



**"Owl 08" – The Story of
Capt. James Steadman, USAF • Capt. Robert Beutel, USAF
497th Tactical Fighter Squadron "Nite Owls"
8th Tactical Fighter Wing • Ubon RTAFB, Thailand
November 26, 1971**

Contents

Contents	2
Foreword	3
1. Methodology and Definitions	4
2. The Men – 497th Fighter Squadron “Nite Owls”	5
3. The Machines – F-4 Phantom	7
4. The Facts – Owl 08’s Timeline	14
5. Analysis of the Facts	23
6. What might have happened	28
7. Conclusions	34
Sources	35
Notes	35
About the Author	39

Foreword

The purpose of this document is to provide the next-of-kin of Capt. James Steadman and Capt. Robert Beutel, USAF, MIA (Case 1781) a better understanding of what happened when their loved ones went missing on November 26, 1971. It is the result of over 500 hours of analysis of forensic and historical evidence uncovered by the Department of Defense's Joint POW/MIA Accounting Command (JPAC, formerly Joint Task Force-Full Accounting). It includes declassified documents, interviews with men who flew F-4s out of Ubon, Thailand in 1969-1971, as well as the author's own flight experience in the F-4.

This document is neither a critique of, nor a commentary on, JPAC's efforts. It simply attempts to translate a large volume of data into information understandable by someone without a military background. It is current as of the date below and all assumptions, analyses, recommendations, and conclusions are the author's own and he could be wrong about any or all of them.

Writing this story would not been possible without the help of nearly a dozen people – the Steadman and Beutel Families, civilians, active and retired military, and Air Force Academy graduates – all of whom were gracious enough to give their time to help create this account.

Joseph Mortati

July 1, 2009

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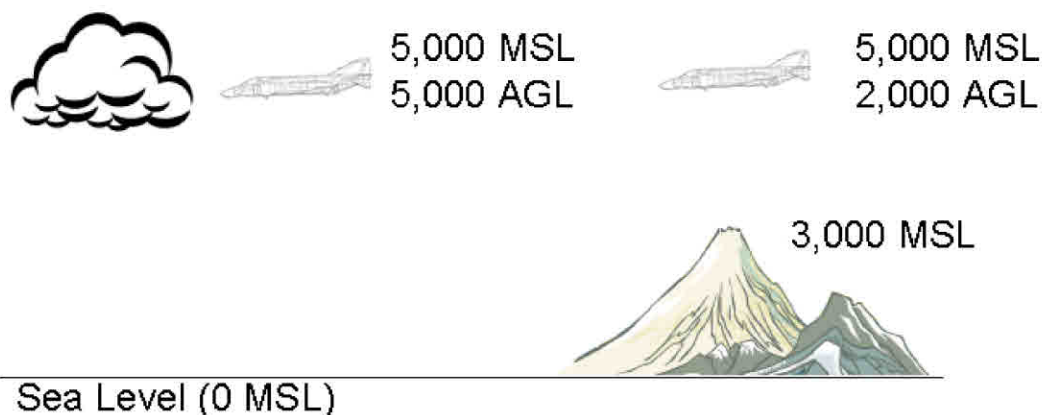
1. Methodology and Definitions

The official Air Force record shows that Owl 08, an F-4D assigned to the 497th Tactical Fighter Squadron – “Nite Owls” – was lost on Friday, November 26, 1971 while on a single-ship, night Forward Air Control mission over Laos. The fate of the crew and the location of the aircraft remain a mystery more than thirty-five years after the incident.

Of the basic questions of history – who, what, when, where, why, how? – only the “who” and “when” are known and this document is an attempt to answer the others. To do so, it takes the approach of working from the known to the unknown by presenting the facts of this case, analyzing them, and then attempting to explain what might have happened to Owl 08. Nothing can be certain until JPAC resolves the case but this document is the author’s best guess based on the available information to date. Since much of the material in this case contains Air Force or aviation-specific terminology, it would be helpful to define some terms up front.

Altitude Altitude can be measured two ways – MSL (Above Mean Sea Level) – the height of an aircraft or terrain above sea level – or AGL (Above Ground Level) – the height of an aircraft above the ground directly below it. Here are a few examples:

The cloud and the F-4 on the left are both 5,000 feet MSL; since the elevation of the terrain underneath them is Sea Level (0 feet MSL), they are also 5,000 feet AGL. The mountain peak on the right has an elevation of 3,000 feet MSL. The F-4 above it is 5,000 feet MSL but only 2,000 feet AGL.



Distance Distances in aviation are measured in nautical miles (NM), which are 6,076 feet or 1.15 statute miles. All references to “miles” in this document are nautical miles.

Speed Aircraft speed is measured in NM per hour or knots (= 1.15 statute miles per hour).

Fuel Jet fuel is measured in pounds (mass) instead of gallons (volume) because there are different grades of jet fuel with different weights; since engines burn fuel by mass, not volume, fuel references are always made in pounds.

Wing In Air Force organizational structure, a Wing is a self-sustaining combat unit made up of one or more squadrons; it is usually commanded by a Colonel.

8 TFW The 8th Tactical Fighter Wing (TFW) – “Wolfpack” – was based out of Ubon Royal Thai Air Base (RTAFB), Thailand and was the most successful USAF Fighter Wing during the Viet Nam War. 8th Wing crews shot down more enemy aircraft than any other and were the first to ever use laser-guided bombs in combat. In 1971, the 8 TFW consisted of four fighter squadrons: the 497th Tactical Fighter Squadron

(TFS) “Nite Owls” (Tail code “FP”), 25th TFS “Dragons” (Tail code “FA”), 433rd TFS “Satan’s Angels” (Tail code “FG”), and the 435th TFS “Screaming Eagles” (Tail code “FO”). In 1975, the 8th TFW moved to Kunsan AB, Korea, where it remains operational today.

- Squadron** In Air Force organizational structure, a Squadron is the smallest formally organized fighting unit and is usually commanded by a Lieutenant Colonel. F-4 squadrons normally had 24 aircraft assigned to them.
- 497 TFS** The 497th TFS “Nite Owls” was the Air Force’s pioneer jet night flying unit and developed night tactics that later became Air Force standard. The unit was deactivated in 1974 when the 8th TFW moved to Korea. It was reactivated in 1978 in Korea where it remained operational until it was deactivated again in 1989. [Note: the author flew in the 497th from 1988-1989.]
- Callsign** Formally known as a radio callsign, it serves as a unique way of identifying an aircraft during a mission. Nite Owl callsigns were normally “Owl” followed by a 2-digit number (Owl 01, Owl 02, etc.). In some squadrons, callsigns were assigned to a particular pilot who would use the same one regardless of the aircraft he flew.

2. The Men – 497th Fighter Squadron “Nite Owls”

It is important to understand who the Nite Owls were and what made them unique. Prior to the Viet Nam War, tactical aircraft had very limited ability to employ at night. That is, they could fly at night but could not do much compared to during the day. The Nite Owls changed all that.

The driving force behind their creation was to counter North Viet Nam’s attempts to supply the insurgent (Viet Cong) movement in South Viet Nam. Supply lines ran from North to South Viet Nam on the western side of both countries and into parts of Eastern Laos through a network of roads, trails, and paths known as the Ho Chi Minh Trail, named after the founder of North Viet Nam. The main northern port, Hai Phong, was off-limits to attack or blockade due to political constraints (until late 1972), which allowed an unfettered flow of men and materiel to support the war in the south. With targets in the North off-limits, the Air Force’s answer to stopping the flow of supplies to the insurgency was to interdict them enroute. Since trucks and troops moved under the cover of darkness, new tactics had to be developed and the Nite Owls were born. Specifically, the 497th was tasked with preventing the movement of supplies from dusk to dawn down the “Trail” as it snaked through Eastern Laos.



F-4 pilot preflighting aircraft at night

In order to fulfill their tasking, the Nite Owls adapted the Forward Air Control (FAC) mission for night operations and fighters, resulting in the term “Fast FAC.” The FAC mission involves coordination between ground and air forces or, multiple aircraft in support of ground operations. Airborne FACs are trained to identify and designate ground targets for destruction and Nite Owl missions involved flying over suspected enemy supply routes and either slowing their progress (denying them the ability to move through an area) or calling in additional aircraft to destroy the targets. Most Nite Owl FAC mis-

sions were flown with a single aircraft and it took a few years for the tactics to evolve. Nite Owls had the undersides of their aircraft painted black and flew “black out” (no external lights on) to make them more difficult to spot by anti-aircraft artillery (AAA) gunners. More importantly, 497th crews had to adjust their sleep-wake cycles to sleep during the day and fight at night.



497 TFS Squadron Portrait (1969)

Flying at night creates many opportunities for vertigo – formally known as “spatial disorientation” – an aviator’s constant nemesis. Combating this required much greater emphasis on instrument flying, crew coordination, and radar use as compared to day flying. Night flying compounded with poor weather makes spatial disorientation even more prevalent. In the words of a former 497th pilot, “It was there all the time.” Even today, “pilot error” is sometimes used as a catch-all reason for why any aircraft crashed, which is misleading and unfair because taken to an extreme, “pilot error” could be blamed for almost any crash. It was 497th squadron procedure that one man (pilot or Weapons Systems Officer, WSO) be “on the gauges” (looking at the instruments) at all times, so safety-of-flight was a shared responsibility. Even so, it was not uncommon under severe conditions for both men to become disoriented. In fact, spatial disorientation was such a problem that beginning in 1969, as an added safety measure, all Air Force F-4s were retrofitted with a backup attitude indicator (instrument that tells you up versus down) that was independent of the aircraft’s primary attitude indicator.

It is important to keep in mind spatial disorientation occurs today, even in advanced aircraft with generations of improvements over the F-4 in instruments, cockpit design, and night vision capability; this extends to aircraft with two-man crews. For example, in April 1995, a state-of-the-art F-15E was lost off the coast of North Carolina on a night mission. Both the pilot and WSO became severely disoriented following a partial instrument failure and ejected. In fact, they were so disoriented that at ejection, the aircraft was supersonic and headed straight down at 10,000 feet AGL. Add to the inherent challenges of night flying the demands of the Nite Owl

FAC mission – one of the most demanding of all fighter missions – and flight durations of 2.5 to 3 hours during which exertion made it common for crewmen to lose 10-15 pounds, and you get an idea of the demands put on these men.

Two of the main passes on the Trail were Ban Karai (pronounced “ban kuh-rye”; “ban” is the Lao word for town) and Mu Gia (pronounced “moo-ghi-a”). One former Nite Owl interviewed recalled how on one mission of two, 30-minute periods over Ban Karai, 2,000 anti-aircraft rounds ranging from 23 mm to 57 mm were fired at him, a hit from any of which could have been fatal. Not surprisingly, JPAC reports that at least 15 F-4s crashed within a 15 kilometer radius of Ban Karai, making it one of the most dangerous places on earth for aircraft. It was vital for the enemy to keep a constant flow of supplies through these chokepoints. It was just as vital the Nite Owls cut off this flow, which they did better than any other fighter squadron. When it came to operating at night, Nite Owls led the way.

3. The Machines – F-4 Phantom

The F-4 Phantom II was originally designed and built by McDonnell Douglas Corporation at Lambert Field, St Louis, MO as a fleet defense fighter for the US Navy. The aircraft first entered service in 1960 and was later adopted by the US Air Force and the air forces of eleven other countries. When production finally ended in 1981, 5,195 Phantoms had been delivered, making it the most widely-produced western supersonic military aircraft.

Upon its introduction to the fleet, it went about smashing nearly every performance record including time to climb, maximum altitude, and maximum speed at both high and low altitudes, most of which were not broken until 1975. Amazingly, the Phantom still holds the world’s absolute low altitude speed record – set back in 1958.

The F-4 could carry up to 16,000 of weapons on nine external stations, including air-to-air and air-to-ground missiles, and unguided, guided, and nuclear bombs. Its powerful engines gave it competitive performance against other fighters and the two-man crew enabled the aircraft to grow into the many combat roles that made it a legend. The last F-4s were retired by the US Air Force in 1996 although nearly 500 remain operational around the world as the type reached its fiftieth anniversary!



The picture above shows the missing aircraft – F-4D, 66-7752 – circa 1969 in the markings of the 433 TFS. There are at least 4 things that could be used to uniquely identify a crash site as being Owl 08.

