

What The TWA Flight 800 Witnesses Saw

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MY INVOLVEMENT

I was responsible for the Systems portion of the Flight 800 investigation, which meant spending more than four years looking into and documenting all of the wiring, plumbing, motors, sensors, etc. Dr. Merritt Birky had the Flammability portion so we worked very closely on the cause of the accident and wrote large portions of what became the accident report.¹

When we arrived on the scene that first morning, my initial task was to organize the processing flow for the pleasure boats dropping off debris and bodies which had been floating on the water and we read witness reports collected by the FBI in the evenings before the Witness group was established. On the second morning I became part of recovering bodies and debris, initially on a New York Fire Department boat, then the Pirouette which was using a remote operated vehicle (ROV robot) for us to identify wreckage, then I was part of recovering major wreckage on the USS Grasp and Grapple recovery ships. The Grasp and Grapple recovered the significant and focal parts of the center wing fuel tank (CWT) which we then reconstructed in Calverton, New York.

I was not part of the Witness group, but worked with their members and once the reconstruction was assembled at the NTSB Training Academy, I taught a course about all aspects of the accident investigation for more than 20 years. I became very familiar with every possible bomb, missile, lightning, cell phone, and other explanation. Since 1996 I have spoken at length with a number of people who are caught in conspiracy thoughts and have been wrongly accused of being part of a cover-up.

Why write this now? I feel it is time to relate this material to the public while I can.

Now that the reconstruction is being retired and I have retired from the NTSB, now that the classes have ended, I would like to present the best possible explanation for what the witnesses actually saw on the evening of July 17, 1996. The only new pieces of information are having actual shoot-downs to use for comparison and being able to show the performance of 1996 anti-aircraft missile technology from a public sources. (Figures 2, 4, and 8) Otherwise, not one new fact is being presented and everything here is somewhere in the NTSB dockets and the public report on the accident from August 2000.

The final graphics were created with Google Earth which was not in wide use at the time. The problem has been that the amount of information is so great that the public has overlooked the most obvious and simple explanation. I have been presenting these for years at the NTSB Training Center and it was discussed at the end of the investigation before being dismissed as unneeded, because the basic information was in text and the report was already finalized.

TERRORISM IN GENERAL

The thought of terrorism was a natural because the accident was two weeks before the Olympics in Atlanta, the World Trade Center basement truck bomb was a recent memory, and a terrorist named Ramsey Yousef had recently bombed a different 747 (PAL 434) over the Pacific Ocean, killing an

¹ NTSB Report DCA96MA070, In-flight Breakup Over the Atlantic Ocean on July 17, 1996, Adopted August 23, 2000
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innocent passenger. Plus, there were all the witnesses to the TWA accident who swore they saw a missile. The following day the investigation was already burdened with press speculation. (Figure 1)



Figure 1. Press speculation about bombs and missiles began the day after the loss and was in the papers on the second morning.

There were many very honorable and competent FBI agents involved. Unfortunately, conspiracy theories take on a life of their own and boosting this one was that some FBI agents doing the interviews added their own assumptions by asking witnesses leading questions such as "Did you see a missile?" rather than simply "Step me through what you saw."

Finally, if a missile had been launched from a ship as some allege even today, it is inconceivable that nobody in a crew of sailors averaging 19 years old would phone their hot girl friend or mommy to say "You wouldn't believe what I saw." That none of them would spill the secret when drunk for this much time. Further and after nearly 27 years, the Government has proven over and over again that it is incapable of keeping a secret, especially over longer periods.

PHYSICAL

The CWT was surrounded by a significant amount of structure, human bodies, seats, floor panels, cargo, tires, and full fuel in the adjacent wing tanks. We found and reconstructed all of the tank walls except a portion of slightly under two square feet where the left wing spar broke. Some believed in what was called the "Golden BB" theory, in which a single fragment of a missile warhead could have penetrated the airplane to reach the fuel tank through that small hole, despite our having reconstructed the fairing which would have been beneath that full area. Most importantly, airliners known to be shot down since

TWA have clearly and repeatedly shown that the destruction caused by a missile is created by what appears as a shotgun blast and there was none in any of the TWA wreckage. (Figure 2)



Figure 2. Shotgun type of damage inflicted on structure on a Boeing 777, operating as MH17 when shot down over Ukraine in July 2014. (Press)

The fact is that there was no evidence of bomb or missile damage in the reconstructed airframe. Period. Literally (tens of?) thousands of people have gone through the reconstructed wreckage at the NTSB Training Center since 2001. Despite being allowed to go where they wished (within limits of safety), none has found evidence of something different or criminal in more than 20 years of allowing visitors.

