

**SUMMARY OF FACTS AND STATEMENT OF OPINION
F-16 CONTROLLED FLIGHT INTO TERRAIN ACCIDENT
22 APR 98**

1. **AUTHORITY:** Under the provisions of Air Force Instruction (AFI) 51-503, on 14 May 1998, the Twelfth Air Force Commander, Lieutenant General Lansford E. Trapp, Jr., appointed Colonel Frederick J. Bell to conduct an aircraft accident investigation after an F-16C aircraft, number SN 88-0473 collided with the ground over the White Sands Missile Range (WSMR). No damage was caused to private property (Tab P-2). The investigation was conducted at Kirtland Air Force Base (AFB), New Mexico from 21 May through 9 June 98. The technical advisors were Capt Miguel Torrealday (Operations), Capt Jacqueline Bouchard (Legal), Capt Michael Smith (Medical) and 1Lt Timothy Howard (Maintenance) (Tab Y-1 through Y-5).

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, number SN 88-0473, which impacted the ground on the WSMR on 22 Apr 98. The pilot of the aircraft, 1Lt Patrick Potter, died in the collision (Tab X-1). Total loss was \$22,608,852.10, including \$16,200,000 for the aircraft itself, which was totally destroyed upon impact (Tab M-2).

3. **SUMMARY OF FACTS:**

a. **History of Flight Activity:** The mission began with the flight briefing at approximately 1800 Local (L) (0000 Zulu (Z)) at the 188th Fighter Squadron (FS)/150th Fighter Wing (FW) Kirtland AFB, NM on 22 April 1998. The flight was briefed as a three ship Mission Qualification Training (MQT)-9 Night Surface Attack Tactics (SAT) (Low Altitude Navigation Targeting InfraRed at Night (LANTIRN) Cat-1) sortie to the WSMR complex. The call signs were Taco 41 through Taco 43. The flight took off at approximately 2000L (0200Z) with air refueling conducted in AR-310W track on the way to Red Rio Range. The first attack was a night medium altitude 30-degree bunt High Altitude Dive Bomb (HADB). On the second attack, a night medium altitude 30 degree roll and pull HADB, Taco 42 (1Lt Potter), the mishap pilot (MP), in aircraft SN 88-0473 impacted the terrain at approximately 205148L (025148Z) hours. The aircraft was completely destroyed and the MP was fatally injured. Taco 41 and 43 remained on station managing the Search and Rescue (SAR) effort until approximately 2200L (0400Z). They then recovered to Kirtland AFB/Albuquerque International (KAFB/ABQ INTL), landing at approximately 2215L (0415Z).

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NUCLEAR REGULATORY COMMISSION

Docket No. _____ Official Exh No. 200
In the matter of PPS
Staff ✓ IDENTIFIED ✓
Applicant ✓ RECEIVED ✓
Intervenor _____ REJECTED _____
Cont'g Off'r _____ DATE 7/1/02
Contractor _____ Witness _____
Other 9/14
Reporter _____

b. **Mission.** The purpose of the mission was to fly a 3 ship Mission Qualification Training (MQT), Medium Altitude Navigation Targeting InfraRed at Night (MANTIRN), Surface Attack Tactics (SAT) mission to White Sands Missile Range (WSMR). The mission content and execution were based on the 150th Fighter Wing MQT/MR Upgrade Program Syllabus (Tab DD-1 through DD-86).