MCDONNELL
ST. LOUIS, MO. U.S.A.
PHANTOM II

MANUFACTURER'S MODEL	CUSTOMER'S MODEL
MANUFACTURER'S SERIAL NO.	CUSTOMER'S SERIAL NO.
TYPE CERT.	CONTRACT NO.
ENGINE TYPE	ACCEPTED

LICENSED UNDER U.S. AIRPLANE PATENTS OF ALL MEMBERS
MANUFACTURER'S AIRCRAFT ASSOCIATION, INC.
M. A. A. PLATE NO. _____

1. Aircraft identification plate – a plate (left) with airframe serial number data can be found in the forward cockpit of every F-4.
2. Engine serial numbers – 66-7752 was powered by two General Electric J-79-15 engines, serial numbers 439886 and 439963. Engines carry numbered dataplates (below) that can be used to uniquely identify an aircraft by tail number. Likewise, it may be possible to use turbine blades to identify engine subtype and therefore, aircraft type; JPAC messages contain references to at least one case being resolved by turbine blade analysis.



3. Missile Serial Numbers – Owl 08 was carrying two AIM-7 Sparrow radar-guided missiles (right), serial numbers 524 and 558.



4. Components with Serial Numbers – F-4s have components with airframe-specific ID plates. The photo below shows such a plate (recovered from an F-4 crash in the United States) that appears to be from a canopy.



As an final point, it is reasonable to ask, “Could wreckage from 35+ years ago still be useful in identifying a particular aircraft?” The photographs below were taken in 1999 of an F-4D that crashed near Nellis AFB, Nevada in 1979. While this crash site was in a desert, engine wreckage, due to the fact it’s made of stainless steel and titanium, can remain intact for long periods of time

as the photograph on the left shows. Likewise, the photo on the right shows the vertical stabilizer (tail) section, made mostly of aluminum, which does not rust.



F-4 Series Differences

It is helpful to discuss differences between Air Force and Navy Phantom models as there are a number of crash sites in the vicinity as those that may belong to Case 1781 and references in the case documents are made to both Navy and Air Force versions. The pictures below show an F-4B and F-4D in profile and while similar, there are enough differences to make a qualitative distinction between them.

US Navy F-4B



US Air Force F-4D 66-7752 (this is what missing aircraft looked like the night it was lost)



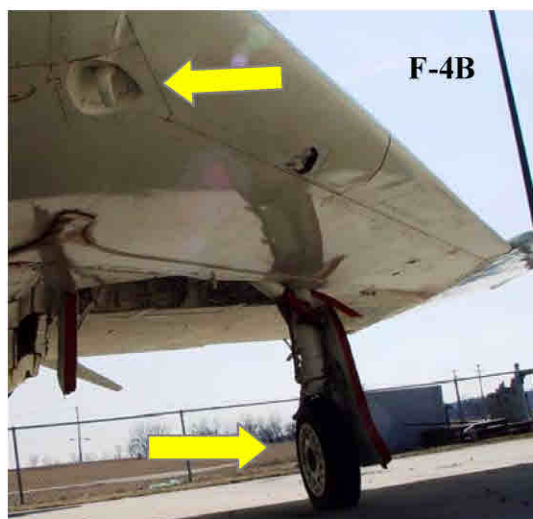
The F-4B was the first production model of the Phantom family and 649 were built between 1961 and 1964, all of which were delivered to the Navy or Marine Corps. The F-4J was an improved F-4B with a different radar and more powerful engines; 522 were built between 1966 and 1972 and all were delivered to the Navy or Marine Corps. The F-4D was the second production model built to Air Force specifications (after the F-4C) and 793 were built between 1965 and 1968; nearly all were delivered to the Air Force.

Internally, the F-4B/J differed from the F-4D in slightly different engines (J-79-8/J-79-10 versus J-79-15), the rear cockpit lacked flight controls, and they lacked some avionics (black boxes) the -D had. Aside from the engines, these differences will likely not be useful in resolving this case. However, the aircraft were externally different in ways that may be useful and the following section explains how analysts would be able to tell the difference between F-4 models without knowing the aircraft tail number.

- All Navy F-4s had an extensible nosegear (left) that gave the aircraft added lift for carrier launches. F-4Ds (right) did not have (or need) such a thing.



- All Navy F-4s (left) had attachment points for carrier launches and F-4Bs had thin tires (for landing on decks). F-4Ds (right) lacked attachment points and had thicker tires (for runway operations), whose extra width required landing gear doors to bulge outward slightly (F-4Js also had thick tires).



- All Navy Phantoms (left) had a refueling probe on the right side of the fuselage as well as a small red light under the windshield to help the pilot see during night refueling. All Air Force F-4s (right) had a refueling receptacle on the spine of the aircraft.



- All Navy Phantoms had pointed-style inboard weapons pylons (left) versus curved ones (right) found on all F-4Ds (and nearly all Air Force Phantoms).



F-4 Ejection Seats and Survival Equipment

The Phantom is equipped with ejection seats built by Martin-Baker. Upon ejection, the entire unit (right) departs the aircraft, taking the crewmember to safety. They have proven to be extremely reliable and saved many lives under desperate conditions.



The image to the left shows a survival radio typical of what the crew of Owl 08 would have been carrying. It had two modes: voice and “beeper” with the latter transmitting a tone on an emergency frequency.

JPAC documents and declassified reports concerning Owl 08 say no beepers were heard, which means either the crew did not attempt to eject or they did but did not activate their beepers upon reaching the ground. While Air Force F-4s were later modified with beepers that could be set to transmit automatically upon ejection, this feature was not available in 1971.

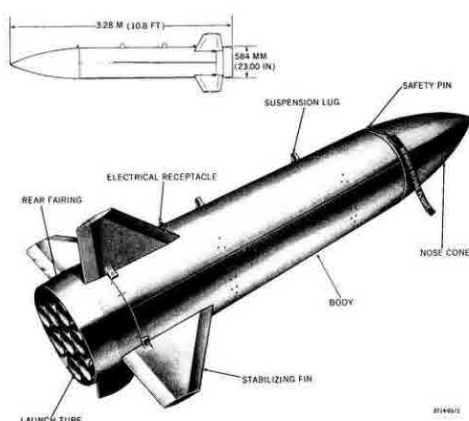
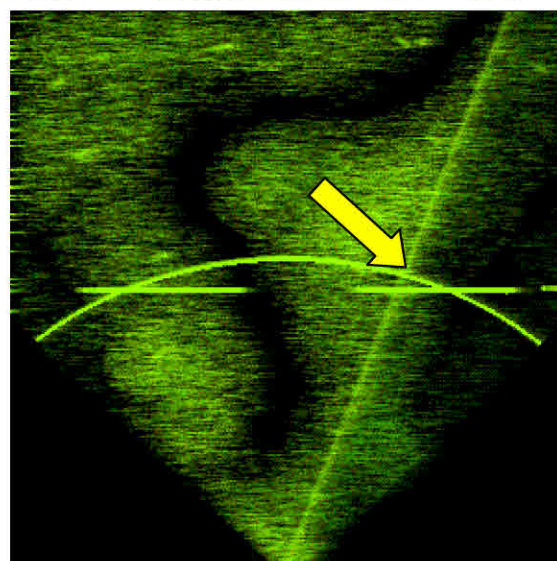


F-4 Weapons Systems

The F-4D was equipped with a Westinghouse APQ-109 radar (right) that could track airborne targets and guide Sparrow air-to-air missiles or, map ground targets and release bombs. It was used in conjunction with the Weapons Release Computer Set (WRCS, pronounced “W-R-C-S”) to deliver air-to-ground weapons.

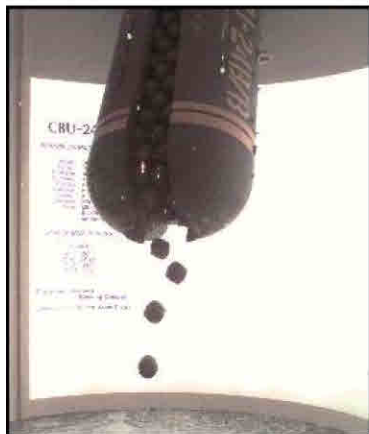


The image (right) shows the display of an F-4D radar in ground map mode (the dark, curve-shaped area is a river). The arrow at the intersection of the two green strobes shows the radar cursor, which could be placed over an aimpoint on the ground for the purposes of navigating to it or dropping a weapon on it. The radar/WRCS combination was the primary method the 497th used to drop flares.



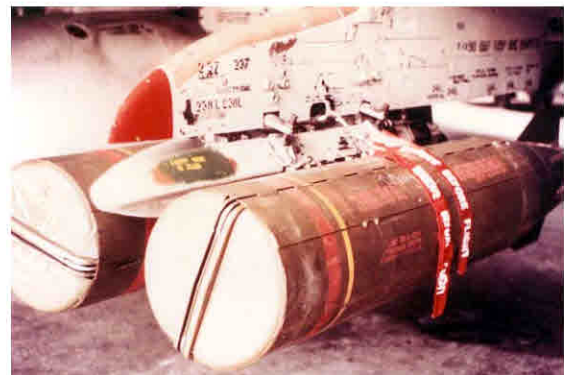
The SUU-42 (left, pronounced “sue forty-two”) was a dispenser for parachute-deployed flares and was carried on the outboard weapon stations (the ones furthest out on the wings).

Before the development of night-vision devices, flares dropped by parachute, such as the LUU-2 (pronounced “Lou two”; left), were used by crews to detect and identify targets at night. LUU-2s burned for 3-5 minutes and the time-elapsed photo (right) shows a flare (white streak on the left) during a combat mission.



Owl 08 was carrying CBU-24 (pronounced “C-B-U twenty-four”) Cluster Bombs (normal Owl FAC ordnance load was CBU-49, which is discussed later in this document) that consisted of a clamshell dispenser containing 670 BLU-26 (Bomb Live Unit, pronounced “blue-ee twenty-six”) baseball-size bomblets designed for use against personnel and non-armored vehicles. CBU-24 was an ideal weapon to use against trucks, weighed 800 pounds, and up to four would normally be carried on an F-4. The photograph to the left shows a museum display with a CBU-24 as its clamshell is opening and dispensing BLU-26 bomblets.

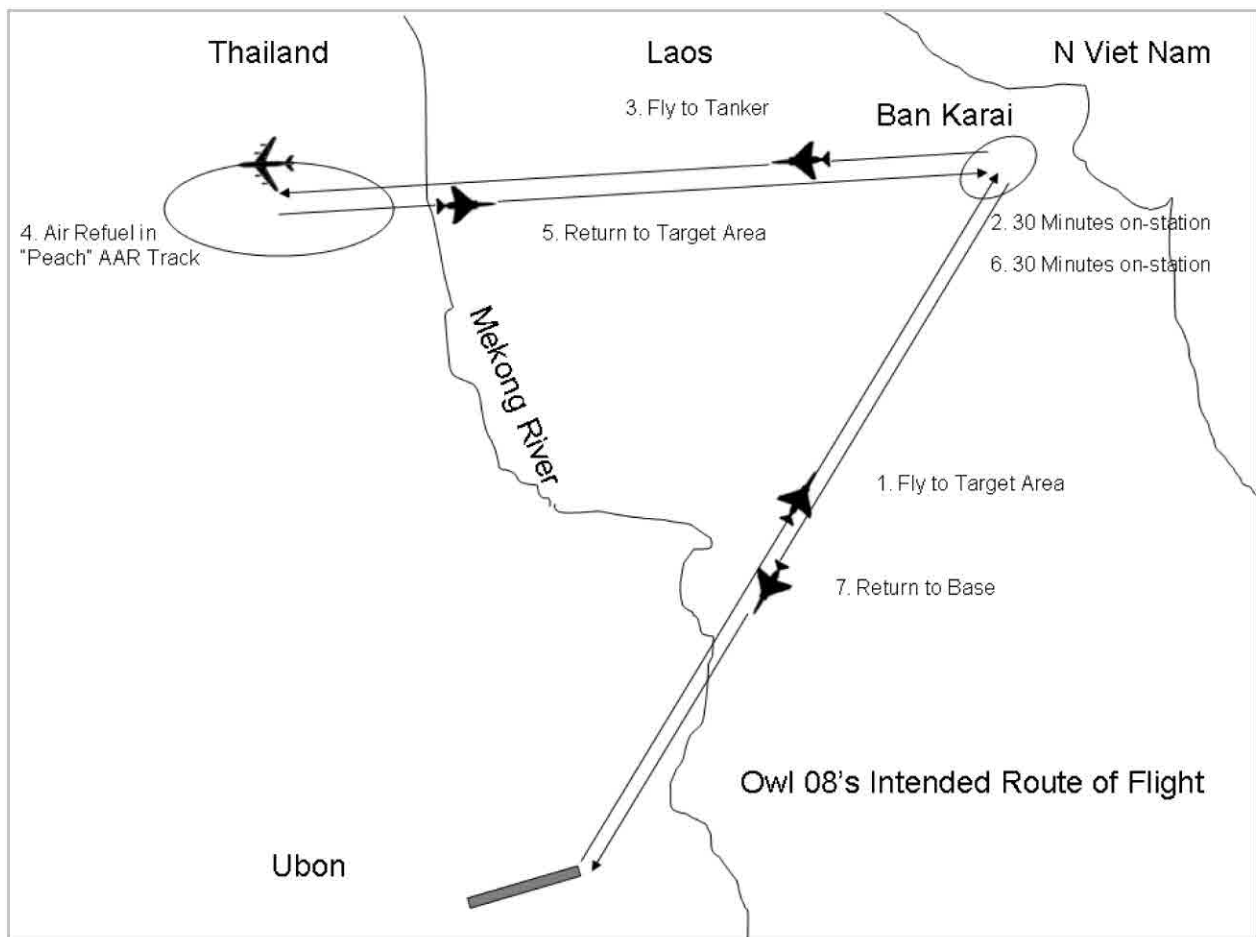
M36 incendiary cluster bombs (right) weighed 690 pounds, contained 182 M126 incendiary bomblets, and were also effective against trucks. M36s were left over from World War II and had blunt noses because they were designed to be carried in the internal bomb bays of B-29s.



