Interim Report
on the
Crash of TWA Flight 800
and the
Actions of the NTSB and the FBI

By

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In cooperation with

Associated Retired Aviation Professionals

For The

Committee on Transportation & Infrastructure

Subcommittee on Aviation

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INTRODUCTION

This report has been produced for the Aviation Subcommittee of the House of Representatives and Accuracy in Media, who has funded some of the expense and research.

Like most Americans, I was very concerned when TWA Flight 800 mysteriously exploded on July 17, 1996 off the coast of Long Island, just two days before the start of the Atlanta Olympics. I followed the developments in the media with interest because it was so unusual for something like this to happen to a Boeing 747 without an obvious external cause. However, having experience as a naval aircraft accident investigator, I was confident that the NTSB would quickly discover the cause. The NTSB plays a vital role in assuring the safety of the commercial airline industry and discovering the causes of past crashes is paramount in preventing future accidents.

It was with some dismay, in April 1997, that I read a letter to the Wall Street Journal by Mr. James Hall, Chairman of the NTSB. In that letter he signaled that the NTSB was leaning toward a determination that TWA FL800 exploded due to some undiscovered mechanical failure, rather than some external cause, such as a bomb or missile. This, despite the known safety properties of modern Jet Fuel and the fact that there were hundreds of eyewitnesses who saw something streaking up from the surface which ended in the explosion of TWA FL800.

As a Naval aviator and crash investigator, I was very familiar with anti-aircraft missiles as well as the properties of Jet-A fuel and did not believe it possible that the fuel would explode spontaneously. In fact, the fuel, which is very similar to regular kerosene, will not easily light with a match, unless the fuel is misted in the atmosphere or aerated by a fuel injector. After reading the Aviation Fuels Handbook and conducting some simple experiments with Jet-A fuel, I became convinced the Center Wing Tank did not explode without some external cause. I wrote to Chairman Hall of my concerns about the course of the investigation and was immediately rebuffed.

This report contains the work product of many very concerned aviation professionals who similarly believe that the NTSB and FBI's handling of this investigation has been less than open and honest. The refusal to allow any eyewitness testimony at the Baltimore Hearings and the controlled agenda which would not allow discussion of anything other than the CWT explosion theory, made it evident that the NTSB and FBI were not interested in the truth. They appeared to only be interested in selling their story to the media and the public. Unfortunately, they seem to have succeeded. However, there are thousands of aviation professionals who do not believe the "official" version of the tragedy and there are hundreds of eyewitnesses on Long Island who know what they saw and do not appreciate the government telling them they were wrong.

I would like to join the former Chairman of the Joint Chiefs of Staff, Admiral Thomas Moorer, in calling for Congressional Hearings into the cause of the crash of TWA Flight 800. I would ask the Congress to read this document with open minds and that they examine objectively the actions of officials in the Executive, Judicial and Transportation Departments of our government. I would further encourage the vigorous application of common sense. If you have 2 or 3 eyewitnesses to a murder, you have a very strong case in a court of law. In this case, there are hundreds of eyewitnesses who are convinced they saw a missile shoot down Flight 800. They deserve to be heard and not be summarily dismissed.

William S. Donaldson, Cmdr. USN Retired

SUMMARY

The preponderance of facts in this report support the following conclusions:

1. That TWA FL800 was intentionally destroyed by a powerful, proximity fused, airbursting, anti-aircraft weapon launched from a position approximately one nautical mile off shore and three nautical miles east of Moriches Inlet, Long Island, New York.

2. That TWA FL800 was also engaged seconds later by a second missile fired from a closer position to the south of TWA FL800's track.

3. That senior FBI Agents were close eyewitnesses to the shoot down. That those FBI Agents believed the aircraft was shot down and that those FBI Agents did not file eyewitness reports, FBI 302 forms.

4. That no evidence has yet been developed that implicates the US military as participants in the loss of TWA FL800.

5. That the United States Justice Department moved on 24 July 1996 to suborn Title 49 U.S. Code by denying access of Parties to the Investigation and NTSB Investigators to eyewitness and real evidence.

6. That the White House's early public statements, made without justification, impugned or ignored eyewitness statements to discredit missile sighting reports.

7. That terrorists communiqués in the Mideast that predicted the time of the attack on the United States, were also treated with contempt as being totally unfounded by White House spokespersons.

8. That United States was under specific threat of terrorist attack against airports and airliners in the New York area in retaliation for the conviction of World Trade Center conspirators.

9. That the Administration was aware that a sighting of a probable unguided missile was made on the evening of 17 November 1995, by two airline crews from Lufthansa and British Airways at altitude near Long Island.

10. That FBI Agents have not specifically identified surface radar targets that were at the geographic points eyewitnesses indicate as the source of the missile fire.

11. That one unidentified surface radar target fled the scene of the shootdown at 30 knots. When TWA FL800 exploded, the contact was only 2.9 nautical miles (nm) away.

12. That the 30-knot surface target avoided visual contact with other surface targets on a heading of 203°T, and did not stop or turn to provide assistance.

13. That FBI counter-terrorism Agents briefed the NTSB Operational Factors Group, including the Parties to the Investigation, in January of 1997, specifically pointing out where a missile was launched.

14. That the FBI is in possession of eyewitness testimony that proves, without doubt, TWA FL800 came under missile attack and refuses to release this information.

15. That the FBI is in possession of high explosive chemical residue evidence on interior and exterior parts first identified by bomb sniffing dogs at Calverton then verified as a specific high explosive by chemical sniffers at Calverton.

16. That the FBI leadership attacked the validity of their own chemical residue findings after using the same FBI Laboratory personnel who were responsible for falsifying laboratory evidence in hundreds of previous cases.

17. That the FBI is in possession of shrapnel removed from the bodies of victims and is holding laboratory findings secret.

18. That the FBI contrived a plausible excuse for the presence of high explosive residue in the aircraft as having been contaminated by bomb sniffing dog training alleged to have been done in St. Louis on 10 June 1996.

19. That the FBI had no answer as to why the dog handler's placement of training samples in the aircraft did not match the locations where the contamination was found on aircraft parts.

20. That the NTSB leadership began a public media campaign in April 1997, despite overwhelming evidence to the contrary, that a center wing tank explosion caused the mishap.

21. That NTSB officials directed a NASA laboratory to immediately stop testing when nitrates (explosive residues) where found on critical early debris.

22. That a TWA employee caught an NTSB official falsifying the Debris Field data record in the placement of aircraft seats.

23. That when evidence of this act was provided to the Chairman of the NTSB (including pictures taken by the NYPD), in a letter written by TWA attorneys, Mr. Hall insisted the TWA employee be removed and that she be targeted for investigation and indictment.

24. That NTSB officials have been relentlessly and persistently eliminating or rewriting findings in the database that can not be explained in their theory.

25. That the NTSB refused to accept the testimony of Captain Mundo, the flight engineer on the flight previous to FL800, who stated that he left ZERO fuel in the center wing tank.

26. That the tail of the aircraft failed shortly after the nose came off, which proved a massive outside force brought down FL800.

27. That the NTSB refuses to release Debris Field information or the Bruntingthorpe explosive test data to the parties of the investigation, because both contain powerful exculpatory evidence refuting a center wing tank initiating event.

28. That because of the results of the Bruntingthorpe tests, the NTSB leadership has refused to allow the CVR Analysis Group to reconvene.

29. That the NTSB leadership, now in possession of redacted eyewitness forms from the FBI, refuses their own investigators access to them.

30. That the NTSB leadership has oddly shown absolutely no interest in eyewitness testimony despite the fact eyewitnesses have information vital to the airborne breakup sequence and placement of floating debris.

31. That there is the appearance the Justice Department delayed seven months to file frivolous criminal charges and arrest Captain Stacey and Mr. & Mrs. Sanders in order to threaten and subdue disgruntled investigators immediately prior to the Baltimore NTSB Public Hearing.

32. That there is an appearance the FBI intentionally tried to arrest the Sanders family while they were outside of New York in order to place them in the limbo of the criminal transportation system.

33. That there is the appearance of prosecutorial misconduct in the Sanders and Stacey cases that include a threatened raid of CBS headquarters in New York and seizure of exculpatory evidence by the FBI as well as the removal of similar evidence from Calverton.

34. That non-government investigators who are members of the Principal Parties cannot go to Calverton without Government escort.

35. That the Government refused the help of professional ocean salvage operators who had equipment on site on 18 July 1996. Even though Weeks Marine and AT&T, who both routinely contracted with the Government in the past, had equipment to support divers, robot submarines, lift and storage capability far superior to the Navy's, already on-site, their assistance was refused.

36. That the CIA contrived with the FBI a knowingly false crash scenario, alleged to have been drawn from eyewitness statements, produced a false video and released it to the mass media.

37. That FBI officials are now refusing to release eyewitness statements back to the eyewitnesses who gave them and that these eyewitnesses are now filing Freedom of Information requests in hope of obtaining their own statements.

38. That the White House, by categorizing the shootdown of TWA FL800 as a potential crime, instead of a political act of war, has been able to keep military experts totally isolated from the case.

39. That the White House has ignored a call for a congressional inquiry by a past Chairman of the Joint Chiefs of Staff.

40. That this report provides "clear and credible evidence" that officials in the Clinton Administration are guilty of criminal wrongdoing and that Attorney General Reno should be compelled to appoint a Special Prosecutor to investigate the actions of the NTSB and FBI in covering up evidence that a missile shot down TWA Flight 800.

SCOPE

This investigation has been intentionally narrowed to focus primarily on physical evidence, witness testimony and the actions of officials in the Justice and Transportation Departments that have had a direct impact on the historical record of the TWA Flight 800 incident. In these areas, our investigators have superb credentials in crash investigation, both in types and numbers of cases solved, as well as bringing 100s of years of military and commercial aviation experience not held by FBI and NTSB staff.

It is the intent of these Associated Professionals to remain focused on the facts until the Congress and the American people fully understand what actually happened in this incident. In pursuing these facts we have elected to concentrate in this Interim Report on circumstances and evidence not previously reported in the media. Sadly, at this second year anniversary of the Federal Investigation, two inexplicable and unprecedented circumstances remain: The Federal Government, to this day, has refused to allow its own trained air crash investigators to interview eyewitnesses, and primarily because of this, the investigation remains dead in the water, stuck in the preliminary stage with no end in sight.

WHY THE MECHANICAL FAILURE THEORY IS WRONG

PROPERTIES OF THE FUEL & NTSB PROPAGANDA

Fact: In the history of aviation, there has never been an in-flight explosion in any Boeing built airliner of a Jet-A Kerosene fuel vapor/air mixture in any tank, caused by mechanical failure.

Fact: In congressional testimony and in statements repeatedly made in the media, the NTSB leadership cited the loss of an Air Force 707 and 3 KC135 air to air tanker aircraft, to fuel tank explosions as examples of mishaps similar to TWA Flight 800. Col. Dougherty's office of the Air Force's safety center says, "there is no record of a 707 loss <u>and all three KC135's were fueled with JP4, a fuel as volatile as automobile gasoline</u>". "Since switching to the military equivalent of FL800's Jet-A fuel the Air Force has not had a problem."

Fact: In Congressional testimony and in statements repeatedly made in the media, the NTSB leadership characterized the only example of a fuel tank fire involving a Jet-A fueled airliner, a Philippines Air 737 in 1990, as a center fuel tank explosion. Video and still photography, taken after the fire was out, show the <u>center wing tank did not explode.</u>

Comment: The undercarriage, wheels and center wing box (tank), were structurally sound enough to carry the load of engines and fuel weight in the wings with the aircraft under tractor tow. The gross fire damage to the cabin appears more indicative of a cabin fire, exacerbated by ignition of emergency oxygen canisters, interior plastics, etc. The Philippine crash investigators could not prove a source of ignition for that fire. Had the Center Wing Tank actually exploded in the manner the NTSB leadership suggests the aircraft would have dropped on the ramp and the tons of fuel in the wing would have immediately been involved.

Fact: The NTSB leadership is on record before Congress and the American people professing "we know little about the flammable properties of Jet-A fuel."

Comment: The above statement is absolutely incredible. It describes the leaders of an industry that puts millions of lives and billions of dollars of equipment at risk everyday as being foolhardy gamblers. What the Chairman should have said was "what we know about Jet-A fuel doesn't fit our theory."

Fact: Despite the millions NTSB spent in testing Jet-A Fuel after the TWA FL800 incident, the new data has shown Jet-A Fuel to be safer than previously described in the Aviation Fuels Handbook. In other words, the inference that Jet-A fuel posed some heretofore-unknown risk factor has proven to be totally false.

Fact: The amount of fuel vapor, and therefore the potential flammability in a tank, is primarily dependent on the temperature of the liquid fuel in the tank.

Fact: The B747 center wing fuel tank liquid fuel temperature can be taken any time through the low point drain. When the aircraft is on the ground, samples are taken routinely to check for water/ice or contaminants in a simple two-minute procedure at virtually no cost.

Fact: The NTSB went on record in writing in December of 1996 with multiple safety recommendations that would have cost Billions if implemented by FAA. All were based on the assumptions that B747 lightly fueled center wing tanks are dangerously flammable during warm weather and that FL800's loss was initiated by a spontaneously exploding tank.

Fact: The NTSB leadership kept all fuel temperature test figures secret until the Baltimore Public Hearing. Not once have they recommended carriers take CWT residual Fuel Temperatures to actually detect a potentially flammable tank, using the simple procedure outlined above, or any other procedure for that matter.

Comment: The NTSB senior leadership's behavior is an unfortunate paradox in this area and leads to reasonable questions as to motive. If they sincerely believed TWA FL800 was lost due to a hot tank, why didn't they move to an immediate recommendation to have carriers check tank temperatures? The answer may be they didn't want the carriers to fully understand how cool those tanks really were.

Fact: In October 1997, this investigator took the temperature of a B747's center wing tank from an aircraft turning around at JFK for return to Europe. The temperature was 69° F, one degree hotter than ambient air temperature, despite the fact all the air-packs had been running for the hour the aircraft had been on the ground.

Fact: Reliable aircraft maintenance sources at JFK airport have told this investigator that similar NTSB/FBI tests were done at JFK after the procedure outlined above was described in my correspondence to Mr. Hall.

Fact: An FBI Special Agent, familiar with the above fuel tests, has stated to me "NTSB people were very surprised at how cool the fuel temperatures actually were."

Fact: As of the date of this writing and after the expenditure of scores of millions in the recovery and examination of mishap artifacts, and exhaustive laboratory testing, there has yet to be found one piece of physical evidence that supports the NTSB's contention that Flight 800 was brought down by an initiating event of an explosion of air and aviation kerosene vapor caused by a mechanical failure in the aircraft's center wing tank.

Fact: As long ago as April of 1997, Chairman Hall and Dr. Loeb of NTSB began a public relations campaign in the mass media assigning blame on a mechanical (electrically initiated) failure, center tank explosion.

Comment: Prior to TWA Flight 800, there has been no such glaring breach of aircrash investigatory procedure, scientific protocol or common sense in the history of the NTSB.

THERE WAS NO FUEL IN THE CENTER WING TANK

Fact: The core theory of the NTSB is based on a false assumption that there was sufficient fuel in the center wing tank of TWA Flight 800 on takeoff to cause an explosion. That assumption is contravened by the testimony of TWA Captain Albert Mundo, a fully qualified TWA 747 Captain and Flight Engineer. He was the assigned Engineer on the mishap aircraft's non-stop flight from Athens to New York immediately before TWA FL800's takeoff for the return flight to Europe.

Fact: Captain Mundo conveyed his actions and observations clearly to both the NTSB and FBI investigators when he and the aircrew of the previous flight were interviewed three days after FL800's loss.

Fact: Somehow, Captain Mundo's statement of a near "0" fuel quantity in the center tank was converted to 600 pounds of fuel by NTSB Investigators. (The aircraft gauges can read as much as 300 lbs. when the tank is completely empty and still be within accepted limits for accuracy).

Fact: Captain Mundo conveyed both to this investigator and NTSB Investigators that on the prior flight, <u>he depleted the fuel to near zero</u> in the following sequence: (1) Turning on both Center Wing Transfer Pumps transferring center wing tank fuel directly to the fuel manifold until blinking transfer pump lights (indicating low pump output pressure) indicated the tank was almost empty; (2) at that time, he turned off the transfer pumps; and (3) to be sure he got every drop available from the center wing tank, he turned on the Center Wing Scavenge Pump. This has the effect of transferring the little remaining fuel (about 300 lbs.) directly to the number two main tank; (4) he then turned off the scavenge pump after the scavenge pump light came on steady, indicating zero fuel pressure (no fuel left) on the output side of the scavenge pump. See the diagram of Scavenge Pump at Exhibit 4 on page 43.

Fact: The fuel in the center wing tank was depleted to near zero about 3 ½ hours into a ten-hour flight.

Fact: The center wing tank of B747's have 4 large vent channels, two going out each wing venting to the atmosphere. For about 6 hours, at high altitude, the aircraft's center tank was exposed to a ¼ normal atmospheric pressure with a .8 Mach slipstream passing over each wingtip vent mast. This environment generates a strong purging airflow from one wing to the other through the tank anytime the aircraft was not in perfect lateral trim.

Fact: For several flights prior to the incident, the mishap aircraft was missing the number two Canoe (an aerodynamic fairing that fits over the number two-flap track to reduce drag in flight.) The missing part is not required for safety but its absence in flight causes a slight asymmetric drag (pulling left wing back) which is proportional to speed in flight. Captain Mundo had complained about this because the extra drag costs fuel and in-flight it required slight right rudder (lateral) trim to balance the aircraft. FL800 had .72 right rudder trim set when it was lost. This asymmetric condition would further intensify the purging airflow in the mishap aircraft center wing tank.

Comment: 600 lbs. of fuel in the center wing tank is about 7/10 of one percent of its volume. It appears the NTSB preferred erroneous readings (within limits) on the maintenance or cockpit gauges, which enabled the genesis of the Chairman's theory. Captain Mundo's assertion could be verified any time 747s make the Athens to New York crossing! Had the NTSB followed simple logical investigation protocols, by using Captain Mundo's method in flight tests, this investigation might have proceeded on the right track.

It is this investigator's opinion that fuel did eventually enter the dry TWA FL800 center wing tank through the CWT left side body wall (RIB) brought about by the same over pressurization that occurred in the entire left wing tank system by a detonation of a full sized, proximity fused, anti-aircraft warhead. See Exhibit 6 on page 45.

Recommendation: Congress should call Captain Albert Mundo to testify in Public Hearings.

CENTER WING TANK EXPLOSION TESTING AT BRUNTINGTHORPE

Fact: The results of explosive tests conducted on a B747 center wing tank in the United Kingdom at the behest of the NTSB and the FBI are effectively classified secret and being withheld from the Parties to the Investigation and the public.

Fact: Reliable inside sources have informed Cdr. Donaldson of the reason why the explosive tests have been withheld. They state that when the propane-filled center wing tank exploded the damage was so severe that, had the tanks and the cargo containers been installed in the test hull, it would have severely lacerated the water tanks and cargo containers forward of the CWT with shrapnel generated from the tank hardware.

Fact: Not one single piece of center wing shrapnel has been located in Flight 800 baggage containers, water tanks or anywhere forward of the center wing tank.

Fact: Neither the NTSB nor any of its contractors has been able to practically demonstrate a Jet-A kerosene vapor/air explosion.

Fact: In practical ignition tests done with Jet-A fuel, (taken from a 747 center tank after a transatlantic flight) heated to produce vapor in closed containers, this investigator has demonstrated that the vapor will not ignite until the Jet-A fuel is heated to 185°. The igniters produced temperatures in excess of 3,000 degrees and were located 12 inches above the fuel surface.

Fact: Cal Tech scientist, Dr. Sagebiel, testified in the Baltimore Hearings, based on his finding concerning fuel vapor/air data taken from the Evergreen flight-test series at 14,000 feet. Theoretically, in layman's terms, if the tank were ignited at the right place with a very hot ignition source, the burn in the tank might reach a singularly unimpressive 60 pounds per square inch (PSI).

Fact: A 60 PSI burn in the center wing tank is unimpressive because it could not produce the level of destruction and airborne breakup evidenced in the fuselage structure forward of the wing to the nose of the aircraft.

Recommendation: Boeing engineers should testify under oath to Congress on this issue.

EYEWITNESS ACCOUNTS POINT TO A MISSILE

Fact: On 17 July 1996 Special Agent (SA) George Gabriel and another FBI agent from the Mellville offices of Long Island, NY were fishing offshore and were witnesses to the FL800 incident. SA Gabriel described something streaking up, leaving a thin smoke trail, a white flash, then the air crash. He also was heard to state the aircraft had been shot down by a missile.

Fact: Neither SA Gabriel's nor his companion's comments or observations were contained in the list of redacted FBI 302 Forms eventually shown to some of the NTSB Investigators.

Fact: FBI Agents, interviewing eyewitnesses that I interviewed, failed to establish a meaningful database on the objects seen streaking through the sky. Agents did not take GPS fixes or electronically record testimony. FBI Agents did not take bearing lines, ask questions about relative motion of the objects observed, or in some cases even go to the observation point with the witness.

Comment: Because witnesses ashore were stretched along 20 miles or more of sea or bay front, had agents taken bearing lines of where people first saw the object, a missile firing position could have been quickly established or debunked.

Had original testimony been taken properly and recorded, allegations of changed stories could be proven or refuted on their own merit without depending on the availability and the reliability of an FBI 302 Form transcribed by agents devoid of aviation training.

Comment: The FBI seriously jeopardized the investigation with their handling of eyewitness statements and their refusal to allow professional crash investigators to participate in the interviews. There is no possible justification for this action. Even if the FBI believed that a criminal act was involved, the NTSB has the responsibility under Title 49 of the US Code to determine the cause of the crash. Eyewitness observations are the best possible evidence as to the actual aircraft breakup sequence and the FBI has refused to release their detailed notes to the NTSB, even after they have concluded there was "no evidence of a criminal act." Why are these notes considered top secret if there was no criminal act involved?

Fact: In January 1997, the FBI was very much aware that a missile had engaged TWA Flight 800 because of eyewitness testimony and bearing information. At one point, SA Steve Bongart and another Agent provided a briefing to the NTSB Operations Working Group. No one was allowed to record the event or take notes: SA Bongart, a fully qualified military tactical fighter pilot prior to his joining the FBI, showed the group a chart on which the various eyewitness bearing lines were depicted. They converged on a very small area. Pointing to that spot on the chart SA Bongart announced, "that is where the missile came from!"

Fact: At 20:31 on 17 July 1996, Roland Penny, a retired tug boat captain, his wife and several others observed a missile streak up vertically on a 120° magnetic bearing line from their position on a pier on the bay side of Fire Island. A bright white flash followed this observation. The Penny group did not observe the aircraft. The missile launch bearing was 33° left of the aircraft bearing.

Comment: Mr. Penney's distance to the estimated missile launch point was 7,500 yards.

Fact: At 20:31 on 17 July 1996, Vincent Bilodeau and Joseph McBride observed the missile streak skyward estimated on an east bearing at a fast speed from their position on the jetty at Moriches Inlet.

They did not see the aircraft until after the missile exploded and pieces began to fall. Both reported to police that they heard a deep thunderous rumble during the explosion.

Comment: A 090° visual bearing to the missile is 55° left of the actual bearing to the aircraft. Both men heard the missile launch and fly-away noises. Distance to the estimated missile launch point is 6,000 yards or 17 seconds at the speed of sound. Estimated missile time of flight based on their testimony was 20 seconds.

Fact: At 20:31 on 17 July 1996, Richard Goss observed the missile streaking skyward on a 170° magnetic bearing from his position on the north shore of Moriches Bay. The missile climbed vertically from where he first saw it near the horizon. It seemed to level off and fly away south to seaward. Mr. Goss saw the missile turn hard left and explode followed by a second explosion farther to the East. He heard no noises because of ambient loud-speaker music.

Comment: Distance to the estimated launch point 4,200 yards.

Fact: At 20:31 on 17 July 1996, Paul Angelides first observed the missile when he stepped out on his ocean beach patio deck on Dune Road on the barrier beach. The missile was already 50° to 60° high on the horizon. It appeared to level and fly to the south out to sea on a 170° bearing for 15 to 20 seconds dropping to 10° above the horizon. He lost sight momentarily then observed two bright white flashes a few seconds apart going West to East, then about 10 seconds later, farther East, a huge petroleum explosion and a fire ball angling down to the horizon. Some time before the first explosion a sonic boom hit the house, followed by a continuous roll of thunder that lasted 15-20 seconds, followed by two explosions. Then 10 seconds later, another explosion. Many seconds later, two more booms were heard. The initial sound was strong enough to shake the kitchen floor and be felt by his wife.

Mr. Angelides carefully noted the clouds formed by the incident on the horizon. There was a black smoke cloud remaining angling down from the point of the petroleum fireball to the horizon, but also a tubular or cigar shaped white cloud running from the point of the first explosion to the black cloud. He also noted a parabolic projection of cloud that came out of the white cloud top, as if something passed through it climbing, traveling East to West in the opposite direction. Mr. Angelides opined to me, “the aircraft must have been really smoking after the first explosion.

This witness is a professional who was visited only once by the FBI at work after he called the 800 number. He provided them with drawings but they didn’t go with him to the house, nor did they respond when he asked to speak to them 6 months later after becoming very concerned at inaccurate news coverage. Mr. Angelides has voiced to me concern for the safety of himself and his family because of what he knows and the government’s position on this incident and wishes to remain anonymous at this time. He would, however, be willing to come forward and testify to Congress.

Comment: This eyewitness is important for multiple reasons. Because he was positioned 2,000 yards closer to the probable launch position and exactly on Mr. Goss’s visual bearing line to the missile, his replication of line of sight bearing information, agreeing with Goss, magnifies the credibility of both witnesses. His elevation angle and audio observations allow reasonable estimates to be made of missile altitudes, launch position and time of flight. Additionally, the white tubular cloud he saw form after the first explosion is exactly what would be observed when the top left wing skin of TWA FL800 was blown open by a warhead detonation described in detail elsewhere and at Exhibit 7 on page 47. Distance to missile launch point is 2,000 yards, by sound 6 seconds.

Fact: At 20:31 on 17 July 1996, Major Fred Meyer, the pilot in command of an Air National Guard HH60 was 200-300ft above ground level. His copilot was flying a practice precision approach to RW 24 at the Francis Gabreski Airport. Major Meyer first observed a streaking light on a bearing line of 223° T. He described it as transcribing a smooth, slightly descending arc from right to left streaking across the sky terminating in a "hard or high velocity ordinance explosion", followed by a second "bright white ordinance explosion", followed some seconds later by a petroleum fireball that grew to a very large dimension.

Comment: Major Meyer is another vital eyewitness who is in possession of unique training and experience. He holds the Distinguished Flying Cross, awarded while serving as a navy combat search and rescue pilot (credited with over 40 saves) flying from warships off the North Vietnam coast. Major Meyer has significant experience in making rescues under fire and has seen virtually every type of anti-aircraft ordinance explosion both in combat and later while towing airborne targets for US Navy warships. Meyer is on record stating, "what I saw that evening, I swear to God, were ordinance explosions." Major Meyer was 19,000 yards from the estimated missile launch point. It should be clearly noted that Major Meyer most probably picked up the missile after it leveled off. Because it was flying almost directly away from him at supersonic speed toward the horizon, it would appear exactly as he describes in a descending arc, although the missile could actually have been level or even in a slight climb as it approached its target. TWA FL800 was approximately 28,600 yards from the HH60 at missile intercept.

Fact: Captain Baur was Major Meyer's copilot siting in the aircraft's left seat (Helicopter Commanders, unlike fixed wing plane Commanders, occupy the right seat). Captain Baur has been quoted as seeing a streaking object moving from left to right, exploding when hitting an object moving from right to left (TWA 800). He agrees with Meyer on 3 explosions observed.

Comment: Captain Baur's description of a second missile is of critical importance because it agrees with other witness statements, the debris pattern and number of ordinance explosions. It is vital that Congress call Captain Baur to testify about his observations.

Comment: Because of physiological and psychological predispositions, most people when confronted with a streaking light in the sky, will fixate on the object until it disappears to the detriment of other possible observations such as aircraft or other objects.

Fact: The HH60 helicopter cockpit design imposes significant outside visibility problems for pilots trying to see out the other pilots' windows.

Comment: It is entirely possible that both pilots could have seen two separate streaking objects without either pilot being capable of seeing his partner's object until they converged and exploded on the target.

Fact: Sven Faret and Ken Wendell were flying in a private aircraft on a heading of 090° magnetic at 8,500 feet approaching Riverhead Long Island. They reported 50 mile plus visibility above the haze layer that topped out at 6,500 feet. Sven saw a white light steady in the low sky at a two thirty position. His first impression was of aircraft landing lights pointed north, directly at them. Ken saw two lights close together. A short pin flash appeared on the surface, ground or perhaps water, then the white light exploded instantly into a huge fireball. Their visual bearing was 170° magnetic to the white light(s) in the sky.

Comment: These witnesses' contributions are significant in several ways. They later determined the petroleum clouds to at 7,700 feet by over-flying the area. More importantly, they were over 32,000 yards (16nm) from FL800 when it exploded looking at a steady bright light(s) on a 170° magnetic bearing (the outbound course of the missile). There are several problems with the idea they were confusing a burning

747 with the white light(s) they observed. (1) A kerosene fire would rarely be confused with aircraft landing lights 16nm away, (2) the lights were low, and TWA FL800 was 5,300 feet above the private aircraft's altitude. It was 8,200 feet above their horizon if you believe the CIA video tape, (3) There was no perceived relative motion, although the private aircraft and FL800 were within ten degrees of each others course, TWA FL800 had 285 knot ground speed advantage that would have translated into a slow right to left drift of the light on the horizon, (4) Ken saw two lights!

Fact: Tom Dougherty, walking with friends in the parking lot of Dockers Restaurant on the barrier island, heard a crackling thunder-like noise, followed, after a few more paces, by another thunder-like noise at which time they observed a missile rocketing up on a 223° magnetic bearing and arcing out to sea. After losing sight of the missile, they saw a bright white light or glow above the cloud or haze layer at sea followed by the observations of burning pieces of aircraft "flopping out of the sky."

Comment: This witness is important because he heard what could be described as two distinct launch noises prior to seeing a missile in flight and because of his great distance from the aircraft crash site. Mr. Dougherty was 25,600 yards or 67 seconds by speed of sound from the aircraft explosion point. Contrary to the rather simplistic CIA Video, Mr. Dougherty and his party couldn't have observed anything except smoke if he looked up the first time 67 seconds after the initial event. This testimony also adds credence to the observations of 2 ordinance explosions by other witnesses and two lights or streaks by other witnesses.

Fact: Fred Sherman was operating the Patchoque to Davis Park (Fire Island) ferry about half way across Patchoque Bay in route to Fire Island when he observed TWA FL800 explode. He was 17 ½ nm from the incident. When Mr. Sherman landed at Davis Park on the back side of Fire Island, several boys playing on the dock asked him if he had seen the distress flare go up. He had not. The boys were 15 nm from the incident.

Fact: About 8:29 p.m. on 17 July 1996, Lisa Perry stepped out on the beach front deck of her father's house located on East Walk at Davis Park, 15 nm west of the TWA FL800 incident. Ms. Perry first observed TWA FL800 going east, then after she turned facing south east to gather up some towels, she saw what she described as a missile flying horizontally from north to south over the dunes east of the house. The missile angled up, "on a beeline" for FL800. Mrs. Perry told the FBI she thought it must have hit the aircraft on the left side, behind the wing.

She provided a detailed description and drawing showing the aircraft breakup sequence, including the loss of nose, tail and left wing. Her description of the aircraft rolling right and the break-up into sub-components only a few days after the incident were an uncannily accurate description considering the distance. Mrs. Perry believes the missile was close, but she didn't hear any launch or in-flight sounds. She has excellent eyesight.

Mrs. Perry was very friendly and comfortable with both the male and female FBI Agents she gave her statement to. Both agents had agreed with her that what she had seen had brought down TWA FL800 and that it was a missile. Over the months, Mrs. Perry maintained contact with these agents, who were highly supporting, assuring her that they were working the case and not to pay attention to the news. At the time of Mr. Sanders and Captain Stacey's arrest, Mrs. Perry became very anxious and called her agents. This time they were cool towards her. Telling her there wasn't much else they could do, explaining that an analyst had said she was too far away to have seen what she said she did. Mrs. Perry's magnetic visual bearing line to where she first observed the missile was 084°. The bearing line to where the aircraft went down was 112°M, 28° along the horizon to the right of where she first saw the missile.

EVIDENCE SUPPORTING A MISSILE

THE DEBRIS FIELD DATABASE

Fact: The NTSB has not released the TWA FL800 Debris Field database to the public or to Parties to the Investigation.

Fact: NTSB Chairman Hall, at the Baltimore Hearings, refused to allow US Navy Captain McCord to answer any questions after his presentation about surface and sub-sea operations, debris location or anything about the recovery operation a sea.

Fact: US Navy officers are subject to the Uniform Code of Military Justice. Truthfulness is not just an officer corps tradition, but is rigidly enforced by force of law. Officers caught in lies are separated from the service.

Comment: The Public Hearing on 8 December 1997 was a non-flexible, pre-scripted event. Questions to Captain McCord pertaining to recovery of flight recorders, specific debris locations, etc., by Parties to the Investigation would have to be answered truthfully, whether he was under oath or not. It is doubtful Captain McCord's testimony could be influenced by the NTSB or the FBI. Once again, the question goes to motive. Why wasn't Captain McCord allowed to answer questions?

Recommendation: Call both Captain McCord and Admiral Kristainsen to testify before Congress.

Fact: The Debris Field Database that was current as of December 1996 clearly shows the center wing tank explosion was the last event in the breakup sequence, not the first. See Exhibit 5 on page 44.

Fact: The only reason outside investigators have access to a Debris Database is because investigators inside the investigation lost all faith in the integrity of the investigation and leaked it to them.

Fact: The majority of the actual center wing tank parts, that you would expect to be ejected in a tank explosion, were found 4,000 feet farther east than any other significant aircraft structure.

Comment: Had the aircraft been flying from east to west (from Paris to New York) the distribution of center tank debris would fit the NTSB scenario.

Fact: Early in the debris recovery effort at Calverton, a party investigator identified a piece of right wing leading edge from near the wing root that had been holed from the outside - inward. The investigator had the part checked for explosive residue by the chemical sniffer team and it tested positive. The part was seized by the FBI before it could be entered into the NTSB database and it was flown to the Washington FBI lab. FBI Special Agent Joseph Valiguette has officially claimed that the part tested negative for residue and was returned to Calverton. The NTSB has no record of the part and has been unable to locate it.

Comment: It appears the Debris Field database was not released to the public because the NTSB could not explain the wide separation of debris (18,000' long and 8,000' wide) and the amount of damage to the aircraft that is indicated by the distribution of debris. See Exhibit 5 on page 44.

AIRCRAFT BREAK-UP SEQUENCE

Fact: The NTSB scenario has the entire aircraft less the nose, falling almost vertically when it exploded passing 7,700 feet shedding the left wing. If that scenario were correct, the tail should have evidenced in-flight sooting and surface fire damage (neither occurred), as well as, more severe impact damage than is seen..

Fact: TWA Flight 800 was at 13,800 feet making 380 knots true airspeed, less than 6/10 the speed of sound, when the nose of the aircraft was destroyed, breaking into hundreds of pieces.

Fact: The speed and density altitude of the aircraft alone at breakup could not possibly have supplied the amount of energy required to break up the nose into such small pieces.

Fact: The forward bulkhead (number three spanwise beam) of the center wing tank is 22 feet aft of the piece of the lower left cargo compartment (STA 800) that separated after the cabin integrity was first breached.

Fact: The large aircraft water tanks closest to the center tank and some of the large aircraft cargo containers located between the center wing tank and station 800 (first large piece separation failure) were found virtually undamaged in the Debris Field.

Fact: NTSB metal experts have determined the fuselage bottom skin at station 800 and various other locations on the lower forward fuselage failed in tension (pulled apart) and the top skin on the nose section failed in compression (pushed together). These indications are the opposite of the normal in-flight loading.

Fact: If it were possible for an explosive pressure wave to bypass the huge obstacles in its way (forward spar, forward pressure bulkhead, water tanks and cargo containers) and cause the aircraft skin to fail at station 800, the skin would be bulged outward and would have failed in shear. <u>Neither are in evidence.</u>

Fact: Prior to the time of the incident, TWA FL800's airframe was under normal aerodynamic loads. The wings and vertical and horizontal stabilizers were all holding the aircraft rigidly stable on the three axes. Only deflection of flight controls or lift devices would normally cause the aircraft to leave its previous flight path. Any outside force acting to push the aircraft away from its three dynamically stable flight axes will be instantly countered by a stronger aerodynamic counter force, restoring the aircraft to its previous path.

Comment: The dynamic forces described above are very strong. The 747 in flight is much like a locomotive engine on a track. Most people can visualize that it would take a force much like another train striking at an angle to dislodge the first engine. The aircraft, however, is not made of iron & steel, its sub-components will structurally fail long before the plane is pushed very far off its flight path by an external force.

Fact: Modern, full sized, anti-aircraft missiles use these very characteristics of aerodynamic stability of the large aircraft to ensure the target's destruction. The weapons are designed not to hit the target, but to fly close and with a proximity fuse, detonate a blast warhead. The blast wave strikes a blow, somewhere on the aircraft structure, that is resisted by tons of in-flight restorative dynamic forces supplied by wings or stabilizers. If the warhead detonates in lethal range, the airframe is whiplashed between two extreme forces and is destroyed.

Comment: The best way to illustrate this concept is to imagine a smaller passenger jet parked on the ramp with its brakes off. If this jet were to be hit by a slow moving truck perpendicular to the side of its nose, the jet might not suffer much damage, if the nose gear pivoted and the plane turned with the blow. Now imagine the same situation with the plane's tail and wings locked in an immobile vice! When the same force is applied, the fuselage skin will fail in tension on the side of the blow and in compression on the opposite side. Even more noteworthy, if the blow were strong enough, the fuselage would fail all the way back to the wings in the same manner, as did Flight 800. For further analysis, see Exhibit 6 on page 45.

Fact: The nose of TWA FL800, forward of the wings, was shattered into thousands of pieces by a huge force striking low forward on the left side. Large pieces came off immediately in compression high on the right side. Large pieces came off immediately in tension low on the left side.