As described in the NTSB report, there were five indications of a short circuit immediately before the explosion and those involved fuel quantity system wires leading into the heart of the fuel tank. The cause was not “unknown;” the issue which the NTSB could not resolve was WHICH of the potential short circuit paths was the source of ignition.

PROBLEMS WITH POTENTIAL MISSILE THEORIES

The missile theories are also amazing because they are not backed by the more than 20 radars following the airplane and following everything else in the airspace.² (Figure 3)

² See the NTSB report for extensive examinations of potential anomalies.

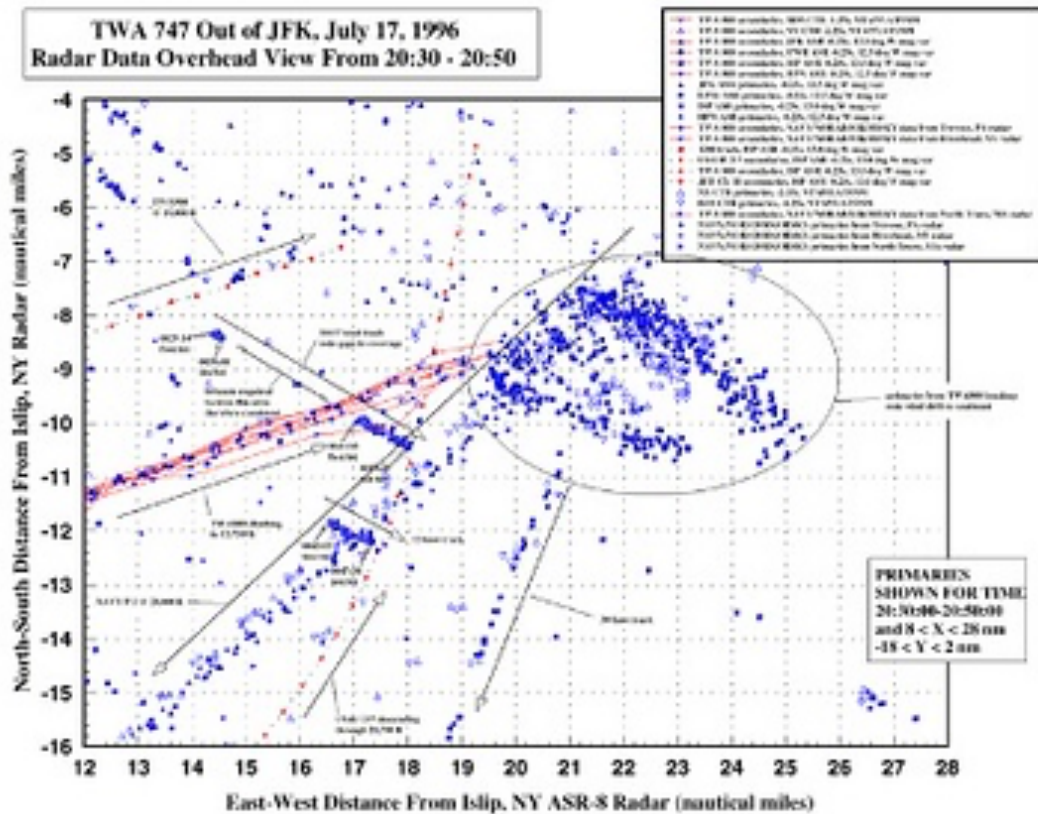


Figure 3. The TWA airplane tracks in red and list of radar stations in upper right. (NTSB Report)

The only way that we at the time could figure that something could come from ground level AND be too small for radar to pick it up AND have the range in altitude meant it had to have been a shoulder launched man portable launchers (manpad) such as a Stinger. Many videos of these launching have been made in the war unleashed by Russia on Ukraine. A major problem with this theory was that most manpads in service at the time could not travel more than about five miles or reach more than about 10,000 feet in altitude and the airplane was at 13,800 feet. (Figure 4)