AIM-7 Sparrow radar-guided missiles (left) were the Phantom’s primary air-to-air weapon and had a maximum range of 2-12 miles. Nite Owls carried them for self-defense against enemy MiG fighters (although no engagements occurred over Laos because MiGs were based too far north). Sparrows weighed 510 pounds and up to four could be carried under the fuselage, although 497th aircraft normally carried only two in the aft stations. The photograph (left) shows a Sparrow loaded in an F-4D aft station.

4. The Facts – Owl 08's Timeline

According to the Air Force Form 484 “Missing Persons Supplementary Report” created by the 8 TFW on December 8, 1971, Owl 08's flight plan is Ubon-target area-tanker-target area-Ubon as shown below (each leg of the mission is approximately 100 miles). However, this was not the profile flown.



Owl 08's Flight Plan Route

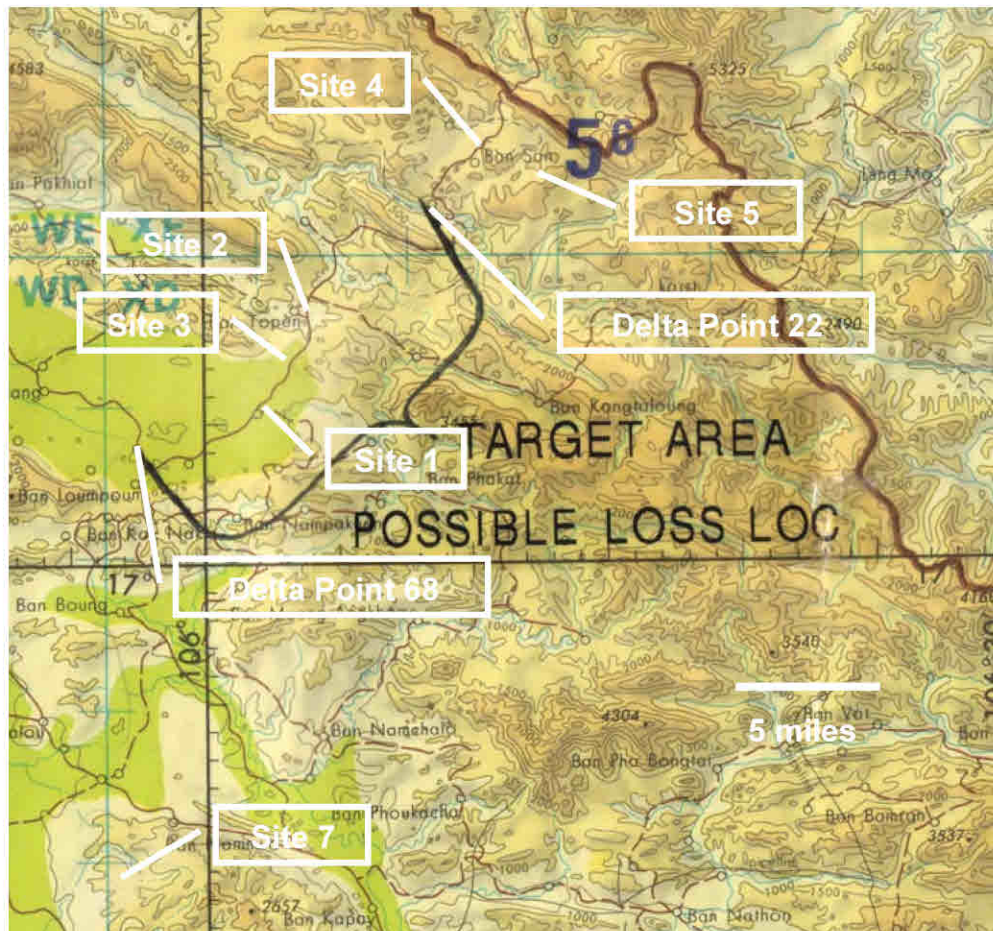
In the following section, the author recreates the timeline from Owl 08's takeoff in 1971 to the last JPAC message traffic to which he has access, dated July 2006. Whenever possible, references to JPAC messages are made and except where noted, text is taken verbatim from those messages (note: "JFA" refers to Joint Field Activity, JPAC's field recovery operations). All references to "Analyst Note" refer to analysis done by a JPAC analyst in the course of the investigation; all "*Author's Notes*" refer to the author.

In July 2007, the author began investigating the case of Maj Wendell Keller and 1Lt Virgil Meroney, USAF who went MIA (Case 1396) over Ban Karai on March 1, 1969 in "Sherman 01" (F-4D 66-8814 from the 433 TFS out of Ubon). There is some overlap between this case and 1781 and this document has been updated with information from Case 1396.

Maps on the following pages show Southeast Asia and the Ho Chi Minh Trail and then Owl 08's target area. Since grid coordinates are not intuitive, all suspected Owl 08 crash sites are arbitrarily numbered 1-7. Additionally, "Delta" points were codewords for predetermined points on the ground.



Political map of Southeast Asia; red line indicates the approximate path of the Ho Chi Minh Trail



Crash Sites in Eastern Laos near Owl 08's Target Area (approx. 100 miles from Ubon)



Reported crash site in Western Laos (approx. 60 miles from Ubon)

November 26, 1971 (author summary of events)

2:30 AM – Owl 08, F-4D 66-7752, assigned to the 497th Fighter Squadron, 8th Fighter Wing and crewed by Capt. Jim Steadman (pilot) and First Lieutenant (1Lt) Bob Beutel (WSO), takes off from Ubon Airbase, Thailand. Capt. Steadman is on his second tour of duty with the 497th and this is his 317th combat mission. 1Lt Beutel is on his first assignment and is on his 88th combat mission. Weather conditions are: 4,000 feet broken to overcast ceiling with rain showers, poor visibility, and moderate turbulence below 10,000 feet. The aircraft has a gross weight of 54,000 pounds and is configured for a night FAC mission with:

- 1 600 gallon centerline fuel tank (about 4,000 pounds of fuel)
- 3 CBU-24 cluster bombs
- 2 M36 incendiary cluster bombs
- 2 SUU-42 flare dispensers with 16 LUU-2 flares each
- 2 AIM-7 Sparrow air-to-air missiles

2:31 AM (estimated) – Owl 08 checks in with “Lion” Control, a radar site at Ubon, who clears Owl 08 for Air-to-Air Refueling (AAR) at 24,000 feet MSL for an offload of 5,000 pounds.

2:45-3:00 AM (estimated) – Owl 08 takes 6,000 pounds of fuel (1,000 more than planned) from Cherry 67, a KC-135A from Plattsburgh AFB, NY flying out of U-Tapao RTAFB, Thailand. The refueling was conducted in the Cherry AAR Track (approximately 40 miles north of Ubon) at 24,000 feet MSL at 315 knots; Owl 08 departs the refueling track with the maximum fuel load it could carry in this configuration – 15,000 pounds.

3:00 AM – Owl 08 is heading 025° over N 16-02 E 105-48 (2 miles southeast of Ban Nahpam, Laos) at 24,000 feet MSL and contacts “Lion” (Air Traffic Control) who clears them to the target area near Ban Karai. Owl 08 then switches to its tactical working frequency (the frequency they would use during weapons delivery). This is the last documented communication with Owl 08.

3:10 AM (estimated) – Upon reaching the target area, they would have set up for the first flare drop. The weather minimums (rules) for dropping weapons required clouds be 4,500 AGL or higher with 3 statute miles inflight visibility or better. In order to illuminate a target, LUU-2 flares must be dropped below the lowest cloud deck, so assuming there was no clouds below them, it was squadron procedure to overfly the target level at 8,000 feet MSL (approximately 6,000 feet AGL) at 400 knots.

In order to be effective, flares would have to be placed within 1 mile horizontally of the target and since the crew could not see the ground, they would have selected “Offset Bomb”¹ weapons delivery mode, cued the radar² to an Offset Aimpoint, and had the WRCS automatically release the flare. If Owl 08 dropped the first flare and did not see any trucks, they would likely have continued to drop single flares and search for targets. Upon encountering targets, they would have attacked them by dropping a single CBU-24 or M36 from a 20° or 30° dive, releasing between 6,200 and 4,100 feet MSL (approximately 4,500 to 2,500 feet AGL) at 450 knots.

3:45 AM – Palmer Flight, a single-ship strike aircraft operating approximately 20 miles from Ban Karai, sees 3 flares in Owl 08’s target area. Stinger 09, an AC-119 gunship, is in the area at the same time and on the same frequency as Owl 08 but does not hear from Owl 08. *[Author’s Note: since Stinger was not assigned to work with Owl 08, not speaking to or hearing from Owl 08 would be expected. Likewise, by September 1971, nearly all AC-119s had been withdrawn from theater, so the “Stinger” likely was not an AC-119.]*

4:30 AM – Owl 08 is reported as overdue and a search-and-rescue (SAR) operation is initiated by the 8 TFW.

November 27, 1971 to December 03, 1971 (author summary of events)

For seven days after Owl 08 went missing, an extensive SAR is conducted involving missions flown by number of squadrons that include “slow movers” (A-1, OV-10, or O-2 propeller-driven aircraft), “fast mover” FACs (other F-4s), rescue aircraft (HC-130), and RF-4 reconnaissance aircraft. Wolf 03, a FAC from the 8 TFW, is the first aircraft that goes looking for Owl 08. According to the pilot, “We were out at first light and spent days searching all the passes they covered for wrecks. I think the number we found was in the dozens but no new ones. The aircraft had been falling at a great rate for years up that way. I made so many passes on pieces and parts [wreckage sighted in Nite Owl operating areas] during the week following the loss they could not be counted. Over the days I looked for them I covered all four passes we flew around. Mu Gia was the place I found the most parts and pieces but I found many sites with many pieces but none could have been too new. We did not give up for a long time and spent any time we had free on later missions looking in unlikely places.”

The weather is poor and visual and photographic reconnaissance yields nothing. However, electronic surveillance (monitoring) of frequencies that would have been used by Owl 08’s crew had they ejected, was 100%. The picture (right) shows an HC-130 rescue aircraft refueling an HH-53 rescue helicopter while on a SAR mission over Laos; note the rugged terrain.



A SAR log book entry states a “shiny object” was seen on 28-Nov-71 at 48Q XD 106900 [Author’s Note: “Site 1”]. Another entry states that possible wreckage was observed on 03-Dec-71 at 48Q XD 126 960 [Author’s Note: “Site 2”]. ((Analyst Note: This is near the crash site at XD 1120 9317 [Author’s Note: “Site 3”] visited by a joint team during JFA-76. The site is the probable 1781 loss site.))

December 03, 1971 (author summary of events)

After 7 days without contact with Owl 08, the SAR operation is called off. Capt. Steadman and 1Lt Beutel are declared “Missing in Action” (MIA).

July 22, 1974 (author summary of events/JPAC message)

A raw intelligence report includes statements from a number of villagers who saw a damaged US plane release its bombs over and crash into the Mekong River near Owl 08’s last known position “some time in 1971.” Analyst Note: These reports of a daytime crash in the summer do not correlate to Case 1781, lost in Nov 71 and at night. (Ref: Msg, dated 22 July 1974, subj: Raw Intelligence Report 007-74)

February 15, 1975 (author summary of events)

Upon review, Capt. Steadman's status is changed to "Missing in Action, Body Not Recovered" after a presumptive finding of death.