c. **Briefing and Preflight:** The mishap pilots' crew rest was within established regulations (V-9.4). The mission briefing was accomplished in a thorough and professional manner. Testimony attested to a clear and understandable presentation by the mission briefer, Taco 41 (Capt Harris) (Tab V-7.4 through V-7.8, V-9.4 through V-9.11). Mission preparation began about 24 hours prior to the flight brief with Capt Harris and 1Lt Potter planning the route of flight, attacks and line up card (Tab V-7.3, V-9.3 through 9.5). The formal briefing procedures began with the flight brief at 1800 hours which Taco 41 (Capt Harris), Taco 42 (1Lt Potter), and Taco 43 (Capt Dixon) attended (Tab V-7.5, V-9.5). The mission brief was conducted by Capt Harris using the MCI 11F-16, Volume III briefing guide for general/emergency procedures and special mission events including air refueling, Forward Looking InfraRed (FLIR) bore sight, direct attacks, Laser Guided Bombs (LGB's) operations to include buddy lasing procedures (Tab V-7.5, V-9.6). The overview included single ship, 15 seconds spacing, after-burner take off, direct to the tanker for air refueling, FLIR bore sight, direct to the Red Rio Range for direct attacks, LGB operations and recovery to an Instrument Landing System (ILS) full stop landing (Tab V-7.4 through 7.5, V-9.5 through 9.6). Testimony showed the brief was very thorough and meticulous and covered all of the applicable training rules and special interest items such as spatial disorientation and channelized attention. Taco 41, the Instructor Pilot, put special emphasis on ensuring the direct attacks were performed without a targeting pod lock to preclude task saturation when performing the diving attack. Additionally, Taco 41 briefed to set "the Line in the Sky" aural warning feature to 12,500 feet. (The "line in the sky" feature allows for an altitude to be set in the aircraft central computer so that when the aircraft passes through that set altitude, the aural warning of "altitude, altitude, altitude, altitude" comes on through the pilot's headset.) Taco 41 instructed Taco 42 to discontinue any attack if this aural warning occurred in order to remain above a minimum altitude of 11,000 feet over the target area (Tab V-7.6 through 7.8, V-7.13, V-9.7 through 9.11).

d. Flight Activity:

(1) The flight plan was a local standard (stereo) flight plan (TC-LM) (Tab K-4). The route was to AR-310W (Air Refueling Track) and then to WSMR, returning to Kirtland AFB/Albuquerque International. Nothing out of the ordinary was noted and all communications between the mishap pilots and Air Traffic Control (ATC) were clear and understandable. No navigational difficulties were noted (Tab V-7.10, V-9.12 through 9.13).

(2) Taco 41 flight's departure from Kirtland AFB/Albuquerque International at 2000L (0200Z), entry into the Air Refueling Track 310W and entry onto the Red Rio Range inside WSMR were uneventful. Taco 42 (1Lt Potter) had a minor deviation while air refueling. The flight checked in with "Cherokee" Control and was given the current altimeter setting and discreet working frequency (Tab V-7.10 through 7.11, V-9.12 through 9.13).

(3) The attacks began with Taco 41 performing a low altitude 10-degree bunt attack and Taco 42 and 43 doing a medium altitude 30-degree bunt High Altitude Dive Bomb (HADB) attack. During this attack, 1Lt Potter's aircraft was plotted at 9,600 feet MSL, 1,400 feet below the remain-above altitude of 11,000 feet over the target area (Tab CC-3).

(4) After his attack recovery, Taco 41 queried Taco 42, the mishap pilot, if he had him in sight in order to climb up to medium altitude. When there was no response on the UHF radio, Taco 41 asked Taco 42, on VHF radio, what frequency he was on. He responded he was on Have Quick radio and shortly thereafter, Taco 42 returned to the appropriate discreet UHF working frequency (Tab V-7.10 through 7.12, V-9.14 through 9.16).

(5) The second (mishap) attack began with Taco 41, now at medium altitude with the rest of his flight, calling a fuel check at the base point. The next attack was a medium altitude 30-degree roll and pull HADB for all three flight members (Tab V-7.12, V-9.15).

(6) After the fuel check, Taco 41 turned to the final attack heading of 138 degrees magnetic and Taco 42 followed 2-4 nautical miles (nm) in trail and Taco 43 6-8 nm in trail (Tab CC-3). At this time, there were substantial deviations in the altitude of 1Lt Potter's aircraft and these deviations are noted in the radar plots. In the darkness, Taco 41 and 43 did not see these deviations; there was little to no moonlight and the range itself is unlit.

(7) Taco 41 performed his 30-degree roll and pull HADB. He reached his action point of 3 seconds prior to level weapons release, rolled inverted, performed his delivery, recovered his aircraft into a climb, and began a turn to cross wind while monitoring Taco 42's first roll and pull delivery. Taco 43 was approximately 5 nautical miles in trail of Taco 42 (Tab EE-1).