DEBRIS DAMAGE PATTERNS

Nose Gear Doors

Fact: The nose gear doors were forced into the gear well before the aircraft hit the water. See NTSB Exhibit 7A. Three of the four nose gear doors separated from the aircraft in-flight and landed in the early debris field, well away from the nose wreckage.

Fact: A part of one nose wheel was recovered 5,200 feet short of where the wheel well landed. The nose gear door hinges failed by being pushed into the wheel well bay to the point of failure.

Fact: The nose gear assembly was pushed up beyond its normal travel, a hydraulic actuating cylinder was found ruptured. Hydraulic cylinders are very tough, routinely handling 3,000 PSI hydraulic fluid.

Fact: The nose wheels of a 747 in flight are tucked up 62 feet forward of the front wall of the center wing tank. It is literally impossible for a center wing tank explosion of any magnitude to produce the damage in evidence on these components.

Fact: The landing gear on a B747 are extremely tough. They can be extended at speeds up to 320 knots Indicated Air Speed (IAS), or .82 mach, and can be raised at speeds up to 270 knots IAS, or .82mach. Flight 800's airspeed was 298 IAS and .6 mach! This means that even if the Captain had intentionally lowered the landing gear in flight @ 13,800 feet, nothing in the landing gear or gear door assemblies would have failed.

Comment: The NTSB's claim that these doors were torn from the aircraft by the slipstream is not supported by its design, the damage pattern on the doors or their location in the debris field.

Fact: Item CO91 "Part of Tire" was found in the early Red Zone @ 40 38 26.58 / 72 39 06.48, is listed in the NTSB Debris Field database printed on 13 November 1996. (Red Zone is the early debris field, first parts to leave the aircraft, Yellow Zone is the Cockpit debris and Green Zone is the remainder of the aircraft, 18,000 feet from the first debris).

Fact: Item A206 "RH Nose Gear wheel door" was found in the Red Zone @ 40 38 35.92 / 72 38 44.95 on 6 Aug 1996. Item B002 "RH Nose Wheel and tire" was found in the Yellow Zone @ 40 39 03 / 72 38 32.

Fact: Item B297 "Nose Wheel FS 340 LH Side" was found in the Yellow Zone @ 40 39 04.7 / 72 38 26.8 on Aug 8 1996.

Fact: Item B231 (LF11H) nose gear wheel well FWD bulkhead w/actuator was found in the Yellow Zone @ 40 39 04.30 / 72 38 27 on Aug 7 1996.

Fact: The following is quoted from the Systems Group Chairman's Factual Report, NTSB docket SA 516, Exhibit no 9A, page 129, par. 3, " The nose landing gear was reported to have been found floating with the tires attached, although one had been loose and was not on the Landing gear when examined. When examined, neither of the nose gear landing tires were found burst. Each tire was found with a note. The tires had been deflated after recovery. One of the nose tires had shallow burn damage to the rubber."

Comment: Notice the Chairman's, "was reported to …." Statement is at direct variance with the recovery database pertaining to what condition and where the nose gear was found and statements in NTSB Exhibit 7A. Nowhere in the Chairman's report is an explanation for the "part of tire" found in the earliest red Debris Field. In layman's terms, the entire nose gear area was blown apart. Six major components fell along a path 5,200 feet long and 2,000 feet wide. The lack of discussion or even acknowledgment of these facts, by the NTSB or FBI is not understandable. See Exhibit 5, Debris Field on page 44.

Seat Locations in the Debris Field

Fact: The armrest for the last two seats aft on the right side, from row 54, seat 8/10, was found in the same early Debris Field as the aircraft cockpit @ 40 39'04"N, 71 38'27"W. The armrest for Row 45 Seat 8 and the seat 45-10 were found at the same location. Row 45 is nine rows forward of the tail.

Fact: The above geographic location, where the seat was found, is almost precisely one nautical mile southwest of the wing/fuselage impact point, which corroborates with Captain Adams description of where he encountered the huge floating piece of vertical stabilizer. Seat row 54 is normally 150 feet behind the cockpit and located under the vertical stabilizer.

Fact: Horizontal stabilizer fairings were found in the Red Zone.

Fact: The aft seat and tail debris locations, coupled with the stabilizer's clean (no soot) condition, coupled with eyewitness accounts, prove the rear fuselage integrity was breached (aft most seats left the aircraft) and the vertical stabilizer failed some time after the first warhead detonation at 13,800 feet, but before the petroleum fireball at 7,700 feet.

Vital Evidence, the First Breach of Aircraft Cabin

Fact: The first body to fall into the Debris Field was a passenger seated in row 10, seat 2. That person was found over 3,000 feet closer to JFK airport than the first aircraft part, CW504.

Fact: Row 10 is located at frame 615, 43 feet back from the tip of the nose. Seat 10-2 is on the left side.

Fact: Early media reports from confidential sources indicated that passengers sitting on the left side, forward, were hit with shrapnel that evidenced high velocity gas pitting. CNN 29 July 1996.

Fact: Frame 615, left side, is at the leading edge of the high energy damage, low left side, forward fuselage.

Fact: NTSB Docket SA-516 Exhibit 2A, the Operational Factors Factual Report, page 41, indicates the cabin pressure differential (between inside/outside) at the time of the mishap was 3.5 pounds per square inch.

Fact: The shock wave from a 90 lb. Blast warhead, bursting from proximity fusing, 20 feet from the fuselage, would deliver a 30,000 pound hammer blow to each square yard of skin. At 30 feet away, frame 615 would still be subjected to a 4 ½ ton overload per square yard of skin.

Comment: Modern blast warhead weapons do not rely on fragmentation to kill a target, consequently they are designed without steel or heavy metal cases in order to maximize the high explosive payload. Aluminum alloy casings fragment into very small pieces that decelerate in air rapidly and would be nearly indistinguishable from small aircraft fragments. The aluminum alloys used in missile designs are very close or identical to those used in aircraft.

Fact: The NTSB has a large pile of very small aluminum parts that remain unidentified.

Fact: Aircraft Station 615 and seat 10-2 are 35 feet forward of the leading edge of the 747 wing tank.

Comment: The loss of the first victim ejected through a breach in the pressure hull at aircraft Station 615, low on the left side, proves a center wing explosion could not have initiated this incident. That person, along with objects from the interior cabin, clothing, etc. hit the surface as much as 3,000 feet before CW504, the first significant metal fragment from the aircraft.

Separation of the Tail Section

Fact: A large section of the Tail (horizontal & vertical tailpieces) was found floating without evidence of fire damage or sooting.

Fact: The NTSB scenario would have us believe that the fuselage aft of the center tank was intact until water impact.

Comment: Considering the huge fireball seen plunging to the sea by eyewitnesses, the gross fire damage and sooting on the fuselage, aft of the wing, it would appear the tail separated prior to the fire.

Fact: In the early recovery effort multiple seats from the aft most section of the aircraft were found in the Red Zone (early Debris Field).

Comment: When considering these seats as forensic evidence, it is a logical assumption that either the cabin integrity aft was lost much earlier than previously reported (tail off or cabin ruptured open) or the multiple seat tags were in error.

Fact: NTSB officials deliberately falsified this evidence by changing the database to reflect the seats as being found in the Green Zone.

Fact: When TWA employee Linda Kuntz, a member of the Cabin Interior Group investigation team, confronted her NTSB superior as to why such a change was made, the paraphrased answer was, “we wouldn’t have been able to explain it to the Chairman (Hall).

Fact: When Linda Kuntz reported the falsification of evidence to the TWA attorneys, they promptly reported the problem by letter to Chairman Hall explaining Ms. Kuntz has color photographs that proved the sequence of events. Those involved were surprised to find that instead of taking appropriate remedial action to vouchsafe the integrity of the database, Mr. Hall turned Ms. Kuntz’s name over to the FBI for

investigation because she had taken pictures! Ms. Kuntz was removed from the investigation and threatened with indictment.

Comment: Inside investigators believe Ms. Kuntz was not indicted by the US Attorney's office in New York because they did not have the courage to indict the two New York Police Officers who helped her set-up their camera and establish the evidence.

Fact: On the night of the crash, about 9:30 p.m., Mr. Roland Penny along with others aboard his 40' boat was searching for survivors and came upon a large Scallop boat attempting to winch aboard a huge section of the 747's tail that was floating. By 11:30 p.m., when Mr. Penny re-encountered the Scallop boat, most of the wreckage was on deck, a piece estimated to be 40' high.

Fact: Mr. Penny encountered this event upwind (southwest) of the surface fire of burning jet fuel.

Comment: Had the tail section been intact with the burning fuselage on impact and separated from the main debris and floated to the surface, several things would have been evident: (1) it would have surfaced in the fire; (2) it would have been sooted; (3) it would have shown extensive water impact damage. None of those things are in evidence.

Fact: One of the strongest pieces of metal in the entire B747 aircraft is the very large (about 3 ½ inches in diameter) Jack Screw that drives the tail plane up and down in flight. It was found snapped in two like a twig.

Fact: Captain Randy Adams of the fishing vessel B.J. O'Neil, out of Seaford, Virginia, was trawling for scallops about 8 miles ESE of TWA FL800's fuselage and wing impact area. He was in his galley aft of the pilot house when something caught his eye. He looked out and observed the front ¾ of the aircraft on fire and tumbling end over end. The tail, estimated as the back ¼ of the aircraft, was seen fluttering down separately with no fire.

Comment: Captain Adams is under the impression he saw the aircraft almost immediately after it exploded because the black smoke trail started in the sky just about where he first observed the event. He also observed what he thought was an exhaust or smoke trail that seemed to cross the aircraft's flight path, but couldn't determine the direction of travel. Captain Adams was dredging in an off shore direction and was approximately 25,000 yards from the estimated missile launch point.

Fact: Captain Adams proceeded to the crash scene to render assistance in the search for survivors. <u>About one mile southwest of the upwind leading edge of the fire</u> spreading out from the wing & fuselage impact area, Captain Adams encountered a huge floating piece of the tail he had seen flutter down. Moving on, he encountered and recovered the body of a mid twenties male who had suffered a massive back and head wound.

Fact: Surface winds were estimated from 240° at 4 knots, the sea current was estimated by the Navy coming from 090° at ½ knot. Jet-A fuel has about 80% the density of sea water so it will float on the moving surface riding with the wind and current while spreading from its center point at a rate proportional to the thickness of the fuel layer.

Comment: The wind and the current were acting almost in opposition on both the spreading fuel fire and the floating tail. In a no-wind situation and a very large fuel spill, the fire would eventually overrun the tail. When light wind is considered, the tail surface projecting high above the surface, would be expected to push the tail at the fire faster than the fire away from the tail. Accordingly, when Captain Adams

encountered the floating tail, an estimated ¾ hour after it hit the surface, it is entirely likely the tail's actual impact point was at least a mile short of the main fuselage & wing sections.

Comment: If the tail fell a mile short of the main wreckage, it would be about abeam, almost on top of the nose and cockpit section, which were also blasted apart, not whole as depicted in the CIA & NTSB videos. This would also explain aft section seats located in the Red Zone as well as horizontal stabilizer fairings found in the same field.

Fact: Although the FBI interviewed Captain Adams early in the investigation and the floating tail was one of the first pieces of debris recovered, its position was not entered into the working database as of Nov/Dec 1996.

Fact: The following is a quote from petty officer Ken Seebeck, Commanding the first 41 ft. Coast Guard boat to arrive at the crash scene, "we saw what we thought was the big tail section to the south of the wall of flames. There was a pretty good gap there, so we started approaching the flames, and my intentions were to go in between the flames and the tail section, I thought maybe there would be some people there." Seebeck's boat propellers became entangled in wire debris and the engines stalled. What little current there was began drawing them into the flames (1/2 knot east). Petty Officer Seebeck managed to restart engines and move away.

Comment: These quotes were reported on world-wide media. The idea that the NTSB leadership has ignored these and dozens of other witnesses sightings that could immediately place the locations of the tail pieces that are so vital to understanding FL800's break-up sequence, is unconscionable.

Horizontal Stabilizer & Nose Tire Impact

Fact: Page 33 of NTSB Exhibit 7A indicates the horizontal stabilizer fractured in six large sections, with the skin failing in compression on top and tension on bottom.

Comment: This means the horizontal stabilizer failed in overload from a force pushing up from below the stabilizer.

Fact: Horizontal stabilizers are normally loaded the opposite of the wing in flight. In other words, the tail is always pushing down, not up.

Fact: Page 33, of the above report, pertaining to the horizontal stabilizer, " the leading edge was severely damaged". Some of the items found in the stabilizer are sections of Seat Track, a Stator Blade from turbine sections (of engines) and glitter.

Fact: The engine stator blade cited in the above quote penetrated the upper aft surface of a piece of the right horizontal stabilizer, which had separated from the tail assembly. This same piece of stabilizer, quoting page 34, "the outboard leading edge was crushed aft and outboard. This area exhibited black rub marks on the leading edge skin in the lateral direction."

Fact: The facts stated above are critical clues as to what happened to FL800 in the breakup sequence. There are no plausible explanations as to how an engine blade could penetrate the top rear skin of the horizontal stabilizer at water impact or in normal flight conditions, if the stabilizer was intact.

Fact: Engine turbine stator blades are contained near the center or heart of the engine, which is surrounded by a very strong engine case. The engine case is specifically designed to internally contain these blades if

they break loose during catastrophic engine failure. The most common engine failure that breaks loose stator blades is catastrophic failure due to engine ingestion of foreign objects. When engines are running, ingestion of metal objects at the intake may cause compressor blade failure which, in turn, causes turbine and turbine stator blade failure going aft in the engine, until these parts are ejected, often at great velocity, out of the tail pipe area.

Fact: This piece of outboard right horizontal stabilizer is normally situated above and well behind engines 3 and 4 on the right side. In order for the blade to impact the top aft edge of the stabilizer, two preconditions must exist: (1) Engine three or four must first suffer catastrophic engine failure; and (2) This piece of horizontal stabilizer must separate from the empennage leading edge down, so as to position itself to receive the blade.

Fact: The outboard most 12 inches of this same piece of right horizontal stabilizer leading edge was crushed aft eight inches and outboard with black "witness marks" on the crushed skin.

Fact: Impact of an aircraft tire, or piece of tire, would produce the damage cited above.

Fact: NTSB docket number SA 516, exhibit 7A, page 38, And Par. 6.2.1, " Three out of four nose landing gear doors were found in the Red Debris area. …the right tire, wheel and outer hub separated from the nose gear assembly."

Fact: <u>One half of an aircraft tire</u> was found in the very early Debris Field. There is a black witness-mark, halfway back, in line, on the fuselage above the R-3 door!

Fact: In order for an aircraft nose tire to hit the horizontal stabilizer where it did, the aircraft must yaw right approximately 6 degrees and pitch up to 8.5 degrees. The 12-second line of the <u>Digital Flight Data Recorder</u> (DFDR) (now removed from the database by NTSB) <u>depicts the nose pitched up to 8.3 degrees</u>.

Comment: The apparent lack of interest as to what the black mark was on the right horizontal stabilizer & fuselage by NTSB and FBI investigators is of particular concern. <u>As of this date, no one has taken samples of the black marks for testing.</u>

Comment: It is highly probable that the missile warhead overpressure not only ejected the right nose tire out of the nose gear well, but also provided metal debris from the wheel well to be ingested by the number 3 engine. Foreign object damage of the number three engine is the most probable source of the turbine stator blade that impacted the top of the right horizontal stabilizer. The organized and systematic denial of the importance of the nose gear evidence, by the leadership of the NTSB, is unprecedented.

Recommendation: Congress seize the subject named parts and have them analyzed by both government and independent laboratories for tire material on the stabilizer, and stabilizer leading edge material on the tire.

<u>Previous Damage to Aircraft #17119</u>

Fact: On Good Friday, 1995, the B747 destined to become TWA FL800 (aircraft 17119) was hit by lightning on approach to Rome Airport. The right wing suffered significant metal damage requiring about 25 square feet of right wing tip skin to be replaced. The lightning caused the surge tank fire protection bottles to fire (ironically, a wing tip safety system almost unique to TWA Aircraft designed to stop fire from reaching tanks through wing tip vents.) <u>Lightning also coursed down through the wing and blew the circuit breakers to the wheel brake overheat warning system.</u>

Fact: The NTSB had not discovered this fact until Captain Mundo pointed it out to them. They also had assumed any soot in the right wing vent was from the TWA crash.

Fact: The surge tank protector bottles (4 in each wing tip) did not fire in the TWA FL800 incident. This indicates that either the flash from a fire didn't reach the wing tip or electrical wiring was severed to the bottles before fire reached the surge tank. The surge tank system is powered any time the aircraft battery is on line.

Comment: In the above incident approaching Rome, lightning traversed the #4 reserve tank, the #4 main tank, the #3 main tank and the center wing tank. All were empty or near empty at the time and nothing happened. Lightning represents a multi-thousand fold ignition potential over any conceivable electrical source from aircraft power.

Comment: It is also troubling that the NTSB Investigators (especially considering their one in a billion CWT mechanical failure theory) didn't bother to even screen maintenance records for unique problems back 15 months.

THE 105MS LOUD SOUND

Fact: The blast effect of an anti-aircraft warhead bursting at flight 800's altitude is limited by the speed of sound in the atmosphere, about 1,088 feet per second, or 1.09 feet per millisecond.

Fact: The speed of sound in the various metal components of a Boeing 747 range from 10,000 fps to 16,000 fps (aluminum to steel).

Fact: A reasonable assumption can be made that warhead shock wave impingement on any metal surface of a B747 would travel through the airframe at 10,000 fps and would register on the cockpit voice recorder as a loud sound.

Fact: NTSB documents indicate a very loud sound was registered on the cockpit voice recorder of 105 milliseconds duration, then the recording stopped.

Fact: From NTSB Exhibit 5a: "An acoustic expert in the area of explosions who was at the meeting noted that the sound of the explosion as noted in witness accounts is not consistent with an explosion only of the center fuel tank. The data he has analyzed indicates that the explosive force, as determined by witness accounts, is equivalent to about 1 ton of TNT. This is many times more than what would be expected in only a center fuel tank explosion. An explosion external to the airplane is theorized."

Comment: The 105ms loud sound is evidence of an anti-aircraft weapon airburst. See Exhibit 8 on page 49.

FLIGHT DATA RECORDER PROVIDES ABSOLUTE PROOF OF WEAPON AIRBURST

Fact: The NTSB is on record insisting power failed in the aircraft at 20:31:12.26, therefore the last data line recorded at 20:31:12 could not be successfully recorded to tape on the digital flight data recorder because of inherent delays in the recorder design.

Fact: There are four forensic pieces of physical evidence that prove, beyond doubt, that power was actually on until 20:31.13.15.

Fact: The pilot and copilot's electrically driven altimeters were found in cockpit debris, reading 13,800 feet and 13,820 feet. TWA FL800 could not have achieved those altitude readings prior to 20:31:13.15.

Fact: Mega Data System, Inc. of Long Island NY maintains a passive aircraft transponder receiver system electronically synchronized to Islip New York ASR8 radar. They provide precision, real time, tracking services for commercial airlines. Mega Data Systems received a transponder transmission from FL800 at 20:31:13 showing a true airspeed of 380 kts and an altitude of 13,800 ft., agreeing with the pilot's altimeter.

Fact: The digital flight data recording itself shows power was on until 20:31:13. The early data words were properly synced, check stroked and transcribed on tape on the 20:31:12 line. All clearly depict a catastrophic overpressure event struck the aircraft from the low left. Altitude, airspeed, angle of attack, G force, Pitch and Roll sensors all agree. Random or garbled numbers would not agree and also, these numbers could not have been from another flight previously recorded because the aircraft would have crashed. See Captain Howard Mann's analysis at Exhibit 12 on page 55.

Comment: Any investigator seriously looking for evidence of outside weapon engagement would check the altimeter and airspeed readings for overpressure and the angle of attack for blast direction. These indicators are not only present but are of the magnitude and force to explain how the nose was destroyed and fits exactly with all other forensic evidence.

Fact: The first version of the digital readout of the flight data recorder the NTSB published on the Internet was correct. It showed data record ending at the beginning of the 13 second line. The second version, handed to reporters at the Baltimore Hearings, had the 12-second line penned out. The third version on the Internet, altered April 8, 1998, has now totally deleted the 12-second line.

Comment: In layman's terms, what the NTSB has done would be equivalent to a prosecutor refusing to allow a security video tape into evidence which clearly depicted a bludgeoning murder of a mini-mart employee because the prosecutor's theory (not the defense attorneys' theory) was the victim slipped on a wet floor. When challenged, he would insist the video camera failed before the incident and the video of a murder was that of a previous unreported crime.

Recommendation: Congress should require sworn testimony from all that would promote the current NTSB theory and provide industry experts to reexamine both flight recorders rigorously.

SHRAPNEL EVIDENCE

Fact: Dr. Wetli, the medical examiner on Long Island, has stated, "the universal cause of death of the people aboard TWA Flight 800 was cranial cervical ligament separation."

Fact: Dr. Wetli is on record with congressional staff stating, "the victims x-rays light up like Christmas Trees from metal contamination."

Fact: Dr. Wetli is on record using the word "shrapnel", during his testimony at the NTSB Public Hearings in Baltimore, while describing the victims. FBI Agents stood by and collected the metal fragments as autopsies were being done by Dr. Wetli's staff.

Comment: No one at Baltimore seemed to notice, Mr. Hall was far more concerned as to when Dr. Wetli might be able to provide death certificates to surviving family members.

Fact: On 29 July, 1996, CNN reported "Sources within the law enforcement community report that metal fragments removed from FL800 victims bodies had evidence of high velocity gas pitting" (from bomb or missile casings?). Those passengers were sitting on the left side forward.

Fact: Only one-dimensional x-rays were taken of the bodies. Depth of fragment penetration cannot be determined on the one-dimensional x-rays.

Fact: Dr. Wetli has stated to this investigator there was unusual (severe) wounding and deep fragment penetrations of First Class passengers. One First Class passenger was found to have a particularly deep chest penetration by a large piece of metal from a seat armrest.

Fact: There are no rational theories as to how a seat armrest can be broken up and a piece propelled at high velocity without accepting the notion that high velocity metal passed through the First Class cabin.

Fact: When Dr. Wetli inquired as to what FBI Lab reports showed on "shrapnel" removed from victims, he was told all the metal was determined to be from aircraft parts, therefore not evidence of a criminal act.

Fact: Although the FBI had massive presence on Long Island and were ostensibly intensely looking for forensic evidence of a crime, they did not require 3 dimensional x-rays or attempt to correlate clothing penetrations to body wounds.

Comment: This depressed initiative by FBI Agents failing to capture and preserve vital physical evidence from the autopsies when compared to the maniac reaction then displayed around the country in pursuit of a few square inches of aircraft seat fabric being examined by outside people, appears schizophrenic. In other words, paranoia about the possible existence of exculpatory evidence in the hands of civilians was of far more concern than establishing and preserving an accurate real evidence file.

THE UNIVERSAL CAUSE OF DEATH

Fact: The almost instantaneous yaw to the right and pitch up to 8.5° discovered by this investigator when reviewing NTSB Data and confirmed by the DFDR (discussed elsewhere in this report) that initiated FL800's breakup sequence, is also a probable cause of the fatal neck injuries - cranial cervical spine separation.

Fact: A person sitting forward in First Class would be displaced about 17 feet right and 12 feet up by the yaw and pitch induced by the detonation. These displacements in space would be of no consequence if caused by turbulence acting over a period of a second or more. However, in FL800's case, the blast wave passes over the fuselage imparting its entire force vector up and right in about 10 milliseconds or 1/100 second.

Fact: The passengers described above would be subjected to an instantaneous 60g transverse acceleration force. In other words, for a fraction of a second the normal person's head weighing 11 pounds, would become 660 pounds, snapping the head down and left. Almost instantly, the aircraft's huge vertical and horizontal stabilizers would attempt to abruptly bring the aircraft back to its original flight path. This would cause a snap back acceleration in the opposite direction, compounding the damage to both the aircraft and the victims.

Fact: Passengers in the tail section would be subject to a force vector acting in the opposite directions, head snapping up and right relative to the cabin interior.

Fact: The first passenger that came from the aircraft was assigned to seat 10-2, left side, aircraft station 615. If the pressure bulkhead and aircraft skin opened first at that point from the warhead blast, the cabin pressure differential would be greatly augmented by the 60g (gravity) acceleration pushing that victim directly out the seam. A 160 pound individual would get the equivalent of a 9,600 pound ejection push!

FORENSIC EVIDENCE IGNORED

Fact: "Evidence of fire was found….. in a fuel tank located outboard of engine 4 on the right wing (#4 reserve) ….material from that fuel tank was found more than a mile down tract from initial debris." [1]

Fact: "The electrically driven altimeters of the Captain and First Officer were found to display 13,800 feet and 13,820" [2] when power went off.

Fact: Paraphrasing paragraph 4[3], The left wing tanks 1R, 1M, 2M, contained 82,800 pounds of fuel and the right wing 3M, 4M, & 4R contained 90,700 pounds of fuel, a 7,900 pound difference! The center wing tank showed 640 pounds which was 290 pounds more then the estimated 350 pounds in the tank on take off.

Comment: Regardless of the actual quantity in the tank at takeoff, the almost doubling of the CWT fuel quantity indications at electrical power-off also reinforces the notion that hydraulic ram from a warhead detonation breached the left side body wall between number 2 main and the center wing tank and sprayed fuel into the center wing tank. See Exhibit 1 on page 40.

Fact: There is an unexplained loud sound lasting 105 milliseconds on the cockpit voice recorder at the end of the tape. A sound which could not be duplicated by the Bruntingthorpe tests when they exploded a center wing tank.

Fact: At TWA FL800's velocity (633 ft/sec), an airbursting, anti-aircraft warhead shock wave striking the aircraft first, low left forward, between aircraft stations 667-740, will produce a 105 millisecond loud sound in the cockpit. See Exhibit 8 on page 49.

Fact: Strong forensic evidence exists that the cabin integrity was lost first at aircraft station 615, left side. A passenger sitting in row 10, seat 2, landed in the first Debris Field, well before any aircraft structure. Row 10, seat 2 is immediately above the left side baggage compartment at aircraft Station 615.

HOSTILE OR FRIENDLY FIRE?

THE FRIENDLY FIRE THEORY

The James Sanders book, "The Downing of Flight 800" describes a complex military exercise gone awry, where missiles fired from US combatants during an over the horizon test, accidentally bring down the aircraft. Press releases and comments by Pierre Sallinger asserted a similar accidental engagement by U.S. Forces.

Additionally, random interviews with Long Islanders that were close to the incident leave one with the impression a majority firmly believe US military forces must have been responsible. Those suspicions

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[1] Systems Group Chairman's Factual report, NTSB docket SA 516, Exhibit no 9A, page 5, par. 2.

[2] Systems Group Chairman's Factual report, NTSB docket SA 516, Exhibit no 9A, page 6, par. 3.

[3] Systems Group Chairman's Factual report, NTSB docket SA 516, Exhibit no 9A, page 6, par. 4.

were soundly reinforced when the White House ordered in the Navy instead of Commercial sources to salvage the aircraft and the Justice Department flooded the island with FBI Agents.

This investigator is intimately familiar with Navy live fire missile exercises, both air-to-air as well as surface-to-air. I have interviewed the Navy Chief of Staff who runs Atlantic exercises and warning areas as well as the officer who maintains operational control and radar coverage in those areas. Neither records of Operations Areas schedules nor Navy ships logs support these theories.

Simply put, there was no large Live-Fire exercise scheduled or conducted in warning areas adjacent to Long Island on 17 July 1996. It is the discovery of that fact which turned the media against a missile possibility. When the media's own Pierre Sallinger linked missile downing to Friendly Fire and Friendly Fire was not discovered by the media, the missile theory crashed with it.

There are three unexplained circumstances listed in ascending order of importance that point to possible Military involvement:

1. Drone pieces. A fax from a target drone manufacturer intended for the FBI was misrouted to a civilian that reveled that possible remains of a target drone were found in the debris field. This hardware was not positively identified. However, even if it was Drone hardware, it should not be assumed to have participated in the event. The FBI's apparent attempt to identify the metal debris would suggest no prior knowledge of Drone involvement and the close proximity to military Warning Areas would explain the presence of Drone artifacts.
2. A Surface Combatant Sighting was made by a former Naval Flight Officer from the beach at Gilgo Park located about 35 miles west of the incident. He reported the vessel was 3 miles or so off shore heading West about 4 hours before the shootdown. Eyewitness Lisa Perry believes she saw a warship close to shore moving slowly East about 2 hours before the shootdown from her beach front vantage point about 15 NM West of the incident.
3. Islip's ASR Eight Radar recorded a 30 knot surface target only 2.9 nautical miles from TWA FL800 when it exploded. This is further complicated when radar antenna height, over the horizon, calculations are made, they indicate (during normal atmospherics) that this radar contact would have to be at least 58 feet tall to be recorded by Islip's radar.

The identity of this vessel is critical. It is at the firing point of missile # 2. As Flight 800 crashed, the track of this vessel continued off shore at 30 knots, avoiding the visual range of all other surface contacts until it went off the Islip radar. This is a normal military tactic and not the actions of someone who just witnessed a plane crash and who would be compelled by the Law of the Sea and human compassion to stop and help.

Could the warship seen at Gilgo Park have repositioned to the 30-knot surface contact's position prior to the shootdown? The answer is yes. Is there any public record of a US Navy ship in that position? The answer is no. Could it have repositioned to the nearest reported US surface warship position at 20:31? The answer is no.

In the opinion of this investigator, the shootdown of TWA Flight 800 appears to be a deliberate act. Based on the in-shore firing position of missile #1 and the shallow water (60 feet) at that location, a warship or surfaced submarine missile launching would have been seen by hundreds of people.

However, because of the missile firing geometry observed by witnesses, one possible military scenario has not been ruled out. If unaccounted for in-shore surface combatant patrol sightings are valid, it would indicate the possibility that the Navy was in a classified Air Defense posture patrolling in the area of previous missile launchings or sightings.

Is it possible the 30-knot surface target was such a combatant attempting to intercept a hostile shot? The answer is yes. Missile #2 was fired about 13 seconds after missile #1 and both arrived at FL800 within 1 ½ to 3 seconds of each other. Are US Navy surface combatants capable of intercepting hostile missile fire in such short notice. The answer is yes. The yes answer is predicated on the following conditions: 1) it is AEGIS equipped, 2) the ship is expecting a hostile launch, 3) the ship is in an advanced state of alert and in range.

Arguments against this theory.

1. The unlikely probability of keeping a large crew silent two years after the event.
2. Why only one combatant to cover the entire Long Island coast?
3. It is extremely unlikely a Navy combatant would run from an Air Sea Disaster.

The fact is, while we believe that there is considerable forensic physical evidence that conclusively proves that TWA Flight 800 was shot down by one or more missiles, we have no proof of who fired the missiles.

TERRORIST CONNECTIONS

We have discussed the possibilities of friendly fire. There is equally compelling, and I believe more credible circumstantial evidence that the shootdown was a deliberate Act of War by state sponsored terrorists. For this theory, we also have no forensic evidence, but there is a large body of information on the public record which indicates motive, means and the political desire to strike an American target just days before the Atlantic Olympics. See Other Reported Missile Sightings at Exhibit 26 on page 96.

Fact: The White House, the CIA, the FBI and the Justice Department have said there is no link between TWA FL800 and terrorism.

Fact: Al Hayat, an Arab newspaper in London, received a letter on the day of the TWA attack citing an intention to strike an American target from an alleged Saudi Group called the Movement of Islamic Change. They had previously taken credit for a bombing in Saudi Arabia that killed 5 Americans.

Fact: An Arabic Newspaper in Beirut received a fax from the Movement of Islamic Jihad / the Jihad wing of the Arabian Peninsula, at 11am New York time the morning Flight 800 was shot down. It stated, "Tomorrow morning we will strike the Americans in a way they do not expect and it will be very surprising to them." The FAX goes on to say, "The Mujahadeen will respond harshly to the threats of the stupid American President. All will be shocked….." TWA Flight 800 was shot down at 8:31 p.m. EDT, which was 5:31 am the following morning on the Arabian Peninsula.

Fact: The Israeli newspaper, Yediot Ahronot was quoted by the London Times that, "Israeli intelligence had warned US intelligence that there was a specific terrorist threat against this particular aircraft before the event."

Fact: Authorities in New York received an anonymous threat to specifically attack a New York airport or jetliner in retaliation for the conviction of the blind radical Islamic Sheik Omar Abdel Rahman on 1 October, 1995 for masterminding the February 1993 World Trade Center bombing.

Fact: On the evening of November 17, 1995, 47 days after Rahman's conviction, and 8 months before the attack on TWA FL800, a Lufthansa 747 en route from JFK to Frankfurt and a British Airlines flight, both saw a bright, fast moving object, pass within 2,000 to 3,000 ft., trailing smoke and not registering on FAA radar. Both aircraft were off the Long Island coast. See Exhibit 26 on page 96.

Fact: On Wednesday, 26 June 1996 exactly three weeks before the shootdown of TWA Flight 800, at almost precisely the same time of evening, the Coast Guard received a report of three red flares launched 25 miles south of Shinnicock Inlet. An air and surface search found nothing. See Special Agent Kuhlman's letter on page 100.

EVIDENCE POINTING TO A COVER-UP

THE SALVAGE OPERATION

Fact: Weeks Marine operates the largest and most capable marine salvage equipment on the western shore of the Atlantic Ocean. The Coast Guard rescue log shows a request for assistance was made to Weeks Marine within an hour of the crash.

Fact: Purely by coincidence, Weeks Marine was transiting the largest revolving crane salvage barge in the western hemisphere off the Long Island shore when FL800 went down.

Fact: By dawn on 18 July 1996, it was at the crash site ready to operate. It was capable of supporting 50 hard hat divers with multiple cranes, precision grid positioning equipment as well as precision anchoring system. The barge not only was a heavy lifter, but had huge storage capacity for debris.

Fact: Phone calls between Weeks Marine executives and FAA officials in Washington the night of the crash led Weeks Marine to believe the FAA was extremely anxious to recover the tail of the aircraft in order to get the flight recorders.

Fact: Weeks Marine kept the barge on site until it became obvious they were not going to be used.

Fact: AT&T had a state-of-the-art Cable Laying ship on site on 18 July. It was equipped with high tech underwater surveillance equipment and even a robot salvage submarine.

Fact: Despite the large capability advantage and more importantly professional salvage experience over the military units which eventually arrived at the scene, both AT&T and Weeks Marine were shouldered out of the way and never used.

Comment: The decisions made by the Government concerning the marine salvage effort are difficult to understand. When a conscious choice is made to reject the best equipment and personnel for such a hazardous and complex job, the question arises as to why.

RECOVERY OF THE FLIGHT DATA RECORDERS

Fact: The pingers from the Flight Data Recorder and the Cockpit Voice Recorder were heard night of the crash. By the next day the pingers suddenly stopped. They were not recovered for another 7 days.

Fact: Professional marine divers and salvage personnel enjoy full civil and personal rights while on or off the job. Navy divers and military personnel do not. The military chain of command, including the Commander-in-Chief, can and sometimes does abridge the civil liberties of military personnel. For example, the soldier or sailor can be ordered to remain silent pertaining to classified operations under penalty of the Uniform Code of Military Justice (UCMJ).

Comment: Mr. Clinton apparently thought the UCMJ wasn't quite strong enough however, after he brought in the Navy salvage effort. On March 11, 1997, Mr. Clinton signed Executive Order 13039, that removed the personnel in the Navy units assigned to the TWA FL800 recovery mission, from the protection afforded by Chapter 71, Title 5 of the United States Code. This particular law is commonly referred to as the "whistle blower protection act". The reason cited for the Executive Order was "National Security".

Comment: It is the opinion of this investigator that on or about March 10, 1997, after public allegations surfaced of a friendly fire shootdown of the TWA FL800, high political officials in the Executive, Justice and Transportation Departments entered into a conspiracy to subvert both the civil and criminal investigations into the loss of TWA FL800. Despite the total lack of evidence, the unified position would be to support a finding of Center Wing Tank explosion caused by mechanical failure. The media blitz to that end is on-going and has been supported by numerous officials of this administration.

Fact: On 24 July 1996, Valorie Caproni, Deputy US Attorney for New York, informed the NTSB through the NTSB's Operations and Eyewitness Group Chairman that the FBI would not allow the NTSB to interview eyewitnesses, or share witness lists or even physical evidence with Parties to the Investigation.

Fact: A special FBI (forensic) dive team was used to prescreen high interest parts located at sea, prior to their recovery by navy divers. The dive team was the Naval Special Warfare Development Group (SEAL Team 6).

Fact: Major Fred Meyer, flying an HH60 helicopter, repeatedly flew over the crash scene on 17 July 1996, utilizing precision satellite navigation equipment on board, radioed the exact position where the wreckage containing the flight recorders could be found, back to the C130 crew that was airborne. They then relayed the information to the command center

Fact: In a meeting with senior NTSB people present, Congressman Forbes, the Representative from Long Island, NY was told the wreckage containing the flight recorders had been located and recovery of recorders was imminent on 18 July 1996.

Fact: Parties to the Investigation, TWA crash investigators, Boeing investigators, ALPA investigators, etc. were not allowed aboard recovery ships. The Coast Guard rescue log shows the motor vessel Pirequette towed an underwater pinger locator device for several hours on 20 July and again on 21 July without luck.

Fact: The Coast Guard log also shows a major effort to map the Debris Field with underwater side scan sonar and laser devices beginning 21 July.

Fact: On 24 July 1996, USS Grasp executed a three point mooring directly over the flight recorders. At 2330 that night navy divers were lowered down almost within arms reach of the flight recorders.

Fact: Party Investigators are on record complaining that the NTSB opened the recorders without Party investigators present. This is a violation of normal protocol.

Fact: TWA FL800 Ducane underwater pingers, attached to the recorders, were found to be operating normally when examined in the NTSB Laboratory.

Comment: The circumstances surrounding the recorder's recovery are very unusual.
Recommendation: Congress should take sworn statements from all parties concerned.

FINAL DEBRIS COLLECTION

Fact: In November of 1996, 4 scallop boats were contracted to dredge the bottom for remaining debris. The FBI placed 2 agents on each boat to "Tag and Bag" all evidence. Two boats from New Jersey and two from Massachusetts were contracted through Dive Master, Oceaneering International, Inc. and the US Navy Supervisor of Salvage. These operations were curtailed on 30 April 1997, even though Debris was still being found, according to the owner of "Kathy Ann", Mr. Jimmy Kitowski. The boat owners were told the operations were being curtailed because of lack of funding.