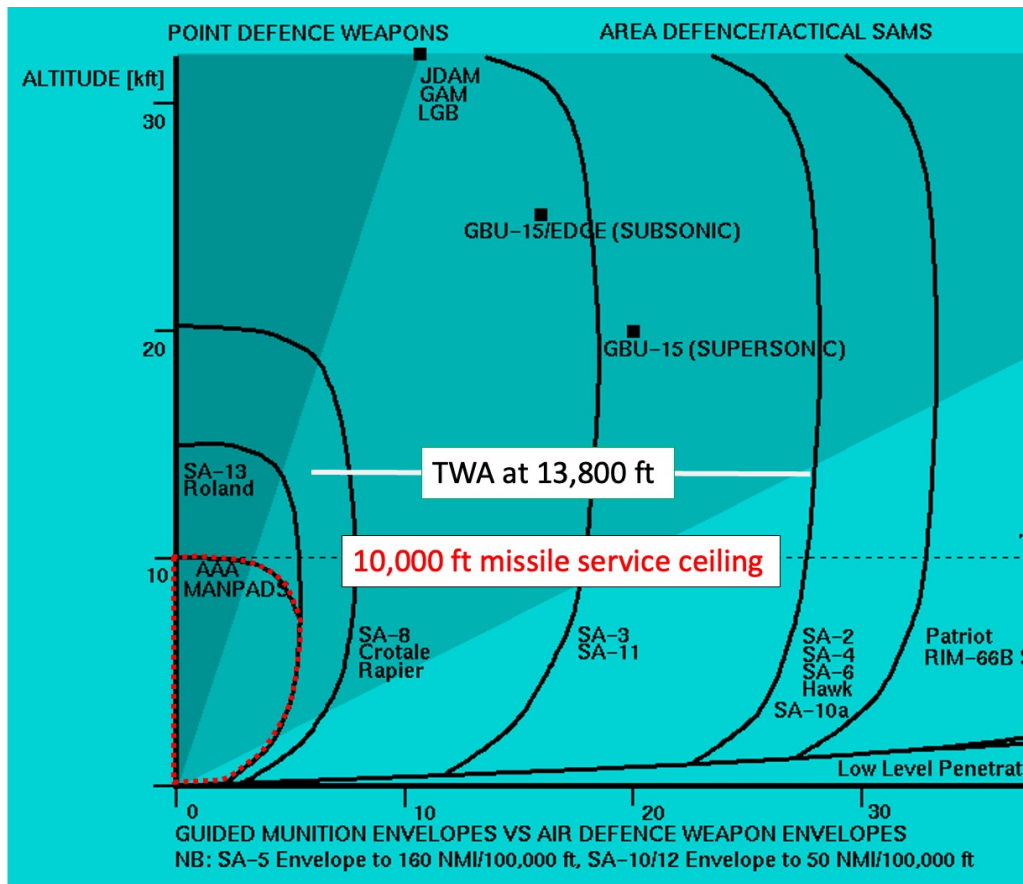


Figure 4. Range and altitude limits for many anti-aircraft missiles in 1996. Note that missiles larger than the manpad (red) should have appeared on radar.

Newer anti aircraft missiles with greater capabilities were coming into service so the NTSB accounted for those in the report when it determined where a potential launch point would need to be located. This created the next obstacle to the missile theory because the launch point needed to be in a very specific place on the water almost directly below the approaching airplane. (Figure 5) The exhaust of the launcher would have been down into the boat and all of the witnesses would have said it went straight up, not east or west as discussed later.

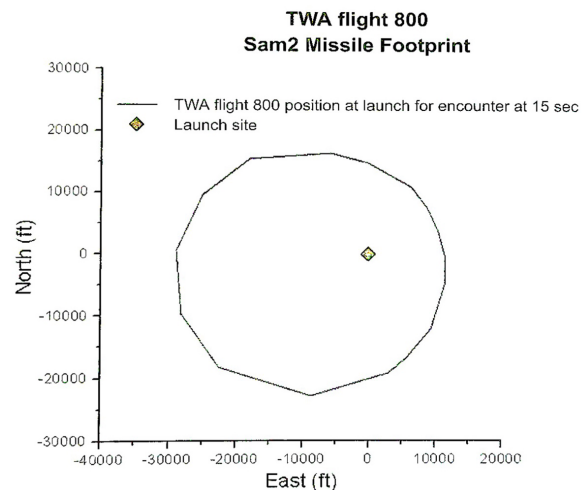


Figure 5. The required location for a missile launch to reach the TWA airplane. (NTSB Report)

