A C-117D Ditching off of Guam

August 14, 1978

By Seth P. Washburne

Published November 20, 2013

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Foreword

On October 5, 2013, while driving north of Dallas, Texas, I called my older brother, and during our talk he made a reference to the airplane crash he was in 35 years before, on August 14, 1978. He said there was nothing on the Internet about it, and so when I arrived home I decided to see what I could find. On the Internet I soon found Dan Arnes, one of the rescue swimmers who arrived by helicopter. My brother sent me a passenger list, and using the Internet I soon found others. I decided to write up what happened.

Wallace Green provided the most help, emailing me part of the official investigation, with statements taken in 1978, plus write-ups by him and Jim Joseph. Dan Arnes identified the location of NAS Agana on page 19, found the photo of NAS Agana on that page, provided the photos of helicopters from that time on pages 20 and 52, the mishap board report on page 24, and the 1979 Flight Manual excerpt on page 75, and shared his own recollections. Peter Washburne provided photos of Ulithi, Yap, and the band members, and a recent account of his own. Ed Estes, Joe Betancourt and Dave Rathbun corresponded about many details, and Joe also provided the entertaining Van Cleve story. Some information and photos are from Internet sources, and are assumed to be in the public domain. Peter Washburne also did the final edit, making more than 240 edits and improvements.

Please note the following:

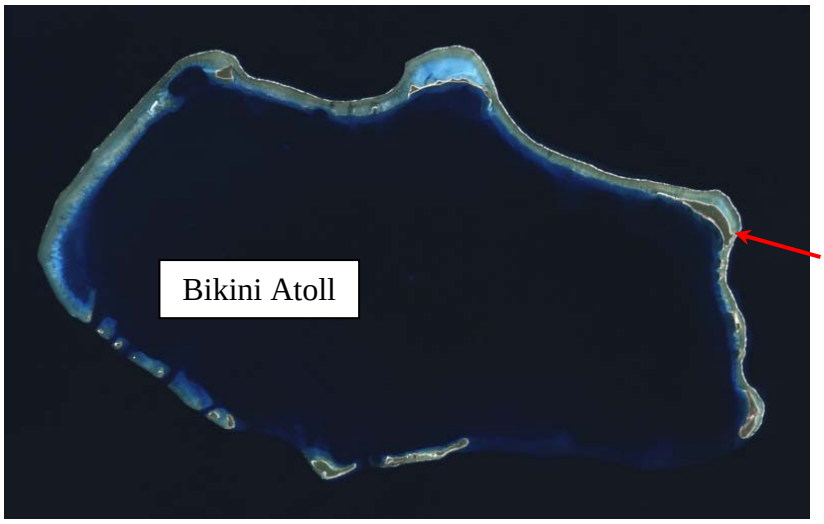
- This is written for non-military people, too, so dates use the format, "August 14, 1978," times use "a.m." and "p.m.," and port and starboard are often changed to left and right.
- To save space, titles are often dropped after their first mention, e.g. Director of the Office of Territorial Affairs of the Department of the Interior Ruth G. Van Cleve becomes simply "Van Cleve;" Rear Admiral David S. Cruden becomes simply "Cruden."
- The airplane is referred to by its call sign, 17152, or as the "C-117D." The D model was a very different plane than the original C-117.
- Most quotes are in yellow boxes, and some references to later years are in green boxes.
- The Part B Combined Account includes only small parts of others' stories. Their complete accounts in Part C provide vastly more details, and should be read in full.
- Some details differ from one account to another, and some of these differences are noted.
- This author's comments inside others' stories are marked off with square brackets: [ ].

It is hoped that this helps provide closure for those involved and information for their relatives.

Sincerely,

Seth P. Washburne
Dallas, Texas
November 20, 2013

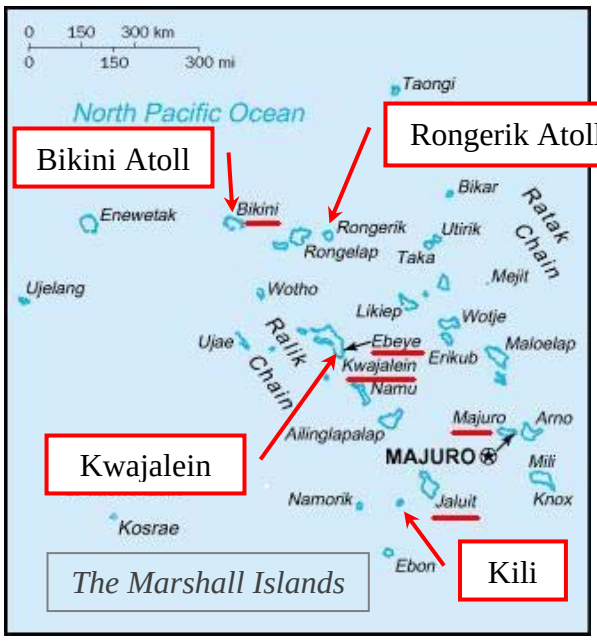
The Department of the Interior in Washington, D.C.