Fact: Scallop boats normally dredge pulling two 15 foot wide steel nets with a 15 foot wide gap between the nets. These steel nets are constructed of 3 ½ inch wide steel loops linked together. The wide loops are designed to allow undersized scallops to escape capture.

Fact: The FBI supplied the boats with "special nets" constructed of 2 inch wide loops. Scallop boat owners would expect that net size would capture pieces down to the size of 1 ½ inch in diameter.

Fact: The FBI agents came aboard with GPS and Grid measuring equipment. The dredge pattern was overlapped to cover the middle gap and repeated in high interest areas.

Fact: <u>This dredging operation netted "small wing pieces" recovered in the early Red Zone</u>.

Comment: <u>There is no rationale within the NTSB's center wing tank theory that explains small wing pieces in the early Red Zone.</u>

Fact: 70% of the left side of body wall (the sealed rib that is the tank wall between the center wing tank and the #2 main tank) was still missing after the dredging operation ended.

Comment: It is reasonable to assume many of those rib parts were too small to be captured. Once again, <u>this points to a high-energy event</u> associated asymmetrically with the left wing. In air crash debris, small parts equal high-energy, as do spiked edge fracture faces on aluminum. The NTSB has consistently ignored this forensic evidence.

Fact: High tensile strength aluminum alloys that are used for aircraft wing skin, missile bodies and flight surfaces are stronger than pure aluminum. However, with the strength comes brittleness. A severe shock, such as close proximity to high explosive detonations, will shatter some alloys like glass.

Fact: Military high explosives detonate at velocities above 25,000 ft/sec and produce pressures that can be as high as 1.5 million pounds per square inch. This kind of shock will shatter the steel casings of general purpose bombs into shards.

Comment: It is hardly likely that the aluminum sub-components of a full sized anti-aircraft missile would be either recognizable to a layman after detonation, or large enough to be captured by the scallop boat dredges.

Recommendation: Military archives should be searched for fragmentation data on a broad range of large anti-aircraft missiles to determine what recognizable pieces should be expected to remain after detonation.

INVESTIGATION OF RED RESIDUE AND OTHER EXPLOSIVE RESIDUES

Fact: After 24 July 1996 Parties to the Investigation[4] were removed from the recovery operation at sea, denied access to physical evidence, denied access to FBI laboratory reports, denied access to eye witnesses, by order of the Justice Department.

Fact: The procedures cited above are at variance with Title 49 of the US Code and common sense. These aviation experts were the Parties to the Investigation.

Comment: By segregating the Investigators from free access to all evidence, these aviation experts were effectively segmented into compartmentalized working groups, unable to examine and evaluate the larger picture. Consequently their Working Groups produced more questions and anomalies to the central theory than they did answers. Those anomalies appear as findings of fact in this document.

Fact: Captain Terry Stacey is a senior TWA check pilot and was a member of the investigation's Operations Factors Group and Eyewitness Group. He ultimately lost confidence in the integrity and competence of the Justice Department investigation and provided small samples of a suspicious residue to an outside investigative journalist, Mr. Sanders, for testing. After that event, the FBI began threatening Captain Stacey, Mr. Sanders and those corporations, which were a Party to the Investigation, with Federal Obstruction of Justice prosecutions.

Fact: The Justice Department was well aware of the identities of the investigative journalist, Mr. Sanders, his wife, a senior TWA flight attendant, as well as Captain Stacey. Their roles in the above incident were known seven months in advance of the announcement of their indictment.

Comment: Arrest warrants appear to have been delayed to coincide with the beginning of NTSB Public Hearings in Baltimore on 8 December 1997.

Fact: When Mr. & Mrs. Sanders turned themselves in, FBI Agents handcuffed both behind the back and purposefully paraded them in front of media cameras. A junior FBI agent present had requested they not be handcuffed and be allowed to avoid the media, his request was denied.

Fact: The alleged Federal crime that generated the unusual prosecutorial behavior cited above was the theft and receipt of (worthless) government property (stained aircraft seat fabric) by an authorized aircraft crash investigator and a published investigative journalist who had previously testified before congress as an expert witness on other matters (POWs).

Fact: The red seat residue taken by Captain Stacey was given to Mr. Sanders for outside testing and was processed by West Coast Analytical Services (WCAS) in California. Laboratory findings of the sample given WCAS showed a high concentration of metals that is not consistent with the seat material or with the seat repair adhesive. See Exhibit 9 on page 51.

Fact: The remaining sample of residue in Sanders possession was given in good faith to CBS in New York for further independent outside testing. CBS New York turned the sample over to the FBI.

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[4] Parties to the Investigation are officials designated by the NTSB to assist in the investigation. They are experts from the affected companies who provide expert assistance in evaluating and determining the cause of aircraft accidents. The official Parties to the Investigation include: The FAA, Boeing Commercial Aircraft Company, the Airline Pilots Association, Trans World Airlines and the International Association of Machinists and Aerospace Workers.

Comment: CBS was reported to be under threat of a pending FBI raid.

Fact: Both the NTSB and the FBI maintain the red residue Captain Stacey gave Mr. Sanders was 3M 1357 Scotch Grip Adhesive (Listed at NTSB Docket 5A-516 Exhibit 20C). That adhesive is used by TWA to refurbish aircraft seats.

Fact: The Lab results produced by WCAS are entirely different from the test results done on TWA Seat Backing Adhesive by Dr. Bassett's laboratory at NASA and two other independent laboratories. Because Dr. Bassett was not allowed to lift the red residue from the seats at Calverton himself, he is not sure he tested the same residue. See Mr. Stalcup's statement at Exhibit 9 on page 51 and proffer of Laboratory evidence.

Fact: Dr. Bassett of NASA, an ex US Marine, had several conversations with Dr. Birky, NTSB Fire and Explosives Group Chairman, prior to and after Dr. Bassett ran tests. Dr. Bassett first requested he go to Calverton to lift residue samples himself to ensure chain of custody of the sample and to see what he was testing. Dr. Birky denied that request.

Fact: Later, after Dr. Bassett had run tests on CW504, the first metal aircraft part found in the western Debris Field, he called Dr. Birky saying he had detected nitrates on the part (possible explosive residue) and recommended immediate further testing for specific explosives. Dr. Birky directed Dr. Bassett to stop testing and in a later phone call Birky informed Bassett, "we now have a plausible explanation for the nitrates, it was cigarette smoke residue from air-conditioning ducts". Dr. Bassett informed Birky he had already tested A/C ducts and found them free of nitrates.

Comment: Dr. Birky's failure to follow scientific protocol, lack of normal curiosity and his proactive move to shutdown the inquiry once vital clues were being developed, has an appearance of suppression of evidence.

Recommendation: Both Dr. Bassett and Dr. Birky be placed under oath in Congressional Hearings.

Fact: Deputy FBI Director Kalstrom wrote a letter to NTSB Chairman Hall prior to the 8 December 1997 Public Hearing specifically requesting public reference not be made to: Eyewitnesses; the CIA video tape (that was released to discredit eyewitnesses); or any reference to residue testing.

Comment: The conduct of the Justice Department and the FBI in the matter of residue on aircraft seats and parts warrants close scrutiny. In any just forum, the public assault on Captain Stacey's motives by Federal authorities would constitute libel, if not prosecutorial misconduct. Do US attorneys in New York actually believe the Senior Check Pilot for TWA in New York, having just lost 43 fellow employees in this incident, was motivated by anything other than finding the truth?

Recommendation: Congress should provide the opportunity for Captain Stacey to return to Calverton, identify the residue he was suspicious of and have the appropriate scientists lift the residue for outside laboratory analysis to resolve this matter. Captain Stacey should also have the opportunity to testify before a congressional committee to clear his good name.

Fact: At Calverton, bomb-sniffing dogs were used to identify contaminated parts. They were then sent to chemical sniffers for determination of specific high explosives.

Fact: The EGIS 3000 chemical sniffer used by the FL800 debris recovery teams on Long Island was the best equipment available.

Fact: Various media have reported the chemical sniffer processing teams identified at least a dozen pieces of debris from both inside and outside the aircraft with specific high explosive residue contamination. This was after saltwater immersion, washing, and identification as explosive residue by bomb sniffing dogs.

Fact: The possibility of a false positive reading on a EGIS 3000 when testing bare metal is approximately 1: 10,000.

Fact: Explosive experts are on record stating that high explosive residues (nitrogen compounds) are very soluble in water.

Fact: A significant amount of debris was pressure-washed by NTSB personnel when it was brought ashore prior to chemical screening for explosive residue at the Calverton hanger by FBI agents.

Fact: The Justice Department decided to have the FBI laboratory in Washington DC verify each positive residue finding. Only two samples were reported to have made it through the FBI Lab tests as positive.

Fact: Normal scientific protocol requires different methodology or equipment be used to confirm a finding by an original test. If the original identification was done on a EGIS 3000, then the confirmation procedure would have to use less sensitive equipment.

Fact: The explosive unit chief at the FBI Lab, J. Thomas Thruston, was the individual involved in the TWA FL800 investigation.

Fact: In testimony pertaining to faulty FBI laboratory procedures in the fall of 1997 before the Senate, Inspector General Michael Bromwich testified "Hundreds, if not thousands, of cases are implicated". Former crime lab unit chief James Corby singled out the explosives unit chief as a particular problem stating, "Special Agent Thurston did alter reports intentionally."

Professional Conduct of NTSB and FBI Personnel

Fact: Special Agent Joseph Valiquette is on record lying to this investigator about the TWA FL800 case. On a Thursday in November, late in the day, Congressional staff informed me the FBI intended to conduct a press conference announcing their withdrawal from the case, expected sometime after Congress recessed on Friday. I called SA Joseph Valiquette in New York to check the time and place. Valiguette informed me congressional staff was wrong. There was not a press conference on the schedule or even on the calendar! When I pressed him as to how congressional staff could possibly be so misinformed, he opined, "A New York paper recently carried a false story to that effect. Point of fact, the story was true, on Tuesday morning, after two working days, Deputy Director Kalstrom, SA Valiquette's immediate supervisor, conducted one of the largest press conference's in the history of the FBI!

Fact: An FBI Agent grabbed a TWA captain by the throat and slammed him against a wall at the Calverton hanger. The TWA captain was an authorized, Title 49 investigator who had asked the agent why he brought his wife into a closed, air-crash investigators group meeting. Neither the FBI Agent nor his wife was a member of the group. This was in violation of security procedures.

Fact: Early in the investigation, Captain James Spear, a conscientious crash investigator representing ALPA, was removed from the investigation on verbal orders from Jim Hall. Captain Spear had previously complained to Special Agent George Andrews about crash debris showing up at the hangar not being tagged. Special Agent Andrews was an assistant to Deputy Director Kalstrom, but Captain Spear assumed when he was introduced he was talking to George Andre, a TWA employee he had not previously met.

Comment: I believe it is fair to assume the order to remove Captain Spear went from Kalstrom to Hall to the ALPA. The question once again goes to motive. Why would the political leadership be motivated to fire conscientious investigators?

Fact: Dr. Elizabeth Loftus of the University of Washington was the expert on memory that was canceled by request of Deputy Director Kalstrom prior to her scheduled appearance at the NTSB's Baltimore Public Hearing on 8 December 1997. When asked by outsiders what her presentation was to have covered, she replied, "basically to the concern as to why people thought they saw missiles when there weren't any".

Comment: It is difficult to understand the NTSB leadership's logic in scheduling an expert to rebut testimony not on the public record and to insult hundreds of credible eyewitnesses that the NTSB didn't even have access to.

FBI'S BOGUS MISSILE TESTING

Fact: Definition of streak, Funk and Wagnalls Standard Desk Dictionary, "to move at great speed". American Heritage Dictionary "**streak** (strek) *n.* **1.** A line, mark, smear, or band differentiated by color or texture from its surroundings. (n.) A sudden quick light: a flash".

Fact: Since the 1970's, at least 26 civil aircraft have been shot down by man-portable air defense systems (MANPADS) commonly known as shoulder fired missiles. None of these aircraft were US Carriers.

Fact: TWA FL800 was too high (13,800 feet), too fast (380 knots true airspeed), to be hit by these systems. The B747 is also too big and too tough to be brought down by MANPADS. They have minuscule rocket engines (relative to a full sized anti-aircraft weapon) of short duration burn and very low visibility.

Fact: MANPADS are heat seeker, contact-fused, weapons that display erratic flight paths. They are effective against helicopters and light aircraft, but not a B747.

Fact: The FBI were keenly aware of the operational limitations of MANPADS. That the eyewitnesses described missile characteristics entirely different than MANPADS and the catastrophic destruction pattern of FL800 would immediately eliminate MANPADS as a probable cause. Despite these facts, for some reason, <u>they purposely limited the outside consultant, Mr. Richard Boti, on loan from Naval Air Warfare Center, China Lake, to specifically look for proof of a MANPADS system engagement on TWA FL800</u>.

Comment: It appears, as in many other aspects of this investigation, the Justice Department, through the FBI, purposely set the burden of proof bar far too high. By specifying you must find proof of a MANPADS engagement, contact explosion, 4,000 ft/sec fragment hits, etc. before you can conclude a missile was the culprit. This completely rules out a finding of a missile attack by a full sized system. The characteristics of full sized, proximity fused, blast warheads are entirely different and far more deadly.

Fact: In the 1980's, the cruiser USS Vincences, while under surface attack by Iranian Gun Boats, was threatened by a Jet-Aircraft flying directly at Vincences after it took off from Tehran. The aircraft's transponder was off and the Navy Captain, in defense of ship and crew, fired two full sized Standard ARM

missiles at the aircraft. Both missiles successfully engaged. Eerily, the pictures of floating bodies and aircraft debris from what turned out to be an Iranian Airbus would be replicated with Flight 800.

Fact: The two baggage containers in the forward left cargo compartment of Flight 800, AKN 7415 and AKN 9737, were recovered in the Red (early) Debris Field and were not severely damaged, with all sides intact and no fragment holes.

Fact: The wing root leading edge fairing pieces A449 and A551 were recovered in the Red Zone.

Fact: The following is a quote from page 10 of the unclassified report on the TWA Flight 800 missile impact analysis, NAW CWPNS8126. "The kinetic energy of the missile body, and the explosive energy of the detonating warhead would create a significant hydrodynamic ram event that could cause severe damage to one or more of the following structures:

1. Upper / lower wing skins.
2. Wing spar webs.
3. Side-of-body ribs separating CWT from main tanks.
4. Wing leading edge fairings."

Fact: The above quote was addressing a hypothetical damage expected if a small MANPADS missile penetrated a wing tank and detonated.

Fact: <u>All four of the damage patterns cited in NAW CWPNS 8126 are strongly in evidence.</u>

Fact: The report immediately discounts these obvious damage patterns as being caused by a missile because NTSB and FBI documentation do not show evidence of penetration of a full tank with a <u>MANPADS</u> missile. <u>The obvious unasked or answered question is "what caused the damage in evidence?"</u>

Fact: <u>An airburst of a full sized, proximity fused, anti-aircraft blast weapon outside the tank would produce the exact same damage pattern.</u>

Fact: A 90 pound warhead bursting 30 feet in front and 19 feet below the left wing would hydraulically load the fuel in the No. 1 tank to above 40 PSI and would apply a force more than 125 times greater than normal to the underside of the upper wing skin.

Fact: The same hydraulic force would collapse the No. 2 main/CWT side body wall into the center tank, dislodge the leading edge fairing, shred the left wing upper skin and spray fuel into the center tank. See Exhibit 7 on page 47.

Fact: The gross asymmetrical damage to the left side body wall of the CWT and left wing upper skin can not be explained by a center wing tank explosion. <u>Any overpressure in that tank should be an equal opportunity destroyer to both sides of the aircraft</u>.

Fact: <u>The center wing tank lower skin shows a distinct pattern of an implosion, not an explosion!</u> NTSB Docket SA-516 Exhibit 7A, Structures Group Factual Report, Page 30, 31, describe the lower tank skin, "<u>pillowing on the skin between stringers in an upward direction</u>, " and later, "<u>this section (of bottom skin) has the general shape of an upward deflected dome, that is as high as 14 inches in relation to the adjacent structure</u>." The sections around this area, including CW232, CW231 and CW201 exhibit this same general domed shape. A spiked tooth fracture occurred at RBL 39 just forward of S-9!

Fact: Spiked tooth edge fractures of aluminum are evidence of high-energy fractures.

Fact: There are several holes in the CWT structure that exhibit 2,000-3,000 ft/sec punctures.

Fact: 60-PSI fuel vapor/air explosion will not produce 2,000 - 3,000 ft./sec. projectiles.

Comment: The center wing bottom skin clearly shows an implosion occurred to this tank from a force coming from below the wing. The NTSB's insistence this tank exploded as a cause of this incident, in the face of this physical evidence is disturbing. See photograph at Exhibit 23 on page 83.

NTSB INACTION

Fact: The investigation into the crash of TWA Flight 800 is at a standstill. As of this writing (22 months after the mishap), the chairman of the NTSB has yet to call for formal reports from the parties to the mishap.

Comment: The above situation is unprecedented and dangerous to flight safety. Not only do the parties have the majority of real expertise on the aircraft, but also normally, once reports are filed, the gloves come off and they are able to provide a useful reality check on conclusions.

INFLUENCE OF THE GOVERNMENT OVER BOEING & TWA

Fact: The Principal Parties to the Investigation, Boeing and TWA, are both prohibited by Federal law from publicly commenting on the investigation while it is still on-going.

Comment: The Federal Government has enormous power to influence the actions of both Boeing and TWA. They have the power to selectively enforce regulations, award contracts and make rules that could cost millions in expense. With this leverage, it would be reckless for either company to speak out about their belief on the cause of the crash.

Fact: After Boeing Aircraft Corporation sent a team of attorneys to Long Island to independently interview TWA FL800 eyewitnesses, Boeing 737's came under intense scrutiny by NTSB and the FAA.

Comment: Although incidences of wire chaffing were found, none has led to any fuel tank fire, much less an explosion. The 747 does not have wire bundles running through the CWT like the 737. Although it served to scare the public and reinforce the notion that TWA FL800 was the result of a CWT explosion, in fact, it shows to the informed investigator that it is even less likely that FL800 was the result of a CWT initiating event.

THE CIA VIDEO

At their Press Conference in November of 1997, the FBI essentially said "we found no evidence of a criminal act, but we are keeping the evidence secret anyway". The official line from assistant FBI Director Kallstrom was that his Agents had "turned over every rock 10 times" and had finally enlisted analysts from the CIA to explain what the hundreds of eyewitnesses observed. Mr. Kallstrom implied CIA Agents conducted active interviews to verify and check witness statements. This appears to be yet another fabrication. None of the witnesses I've talked to had a phone conversation with a CIA agent, much less a personal interview.

The CIA produced a video, which ran intensely for a day on national television until the hoots of derision by aviation professionals and eyewitnesses began to be heard in the Government. In the short few weeks between the video's debut at the FBI press conference and its scheduled run at the NTSB public hearing in Baltimore, beginning 8 December 1997, Mr. Kallstrom requested the Video not be shown. Not only would the video be scraped, but expert testimony scheduled by the NTSB Chairman, designed to further impugn eyewitnesses, was also cancelled. Actual witness testimony was never welcome at Baltimore and not placed on the agenda. The national media, apparently satisfied with the dramatic video, never once questioned the validity of a Public Hearing in which the term witness was not mentioned.

In order to discredit eyewitnesses the video had to depict the aircraft in some way visually performing like a streaking missile. Also because one of the missiles was launched near the shore and the launch noises and rocket burn were clearly heard early in the sequence by some observers, the contrived Video scenario had to cover that aspect as well.

Defying the laws of physics, aerodynamics, and jet engine mechanics, the video has the aircraft center wing tank mysteriously exploding, the plane flying along for awhile as the explosion sound makes its way toward shore. The nose falls off and the plane climbs vertically 3,000 feet trailing fire just in time for observers ashore to hear the sound and look seaward to observe a large, slow moving, Boeing 747 morph into a streaking anti-aircraft missile!

It would be easy to understand why 10 year olds watching this cartoon on Saturday morning would believe it on face value, but it is perplexing to think network news producers, who are responsible for providing national news, would be suckered without checking the facts first. Any student pilot could set them straight by discussing aircraft weight and balance. Aircraft that are loaded nose heavy (beyond the designed forward center of gravity) can not takeoff because the nose will not lift off. Aircraft loaded tail heavy, beyond limits, will over rotate at takeoff, stall and crash, despite the best efforts by the crew. The Video depicts a situation (nose falling off) that would be the mother of all AFT center of gravity problems. The aircraft would not only stall and begin falling immediately, it would stall violently. Boeing is on record distancing itself by indicating its engineering figures were not evident in the video.

The faults in this propaganda piece are myriad and obvious when compared to physical evidence, facts and real witness statements contained elsewhere in this report. Eyewitness accounts indicate the aircraft broke up almost immediately. There is also the question as to why the CIA was asked to perform a function (analysis of witness statements) that by law belongs to the NTSB. What experience does the CIA have in aircraft crash investigation? Why is the CIA involved at all in a domestic civilian airplane crash when there is purportedly "no evidence of a criminal act"? Why have the NTSB investigators still not been allowed to interview eyewitnesses, two years after the crash?

It is disturbing to see powerful elements of the Justice Department and the CIA conspire to intimidate witnesses by first ignoring them, then impugning their detailed statements and ultimately libeling these citizens through publication of a false video. Congress should carefully and thoroughly examine the circumstances that lead to this gross federal breech of trust.

EXHIBITS

EXHIBIT 1 - FUEL QUANTITIES AND WHAT THEY TELL US

By Captain Howard T. Mann

We were told at the Public Hearing in Baltimore that FL800 was making a normal climb-out with wings level when the center tank exploded. On other occasions, we were told something happened to the aircraft and that 20 seconds later the center fuel tank blew up. Reference to the Flight Data Recorder indicates the aircraft went through some violent maneuvers before the loss of electrical power. The 20:31:12 second line of the FL800 Flight Data Recording indicated the aircraft was rolling to the right and was in a steep bank. The purpose of this document is to support the FDR information by reference to a totally different system. I refer to the Fuel Quantity Indicating System (FQIS). The quantities indicated below are from official NTSB documents.

Fuel out of JFK

747 Fuel Flow Instruments incorporate a feature that keeps a motor-driven running total of fuel used, in pounds, from engine start to the time of the accident.

Calculated fuel in tanks at time of accident

Motor driven fuel quantity indications (Found in wreckage)

Fuel Discrepancy in pounds

Indicates 4,500#s Taxi Fuel

#1 Reserve	3,400	0	3400	3100#	-300
#1 Main	24,600	-2,680	21,920	22,200#	+280
#2 Main	62,900	-2,710	60,190	57,500#	-2,690
Center Tank	300	0	300	640#	+340
#3 Main	62,700	-2,740 *	59,960	60,100#	+140
#4 Main	24,600	-2,630	21,770	27,300#	+5,530
#4 Reserve	3,300	0	3,300	3,300#	0

All of the discrepancies can be explained by reference to the tank geometry, but only if the aircraft is in a steep right-bank as indicated on the DFDR.

* Unreliable, used 1,2,& 4 average.

- Fuel quantity indications are valid in the wreckage because the indicators are motor driven and do not move when electrical power is removed.

The obvious discrepancy in the fuel figures for the #4 main tank tell us this aircraft was in a steep right bank just as the Flight Data last second line indicated when electrical power was lost. To understand what happened with the fuel quantity in the #4 main fuel tank takes some orientation about the tank itself and about the fuel quantity probes.

The #4 tank is approximately 30 feet long and tapers in both width and depth, averaging approximately 12 feet wide with the depth from 26” at the inboard end and 15” at the outboard end. The tank description is further complicated by the 7-degree wing dihedral. Because the tank takes on a general shape of a long thin flat wedge, where the fuel is located in the tank affects the accuracy of the quantity calculation. There are 12 probes strategically located in the tank. These probes are of the capacitance type and use the fuel as a dielectric. Fuel standing in the tube changes the capacitance between the outer and inner element. It is the sum of the capacitance of all the probes in a tank that determines the fuel quantity indication. The system is very accurate when the aircraft is in a nearly level attitude. On Flight 800, it appears the steep bank angle allowed fuel to run from the large end of the tank to the small end of the tank and cover some probes while uncovering certain others with less capacitance, resulting in a obvious erroneous fuel quantity indication. The same principle applies in other tanks but to a lesser extent, depending on how near full they were (1R & 4R) and allowing for some space above the fuel. The inboard mains are only about 75% full and their depth to length ratio is less affected by the bank angle. The cockpit Fuel Remaining and Aircraft Gross Weight indications both reflect this error because the data they utilize comes from the individual fuel quantity gauges.

EXHIBIT 2 - FLIGHT DATA SIGNATURE OF A B747 CENTER TANK EXPLOSION

By Cmdr. William S. Donaldson

When aircrash investigators have access to Flight Data Recorders and they suspect an explosion was involved in the mishap, they immediately look for a pressure wave signature on the aircraft's pressure instrument data. This data has been ignored in the case of TWA Flight 800.

When an explosion occurs outside the aircraft, altimeter, airspeed and vertical speed instruments will permanently record the pressure "spike" on the flight data recorder. In the case of TWA Flight 800, that pressure spike is evident in a huge drop in altitude (over 3,600') and a huge drop in airspeed (198 knots). They were recorded on the flight data recorder about one second before the aircraft power failed and the aircraft breakup began.

These pressure signatures could only have occurred as a result of an explosive blast pressure wave passing over the aircraft's static pressure ports located outside the cockpit on both sides of the aircraft. A determination can be readily made to see if the source of this explosive pressure wave was from a center wing tank explosion or some other source of explosion in the nearby atmosphere. By assuming the maximum potentials for a center wing tank explosion and comparing the result to actual recorded figures, a center wing tank overpressure event may be either ruled in or out.

Assume:

1. Overpressure in tank @ 60 PSI (highest NTSB estimate)
2. No objects in path of blast wave (Forward spar, water tanks, cargo, etc.) from blast center to static ports
3. 2,400 cubic foot tank is an 8.3 ft. radius sphere (shape with highest blast potential)
4. Distance from blast center to static port is 75.5 ft. (distance from center wing tank)

Aircraft at rest computation:

Divide the distance to static port from the center of blast, 75.5 ft., by the radius of the tank, 8.3, =9.09. Cube the dividend=752.6. This determines the ratio between the original tank volume and the volume of the blast sphere measured at the static port. 1:752.6. Divide the volume multiple into, the 60 PSI original overpressure to determine the overpressure at the static port.

60 psi / 752.6 = .079 psi

Aircraft in Flight Computation – Center Wing Tank Explosion

5. Now we will assume the aircraft in flight, 380 knots true airspeed, and 13,800 ft. altitude. Because FL800 was in flight, the force of any blast originating from aft of the static ports would be radically reduced because the aircraft is flying away from the point of origin. Overpressure waves in the atmosphere are limited by the speed of sound, about 1,100 ft/sec. This slowing of the relative shock wave causes the radius of the overpressure sphere measured to the static port to increase proportionally.
6. @ 633 ft/second the aircraft travels .63 ft. per millisecond (ms) (1/1000 sec.)
7. The shock wave would take 161.6 ms to travel forward to the static ports @ .467 ft./ ms.

$$\frac{75.5 \text{ ft.}}{.467 \text{ ft/ms}} = 161.6 \text{ ms}$$

The blast radius would then be expressed as: **161.6 ms x .63 ft/ms + 75.5 ft. = 177.3 ft. radius**

$$\frac{177.3 \text{ ft.}}{8.3 \text{ ft.}} = 21.36$$

(21.36)3 = 9746.5 Therefore, 60 psi / 9746.5 = .006 psi overpressure measured at the static port

AT FL800's altitude, .006 psi overpressure would cause the aircraft's altimeter to drop only 13 feet.
The actual recorded data shows an altitude drop of 3,600 ft, which equals a pressure wave over, 275 times more powerful than a Center Tank Explosion could have produced.

EXHIBIT 3 - 1964: THE ROME CENTER TANK EXPLOSION

Source: Captain Howard Mann

Captain Howard Mann personally investigated and found the cause of a mishap that occurred in November of 1964. A Boeing 707 skidded into a heavy piece of construction equipment during an aborted take off in Rome. Within seconds of the aircraft coming to a halt, fire broke out from a fuel spill underneath the damaged number 4 engine.

This aircraft had a near empty center wing tank that contained a mixture of highly volatile and highly shaken JP4 fuel and fumes. Within seconds, the under-wing fire ignited the fumes in the right wing surge tank vents, flashed back down the wing to the center tank, causing it to explode.

The Flight Data Recorder recorded the explosive pressure wave from the altimeter (a 950 ft. altitude drop).

This mishap should not be directly compared to TWA Flight 800 without knowing these differences:

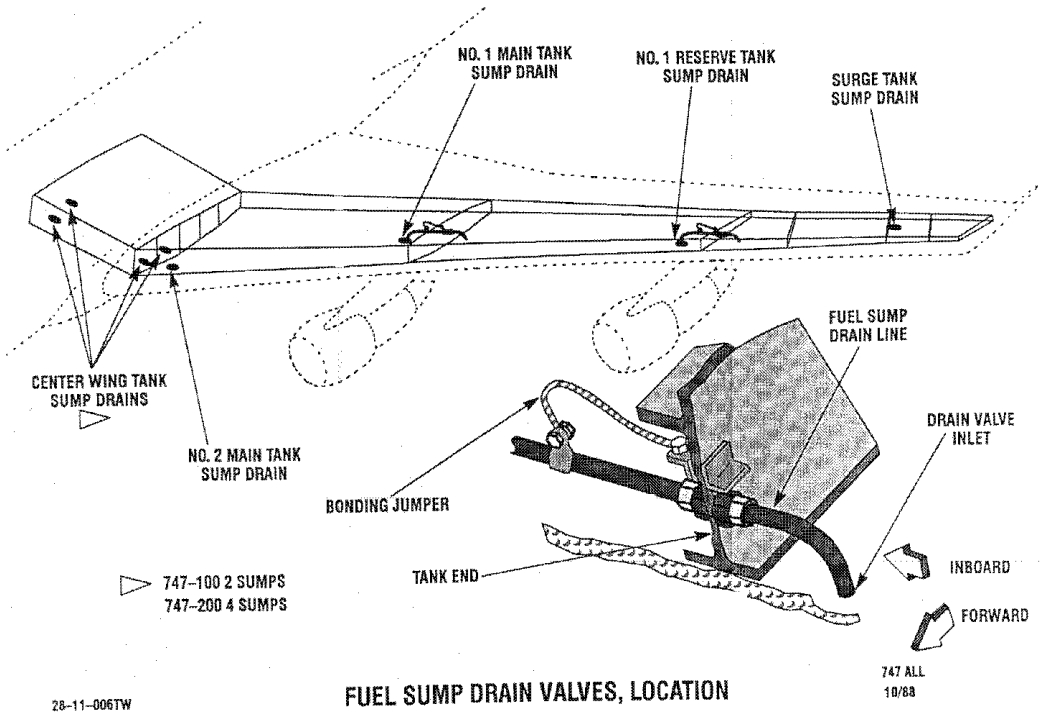
1. JP4 vs. Jet-A. JP4 is a highly volatile fuel (explosion produced far higher pressures in the tank) increasing the pressure spike.
2. The aircraft was at rest vs. in flight, increasing the pressure spike.
3. The 707 static pressure ports are very close to the center tank on the fuselage side vs. the 747's static port location 75' forward of the tank center, increasing the pressure spike.
4. Because the 707 was on the ground, the normal explosive pressure sphere was reduced to a hemisphere. This doubles the pressure at any specific distance from the explosion center compared to a free atmosphere burst at the same range, increasing the pressure spike.

It should be noted that, once again, (see previous exhibit) despite all of the pressure generating multipliers of the Rome 707 tank mishap over TWA Flight 800, FL800's recorded pressure spikes were still 3.7 times higher.

Because of the 1964 mishap, TWA went beyond government requirements and equipped their early 747's with a surge tank fire protection system to preclude any repeat of the Rome accident. It must be bitterly ironic to TWA officials that the FL800 aircraft, so equipped and safer than government standards, is now being accused by that government of mysteriously blowing itself up!

EXHIBIT 4 - CENTER WING TANK SCAVENGE PUMP

Source: Boeing Aircraft Manual



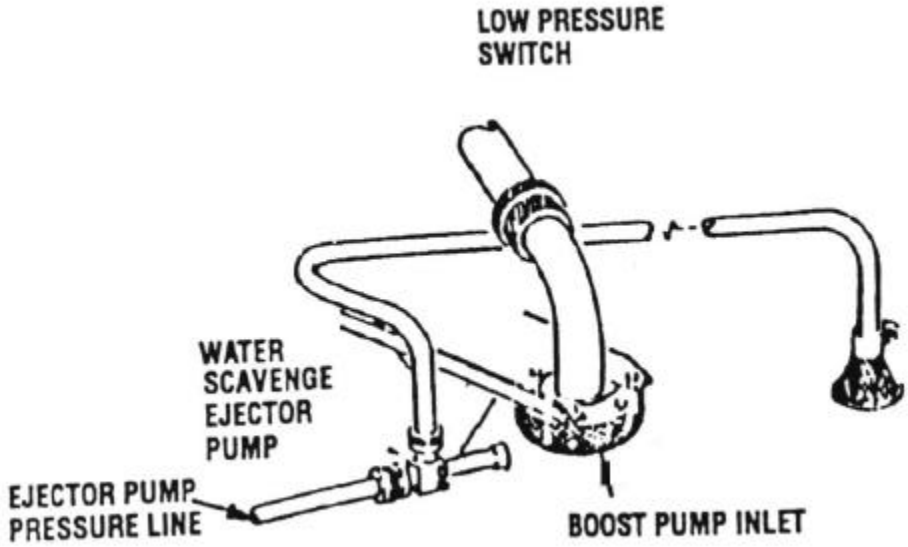


Exhibit 5 - TWA Flight 800 Debris Field

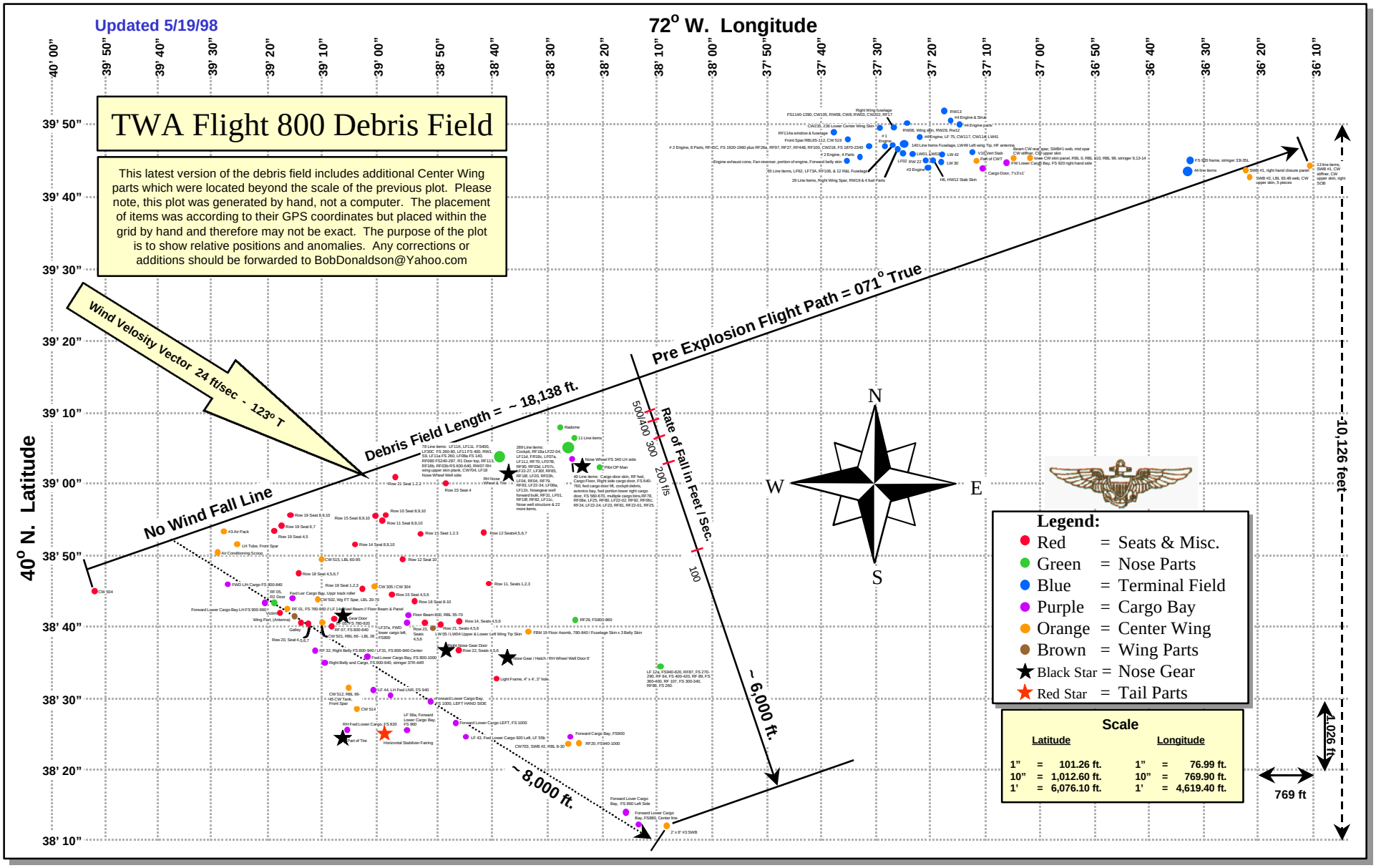


EXHIBIT 6 - THE AIRCRAFT DESTRUCTION BREAKUP SEQUENCE

By William S. Donaldson Cdr. USN Ret.

1) The NTSB's aircraft breakup scenario is grossly and fatally flawed. They insist the CWT spontaneously exploded due to mechanical failure as the initiating event. There is no evidence anywhere that supports this theory.