A major failing with this theory was that there were at least 6 witnesses within 5 miles (Figure 4), those people were all interviewed, and none said "Gee everything was great till a rocket went up from this boat that was near us." This is the kind of stuff you can't cover up. Another is that the missile launcher would have been expendable once the missile left the tube and the bottom of the ocean was repeatedly scoured for months without finding evidence of a launcher.

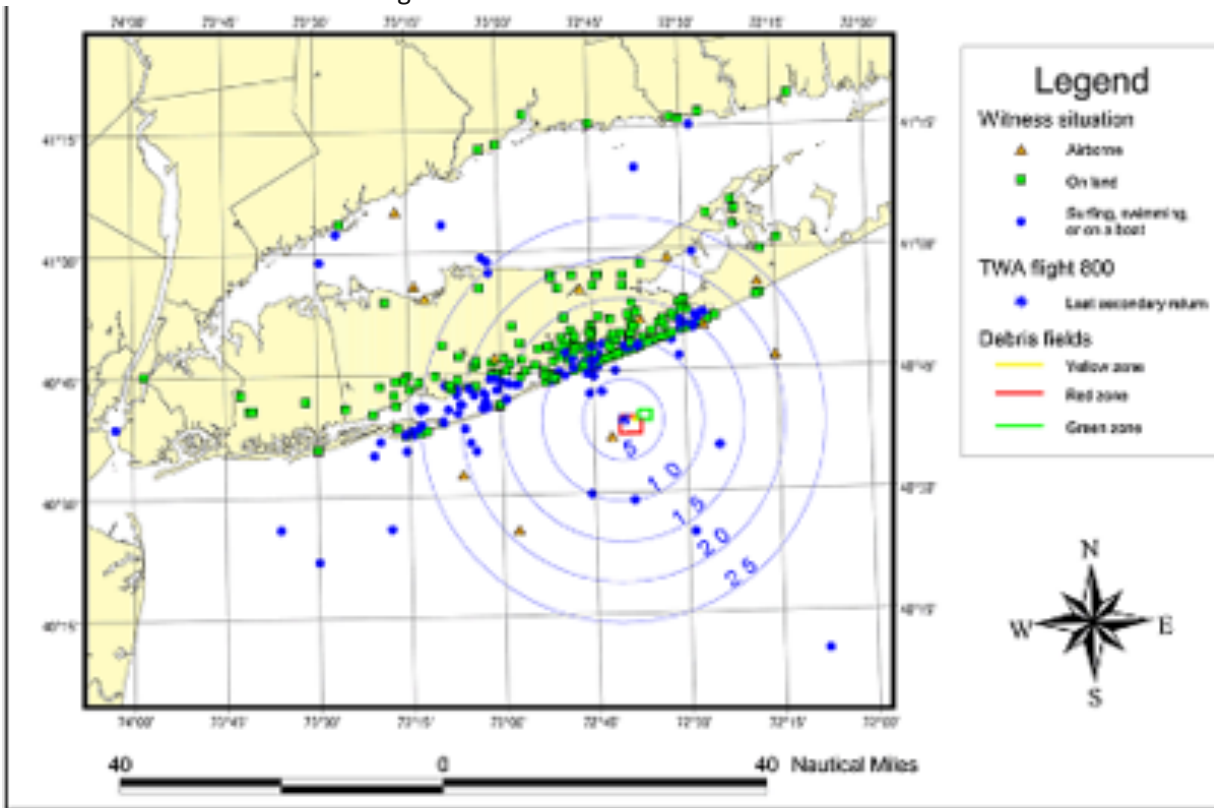


Figure 40. Map showing the witness locations and the location of the accident site.

Figure 6. Witness locations on the water were near where a potential missile attack would have launched from. (NTSB Report)

In missing physical evidence, the manpad and ship launched missiles in 1996 would seek the hottest parts of the airplane; the wing mounted engines and the hot machinery located beneath the fuel tank. (Figure 7) The engines were recovered and none had missile damage.