A. Background

1. A Department of the Interior Mission

Relocating Bikinians



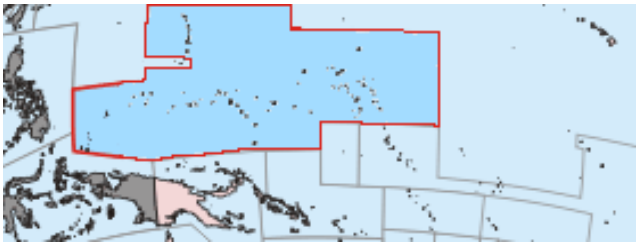
In 1945, the U.S. Government wanted a site to test nuclear weapons, and picked Bikini atoll, on the northwest side of the Marshall Islands, as shown at right. As shown above, Bikini consisted of 23 islands surrounding a deep lagoon. The atoll would provide seven test sites: on the reef, on the sea, in the air, and underwater, for 23 detonations, starting in July 1946. There was only one problem: 167 residents.

Prior to testing, the Bikinians accepted what they thought was a temporary resettlement at Rongerik Atoll, also mapped at right, 125 miles east of Bikini, and they were relocated here March 7, 1946. Rongerik could not produce enough food, though, and so two years later, in March 1948, the Bikinians were relocated to Kwajalein for six months. In November 1948 they chose to move to uninhabited **Kili Island**. Around 1956 some moved to nearby **Jaluit Atoll**.

In 1970 about 160 Bikinians returned to Bikini Atoll, after it was deemed safe. In 1975 they sued the United States demanding a study be done of radiation levels. Scientists confirmed it was still not safe, and the residents were to be evacuated again in September 1978.

Under Secretary Joseph: "The democratic process had seen an almost unanimous vote of the Bikini elders [mostly on Kili] to return to Bikini Atoll. My job was to decide whether the Carter Administration should agree to their request, or act as a guardian for the younger generation who did not vote, but who by returning to Bikini would be sentenced to an early death.

"I decided to go to the Marshall Islands to learn more about what had informed the decision of the elders. Had they fully understood the information provided? The Marshallese language had no word for radiation and radioactivity or for strontium-90, or cobalt-60, terms new to me as well. The translation in Marshallese was sickness or poison, but the Bikinians could see lush growth everywhere. Some who had tasted the coconuts reported that they were larger and sweeter than those on the island before the people were removed. I also wanted them to know that the Carter Administration took its responsibility for the group of islands very seriously."



The Trust Territory of the Pacific Islands

The year 1978 was a transitional time not just for the Bikinians, but for all of the people of the Western Pacific islands, an area outlined in the map above. They were on the verge of, for the first time in their histories, becoming self-governing countries.

Guam had been discovered in 1521 by Magellan, and claimed for Spain, that ruled it for almost 400 years. Following the Spanish-American War of 1898, Spain ceded Guam to the United States, and sold the remainder of the Marianas and the Caroline Islands to Germany. At the end of World War I, the Treaty of Versailles gave Japan the South Pacific Mandate to occupy the former German colonies in Micronesia, except Guam, and during the 1930s, the Japanese Navy built airfields, ports, and other projects, and moved residents to occupy the islands. During World War II, the territory of the South Pacific Mandate was taken by the United States.

After the islands had been under rule of Spain, Germany, Japan, and the U.S., in July 1947 the United Nations created **the Trust Territory of the Pacific Islands**, administered first by the US Navy from Guam, and starting in 1951 by the U.S. Department of the Interior, from Saipan.

Starting in the 1950s the UN and U.S. wanted to move the territory toward autonomy. In 1965 the territory elected a congress. In 1975 the Northern Marianas voted to become a commonwealth of the U.S. (similar to Puerto Rico), and did in 1976. The remaining islands were organized into six districts. In a vote in 1978, four districts (Yap, Truk, Ponape, and Kosrae) voted to become the Federated States of Micronesia, while two voted to become independent [forming the Republic of the Marshall Islands in 1979, and the Republic of Palau in 1981].

The Department of the Interior, and the Trust Territory representatives, played a vital role in guiding the transitions in these countries, and letting them know their options.

Under Secretary Joseph: "This trip started out primarily as a visit to Kili and Bikini to prepare for the relocation of Micronesians. But it was soon enlarged to include the major District Centers and selected outer islands from the Micronesian group administered by the Department of the Interior under a Trusteeship Agreement with the United Nations. I would be the highest ranking U.S. Government official to visit the area. The Micronesian leaders were part of a culture that was rather rank-conscious, and so were very excited about my coming.

"I wanted to observe firsthand the social and political conditions American policies have created, in order to more properly assess the role of the United States Government in preparing for the termination of the Trusteeship in 1981."

Deputy Under Secretary Green: "There were two purposes for the trip, first, to meet with residents of Kili and Bikini who were displaced. All [1970] residents of Bikini were about to be relocated to Kili, because traces of radioactive contamination had been discovered. To assure them of the danger and our concern, the Under Secretary felt it important to pay a personal visit.

"The second purpose was to make good on a previous commitment to local leaders that the Under Secretary would visit each District [Yap, Truk, Ponape, Kosrae, the Marshall Islands (Majuro), and Palau] in 1978."