August 23, 1978 (author summary of events)

Upon review, now-Capt. Beutel's status is changed to "Missing in Action, Body Not Recovered" after a presumptive finding of death.

December 1994

JFA-95-2L investigates another loss incident in Ban Pa-Ak (XE 2578 0720) [*Author's Note: "Site 4"*] and interviews a witness who knew of another crash site at XE 2840 0453 [*Author's Note: "Site 5"*], on the side of a karst [an irregular, rugged, limestone area] that could not be correlated to a known loss incident. Team flew to the location but could not find an LZ [Landing Zone for helicopter]. Team then carefully stepped out of helicopter on to side of a karst and surveyed the site. An AIM-7 Sparrow AA [air-to-air] missile warhead was found 20 meters below the main area of the crash site. [*Author's Note: Since F-4s were the only aircraft capable of carrying Sparrow missiles in 1971, this site must be that of an F-4.*] Analyst Note: Analysis of the wreckage in May 95 could not correlate the site to any known loss incident. (Refs: Msg, dtg 291350Z Dec 94, subj: AIR 009, Uncorrelated Crash Site in Boualapha District, Laos, and Msg, dtg 100702Z May 95, subj: Analysis of Material Evidence Associated with AIR 009)

February 1995

JFA 95-3L: Joint team traveled to three villages (Ban Veunkhoun (WC 0059 9806), Ban Khanhiachan (VD 9824 0223), and Ban Lao Makhout, (WC 0322 9502), Songkhon District, Savannakhet Province, LPDR [Laotian People's Democratic Republic], and interviewed five individuals who stated there were no crash sites in the area. [*Author's Note: the fact individuals stated there were no crash sites in the area neither confirms nor denies the presence of any sites.*] Team then flew over the Case 1781 record location. [*Author's Note: this is only a suspected site*] at WC 015 965 [*Author's Note: "Site 6"*], the center of the Mekong River; it is approximately 200 to 250 meters wide at this point. The Team conducted a visual inspection with negative results. [*Author's Note: given the fact it was 24 years after an aircraft was supposedly lost at this site, the fact the inspection yielded nothing should not be viewed as definitive*] (Ref: Msg, dtg 171802Z Feb 95, subj: DRI for Case 1781)

May 1995 (author summary of events)

Analysis of the wreckage found in Dec-94 (JFA-95-2L) at "Site 5" could not correlate the site to any known loss incident.

February 1997

JFA 97-3L: Joint team investigated an uncorrelated crash site at XD 078 579 [*Author's Note: "Site 7"*] on the side of a mountain near Ban Hinhe, Vilabouli District, Savannakhet Province, found by local villagers in 1975. Team investigated the crash site, locating wreckage and data that confirmed it was an F-4. ((Analyst Note: This crash site has since been exclusively correlated to another loss incident - Case 1455.)) (Ref: Msg, dtg 071754Z Apr 97, subj: AIR 97-3L-004, Uncorrelated Crash Site)

July 2000

JFA 00-4L: Joint team returned to Ban Pa-Ak to re-investigate the uncorrelated crash site at XE 2840 0453 [*Author's Note: "Site 5"*], surveyed during JFA 95-2L. Team over flew the location with the witness from 95-2L, but could not find an LZ. The witness said it was a day's trek from his fields to the site. Inclement weather prevented the team from reaching the site during JFA 00-

4L. ((Analyst Note: Further analysis of the wreckage found during JFA 95-2L identified one piece of burnt material as a possible oxygen connector hose, possibly indicating that at least one person may have been in the F-4 at impact, and that the F-4 was modified after Oct 71. The Sparrow warhead found at the site is consistent with the ordnance carried by the Case 1781 F-4D. The only other F-4 loss known to be within 15 km of the crash site has been found; therefore, the crash site at XE 2840 0453 is possibly that of the Case 1781 aircraft)) (Refs: Msg, dtg 252036Z Jul 00, subj: DRI of Case 1781, and Msg, dtg 260712Z Jul 00, subj: Subsequent Analysis of Material Evidence Associated with AIR 009; Uncorrelated Crash Site in Boulapha District, Laos)

July 2000 (information from the Case 1396 Summary)

JFA 00-4L: While investigating Case 3067, the team learned of a crash site at XD 1112 9318 [*Author's Note: "Site 3"*] in Ban Katok (XD 114 9301 Boulapha District, Khammouan Province). The site is consistent with the description of the site located during JFA 95-1 L, and may be the same site, despite the discrepancy in coordinates (this has proven true). Villagers had scavenged the site, but no one had seen remains or ordnance. The team found F-4 evidence, but no life support and no ordnance. (Evidence found during JFA 95-1 L indicated at least one crewmember was onboard at impact). Villagers had no information concerning Americans, and said the crash crater had been filled in for gardening. (NOTE: The team visited XD 1305 9470, the location cited by the JFA 95-1L team, but found no wreckage and a local villager knew of no crash sites in the area.) Subsequent material analysis determined the tire and turbine blade found by the JFA 004L team corresponds to an F/RF-4 (and not a B, E, or J series) aircraft, leaving open the possibility it might still correspond to this case (F-4D). Further, the site is within 5 km of the U.S. record loss location for Case 1396. There are 9 unresolved F-4 crash incidents within 15 km of XD 1112 9319. Evidence is thus insufficient to establish an exclusive correlation to Case 1396. NOTE: The site is scheduled for excavation under Case 1781. (JTF-FA msgs Q 252020z Jul 00 & 300712z Oct 00)

October 2000

JFA 01-1 L: Joint team went to Ban Pa-Ak (XE 255 071) and interviewed four witnesses in connection with the probable Case 1781 crash site, located on a karst four kilometers from the village. The witnesses stated that they found the site (visited by team during JFA 00-4L) in 1995 and scavenged scrap metal from it; they said nothing remained on the surface. They did not dig down in the ground for any metal. The only possible life support related material they found was a zipper, which they turned over to a joint team in 1995. The witnesses stated that they have not been back to the site since 1995. Inclement weather prevented the team from visiting the site. (Ref: Msg, dtg 072334Z Dec 00, subj: DRI of Case 1781)

October 2000 (information from the Case 1396 Summary)

JTF-FA analysis indicates the items [found during the June 2000 "Site 3" survey] are an F-4 aircraft main landing gear tire. The [other] item is a first stage leading turbine blade for the J79-15/15A engine. The tire and turbine blade correlate to an F/RF-4 series (except B, E, and J) aircraft. [*Author's Note: The J79-15/15A engine powered only the F-4C, RF-4C (reconnaissance version of the F-4C), and F-4D, all of which were flown exclusively by the Air Force.*³]

March 2001

JFA 01-3L: Joint team flew to Ban Pa-Ak. There they interviewed Mr. Manet, who stated that no one had been to the crash site located at 48Q XE 2840 0459 [*Author's Note: This is "Site 5" but the previous coordinates were corrected based on GPS*], but that a joint team that interviewed four witness [sic] in conjunction with the site during JFA 01-1L. Team then flew to the suspected

crash site. There they found a tire, a portion of a landing gear strut, and a possible air-to-air missile guidance assembly. Team found no remains, life support equipment or personal effects. ((Analyst Note: Field analysis indicated that the material found was not sufficient to positively correlate this site to Case 1781, but that the material was consistent with an F-4 type aircraft. However, further analysis in Hawaii of the recovered material and wreckage proved the crash site is that of an F-4B, and therefore does not correlate to the Case 1781 aircraft, which was an F-4D. Research of losses within 25 km of this F-4B crash at 48Q XE 2840 0459 indicates the site is that of an operational loss.)) (Refs: Msg, dtg 211940Z May 01, subj: DRI of Case 1781; Msg, dtg 070712Z Aug 01, subj: Analysis of Material Evidence; and Msg, dtg 300712Z Apr 02, subj: Analysis of Material Evidence)

November 2002

76th JFA: Joint team investigated Case 1781 in Boualapha District, Khammouan Province. Team visited Ban Houa Pa (48Q XD 101 896) and interviewed Messrs. Kham Penh, Soy (no last name - NLN), and Khamsao (NLN). They knew of two crash sites in the area (probably Cases 1379 and 1561; both excavated). In Ban Hin Lap (XD 123 965), Messrs. Poh Lahuht and Oan (NLN) knew of two excavated crash sites: probably Cases 1601 and 0339. In Ban Patan (XD 133 946) neither Mr. Tah Num nor Mr. Duhn (NLN) knew of any crash sites or loss incidents involving Americans. Ban Tang Beng/Lamchala (XE 149 012) villagers Messrs. Thak (NLN); Ngot (NLN), and Tuh (NLN) knew of a crash site that Americans had excavated near Ban Hin Lap. They knew of no other loss incidents involving Americans. Many PAVN [People's Army of Viet Nam] soldiers were in the area during the war, but they did not know any unit designations. Team visited Ban Katok (XD 113 930) and interviewed Messrs. Khamphao Keolimeng, Phanom Keolimeng, Pe (NLN), Pow Wat, and Sika (also known as Pow Khamkhum). They knew of four crash sites (Cases 1379, 0339, 1561, and 1601) and had one hearsay account of an American parachuting out of a plane (Case 0323). Team then surveyed a known crash site at XD 1120 9317. The site had been investigated in 1994 and 2000 in conjunction with another case. During this survey the team found unexploded ordnance, life support equipment, and generic F-4 wreckage. During the two previous surveys, the teams also noted the unexploded ordnance (BLU-26 and BLU-44 anti-personnel bomblets). ((Analyst Note: Analysis of wartime records indicated that the Case 1781 F-4 carried such ordnance; the Case 1396 F-4 did not. Based on the ordnance, the team tentatively correlated the site to Case 1781. Parts recovered and photographed at the site proved that at least one person was in the aircraft at the time of impact. Analysis also proved that the parts were from a generic F-4 series aircraft; the exact model could not be determined.)) (Refs: Msg, dtg 090842Z May 03; Msg, dtg 181152Z Dec 02; Msg, dtg 181122Z Dec 02; Msg, dtg 171540Z Nov 94; Msg, dtg 252020Z Jul 00, and Msg, dtg 300712Z Oct 00)

May 2003 (author summary of events)

JFA 03-1L: An analysis of items found at XD 1120 9317 shows:

- d-ring and parachute harness webbing (this is part of the parachute harness F-4 crews wear to strap themselves into the ejection seats)
- oxygen hose connector (connects the aircraft's oxygen system to the crews' oxygen masks)
- knife blade (from an aircrew survival knife, carried in a pouch on the left thigh of the g-suit)

[Author's Note: It was the discovery of these life support items that led the JPAC analyst to conclude this proves at least one crewman was in the aircraft at the time of impact.]

- two aircraft tires with the markings "Type VII 18 x 5.5, 14-ply, Made in USA"
- turbine blade

- “large section of aircraft wreckage” (of which photographs were taken)

(Ref: Msg, dtg 090842Z May 03, Analysis of Material Evidence associated with Case 1781)

July 2006

JFA 06-5LA: On 25 July 2006 a joint team investigated an uncorrelated report about a U.S. pilot being buried adjacent a large tree to the west of and close to Ban Ka Tok (48Q XD 1122 9289), in Boulapha District, Khammouan Province, Laos. The team interviewed three witnesses: Mr. Thongdi (no last name - NLN), Mr. Sivilai NLN, and Mr. Neung NLN. All three knew of two crash sites approximately one kilometer west of the village. They knew of no burial sites near the village, nor had they not seen any evidence of a possible burial site near the village. After the interview, the witnesses led the team approximately 30 meters west of the village to a large tree system (numerous trunks converging onto each other to form two to three large trees). The villagers were unaware of any other large trees further to the west. The team searched the surface around the tree (XD 1118 9318) *[Author's Note: This is about 10 meters from "Site 3".]* finding numerous pieces of non-descript aircraft wreckage (Note: the Case 1781 crash site is located here). They found no evidence of a grave site. (REF: MSG, DTG 072025Z NOV 06; SUBJ: DRI OF UNCORRELATED REPORT 3112 *[Author's Note: The statement "Note: the Case 1781 crash site is located here." is not correct since nothing found at the site has been exclusively correlated to Case 1781.]*

Summary of dispositions of all sites cited in connection with Case 1781 (as of July 2006):

Site	Grid	Description	Disposition
1	XD 106 900	SAR report of “shiny object”	Excavated – remains identified October 30, 1996 (Case 1379)
2	XD 126 900	SAR report of possible wreckage	Excavated – remains identified August 5, 1999 (Case 1561)
3	XD 1120 9317	F-4 crash site near Ban Katok, ordnance consistent with Owl 08	JPAC recommends excavation as Case 1781
4	XE 2578 0720	Crash site	Ruled out – exclusively correlated to Case 1601
5	XE 2840 0459	F-4 crash site on side of karst near Ban Pa-Ak	Ruled out – identified as an F-4B
6	WC 015 965	Reported Mekong River crash site	Ruled out – the reported crash occurred during the day
7	XD 078 579	F-4 crash site near Ban Hinhe	Ruled out – exclusively correlated to Case 1455

5. Analysis of the Facts

Discrepancies and questions about Owl 08 Mission Summaries

On the face of the information presented in the Owl 08 mission summaries, there are several apparent discrepancies that need to be resolved.