Figure 7. An infrared image shows the hottest parts of the airplane in white which missiles would target.

In three separate layers, the floor of the center wing fuel tank had no penetrations, there were no penetrations in any of the hot air conditioning machines beneath the tank which would have been the target of a heat sinking missile, and the entire fiberglass fairing that was the bottom of the airplane was also found to be without any external penetrations, let alone the typical missile damage resembling a shotgun blast. The tank walls and top surface were also without penetrations.

WITNESSES

Of the 755 witness reports, all but 56 were ruled out by location or their having looked AFTER hearing the sound, which would have taken 42 seconds to reach the shore.³ The explosion had long since taken place, the nose separated after the initial 3 seconds, and the aft shift in CG resulted in the burning fuselage starting to rise before they looked. But they ALL swore they saw it, launching all sorts of conspiracy theories.

A very conspicuous item was that many of the 56 reported a “streak of light” or flare rise. Missiles and manpads create a white trail from the ground then go into coast mode with no trail. (Figure 8)



Figure 8. Launching of a man portable (manpad) missile, showing white smoke originates from the launch site on the ground. (Eglin Air Force Base)

The witness statements described exactly the opposite, with nothing coming off the ground, then a white trail. (Figure 9)

³ Some “witnesses” were as far as Massachusetts and Connecticut, which would have been impossible for a number of reasons.

1 of 10 pages

The C. advised he witnessed the a red track emitted by a projectile approach the plane. At first he thought it was fireworks. He tracked it from 200 feet. He saw it go straight up then arch out and level. Then an explosion occurred and two fire balls fell to the ground. He thought two planes had collided.

Figure 9. Typical witness statement which starts the path well above the ground. (NTSB Report)

They said that it began from above horizon, cited as:

- ...tracked it from 200 feet
- ...flare started 15-20 degrees above horizon
- ...flare began 3" above horizon
- ...first [saw it] above a house

Witnesses on airline near same altitude saw nothing rise. As with the boats near where a supposed missile would need to launch, nobody described a streak/flare/track coming from ground level. Their sketches showed the same. (Figure 10)

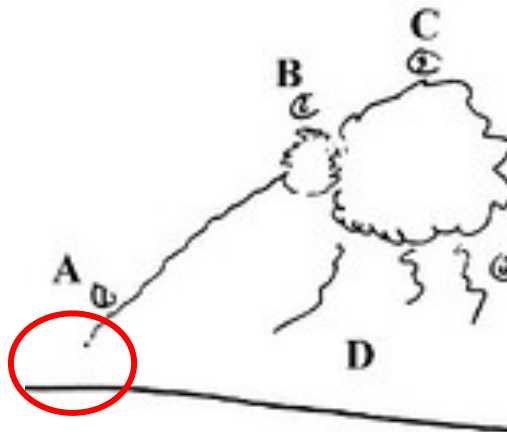


Figure 10. Witness sketch showing track begin above ground level. (NTSB Report)

The NTSB report is intentionally vague as to what people may have seen, because when people are convinced of something they reject when they are told of other possibilities. They believe what they believe, the controversy had seemingly had died after four years of investigation, and we did not want to rekindle the old arguments.

Without going into detail, the report does point out that there were numerous airplanes and other things in the air for witnesses to focus on.

To me, the most fitting explanation for flares or streaks of light which go up like a missile but start above the ground is something which is easily mistaken mistaken for missile launches. The contrails of other airplanes. Movement of an overhead path toward a viewer makes a flight appear to be climb upward. As an example from 2010 in Los Angeles, a television news broadcast claimed that a missile lit up the evening sky over the Pacific Ocean. The purported missile was later realized to be an arriving UPS cargo flight. (Figure 11)



Figure 11. A 2010 Los Angeles television broadcast claiming that a missile lit up the sky, which was later found to be an arriving UPS cargo flight. (Media)

Such illusions are common when recognized for what they are, such as the following airplane contrail which appears to be a missile rising from the Pentagon. (Figure 12)



Figure 12. Airplane contrail photo taken while kayaking on the Potomac River. (Author)

Tools are available now which were generally not in use during the investigation.⁴ Using the radar record previously shown, the latitude, longitude, and altitude of the TWA flight and any other air traffic can be plotted in three dimensions in Google Earth, or by using nothing more than high school trigonometry. The benefit of using Google Earth is that once the position is plotted at the time of the accident and 5 minutes prior, the image can be rotated and moved to wherever a witness happened to be. In addition to the TWA 747, the path of one other airplane stands out.