2) What the evidence does support:

   a) A passenger in Row 10, seat 2 was the first object from inside the aircraft to fall free, suggesting the aircraft frame 615, left side, was the first place the pressure hull was breached, about 35 feet forward of the front wall of the center tank. Inconsistent with CWT explosion and consistent with an airburst of an anti-aircraft weapon forward, left side.

   b) Forward fuselage skin failure in tension on the bottom and compression on the top. Inconsistent with CWT, consistent with airburst anti-aircraft weapon, low left.

   c) Last valid data line of the DFDR @ 20:31:12 registers powerful explosive pressure wave and the angle of attack points directly at source of explosion coming from low left. Inconsistent with CWT failure and consistent with airburst anti-aircraft weapon low left.

   d) 105 ms loud sound recorded on the CVR. It takes precisely 105ms for a weapon shock wave first impinging between airframe 667 and 740, to clear both the nose and the tail, and return to cockpit microphones through airframe aluminum. See Exhibit 8 on page 49. This is inconsistent with a CWT failure and consistent with an airburst anti-aircraft weapon.

   e) Hydraulic RAM damage to upper left wing skin. Wing fairings and small wing parts found in the "Red Zone". See Exhibit 7 on page 47. This is inconsistent with CWT failure, consistent with airburst anti-aircraft weapon.

   f) Catastrophic failure of horizontal stabilizers. The horizontal stabilizers failed in positive G overload (opposite of normal loading) and outboard pieces were not sooted. The outboard 12 inches of the right horizontal stabilizer was impacted by an aircraft nose tire while the stabilizer was fully and normally attached to the frame. The same piece of stabilizer was impacted by an engine turbine stator blade penetrating through the top skin of the stabilizer, indicating the stabilizer had failed and separated with the leading edge pitching down. The coincidental failure of the nose, the tail and catastrophic failure of an engine are inconsistent with a low-pressure CWT burn and totally consistent with damage expected from multiple warhead airbursts.

   g) A black nose tire witness marks made above the R-3 door prior to its impact with the right horizontal stabilizer indicates the aircraft was yawed at least 6° right and pitched up at least 8°. These numbers are consistent with the last second DFDR data and an airburst weapon left side low and totally inconsistent with a center tank explosion.

   h) Eyewitnesses, Debris Field data and examination of CWT parts clearly show any over-pressurization of the center wing tank came after two ordnance explosions, and an implosion insult of the CWT itself. Private pilots place this third event at 7700 ft. One of the reasons the NTSB is keeping the Debris Field data secret could be because the majority of CWT explosive ejecta (CWT parts) were found as far as 4,000 ft. further east of the aircraft debris in the Red Zones. Any CWT explosion was coincidental to the final of these observed explosions that occurred as the tail-less, nose-less fuselage and wings were flipping end over end. See Captain Adams statement on page 19. Large sections of the CWT parts were found Pillowed-in or Domed-in, see explanation on

page 37. All of these factors are inconsistent with a CWT initiating event and consistent with outside weapon airbursts that first partially imploded the CWT.

i) CW504 was the first significant aircraft metal to hit the Debris Field. CW504 is a small piece at the left wing root section of the forward spar. It is normally separated from the CWT by a Dry Bay. Dr. Bassett of the NASA laboratory system found a residue on CW504 contaminated with nitrates. He was ordered to stop tests by Dr. Birky of NTSB. CW504 was not a piece of the center wing tank and was located about 30 feet aft of the outside left airburst. CW504's position in the Debris Field, contamination with nitrates and close location to the airburst make it consistent with a weapon airburst and inconsistent with a CWT event.

j) Catastrophic failure of vertical stabilizer. Eyewitnesses observed vertical stabilizer failure after the 2 ordinance explosions, but prior to the third (petroleum) explosion at 7700 ft. They also place a large piece of the vertical stabilizer, found floating without sooting, a mile southwest of the fuselage / wing impact and fire area. One mile southwest is almost precisely over the cockpit impact point. Another large piece of the vertical stabilizer is still strangely missing.

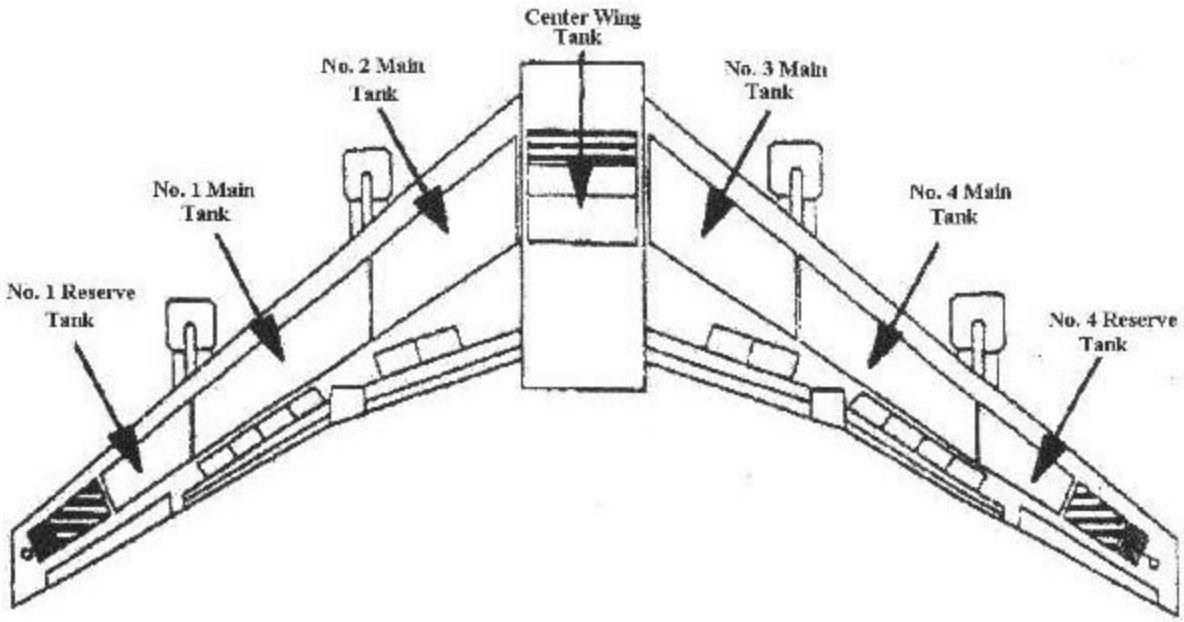
k) Seat armrests from the last row aft (under the vertical stabilizer) and seats from nine rows forward were found near the cockpit debris.

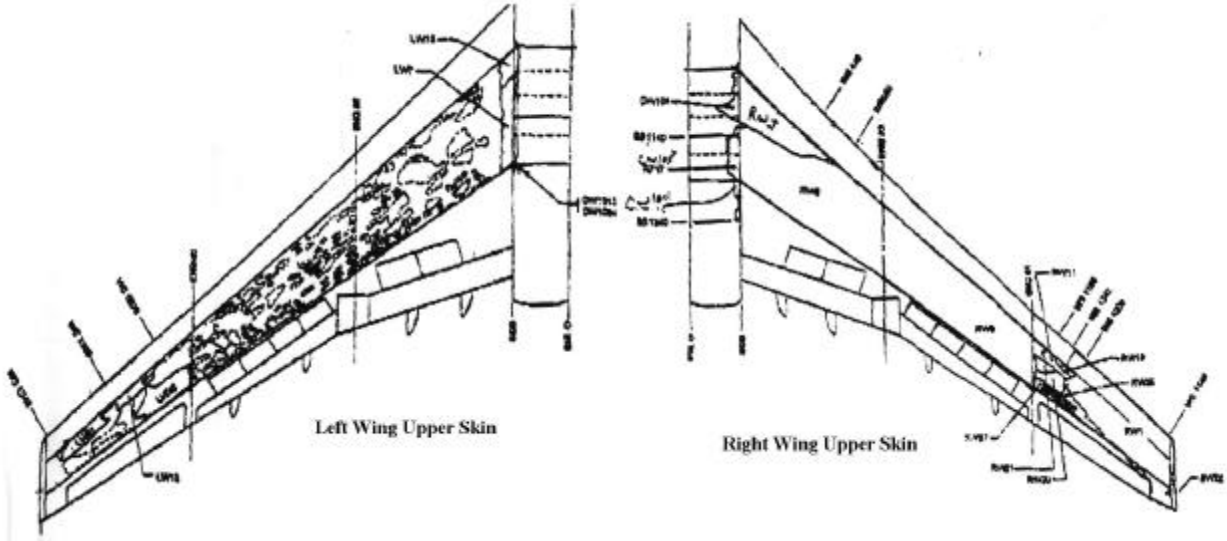
l) NTSB officials were caught by a TWA Investigator and the NYPD falsifying this database because the only rational explanation for the seat and vertical stabilizer positions would be catastrophic failure of the vertical stabilizer. Because of huge side loads imparted by bursting anti-aircraft weapons, vertical stabilizer failure is consistent with an airbursting weapon and totally inconsistent with a center wing tank problem.

EXHIBIT 7 - WING SKIN FRAGMENTATION

By William S. Donaldson Cdr. USN Ret.

The first diagram shows a normal 747 wing with the location of the wing tanks and the second diagram shows the fragmentation of the upper skin of the left wing. This diagram was produced by analysts at the China Lake Naval Weapons Center. Only hydraulic RAM forces could produce this type of damage pattern.





1. Note the comparison of right and left upper wing skin damage. The bottom skins of both wings do not show this pattern.
2. Note the right wing is far less damaged despite a harder impact with the ocean. It was attached to the heavy fuselage at impact; the left wing was not.

3. The outer third of each wing separated early in the break-up sequence from high G overload.
4. Note extensive damage to left upper wing skin was confined to areas immediately over full or nearly full wing tanks. This implies the damage was a result of hydraulic RAM forces conveyed by fuel immediately under the skin.
5. Note the center section of the left wing sustained the most extensive damage, immediately over the number one main tank. This implies the hydraulic RAM pressure in number one tank was greater than in the number one reserve tank to the left, or the number two main to the right, next to the CWT.
6. This pattern further implies a CWT explosion was not the cause of wing skin damage because of less pressure in the adjacent #2 main.
7. This pattern also implies centrifugal forces were not at work after total wing separation because the outer panel was already damaged and separated with the same pattern prior to the total left wing detachment.
8. The most likely scenario that would explain this pattern would be a high energy blow delivered to a large area of the bottom wing skin centered under the number one main tank. In order to preclude damage to the bottom skin, the blow would have to be both powerful and of very short duration. A high explosive shock wave would deliver such a blow. Depending on the angle of impact, the overpressure would last only a few milliseconds, and would hydraulically load the tank fuel through the bottom skin. Because the fuel is a non compressible liquid, it would simultaneously resist the inward deformation of the bottom skin and deliver the totality of the blow to the bottom side of the left wing upper skin, fracturing it.
9. Different aluminum alloys are used for top and bottom wing skin, specifically tailored to normal, in-flight loading. Wing bottom skin in-flight is under tension (wing tips are trying to bend-up) and the top skin is under compression (tips pushing together). Because of this, the top skin is more ductile to handle compression and the bottom skin more brittle (to handle tension). The fact the more ductile tip skin shattered and the brittle bottom skin didn't further points to a powerful outside force. A simple interior overpressure would have had the opposite effect.
10. Note the left wing smaller fracture pieces (highest energy) are located over the aft portions of the #1main and #2 main tanks. This could be because tank thickness is diminished at that area but it also could be from shock wave impact angle. If the shock wave struck from forward as well as below the wing, the overpressure would first begin to deform the forward lower skin up into the tank until what ever airspace available in the tank was displaced by non-compressible fuel. This would actually form a depression wave in the bottom skin moving from front to back of the tank at the speed of the shock wave. The upper AFT portion of each tank would not only experience the normal overpressure, but would receive additional RAM pressure from the wave effect slamming Aft into a narrower tank.
11. <u>Note, this damage pattern conforms with initiating event overpressure data recorded on the FDR and CVR, tension failure on bottom fuselage skin forward, compression failure of top fuselage skin forward, first loss of cabin integrity forward fuselage, bottom to top, left to right crack propagation of the skin forward fuselage and discovery of small wing skin parts during dredging in the early debris field</u>.
12. It most assuredly does not conform to a low-pressure CWT burn.

EXHIBIT 8 - THE 105 MILLISECOND LOUD SOUND ON THE COCKPIT VOICE RECORDER

Analysis of TWA FL800's CVR and application of the Doppler test by Cdr. W. S. Donaldson

1) The NTSB remains perplexed almost 2 years after the loss of TWA FL800 in trying to explain the 105 ms loud sound found at the end of the CVR. Like the vast amount of other evidence that doesn't fit the NTSB theory, they are now ignoring it.

2) The results of the Bruntingthorpe tests in England were supposed to help explain this noise. The intention was to record and compare CVR tapes after the CWT, charged with 8 pounds of propane in the test aircraft, was exploded in England. They used propane because Jet-A fuel will not explode!

3) The Bruntingthorpe test series was a disaster for the NTSB theory. The explosion disintegrated the forward wing spar sending pieces all the way to the nose, this would have riddled water tanks and cargo containers forward of the wing. (Not a single hole or fragment from the CWT was found forward in FL800 debris).

4) The recorded sounds didn't match FL800's sounds.

5) The Bruntingthorpe test results have now been relegated to the growing body of secret information not to be shared with the broad body of investigators, or even those Party Investigators who participated in the tests, much less the Public. It joins the eyewitness statements, unabridged Debris Field data, FBI Lab Tests, NASA Lab Tests, DFDR Data, autopsy shrapnel, etc.

6) There are three reasons Bruntingthorpe could not have possibly duplicated the sound found on FL800's CVR.

   a) The test aircraft was at rest on its landing gear. TWA FL800 was flying at a velocity of 633 ft/sec. The aircraft was not pressurized or subjected to temperature differentials inside and out.

   b) The NTSB assumed a center tank explosion was the initiating event, it was not. There is no forensic evidence that proves it was.

   c) No audio tests were done using powerful open air explosions at Bruntingthorpe.

7) The reason the NTSB leadership is perplexed about this loud sound is because they refuse to follow where the forensic evidence points. It is ironic because, knowing the speed of sound was approximately 1,100 ft/sec outside FL800's hull, and approximately 10,000 ft/sec in aircraft aluminum, by using simple Doppler mathematics, a precise calculation can be made as to where a loud sound, outside the aircraft, first struck the aircraft and traveled along its hull.

8) All explosions in the atmosphere send a shock wave at the speed of sound in all directions about 1.1 ft every 1/1000 second or millisecond (m/s).

9) Because TWA FL800 was already traveling forward at 633 ft/sec, or .63 ft/m/s, a shock wave moving forward on the outside hull would only advance .46 ft/ms, but would travel aft along the aircraft hull at 1.73 ft/ms.

10) It is a reasonable assumption that shock wave impingement on the aircraft hull from a large anti-aircraft weapon airburst, would provide a continuous loud sound to cockpit microphones until the shock wave cleared the aircraft and the last of the sound returned to the cockpit via the aluminum airframe.

11) The forensic evidence suggests the shock wave from a bursting weapon first impinged the hull between Frame 667 and 740, left side. This evidence includes high-energy deformations. The first passenger blown out was sitting at Frame 615, and passengers sitting in the area were laced with shrapnel.

12) If a large anti-aircraft warhead airburst detonated, low left, abeam TWA FL800's aircraft station 576, the overpressure wave would first strike the fuselage and the left wing root area, starting the sound recording 2.7 ms later (time required for sound to go to the cockpit in the airframe). Because the aircraft is traveling into the pressure wave at .63 ft/ms and the wave is moving aft at 1.1 ft/ms, the wave will clear the tip of the tail in 89.38 ms. The time required for sound to travel from the tip of the tail back to the cockpit in aluminum is 18.1 ms. The expected duration of sound produced by the preceding scenario is summed up as follows: 89.38 ms, plus 18.1 ms, minus 2.7 ms, equals 104.78 ms. Also, because of the Forward Velocity Stunting of the Doppler effect described above, the shock wave requires an identical time (approx. 105ms) to clear the nose and return to the cockpit in the aluminum airframe.

13) It is entirely reasonable to expect that high technology sound laboratories could find audio peaks / frequency changes and correlate the data to the shock wave passing significant aircraft structures such as engine pods, vertical stabilizer, left wing, etc. <u>The fact the NTSB leadership has refused to allow a detailed outside sound analysis specifically tasked to look for evidence supporting missile airburst, is extremely disturbing.</u>

14) Just before the end of the tape, the transcript released by the NTSB says there is an "unintelligible" word. Some reports inside the investigation believe the word was "uh-oh". If true, it is very significant and could indicate that one of the crew saw a missile just before impact. Further, why would a crewmember say "uh-oh" just prior to a spontaneous center wing tank explosion? He would have no reason to suspect an explosion was about to occur. For these reasons, it is imperative that this last portion of the tape be released for further analyses by outside experts.

EXHIBIT 9 - SEAT RESIDUE TEST RESULTS

Source: Kay Pennington

TEST ONE RESULT is from the red residue visible on 15 seats of the reconstructed TWA 800 in Calverton Hangar. The test was performed at Santa Fe Lab in California under the direction of James Sanders, which he printed in his book "The Downing of TWA Flight 800" and the Press-Enterprise, Riverside California, March 10, 1997 edition.

TEST TWO RESULT is for 3M 1357 adhesive from an UNSOAKED sample performed by Coffey Labs, Portland Oregon, and supervised by Austin Stephens.

TEST THREE RESULT is from Atlantic Ocean water obtained by J Greg Miller , and soaked - 22 days - fabric from sister ship to TWA 800. Tests were performed under the supervision of researcher Thomas Stalcup.

ELEMENT	TEST ONE Sanders Sample	TEST TWO 3M Glue	TEST THREE Seat Fabric
Magnesium	18%	2.5%	.007%
Silicon	15%	.0005%	.0004%
Calcium	12%	.0020%	.0011%
Zinc	3.6 %	.043%	.0002%
Iron	3.1%	.0041%	.001%
Aluminum	2.8%	.0065%	.0018%
Lead	2.4%	None Detected	NONE
Titanium	1.7%	.00012%	.0002%
Antimony	.53%	None Detected	Not Tested
Nickel	.38%	None Detected	None Detected
Manganese	.21%	.00048%	None Detected
Boron	.081%	.0016%	.001%
Copper	.053%	None Detected	Not Tested
Silver	.032%	None Detected	None Detected
Chromium	.032%	None Detected	None Detected

Below is a list of explosive/rocket fuel properties of the components of the Sander's analysis. The presence of so many different kinds of metals are indicative of rocket propellant more than some type of explosive. The compound that is missing is ammonia, which is a primary component of many solid rocket mixtures; but this will react during the burn and would not likely be found in any residue. Results available upon request.

Sanders Test Results	Rocket Propellant/Explosive Characteristics
Magnesium.....18%	- Used as an igniter to increase combustion temp.
Silicon.....15%	- Possible binder component.
Calcium.....12%	- As nitrate, heat or shock sensitive explosive.
Zinc.....3.6%	- Rocket fuel component.
Iron 3.1%	- As Fe2O3 - burn accelerator.
Aluminum.....2.8%	- Possible burn moderator, produces white flame.
Lead 2.4%	- Burn moderator; potentially explosive as azide, mononitroresorcinate, or staphynite.
Titanium 1.7%	- Igniter, increases combustion temperature
Antimony 0.53%	- Burn moderator.
Nickel.....0.38%	- Diamine nickel nitrate - burn stabilizer.
Manganese 0.21%	- ?
Boron 0.81%	- ?
Copper.....0.53%	- As chromite - burn accelerator.
Silver.....0.03%	- As azide or acetylide - heat or shock sensitive explosive.
Chromium 0.03%	- As ammonium bichromate - solid fuel catalyst.

EXHIBIT 10 - ELECTRICAL POWER FAILURE AND INSTRUMENT READINGS

By William S. Donaldson Cdr. USN Ret.

1) Instruments that are driven by geared miniature electrical motors such as the pilots and copilots electric altimeters, fuel quantity gauges, etc, provide the crash investigator a snapshot of exactly what some of the aircraft conditions were at power failure. These instruments freeze at power failure and generally can be relied upon to hold that reading through crash impacts.

2) The pilot's and copilot's electric altimeter was found in the Debris Field reading 13,800 ft. and the copilot's 13,820 ft, so we know the power didn't fail until the aircraft climbed to or above 13,800 ft.

3) Based on the rate of climb recorded on the DFDR, TWA FL800 would not have reached 13,800 ft. prior to 20:31:13.15 seconds.

4) Based on the TWA FL800 Transponder radio transmission recorded by Mega Data Systems, Inc. of Long Island at 20:31:13 that showed an IFF Mode C (altitude) readout of 13,800 ft, we know power was on in the aircraft 13 seconds after the minute and the altitude data exactly agree with rate of climb calculations and the Debris Field forensic evidence.

5) Unfortunately, once we pointed out to the NTSB the data recorded on the 20:31:12 line of the DFDR clearly showed an explosion external to the aircraft, they rather sophomorically denied their own printed data, crossed it out and removed it from the Internet record.

6) A detonation of high explosive, forward, low left, would cause the aircraft to pitch and yaw violently disrupting normal airflow to the engines. The explosive shock wave would further disrupt the flow causing gross compressor stalls. The fuel control sensing no burner pressure in the engine would immediately cut the fuel and the engine bleed valves would open. Followed by flame-out.

7) When an engine flames out, its electrical generator will remain on-line until the engine rpm decays below the governing range of the generators constant speed drive. At that time, under-voltage/frequency protection circuits will trip the generator off-line. In other words, electrical power will fail in about one second after flameout. In this case at approximately 20:31:13.

8) These are extremely important points because the NTSB's theory and the CIA "cartoon" requires the engines to be providing thrust after the cockpit separated from the remaining aircraft.

9) Fuel tank quantity gauges were also found in the Debris Field. They show readings for right wing tanks with about 8,000 pounds more fuel then the left wing tanks. They also show the center wing tank mysteriously doubling in fuel quantity from the three hundred pound gauge reading at takeoff. In addition, 2,000 lbs. of fuel was missing in the #2 main tank.

10) There are four ways an 8,000 lb. asymmetrical difference in wing tank readings at power failure could occur:

    a) Tanks were fueled asymmetrically at takeoff. (Fueling error)

    b) Fuel leaked from the left wing. (holes in left tanks)

    c) All engines feeding from left tanks.

    d) Aircraft was rolled right. (Down wing tanks will read higher than actual fuel and high wing tanks normally read less fuel) See Captain Howard Mann's evaluation at Exhibit 1 on page 40.

11) There is no evidence showing a fueling error or a pilot induced cross-feed error. This leaves two alternatives as the cause, right wing down and fuel leaks in left wing.

12) There is forensic evidence to support both conditions and both conditions firmly support a warhead airburst detonation, low left side forward. The aircraft would pitch up, roll right and suffer a hydraulic RAM overpressure in the left wing tanks. See Exhibit 7 on page 47. Failure of the center wing tank, left side wall, from hydraulic RAM pressure (common wall with the number two main tank) explains the doubling of the CWT fuel reading fuel having entered from the #2 main tank.

13) Because the right wing tanks show more fuel in the tanks than they should have, it is clear the aircraft was in a Right Bank at power failure.

14) It is also highly probable the left wing tank's reading, showing less fuel than they should have, was the net product of the right wing down roll, loss of fuel to the atmosphere, venting out of the upper wing skin fractures over all three tanks, and loss through cracks between the number two main tank and the center wing tank.

15) <u>When fuel vents into the atmosphere at FL800's airspeed, it atomizes and forms a tubular white cloud until it dissipates</u>. Military tactical pilots occasionally will dump a small amount of fuel to enable a separated wingman to visually acquire the flight leader beyond normal visual range. That cloud was seen by and preserved in a sketch by Mr. Angelides.

16) In summary, instrument readings recovered as forensic evidence from the debris and radio transmissions received by Mega Data Systems, Inc. PROVE:

    a) The electrical power was on until at least 20:31:13.15 validating the recording of the DFDR 12-second line.

    b) That, at power failure, the aircraft had rolled right.

    c) That at power failure, the center wing tank had gained fuel.

    d) That at power failure, the left wing was leaking fuel into the atmosphere.

    e) That engine flameout sequence and timing exactly fit the anti-aircraft weapon airburst scenario.

EXHIBIT 11 - NTSB IGNORES LAST LINE OF THE FLIGHT DATA RECORDER

From NTSB Exhibit 10A, page 42

Below is the last line of the flight data recorder as it originally appeared in the NTSB Exhibit. Note that data continues through 20:31:12 and stops at 20:31:13.

 # TWA Flt. 800, B747-131, Takeoff to End of Data
Tabular Data No. 1, Created: January 09, 1997, National Tranportation Safety Board

LOCAL TIME (ref. CVR)	MSL Alt. (FEET)	IAS (KNOTS)	Pitch Angle (degrees)	Elevator Position Right (degrees)	Mag. Heading (degrees)	Roll Angle (degrees)	Rudder Position (upper) (degrees)	Angle of Attack (degrees)	EPR Engine 1 (ratio)	EPR Engine 2 (ratio)	EPR Engine 3 (ratio)	EPR Engine 4 (ratio)	Long. Accel (g)	Vert. Accel. (g)	VHF	Pitch Trim Stab Pos (degrees)
													0.10	0.89		
20:31:05	13637.00	287	4.3	0.3	82	1	0.72	3	1.31	1.29	1.3	1.29	0.10	0.89	Off	3
		289					0.63	3	1.31	1.29	1.29	1.3	0.10	0.89	Off	
								3					0.10	0.89		
													0.10	0.9		
20:31:06	13652.00	290	4.3	0.0	82	1	0.63	3	1.31	1.3	1.3	1.29	0.10	0.9	Off	3
	13667.00		4.3	0.4	82	1	0.63	3					0.10	0.91		3
							0.63	3					0.10	0.91		
													0.10	0.91		
													0.10	0.92		
20:31:07	13682.00	296	4	0.4	82	1	0.63	3	1.31	1.3	1.3	1.29	0.10	0.92	Off	3
		287					0.63	4	1.31	1.3	1.29	1.29	0.10	0.92	Off	
							0.63	3					0.10	0.92		
													0.10	0.92		
20:31:08	13702.00	280	4	0.4	82	1	0.63	3	1.31	1.29	1.29	1.29	0.10	0.91	Off	3
	13717.00		4	0.4	82	1	0.72	3					0.10	0.92		3
							0.63	3					0.10	0.91		
													0.10	0.91		
														0.91		
20:31:09	13732.00	288	4	0.3	82	0	0.63	3	1.31	1.29	1.29	1.29	0.10	0.9	Off	3
		298					0.72	3	1.31	1.29	1.29	1.29	0.10	0.9	Off	
							0.72	3					0.10	0.9		
													0.10	0.9		
													0.10			
20:31:10	13747.00	290	3.6	0.1	82	0	0.63	3	1.31	1.29	1.29	1.3	0.10	0.9	Off	3
	13757.00		3.6	0.4	82	0	0.72	3					0.10	0.9		3
							0.72	3					0.10	0.9		
													0.10	0.9		
20:31:11	13772.00	288	3.6	0.1	82	0	0.72	3	1.3	1.29	1.3	1.3	0.10	0.9	Off	3
		298					0.72	3	1.3	1.29	1.29	1.29	0.10	0.9	Off	
							0.72	3					0.10	0.9		
													0.10	0.9		
													0.10	0.9		
20:31:12	10127.00	100	8.3	11.2	163	144	77.76	106	1.14	2.46	2.36	2.44	0.18	-0.89	Key	4
			2.2	-0.2	276	0	-36.54	30					0.18	-0.89		
							0.72	3					0.05	1.02		
20:31:13																

Below is the same line from Exhibit 10a as it now appears at the NTSB Web site. The data was changed sometime after the press conference held by Cmdr. Donaldson on January 8, 1998 in which he pointed out the relevance of the last data records of Flight 800.

													0.10	0.9		
20:31:11	13772.00	288	3.6	0.1	82	0	0.72	3	1.3	1.29	1.3	1.3	0.10	0.9	Off	3
		298					0.72	3	1.3	1.29	1.29	1.29	0.10	0.9	Off	
							0.72	3					0.10	0.9		
													0.10	0.9		
													0.10	0.9		
20:31:12	End of Flight 800 Data															

An NTSB spokesperson dismissed the relevance of this data by saying it was data from a previous flight. However, if that were true, the plane would have CRASHED based on the data readings from 20:31:12. This could not possibly be data from another flight. Capturing this line of data is the very reason Flight Data Recorders are installed in aircraft! This data describes very clearly what happened to Flight 800 up until power failed at 20:31:13.15.

EXHIBIT 12 - ANALYSIS OF FLIGHT DATA RECORDER (FDR) 12-SECOND LINE

By Captain Howard T. Mann

© Associated Retired Aviation Professionals

 # TWA Flt. 800, B747-131, Takeoff to End of Data
Tabular Data No. 1, Created: January 09, 1997, National Tranportation Safety Board

LOCAL TIME (ref. CVR)	MSL Alt. (FEET)	IAS (KNOTS)	Pitch Angle (degrees)	Elevator Position Right (degrees)	Mag. Heading (degrees)	Roll Angle (degrees)	Rudder Position (upper) (degrees)	Angle of Attack (degrees)	EPR Engine 1 (ratio)	EPR Engine 2 (ratio)	EPR Engine 3 (ratio)	EPR Engine 4 (ratio)	Long. Accel (g)	Vert. Accel. (g)	VHF	Pitch Trim Stab Pos (degrees)
20:31:10	13747.00	290	3.6	0.1	82	0	0.63	3	1.31	1.29	1.29	1.3	0.10	0.9	Off	3
	13757.00		3.6	0.4	82	0	0.72	3					0.10	0.9		3
							0.72	3					0.10	0.9		
													0.10	0.9		
20:31:11	13772.00	288	3.6	0.1	82	0	0.72	3	1.3	1.29	1.3	1.3	0.10	0.9	Off	3
		298					0.72	3	1.3	1.29	1.29	1.29	0.10	0.9	Off	
							0.72	3					0.10	0.9		
													0.10	0.9		
													0.10	0.9		
20:31:12	10127.00	100	8.3	11.2	163	144	77.76	106	1.14	2.46	2.36	2.44	0.18	-0.89	Key	4
			2.2	-0.2	276	0	-36.54	30					0.18	-0.89		
							0.72	3					0.05	1.02		
20:31:13																

TWA Flight 800 Flight Data Recorder Word Location

20:31:12 Second Block				
20:31:11 Second Block				
20:31:10 Second Block				
Data Word				
Leading Edge Flaps Lt. / VHF	39	33	55	
Leading Edge Flaps Rt.	40	34	56	
Thrust Reversed (1,2,3&4)	41	35	57	
Vertical Acceleration	42	36	58	
Longitudinal Acceleration	43	37	59	
Time	1	38	60	
(2 to 10 reserved for	2	39	61	
	3	40	62	
	4	41	63	
	5	42	64	
	6	43		1
	7	44		2
	8	45		3
	9	46		4
Synchronization)	10	47		5
Vertical Acceleration	11	48		6*
Longitudinal Acceleration	12	49		7*
Rudder Position – Upper	13	50		8*
Rudder Position – Lower	14	51		9
Angle of Attack	15	52		10*
Pressure Altitude Os.	16	53		11
Pressure Altitude Fine	17	54		12*
Magnetic heading	18	55		13*
Pitch Attitude	19	56		14*
Roll Attitude	20	57		15*
Elevator Position Rt.	21	58		16*
Elevator Position Lt.	22	59		17
Flap Position – Rt. Inbd.	23	60		18
Flap Position – Lt. Inbd.	24	61		19
Flap Position – Rt. Outbd.	25	62		20
Flap Position – Lt. Outbd.	26	63		21
Pitch Trim Stabilizer	27	64		22*

There are 43 data words recorded by the Flight Data Recorder and 64 words are recorded in sequence, each second.

The chart above presents recorded data from the Flight 800 Flight Data Recorder (FDR) as it was originally published by the NTSB. The vertical line of data for Time 20:31:12 (the line immediately to the left) contains the information that is in dispute, and because it disputes NTSB findings, it was eliminated from the record. For several reasons, which I will elaborate, that line proves the fallacy of the NTSB center fuel tank explosion being the initiating event in the downing of FL800. In order that we might establish a sequence of events, the chart to the left will be used to establish synchronization between that data word sequence and the data that was recorded and then deleted by the NTSB (shown above).

The process was simple trial and error until a match was obtained. The 10 and 11 second lines are shown here simply to confirm that a match was established. For example, look at item 64 of the 20:31:10 second line. For a match, it was necessary that the line include the Stabilizer Trim parameter because it appears twice in the 10-second line recorded above. By the same reasoning, item 64 in the 12-second line cannot include another Stabilizer Trim parameter because only one was recorded on the 12-second line. The stabilizer trim may become very important in analyzing this accident and for that reason, establishing its proper position in the order is primary. I will touch on that aspect later when we cover the Stabilizer Trim parameter.

Had TWA Flight 800 landed in Paris uneventfully, anyone seeing the 20:31:12 data would probably just consider the figures recorded were due to some kind of a computer malfunction and dismiss the data out of hand. For an Accident Investigator charged with finding the cause of this accident to disregard that information, particularly so close to the time a loud unidentified sound was recorded on the Cockpit Voice Recorder, within a second of the moment in question, bears on incompetence. I personally know from past experience, the personnel at the NTSB are extremely competent, which leads one to ask why this investigation has gotten so far off track.

Aileron Position Rt. Inbd.	28		1	23
Vertical Acceleration	29		2	24*
Longitudinal Acceleration	30		3	25*
Rudder Position – Upper	31		4	26*
Rudder Position – Lower	32		5	27
Angle of Attack	33		6	28*
EPR #1 Engine	34		7	29*
EPR #2 Engine	35		8	30*
EPR #3 Engine	36		9	31*
EPR #4 Engine	37		10	32*
Airspeed	38		11	33*
Leading Edge Flaps Lt. / VHF	39		12	34*
Leading Edge Flaps Rt.	40		13	35
Thrust Reverse (all)	41		14	36*
Vertical Acceleration	42		15	37*
Longitudinal Acceleration	43		16	38*
Time	1		17	39*
(2 to 10 reserved for	2		18	40
	3		19	41
	4		20	42
	5		21	43
	6		22	44
	7	1	23	45
	8	2	24	46
	9	3	25	47
synchronization)	10	4	26	48
Vertical Acceleration	11	5	27	49 #
Longitudinal Acceleration	12	6	28	50 #
Rudder Position – Upper	13	7	29	51 #
Rudder Position – Lower	14	8	30	52
Angle of Attack	15	9	31	53 #
Pressure Altitude Os.	16	10	32	54
Pressure Altitude Fine	17	11	33	55 #
Magnetic heading	18	12	34	56 #
Pitch Attitude	19	13	35	57 #
Roll Attitude	20	14	36	58 #
Elevator Position Rt.	21	15	37	59 #
Elevator Position Lt.	22	16	38	60
Flap Position – Rt. Inbd.	23	17	39	61
Flap Position – Lt. Inbd.	24	18	40	62
Flap Position – Rt. Outbd.	25	19	41	63
Flap Position – Lt. Outbd.	26	20	42	64
Pitch Trim Stabilizer	27	21	43	
Aileron Position Rt. Inbd.	28	22	44	
Vertical Acceleration	29	23	45	
Longitudinal Acceleration	30	24	46	
Rudder Position – Upper	31	25	47	
Rudder Position – Lower	32	26	48	
Angle of Attack	33	27	49	
EPR #1 Engine	34	28	50	
EPR #2 Engine	35	29	51	
EPR #3 Engine	36	30	52	
EPR #4 Engine	37	31	53	
Airspeed	38	32	54	
Red = Flight 800				
Blue = Flight 803				
Black = NTSB withheld				

Some would have you believe that when the power is removed from the Flight Data Recorder it always fouls the last data. To begin with, the data you see in the 12-second line is not the last data. The last data is trapped in the RAM buffer and is lost when power is removed. Put another way, as the FDR operates, it constantly erases the tape ahead of the new recording. In the NTSB haste to denigrate the 12-second line on the FDR, they have announced it is possible for old data to bleed through an erasure and appear as though it is data from TWA Flight 800. An examination of the 20:31:12-second line seems to indicate that is indeed what occurred. The chance of this happening seems remote until we examine exactly what takes place in the FDR. Anytime power is removed, the tape contains good data followed by an erasure followed by data recorded on a flight 25 hours before. If we subsequently record over an erasure, the process eliminates the possibility of a bleed through.

On Flight 800, we did not record over the erasure and the NTSB cannot dispute this fact because they are the ones who suggested it and they have already displayed it on their website. Research has indicated the data being erased at the time of the accident was from TWA Flight 803, which departed Paris for New York, July 16, 1996. The fact that the flight was westbound helps to interpret the latter entries on the FDR 12-second line and the analog data that appears after the power was lost. The NTSB has reported there was no power after the 12-second line. We believe we have evidence to the contrary, but there is no evidence that power was available until 20:31:20 as is indicated in the analog graphic provided by the NTSB.

In the opinion of this author, all data up to and including item 48 of the 12-second line, was recorded on the accident flight and all data marked with # bled through from previous flight erasure. Consider the following:

Items 49, 50, 51, 53, 56, 57, 58 and 59 are non-FL800 data and agree precisely with the analog data from the previous flight (803-16 Paris to New York).

Item 55 (Pressure Altitude-Fine) did not record for a reason. Normally the altitude parameter utilized both a FINE and COARSE function, with the COARSE function data indicating which 5,000 foot bracket the aircraft is in and the FINE function determining just what the altitude in the 5,000 foot bracket was. TWA #119, the aircraft utilized on FL800, had an inoperative FDR COARSE altitude function. This presented no problem to the NTSB technicians because they had tracked the aircraft through the 5 and 10 thousand-foot levels and were able to determine what 5,000-foot bracket FL800 occupied. Had it been an important item, no doubt the NTSB would have made an effort to extract altitude data from the aircraft's descent into New York. You will note item 56 (Magnetic Heading) is recorded in FDR digital data as 276 corresponding to the previous Westbound Flight 803-16, 25 hours earlier. If you check on the analog chart, you will see there is no place to record the 276 Magnetic Heading, because it is out of the scale range

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* = Recorded on Flight 800 20:31:12-second line.

= Recorded on Flight 803, 16 July 1996, Paris to New York

EXHIBIT 12A - FLIGHT DATA WORD LOCATION

By Captain Howard T. Mann

Longitudinal and Vertical Acceleration - LONGACC

Longitudinal and Vertical Acceleration are sensed by an accelerometer in the right wing wheel well on the keel beam at fuselage station 1310. FL800's center of gravity was 18.4% of the Mean Aerodynamic Chord which computes to approximately station 1290.6. Both acceleration parameters are sensed by a single unit that is capable of switching from the vertical to longitudinal measurements by use of a simple motor driven cam arrangement that changes the plane being sensed (vertical vs. longitudinal). The actual measurements are obtained by measuring how much one electrical sine wave moves in regard to another.