Why did Owl 08 not fly their originally assigned route?

Owl 08 did not fly the profile listed in the Form 484. Rather than going to the target area (Ban Karai) first, they went to the tanker first.

Why did Owl 08 take more than their planned fuel load?

Owl 08 took 6,000 pounds (40% of its capacity that night) from the tanker in the Cherry AAR track, which was only 50 miles north of Ubon. It does not make sense how an F-4 could fly such a short distance and need that much fuel. Furthermore, based on interviews with former 497th crews, Owl 08's time over target would have been 30 minutes after takeoff, or 3:00 AM. We know Owl 08 crossed the Mekong River at 3:00 AM on a northeasterly heading with a full load of fuel, to Ban Karai. By the author's estimate, this puts Owl 08 arriving over target not-earlier-than 3:10 AM, or 10 minutes late. If they took off on time and flew such a short distance to the tanker, why would they be so late to the target?

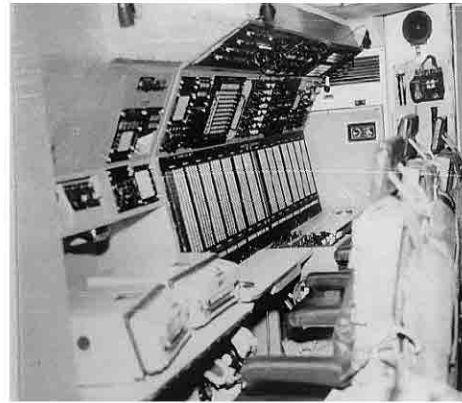
Why is there no mention of Owl 08 checking in with other flights from the 497th?

Since the 497th normally launched 8 aircraft to cover a target area from dusk to dawn, we could assume Owl 08 would have been the last flight of the night and would have been relieving an Owl 07, who would have also taken off at 2:30 AM but gone directly to the target area. As Owl 08 approached the target area coming from the tanker, they would have received an inflight brief from Owl 07, coming from the target and going to the tanker. Owl flights usually cycled twice to the tanker during a mission.

Owl 07 would have discussed things like: numbers and location of targets, anti-aircraft defenses encountered, and weather conditions. Since there is no mention of an Owl 07 or any other Owl Flight, mission summaries provided by JPAC may be incomplete. Interviews with former 497th aircrew confirmed there should have been an Owl 07 on target prior to Owl 08 (or perhaps an Owl 09 that followed). This makes it look like Owl 08 was operating completely alone that night (although the author initially suspected this was due to the fact Owl flights operating as singles were on separate flight plans and from an administrative perspective, might appear to be unrelated).

Why is there no record of Owl 08 checking in with the airborne command post?

A key asset available to tactical aircraft operating in Southeast Asia was the EC-130 Airborne Command Control and Communication aircraft (ABCCC, pronounced "A-B-triple C"; below, left). These aircraft contained an airborne command post (below, right) and assisted aircraft by coordinating schedules and airspace as well as providing weather information. It was standard procedure for Owl flights to contact ABCCC (callsign "Moonbeam" or "Alley Cat") going into and out of the target area, so had Owl 08 made such contact, ABCCC may have had some information on their intentions and position.



Likewise, had Owl 08 encountered a large number of trucks and/or significant AAA, they may have contacted ABCCC to request additional aircraft be sent to the target area. Furthermore, had Owl 08 been unable to work the target area due to weather, they would have diverted to an alternate target, returned to base, or returned to the tanker. Regardless of when or why they departed Ban Karai, Owl 08 would have checked out with ABCCC. However, the case summaries mention no such contact.

Was there radar coverage of Owl 08's target area? Wouldn't someone notice they were missing?

Ground radar could not cover all of Laos. While the Air Force used EC-121 control aircraft (like the one shown to the right) – callsign “Bat Cats” – to track aircraft movement over Laos, this program ended in May 1970. This means after Owl 08 left Lion's frequency, *no airborne or ground radar would be tracking them.*



Why was Owl 08 not carrying ordnance consistent with an Owl FAC mission?

The ordnance Owl 08 was carrying was not consistent with an Owl FAC mission, which normally carried CBU-49 cluster bombs. CBU-49 was identical in size and weight to CBU-24 but carried BLU-59 bomblets (externally similar to BLU-26s) that instead of exploding on contact with a target or the ground, would detonate randomly for up to 30 minutes. By dropping CBU-49 on roads or intersections, a single Owl FAC was effectively able to deny an enemy the ability to move through a football field-size area for half an hour. It also gave Owl FACs time to call in other aircraft with ordnance to destroy the trucks, which was done as an economical measure that precluded launching many strike aircraft to a target area without knowing if there would be any targets. It was a standard Nite Owl tactic if no vehicles were sighted (they could be camouflaged or otherwise hidden), they would drop a CBU-49 every 10-15 minutes on areas through which they suspected vehicles might be moving.

What about the flares sighted by another aircraft? Could they have been from Owl 08?

The Case Summaries (“scrub sheets”) mention a Palmer flight that saw flares near Owl 08's target area at 3:45 AM but no other details were provided.

Resolving Discrepancies in Owl 08 Mission Summaries

The author was at a loss to explain these discrepancies until he found the following classified 8 TFW memo (dated November 26, 1971 and declassified on April 22, 1997) and the declassified SAR logs (dated November 26 to December 3, 1971 and declassified on November 2, 2000). Interviews with former Nite Owls answered the remaining questions.

THE 8 TFW UBON RTAFB THAILAND LAUNCHED ONE (1) F4D SERIAL NO 667752 CALL SIGN OWL 08 TO AN ASSIGNED FAC MISSION WITH AN ORDNANCE LOAD OF 32EA LUU2B 2EA M36, 3EA CBU 24 AND 2EA AIM 7E MISSILES. ORDNANCE EXPENDED OR JETTISONED UNKNOWN. OWL 08 WAS FRAGGED TO RECEIVE FUEL FROM A TANKER FROM U-TAPAO RTAFB THAILAND IN THE PEACH REFUELING AREA.

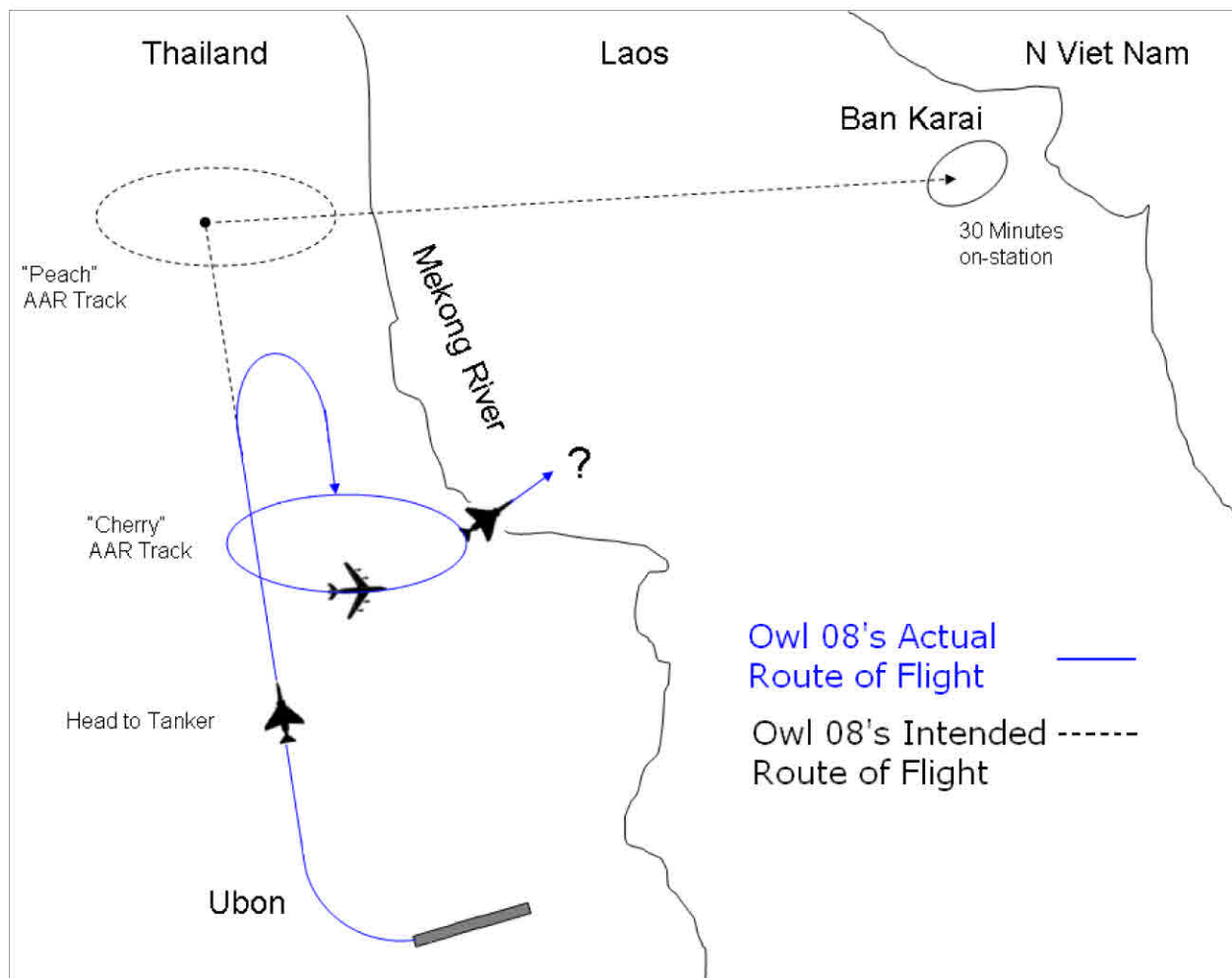
THE MISSION WAS FRAGGED AS OWL FAC BY 7AF TO ILLUM AND WORK WITH NAIL FAC IN VR AREAS 2, 3, AND 4 BRAVO/TARGETS OF OPPORTUNITY. OWL 08 DEPARTED UBON RTAFB FOR PEACH REFUELING TRACK, DIVERTED TO CHERRY DUE TO WEATHER. DEPARTED CH 67 [Cherry 67, the tanker] AT 340/50/CH93 [50 miles northwest of the Ubon radio beacon]. THIS WAS ALSO LAST KNOWN POSITION. OWL 08 HAD BEEN INSTRUCTED BY HEADSHED [8 TFW command post] TO PROCEED TO THE AREA BETWEEN DELTA 68 AND DELTA 22.

WEATHER IN TARGET AREA WAS UNKNOWN, REASON FOR LOSS UNKNOWN AT THIS TIME. OWL 08 WAS ASSIGNED TO THE 497 TAC FTR SQ.



The memo clearly states Owl 08 was “fragged” (assigned) to work with a Nail FAC, an OV-10 (left) operating out of Nakorn Phanom Airbase, Thailand (“Nail” was a common OV-10 callsign). Owl FACs occasionally worked with Nail FACs in a “hunter-killer” profile in which the OV-10, due to its lower speed and greater maneuverability, would operate beneath cloud decks and get closer to the targets. F-4s provided illumination and ordnance. This memo is enlightening because it resolves several of the discrepancies. First, it identifies Owl 08’s actual route of flight (below)

was direct to Peach AAR Track, approximately 100 miles north of Ubon but due to the weather, they had to turn around and head south to the Cherry AAR Track, only 50 miles north of Ubon. This explains both why Owl 08 took so much fuel and would have arrived over its target area late even though it took off on time.



Owl 08's actual route of flight

Second, since Owl 08 was to provide flare illumination and attack targets as directed by Nail, the author suspects there were intelligence data that large numbers of trucks would be present that morning, meaning CBU-24 and M36 (ordnance that explodes on contact) were better suited than CBU-49, which would only slow the enemy down. This resolves the ordnance discrepancy.