USAir 737 flight 217 was descending through 20,000 feet and from the beach the contrail happened to cross the path of the TWA airplane within about 20 seconds of the explosion. The exact timing and upward angle of the contrail would have depended on how far east or west a witness would have been. For example, to the witnesses at the restaurant the contrail would more appear to chase the 747 horizontally eastward and from the marina possibly even south. From the perspective of a witness at an airport farther out on Long Island, the contrail would have been nearly vertical, as seen in Figure 12. To the east of the airport, witnesses would have said the contrail went west, rather than straight up. Further, the 737 was polished silver (aluminum) which would have reflected the setting red sun ahead of the contrail to make it appear more like a missile. (Figure 13)

The following two images were constructed by placing each of the airplanes in latitude, longitude, and altitude in Google Earth.

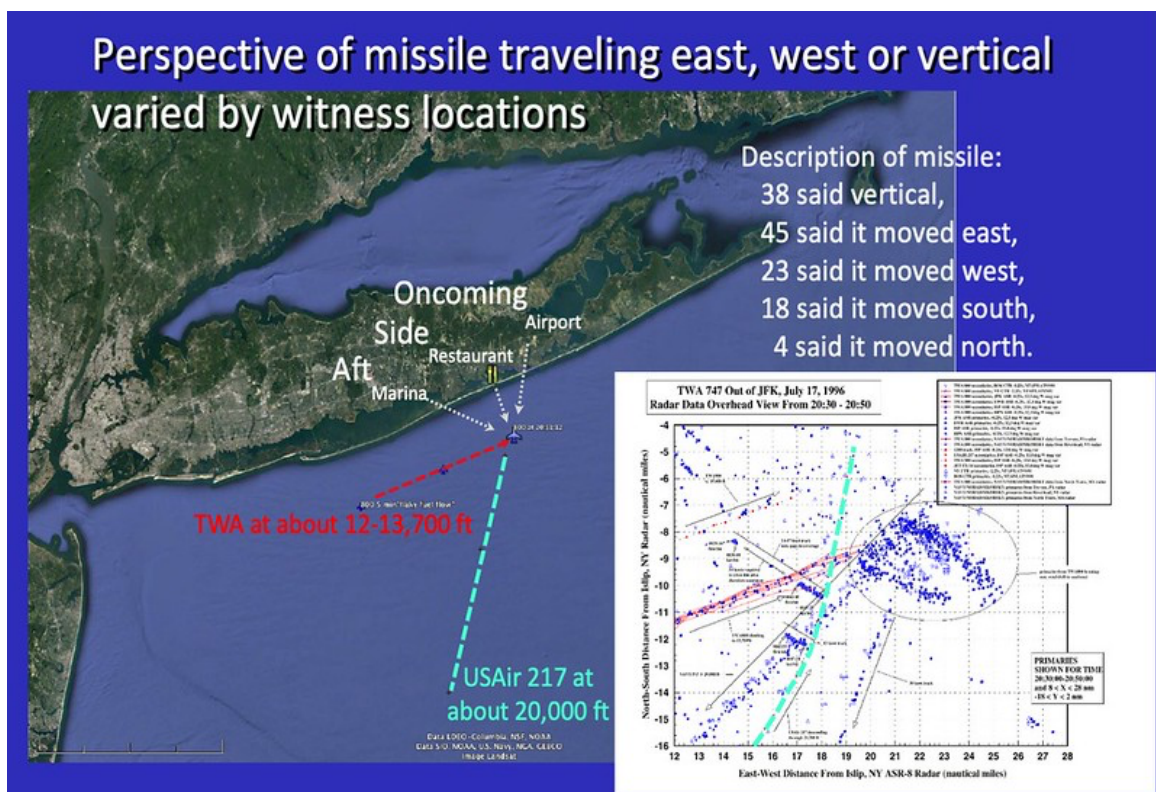


Figure 13. The radar record used to place tracks of both TWA flight 800 and USAir flight 217.⁵

⁴ An early version of Google Earth did exist which was not yet widely used.