With the aircraft at rest, the vertical parameter will indicate near – 90 (1"G") and the longitudinal parameter will indicate near "0". (No acceleration). The Longitudinal and the vertical were indicating .10 and .90 respectively prior to the 12-second line. During the 12-second data line it appeared the aircraft was falling and accelerating at the same time. We know the aircraft pitched up and at 300 knots that should have produced a positive climb, but it did not. I believe the reason it did not was due to the disruption of airflow over the wing, which disturbed the angle of attack. With lift on the wing decreasing (-.89G) there is less drag and the airspeed tends to increase, thus .10 becomes .18 momentarily.

This is the last data recovered from FL800 and signifies the end of a recorded frame of 43 items. When electrical power failed on FL800, we lost the data that was in the Random Access Memory. The next item to follow would be the time 20:31:13 and the synch buffer (2-10) which we never see in the data. Somewhere (2-10) in the synch buffer the data from FL800 ceases and we start to see data that was recorded on FL803-16. This data would have started sometime in the FL803 Synch buffer (2-10) and then produce the data I have specified as coming from FL803. We do not see the break point between FL800 and FL803 when in fact they could have been out of synch by as much as 18 words and we would not see it in the data we have been allowed to see. For further confirmation you will note the FL803 first parameters to record are those that immediately follow the synch buffer as shown below.

Flight 800 last three items	Airspeed	100
	Vertical Accel	-.89
	Long. Accel.	.18
Break		
	Vertical Accel.	1.02
	Long. Accel.	0.05
	Rudder Position	.72
	Angle of attack	3.0
	Magnetic Hdg.	276
	Pitch	2.2
	Roll	0.0
	Elevator	-0.2

Note the items recorded for FL803 are modest compared to FL800 erratic data.

Rudder

The Upper Rudder parameter was fairly consistent at .72 and when it indicated .72 after the excursions some people interpreted this as indicating the analog data was a continuance of FL800 after the excursions on the 12-second line.

It is not generally known that on July 4, several days prior to the accident (7-17-96) it was necessary to remove one of the large "canoe" fairings from the trailing edge of the left wing on account of a broken support bracket. The purpose of the fairing is to reduce aerodynamic drag around the wing flap track assembly. The aircraft may be operated with one of these fairings removed if certain restrictions are observed. Removing the fairing on the left wing increased drag on the left side of the aircraft to the extent that the aircraft required right rudder trim of .72. This same condition existed on the 25 hour previous FL803-16 and hence the identical rudder trim would be required at 300 knots. Consequently the indication of .72 for 803-16. This trim condition was so noticeable to one Flight Engineer he had reported it to his supervisor that the fairing replacement should be expedited because its absence was causing an increase in fuel consumption.

Position transmitters in the vertical stabilizer provide the rudder position indications for the FDR. It is apparent that a pressure wave, from an explosion outside the aircraft on the left side, caused the aircraft to yaw to the right as the FDR shows. There can be no doubt about this because both compass systems display a heading moving to the right. In addition to the heading changes, both of the Inertial Navigation Systems (INS) indicate a drift to the right caused by a force from the left. The pressure wave traveled back along the aircraft at approximately 1.74 feet/millisecond (1.1+.635) where 1.1 equals shock wave speed and .635 equals the aircraft forward speed. The pressure waave struck the rudder causing the 77.76 that we see in the FDR data and which represents approximately three times the normal maximum travel of the rudder and may have caused damage to the rudder power units and/or their anchor points.

The combination of yaw damper action and pressure decrease that follows the pressure wave draws the rudder to the left and registers on the FDR as a –36.54. This would equate to left rudder to stop the turn. The 36.54 also exceeds the rudder maximum travel. This represents the last rudder position for TWA FL800 and the next rudder indication of .72 is from the previous flight 803-16 July 1996. In the wreckage the upper rudder had the control arm for the position transmitter attached but without the position transmitter. It is the opinion of the author that after the FDR registered 77.76, the rudder was no longer in the original manufactured configuration and was uncontrollable.

Note: In the "Roll" parameter an excessive roll to the right accompanied by hard right rudder may have been an attempt to avoid something approaching from the left as has been reported.

Note: When a swept wing aircraft makes a rapid turn to the right or left as the case may be, it enters a realm where "Dutch roll" may result. For example, let us consider the FL800 case where the aircraft turned and banked to the right. In this instance the right wing tucks behind the aircraft nose which blocks some of the oncoming air, which in turn, reduces lift on the right wing. In addition, yawing right effectively reduces the wing span on the right wing and its relative airspeed reduction compared to the left wing also contributes to an unhealthy condition tending to drop the wing even more. As the aircraft recovers from this right wing down condition, it tends to over correct and the result is a left wing down condition. That is what is known as a "Dutch Roll". I believe this aircraft rolled over with the first steep bank and never recovered. While the aircraft was in the steep bank all four engines were subjected to a direct or slightly aft crosswind at the speed of sound. Under these circumstances the engines would surely have stalled and may have flamed out.

Roll

Roll Angle represents the angle between the lateral axis of the aircraft and an artificial horizon as supplied from gyro information. Before the excursions of the 20:31:12 line the indication on the FDR was steady at "0". The roll angle suddenly indicates a steep right-bank to 144 degrees. 180 degrees would represent inverted flight.

We believe the steep bank angle is due to a yaw to the right caused by an explosion outside, low and to the left of the forward fuselage. The shock wave beneath the left wing pitched the nose of the aircraft up and to the right. As the left wing passed over the epicenter of this blast pressure beneath the left wing coupled with engine(s) stalling due to the sonic wave across the face of the engines, aggravated the already steep bank angle.

This aircraft was truly upset and when the FDR less than one second later is indicating "0" roll, common sense dictates this is not the same flight. The "0" roll flight was recorded 25 flight hours earlier as TWA FL803-16 July 1996 Westbound over the Atlantic Ocean enroute from Paris to JFK, cruising at 33,000 feet indicating M.84 and its Engine Pressure Ratio power setting of 1.44 was keeping the aircraft exactly on the Power Chart airspeed of 300 knots.

Further substantiation of the steep bank angle is presented elsewhere in this document in Exhibit 1 regarding Fuel Quantity indications found in the wreckage. It should be noted that the steep bank angle indication may have been induced by the pilots attempting to avoid something out the left side window, that same something witnesses were not allowed to report on at the Baltimore hearing.

Pitch Angle represents the angle between the longitudinal axis of the aircraft and an artificial horizon as supplied form gyro information. Direction of the elevator movement seems to be puzzling to some, so it bears further analysis.

At 20:18:27 local time TWA 800 is cleared for takeoff on runway 22R by the JFK tower. At 20:19:35 the aircraft is rolling down the runway and "Rotate" is recorded on the CVR. As the pilot pulls back on the control yoke the elevator moves up (+ on the FDR), the tail moves down and the nose moves up (+17). As the nose moves up the angle of attack moves from +3 to +11.

During taxi, Longitudinal Acceleration hovers around 0.00 and changes to a maximum of 0.21 during take off. This computes to an acceleration of 6.7 feet per second. The Vertical Acceleration indicates .97/.98 until the aircraft leaves the runway when it changes to 1.10. .97/.98 is as close as the accelerometer gets to 1 "G".

Before the 12-second line, the Pitch Angle was indicating +3.6 on the FDR. During the large excursions at 20:31:12, the pitch changed to 8.3. To the lay person that does not seem like a lot, but at 300 knots that would put everyone back in their seats. That much pitch change should produce a positive rate of climb and it would except for the disruption in the angle of attack caused by the shock wave.

In the analog data the elevator is recorded at –0.2 after the excursions. Since FL800's takeoff from JFK the Elevator displays a minus reading only once and that was for less than one second. Here again, the recorded data is from 803-16 at 33,000 feet Paris to New York.

Engine Pressure Ratio - EPR

Before we attempt to discuss Engine Pressure Ratio (EPR) we should cover a few basics that can be confusing. Engine Pressure Ratio (EPR) is the primary thrust setting instrument for the Boeing 747. EPR is obtained by dividing the pressure in the tailpipe of a jet engine by the pressure on the face of the engine except on the 747, the face pressure is taken with a Pt2 probe mounted on the left side of the engine pylon and tailpipe pressure (Pt7) is measured, not in the tailpipe but, between the last two turbine stages. Hereafter referred to as Pt2 in front of the engine and Pt7 in the rear.

The following numbers have nothing to do with reality. I am using them here to illustrate a point. With 10psi on the face (Pt2) of a jet engine it would require 20psi in the tailpipe (Pt7) to obtain an EPR of 2.00. In this instance, the engine driving all its rotating mass, including the fan, which requires many thousands of horsepower, and in raising the pressure across the engine by 10psi is consuming fuel at a tremendous rate. Now suppose air pressure at sea level is 14psi. It isn't it is actually 14.7. It would be ½ of 14 or 7psi at 18,000'. At 36,000' the pressure would half again and be ½ of 7 or 3 ½ psi. In very simple terms, that is why jet engines burn less fuel at high altitude. They simply are not producing as much thrust and that is why we cannot compare EPR at takeoff with EPR at altitude.

On TWA FL800 the EPRs had been indicating 1.3, 1.29, 1.29 and 1.29. During the excursion of the 20:31:12 line the EPR indications changed to 1.14, 2.46, 2.36 and 2.44. These are erratic indications and I believe they signal erratic conditions. This is valid data. It shows the aircraft in extreme conditions. Remember, this aircraft was lost and the FDR is trying to tell us what happened as it was designed to do, if we have the common sense to listen.

The blast we have alluded to was a powerful one and it occurred close to the engines on the left side of the aircraft. #1 Engine EPR seems to indicate the high pressure on the face of the engine causing the EPR to compute to a lower number. The erratic EPR on engines 2,3 and 4 indicate power beyond the manufacturers fondest dreams, and that something erratic was happening to these engines. From this and other indications, I believe these 3 engines were in the process of stalling and if so, their EPR indications would be useless. Engine stalling requires more explanation.

Consider a jet engine with 15 stages of compression. As fresh air is drawn in the front of the engine and it goes through the 15 stages and comes out as hot high pressure air which is directed into burner cans where the fuel is injected and ignited. Turbine inlet guide vanes direct the resultant hot gases toward turbines that extract energy to drive the large fan for propulsion the 15 stage compressor, engine accessories and raise the pressure across the engine.

When a jet engine is running at a given speed, we call this steady-state and each stage of the engine's 15 stage compressor is doing its part compressing the incoming air in order to create the power required to drive the engine and produce the required EPR. If the airflow into the engines is disturbed they have a tendency to stall. This does not happen often but then we do not often encounter a shock wave moving at the speed of sound.

If the blast that hit the aircraft originated where we think it must have, considering the aircraft's forward speed, we could expect a 90 degree crosswind at the speed of sound on the face of engines #2, #3 and #4 and this would provide the impetus for engine stall. In order for a jet engine to be efficient it is designed to run with a very low stall margin. Equate jet engine stall with your car backfiring out through the carburetor and at the same time blowing the muffler off the exhaust. Because jet engines normally operate very close to stall, it does not take much airflow change to induce a violent jet engine stall. When this happens there is a momentary loss of thrust and possibly flameout. I am not positive about the flameout, but there can be no doubt about the stall. The 1.44 EPR shown in the analog after 20:31:12 is from FL803 which was cruising Westbound at 33,000' indicating Mach .84 with an air speed of 300 knots.

Altitude and Airspeed - T/A/S

We must study Altitude and Airspeed together because the two are physically interconnected. Atmospheric pressure (STATIC) is introduced into a hermetically sealed instrument case. This pressure is picked up from Pitot-Static heads on either side of the aircraft with the resultant being an average pressure except that in the case of a shock wave, the near side port serves as a low-pass filter and would cause the static pressure inside the sealed case to be lower than actual. There are two sealed diaphragms within the instrument case. The altitude diaphragm expands and contracts as the pressure in the case changes with altitude and converts the pressure changes to altitude indication with more pressure indicating lower altitude.

When the explosive blast occurred outside the aircraft, the increase in pressure caused the altimeter function of the FDR to indicate a reduction in altitude of 3,645 feet. This is a false indication of altitude and it is coming from FL800. The second diaphragm in the case is used to compute airspeed in the FDR. As static pressure outside the aircraft changes this diaphragm tends to expand and contract in the same manner as the altitude diaphragm except Pitot pressure is introduced into the interior of the airspeed diaphragm and the resultant movement is computed as airspeed. Generally speaking, Pitot pressure is derived from an open tube facing into the airstream.

On FL800 the indicated airspeed dropped from 298 to 100 knots due to the higher pressure in the instrument case. On TWA 747s the Pitot pressure for this function is taken from the right hand side of the aircraft and consequently the Pitot head was shielded by the fuselage from the pressure wave on the left side of the aircraft. This fact is important in trying to compute a viable airspeed reading. Some Boeing literature has the FDR Pitot pressure coming from the left side of the aircraft. The TWA Flight Crew operating manual is very specific about this point and on TWA aircraft the Pitot pressure for the FDR comes from the right hand side. On Flight 800 these two parameters support one another because they both use and record independently the increased pressure in the hermetically sealed instrument case.

Elsewhere in the document, I have indicated that he data after the excursions in the 20:31:12 second line come from TWA FL803, July 16, 1996. I have indicated that the aircraft was cruising at 33,000 feet (FL330). There are several clues to support this position as follows:

1. A close examination of the analog data displays an apparent roughness in the recording at FL800s low altitude that could be attributed to a very very light turbulence at the lower altitude, while the data at the higher altitude is smooth as glass as is to be expected.

2. A second clue comes from the last heading shown on the 12-second line. The heading indicates 276 and this equates to a flight Westbound. TWA FL800 was Eastbound.

3. The third clue is the 1.44 Engine Pressure Ratio indications in the analog data after the large excursions of the 12-second line.

4. The fourth clue is found in the 300-knot airspeed indicated in the analog data. TWA utilized Mach .84 (84% of the speed of sound) Power Charts. As you can see Mach .84 airspeed varies with altitude (Std.Temp.) and the speeds are as follows, (31,000 – 314) (33,000 – 300) (35,000 – 287) (37,00 – 274) and (39,000 – 262). Reference to the numbers above makes it simple to find FL803s altitude. The 1.44 EPR in the analog data is the power required to maintain M.84 (300 airspeed) at 33,000 feet.

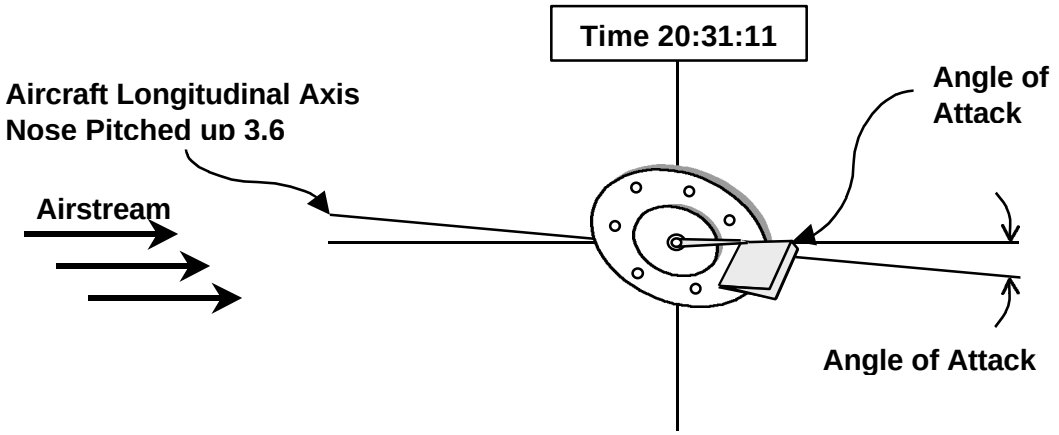
We have all the figures we need except the altitude and it is not recorded because of the inoperative Coarse Altitude function. I have reason to believe technicians at the NTSB are under the impression that FL803s altitude was 37,000' instead of the 33,000' I have indicated. With that in mind, I anticipate they may make such an announcement. The tape prior to the 25-hour point has already been erased, and they are unable to track the flight climb through the various 5,000' brackets during descent into JFK. IF FL803 had climbed up to 37,000' after the indications we see for 33, 000' that would explain our difference of opinion. The airspeed is the best clue in this case. 300 Knots at 37,000 feet is the equivalent of M.91 and that just did not happen. Normal airspeed at Mach .84 for 37,000' cruise is 274. True Airspeed = 274+2%/thousand feet = 485.

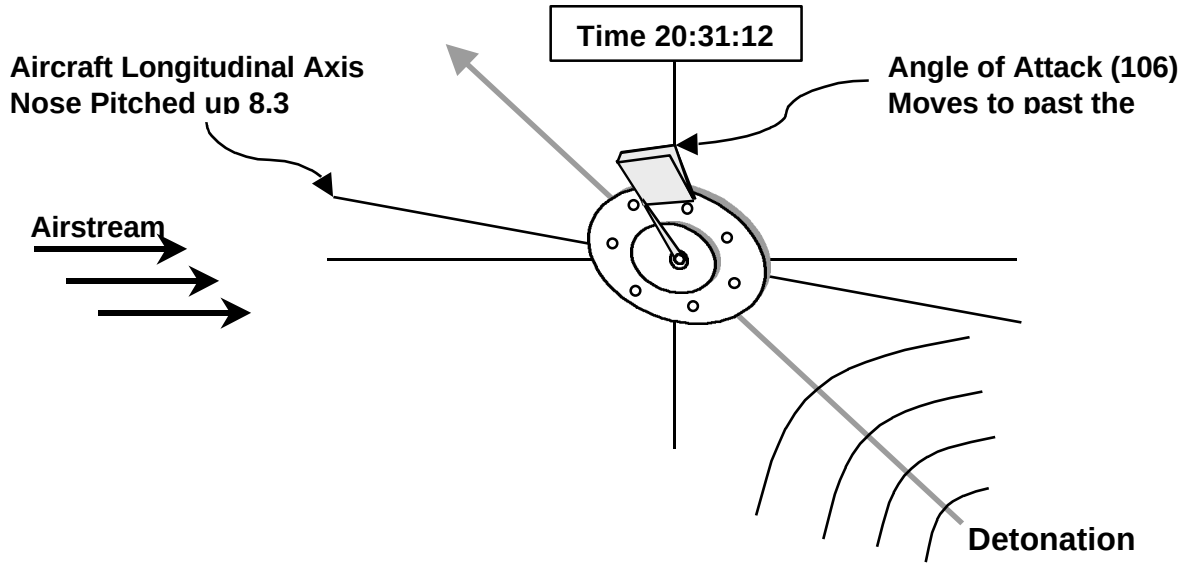
Heading

Magnetic Heading senses heading information from small fluxgate type transmitters in either wing tip and applies it to directional gyros in the compass couplers in the lower electronics compartment. The NTSB has announced that both outer wing panels failed due to high "G" loads and when the outer wing left, so did the transmitters. It is not important in this case because, according to the NTSB, in less than a second electrical power to the FDR was lost. The pilot has the option to choose which compass system to display in his primary heading instrument and the FDR goes along with the choice. Prior to the 20:31:12 second line the heading had been recorded as 82 degrees on the 20:31:11 second line. At the time of the excursion of the 12-second line, the heading moved to the right and displayed an heading of 163 degrees. There were other similar indications from both compass systems that the aircraft was turning to the right. Note as shown at 276 in the following digital data but it is not recorded in the Analog data for good reason. The analog chart has no place to record a 276 heading. The analog data is still in the eastbound bracket and unable to register westbound headings. It is our contention that the 276 heading is from FL803-16 which was recorded 25 flight hours earlier Westbound (276 degrees) from Paris to New York. At the time the flight was cruising at 33,000 feet indicating M.84 and 300 knots airspeed. TWA M.84 Power Charts indicate that an Engine Pressure Ratio of 1.44 is required to maintain chart airspeed of 300 knots at 33,000 feet. All of the figures fit except we do not have the altitude recorded, it is a fact that we can estimate the altitude from the airspeed of 300 knots. M.84 airspeed at 31,000 feet is 314 knots, at 33,000 feet it is 300 knots and at 35,000 feet it is 287 knots.

Angle of Attack

The Angle of Attack represents the angle the airstream is striking the leading edge of the wing. It is sensed by a weather vane device on the left side of the forward fuselage. It is intended to give the pilot advance warning of an imminent stall. Navy jet pilots use Angle of Attack to fly precise landings aboard aircraft carriers. When an aircraft stalls there is buffeting over the wing and a certain amount of shaking. The Stall Warning System augments this warning by shaking the control column. A small electric motor mounted on the forward side of the column incorporates an out of balance flywheel which shakes the control column before the wing actually stalls. Initiation of the warning varies with the amount of wing flaps in use. At Time 20:31:11 the flight data Recorder indicates a normal Angle of Attack of 3 degrees. At the time of the excursions we see on the 20:31:12 second line the FDR indicates and Angle of Attack of 106 degrees, followed by 30 degrees. The 30 degrees is the final Angle of Attack reading from TWA Fl800. There is, however, one more Angle of Attack reading on the FDR. That reading of 3 degrees did not come from FL800 but rather from TWA FL803 data that was recorded 25 hours earlier and not yet erased.





Elevator

Elevator position is sensed by a position transmitter in the horizontal stabilizer. Elevator movement (+ or -) in the FDR record has been puzzling for some investigators. With that in mind, I will try to explain Elevator movement that we see and also give a brief description of the flight. At time 20:17:18 FL800 is cautioned about wake turbulence from a departing aircraft and is cleared into position and to hold runway 22R. Pilot not flying responds in 6 seconds. Stopped on the runway in position for takeoff the following FDR reading register: Airspeed 83 (from departing aircraft blast), Elevator is faired at 0,0, Roll angle is –1 (slight cross wind from the right lifts right wing slightly), Angle of Attack is .25, Engines at idle with EPR of 1.01, the Longitudinal Acceleration registers 0.00 and the Vertical Acceleration is .97 (one"G").

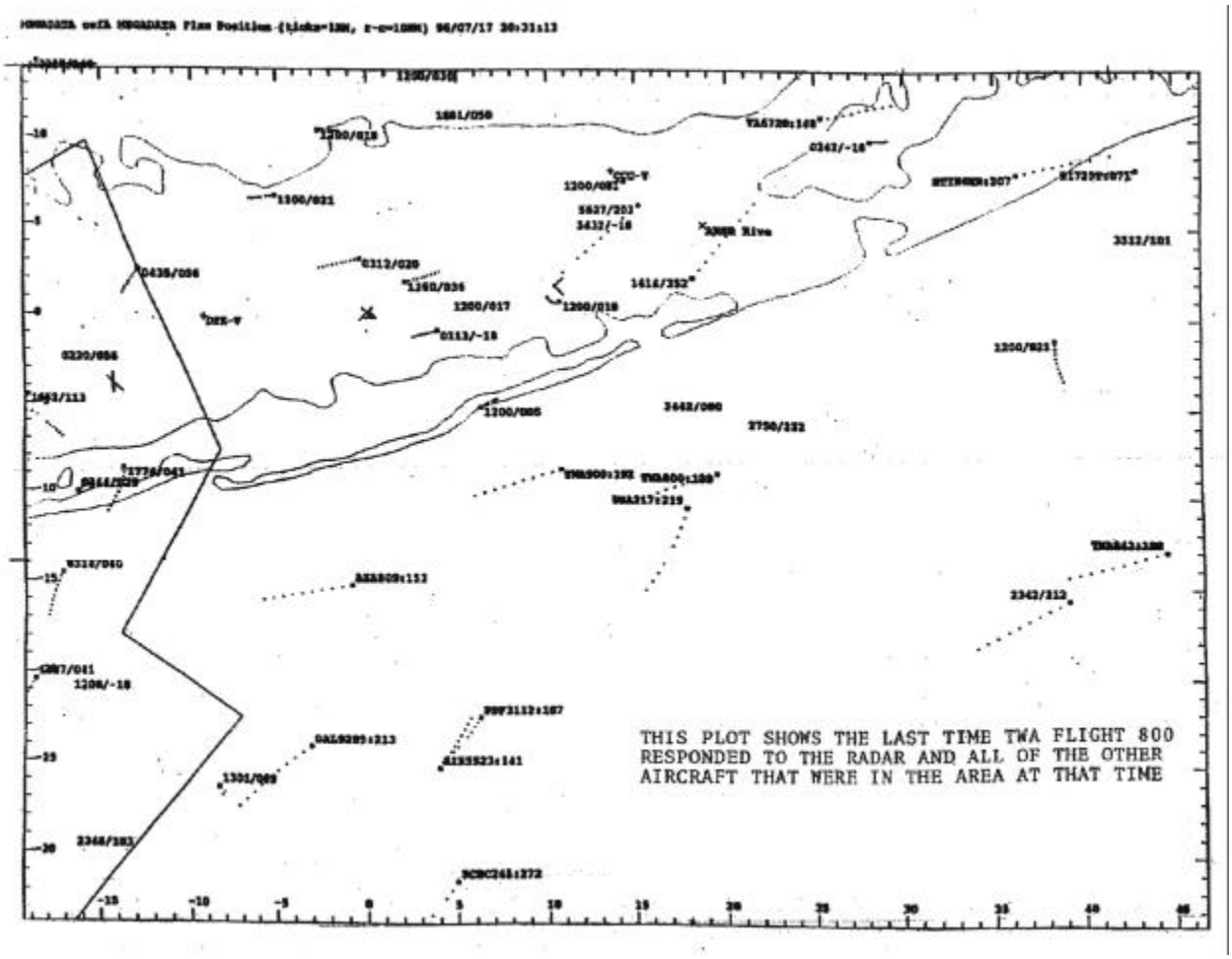
At 20:18:21 FL800 is cleared for takeoff. Pilot responds in 6 seconds. The crew completed the before takeoff checklist and at 20:18:49 the engines spin up and Longitudinal Acceleration gradually increased from .01 to .21 over the next 14 seconds. (.21 x 32.2 = 6.67 feet per second). On takeoff, the pilot not flying the aircraft calls 80 knots at 20:19:14 and holds forward pressure on the control column to hold the nose wheels on the runway. At this time the FDR Elevator Parameter is registering between –4.0 and –8.0, the aircraft is pitched down at the nose, -0.7. At 20:19:23 the pilot not flying calls out V one. V one is the theoretical point at which the aircraft could and would continue the takeoff with an engine failure. When the pilot not flying calls out "Rotate" at time 20:19:35, the airspeed is 113 knots and as the control column is gradually moved back, the elevator trailing edge movers up to approximately 8.0 degrees, and the aircraft starts to pitch up from 0 to 17 degrees over the next 15 seconds. At the same time, Angle of Attack changes from 0 to 11 and the Vertical Acceleration registers the first evidence of the aircraft leaving the runway and showing a positive rate of climb.

At 20:19:41 two clicks can be heard on the CVR. Up until this time the landing gear control handle has been locked in "Gear Down" position. The two clicks signify the aircraft weight is off the landing gear and the control handle is unlocked and free to move to "Gear Up" position. This is a safety system to prevent inadvertent gear retraction on the ground. At time 20:19:43, "Gear Up" is recorded. At 44 seconds (1 second later) pilot not flying repeats "Gear Up". As the airspeed builds with the gear retracted, the Elevator indication decreases from 8 to 1.02. At 20:20:00 the JFK tower changes FL800 to Departure Control. FL800 responds in 5 seconds with "Kennedy Departure, TWA 800 leaving 900 for 5,000. Departure Control comes back with radar contact climb and maintain 11,000. FL800 responds in 5 seconds. At 20:20:44 Departure directs FL800 "Left heading 150". TWA 800 acknowledges in 4 seconds and starts a left bank (-20) to the new heading. At 20:22:01 Departure Control advises "Left Heading 070" FL800 responds in 6 seconds. At 2):22:29 Departure Control advises "Left heading 050". FL800 responds in 6 seconds. At 20:22:44 FL800 is given traffic and obviously the crew is looking for it as it takes FL800 10 seconds to respond. At 20:23:19 FL800 is cleared direct Betty intersection to resume your own navigation. FL800 responded in 3 seconds. At 2)23:37 Departure advises: TWA 800 contact Boston 132.3 (frequency). In 5 seconds FL800 responds with "Say again the frequency". Departure Control advises 132.3. TWA acknowledges in 2 seconds. At 20:24:01 the CVR transcript indicates (sound of noise of damaged recording tape). At 20:24:30 a comment about climbing like a homesick angle. The aircraft had ascended about 2,000 feet in the last minute. At 20:24:41.7 (note we are now using tenths of seconds on the tape) TWA FL800 calls "New York Center TWA's lifeguard 800 heavy 8,200 climbing 11 thousand." It had been 56 seconds since told to change frequencies and FL800 addressed the wrong ATC Center. That does not sound like the Captain Steve Snyder I knew. The tape should be thoroughly examined.

Before the 20:31:12 line, the Elevator had been indicating between .1 and .3. At the time of the 20:31:12 reading, the Elevator changed to 11.2. This was more elevator that was used during the takeoff rotation. That is a lot of elevator to apply at 300 knots. That much Elevator at that speed normally applied by the pilot would have over-stressed the aircraft in positive gravity (G) overload. Because it was applied in less than a second, it is probably the product of shockwave displacement of the pilot and/or the control column.

EXHIBIT 13 - MEGADATA SYSTEMS, INC. TRANSPONDER PLOT @ 20:31:13

Mega Data System, Inc. of Long Island NY maintains a passive aircraft transponder receiver system electronically synchronized to Islip New York ASR8 radar. They provide precision, real time, tracking services for commercial airlines. Mega Data Systems received a transponder transmission from FL800 at 20:31:13 showing a true airspeed of 380 kts and an altitude of 13,800 ft., agreeing with the pilot's altimeter. If power had failed at 20:31:12 as claimed by the NTSB, this transmission could not have occurred. It is apparent that the power actually failed at 20:31:13 and that a portion of the 12-second line was written from the buffer to the tape prior to power failure. This explains why some of the 12-second line is data from Flight 800 and the remainder is from Flight 803.



This transponder plot shows TWA Flight 800's altitude as 13,800'. It was received at 20:31:13.

EXHIBIT 14 - ANALYSIS OF MISSILE FIRING POSITION #1

By William S. Donaldson Cdr. USN Ret.

1. The ISLIP Air Search Radar Eight (ASR 8), located at the McAurthur Airport on Long Island, recorded a stationary surface radar contact 3 nautical miles east of Moriches Inlet and 1 nautical mile off shore. This surface radar contact was 7.3 nautical miles north of TWA FL800 when the aircraft exploded.
2. The FBI has not publicly identified the stationary target.
3. A missile was observed to have been fired vertically from at or near the position of the stationary radar target then tipping over and flying straight out to sea, on a heading of approximately 170° magnetic. This was the first of two successful missile engagements of TWA FL800.
4. Missile #1 was seen to have maneuvered hard left immediately prior to detonation.
5. The missile would have to fly at least a 9.5 nautical mile profile to make the intercept when vertical ascent is included.
6. <u>A mach 3 missile would achieve an intercept of TWA FL800 approximately 20 seconds after launch from the stationary radar target's position</u>.
7. Paul Angelides stepped out on his beachfront deck with the missile already climbing out high in the sky (60° above the horizon). He was an estimated 2,000 yards from the launch point. He observed the missile fly directly out to sea and explode <u>15 to 20 seconds later</u>, the first of three explosions.
8. The launch noise and rocket motor burn noise (constant thunder) shook the floor of Mr. Angelides's house, lasted 20 seconds, terminating in the series of explosions he observed earlier.
9. Witness Bileau and McBride were 3 nautical miles west of Mr. Angelides on the Moriches Inlet rocks. They observed the same missile as Paul Angelides, three miles east, and heard the first launch noise and the beginning of continuous thunder of rocket burn just before they observed the first explosion.
10. Sound takes 17.4 seconds to traverse the distance between Moriches Inlet rocks and the estimated missile launch point.
11. This missile was first seen by scores of people, from as far away as 15 nautical miles, at the same place in the sky well away from Flight 800's track.
12. These witnesses agree on visual bearing lines, high relative motion, brightness of the exhaust and a series of bright and loud terminal explosions. (How many times can a center wing tank explode?)
13. <u>The probability these witnesses observed anything other than a surface to air missile engagement is zero</u>.

EXHIBIT 15 - ANALYSIS OF MISSILE FIRING POSITION #2

1. The ISLIP ASR 8 radar, located at the McAurthur Airport on Long Island, recorded a high-speed surface radar contact only 2.9 nautical miles to the South South East of TWA FL800 when it first exploded.

2. This 30-knot contact continued at high-speed on a true heading of approximately 203° until it disappeared from radar, after TWA FL800 went down 3.5 miles behind her stern.

3. The 30-knot contact did not come within visual range of other recorded radar surface targets.

4. The FBI has not identified the 30-knot target.

5. The fire control solution for a Mach 3 anti-aircraft missile, fired from the 30-knot surface contact's position, to intercept TWA FL800 at its explosion point, is as follows:

   - Target bearing - 339° True
   - Range - 7,500 yards
   - Elevation - 37° Up
   - Time of Flight to intercept - 6.8 seconds

6. Witness Albert Gipe, a self employed Consultant, Engineer and Ex-Naval Officer, was transiting 25 nautical miles off shore aboard a sailboat in passage to Block Island. He was standing in the boat ladder well facing Long Island, attempting to place a cell phone call.

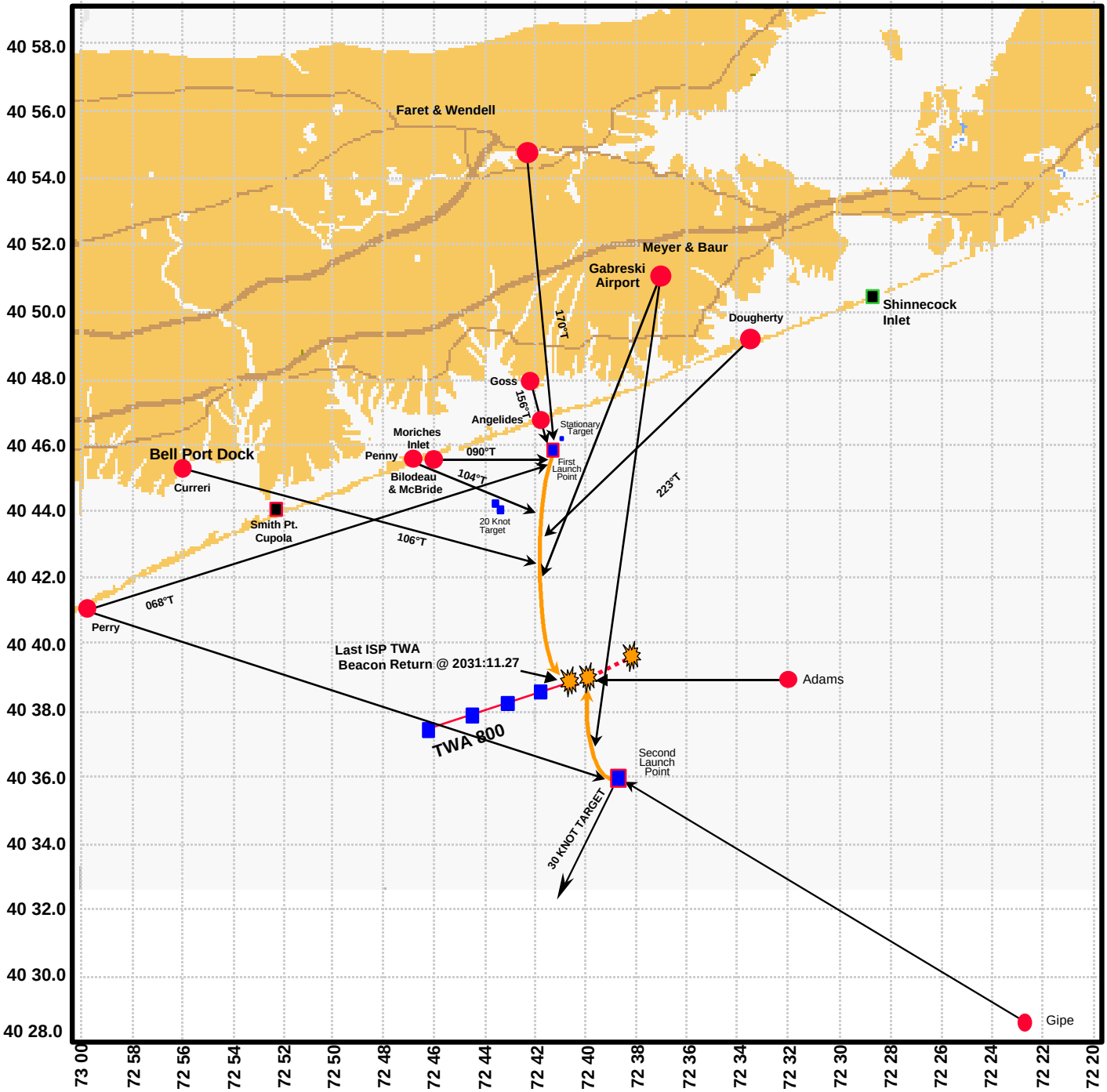
7. Mr. Gipe saw a streak of light like a "tracer bullet" rise from the surface going from South (seaward) to North (landward) on a 30° to 45° elevation, which terminated six seconds later in an explosion that was followed shortly thereafter by another explosion. Mr. Gipe immediately wrote down his position and what he observed.

8. Mr. Gipe was 17 nautical miles, or 34,000 yards, from TWA FL800 when it exploded. Because the witness's location was ahead of TWA FL800's course, with little angle off and because 1° degree of ARC is over 1,800 ft of sky on the horizon at a 17 nautical mile range, TWA FL800's apparent relative motion while in flight would appear almost stationary to Mr. Gipe.

9. Mr. Gipe's recorded observations fit precisely to a short-range successful surface to air engagement of TWA FL800 with a large anti-aircraft missile fired from the immediate vicinity of the 30-knot radar contact.

Exhibit 16 - Triangulation of Witness Bearing Lines

By William S. Donaldson Cmdr. USN Ret.



The triangulation of witness observations was accomplished by thoroughly interviewing witnesses, and in many cases, going to the spot where the witness was located when they spotted the streak in the sky. A GPS position fix was used to document the location and the witness was asked to point to the spot where they first saw the streak. In many cases, there were reference objects, such as a house, pier or other fixed object which the witness could point to as a reference. A hand-bearing compass was then used to get the magnetic bearing. The witness was asked to describe the sequence of events, sights, sounds, vibrations, etc. In all but one case listed here, the witness first saw the object, then heard sounds sometime later. A number of witnesses took careful extemporaneous notes of their observations. These observations were then converted from Magnetic to True bearings and plotted on the above chart. The NTSB radar track of the last secondary return was then also plotted on the chart. Each of these witnesses saw the streak of light for a number of seconds, then saw one or more white explosions, followed some seconds later by a large orange fireball.