Department of the Interior Itinerary

August 1978

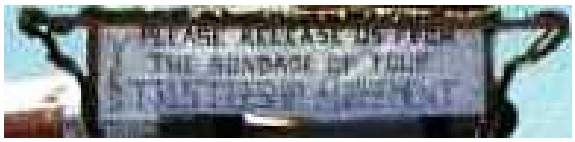
Su	Mo	Tu	We	Th	Fr	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19

Joseph and Green left Washington, D.C., August 2, for Joseph to attend a Territorial Affairs meeting in Honolulu for two days, and Green to continue on to Majuro (#3 above) to prepare. Van Cleve on Friday the 4th flew to Hawaii.

Saturday was a long one for Joseph and Van Cleve. They met at 6:30 a.m. in Honolulu for an 8 a.m. flight on Continental Airlines subsidiary Air Micronesia, "Air Mike," on a Boeing 727, to Johnston Atoll. As shown at right, there is little there other than the airport complex.

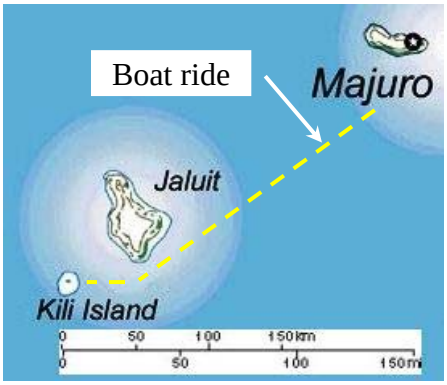
They continued on, and crossed the dateline, so it was Sunday. They arrived at Majuro, pictured below for a UN visit also in 1978. Van Cleve noted there was a large crowd, and "Many signs asking for a Secretarial order forthwith." The sign for the visit below states:

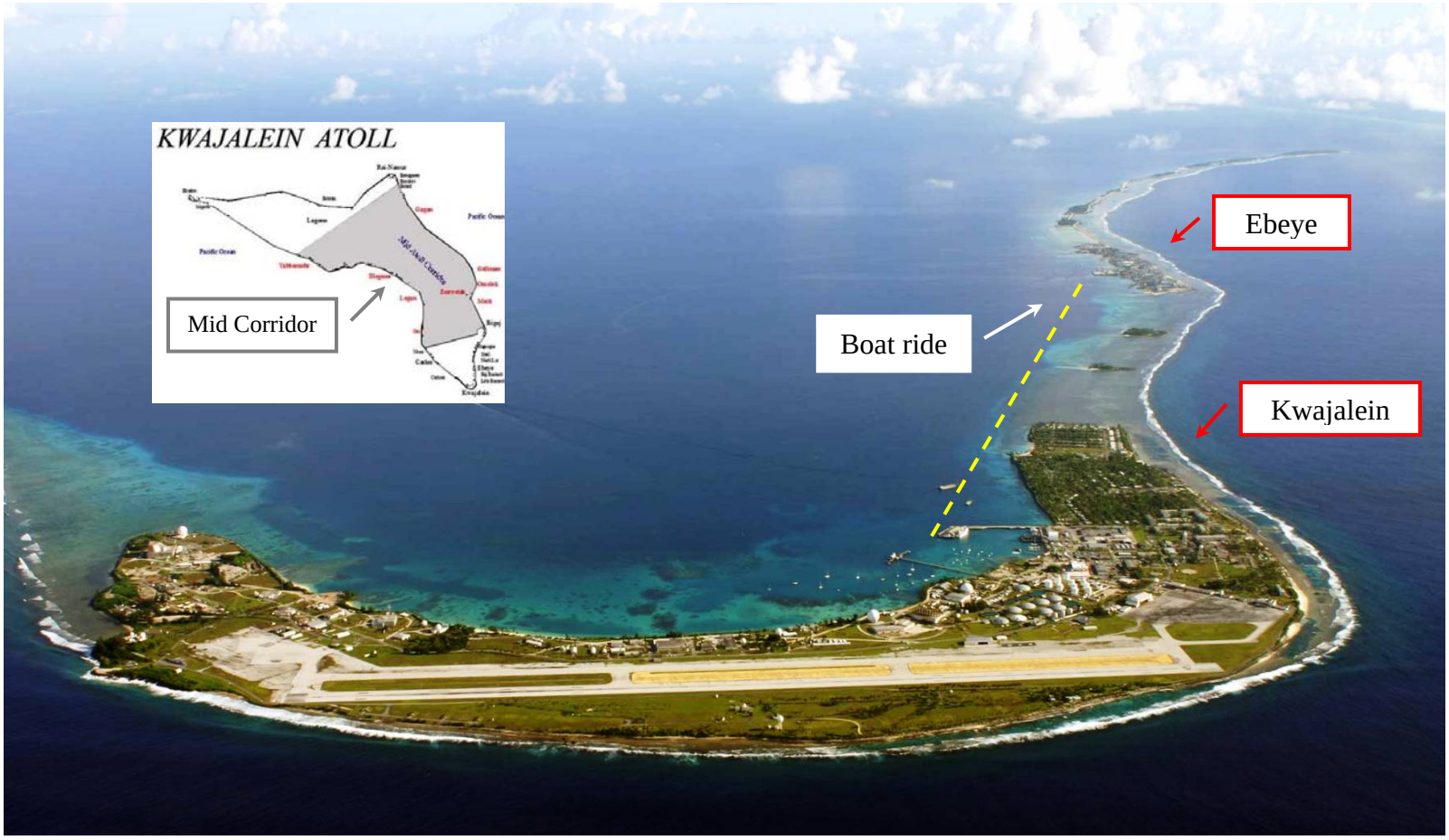
Y PLEASE RELEASE US FROM
E THE BONDAGE OF YOUR
S TRUSTEESHIP AGREEMENT



Reflecting their priority to see the Bikinians, on still the same day, after 3 hours in Majuro, Joseph and Van Cleve, now joined by Green, boarded a boat around 3 p.m. for the 180-mile, overnight trip to Kili island, below right, to where the Bikinians moved in 1948, and to where more would be moved in September. Kili is 1 mile long and 0.36 miles wide, bottom right.

The group arrived in Kili at 10 a.m. Monday, and stayed until around 2 p.m. On the way back **they stopped at Jaluit** at 5 p.m. to visit other Bikinians, then another overnight on the boat.



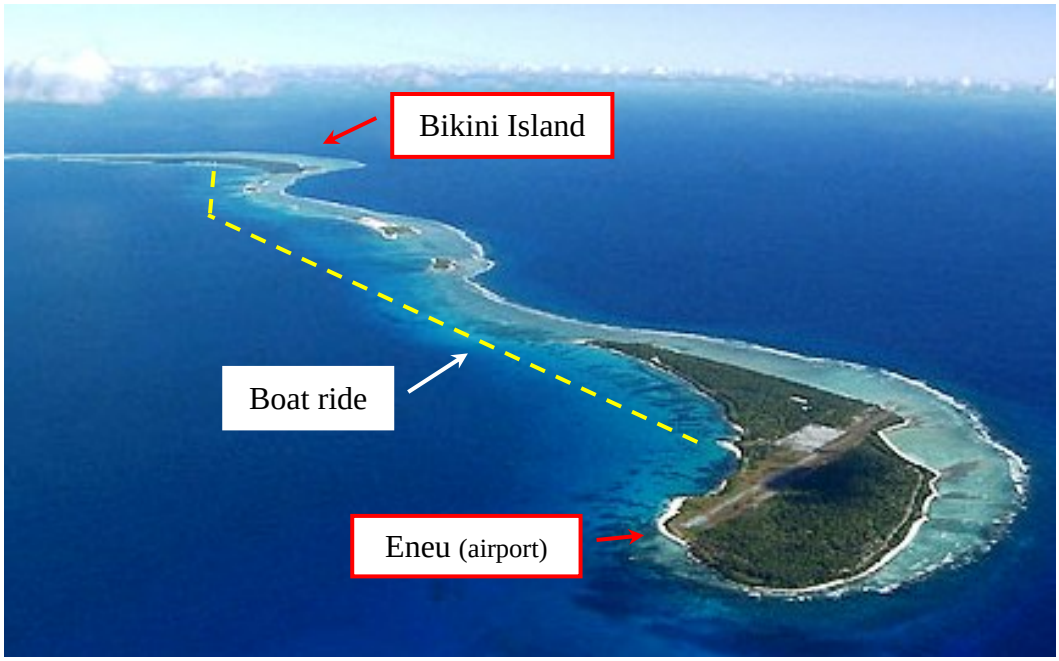


Majuro – Kwajalein – Bikini

The overnight boat from Jaluit arrived back in Majuro Tuesday around noon. Joseph, Van Cleve and Green met with local leaders the rest of the day and Wednesday morning. Later on Wednesday they flew to Kwajalein Atoll, #4 on the map on page 3, with the airfield above, arriving after noon. At 3 p.m. they took a boat to Ebeye to meet local leaders. They returned to Kwajalein for the night. On Thursday they discussed the Mid Corridor Agreement – compensation to those forced to move to Ebeye from the Kwajalein's Mid-Atoll Corridor, inset above, which became a U.S. missile range.

Friday they flew at last to Bikini Atoll, first to Eneu [alt Enyu], below, a coral runway, and took another boat, this time about 7 miles, to the main habitation, Bikini Island. The residents were welcoming, but there was tension in the air. The purpose was to convince them to move to Kili. The people raised a host of issues, and it was agreed that Ruth Van Cleve would draft a Memorandum of Understanding.

After several hours they returned to Eneu, and departed at 5 p.m. back to Kwajalein, and from there to Ponape.



Ponape - Truk

For their first six days (Sunday to Friday), Joseph, Van Cleve, and Green were only in the Marshall Islands, first to discuss what the U.S. could do for the displaced Bikinians, and second to talk about the islands' move to independence. After this, their focus shifted to only discussing independence with the other soon-to-be island nations. With their landing at Ponape (mapped above) Friday night, they were in what would the next year become the Federated States of Micronesia. Saturday they met local leaders in Ponape, and toured a hospital and cultural center. Saturday afternoon they flew to Truk, spent the night, and Sunday afternoon flew to Guam.