Upon changing to its tactical working frequency after checking out with Lion, Owl 08 would have checked in with Nail, who would give Owl 08 a target area briefing. However, the fact there is no mention of a Nail that morning must mean he did not get airborne. We know the weather was poor at Ubon and there was turbulence at lower altitudes (where Nail would be flying) so he probably did not takeoff due to weather. In June 2007, DPMO confirmed that on the morning of November 26, no other aircraft were lost in or around Owl 08's target area, which means Nail was not shot down. This resolves the Nail discrepancy and also proves Owl 08 did not have had a mid-air collision with some other aircraft.

The answer, however, lies in the declassified SAR logs (see below from November 26, 1971), which indicate Headshed (8th Fighter Wing Command Post at Ubon) was controlling Owl 08. Since Nail did not make it that night, the author conjectures Headshed directed Owl 08 to go to the tanker first as opposed to the target first. According to former Nite Owls interviewed, given the fluid nature of Nite Owl operations (and the fact the weather was poor when Owl 08 launched), flights often had to be reassigned at the last minute so any discrepancies related to mission profile should be considered administrative errors only. Since the crew of Owl 08 were

FAC-qualified, the fact the Nail did not make it that morning would not have required the mission to be cancelled.

The SAR logs also show there was, in fact, a brief conversation ("only momentary handoff" below) between Owl 08 and Moonbeam after Owl 08 had left air traffic control's frequency. The communication was brief since Owl 08 was operating alone and there was no coordination for Moonbeam to do.

1235Z/50 OWL-08 - HEADSHEAD - CONFIRMS LAST CONTACT
25/2000Z AND HEADSHEAD WAS CONTROLLING
AGENCY. - LT.COL BRANNON ABCCC DEBRIEFED
CONTROLLER ON MOON BEAM. HE CONFIRMED
LAST CONTACT WAS 2003Z & HE HAD
COORDINATED THIS WITH COL THOMPSON NITD
HEADSHEAD. MOON BEAM ONLY MOMENTARY
HANDOFF DUE TO CONTROL BY HEADSHEAD.
NOTHING FURTHER WOULD BE GAINED FROM TAPES.

SAR Log entry, November 26, 1971

The November 27 log provides specifics on the position of Palmer flight, which are covered in detail in the next section. "Blue Chip" (7th Air Force Command & Control Center in South Viet Nam, which controlled SAR missions) was contacted and confirmed there were no other aircraft in the area when Palmer sighted the flares.

The logs further detail that reconnaissance photos were taken in and around Owl 08's target area but no new crash sites were discovered. They also detail the weather was generally poor while the search-and-rescue was underway (November 26, 1971 to December 3, 1971).

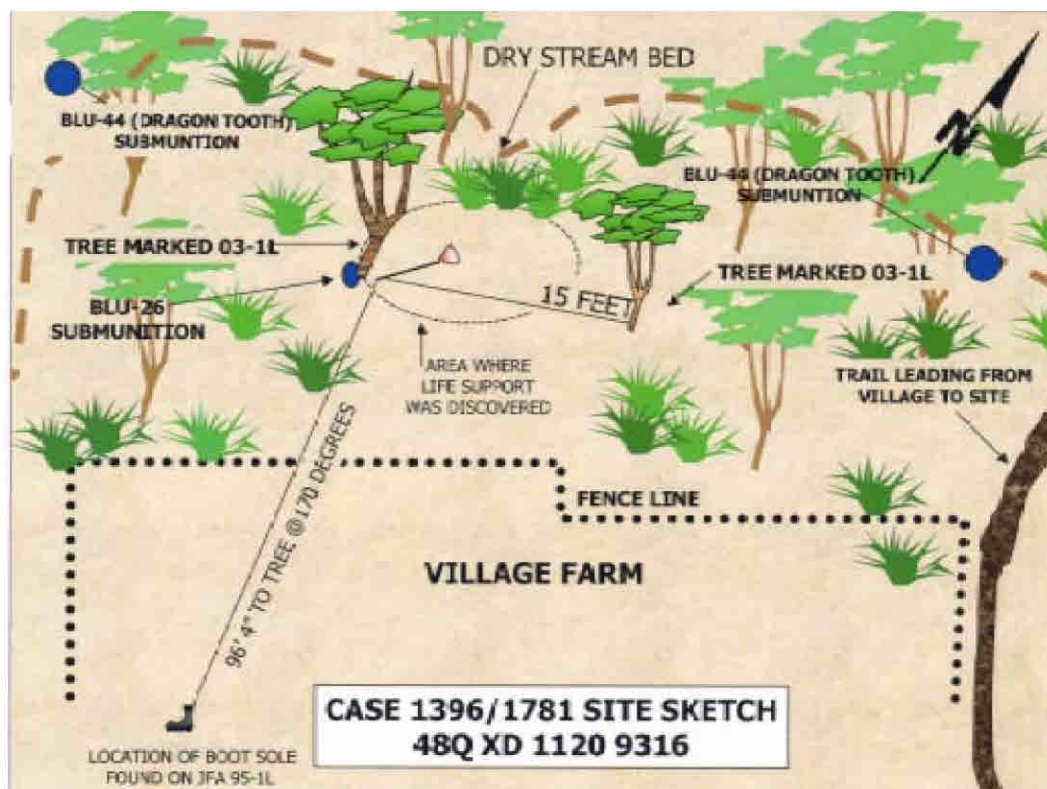
12/2/00
27 NOV 71
0440/4 OWL 08- D.O. FIRSTFULL REPORTS PALMER FLT OBSERVED
3 FLARES AT THEIR 0930-1000 POS. PALMER FLT WAS ON
A HEADING OF 115° AT A LOC. OF 115/70/89. THE TIME
WAS 25/2045Z. PASSED TO JR/UN TO CHECK WITH B/CHIP
OF ANY OTHER ACFT WHO MIGHT HAVE BEEN IN AREA.
PALMER FLT ^{NORMALLY FLIES} ~~WAS ON SA FLT~~ SAME TYPE OF MSW. (PALMER
FLT) SAYS NORMAL PROCEDURE IS TO LAUNCH ONLY TWO FLARES
AT A TIME.

SAR Log entry, November 27, 1971

6. What might have happened

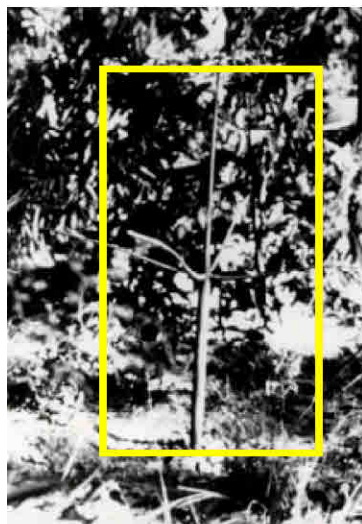
Most likely hypothesis

JPAC has ruled out all the suspected Owl 08 sites but one – “Site 3” – which means either Owl 08 crashed here or is at a yet-to-be-determined location. At this location (JPAC sketch below) wreckage of an undetermined F-4 model was found with BLU-26 bomblets and BLU-44 anti-personnel mines in the vicinity.



JFA sketch of “Site 3”

While Owl 08 was carrying almost 2,000 BLU-26s in its 3 CBU-24s, it was not carrying any BLU-44s. In fact, the 497th never carried BLU-44s, which were sometimes dropped along with sensors on the Ho Chi Minh Trail as part of the highly-classified “Igloo White” program. The 25th TFS, which also flew F-4s out of Ubon as part of the 8th Wing, was among squadrons tasked with seeding the Trail with Air Delivered Seismic Intrusion Detectors or ADSID (left), which were designed to look like twigs or plants.



Once the sensors landed, they detected vehicle movement and relayed target data to airborne relay aircraft that forwarded data to headquarters for processing and targeting assignments (this was before the days of satellite relays). BLU-44 mines were dropped along with sensors to discourage the enemy from attempting to locate or disable them.

At first glance, the presence of BLU-44s at this site might appear to rule it out as being Owl 08. However, since both BLU-26s and BLU-44s were ubiquitous in Eastern Laos, it may be both are coincidental with the aircraft wreckage; that is, an F-4 may

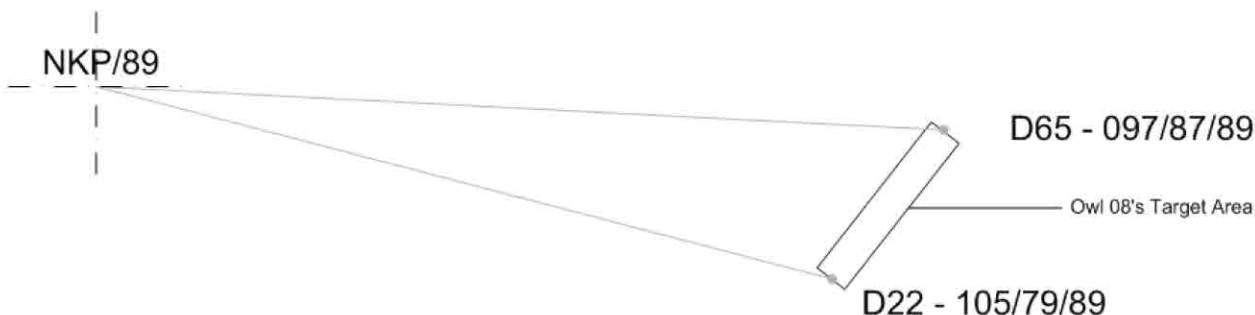
have crashed in area where BLU-26s and BLU-44s had already been dropped. Since BLU-44s do not explode on contact with the ground and CBU have a 5-20% dud rate, there are likely many thousands of unexploded BLU-26/44s in the Ban Karai area, which may account for the discrepancy. While JPAC says there are no known F-4s lost in this area while carrying BLU-44s, their presence does not rule out this site as Owl 08. The photo below shows an 8 TFW F-4D over the “Dog’s Head”, a prominent landmark near Ban Karai. It clearly shows the results of Nite Owl interdiction missions on the Ho Chi Minh Trail and dense concentrations of bomb craters are clearly visible. One can easily imagine the amount of unexploded ordnance still there today.



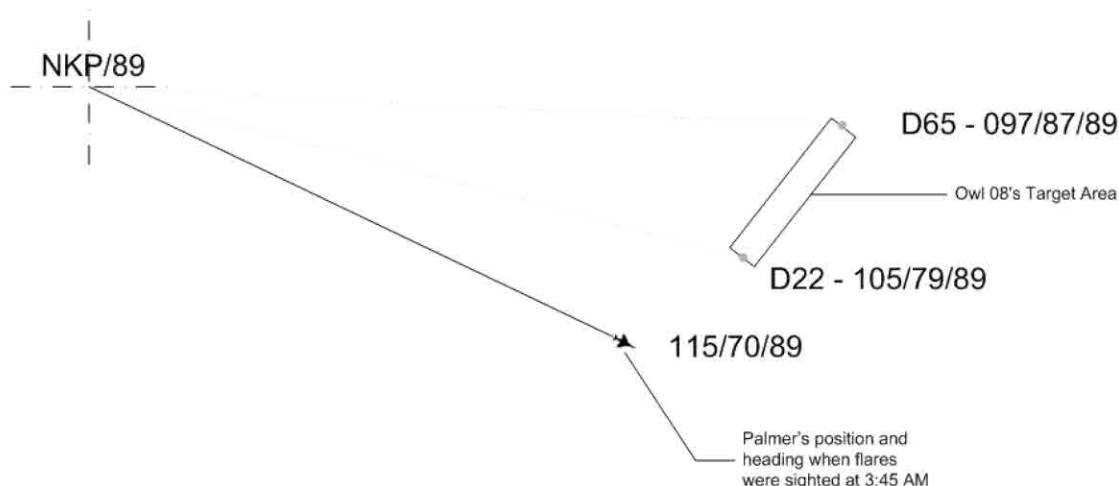
F-4 over the “Dog’s Head” at Ban Karai

The following page depicts Owl 08’s Target Area and the position of Palmer Flight relative to Nakom Phanom (known by its airfield identifier – NKP). NKP was a base in Thailand about 100 miles north of Ubon and it had a radio beacon known as a TACAN (pronounced “tack-an”) on Channel 89⁴.