As you can see from the plot, the witnesses saw the streak from quite a few different angles and at different points in its flight. This explains the variability in witness statements as to direction of their observation and direction of travel with respect to them. Since none of them first heard the sounds, their observations cannot be explained away by the CIA video which was produced to suggest that all the eyewitnesses saw the crippled, headless aircraft climbing 3,000 ft. trailing burning fuel.

TWA 747 Out of JFK, July 17, 1996
Radar Data Overhead View Up To Last Secondary

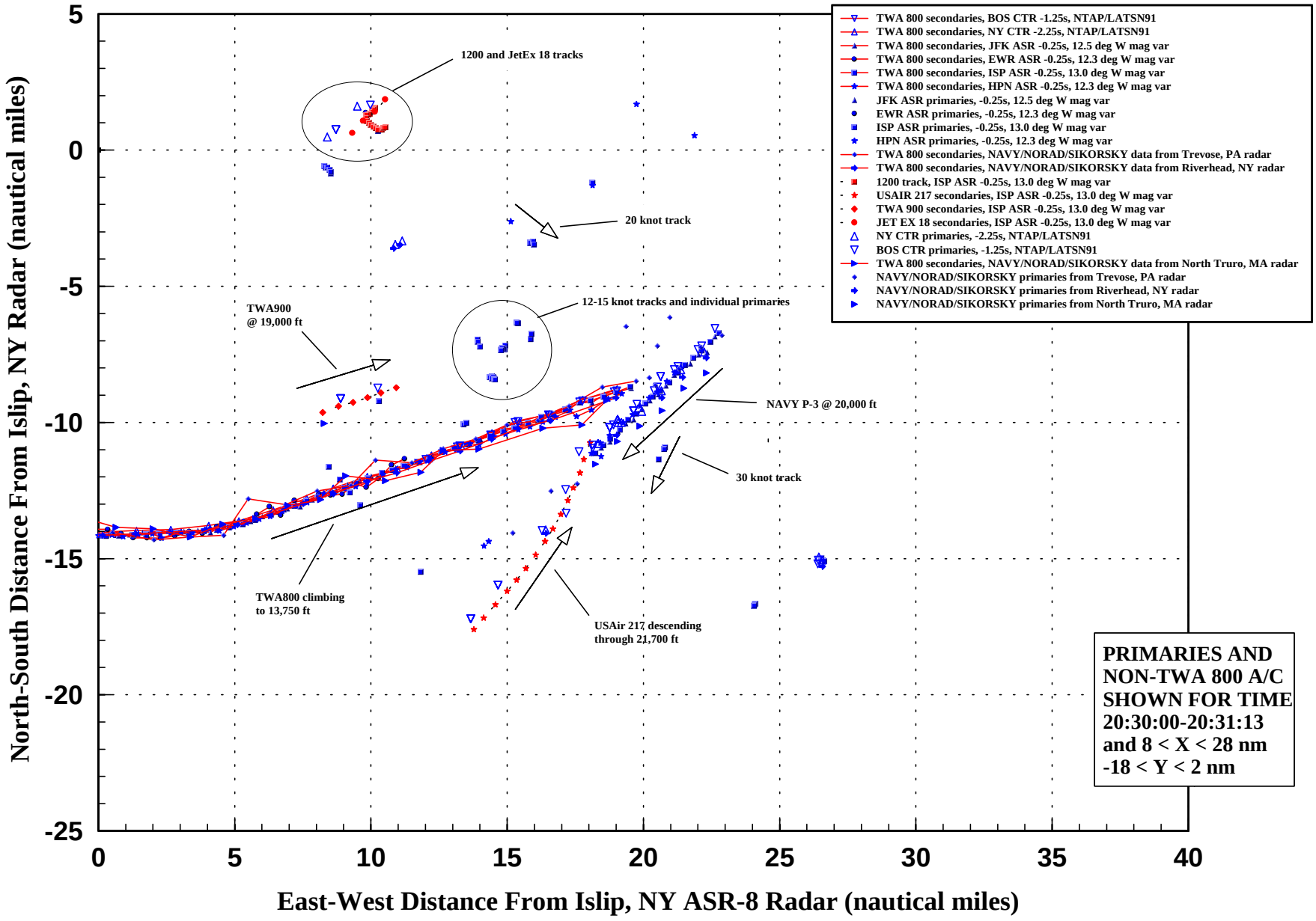


EXHIBIT 18 - A CRITICAL FBI ASSUMPTION ERROR

"A Large Anti-aircraft Missile Requires a Large Ship Launch Platform"

By William S. Donaldson Cmdr. USN Ret.

Because the damage in evidence on TWA FL800 indicates a large, airburst warhead was involved, the actual launch requirements for such a missile are important to determine if such a missile was used. In conversations with FBI officials I strongly suggested they take a very careful look at Full Sized Anti-aircraft missile systems.

The Iranian AIM 54A was specifically suggested because of its self contained guidance system (it carries its own radar), it's relatively easy adaptability to be fired from surface boats, as well as its lethal 127 lb. Airburst warhead. Unfortunately, Mr. Kalstrom and the FBI's position was to totally ignore these large systems based at least publicly on the idea that large weapons would need a warship, its radar, launch rail infrastructure, etc. to launch and guide a powerful weapon.

This is absolutely false, virtually any solid fuel anti-aircraft missile could be launched and successfully guided to TWA FL800 from a boat or small floating container. On 8 January 1998, Admiral Thomas Moorer, who attended the AIM Press Conference about TWA FL800, personally chided a reporter who insisted no one saw a ship, so it couldn't have been a missile. (This was despite the fact Islip, NY radar did record highly suspicious surface contacts that are still unidentified at the missile firing points). The Admiral, who in his tenure as Chairman of the Joint Chiefs of Staff, was responsible for the development of many of America's current weapon systems, pointed to the "Attack Missile" concept. The attack missile, simply defined, was a missile in a watertight can that once dropped in enemy waters, floated level with the surface, would anchor itself and could be activated by timer or remote control to passively sense, then launch on enemy aircraft.

Actual Guidance Requirements

In the myriad worlds of missile guidance technology, the various systems can be broken down by types. Optically Guided, Radar Guided, Radar Semi-active Seeker, Laser Seeker, Heat (IR) Seeker, and Home on Jam or Radio Signal Seeker, etc.

It should be carefully noted that anti-aircraft systems are designed to destroy high performance military aircraft. These aircraft have their own designed defense suite; maneuverability, electronic deceivers and jammers, decoy metal chaff, and decoy flares for protection. Because of the electronic deceivers and jammers on military aircraft, missile designers have employed a particularly nasty little device, the Home on Jam or Radio Source Seeker Head.

Once launched, a tracking missile so equipped senses an intense transmission on it's radar guidance frequency(s) (jamming) it simply shifts to Home on the transmitting (jamming) antenna. A radio frequency seeker head can be modified to seek a specific frequency or bandwidth of radio transmissions.

Any missile launched and equipped with a Home on Jam Seeker head, set on the frequency of the Hampton VOR, would guide on the VOR DME Antenna and destroy TWA FL800 as it passed by.

The reason this would happen is because the VOR navigation transceivers on commercial aircraft transmit a continuous ranging signal to whatever VOR navigation station the pilots have tuned-in. In the case of TWA FL800, it was the Hampton VOR. The radio signal from the aircraft is normally received by the ground VOR and retransmitted back to the aircraft. The distance measuring equipment (DME) in the aircraft measures the distance to the VOR station electronically and displays the information in the cockpit.

Military ships and aircraft that enter combat zones or find themselves taken under missile fire, will immediately stop transmitting on all frequencies for the very reasons cited above. In the case of TWA FL800, once launched, the missile's radio seeker head, sensing the aircraft's VOR transmissions, would fly toward the aircraft's VOR antenna until it closed to a preset proximity detonation point.

The number one and number 2 VOR DME antennas are located on the belly of the aircraft, almost precisely where the detonating warhead shock wave first impacted the aircraft. See diagram below. Missile number one detonated abeam the number one VOR DME antenna, nine feet below the aircraft and 20 feet out to the left.

It is this investigator's professional opinion, because of the aircraft's length, the low probability that the maximum damage pattern would occur at the DME antenna locations randomly, as well as eyewitness descriptions of the missile flight, that there is a very high probability the missiles used to ambush and destroy TWA FL800 were Passive Radio Transmission Seekers.

It should be pointed out, the guidance system described above is essentially a low technology stealth weapon, perfect for a terrorist or paramilitary surrogate of a rogue state. Because it is totally passive, no radar or other illumination of the target is required by the shooter, he need only see the target and launch the weapon locally or remotely. Also, because it is passive, there are no telltale electronic signatures coming from the shooter or the weapon to be received by US military sensors.

Had the White House assigned Department of Defense investigators instead of FBI Agents to this task, I am confident such as gross assumption error about missiles would have been avoided.

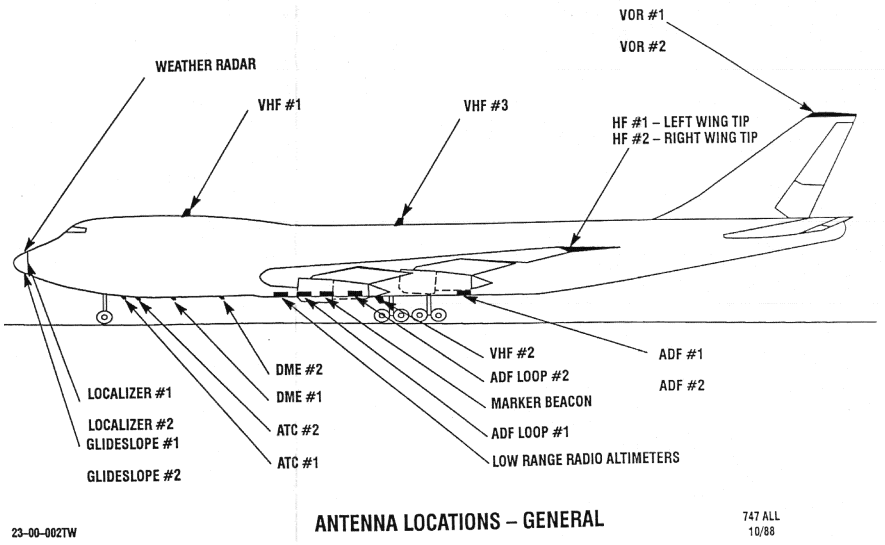
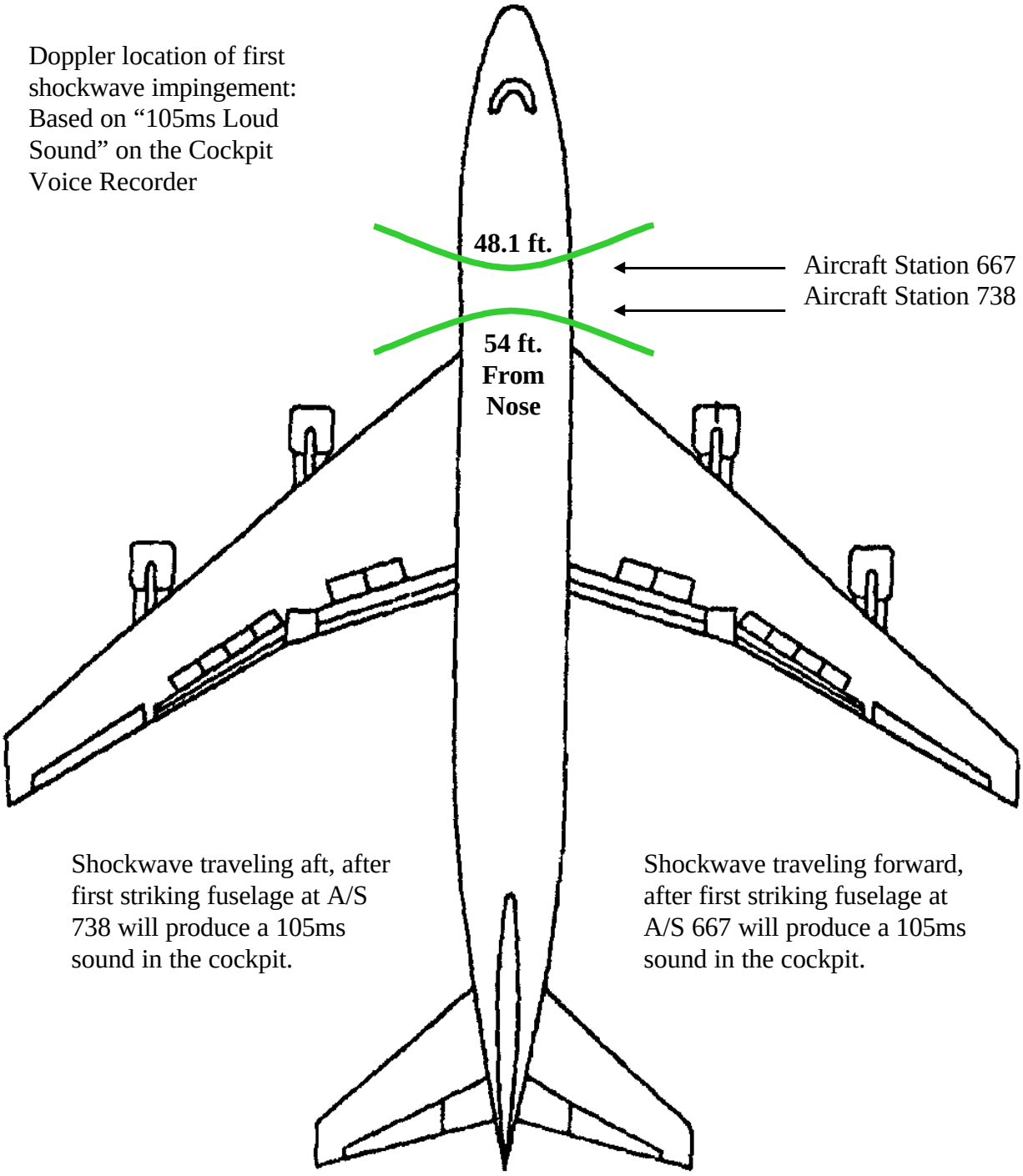


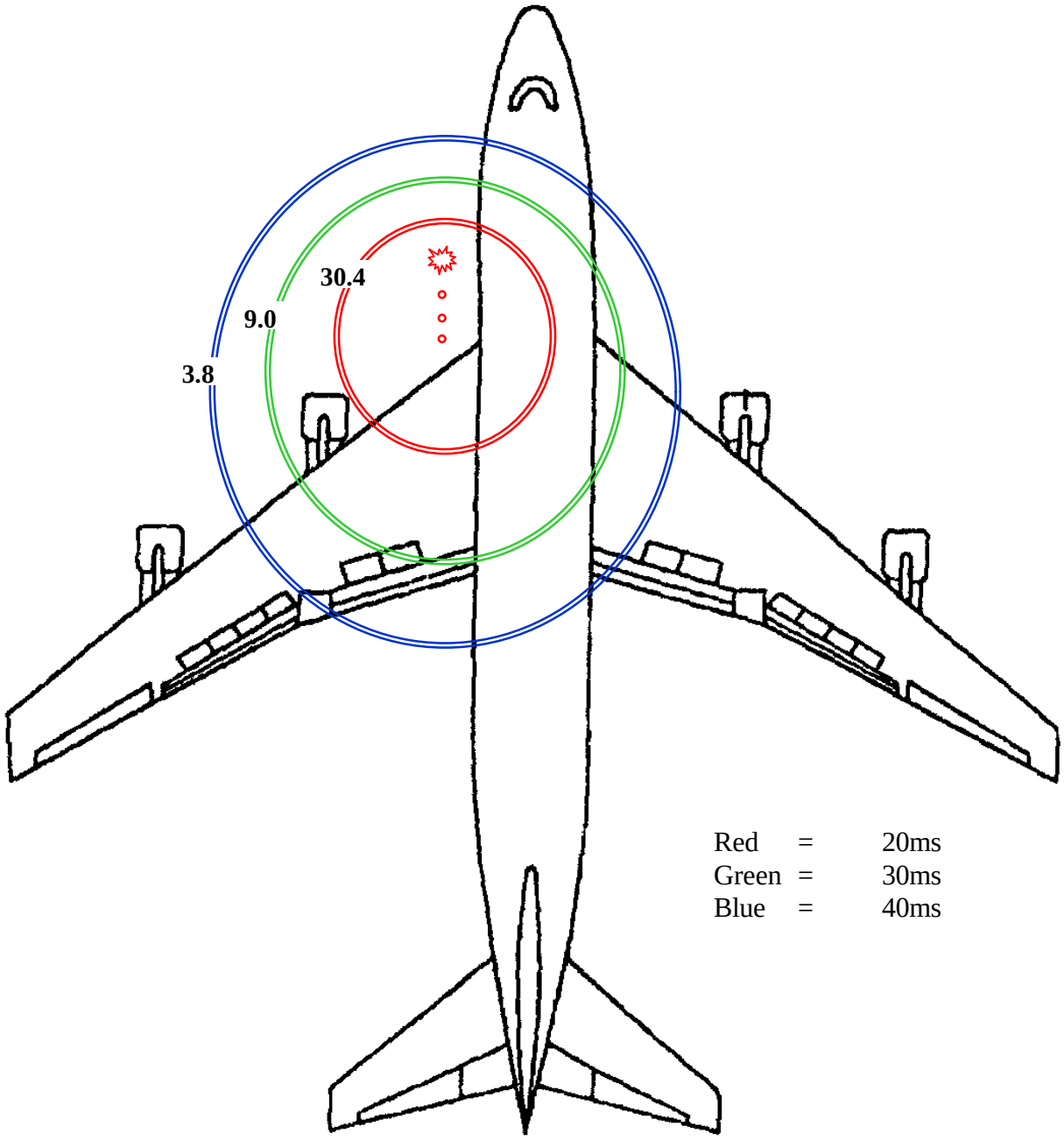
Diagram of Aircraft Antenna Locations – Boeing 747-100

EXHIBIT 19 - DOPPLER LOCATION OF FIRST SHOCKWAVE

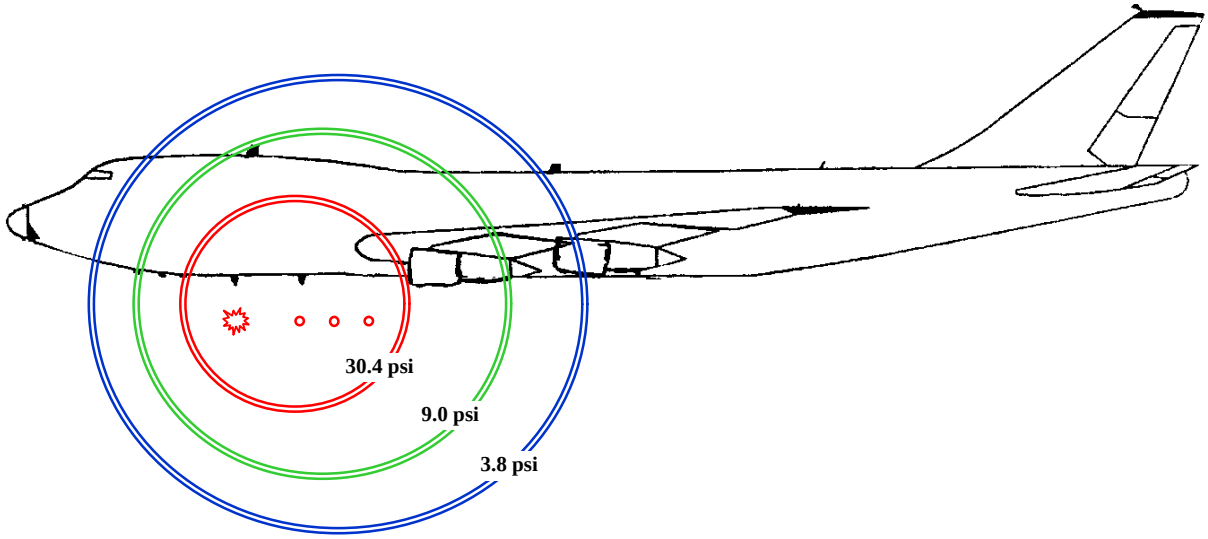
By William S. Donaldson Cmdr. USN Ret.



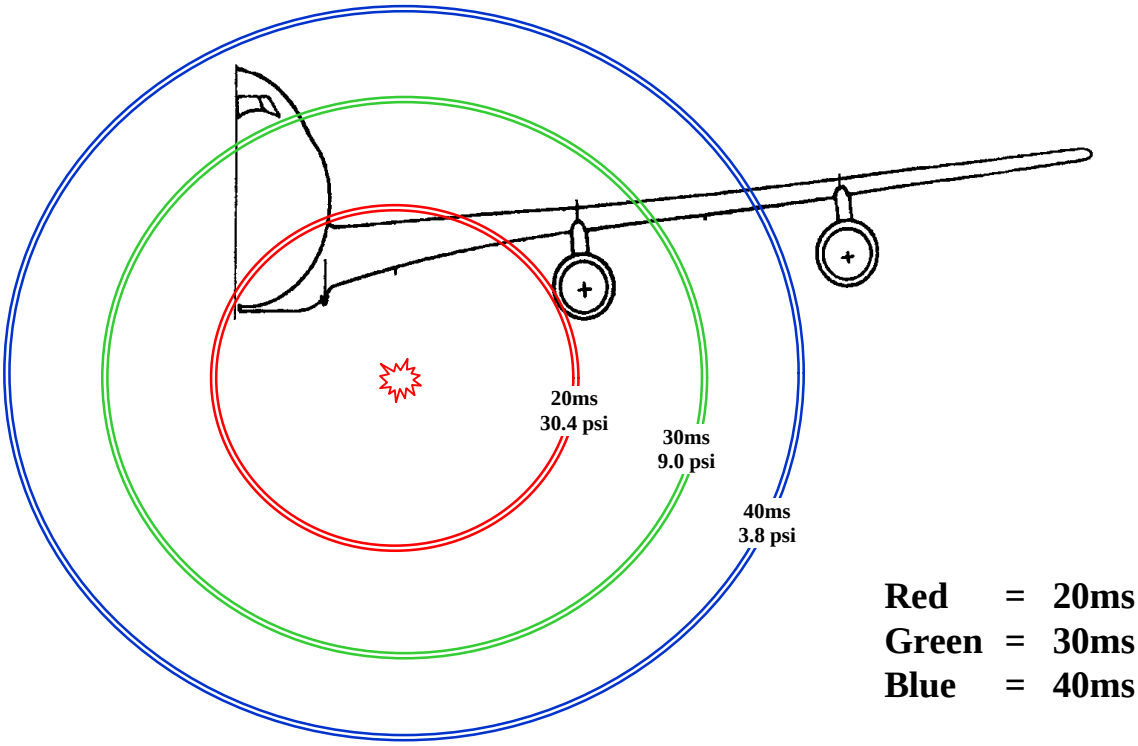
Airburst Top View



Airburst Side View



Airburst Front View



Overpressure vs. Burst Radius

90 lb. High Explosive Warhead Airburst

Feet	Pressure (lbs. /in.^{2})
0’	1,500,000
5’	2,613.0
10’	338.0
11’	243.0
12’	187.5
13’	147.5
14’	119.8
15’	96.0
16’	79.0
17’	66.0
18’	55.5
19’	47.2
20’	40.0
21’	35.0
22’	30.4
23’	26.6
24’	23.4
25’	20.7
26’	18.4
27’	16.5
28’	14.7
29’	13.3
30’	12.0
31’	(11.1)* 10.8
32’	9.9
33’	(8.6)* 9.0
34’	8.2
35’	7.5
36’	6.9
37’	(6.1)* 6.4
38’	5.9
39’	5.5
40’	5.0
41’	4.7
42’	4.3
43’	4.0
44’	3.8
45’	(3.5)* 3.55
46’	3.3
47’	3.13
48’	2.92
49’	2.7
50’	2.6
55’	1.9
60’	(3.5)* 1.5
61’	1.4

Note: * indicates multiple pressure possibilities the DFDR altitude Fine line represents. The lowest possible pressure and greatest burst distance possible is 60’ and 1.4 psi.

EXHIBIT 20 - LOCATING THE MISSILE AIRBURST

By William S. Donaldson Cmdr. USN Ret.

Large anti-aircraft missiles equipped with proximity fusing are designed to burst as much as 40' from the aircraft. The preponderance of eyewitness accounts and physical evidence prove TWA Flight 800 was destroyed by such weapons. The FBI purposely searched for only MANPADS weapon evidence on the aircraft.

By using evidence from various sources, this exhibit will physically place the first weapon airburst in space, relative to the aircraft. The sources are: Inertial Navigation System, Digital Flight Data Recorder, Cockpit Voice recorder, Nose Gear Door Damage, Left Wing Skin Damage, Debris Field Evidence, Nose Tire witness marks above R-3 door and on tip of right Horizontal Stabilizer, Foreign Object Damage failure of number three engine, forward left Cargo Bay damage and crack propagation & fuselage skin tension/compression failure modes.

Using the above evidence, assuming a generic weapon size (90 lb. High explosive blast) and compensating for Doppler effects caused by the velocity of the aircraft; weapon burst location should be possible. If the weapon size assumption is relatively accurate, a more precise placement is possible.

We have both gross or imprecise indicators of where the weapon detonated as well as a few precise indicators.

Gross Airburst Indicators:

1. Airburst must be forward below the aircraft belly line because nose gear doors are pushed in.
2. Airburst must be left side below level of left wing because of hydraulic RAM damage to underside left wing top skin. See Exhibit 7 on page 47.
3. Airburst must be below the nose because nose pitched up to over 8° from 2° in a fraction of a second on the DFDR. See Exhibit 12 on page 55.
4. Airburst must be left side forward because nose tire witness marks above R-3 door and tip of right horizontal stabilizer would place the aircraft in at least a 6° right yaw and pitched up over 8°. See Exhibit 6 on page 46.
5. Airburst must have imparted a huge side load from left or right because the very strong vertical stabilizer failed.
6. Airburst must have been forward of aircraft station 800 because earliest aircraft parts separations were from this belt.
7. Airburst must have been left side forward because 1st class passengers and crew were hit by shrapnel left side forward.
8. Airburst must have been low left side forward because forward left cargo compartment back to under center wing components, air packs, etc. were stripped off first.
9. Airburst must have been left and forward of the center of gravity because the inertial navigation system show both a yaw right (heading) and drift right (lateral motion) relative to flight path.

Precision Indicators:

1. Cockpit voice recorder proves overpressure shock from airburst struck the airframe first between aircraft stations 667 and 738, left side, 48 to 54 ft. back from nose. See loud sound Doppler schematics at Exhibit 19 on page 72.
2. Airburst overpressure shock wave breached the hull first at or near aircraft station 615, ejecting a passenger sitting in Row 10, Seat 2, who landed thousands of feet before the first large metal pieces hit the debris field.
3. The Digital Flight Data Recorder captured an angle of attack (AOA) reading of 106°. The AOA gauge, vertically mounted, is located left side below and aft of the cockpit windows, has a 360° range of motion and always points at the relative wind (like a weather vane). In this case, the AOA pointed at the airburst, located behind and below the vane. See drawings at Exhibit 19 on page 72.
4. The airburst overpressure wave registered on the Altimeter (Fine) Flight Data Recorder line. The altimeter Fine line normally only measures altitudes within 5,000' blocks. Although the NTSB data originally showed a drop from 13,772' to 10, 127', the reading really means a drop from 3,772' to 127' on the 0-5,000 ft. scale. The 127' reading could just as easily mean 5,127' altitude or 127' altitude or even –4,873'. Obviously, the lower the actual altitude reading, the higher the pressure in the blast wave. See page 80. This chart represents the various pressures and corresponding distances from a blast that altitude Fine readings would represent.
5. The <u>Airspeed Indicator recorded the airburst overpressure as an instantaneous loss of 198 knots airspeed on the Digital Flight Data Recorder</u>. Indicated airspeed is a product of the Pitot system that measures the <u>dynamic pressure of the air stream against the static pressure</u> (ambient pressure) to produce an airspeed indication.

Discussion: If the actual airspeed doesn't change (the situation with TWA Flight 800) but the ambient pressure suddenly goes up from an explosion, the airspeed indication will drop correspondingly. In the case of Flight 800, the drop was precipitous, from 298 knots indicated to 100 knots instantly. The formula for computing dynamic air pressure is:

Dynamic pressure q = ((Rho, air density) x (v, velocity) ^{2})/2

$$q = \frac{gV^2}{2}$$ or for 300 knots indicated @ 13,800 ft. =

$$(lb/in^2) = \frac{.0000273 lb/in^3 x 633 ft/\sec^2}{2} = 5.47 lbs$$

for 100 knots indicated @ 13,800 ft. = $$\frac{.0000273 lb/in^3 x (212\, ft/\sec)^2}{2} = .61 lb/in^2$$

The difference between 5.47 psi and .61 psi is 4.86 psi. If we assume the sudden 100 knot reading on the airspeed indicator was due to a pressure wave striking the static pressure ports of the left side pilots Pitot system, we can then assume at least 4.86 psi of overpressure was detected at the Pitot tube. However, nothing is quite that simple, the static half of the Pitot system is linked to multiple static ports so a sudden unnatural pressure spike on a static port will partially vent causing a lessor effect on the gauge. Understanding that leads us to believe the minimum pressure at the Pitot static ports left side was 4.51 psi.

When we cross this pressure to the pressure versus burst radius chart on page 80 we get an airburst distance form the Pitot system of 40 to 41 ft.

Because we can assume some venting loss explained above, it is advisable to use one of the higher pressure multiples of the altitude Fine pressure readings. The altimeter uses the same static pressure but measures it against a sealed pressure chamber and should be more accurate.

That minimum pressure then becomes 6.1 psi at a burst distance of 37 ½ feet or 8.6 psi at 33 ½ feet or over 10psi at a distance of 31 ½ feet.

Two points should be made here: (1) There is no guarantee the timing of the DFDR caught the maximum pressure spike of the shock and (2) without expensive whole component shock wave testing of the B747 Pitot/static system (from various angles) there is no way to know what percentage of the shock registers as a pressure spike. In other words, a shockwave hitting the static ports directly (from any side) would probably cause the biggest drop in airspeed. Conversely, the same shockwave hitting the Pitot dynamic port head-on (same as normal airstream) would cause the airspeed to spike way up, not down.

Because of the above reasons and the high-energy damage to the cockpit and forward fuselage evident in the debris and its distribution, we will estimate the burst distance to the Pitot/static ports at 32 feet.

Estimated Position of Airburst

- Low left side forward abeam aircraft station 576.
- 9 feet below the aircraft belly line.
- 19 feet outboard from the aircraft centerline.
- 32 feet from Pitot/static ports, Port side.
- 17 feet from closest aircraft hull.
- 14 feet aft of nose gear well aft bulkhead line.

A burst of a 90 pound warhead at the above location, after computing the effects of Doppler, would produce the following overpressure values / effects.

1. Nose gear doors, 8.2 psi overpressure; would produce a 14 ton force pushing in a 4'x6' nose gear door into the wheel well, hypo-extending the nose gear door hydraulic actuator, bursting the cylinder.

2. Low left fuselage aircraft stations 615 to 860; to 40 psi overpressure over large area would instantly yaw the aircraft right and pitch it up. The totality of the lateral displacement force could easily exceed 5000 tons. The pressure hull would breach releasing 3.5 psi cabin pressure taking passengers and interior cabin debris out into the earliest debris field.

3. Left wing root fillet at aircraft station 854; 100 psi would blast away aerodynamic fairings in small pieces.

4. Forward left corner, center wing box (CW504) and forward right leading edge number two main tank; 45 psi overpressure would hydraulically RAM charge #2 main, #1 main and #1 reserve tanks, collapse the left side body wall into the dry bay behind the front spar also into the center wing tank and snap off the first large metal part to hit the debris field (CW504). Hydraulic RAM charge would vent through top wing skin putting small wing skin pieces in the debris field.

5. Engine #2 is struck by shockwave first at 25 milliseconds after burst, 12 psi hitting from right side low on a 45° angle. See illustration on page 80.

6. Engine #1 is struck at 50 milliseconds after burst, 2.0 psi from right side, low on 60° angle.

7. Engine #3 is struck at 50 milliseconds after burst, 2.0 psi from left side, low on 89° angle.

8. Engine #4 is struck at 85 milliseconds after burst, .5 psi from left side, low on 83° angle.

Airburst effect on Lift and Acceleration

1. The aircraft inertial system, DFDR, and debris "witness-marks" clearly show the aircraft yawing right at least 6° from blast effects, they also show the aircraft pitched up 5.8° from its previous attitude of 3°.

2. A violent yaw right would swing the left wing tip forward and the right tip aft. This dynamically increases lift on the left wing through reduction of spanwise flow, and decreases lift on right wing due to dramatic increase in spanwise flow. The yaw brings the left wing forward and effectively lengthens it with respect to the airflow, while the right wing is effectively shortened and partially blocked by the fuselage.

3. The airburst overpressure itself produces a huge lifting force applied under the aircraft and asymmetrically to the left wing. The totality of the net momentary lifting force does two things simultaneously;[5]
   a. It radically reduces induced drag, this will cause a momentary increase in longitudinal acceleration. This increase was recorded on the DFDR 12-second line.
   b. The asymmetrical airburst lifting force under the left wing will couple with spanwise flow lift vectors to roll the aircraft rapidly right!

This force was huge. TWA Flight 800's wing area was 5500 ft^2 and wing loading about 103 lbs. per square foot. This means every square inch of wing was carrying .71 pounds. Now note on page 80 the 2psi asymmetric lifting force under the number one to the number three engines at 50 ms after the first airburst.

Just a one-lb/in^2 higher lift differential on the left wing would generate:

$$5500\ ft.^2 /2 = 2750\ ft^2 \times 144\ in^2 /ft^2 = 396{,}000\ in^2 \times 1lb = 396{,}000\ lbs.\ differential\ lift.$$

<u>The lift differential was significantly higher than 1 psi, the aircraft "snap-rolled" right! The 12-second line of the DFDR shows the aircraft rolled right 144° in less than 1 second.</u>

[5] Induced drag is that substantial percent of total aircraft drag that is produced by the wing only when the wing is generating lift. (When military tactical pilots wish to rapidly accelerate in air combat maneuvering, they will unload the wings by pushing forward stick toward zero gravity (g)).

Airburst Shockwave impingement on wing and engines

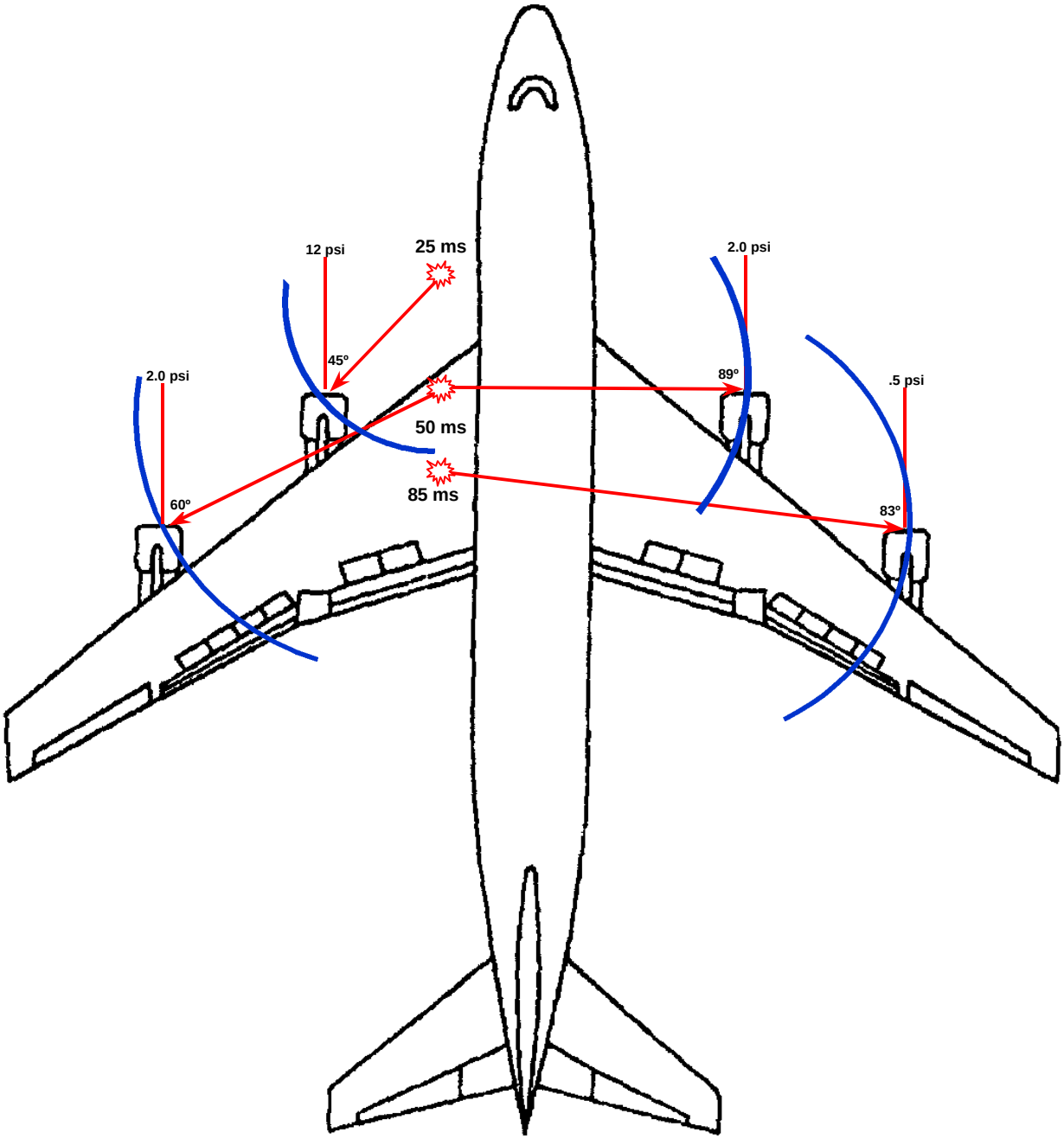


Exhibit 21 - Locations of Recovered Seats in the Debris Field

by Cmdr. W.S. Donaldson, USN Ret.