⁵ The color red is for the TWA airplane used only because it was the color used in the original radar record, as shown.

The witnesses who looked after the sound had taken 42 seconds to reach the beach would have not only have seen the falling 747, but would also have seen the following sight created by the USAir 217 contrail. (Figure 14)

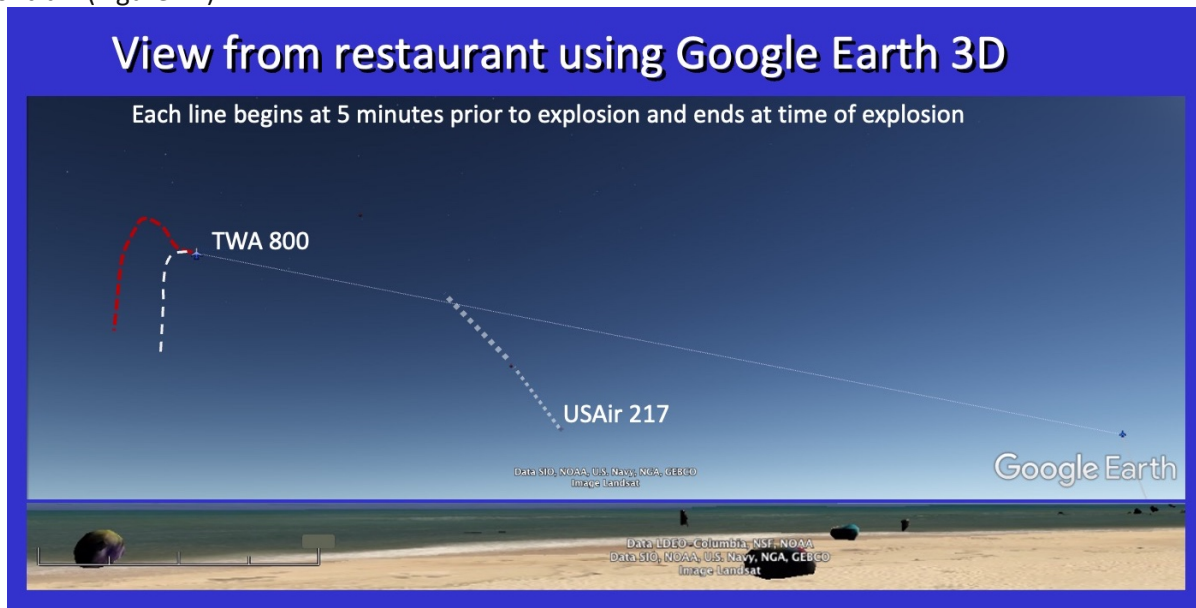


Figure 14. What witnesses at the restaurant would have seen about 42 seconds after the TWA 747 exploded. The paths of the airplanes until the explosion are from the radar record and while ending at the time of the TWA explosion, the USAir contrail actually would have continued, putting it even closer to the falling debris. The paths of the falling nose (white) and fuselage section (red) are approximate.

CLOSING

People are generally not aware that we were launching to a major aircraft accident per month at the time. To the NTSB investigators, this was just another case added to our backlog and it would have been easier to just turn it over to the FBI. When the TWA flight 800 investigation was over I was burned out from the four years of effort, wanted nothing to do with it, and had PTSD from working with the victims and crying with the families. For example, I still occasionally can see when we brought the body of one young woman onto the Grasp from the ocean floor and though clearly dead her chest appeared to be convulsing or breathing. After a minute or so a crab crawled out the side of her abdomen as in the movie Alien. We brought another person aboard who was covered in glitter, looking like there was a party. When these are your daily experiences, no amount of pressure can make you become part of a conspiracy or cover-up. I and everybody else only wanted to know what happened to prevent another.

We realized that in-service fuel tank explosions were happening at an average of about every 52 months. As a result, we developed safety recommendations pertaining to fuel tank flammability and protection of the wiring in the fuel measurement system. The proof that we were right in identifying the probable cause of this accident and that it was not an attack is that the last known explosion was more than 15 years ago.

May God be with the victims, families, and friends. While those who believe in conspiracies will stay stuck in their thoughts, hopefully this can bring peace to somebody.