(8) On 1Lt Potter's second attack, his altitude was plotted below the remain-above altitude over the target area. The last radar plot had 1Lt Potter at 8,800 feet MSL at a calculated dive angle of approximately 40 degrees (Tab EE-13).

(9) When Taco 42 began his diving attack at approximately 084920L (024920Z), Taco 41 was turning crosswind and, upon observing Taco 42, he felt everything was going according to plan until his mental clock told him Taco 42 should be recovering from the dive and starting a climb. Before he had a chance to use his radio, Taco 41 observed an explosion as Taco 42 impacted the ground. Taco 41 immediately called "Knock It Off, Knock It Off" as Taco 43 was about to begin the action for his attack (Tab EE-13, V-9.20, FF-4).

e. Impact: Aircraft SN 88-0473 impacted the terrain at approximately 205148 hours (hrs) local (025148 Zulu) on 22 Apr 98 at 33 46.192 N and 106 12.520 W (Tab FF-4) at 6,400 feet Mean Sea Level (MSL). Photographs show a relatively small impact area indicating a steep nose low impact (Tab S-2 through S-3, Z-1 through Z-3). Components useful for mishap investigation were destroyed or damaged by ground impact to the extent that post-impact analysis was not possible. Aircraft SN 88-0473 airspeed and attitude were not able to be determined using onboard data. However, the recovery of the left Angle Of Attack (AOA) transmitter was found

to have marks equating to 6.3 degrees AOA at impact and the left flaperon actuator had marks equating to 2.2 degrees trailing edge down (TED) and 4.5 degrees TED which supported some analysis. The other actuators could not be identified and labeled since they are interchangeable between the right flaperon and horizontal tail. All devices containing recorded memory normally used for mishap analysis such as the Flight Data Recorder (often referred to as the seat data recorder), Flight Control Computer, and Crash survivable Flight Data Recorder (CFSDR) were destroyed (Tab J-4 through J-7)

f. Egress System: Based on analysis of the escape system components and canopy jettison system components recovered at the impact site, there was no indication that prior to ground impact an ejection attempt was initiated (Tab J-26 through J-29)

g. Personal and Survival Equipment: According to sworn testimony and maintenance and life support records, all of the survival equipment inspections were properly performed and up to date (Tab AA-1 through AA-11, V-18.3 through 18.5).

h. Rescue: The time of the ground collision was approximately 205148L (025148Z) (Tab FF-4). Local time was Mountain Standard Time. The SAR effort was initiated by Taco 41, Capt Harris, and Taco 43, Capt Dixon, by relaying to Cherokee Control that an aircraft was confirmed down on the Red Rio Range Complex (Tab FF-5). Cherokee activated their crash checklist and called Holloman AFB Command Post (HAFB CCP) who proceeded with their expanded checklist (Tab FF-7, V-14.3 through 14.5, V-15.7). Taco 41 monitored the emergency frequency of 282.8 on UHF radio, climbed to the North of the airspace to act as radio relay with the 150th FW Supervisor of Flying (SOF) on VHF radio. Taco 43 monitored guard frequency, remained over the crash site and marked the impact area and passed information to Cherokee Control (Tab FF-11). Coordination for the SAR was accomplished by HAFB CCP; Taco 41 flight; the 150FW SOF, at Kirtland AFB, and the Air Combat Command (ACC) Rescue Coordination Center at Langley AFB, VA (Tab V-5.6 through 5.14, FF-6 through 12). HAFB CCP contacted the 48th Rescue Squadron (RS) at HAFB for Helicopter support and notified the Stallion Fire Department (SFD), located 45 nautical miles west of the Red Rio Range Complex, for ground crash response. The SFD deployed a crash response team and arrived in the vicinity of the crash at approximately 2137L (0337Z) (Tab FF-11 through FF-12, V-14.4 through 14.5, V-15.7 through 15.8). Information was passed that helicopter support would be airborne from HAFB within 30 minutes, but the report was erroneous. There were no pilots at HAFB in crew rest at the time and while the commander of the 48 RS was working a waiver for his crews to launch, rescue helicopters from the 58th Special Operations Wing (SOW) were diverted from a training sortie to provide SAR support (Tab FF-14, V-5.8, V-14.4 through 14.5, V-15.7).