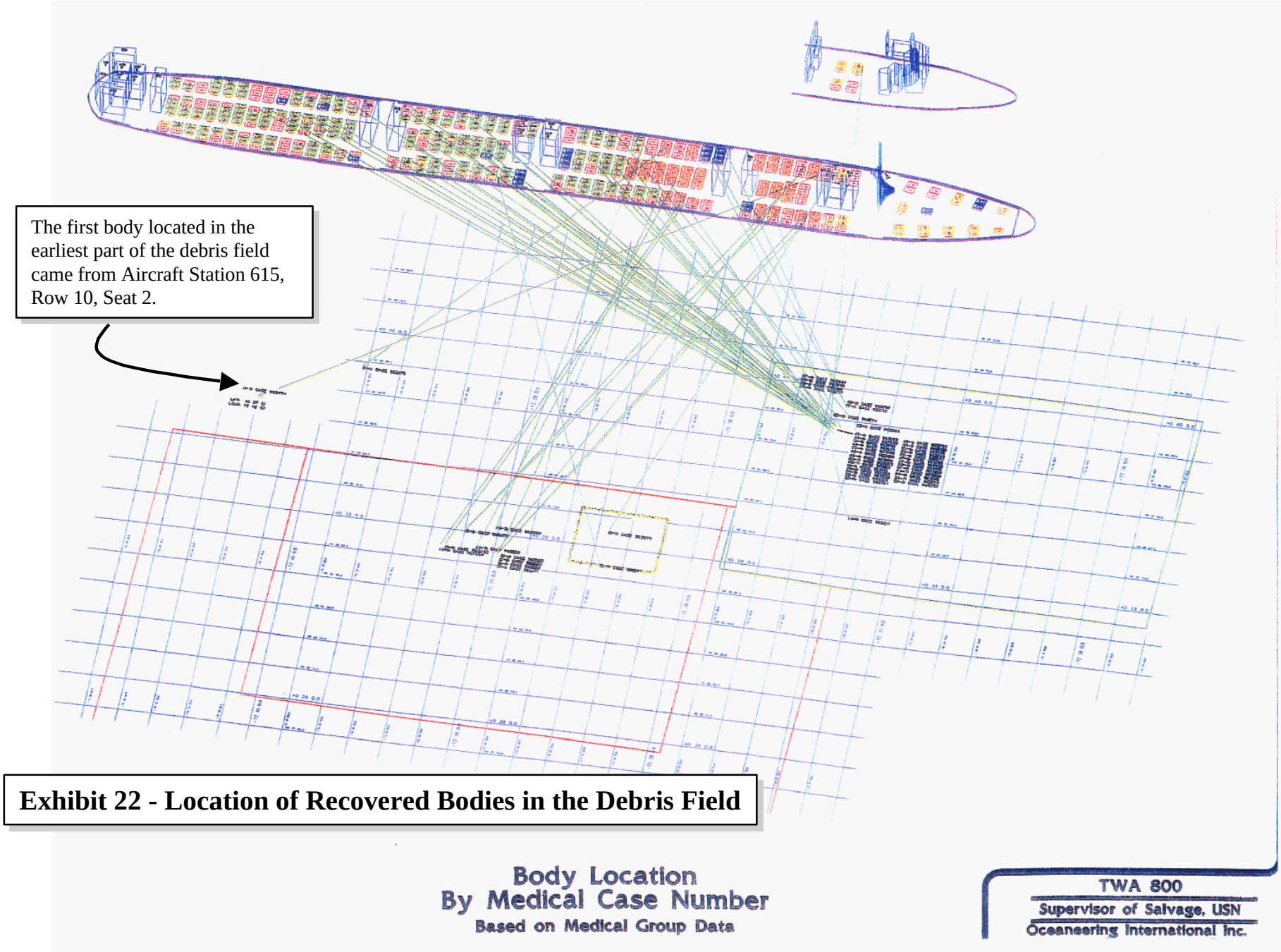
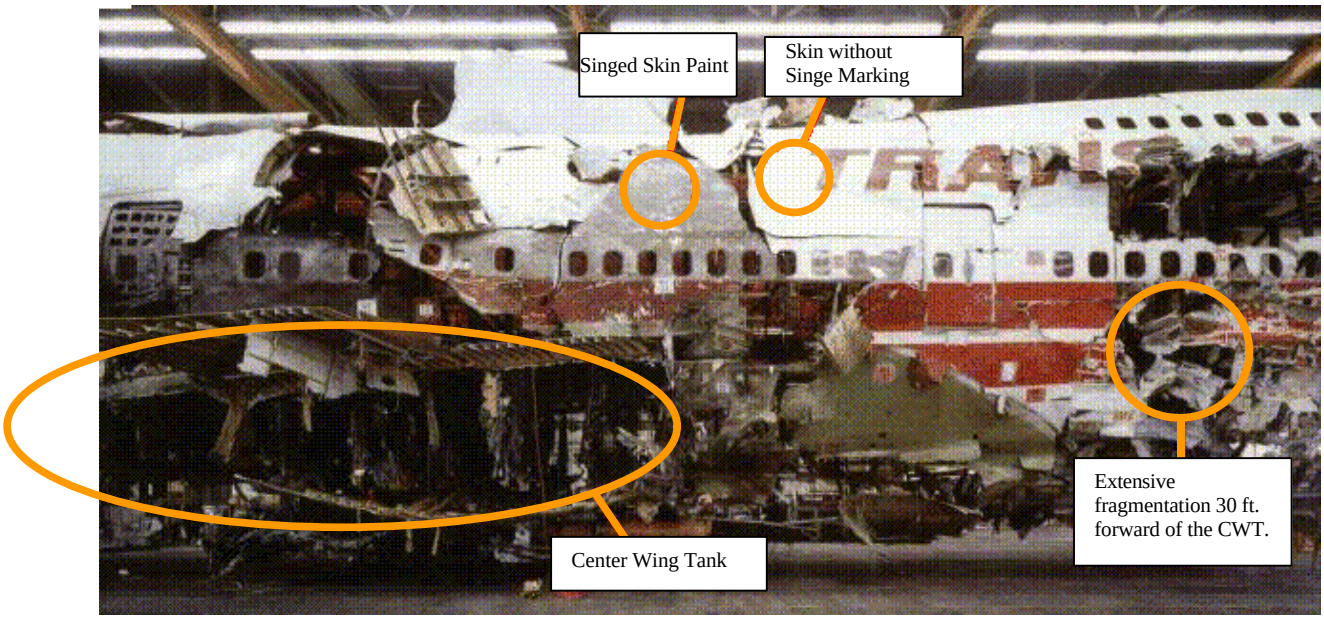


Exhibit 22 - Location of Recovered Bodies in the Debris Field

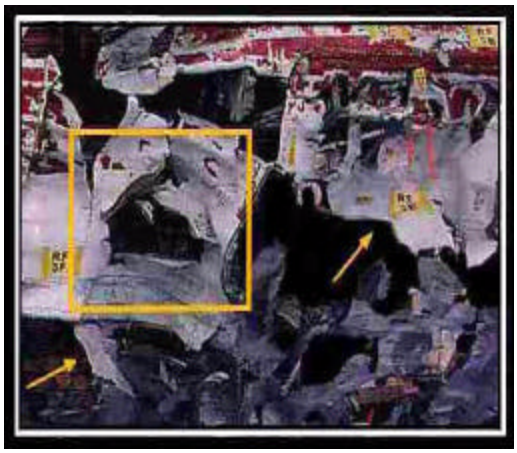
EXHIBIT 23 - PHOTOGRAPHS

The photograph to the left shows the left side of the aircraft. Notice the high velocity damage which is low on the left side of the fuselage. The corresponds exactly with other calculations of the location of the first warhead blast. There is significant fragmentation at this location with very little skin damage in the surrounding area.

The photograph below shows the right side of the aircraft where the blast damage is much greater and farther away from the Center Wing Tank. The metal is petaled outward as if a high velocity fragment transited the aircraft from left to right.



The close up at the right shows the extreme fragmentation on the right side. Notice the metal is petaled outward.



Photographs of the recovery of parts of the aircraft.

The picture at the left shows the recovery of a part, possibly a wing section, which has a number of holes which appear to have penetrated from the outside in.
The damage to this aircraft part does not appear to be consistent with a low velocity, 60-psi, explosion of the center wing tank or of impact damage from the part hitting the surface of the water. It is indicative of the type of damage that would be expected from a high velocity, anti-aircraft warhead bursting in proximity to the aircraft.

The photograph at the right appears to be a wing landing gear. We know from the debris field that the nose gear doors came off very early and landed in the earliest part of the debris field. A "part of tire" was one of the western most parts of the aircraft, as well as the nose gear doors. Notice the shredded tire in the photograph. Aircraft tires are extremely tough and often survive aircraft crashes intact. A 60 psi center wing tank explosion alone could neither blow off the nose gear doors and separate a nose tire nor do the damage to a wing gear as shown here. On the other hand, this is exactly what one would expect from a proximity-fused warhead exploding below the nose of the aircraft.

(CNN)

The photograph to the left is part of the tail section vertical stabilizer. Notice the clean, unsooted condition of this large section of the tail. It was located floating by eyewitnesses at least 1 mile from the fuselage impact area.
See Captain Adams statement on page 19.

The picture below shows the front of the Center Wing Tank reconstruction looking back toward the tail of the aircraft from the baggage compartment. CW 504 was the part found in the debris field closest to JFK airport. Therefore, it had to have come off of the aircraft in the initial explosion.

CW 504. First part to leave the aircraft.

Left Side of the aircraft looking toward the tail.

Floor beam is buckled upward on the lower left side of the aircraft.

Notice the damage to the structural Aluminum frame of the Center Wing Tank. The floor beam is buckled upward from the outside of the fuselage. The beam is obviously bowed upward and significantly dented in from the outside. This is completely consitent with the explosion of an airbursting anti-aircraft warhead, below and to the left of the aircraft's nose, just in front of the left wing.

EXHIBIT 24 - EYEWITNESS ACCURACY PROBABILITIES

By Michael Hull - Article provided for use by Cmdr. Donaldson and may be reprinted by others.

I would like to offer you some statistical calculations on the probabilities that can be assigned to the accounts of the TWA 800 eyewitnesses. In a December 15, 1996 article in the NY Times entitled "Many Answers in Crash Except the One That Counts" it is stated that: "safety board officials said their leading theory of the crash is that the fumes were ignited by a spark of static electricity created by fuel leaking into the tank. But they offered no evidence to support that theory and, in fact, they could not rule out a bomb or missile as the cause of the explosion -- two other possibilities for which there is no evidence."

Statistical calculations on the probabilities can be assigned to the accounts of the TWA 800 eyewitnesses. Granted, to date, there may has been no "physical" evidence found for a missile or rocket, but the NTSB should not discount the eyewitnesses' evidence that a streak of light rose towards the aircraft prior to its destruction. In the article it is indicated that 40 of these witnesses are considered to be "reliable" and include a pilot and a military officer. What statistical reliability can we place on this evidence provided by eyewitnesses?

If one assumes that a "reliable" witness can report an observation correctly in only one out of five observations, then there is only a 20 percent probability that an event reported by such a witness would have actually taken place as described. With two of these witnesses independently describing the same event, the probability rises to 36 percent and with ten witnesses it rises to 89.26 percent. With forty such independent and similarly "reliable" witnesses the probability rises to 99.99 percent that the event reported did indeed take place. This is as close to certainty as one can come mathematically. Further, even if one assumes that the reliability of these 40 "reliable" witnesses was so poor that each of them could report an observation correctly only one time out of ten, the probability that the event did indeed take place as described by the witnesses is still 98.52 percent.

The equation is as follows:

Probability of Event (P) = [1-(U^N)] where U is the Unreliability of the system and N is the number of participants.

For example: If you give a coin to one person and ask them to flip it and you hope to see a "head", what is the probability that you will get it? Answer 50%. What if we give two people a coin each and ask both to flip their coins and we hope to have one "head" show up, the probability that we will get it is now 75%. With three people the chances that we can get at least one head is 87.5% and with four people it is 93.75%.

Another way to look at these probability outcomes is as follows:

Assume that one has identical pieces of equipment which need to operate for a set period of time, but each can do so with only 50% reliability. How many pieces of equipment do we need to operate simultaneously to ensure with 99.9% probability that we will get the job done? Answer 10.

Now if a witness is "right" in an observation only 10% of the time (or another way of putting this is that the witness is unreliable in 90% of his observations) then if one had 50 such witnesses what is the probability that what they said happened, actually happened? The solution table is shown below: Accuracy of Witness Groups at Ten Percent Reliability:

No of Witnesses	Probability that Event Happened	
1	10.00 %	(N=1 and U=0.9)
5	40.95 %	(N=5 and U=0.9)
15	79.41 %	(N=15 and U=0.9)
20	87.84 %	(N=20 and U=0.9)
35	97.50 %	(N=35 and U=0.9)
50	99.48 %	(N=50 and U=0.9)

In the search for 'likely scenarios' of what caused the TWA 800 crash, the probability that the center tank explosion was linked to the streak of light, as reported by the eyewitnesses, has more support than speculation by the NTSB on static electrical charges, leaking fuel lines, and air conditioning units warming fuel in the tank to explosive limits.

EXHIBIT 25 - EYEWITNESS REPORTS OF TWA FLIGHT 800

Provided by Michael Hull

1. 150 Credible Witnesses: "More than 150 credible witnesses - including several scientists and business executives - have told the FBI and military experts they saw a missile destroy TWA 800. 'Some of these people are extremely, extremely credible,' a top federal official said. 'When we asked what they saw and where they saw it, the witnesses out east pointed to the west, and the people to the west pointed to the east'." - *The New York Post, September 22, 1996.*

2. A pilot interviewed on *CNN (7/17/96)* said that he saw something like a "stunt plane" dive down into the jumbo jet, which then split into two parts.

3. Bakounis, Vasilis: Private Pilot and Olympic Airlines engineer - "Suddenly, I saw in the fog to my left, toward the ocean, a small flame rising quickly towards the sky. Before I realized it, I saw this flame become huge. My first impression was that it was a flare shot off a boat."

4. Baur, Chris: "Almost due south [of the helicopter], there was a hard white light, like burning pyrotechnics, in level flight," Capt. Chris Baur told investigators. "I was trying to figure out what it was. It was the wrong color for flares. It struck an object coming from the right and made it explode." Two NY Air National Guard pilots with the best view of the crash of TWA 800 ..... one believes the airliner was struck by a fast-moving object coming from the east, while the other saw a fiery trail from the west. "I saw a track of light and saw a hard explosion, then another explosion," - "told officials, repeatedly that I thought a missile hit the plane."

5. Bilodeau, Vincent Joseph McBride: Bilodeau and McBride state that on 7-17-96 at 2045 they were at the Moriches Inlet, South Shore, facing south to southeast. Bilodeau and McBride observed a reddish glowing flare ascend skyward from due East but they could not tell if from land or water. Flare was tight, corkscrew shape with even but fast speed. Did not see what flare struck but it exploded in air into a large orange fireball. Two large flaming chunks of debris fell from the fireball. Both recall hearing a deep thunderous rumble during the explosion. Saw fire on water a distance of 7 miles away. Also recall a light, low flying, single engine plane with a maroon stripe, low to beach about 15 minutes before explosion. *(Suffolk NY Police Reports Case # 96-435598)*

6. Bushton, Douglas: The witness was playing basketball on the street with a neighbor. The witness was facing south when he saw a pink/salmon glow just above the water tower to the south. He described the object just like a red Roman candle. The object went behind the water tower and reappeared right below the tank where it exploded into an orange ball. No smoke observed. No noise was heard.

7. Casola, Robert *interviewed by Tom Stalcup on 1/28/98*. He was on his boat with his engine running about 12 miles from the site of the accident. He noticed what he thought was a distress flare. He saw a smoke trail rising from the ocean, a small explosion, then a much larger explosion. He heard nothing over the noise of his motor.

8. Caufield, Timothy: Caufield was sailing in Shinnecock Bay with two friends, heading toward the Southampton Yacht Club. While sitting in the front of the boat facing to the west, he saw a light in the sky that he thought was fireworks. In a second or two the light burst into a yellow/orange explosion that caught fire, breaking into two parts that fell into the ocean. He estimated this occurred about 10 miles to the southwest of him. *(Suffolk NY Police Reports)*

9. Clanahan, Zach *interviewed by Tom Stalcup 1/29/98*. He was fishing in a boat while heading towards shore. While watching the lines, his friend said "hey, look at that!" He then looked to notice a plume

connecting the ocean to an immediate explosion. Another friend of his who also saw the incident was present during this interview. His name is Danny Curro, and was fishing on a different boat. He saw the fiery blaze coming down from the sky and hitting the water. It left black smoke. When the black smoke went away, he saw white smoke. He also heard three loud explosions after witnessing the event. The week before the accident while surfing, Clanahan noticed a lot of Navy exercises in the area. He and the others on the boat called the FBI hotline and told them that they had witnessed the event. No FBI official visited. Then, his friend's father (also on the boat) called the FBI back and said that he thought he saw a missile hit the plane. The FBI showed up right away.

10. Curreri, Anthony: He was sitting on the beach at the Bellport Dock at the South end of Station Road. Facing southeast towards Smith Point Bridge he saw “a red streak rise from the horizon.” Curreri said that he thought it “was fireworks being fired from Smith Point Beach over the ocean.” He said the streak “ascended at a slight angle to the right, very high then curved downward slightly and then leveled off and appeared to explode resulting in two similar objects falling down.” He thought that it might be two aircraft colliding. He estimated that the event occurred 3 miles offshore. The police noted that: “We took the witness to the Bellport dock and he visually placed the origin of the red streak in a line from the dock directly over the Pavilion at the Smith’s Point Beach. But the streak was beyond the Pavilion. When the debris fell, he felt that it was to the right of the Pavilion.”

11. Desyron, Lou *(ABC World News Sunday, 07/21/96):* "We saw what appeared to be a flare going straight up. As a matter of fact, we thought it was from a boat. It was a bright reddish-orange color". Once it went into flames I knew that it wasn't a flare."

12. Dougherty, Tom: "I looked up because it sounded like thunder. I kept looking trying to figure out what it was. And that's when I saw a flare come off the water." - "The flare, trailing orange flame, shot up roughly at a 45 degree angle, then rapidly increased it's angle of ascent.... Then it appeared to strike something." He saw the missile during most of its flight from Dune Road on Fire Island. *He was interviewed by the FBI and the FOX TV program Hard Copy.* Tom said that he first heard two booms. Then he saw the missile shoot upwards, from the ocean, which was behind a sand dune in front of him. He saw it "shoot in another direction" briefly and then it corrected itself. He said that after the missile hit the plane, the plane glowed very bright as part of it fell and then, after becoming luminescent, it burst into flames. "This was the strangest thing I ever saw. Everyone calls it a 'missile theory,' but when you see something, you know what you see, and I didn't see a theory." Tom Dougherty: Interview by Cdr. Donaldson presented at the AIM conference October 18, 1997. I was in Docker's restaurant in Quogue ... I was leaving there and I was with two other people and as we were headed towards... south.. we were walking south towards the water. I heard what I thought to be thunder.. very loud thunder up in the sky and I looked up in the direction of where the thunder was coming from and I didn't see any clouds to indicate that there was any kind of thunder heads there. So I said you know that's strange to the friend of mine. So we continued a few more paces and I guess.. I don't know how many seconds later there was another thundering noise that I heard and I looked up again and I said that's very strange just to hear this when there was no thunder and no clouds of that type around. So I continued to look in that direction because of the noises that I heard and within a few more seconds I saw a red-orange flare go up which I thought was like a Guicci fireworks and I watched it go up away from me in a south-westerly direction towards West Hampton beach area and it .. what I was waiting for was the flare to reach its trajectory and to come down and explode like fireworks. And it didn't. What happened was it kept diminishing in size and then seemed to veer towards the east more and then it disappeared in the clouds or the fog area ... the haze .. and it was at that few .. a second later that I saw this 'glowing' in the sky and it looked like a UFO ... I was kidding around with my friends and I turned and I said look at that fireworks turned into a UFO. And then a few seconds later I saw something just... flop out of the sky with burning .. whatever it was.. and I watched and I said

it's the strangest fireworks I've ever seen and a few moments later ....seconds later it was ..I can't keep track I heard another explosion and that's when I saw this big fire come out of the sky and it looked like the sun coming down actually. It was the size where I was standing maybe about the size of two half dollars together. So it was a good size .... sparks flying off it .. but I still didn't understand what kind of fireworks it was ....

13. Eick, Donald: *October 20, 1997 The Press-Enterprise, Riverside, CA.* For Donald Eick and his family, the scene in the July 1996 summer sky is a permanent memory: a reddish flare-like object just off the water heading upward, zigzagging a little in an unmistakable vertical climb, a fireball erupting at the end of the ascent. The initial drama took no more than 12 to 15 seconds, Eick estimates. Then, the meteorologist, his wife and 12-year-old daughter saw three sections of aircraft "fluttering" toward the Atlantic Ocean. ..... Eick's description, previously given only to FBI investigators, is different than others because he says he and his family saw the plane separate: two parts in flame and one part seeming to arch upward before heading toward the Atlantic. All other published accounts, including reports from airline pilots in the air, tell only of seeing lights, explosions or fireballs, but not the fuselage. The Islip, N.Y., family was returning to Long Island's Great South Bay after a day of boating and swimming when Eick's daughter noticed the reddish light headed upward. Eick does his work as a meteorologist for TWA, but he says that his link with the airline has no bearing on what he saw. He also is a civilian pilot and has participated in accident investigations. "It was what we would best describe as a boat flare, a reddish object going up," Eick said. "It went up and a few seconds later we saw an explosion in the sky. I can't say if it came off shore or on shore. At first, we thought it was a boat flare. It zigzagged a little. We thought it strange. "Then, several seconds later, we saw an eruption of fire. We never heard anything. We saw a fireball, and at that point we identified what was an aircraft. We could see it fluttering down. We were the third boat on Long Island to report the incident to the Coast Guard." Eick said the family clearly could see three sections of wreckage, one of which lofted upward a bit before heading downward. That piece did not catch fire, he said. ... "When I was interviewed by the FBI the next day, they were interested in the wreckage I saw go upward," Eick said. "I think it probably was the nose." A classified NTSB report based on an examination of the wreckage said the nose separated almost simultaneously with some unknown event that produced excess pressure in the center fuel tank and began its collapse. The nose then plummeted, without catching on fire, to an Atlantic site separate from the main fuselage. The report said the main part of the fuselage began a steep dive after the nose separated and the wing tips ripped off because of the intense strain, followed by the left wing and, sometime later, the right wing. Eick said it was "completely erroneous" to believe that the red flare he and his family saw was fuel or other descending plane debris. "It was something going up to it beforehand," he said. "Yes, I saw flaming debris go down. Something attracted us to the area before it exploded. And even my wife and my oldest daughter, we all were witnesses to it. There definitely was something there first before the aircraft went down." The meteorologist estimated visibility at "about 20 miles and unrestricted." He said he and his family were about 10 miles from where TWA's wreckage rained into the ocean.

14. Ellison, Brandi and John Gang: The ...witnesses were in a boat along with 5 other persons, on the Peconk Bay at the end of the (?) of the Harbor Cove Inn. Facing Westbound, witness #1 Ellison states she observed a flare shot upward, from the water, ascend with a bright orange-red glow skyward and at it's apex, burst into numerous red flames. Flare had a very large orange, red trail. Her boyfriend, witness #2 also watched the flare ascend and then descend into numerous red flames. Neither heard any noise. Witness #1 thought they were about 30 miles away. Witness #2 - 5 or 6 miles away.

15. Evens, Edwin A.: Evens was on a boat off the Shinnecock Inlet with two other people. The boat was heading north toward the Inlet on a line from the one-mile sea buoy. They were about 1/4/ to 1/2 mile past the buoy toward the Inlet when Evens saw what he thought was a flare straight behind or slightly

to the right of the boat to the southeast. Evens said that the flare had a “white wispy trail that went straight up.” He called to the other in the boat to look at the flare. He watched it for about 5 seconds when it suddenly turned into an orange burst. He then saw black smoke yet saw nothing fall into the ocean.

16. Faret, Sven, Private Pilot - Airborne "Pin flash of light near the shore" - "It looked like a rocket launch at a fireworks display. My first impression was that the National Guard had shot d own one of their own planes."

17. Fehner, Victor, *interviewed by Tom Stalcup on 1/28/98*. He noticed a "small ball [in the sky that] started out as a parachute flare." He said it was approximately 30 degrees above the horizon. He then said it quickly went from 30 degrees to about 15 degrees where it ended in an explosion, which blew off into two balls of fire. He was located in front of the Coast Guard Station.

18. Gallagher, William: *October 20, 1997 The Press-Enterprise, Riverside, CA.* William Gallagher, a commercial fisherman, had just finished trolling for squid when he saw a reddish light in the sky. "I picked it up three seconds before it turned into a bright white ball, which split," Gallagher said. "I thought it was fireworks. And then I didn't know what to think because from the white ball, I saw two wide orange bands of light fall down, obviously the fuel igniting." It was TWA Flight 800. When he returned to port, he called the FBI. "I'll lay my ass on the table and tell the president or the FBI, and someone can hypnotize me: There was no way that red light was descending," Gallagher said. "It was ascending. It made contact with what turned out to be that airplane and made a white bright light and then split in two." He thinks something is wrong with the investigation. "If I were in a courtroom and the prosecutor says I've got an eyewitness, then I become a trump card," he said. "We're not just one witness but 135 or more strong." Officials say more than 400 eyewitnesses were interviewed, many reporting a red flare-like or fireworks-like object ascending toward the plane. "I saw something hit the right side of the plane," said Gallagher. "My opinion was it blew the wing off on impact. I assumed something went through the airplane, like behind first class and into the wing." Gallagher, of New Jersey, has worked the ocean waters near the crash for more than 15 years. "My honest opinion, my gut feeling, is that we have the most brilliant people in the world and the best technology," Gallagher said. "If they've been on scene for a year and they've not come up with something, as a critical thinker I have to ask, could they be covering up something?" FBI and NTSB officials bristle at such comments and say they are meticulously searching for clues among more than 300,000 pounds of debris, with another 15,000 to 25,000 pounds missing and deemed unrecoverable.

19. Gipe, Albert: A self employed Consultant, Engineer and Ex-Naval Officer, was transiting 25 nautical miles offshore aboard a sailboat in passage to Block Island. He was standing in the boat ladder well facing Long Island, attempting to place a cell phone call. Mr. Gipe saw a streak of light like a “tracer bullet” rise from the surface going from South (seaward) to North (landward) on a 30° to 45° elevation, which terminated six seconds later in an explosion that was followed shortly thereafter by another explosion. Mr. Gipe immediately wrote down his position and what he observed. Mr. Gipe was 17 nautical miles, or 34,000 yards, from TWA FL800 when it exploded. Because the witness’s location was ahead of TWA FL800’s course, with little angle off and because 1° degree of ARC is over 1,800 ft of sky on the horizon at a 17 nautical mile range, TWA FL800’s apparent relative motion while in flight would appear almost stationary to Mr. Gipe. Mr. Gipe’s recorded observations fit precisely to a short-range successful surface to air engagement of TWA FL800 with a large anti-aircraft missile fired from the immediate vicinity of the 30-knot radar contact.

20. Goss, Richard: *Interview by Cdr. Donaldson presented at the AIM conference October 18, 1997*. That evening I was just finishing up a sunfish race at West Hampton Yachts club .. it was a Wednesday night .. and that particularly night every week we have an informal sunfish race and then

it's followed by a 'bring your own' barbecue dinner on the back porch of the yacht club. That porch faces south and my position at the table that I was sitting at I was looking right out at Moriches Bay and you know just leaning back, resting, just enjoying the moment of that part of the evening. It was near dusk and it was then that I saw a flare-type object go up and feeling that oh someone along Dune Road has fireworks and other members of the club saw it also and said hey look at the fireworks. And everybody turned to look and we all watched it climb and I particularly watched it and it was bright, very bright, and you know that almost bright pink you know and orange glow around it and it traveled up and it look to go straight up from the area that I was observing it and then it reached it's peak and it seemed to go away in the distance towards the south and that's when I saw it veer left which would bring it out east. It was a sharp left and then it did not disappear. From my vantage point there was a direct explosion that followed and then after that there was a second explosion that was off to the east a little farther that was much larger .. it was like something broke off of whatever that was and caught on fire. The smoke was black, it was obviously some petroleum. I knew it was an airplane or aircraft of some sort and I didn't realize what size it was. And then it took some time to come down, probably three or four seconds and there was just a stream of black and white smoke and then when it hit the horizon over the barrier beach, Dune Road, and when it hit the horizon there was a bright flash.

21. Graham, Douglas *interviewed by Tom Stalcup on 1/27/98*. Graham's first impression was that the event was a terrorist attack, but after going over the event in his head later, he did not recall seeing an object rise from the ocean. But his daughter saw an object rise from the ocean.

22. Grauer, Richard: (25 yr. old Fishing Tackle sales) "It was a thin trail of smoke going up fast - then there was this huge pink ball of fire"

23. Greig, Margaret: Margaret Greig was sitting on the Smith Point Beach slightly to the west of the bath house facing southeast when she saw a “flare” shoot upwards from the ocean. The flare went “upwards in a concave arc.” The flare “had a pink flame at first which turned into an orange flame” about a quarter of the way up. A thin trail of black smoke followed behind flare. The flare shot upward for about 5 seconds and then turned into a large ball of orange fire. The black-smoke trail lingered afterwards for about 6 minutes. She estimated that the flare was about one mile out to sea. The witness did not see anything fall into the ocean after the orange explosion. *(Suffolk NY Police Reports)*

24. Keyser, John and Joyce Keyser: While driving southerly on Church, Mrs. Keyser relates observing, while looking southerly, a golden glowing, moving object above the tree top line. The unusual golden color of the elongated object drew Mrs. Keyser's attention. Mrs. Keyser noticed a red light on it and though 15 to 20 miles away she assumed it to be a plane. Mrs. Keyser states suddenly the plane took an unusual, 45-degree dive with no visible flame or smoke below the tree top line. A large, reddish flaming fireball immediately arose above the tree line where the plane had descended. The entire observation was approximately 90 seconds in duration. No observation of any object or projectile from the ground to the plane was witnessed. Mr. Keyser drew a picture of explosion. *(Suffolk NY Police Reports Case # 96-435598)*

25. Khalilch, Rosa Gray, Smith's Point Beach: Reports being on the beach Wed. July 17, 96 between 8:30 and 8:45 when the Grays saw .. double orange flares streak upward and explode into a large orange fireball. The flares were slanted arcing and trailed by a grey smoke. Gray also reports a strong odor of diesel fuel and the sighting was southeast of Smith's Point Beach. *(Suffolk NY Police Reports Case # 96-435598)*

26. Kinscherf, Susan: "I looked to the ocean and I saw a ball in the sky that looked like a red glow. It went up and there was an explosion .... then it just fell from the sky".

27. Krieger, Heidi: "I think it's a missile of friendly fire or something like that". Krieger was out on her boat in the Great South Bay snapping pictures of her father, on his boat, with a disposable camera and caught the image of a squiggly white line in the background of one photo. The FBI took it and the negatives.

28. Lenahan, Frank & Mrs. Lenahan Hampton Bay: Were sitting on their outside deck, second story and Frank Lenahan saw two red streaks, very vivid in color ascend from what appeared to be Dune Rd. about two miles away. He bought this to the attention of his wife who was turned, and she saw one streak go west to east, straight across the horizon just above the dune line. They didn't follow the streak(s) all the way up as they assumed it was fireworks. Mrs. Lenahan heard what she thought was thunder followed by a second (sound) which she described as a Concorde Jet, followed by a very large thump which they felt. She knew something wasn't right and she looked at her watch and it was 8:30. *(Suffolk NY Police Reports Case # 96-435598)*

29. Levine, Naneen said "The little red dot went up like this [witness draws trajectory] it sort of curved, it came to just a point where I thought little fireworks were going to come down and it would just fade and be a flare. It looked like a dot, it didn't look like a fiery streak, and it looked like a little red dot that went up. It didn't leave a tail or anything behind, just a little dot. Like I thought it was something on the beach going straight up".

30. McClaine, David: *October 20, 1997. The Press-Enterprise, Riverside, CA.* Eastwind Airlines pilot David McClaine's aerial view of the Flight 800 fireball made him the person to transmit the first known message of the tragedy to authorities. McClaine, piloting a Boeing 737 jetliner, had just leveled off at 17,000 feet on the plane's commuter run from Boston to Trenton, N.J. He had been watching a strange yellow light gradually ascend from the direction of Kennedy Airport. The light was different, he said, not the bright white light that jetliners' landing lights give off. McClaine said he had never seen a similar light in his 30 years as a military and commercial pilot. He thought it might be flames but heard no radio traffic, saw no smoke and decided it wasn't fire. The object moved up past 10,000 feet, where pilots normally turn off the lights they use as aerial warning beacons, but this one kept burning. He fixed his gaze on it for more than a minute, he said, and decided it was time to flick on his landing lights because his 737 would pass to the object's left. Before he could reach the switch, the yellowish light exploded into a ball of flames. "It blew up, just one big explosion," McClaine said. No more than a second later, two streamers came out of the bottom, flames trailing about 4,000 feet, he estimated. He did not actually see TWA 800's fuselage; smoke and flames trailing the plane blotted out the aircraft's debris as it fell 2 miles to the ocean. The yellowish light remains a puzzle. Federal Aviation Administration regulations require white landing lights and airliners have two main lights, not one. TWA's Boeing 747 landing lights are "a very bright, bright, white light," a company spokesman said. Beaver, Jane's missile expert, said a minute would be an exceptionally long burn for a surface-to-air missile but a drone's propulsion system lasts much longer. The BQM-34 "Firebee" drone, for instance, has a range of 700 miles and can stay aloft for about an hour at full speed. Others have longer ranges and flying times. McClaine immediately called Boston air traffic control with news of the in-flight explosion but got no response. He repeated the call twice more. A Boston controller told pilots to stand by for a roll call and orally ticked off the known aircraft. "They called TWA 800 twice," McClaine recalled. "I said, `Boston, I think that's them'. And they said, `That's right.'" He said he thought at the moment that some "on-board incident," possibly a bomb, blew the plane apart, an opinion he still holds. He said he had not changed his original conclusion because he could not say the yellow light was a missile or drone. The incident held a special footnote for McClaine. As a youngster, he took the TWA flight often while traveling between the United States and Saudi Arabia where his dad worked for the Arab American Oil Co. FBI investigators talked to him a few days after the disaster but he hasn't been contacted since, he said earlier this month. He was initially asked if he

saw anything like the trail of a missile headed toward the plane but said he didn't. David McClaine: Eastwind 507 Pilot 8:37:11 Boston: Well, I want to confirm that you saw the splash in the water. 8:37:20 Eastwind 507: Yes, sir. It just blew up in the air, and then we saw two fireballs go down to the water. ... There seemed to be a light.... I thought it was a landing light, ... and it was coming right at us at .. about ... I don't know .. about 15,000 feet or something like that, and I pushed my landing lights, ah, you know, so I saw him, and then it blew. 8:37:40 Boston: Roger that, sir, that was a 747 out there you had a visual on that. Anything else in the area when it happened? 8:37:47 Eastwind 507: I didn't see anything. He seemed to be (alone?). I thought he had a landing light on ... maybe it was a fire ... I don't know.

31. Meyer, Fred: Meyer's attention was first called to the area ...."by a streak of light moving from my right (west) to my left (east)," the same direction as the TWA flight, he said.....Baur, on the left side of the cockpit, saw a streak moving from left to right toward the approaching TWA aircraft before the initial explosion. The streak of light that Meyer saw .....was red-orange in color .....there was what Meyer describes as a hard, very sudden, yellowish-white explosion that looked identical to the detonation of an anti-aircraft shell ....."It left a cloud of smoke just like a flak explosion does," Meyer said. "One to two seconds later, there was a second, hard explosion almost pure white in color ... almost immediately there was a third explosion and fireball"....Baur also saw three explosions ...he contends that they started from left (east) and went to the right (west).... The call sign that night for Baur and Meyer was Jolly 14. The helicopter (a HH-60G Pave Hawk) was descending through 200 feet above the airport when Baur's eye was caught by some sort of light. According to the crew, Baur called out over the intercom to his flight engineer, MSgt. Dennis Richardson, "Hey Denny, is that pyro?" Within seconds he saw a hard explosion. Richardson, shifting in his seat from behind Baur, did not see the streak but did see the explosions.