Under Secretary Joseph: "Throughout my visits to small Micronesian islands I was told that no one at my level in the Federal Government had ever visited many of the outer islands. But I am pleased I did. I have a better perspective on the Government's responsibilities, and a much better feel for the needs, aspirations, and political future of the people of Micronesia."

Deputy Under Secretary Green: "[One] quotation I shall never forget came during a meeting with Bikinians on Bikini. A citizen stated:

"You have a need to meet with us, but we have an even greater need to meet with you."

Department of Interior Visit: First Eight Days' Accomplishments

(Official business highlighted in this dark blue)

Date	Day	Activity
8/2	Wed	**Washington, DC** - Under Secretary Joseph and Deputy Under Secretary Green fly to Honolulu; Joseph for a 2-day meeting, and Green to continue on to Majuro to confirm appointments.
8/4	Fri	**Washington, DC** - Van Cleve departs 8 a.m. for Chicago; Lvs 10:30 for Honolulu, arrives 2:15 p.m., arrives Ala Moana Hotel 3:25 p.m. for a small reception.
8/5	Sat	**Honolulu** - Joseph and Van Cleve meet at 6:30 a.m., go to airport for an 8 a.m. "Air Mike" flight to Majuro. The flight stopped at Johnston Atoll. They cross the dateline so it is now Sunday.
8/6	Sun	**Majuro** - arrived 11:45 a.m. (same day) to huge welcome. Toured copra plant; and had discussions with District Administrator. At 3 p.m. all took overnight boat to Kili, with cabins on board.
8/7	Mon	**Kili** - arrived by boat at 10 a.m., big welcome, then tour, until 12 p.m.. Then 2 hour meeting with local leaders, who requested improved housing, a dock and airport, and not to be forgotten. Lunch, then harrowing return out to the ship. On way back to Majuro, stop at 5 p.m. at **Jaluit** - visit boarding shool, whose Principal noted water and power source problems, back to ship, overnight.
8/8	Tue	**Majuro** - arrive back by boat at noon. Starting at 2 p.m. meet local leaders who request support for Phase II capital improvements; and a revised Secretarial Order to accomplish separation. Visited hospital and noted the deplorable conditions. Met with landowners whose property was taken by the U.S. Government.
8/9	Wed	**Majuro** - met with disaffected landowners; then to airport for late morning flight to **Kwajalein.** Arrive Kwajalein after noon. Toured military installation by car. 3 p.m. boat trip to **Ebeye** - met local leaders. Back late in the day by boat to **Kwajalein**.
8/10	Thu	**Kwajalein** - discussed Mid Corridor Agreement, and financial contributions.
8/11	Fri	Left **Kwajalein** at 8 a.m. to **Eneu**, and then by boat to **Bikini.** Met with local leaders and citizens, and expressed need for cooperation in move to Kili. Residents raised issues of payment for the move, reimbursement for loss of farms on Bikini, request for two fishing boats, desire to stop-over in Kwajalein during move, to shop, all to be put into a Memorandum of Understanding prior to the move. Ruth Van Cleve drafted the MOU. Boat back to Eneu, departed at 5 p.m. for **Ponape**.
8/12	Sat	**Ponape** - breakfast meeting with local leaders, tour of hospital and cultural center.
8/13	Sun	**Truk** - breakfast with local leaders, toured school, hospital, courthouse, other sites. Met with District Administrator re: Phase II capital improvements, economic development of fishing and copra, need for medical dispensaries in outer islands, educational and career development for young people, funds for operation and maintenance of facilities. **Guam** - dinner with the Governor; a document listing concerns was presented.

NAF Kadena C-117D 50804

Joseph, Van Cleve, and Green travelled by commercial airlines to Majuro and Kwajalein. For their subsequent flights the Joint Chiefs of Staff authorized the use of military airplanes.

The U.S. Naval Air Facility ("NAF") in the town of Kadena, Okinawa, had the C-117D, pictured at right (four years earlier when at NAF Naha, Okinawa), and in early August 1978 it flew to Guam. Rear Admiral David S. Cruden, Commander of the Naval Forces Marianas, took this airplane with its crew, and his aides Betancourt, Roth, and Tedder, to Kwajalein. They flew the officials Friday morning the 255 miles (1.5 hours) to Bikini Atoll, and back, and Friday afternoon the 660 miles (4 hours) to Ponape. On Saturday afternoon they flew 437 miles (3 hours) to Truk, and Sunday afternoon 633 miles (4 hours) back to Guam. During the 14 hours and 2,240 miles, the officials developed a fondness for the airplane crew, and Navy staff.

Above left are Cruden, Van Cleve, Green and Joseph on Kwajalein. Top right on Sunday, August 13, after arriving in Guam, is Green being greeted by Guam Governor Ricky Bordallo.