Taco 41 and 43 remained on station at the crash site until approximately 2200L (0400Z) (Tab FF-26). They were relieved by Hound 03 and 04, two F-16's from Cannon AFB, NM who were airborne on a training mission, and they remained on station until approximately 2257L (0457Z). Shadow 12, an MC-130 from the 58 SOW, arrived on station at approximately 2200L (0400Z) and waited for the arrival of the HH-60's from Kirtland AFB (KAFB). The two HH-60's from the 58th SOW diverted from their training mission and recovered to KAFB to refuel and pick up a pararescue jump (PJ) team prior to arriving on station (Tab FF-14, V-8.3 through

8 5, V-17.2). The first HH-60 arrived at the crash site at approximately 2300L (0500Z) and the second HH-60 with the PJ's arrived at approximately 2345L (0545Z) (Tab FF-15, FF-27).

The SFD could approach no closer than 2 nm from the crash via roads. They proceeded on foot to within 2000 feet of the impact area. They remained that distance away until a determination was made on the possible Hydrazine contamination. When the HH-60's and PJ's arrived at the site, a thorough search of the area was accomplished. They looked for a parachute, ejection seat or anything else that would indicate an ejection (Tab V-8.4 through 8.5, V-17.4 through 17.17.5). Fires in the area limited the capabilities of the Night Vision Goggles (NVG's). Rough terrain further hampered the search. The search did not find any evidence of an ejection or a survivor. During the entire rescue effort there was no emergency locator beacon (ELT) transmission reported. The MC-130 and HH-60's departed the site at approximately 0245L (0845Z) (Tab FF-13, V-8.5, V-17.6). As they departed, the Initial Disaster Response Team (IDRT) that convoyed from HAFB arrived at the Red Rio Range Complex (Tab V-8.5).

The IDRT continued the ground search. At approximately 1200L (1800Z) on the 23 of April of 1988, a determination was made, by Capt (Dr) Mark E. Boston that 1Lt Potter had been fatally injured in the crash (Tab FF-28, X-1).

i. Crash Response: The crash occurred at approximately 205148L (025148Z) on Red Rio Range. The Stallion Fire Department arrived on site at 2136L (0336Z). Their effort was hampered by darkness (zero moon illumination), rugged terrain and lack of roads at or near the impact area. They proceeded to the impact area on foot and remained in the area to control the fires but stayed at least 2000 feet from the impact site and up wind to preclude possible contamination from Hydrazine. The rescue Helicopters arrived at approximately 2300L (0500Z) and 2345L (0545Z) respectively and had their PJ's do a ground search while the helicopters performed an airborne search for a possible survivor. Their efforts turned up no evidence of a survivor. NVG's were used due to the darkness but were hampered by the crash fires.

The IDRT arrived from HAFB at approximately 0245L (0845Z) and could not get their equipment to the crash site due to the lack of roads and rough terrain. They eventually reached the site by foot but decided to wait for daylight and the arrival of helicopters from HAFB before moving the bulk of the team to the crash site. The crash site was secured and searched on the morning of the 23 of April 1988 and a determination was made at 1200L (1800Z) that the pilot was fatally injured.

The crash and rescue response were timely and well coordinated, with the crash site covered by airborne assets or ground teams from the time of the crash until the site could be secured by the IDRT on the morning of April 23, 1988.

j. Maintenance Documentation: Upon careful review of the original aircraft AFTO Forms 781 and their duplicates (Tab H-2 through 7), no discrepancies are factors to this accident. The only notable AFTO form 781 documentation discrepancies found was the AFTO 781A not being pulled-forward from the previous day's maintenance and munitions status showed loaded on the 781H but not in the 781A. After reviewing the original aircraft AFTO forms 781K, sections E and H and their duplicates (U-6 through U-21), there were no Time Compliance Technical Orders (TCTOs) overdue, and no discrepancies are annotated in the AFTO forms 781A or K (section I) (U-16, U-20 through U-22). All time change requirements were completed on time and no