32. Meyer, Fredric C: "I know what I saw. I saw an ordnance explosion. And whatever I saw, the explosion of the fuel was not the initiator of the event. It was one of the results. Something happened before that which was the initiator of the disaster." - Frederick C. Meyer, An Air National Guard helicopter pilot who witnessed the explosion of TWA Flight 800; *7/29/97; Riverside Press.*

33. Miron, Darou J. and Mrs. Miron: Witness states that he and his wife were camping at Smith's Point Beach and while walking southerly near dump station by front office he noticed a white streak moving skyward from southeast of his location. He could not tell how far away or did not observe where the streak originated from ground or water. The streak burst into yellow sparks after a riff of smoke then orange flames descended to water in two orange (?). Witness states he observed the lights of a ship or boat in the area of incident the night before but were indistinguishable with binoculars. Craft seemed to remain stationary for a long period of time. *(Suffolk NY Police Reports Case # 96-435598)*

34. Weiss, Philip: "It's (the CIA) message to the eyewitnesses: Shut up, you didn't see anything." - - The New York Observer - November 24, 1997

35. Moorer, Adm. Thomas: "All evidence would point to a missile. All those witnesses who saw a streak that hit the airplane...you have to assume it's a missile. In an investigation like this, you can't overlook anything." - Adm. Thomas Moorer, former Chairman of The Joint Chiefs Of Staff; *Louisville Courier-Journal, 1-9-98*

36. Naples, Jim: Naples, Jim at helm small pleasure craft - Wife, Roseann - Daughters, Kathleen and Charlene - Total - 4 witnesses "All of a sudden my wife goes, 'Look' and we look. We see this flare. "We know what we saw. We weren't drunk. I looked up and my immediate response was, I never saw an alert flare like that. It was projecting upward with a stream of smoke behind. I don't think our accounts will be reflected in the final version [of the FBI report]. I have a hard time believing that the

FBI believes its conclusions. I don't believe that the truth is ever going to come out." - Jim Naples, Flight 800 eye-witness; *November 24, 1997, The New York Observer, (p.16)*

37. Osborn, Carolyn: "CIA analysts have determined that the eyewitness sightings thought to be that of a missile actually took place after the first of several explosions on the aircraft. Our technical analysis concludes that what these eyewitnesses saw was in fact the burning [Boeing] 747 in various stages of crippled flight, not a missile." - *CIA spokeswoman Carolyn Osborn - September 24, 1997*

38. Marcone, Paul: "She [Ms. Osborn] said they were mistaken in what they saw. That's not very professional, and it's not the way to dispute eyewitness statements. Those witness statements should be part of the public record. And they [the FBI] have to come up with a credible scenario of why the eyewitnesses saw what they saw." - *Paul Marcone - Press Secretary to Rep. James Traficant - House Aviation Subcommittee*

39. Patrick, Bill: *Posting an E-mail on September 19, 1997.* I was First Officer on TWA 900 and took off 2 minutes behind 800, following essentially the same flight path. We were at 19,000' and approx. 10 miles in trail of 800 when it exploded although we could not see it. In flight visibility at our altitude was fairly poor due to haze and approaching dusk. The conditions at all altitudes were hazy but much better lower. I can not comment on surface visibility at the crash scene but I would be surprised if the actual aircraft was visible from the surface prior to the explosion. Once the a/c exploded it would certainly be visible. I know personally of one eyewitness that was fishing off the coast and saw a "flare" go up from a surface vessel on the horizon and was followed by the explosion overhead moments later. He then guided his boat to the wreckage of 800 and never saw the surface vessel again. He could not describe any details except to say that it was about 10 miles away

40. Penney, Roland: *Interview by Cdr. Donaldson presented at the AIM conference October 18, 1997.* They said "Are you sure you didn't see something going down ...and not going up"? ..... I said "No.... Gosh sakes I ain't that stupid, I ought to be able to tell if something is going up in the air or going down in the air .... No and I said I'm not changing my mind about it ... I'll stick to that until I die. I said I saw something going up and I said there was no question in my mind. I said I'm telling you what I saw. I'm not telling you what I think I saw. I said I saw something and..... that's the way I am stating it. I'm not trying to make up a story just to be on the news or whatever... I said I have no desire to be on the news - I don't even want to get involved in this stuff anymore. But I said there was definitely something going up and then it went behind ... I said I'm assuming it's a cloud and then we saw this white light. Donaldson: OK. And when we were off .. when the recording was off ... you mentioned that a neighbor ... we won't mention the name .. but had a similar experience apparently with an FBI interview that they were trying to get her to say that it was going the other way...Penney: That's right Donaldson: And she talked to you on the phone and got a little bit ....Penney: She was upset because she says I'm a grown woman - I don't drink and she says it wasn't because I had alcohol in me. She says I saw something definitely going up and there is no question in my mind about that and she says I'm not changing my mind either.

41. Perry, Lisa - *Dan's Papers, Long Island, May 15, 1998* I saw the missile. I was facing eastward, toward the Hamptons, the ocean on my right, the deck of the house on my left. The deck is about 22 feet above the beach. On a clear day, as you look straight down the beach along the line of the shore, you can see the parking lot at Smith's Point Beach, 12 miles away. There was a plane in the sky ... out from the left, from the North, something was moving North to South over the dunes ... from the direction of the Great South Bay. The object came over the dunes of Fire Island. It was shiny, like a new dime; it looked like a plane without wings. It had no windows... It was as if there was a flame at the back of it, like a Bunsen burner .... It was like a silver bullet ... It was moving much faster than the plane. The silver object took a left turn, and went up to the plane. The plane stopped for an instant, as

something would when it had suffered an impact, not just an explosion. Then it began to fracture - as if you had slammed a frozen candy bar down onto a table. You could see the spaces in between the parts of the plane. Then a moment later there was another explosion and the plane broke jaggedly in the sky. It was sideways to the way it had been ... there is smoke, fire .. the plane starts to fall apart in the sky ... the nose is continuing to go forward: the left wing is gliding off in its own direction, drifting in an arc gracefully down; the right wing and passenger window are doing the same in their direction out to the right; and the tail with its fireball leaps up and then promptly into the water below. The sounds were Hugh BOOM! - then another BOOM! There was a huge rumbling rolling in the sky…. I told the FBI the nose of the plane had come off; and I told them this before the Navy pulled it out of the water. (Mrs. Perry was interviewed by the FBI)- The two agents were very supportive; I was very comfortable with them .. I got the impression that they themselves thought a missile had hit the plane. After the (NTSB) hearings I spoke with one of the agents, who told me the FBI had concluded I was too far from the accident to see what I had seen. (Speaking of the CIA video) It wasn't like that at all. They said most people turned to the sound and then saw something. I was already looking at the event, before any explosion. Having asked for a copy of her testimony to the FBI she was told to file a FOI request. I knew what I was seeing was a plane breaking apart with people in it. It still haunts me how it continued to be in the air not quite flying but not exploded apart. I'm heartbroken for the families of all those people who were on that plane.

42. Runyan, Paul told the *N.Y. Daily News, 11/09/96*: "It looked like a big skyrocket going up". The flash looked "like a rocket launch at a fireworks display".

43. Stratemeier, Colonel: - Pilot "said he had seen what appeared to be the trail of a shoulder fired SAM ending in a flash on the 747"

44. Terney, Phyllis: Terney stated that she was in her boat proceeding southerly while entering Mt. Sinai Harbor on the north shore of Long Island. About 2030 to 2035 hours on the date of the incident she observed what she thought was an orange flare rise just above the tree tops to the south, southeast of her location. She estimated the orange explosion to be approximately 20 miles to the south of her location and thought a house exploded. *(Suffolk NY Police Reports Case # 96-435598)*

45. Verardi, Carlo: Stated that he was driving his van on Route 27 through the center of Moriches and directly to his left he saw a gray smoke trail traveling at a high rate of speed and where the trail terminated an explosion occurred. He designated it was going straight up not zig zag and was visible for a time after the explosion. From the time he spotted trail to time of explosion he guessed 37 seconds. Trail of smoke 5 miles to the south.

46. Walsh, D.A: "It is No rumor about sabotage or a missile. Having lived on Long Island for 24 years and only 8 miles from the crash site I am familiar with the area and too many of us saw what happened that night. I believe that someone is trying to cover up for mistakes."

47. Wendall, Ken, Sven Faret's Passenger: "My first impression was that the National Guard had shot down one of their own planes."

EXHIBIT 26 - OTHER REPORTED MISSILE SIGHTINGS

Provided by Michael Hull

June 25, 1987 NY Times on June 27, 1987

The National Weather Service doubts it was theirs and the Defense Department insists it wasn't theirs. About the only thing the Federal Aviation Administration can say about the object that encountered a Delta Airlines Jet-At 29,500 feet Thursday is that no one is likely to find it. The pilot of Delta Flight 1083, flying 60 people from Pittsburgh to Atlanta, told investigators that an object, which appeared to be a missile, seemed headed straight for his Boeing 737 before passing to the side and slightly below. "The pilot described it as a rocket or missile about 4 feet long, with fins," a Delta spokesman, Bill Berry, said. "It went so fast that's all he saw." The aviation agency said it would probably never know what had the encounter with the jet 31 miles northeast of Charleston. Kathleen Bergen, an agency spokesman, said it was left with two explanations: The official one is that it was a promotional balloon that escaped. "Balloons can travel pretty far" she said. "We don't acknowledge the existence of UFOs."

Mid-year, 1992 Reported in alt.disasters.aviation on Wed, 21 Jan 1998 18:08:48-0800

Christopher Coon wrote: The TWA Missile Conspiracy notwithstanding, here is a "rogue missile" event straight from the participant (me, as a controller at L.A. Center). In mid '92 I was working a UAL 747 climbing out of about 23,000 near Victorville, California (about 50nm NE of LAX). 23,000, by the way, is in what is called "Class A" airspace (back then, "Positive Control" airspace), meaning nothing--absolutely nothing, military or otherwise--may fly above 18,000 feet without the controller knowing about it and approving it. About 30nm to the north is a huge military restricted area, R-2508, in which the military can play their games as they wish, without notifying FAA controllers. All of their activity, though, must remain within the lateral confines of the restricted area, unless they coordinate a "whisky alert," and identify the accidental spillout. There was no such notification on that day. The 747 pilot suddenly came on and told me a "rocket of some type" just missed their aircraft, passing about 500 feet below. He said it went by at "3 or 4 times the normal closure rate." 3 or 4 times normal closure rate of a head-on Jet-Aircraft comes out to about mach 2. I saw absolutely nothing on radar, and told him so. I pulled up the primary (raw radar) targets, but there was absolutely nothing in his area. He elaborated that the "rocket" was about the size of an F-16, and was heading in the opposite direction (i.e. southwest). I alerted the sectors in its possible path, and alerted my supervisor, who just scratched his chin and said "Hmmmmm." There was no collision, and no loss of life, so it was left at that. The pilot was alarmed enough to report it, though, and I subsequently saw a short article about it in Aviation Week & Space Technology (early August, '92), with a "mysterious black aircraft" slant instead of a "rocket" like the pilot initially reported to me. The voice and radar tapes were pulled, but they revealed no further info, and the cursory investigation was dropped.

October 11, 1994 Associated Press report datelined 09/28 23:55 EDT V0009 (1994)

A State bomb squad destroyed a French-made surface to air rocket launcher armed with a live missile and explosives ....along a rural roadside in Westminster, Maryland.

November 17, 1995 22:20 (EST)

Lufthansa 405 (747) departing JFK at 9:20pm bound for Frankfurt at 25,000 feet, south of Long Island, reported an object flying directly opposite its course about 2-3,000 feet above them. Confirmed by British Airways 226 (747). Directly north of W-105. Large bright light in front, no red or green beacons, long green light in rear and left a vapor trail. "It was looking strange". "Looked like a green trail on it, and a very bright light on the front of it". "It was looking very strange, with a long light, in the tail". "It did have a very strong trail to it...a vapor trail, which looked more like smoke. And the light on the front was very, very bright" "It didn't have any lights...((normal)) lights, beacon lights, or red or green lights. Only a white

light in the front, and with a long green light. The FAA transcript of the controller - pilot conversations on this incident are public.

November 17, 1995?
November 17 is considered the most probable date based on Lufthansa sighting above but alternative dates are November 22, 1995, February 2, 1996, or March 8, 1996 with March 8 being the second most likely date. Missile or rocket launch witnessed by Michael Hull from I95 in Connecticut off the highway or from Long Island Sound. Hull was driving along Interstate 95 (Connecticut turnpike) going to Stamford and was between exits 4 and 6 when suddenly to the right front side of his car there was a flash through the trees and then a very white, bright streak, was observed rising, accelerating extremely rapidly in the direction of Long Island Sound and arching across the sky. The incident was reported to the FBI.

July 17, 1996 TWA 800
James Kallstrom: "We do have information that there was something in the sky. A number of people have seen it. A number of people have described it similarly. It was ascending." Sikorsky aircraft in Stratford CT [less than 100 miles from the disaster] indicated that Sikorsky's radar at its airport picked up an air to air missile. The radar was on tape and was turned over to the FBI. Sikorsky is a manufacturer of helicopters for the military and has extensive facilities in Stratford, which is on Long Island Sound.

August 29, 1996 Reported in the NY Times on September 9, 1996
The pilot of an American Airlines jet reported that he saw a missile off the wing of his 757 plane while he was traveling from San Juan to Boston. The plane was over Wallops Island, VA. According to the NTSB's report on the near- miss, "the missile was a Black Brant V missile, with an inert payload and was launched ... in support of the Department of Defense."

November 16, 1996 22:00 (EST)
Pakistan International Airlines Flight 712 Leaving Kennedy at 9:25pm, bound for Frankfurt. The pilot, W. Shah, said his co-pilot saw an orange light coming from the left hand side to the right hand side of the airplane. The object was 3 - 4 miles in front of the aircraft and above it. Shah was told by Boston controllers that there were no military exercises in the area. Boston apparently confirmed 'two unidentified blips' on radar. The tapes have been turned over to the FBI and NTSB. The object(s) rose directly out of Long Island Sound and ascended almost vertically. The Pakistani crew just saw a flash, and apparently a TWA crew, which was behind the Pakistani, saw the whole thing. The TWA crew was so alarmed by what they had just seen that they considered returning to JFK. Later, they requested clearance to skirt the area where the light had been seen. Radio 5 in the U.K. reported that the object which crossed the Pakistani aircraft had exploded. (On a subsequent McNeill - Lehrer newshour when asked about the direction of the object Mr. Kallstrom replied, "ascending".)

Another report on this incident stated: This evening I flew flight 1504 FLL to BOS. It was an extremely clear night over the Eastern Seaboard. You could see the Connecticut shoreline from Cape May, NJ. We were at FL 330 just east of JFK proceeding direct to PVD. It was about 10:15 PM when an aircraft asked center the following question: were there any fireworks going off in the area. Center replied in the negative, to the best of their best knowledge. The aircraft then reported they had something streak up towards them from the left and pass in front of them and through their altitude. There was silence on the frequency. I asked center the position of the aircraft reporting the event. Center replied 20nm south of HTO. It was a foreign carrier, but judging by the accent of the pilot, I would say it was Air India or Pakistan Intl. I didn't get a call sign, and to my surprise, center did not ask any more questions. It was a crystal clear night, and we could see the Hamptons from our position. There were no fireworks taking place anywhere. Unless the controller was working both frequencies, the aircraft was at least climbing to or in the high sector. I did a

little bit of checking, and found out Air India leaves at 7:30. PM, and Pakistan Intl. leaves at 9:45 PM from Kennedy. It doesn't really matter who it was. Fact is someone reported a streak that came from the ground and to the left of them and passed in front and through their altitude. It was 10:17 when center replied to me that the aircraft was 20nm south of Hampton. Is it merely a coincidence this is close to where TWA 800 blew up, or is something else going on? I don't believe the aircraft was flying inverted and that was a meteor that streaked by their windshield. Again I was amazed at the silence of the controller after the report. This event certainly got our attention.

November 17, 1996 WCBS-TV
WCBS-TV reports that last night Pakistani International Airlines flight 712 radioed Logan International (Boston) that a missile had just flown by their plane (the story implied 'just missing them') ...Boston confirmed 'two unidentified blips' on radar at the same time as the PIA report.

November 17, 1996 Associated Press
FBI spokesman Joseph Valiquette said Sunday, "At this point we don't know what, if anything, was seen." Shah (pilot of PIA 712) said they were told by Boston air traffic controllers that there were no military exercises in the area. He also said the pilots were interviewed by officials with the U.S. Embassy in Frankfurt... A TWA plane flying immediately behind the Pakistanis jet Saturday made a similar sighting and asked to turn around .... The TWA plane was rerouted and the air corridor used by the Pakistan Airlines flight was closed.

December 12, 1996
A Saudi Arabian Airlines crew reported sighting a bright greenish object streaking by their plane as it approached Kennedy Airport Thursday morning. It was approaching Kennedy airport, 15 miles south west of East Hampton, at about 12,000 feet when the object appeared on radar. At least one crewmember saw the object from the cockpit window for about two seconds.

February 7, 1997
Passenger from JFK to Atlanta on Delta Flight 592 (which had a scheduled departure of 6:45 am) between 7:15 and 7:30 am seated on the left side of the plane observed a missile/rocket. It was an early morning flight and after a delay of about half an hour the plane took off. It was a very clear morning with excellent visibility. She had taken a window seat on the left side of the plane. About 10 minutes into the flight the plane had just finished a rather wide turn and had reached about 8-10 thousand feet. It was still climbing but had taken a course heading that took it over the coast. Passenger could see the coastline all the way down to her left and the ocean beyond. As she looked down she saw a trail of light gray smoke pouring out of a missile that came up from the ground (she could see the smoke trail) it arched out pouring smoke from the rear, wobbling as it went and took a heading parallel to the coastline. There were no visible fins or coloration of the fuselage. It was about 2,000ft below the left side of the plane moving she believed in an easterly direction following the coastline but inland perhaps a mile or two. The plane was, she believes, heading in a southerly direction directly across the coast and then over the Atlantic. At the time she was a bit amazed at what she was seeing and remember saying to herself "Thank God it is going in the other direction." The missile was land-launched missile about 2 or 3 miles inland from the coast of eastern Long Island. She called Delta Airlines on 4/16/97 in Atlanta and spoke to Warren Garland (Mgr. of Consumer Affairs?). Her presence on the flight was confirmed and great interest was shown in what she had to relate. She also called TWA on 4/17/97 and again much interest was expressed. She then called the Airline Pilots Association (AOP) in Virginia and again there were many questions and much interest. She finally called the FBI in Melville on the same day or within a day or two. The person who handled the call showed no interest compared to the others - almost no questions - a whole different reaction. On 5/12/97 she called a Newsday reporter after seeing a TV interview of one of the Newsday reporters who said almost everyone

believed the TWA crash was due to mechanical failure. She spoke to a woman reporter who was very interested and called her back with more questions.

March 17, 1997 19:15 (EST)
Northwest Airlines D93 Flight 775 Newark to Minneapolis and Flight 361 A320 LaGuardia to Minneapolis report missile both departing at 6:55 PM about 15 Minutes into flight. Plus Delta and US Airways flights. A Reuter's report of April 10, 1997 indicated that Northwest Airlines pilots reported that they saw what appeared to be a missile or a rocket over the New York area the evening of March 17, the Saint Paul Pioneer Press reported Thursday. In a copyrighted story, the Pioneer Press reported that investigators are piecing together tapes of air traffic control radar recorded the night of the sightings. Two other flight crews, from Delta Airlines and US Airways have filed similar reports, the newspaper said. The possibility that missiles are flying in commercial airspace is particularly significant in the aftermath of last summer's crash of TWA flight 800 minutes after takeoff from JFK International Airport in New York, the Pioneer Press said. The pilots of a Northwest Airlines DC-9 reported a possible missile sighting about 15 minutes into their flight from Newark International Airport in New Jersey in March, according to the Newspaper. A second Northwest flight crew, in an aircraft that left from LaGuardia Airport in New York reported a similar sighting.

August 9, 1997 September 26 Reuters
A Swissair passenger jet flying over New York had a close encounter last month with a weather balloon, the Federal Aviation Administration said on Friday. The crew aboard the Swissair 747, flight 127 traveling from Philadelphia to Boston, said the encounter occurred on Aug. 9 at 5:10 p.m. local time over Deer Park (Long Island), New York. The crew could not identify the object, which the airplane passed at an elevation of 23,000 feet (7,000 meters). The airplane was traveling about 500 mph (800 kph) at the time. A United Airlines flight passing through the same area a short time later identified the object as a large balloon, the FAA said. An FAA investigation of the incident "concluded that it was indeed a weather balloon," FAA spokesman Jim Peters said. He said the National Weather Service balloon had been cleared in advance to be in that area. Swissair spokesman Ulrich Wohn said the pilot followed standard procedure by reporting the close encounter. He said the flight landed on time in Boston and continued on to Zurich without incident. "At no time were any of the passengers at risk," said Wohn. "They didn't even see it."

September 27, 1997 Electronic Telegraph Issue 856
An unidentified object narrowly missed a Swissair jumbo jet with 64 passengers aboard at 23,000 feet near New York, a company spokesman said yesterday. The object was described by the 747 captain as "elongated, white and without wings" but the co-pilot recalled it as being "more spherical". American aviation authorities dismissed speculation that the object was a missile and said it was a weather balloon. Swiss Radio reported the captain as saying he did not find that explanation credible although neither he nor his co-pilot thought it was a missile. The near-miss occurred on Aug 9, close to the spot where a TWA airliner exploded in July last year with the loss of 230 lives. Swissair flight 127 was traveling from Philadelphia to Zurich via Boston.

EXHIBIT 27 - LETTER TO DEPUTY DIRECTOR KALLSTROM

March 17, 1997

Philip E. Kuhlman
389 West Shore Court
Moriches, New York 11955

Dear Mr. Kallstrom:

I am a retired Sa of the FBI who incidentally resides in the vicinity of the area where TWA flight 800 came down.

I feel constrained to write this letter to you in view of all of the furor recently over the possibility of TWA flight 800 being brought down on July 17, 1996 by friendly missile fire. This letter could indicate that possibly flight 800 might have been brought down by hostile missile fire.

On Monday, July 22, 1996 I belatedly read the following newspaper article which appeared on page 186 of Dan's Papers, July 5, 1996 edition under the heading of "U.S. Coast Guard Blotter". (Dan's Papers is an Eastern Long Island weekly newspaper.):
" A sailing vessel hailed Coast Guard Station Shinnecock on channel 16 VHF-FM at sunset on June 26, reporting three red flares. The /coast Guard 41 foot Utility Boat responded to the reported position, 25 nautical miles south of Shinnecock Inlet. Station Shinnecock searched throughout the night, along with a Coast guard helicopter and a fixed wing plane from Air Station Cape Cod, with no results. The Coast Guard rescue helicopter returned at sunrise and found no evidence of any distress."

Upon reading the above, I became curious when I realized that this "red flare" incident occurred on the same day of the week, a Wednesday, as the downing of flight 800 only three weeks earlier. It also happened at approximately the same time of day and at approximately the same location. I wondered whether this could be a test missile firing on June 26, or perhaps could it be a failed attempt to bring flight 800 down on that date? Also, could it be that the missile was fired from an innocent looking vessel or from a hostile submarine which had already submerged.

I thereafter called the Shinnecock Coast Guard Station, 726-0678, at about 7:00 P.M. on July 22 to report this information. There I spoke to petty officer, Ramos, who told me he was very busy at the time but assured me he would report the information to his superiors. Hearing nothing further from the Coast Guard, the next morning at 10:30 AM, I drove down Atlantic Avenue in East Moriches in order to present this information either to you, Mr. Kallstrom, or to another FBI agent. Before reaching the Coast Guard area however, I was stopped by a Sgt. Hunt, badge #794, of the Suffolk County PD who refused to let me proceed further or even speak to an FBI agent even after I identified myself as a retired FBI agent. At about 2:05 P.M., after returning home, I called the FBI command post at 1-888-245-4636, where I spoke to SA MAI of the FBI. I explained the contents of the above newspaper article to him. Sometime between 4 & 4:30 P.M., on this same date, I received a call from SA Chris Brycleand who made an appointment to come to my home later that day. At about 7:15 that evening SA Chris Bryceland of the NYO together with

officer Robert Staab, criminal intelligence, Suffolk County PD came to my house. I made available to them the entire July 5, 1996 edition of Dan's Papers containing the above information. There followed a lively discussion of the possible significance and importance of this incident. Both men appeared to share my enthusiasm and assured me that every aspect of this incident would be investigated.

I heard nothing further, from any source, concerning this matter and had only assumed it had been thoroughly investigated and found to be of not consequence. However, now with the increased speculation at the present time that a missile may have been responsible for the downing of flight 800, I felt this matter should be brought to your direct attention.

In the unfortunate event that this matter had "fallen between the cracks" and received no further attention, it should now be given serous attention. At this late date at least a thorough check of the Coast Guard records concerning the "three red flares" sighting on June 26 should be undertaken. Further, an attempt should be made to identify the reporting "sailing vessel" and to interview all persons aboard that boat that evening. Also, all Coast Guard personnel aboard the Coast Guard Utility Boat, helicopter and fixed wing plane should be interviewed for an pertinent information. It should be ascertained whether the Coast Guard made any visual or radio contact with any vessel in the so-called distress area at that time. Finally, if further suspicion warrants it, it might behoove the FBI to check this passenger list of flight 800 for the evening of June 26 to determine if any passenger was also on the ill-fated flight 800 on Wednesday, July 17.

I am sending you this letter at this time only to make certain that the information I had earlier provided has, in fact, been thoroughly checked out and eliminated. Your reply to this letter is respectfully requested.

Very truly yours,

Phillip E. Kuhlman

June 29, 1998

Philip E. Kuhlman
389 West Shore Court
Moriches, New York 11955

Mr. Jerry Cimisi,
Dan's Papers
P.O. Box 630
Bridgehamption, N.Y. 11932

Dear Mr. Cimisi:

I am herewith enclosing a copy of a letter I had sent to James Kallstrom of the FBI on March 17, 1997. The significance of this will become more evident as my current letter unfolds.

Concerning this letter I sent to Kallstrom, much to my chagrin and amazement, I never received an answer from either him or one of his subordinates – not even a brief letter advising me that his matter had been checked out and found to be of no significance. Believe me, in the good old days, which I was still with the FBI and might have been one of the men called upon to assist in the handling of this matter, Mr. Hoover would have insisted that a letter of this nature be answered.

To continue, I am an occasional reader of Dan's Papers where you serve as the Research and Copy Editor. In your recent June 19, 1998 edition of this paper, you wrote an article entitled "A Tale of the Tape". In this article, on page 52, I noted the following: "I (Richard Russell) tried one more question: had the FBI discovered – or did it know beforehand – the identity of the 30 know vessel that was picked up by Islip radar that evening? This was a large, 50 foot plus ship, that had been at sea more or less under the path of Flight 800 and which had steamed away, going Southwest, afterward, over the horizon.

There has been no official identification of this ship and there has been no evidence that this vessel, right beneath the breakup of Flight 800, ever radioed anyone of what is must have witnesses."

Well, in view of his unidentified ship revelation on the night that Flight 800 went down, my curiosity has again been aroused as to the possibility of this vessel being identical with the mysterious "distress" vessel on the evening of June 26, 1996. Again, I feel the possibility exists of unfriendly or deliberate fire being responsible for the downing of Flight 800.

Mr. Cimisi, in reviewing the information contained in this letter as well as in the letter to Mr. Kallstrom, you must bear in mind that all of my information and surmises come from the pages of Dan's Papers, editions of July 5, 1996 and June 19, 1998.

Very truly yours,

Philip E. Kuhlman

EXHIBIT 28 - AVIATION TRAINING AND EXPERIENCE

William S. Donaldson Cdr. USN Ret.

- Civilian
  - Certified Flight Instructor
  - Commercial Single and Multi-Engine Land Instrument Pilot
- Military Experience – 24 ½ years.
  - Navy Attack Pilot, A4, A6 Aircraft, 86 Combat Missions
  - Special Instrument Rated
  - 450 Carrier Landings in 7 Aircraft types
  - Qualified Carrier Transport Plane Commander, day & night
  - Qualified Nuclear Weapons Loading & Delivery
  - Qualified Air Wing Strike Leader
  - Qualified to deliver all air-to-ground conventional weapons.
  - Qualified Jet Flight Instructor in following phases:
    - Advanced Instruments
    - Advanced Aerobatics
    - Advanced Formation
    - Advanced Air to Air Gunnery
    - Advanced Bombing
    - Advanced Rocketry
    - Advanced Air to Ground Gunnery
    - Advanced Air Combat Maneuvering
    - Advanced Low Altitude Navigation
    - Advanced Armed Reconnaissance
  - Qualified Carrier Air Traffic Controller
  - Carrier Controlled Approach Officer – 2 years
  - Served tours in aircraft maintenance as:
    - Line Division Officer
    - Aviation Weapons Officer
    - Assistant Maintenance Officer
    - Maintenance Officer
  - Post Maintenance Check Pilot in 6 aircraft types
  - Graduate of Naval Post Graduate Schools, Long Course, Aviation Safety / Crash Investigation.
  - Served tours as both Squadron and Air-Wing Safety Officer / Crash Investigator for mishaps ashore and afloat.

- Wide spectrum of investigation experience, including a Missile Shootdown, Aircraft recovery at sea, etc.
- Author of Six Technical Articles published for Navy / Marine Corps Tactical Pilots in Approach Magazine.
- Served on temporary assignment as a JAG investigator for Commander in Chief Atlantic, investigating FAA misconduct at Jacksonville Radar Air Traffic Control Center.
- Assigned by Chief of Naval Air Training to personally inspect each advanced jet training aircraft and brief every advanced jet flight instructor on procedures to prevent loss of control ejections during air combat maneuver training. Losses went from 4 per year to zero.

❖ Awards Received

- Defense Meritorious Service Medal
- Meritorious Service Medal
- Air Medal (7 Awards)
- Joint Commendation Medal
- Navy Commendation Medal with Combat V
- Navy Achievement Medal
- Sea Service Ribbon
- Overseas Service Ribbon
- Meritorious Unit Commendation Ribbon
- Navy Unit Commendation Ribbon
- National Service Medal
- Navy E Ribbon (3 Awards)
- Republic of Vietnam Cross of Gallantry
- Republic of Vietnam Service Medal
- Republic of Vietnam Campaign Medal
- Pistol Expert Medal

❖ Professional Education

- Naval Aviation Training – Jet
- Aviation Safety School
- Carrier Air Control Approach School
- Conventional Weapons School
- Nuclear Weapons School
- NATO Nuclear Weapons Release School
- NATO Joint Weapons Targeting School
- NATO Ace Weapons Employment School
- Fire Fighting School
- Jungle, Escape, Survival School (Philippines)
- SERE School, Ramgely, Maine
- AIRLANT Maintenance Officers School
- AIRLANT Administrative Officers School

EXHIBIT 29 - AFFIDAVIT OF NAVAL AVIATOR V25283

Commander William S. Donaldson III, United States Navy Retired

For purposes of certification of the undersigned's expertise, department of Defense Form DD214 is hereby attached. Certified copies are available at the Saint Mary's County, Maryland courthouse, Leonardtown, Maryland.

I William S. Donaldson III, Cdr. USN Ret, being over the age of majority and of sound mind, affirm:

The attached Interim Report, dated July 17, 1998 represents the first findings of facts, opinions and recommendations compiled by the affirmer as a product of an ongoing investigation by a network of Aviation professionals, witnesses and other concerned citizens. This report is an inquiry into the loss of Trans World Airlines Flight 800 at 20:31 EDT, 17 July 1996 off the coast of Long Island, New York. It also covers the subsequent conduct of government officials in conducting the official investigation.

I hereby affirm that the contents of this report are true to the best of my knowledge.

_____

William S. Donaldson, III

Cmdr., USN Ret.

Sworn before me on _____-, 1998.

_____

Notary Public

CONCLUSION

There can be no doubt from this report that a spontaneously exploding center fuel tank was not the cause of the Crash of TWA Flight 800. From the findings of fact previously discussed and the considerable body of circumstantial evidence contained here, one can logically draw the following conclusions:

1. There is no evidence that the Center Wing Tank of TWA Flight 800 exploded due to mechanical failure as the initiating event.

2. There is substantial evidence that the Center Wing Tank was ruptured from an exterior shockwave and exploded late in the breakup sequence.

3. Eyewitness testimony and forensic evidence in the Debris Field and the Flight Data Recorder fully support a missile engagement of TWA flight 800.

4. TWA Flight 800 was destroyed by an airbursting anti-aircraft missile.

5. What is not yet fully known is who fired the missile or missiles, which struck Flight 800.

6. The preponderance of evidence strongly points to a hostile attack by enemies of the United States.

7. The TWA FL800 crash occurred 2 days before the start of the 1996 Olympics in Atlanta.

8. The United States was warned by Israeli intelligence of a terrorist risk to TWA FL800 prior to the event.

9. Two FBI Agents from the Mellville Long Island Office of the FBI witnessed the event. Normal procedures would dictate that the White House was notified immediately.

10. High officials in the White House may have conspired with political appointees in the Justice Department and the Transportation Department to hide the facts from the American electorate prior to the 1996 elections and the Atlanta Olympics.

11. The White House moved quickly when Pierre Sallinger made his missile cover-up allegation, causing Clinton to issue Executive Order 13039 on 11 March 1997.

12. It appears that after the reelection of the Clinton Administration, a decision was made in the spring of 1997, to vigorously promote and blame the loss on a non-existent mechanical failure.

13. The White House appears to have lied to the American public about the significance of specific terrorist threats that predicted the event.

14. The Justice Department may have subverted the air-crash investigation by:
    a. Denying Title 49 crash investigators access to hundreds of eyewitnesses and their testimony.
    b. Denying access to positive explosive residue test results
    c. Denying access to autopsy information and Lab Tests proving shrapnel from the missile warhead had wounded victims.
    d. Denying access to eyewitness accounts of the shootdown by FBI Agents.
    e. Denying access to lab tests on residue samples taken from various critical aircraft parts.

f. Denying access to unspecified real evidence.

g. Denying access to military experts and information pertaining to full sized anti-aircraft weapons

15. The Justice Department may have subverted the air-crash investigation by threatening personnel in corporations Party to the Investigation with Federal Obstruction of Justice criminal prosecution.

16. The Justice Department threatened private citizens with Federal Obstruction of Justice prosecution.

17. The Justice Department may have subverted the air-crash investigation by illegally seizing and failing to return private property, (i.e. Pictures, negatives, videotape, etc.) from citizens.

18. The Justice Department filed frivolous lawsuits against Mr. & Mrs. Sanders and Captain Stacey for an alleged crime the Deputy director of the FBI had already committed himself. (Giving away souvenirs from Flight 800 to relatives of the victims).

19. The Justice Department may have subverted the investigation by delaying the arrests of Captain Stacey and the Sanders family seven months until immediately prior to the Public Hearing in December 1997 in order to intimidate other investigators to keep silent about inside information.

20. The Justice Department may have subverted the investigation by advising witnesses not to speak to anyone else about their observations.

21. The Justice Department may have subverted the investigation by attempting to convince eyewitnesses they did not see what they thought they did.

22. The Justice Department may have subverted the investigation by failing to ensure FBI Agents established a professional database of eyewitness information. FBI Agents failed to electronically record witness statements, establish exact elevation and bearing information on missile sightings, ask questions about missile speeds, or even establish exact GPS fixes of witness positions, or in some cases even go to the witness site.

23. The Justice Department may have subverted the investigation by failing to have victims who were hit by shrapnel properly x-rayed.

24. The Justice Department may have subverted the investigation by having no-nonsense, Title 49 air-crash investigators removed from the investigation.

25. The Justice Department may have subverted the investigation by having the senior check pilot for TWA (a meticulous, Title 49 authorized investigator) charged and prosecuted for having a suspicious residue made available for outside testing.

26. The Justice Department may have subverted the investigation by deliberately establishing an “Us vs. Them” attitude in the FBI inside the investigation.

27. The Justice Department promoted this attitude openly by failure to censure or discipline a rogue FBI Agent who grabbed a TWA captain by the throat and slammed him against a wall at the Calverton hanger. The TWA captain was an authorized, Title 49 investigator who had asked the agent why he brought his wife into a closed, air-crash investigators group meeting. Neither the FBI Agent nor his wife was a member of the group. This was in violation of security procedures.

28. The Justice Department may have subverted the investigation by failing to identify suspicious surface radar contacts and misrepresenting that fact to the media and outside investigators.

29. It is my opinion that Chairman of the NTSB, Mr. Hall, and the Director of Aviation Safety at NTSB, Mr. Loeb, entered into an agreement to promote a center wing tank mechanical failure as a cause in March 1997, in spite of contrary evidence.

30. It is my opinion that Chairman Hall and Dr. Loeb provided false testimony both orally and in writing to the United States Congress and to the American people through the media in the following manner.

    a. By publishing misleading and false stories in the media.

    b. By grossly misrepresenting the flammability of modern Jet-A fuel.

    c. By fabricating an Air Force accident that didn't happen.

    d. By falsely describing a 737 aircraft cabin fire on the ramp in Manila as a center tank explosion.

    e. By misrepresenting three Air Force mishaps involving air refueling tanker aircraft that were fueled with explosive JP4 military fuel as being similar to TWA 800.

31. Chairman Hall and Dr. Loeb may have subverted the investigation in the following manner:

    a. By communicating to subordinates that the official findings of the NTSB investigation cause of the mishap will be: "Center wing tank explosion caused by mechanical failure".

    b. By ignoring all eyewitness evidence.

    c. By ignoring testing or falsely misrepresenting test reports exculpatory to the NTSB theory. These include the CAL Tech fuel test series, the Evergreen Flight test series, the Bruntingthorpe audio and center tank explosion test series and NASA laboratory test series.

    d. By ignoring the 105-millisecond shock wave Doppler sound recorded on the CVR from the first warhead burst.

    e. By ignoring the last data line on the DFDR and the 4 forensic proofs that validate the aircraft power was on until at least 20:31:13.15, proving data on the 12-second line was valid.

    f. By ignoring Captain Mundo's testimony of "no fuel" in the center wing tank.

    g. By ignoring eyewitness testimony, forensic evidence in the Debris Field and other proofs of the catastrophic failure of vertical and horizontal stabilizers coincidental or immediately after loss of the forward cabin.

    h. By changing and rewriting early NTSB findings in order to make them comply with the NTSB theory and public statements.

    i. By deliberately falsifying the Debris Field database to hide early tail-plane failures and the early breach of cabin integrity over the last row of seats that was witnessed by surface observers.

    j. By firing and attempting to have prosecuted the Title 49 investigator who caught the NTSB officials falsifying the Debris Field data.

    k. By shutting down the CVR Analysis Group and withholding from them the data from their own Bruntingthorpe test series that proves the center wing tank was not the initiating event.

    l. By ignoring the significance that a passenger from Row 10, Seat 2 (Frame 615) was the first object in the Debris Field.

m. By ignoring the fact that an external shock wave from a missile airburst striking the aircraft first at Frame 615 will produce a 105-millisecond loud sound on the CVR.

n. By refusing to allow Naval officers responsible for the debris recovery to answer any questions at the Public Hearing in Baltimore, thereby denying Title 49 investigators the opportunity to expose NTSB falsification of the Debris Field.

o. By circulating a rumor at the Baltimore Hearings that Chairman hall wouldn't let the Navy take questions about the recovery effort in order to save the Navy embarrassment about improperly tagging debris.

32. Officials in the White House, Justice Department and the NTSB appear to be withholding information from the American people and the United States Congress that protects the identity and motives of those who attacked TWA FL800.

33. Officials in the White House, Justice Department and the NTSB appear to have conspired with the CIA to produce a videotape that is commonly referred to by aviation professionals as the "CIA Cartoon". This videotape was produced to attack the credibility of hundreds of witnesses, and was contrived by linking a series of gross assumptions and lies that neither reflects credible witness statements or actual forensic evidence.

34. Based on the fact that TWA Flight 800 was the likely target of a State Sponsored terrorist attack, which is an Act of War, and the fact that the Administration has covered up this act for political expediency prior to the 1996 election , the Congress should do one or more of the following:

a. Hold Congressional Hearings into the cause of the crash of TWA Flight 800.

b. Request the Justice Department appoint an Independent Counsel to investigate.