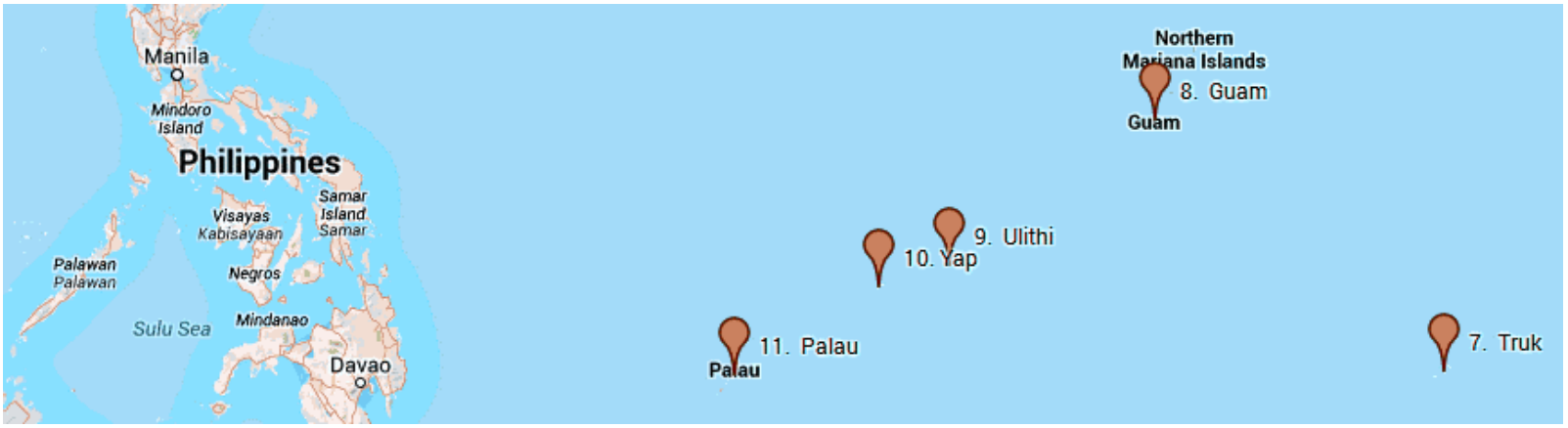
Under Secretary Joseph: "It was on Kwajalein, after our return from Ebeye, that we first met Rear Admiral David Cruden, the Commander of the Navy Forces in the Marianas. His staff and members of the crew were to provide transportation for our visit to the remaining islands on our schedule. The members of the crew, from the Admiral's aide to the pilot, were very pleasant and blended into the Interior party with ease.

"As we prepared for our flight from Kwajalein to Eneu, I granted an interview with a local reporter whose photographer took a picture [above left] of us boarding the Navy C-117 plane.

"Governor and Mrs. Bordallo of Guam have always been superb hosts. This visit was no exception. We had a delightful dinner in the drawing room Sunday night, toured the house and returned to our rooms."

Deputy Under Secretary Green: "We had dinner with the Governor, his wife, and members of his staff at Government House. The Under Secretary, Mrs. Van Cleve and I were very well attended to, and very much impressed with the luxurious surroundings.

"We got to bed at a reasonable hour following a delightful dinner, and looked forward to our travel to Ulithi the next morning."



2. The Second Part of their Mission

The Department of the Interior officials, after visiting the Marshall Islands, Ponape (but not Kosrae), and Truk, had two more islands to visit to almost make good on their commitment to visit each of the six districts of the Trust Territories in 1978: Yap and Palau, above.

Interior Dept. Schedule August 14-16, 1978

Day	Nautical Miles, Time (at 145 knots)		
Monday	Guam to Ulithi	313 nm.	2.2 hours
	Ulithi to Yap	108 nm.	45 minutes
Tuesday	Yap to Palau	260 nm.	1.8 hours
Wednesday	Palau to Guam	705 nm.	4.9 hours

Their planned first stop, Ulithi, is pictured below [in 2013]. (The runway is "27.")

Under Secretary Joseph: "The purpose of our trip was very much the same as earlier visits to Ponape and Truk, but for the first time we were accompanied by a Navy band. They had been especially invited by local officials in Ulithi to join in ceremonies where we were to officially dedicate a dispensary [in Ulithi] and participate in a ground breaking ceremony for a new dock [in Yap]. Ruth had spoken highly of Ulithi, but she had ignited a special spark of anticipation in describing the cultural traditions of the people of Yap.

"I was also looking forward to the Palau visit. I had testified before a Congressional Committee on the proposal for a super port in Palau, and was eager to see the beaches environmentalists were determined to protect. In addition, I had been repressing the temptation to buy a few pieces of art for my office, waiting instead for Palau where I had been told that the colorful story boards I saw in Kwajalein could be obtained for much less money."

a. What They Might Have Experienced in Ulithi

The Navy band flew from Guam to Ulithi six months before, in February 1978, on the same type of plane, a C-117D. Photos from this trip by musician Peter Washburne show what the officials might have experienced. Above right is the view when near, looking west.