discrepancies were noted in the AFTO form 781A or K due to time change requirements at the time of accident. The original AFTO forms 781K, sections A and G, and their duplicates do not indicate any overdue scheduled inspections (U-16, U-17). Also, no discrepancies are annotated in the AFTO forms 781A or K (section I) which were a result of previous scheduled inspection accomplishment. Pre-mission oil analysis was accomplished on the aircraft and revealed no abnormalities (U-22). Post-accident oil analysis sample was not available from the crash site. Extensive review of the Core Automated Maintenance System (CAMS), in addition to the thorough review of the aircraft jacket files, the active AFTO forms 781, engine equipment records to include the historical document AF form 95 and automated engine history showed no negative documentation or maintenance trends. As per direction given in the letter of appointment to the Maintenance Member of the Accident Investigation Board, a review of the CAMS data for the 180 days prior to the accident was accomplished. Aircraft SN 88-0473 had an extensive history of Electro-Environmental system discrepancies and was consequently corrected by removing and replacing the Low Stage Bleed Air Valve and Canopy Pressure Regulator Seal on the 30th of Mar 1998 (U-33). The AF Form 711C, Aircraft Maintenance and Material Report, (D-2, D-3) is used to record components or accessories removed from the aircraft as a possible cause of the accident. In this case, no components or accessories were removed from the mishap aircraft after the crash. There appeared to be no maintenance procedures, practices, or performance by either military or civilian technicians that are factors to this accident.

k. Maintenance Personnel and Supervision: A review of maintenance personnel AF Forms 623 (On The Job Training Records) and AF Forms 797 (Job Qualification Standard Continuation/Command) was used to verify that individuals assigned to work on the mishap aircraft were properly trained and held the skill level to perform assigned duties. The 150th AGS/MXS Maintenance Supervision provided proper training and supervisory oversight and was effectively organized in the manner specified in ANGI 21-101 (U-37 through U-62). A review of aircraft preflight/thruflight servicing and supervision for tasks revealed no discrepancies. There appeared to be no maintenance practices, training or procedures that are factors in this mishap (U-37 through U-95).

l. Engine, Fuel, Hydraulic, and Oil Inspection Analysis: Upon review of AF Form 711C (D-2, D-3) and the engine equipment records, no abnormalities or open discrepancies were discovered. Engine inspection documentation was appropriately maintained. Fluid samples taken from the fuel truck, oil servicing cart, and hydraulic servicing cart used to service the aircraft passed testing for purity, composition, and quality (H-6, J-17-19, U-22). The last 30 oil samples showed no signs of negative trending (an increase in negative wear metals composition) or indicated a potential for engine failure (U-22, U-23). Post-accident hydraulic fluid and engine oil analysis was not accomplished on aircraft SN 88-0473 due to the severity of the impact. Capt Brenholdt, the pilot who flew the aircraft the sortie previous to accident, testified that he experienced no aircraft hydraulic or engine problems (V-4 4).

m. Airframe and Aircraft, Missile, or Space Vehicle Systems: After vigilant review of all maintenance actions described above, no maintenance practice or procedure was deemed a factor in this accident. There is no indication of any manufacturer being contacted concerning suspected system failure. There were no stations, components or accessories that were overhauled,

repaired, bench checked, or tested as a result of this accident. Capt Brenholdt, who flew the afternoon sortie on the 22nd of April 1998 prior to 1Lt Potter, indicated that he experienced no problems in the avionics, mechanical, electrical or hydraulic aircraft systems prior to the accident (V-4.4)

n. Operations Personnel and Supervision: The mission was authorized by Col Richard Radtke, 150th Fighter Wing (FW) Vice Commander (Tab K-3). The briefing officer for the mission was Capt Joel Harris, one of the squadron's designated Low Altitude Navigation Targeting InfraRed at Night (LANTIRN) instructor Pilots. Capt Harris used the MCI 11F-16, Volume III briefing guide (Tab HH-60 through 80). Pilot interviews confirm the briefing was performed in a very thorough and methodical manner covering all the required items and mission events (Tab V-7.4 through V-7.8, V-9.4 through V-9.11)

o. Pilot Qualifications: A review of 1Lt Potter's (Taco 42) grade sheets for Basic, LANTIRN, and Mission Qualification Training shows normal to above average progression. 1Lt Potter was an inexperienced but hard working and eager wingman who had 106.3 hours in the F-16 and a total of 327.7 hours (Tab G-3). A review of his Flight Evaluation folder revealed that on his only Certificate of Aircrew Qualification, he had failed his first Emergency Procedures Evaluation (EPE) but quickly passed his subsequent EPE. He culminated the checkout by receiving no discrepancies on his Initial Qualification check flight. According to his instructor pilots and flight commanders, his performance in the LANTIRN and MQT programs was above average (Tab BB-1 through 50)