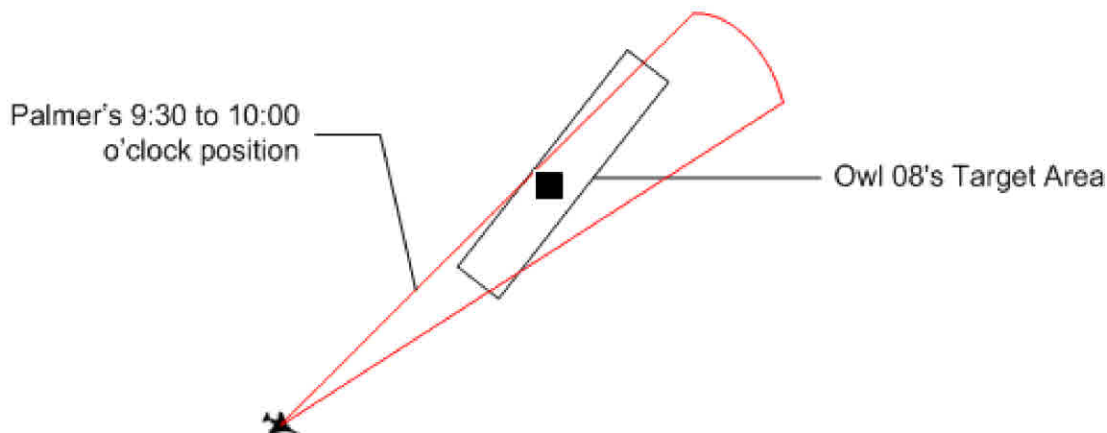
Owl 08's Target Area (shown below) was approximately 15 miles long and 5 miles wide and was located between two checkpoints – D22 and D68 – approximately 85 miles east southeast of NKP.



When Palmer sights the flares (below) he is southwest of Owl 08's Target Area, heading southeast.



The pilot of Palmer flight stated he saw three flares at his “9:30 to 10 o'clock position” (60-75 degrees left of the nose), which is represented below by the red cone. The suspected crash site (“Site 3”) is shown as a black square and is approximately 25 miles from Palmer.



This is very strong evidence Palmer saw Owl 08, given Blue Chip confirmed no other allied aircraft were in the area at the time. Given the number of flares in the air at the same time and that it was near the end of Owl 08's target time (which means they would have been getting low on fuel), it seems reasonable Owl 08 discovered a significant enemy presence and was actively engaging them. Had it been otherwise, by this time Owl 08 would have already contacted Moonbeam for alternate targets or would have already left to go back to the tanker. Sometime during this fierce battle, Owl 08 may have been struck by antiaircraft fire in such a way that made ejection impossible.

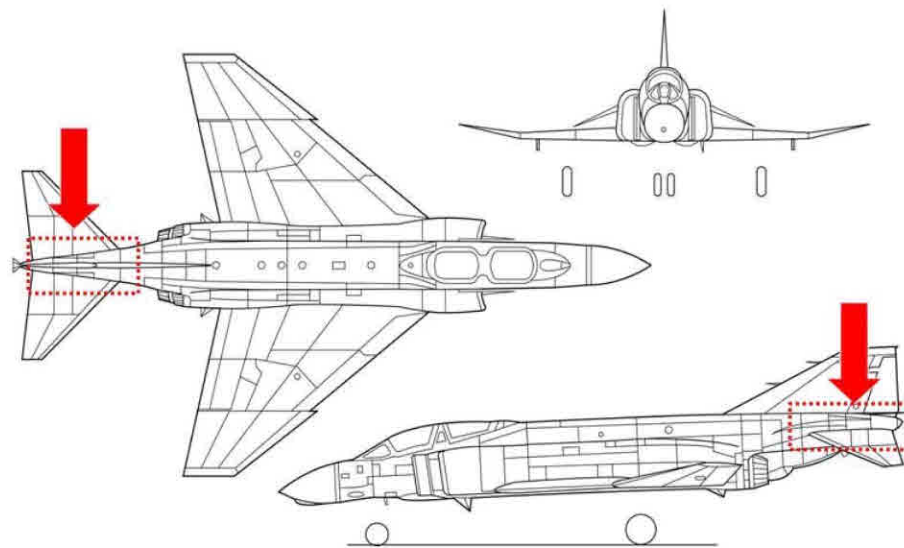
Alternate hypotheses

While the evidence points very strongly to the flares being from Owl 08, if they were not, then one of the following may have accounted for Owl 08's loss somewhere in the Ban Karai area:

1. *Owl 08 successfully attacked a convoy that included a tanker truck full of fuel and the resulting explosion destroyed Owl 08* – there were cases of such convoys being hit with the explosion reaching altitudes up to 5,000 feet AGL, although this scenario is highly unlikely.
2. *Owl 08 experience structural failure of its centerline fuel tank* – the centerline tank had two sections: an aerodynamic nosecone in front of a blunt tank and there were several cases in which the nosecone separated from the rest of the tank, resulting in a tremendous increase in drag great enough to cause the airplane to lose control. If this occurred at low altitude, there would be almost no time to recover.
3. *Owl 08 stalled as a result of fuel in its centerline fuel tank* – The centerline tank did not have baffles to prevent fuel from sloshing around so before it went empty and if the aircraft was maneuvering aggressively, fuel sloshing backwards could temporarily cause a condition where the center of gravity (CG) moved far enough back to contribute to a stall. (This ultimately led to a rule that F-4s could not drop bombs from a dive until the external fuel tanks were empty. Additionally, in the 1980s, as a safety measure, centerline tanks without baffles were replaced by ones that did.) If shortly after arriving at the target area (during which time the centerline tank would not yet be empty) Owl 08 maneuvered aggressively in reaction to AAA, an aft CG condition may have contributed to the aircraft stalling.
4. *Owl 08 experienced weather-induced disorientation* – If Owl 08 arrived over Ban Karai and found cloud decks below them obscuring the target area, they would have determined the height of the clouds by overflying the target area on a northeasterly heading and descending. In doing so, had they become disoriented, it may have led to a crash.

Wreckage Analysis

In November 2002 during the 76th JFA, a JPAC Team discovered and photographed wreckage found at "Site 3" that is from an F-4 series aircraft. The wreckage is from the tail section as shown by the arrows in the image below.



This piece of wreckage is an actuator that moved the tail section control surfaces.



This piece is part of an F-4 aft fuselage.



This is the last 6 feet of an F-4 fuselage; the identification plate in the next image was found here.

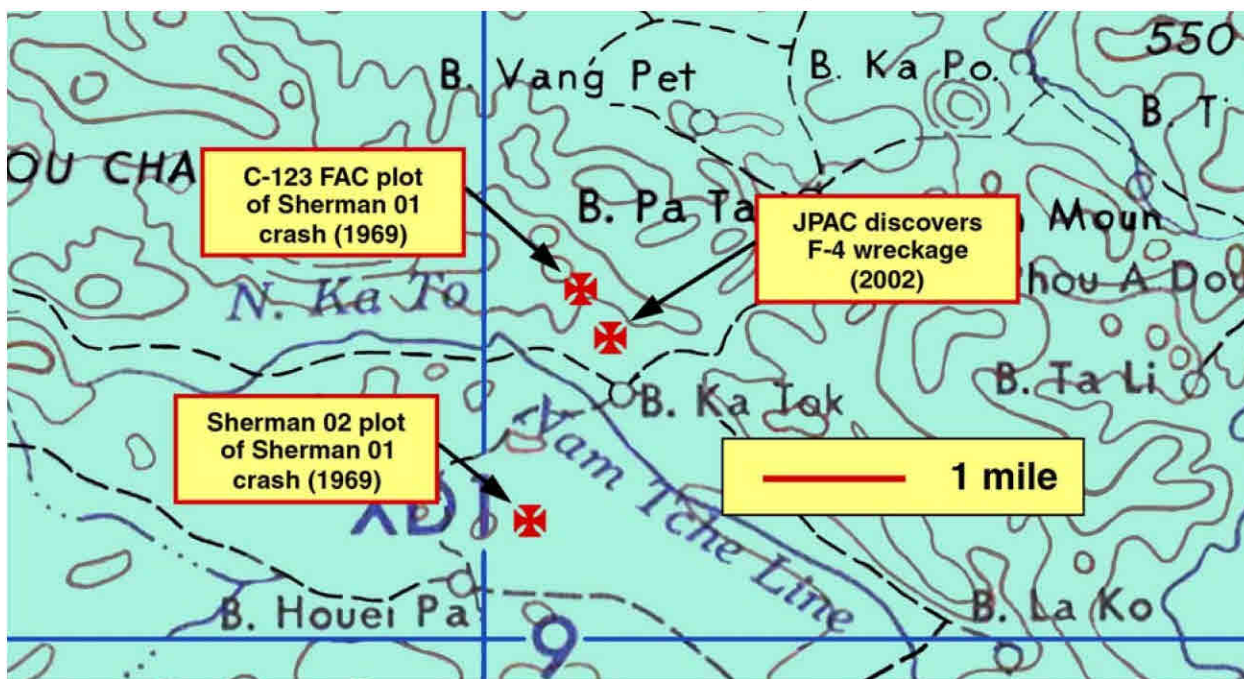


Close-up of the identification plate.

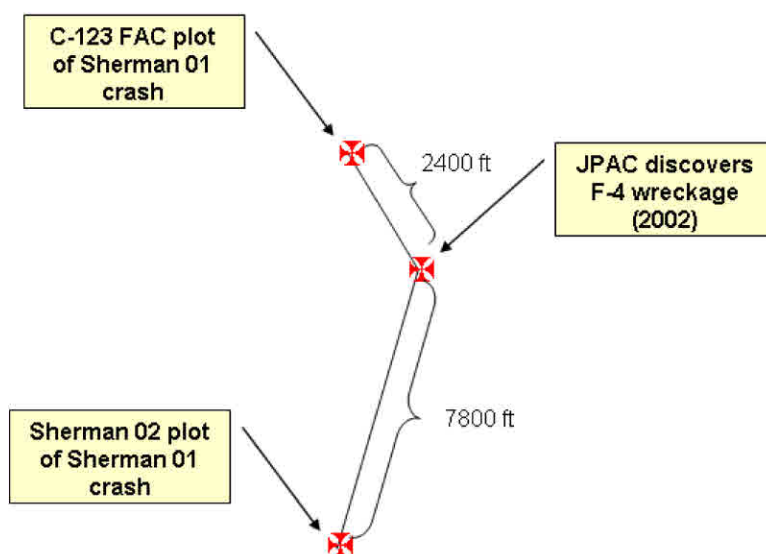
Unfortunately, Boeing confirmed this identification plate is not unique to a particular aircraft, so the wreckage cannot be positively identified and other evidence must be taken into account.

Additional Evidence from another MIA Case

Two years before Owl 08 went missing, Maj Wendell Keller and 1Lt Virgil Meroney (Case 1396) went missing in an F-4D (callsign Sherman 01) in the Ban Karai area. There were multiple eyewitnesses to this crash – the wingman (Sherman 02, interviewed as part of case research) and the crew of a C-123 cargo aircraft operating as the airborne FAC. Using charts of Laos and mapping software, the author created the image below that shows the positions where the eyewitnesses saw Sherman 01 crash relative to where the wreckage at “Site 3” was found.



Stripping away the map image, you can see the C-123 FAC plotted the crash only 2,400 feet from where the wreckage was found in 2002. While this might not seem accurate given modern standards, a plot of this accuracy made during combat night with the navigational aids of 40 years ago is quite precise. Likewise, the author interviewed the wingman pilot who said the FAC's plot would have been more accurate.



Additionally, both eyewitnesses stated Sherman 01 impacted the ground at a steep angle, which is consistent with the wreckage found (the only large pieces came from the tail section). This

additional evidence says the wreckage found in 2002 belongs to Sherman 01, not Owl 08, which means Owl 08's resting place likely has yet to be found.

7. Conclusions

Nothing will be certain until a JPAC excavates Owl 08's location but the evidence points very strongly to Owl 08 being lost somewhere in Ban Karai area with about 5 minutes left on station. If this is the case, they undoubtedly did so attempting to accomplish their assigned mission at night, under marginal weather conditions, against heavy defenses, and near the limits of human and aircraft performance. However, there is more to this story than determining the location of a missing aircraft.

In James Michener's fictional account of fighter pilots during the Korean War – "The Bridges at Toko-Ri" – Admiral Tarrant, upon seeing the selfless and heroic dedication of the men under his command, asks in amazement, *"Where did we get such men?"* We could ask the same about Jim Steadman and Bob Beutel, well-trained, experienced, combat veterans who understood the risks and yet answered the call to fly some of the most difficult and dangerous combat missions the United States Air Force has ever flown. These men are true aviation pioneers who proved an enemy could no longer hide under the cover of darkness. They gave their very best to their country and earned the right to be called patriots and heroes and should be remembered as such. We solemnly look forward to the day they come home.