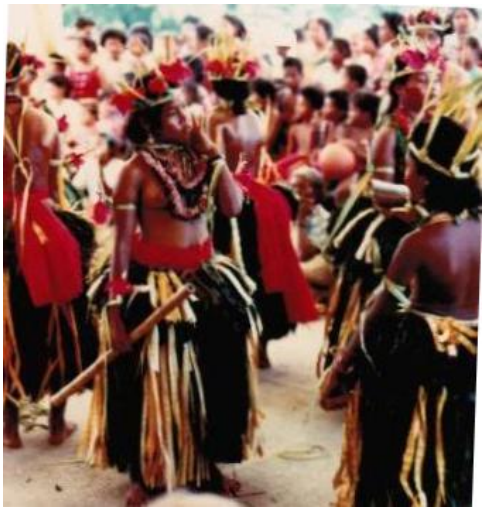
At right is Washburne, first off of the airplane, getting a lei greeting. This was at the time of a graduation ceremony, and so the signs below say "Welcome to Outer Islands High School" and "Welcome Guests from Guam." "It seemed like the entire island came out to greet us."

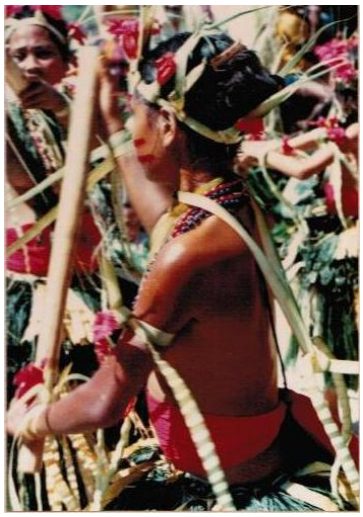
An Elder, Young Men, and Dancing Girls (photos by MU3 Peter Washburne)

The four girls below left are also below right, and in the bottom photo, at the far left.

b. What They Might Have Experienced in Yap

Pictured above is the Navy Band on a trip to Yap in 1979, under a sign "Welcome to Yap, Land of Stone Money." Above right are band leader Berger and Washburne. Below are girls in native dress, who enter the new facility, led by their Chief, to perform a traditional dance.





A Traditional Dance on Yap

Musician Washburne: "All of us young guys were impressed by this traditional grass skirt and bamboo stick dance performed by the young girls at the ceremony for the dedication of the new facility [The sign above the facility says "Congratulations Yap State"].

"Wow! The grass skirts made a 'sh-sh-sh' sound in rhythm as they moved. Then there was a really loud 'crack' or 'bang' when the girls all struck their bamboo sticks in unison."




3. The Crew and Passengers

For this second part of their journey, the three Department of the Interior officials were joined in Guam first by Adrian Winkel, Commissioner of the Trust Territory, who flew over from Saipan. Rear Admiral Cruden and his three assistants still accompanied the officials, plus now four Navy men involved in construction projects, for the groundbreaking ceremony on Yap for a new dock. There was a new flight crew, and also 13 band members – 30 in all.

[Those listed in blue below have their stories included herein.]

Crew (5)

1. Captain Edward D. Estes – pilot, Commanding Officer of Naval Air Station Agana, Guam.
2. Lt. Robert C. Bell – co-pilot, sat in the right seat, but was the Pilot-in-Command.
3. AE2 (Aviation Electrician) Ronald H. Curtiss – the Crew Chief for the C-117D.
4. AD2 (Engine Mechanic) David F. Rathbun – a jet mechanic, getting on-the-job training.
5. ADR2 (Engine Mechanic) James L. Broadbent – a mechanic, in training.

Government Dignitaries (4)

6. Under Secretary of the Interior James A. Joseph.
7. Director of the Office of Territorial Affairs, Dept. of the Interior, Ruth G. Van Cleve.
8. Deputy Under Secretary of the Interior Wallace O. Green.
9. High Commissioner of the Trust Territory of the Pacific Islands Adrian P. Winkel.

Navy Dignitaries and Assistants (8)

10. Rear Admiral David S. Cruden, Commander, Naval Forces Marianas.
11. Lt. Commander Patrick H. Roth – Cruden's Liaison Officer with the Trust Territories.
12. Lt. Jose (Joe) L. Betancourt – Aide to Admiral Cruden.
13. PH-2 Robin L. Tedder – Photographer.
14. Rear Admiral Neal W. Clements – Commander of the Pacific Naval Facilities Engrg Com'd.
15. Captain Ralph A. Smith – Officer in Charge of Construction (OICC) in Guam.
16. Lt. Cdr. William F. Burke – Aide to Smith (estimated).
17. Lt. James R. Allen – Aide to Admiral Clements.

Band Members (13)

18. Senior Chief Musician Frank P. Berger – band leader.
19. MU-3 Zosimo C. Ascano – saxophone.
20. MU-3 Ernesto M. Jimenez – cymbals.
21. MU-3 Bradley C. Johnson – saxophone.
22. MU-3 Michael A. Jones – bass drum.
23. MU-3 Vernon T. Lipscomb – trombone.
24. MU-3 Anthony J. Monjure – trumpet.
25. MU-3 Richard J. Sunier – trombone.
26. MU-3 Scott Alan Smith – trombone.
27. MU-3 Peter G. Washburne – sousaphone.
28. MU-1 Charles R. Thompson – trumpet.
29. MUSN John B. Brewer – saxophone.
30. MUSN Francis J. Winters – saxophone.