Recent flight time is as follows (Tab G-4):

	Hours	Sorties
30 days	12.0	8
60 days	16.7	11
90 days	21.7	15

A review of Capt Harris' and Capt Dixon's currencies and qualifications shows both pilots were current and qualified to perform the duties required of the mission. Each pilot who testified for the board commented on the above average ability of 1Lt Potter (Tab V-6.3, V-11.5, V-12.4). Their operations officer, Lt Col Bledsoe, testified that 1Lt Potter was average to slightly above average (Tab V-2.3). There were no deficiencies in 1Lt Potter's MQT program (Tab BB-1 through BB-32).

p. Medical: A thorough review of the mishap pilot's medical and dental records was performed. The mishap pilot was medically qualified at the time of the mishap. 1Lt Potter had a current AF Form 1042 "Medical Recommendation for Flying or Special Operation Duty", valid until 30 September 1998 (Tab X-3). The remains were unsuitable for toxicological analysis. Through DNA analysis, the remains were identified as those of 1Lt Potter.

q. Nav aids and Facilities: Nav aids, facilities and NOTAMs were reviewed. Nothing was noted that could have contributed to the mishap (Tab W-10).

r. Weather:

(1) During the time frame of the mishap, KAFB/ABQ INTL forecast conditions were few clouds at 12,000 feet; unrestricted visibility; winds 140 at 10 knots; and minimum altimeter setting of 30.10 (Tab K-5 through 21). At the time of the mishap, actual conditions at KAFB/ABQ INTL were wind 070 at 15 knots, 10 standard miles visibility, clear, and altimeter setting 30.27 (Tab W-1).

(2) During the time frame of the mishap, forecast weather for the WSMR (Red Rio) was few clouds between 8,000 to 12,000; no restrictions to visibility; surface winds 160 at 10 gusting to 15 knots; minimum altimeter setting of 30.18; moon rise at 0400L; moon set at 1537L; and moon illumination at 24 % (Tab K-6, W-7). Pilot testimony revealed that the actual weather in the target area was clear with great infrared contrast. The night was very dark due to the moon having already set and lack of cultural lights on the ground (Tab V-7.10, V-9 13 through 9 14) The lack of a perceivable horizon and depth perception degraded visual-only operations while enhancing FLIR and Targeting Pod operations (Tab V-9.13 through 9.14).

s. Governing Directives and Publications:

(1) Primary directives and publications relevant to this mishap.

(a) Pilot related Instructions

Multi Command Instruction (MCI) 11-F16, Volume III, Flying Operational Procedures F-16 (Tab HH-1 through HH-40, HH-59 through HH-87)

MCI 11-F16, Volume III/150FW Supplement 1, Pilot Operational Procedures F-16 (Tab HH-41 through HH-58)

Air Force Instruction (AFI) 11-214, Flying Operations (Tab HH-88 through HH-112)

AFI 13-212, Volume I/ACC SUP1, Space, Missile, Command and Control WEAPONS RANGES (Tab HH- 113 through HH-131)

AFI 13-212, Volume I/HAFB Supplement 1, Space, Missile, Command and Control WEAPONS RANGES (Tab HH-132 through HH-158)

(b) Maintenance related Instructions

ANGI 21-101 - Maintenance Management of Aircraft (Tab U-37 through U-62)

Technical Order 00-20-1 - Preventive Maintenance Program General Policy Requirements and Procedures (Tab U-63 through U-69)

Technical Order 00-20-5 - Aircraft, Drone, Aircrew Training Devices, Engines, and Air-Launched Missile Inspections, Flight Reports, and Supporting Maintenance Documents (Tab U-70 through U-95)

(2) Known or suspected deviations from directives or publication by pilot members or others involved in the mishap mission.