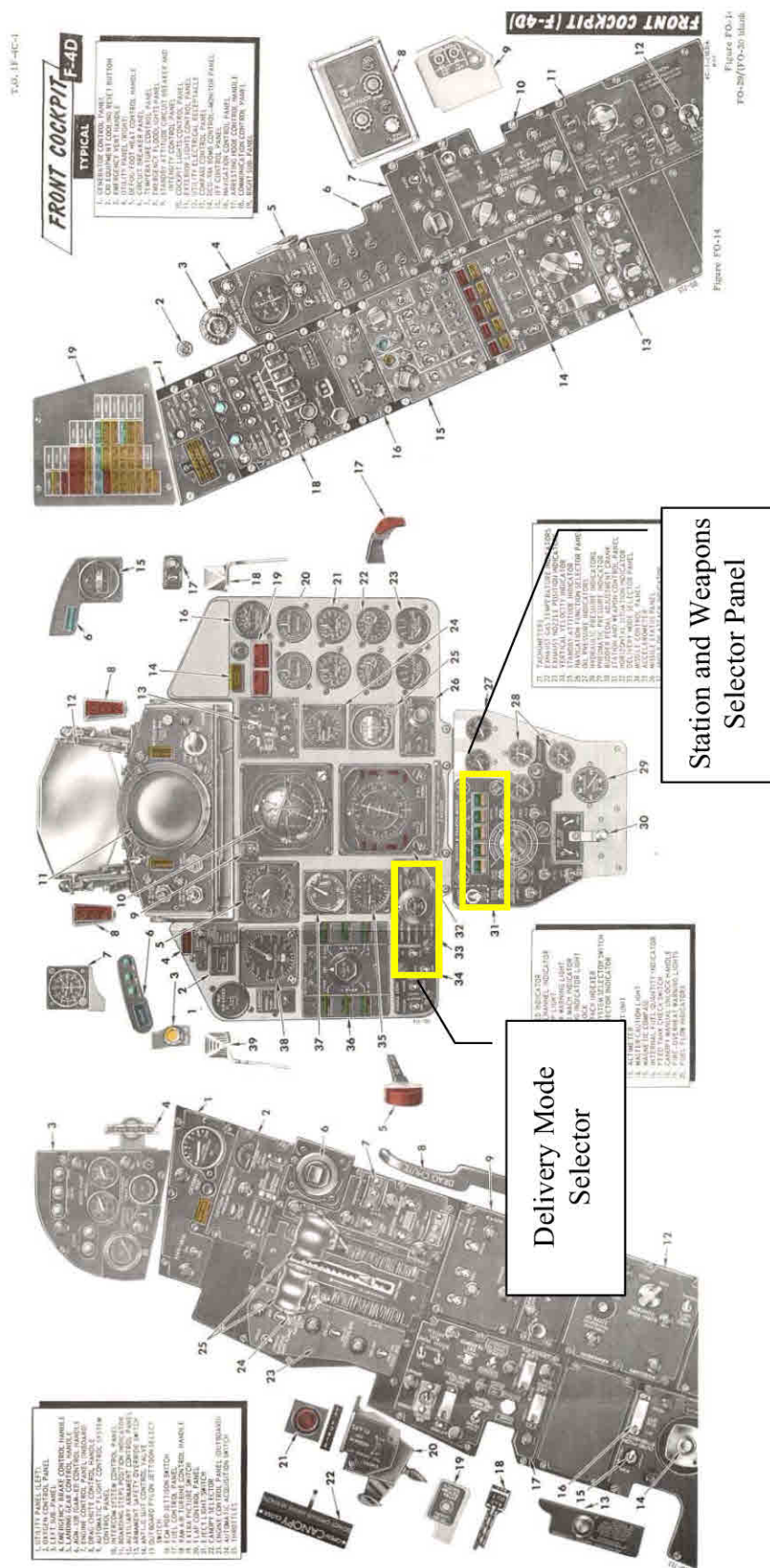


Sources

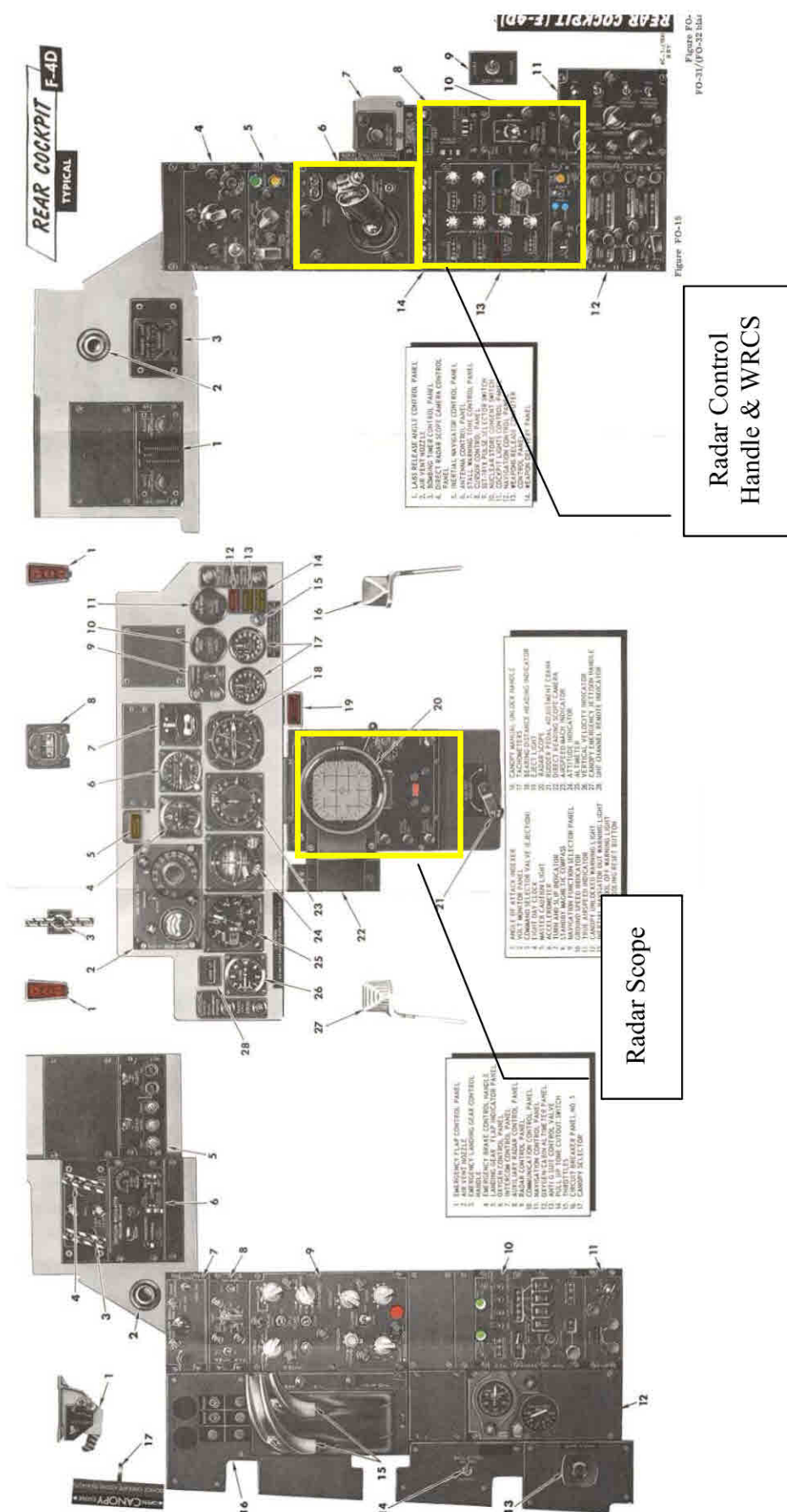
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- Harrington, Charles "Skip", Col, USAF (Ret). Email correspondence and phone interviews (September-October, 2006). Col Harrington was 497th Operations Officer (1969-1970) and developed many of the Nite Owl tactics.
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- Lester, Gary Robert. "Mosquitoes to Wolves: The Evolution of the Airborne Forward Air Controller" Air University Press, Maxwell Air Force Base, AL, August 1997. A detailed history of the Airborne FAC, it is an excellent background reference document.
- McDonnell Aircraft Corporation, Technical Order 1F-4C-1, 1967. The F-4D flight manual and source for fuel and aircraft systems references as well as cockpit diagrams.
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- Poole, Robert. "Lost Over Laos" Smithsonian Magazine, August 2006. This article describes JPAC's excavation of the crash site of Capt. Michael "Bat" Masterson, USAF, who went MIA over Laos in 1968. It is an excellent review of JPAC's thoroughness.
- Poole, Robert. Email correspondence and phone interview (October 2006). Mr. Poole provided details on JPAC excavations.
- Yates, Dave, Col, USAF (Ret). Email correspondence and phone interview (October-November, 2006). Col Yates was a "Wolf" FAC flying out of Ubon and flew the first aircraft that went looking for Owl 08 on November 26, 1971.
- www.designation-systems.net. This site provided details on munitions carried by Owl 08.

Notes

¹ Offset Bomb was the F-4D bombing mode that permitted release of conventional weapons from a level delivery without having to see the target. Capt. Steadman would have selected "Offset Bomb" on the Delivery Mode Selector Panel (highlighted below, left) and then selected the outboard weapons stations (the ones furthest out on the wings, which carried the flare dispensers) on the Station and Weapons Selector Panel (highlighted below, center).

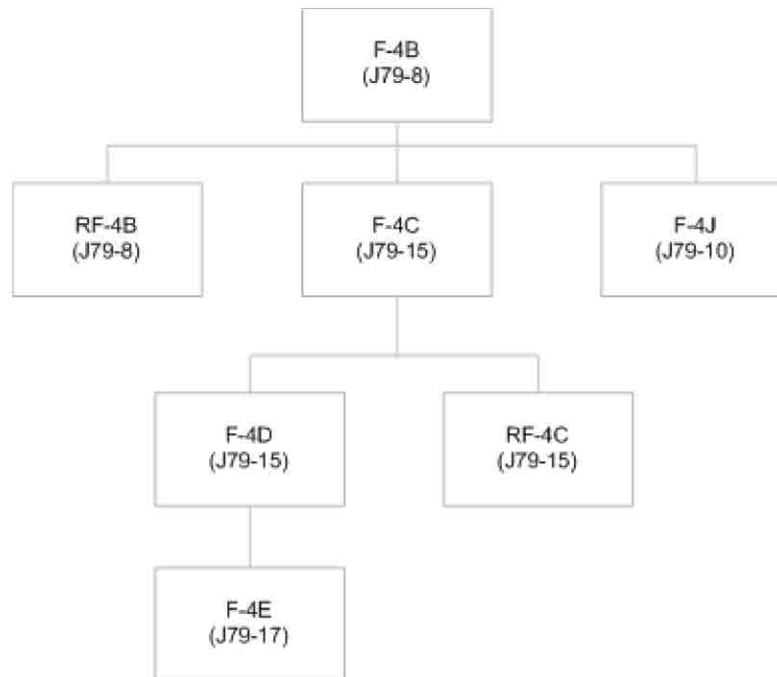


² 1Lt Beutel would have located an offset aimpoint using the radar scope (highlighted below, center) and using the radar control handle (highlighted below, top right), would have placed the cursor over the aimpoint. He would have previously entered distance and weapons data into the WRCS (highlighted below, bottom right), which would then take radar data, calculate a release point, and automatically release the flare.



³ The turbine blade found is a first stage blade from a J79-15/15A engine, which had 17 “stages” (sets) of compressor blades. Its important to Case 1781 (and Case 1396) because it proves the aircraft that crashed there must be an F/RF-4C or F-4D.

The F-4 “Family Tree” below shows the relationship between models and the number in parentheses is the subtype of J79 that powered that series. The only models with -15 engines were the F/RF-4C and F-4D. While there were other F-4 models built (such as the F-4F and F-4G), the ones listed below were the only ones used in Southeast Asia.



⁴ The table below contains the navigational reference data for points relative to Nakom Phanom (note: magnetic variation is 0) and Owl 08’s Target Area. The format for TACAN position is magnetic bearing/distance/channel; for example, 090/50/89 is 90 degrees (due east) for 50 miles from Channel 89.

Checkpoint	Lat Lon	TACAN	UTM
NKP	17:23:02N 104:38:35E	CH 89	N/A
D22	17:12:00N 106:09:00E	105/79/89	XE 22 01
D68	17:03:00N 105:58:00E	097/89/89	XD 02 86

About the Author



Joseph Mortati investigates cases of American airmen Missing in Action in Southeast Asia to help families who have been waiting for answers about their loved ones. A graduate of the Air Force Academy, where he majored in Military History, he flew over 1,000 hours in F-4s, served as a Ground/Airborne FAC, and was Air Operations Officer on a Joint Staff. He now runs GTG Consulting, a firm that teaches businesses how to bridge business and technology.