, was ingested into the MA engine (Tab J-15). Immediately following the bird strike, Lt Col Lundquist, the mishap pilot (MP), ejected from aircraft SN 85-1550 (Tab J-20, Tab O-30, Tab R-2). Approximately 8.5 seconds later, the MA impacted the terrain (Tab J-13). The aircraft was completely destroyed (Tab M-2). Bat 41 remained in the mishap area for approximately 30 minutes to facilitate the crash and rescue effort by emergency response personnel. Bat

minutes until clear of the river. For the next four to five minutes, Bat 41 flight began a gradual "step down" to approximately 500 feet AGL. In the area of Ainsworth, Nebraska (Tab V-8; Tab EE-2), Bat 41 noticed Bat 42 descending and rolling. Bat 41 radioed Bat 42 to "pull up". After the radio call, Bat 41 saw an inflated parachute behind the aircraft and realized Lt Col Lundquist had ejected from the aircraft. Bat 41 then turned the aircraft to establish an orbit over where the parachute had landed on the ground (Tab V-8, Tab V-17, Tab EE-2).

e. Impact:

The mishap aircraft (MA) collided with a minimum of 5 American White Pelicans while flying IR-508 at approximate coordinates N 42-27.559 W 99-51.160 at approximately 830 feet AGL and an airspeed of 520 knots. Aircraft components with significant bird remains were: MP helmet, parachute container assembly, aircraft canopy, ejection seat, and engine (Tab J-12, Tab J-14, Tab S-3 through Tab S-6). The canopy was designed to withstand a 4 pound bird strike at 350 knots (Tab J-21). The MA received multiple 12.5-15.5 pound bird strikes at 520 knots (Tab J-14 and O-49) resulting in the canopy's structural failure either as result of the birds striking the fuselage (Tab J-21 through Tab J-24) or impacting the canopy directly. There was no evidence of fire prior to impact. Evidence of two concentrated areas of bird debris in the exhaust duct of the engine indicates that at least two large portions of bird were likely ingested into the engine (Tab J-12).

The MP's testimony relates that he was looking out the left side (maintaining position off of lead) and just beginning to turn his head to look forward when he was immediately "pinned to the left...and back against the seat." He describes it felt like "someone had put a big fan on my face...and someone was beating me with a ball bat." He remembers a loud fluttering noise and a loss of vision. The MP then ejected even though he does not recall doing so (Tab V-9, Tab V-13).

The engine operated normally for the approximate 8.5 seconds of flight after the bird strikes and prior to ground impact (Tab J-13). The mishap aircraft impacted the ground with an Angle of Attack (AOA) of 1.2, an 11 degree nose down pitch angle, and in a 79 degree left bank (Tab O-49). A scar in the ground approximately 100 feet long, in front of the impact crater, appeared to be caused by the left wing tip. Beyond the impact site, the debris was primarily scattered over a distance of approximately one mile in the general direction of the scar (Tab J-9 and R-2).

Aircraft SN 85-1550 impacted the terrain at approximately 1003L on 13 May 1998 at N 42-26.214 and W 99-52.022 (Tab O-30), or approximately 7 miles south of Ainsworth, Nebraska, (Tab V-24) at a terrain elevation less than 2650 feet Mean Sea Level (MSL) (Tab J-20).

f. Egress System:

The evidence indicates the ejection control handle (D-ring) was pulled initiating the ejection sequence. However, the mishap pilot does not recall pulling the D-ring or initiating the ejection sequence. The ejection was performed within the performance envelope of the system. All indications are the system performed as designed (Tab J-2 through Tab J-8, Tab V-13).

g. Personal and Survival Equipment:

According to the aircraft forms and sworn testimony, all personal and survival equipment inspections were up to date and performed correctly (Tab U-14 through Tab U-29, Tab U-37,

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