(a) Pilot: known or suspected deviations.

None.

(c) Maintenance: known or suspected deviations.

None.

15 Jun 98

President


FREDERICK J. BELL, Col, USAF
Accident Investigation Board

STATEMENT OF OPINION

F-16 CONTROLLED FLIGHT INTO TERRAIN ACCIDENT 22 APR 98

1. Under 10 U.S.C. 2254(d) any opinion of the accident investigators as to the cause or causes of, or the factors contributing to, the accident set forth in the accident investigation report may not be considered as evidence in any civil or criminal proceeding arising from an aircraft accident, nor may such information be considered an admission of liability of the United States or by any person referred to in those conclusions or statements

2. **OPINION SUMMARY** (See Discussion of Opinion section after the Opinion Summary section for detailed explanation):

Clear and convincing evidence shows that the primary cause of this mishap was that, during his 30 degree HADB pass, 1Lt Potter channelized his attention on some aspect of the attack and descended below the briefed recovery altitude, became spatially disoriented and impacted the terrain at 2051.48 L (0251.48 Z) on 22 Apr 98 on the Red Rio Range, New Mexico.

3. **DISCUSSION OF OPINION:** I reviewed all the maintenance information and interviewed Capt Brenholdt, the pilot who flew the aircraft on the sortie prior to the accident. I determined maintenance was not a factor in this accident. Reviewing 1Lt Potter's grade books (FTU, LANTIRN, and MQT) and speaking with his supervisors and instructor pilots, I determined 1Lt Potter was an average to above average pilot, who was capable and qualified for the briefed mission. Training and supervision were not a factor. The mission was challenging but not outside 1Lt Potter's capability to accomplish. The briefing was well structured and adhered to the training syllabus and required regulations/publications. The briefing, regulations, and publications were not factors in this accident.

In receiving the radar plots and altitude cuts for Taco 42's first attack, a 30 degree HADB attack executed from a bunt, 1Lt Potter's aircraft is plotted at 9,600 feet MSL, 1,400 feet below the remain above altitude of 11,000 feet over the target area (Tab CC-3). Additionally, from radar plots, there is erratic altitude control during his positioning for the second attack. Taco 41 and Taco 43 did not notice these altitude excursions. The darkness, with no moon and no cultural lighting limited their capability to monitor Taco 42's flight parameters. On 1Lt Potter's second attack another 30 degree HADB, this time executed from a roll and pull maneuver, his altitude is again plotted below the remain-above altitude over the target area. I believe 1Lt Potter had channelized his attention on some aspect of the diving attack which caused him to miss his recovery altitude and ignore the aural warning of "Altitude, Altitude, Altitude, Altitude" that should have come on either at 12,500 feet or 11,500 feet. Which exact altitude the warning occurred depends on whether he had set the 12,500 feet MSL recovery altitude in the "Line in the sky" feature as briefed, or had forgotten and left it set at 11,500 feet MSL from the Data Transfer Cartridge (DTC) load (Tab CC-9). The last radar plot had 1Lt Potter at 8,800 feet MSL at a calculated dive angle of approximately 40 degrees (Tab EE-13).

Since all onboard systems were destroyed in the impact, the rest of the analysis from the last radar plot to impact can only be conjecture and best guess analysis from the recovered AOA probe and the left flaperon actuator. Analysis of the impact site and wreckage has the aircraft impacting at approximately 30 to 40 degrees nose low in a rolling right bank with approximately 4 to 5 g's and at an airspeed greater than 570 knots (Tab GG-1 through 3). Because of the rising terrain, the aircraft impacted at about 70 to 90 degrees in reference to the terrain. It is my belief that at some time during the attack and after the last radar plot, 1Lt Potter attempted to recover the aircraft from the attack and became spatially disoriented making an incorrect decision on how to recover his aircraft. During this faulty recovery, the aircraft impacted the terrain and was destroyed.

15 Jun 98



FREDERICK J. BELL, Col, USAF
Accident Investigation Board President