Band Profile

4	Saxophones
3	Trombones
2	Trumpets
1	Sousaphone
1	Bass Drum
1	Cymbals
1	Leader
13	Total

Crew and Passenger Summary

4	Government Officials	13.3%
13	Band Members	43.3%
13	Navy Crew/Others	43.3%

Estes, 44

Bell, 27

Curtiss, 27

Rathbun, 25

Broadbent

Crew (5 - above) **Government Dignitaries** (4 - below) **Rear Admirals** (2)

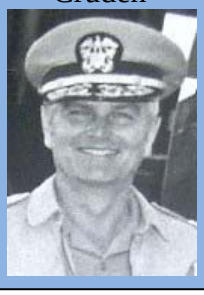
Joseph, 43

Van Cleve

Green, 30

Winkel, 63

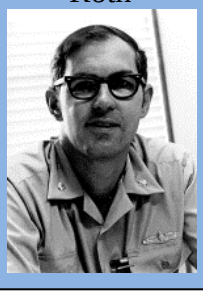
Cruden



Clements, 51

Navy Assistants to Cruden (3) **Navy Assistants to Clements (3)**

Roth



Betancourt, 30

Tedder

Smith

Burke

Allen

Band Members (13)

Berger

Ascano

Jimenez

Johnson

Jones

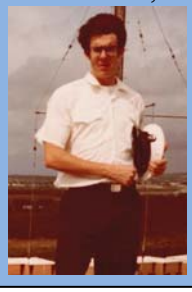
Lipscomb

Monjure

Sunier

Smith, 20

Washburne, 21



Thompson

Brewer

Winters

This blue shading means their account included.

Their Backgrounds

NAS Agana Commanding Officer Captain Ed Estes – Estes joined the Navy in 1955, and became a Naval Aviator in 1957. By 1978 he had 4,500 flight hours, mostly in single-engine jet attack planes: the Douglas A-4 Skyhawk and A-7 Corsair, pictured at right. His main propeller aircraft experience was in his early days with the T-28 single-engine trainer, in which he also had been a flight instructor. He served in Vietnam where he was forced to eject from his A-4 Skyhawk on January 3, 1968, was taken captive, and spent more than five years as a POW, until March 14, 1973 (from 34 to 39 years old). After freed, he worked on A-4 and A-7 special projects from 1975-76, and attended the National War College in Washington, D.C., from August 1976 to June 1977. He was appointed Commanding Officer of NAS Agana Guam in August 1977.

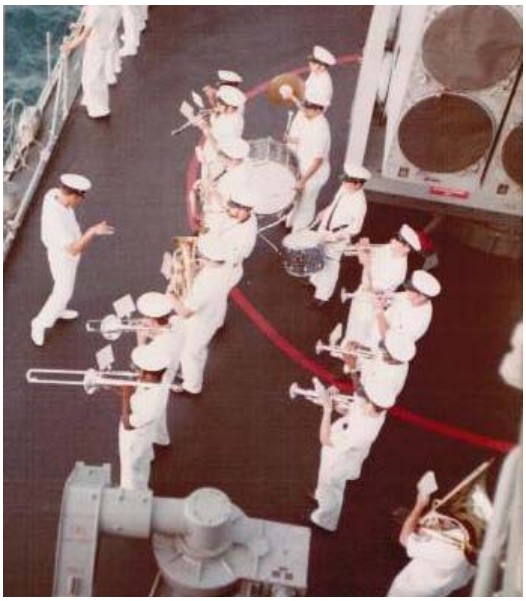
Under Secretary of the Interior James A. Joseph (born 1935; was 43) – graduated from Southern University (Baton Rouge) and Yale. He was an officer in the Army Medical Service Corps (when he frequently inspected hospitals and post dispensaries, so was well suited to do this in the Trust Territory), and was a Vice President of Fortune 500 member Cummins Engine Company from 1971-76. President Jimmy Carter appointed Joseph as Under Secretary of the Interior in 1977 (Under Cecil Andrus, also appointed in 1977).

Director of the Office of Territorial Affairs ("DOTA") **Ruth G. Van Cleve** – was a lawyer from Minnesota, first serving as Director of Territories from April 1964 to March 1969, when the Secretary of the Department of the Interior was Stuart Udall.

Deputy Under Secretary of the Interior Wallace O. Green (born 1948, in Washington, D.C., was 30) – graduated from Morgan State University, and from Boston University with an MS in 1971. He worked in public relations from 1971-73, then as an advertising executive from 73-74, and a staff director of the House District Subcommittee on Bicentennial Affairs 1975-77. He joined the Interior Department in 1977 as Executive Assistant to the Under Secretary, and in 1978 was appointed a Deputy Under Secretary.

High Commissioner of the Trust Territory of the Pacific Islands Adrian P. Winkel (born 1915, so was 63) – graduated from Saint John's (Minn.), worked in the Minnesota Commission of Taxation, Saint Paul public works department, the U.S. Post Office, and as an administrative assistant to Minnesota Congressman Eugene McCarthy. In 1977 Under Secretary Joseph appointed Winkel the High Commissioner of the Trust Territory of the Pacific Islands, to work out of Saipan.

The Navy Band in Guam



The Navy Band in Guam consisted of world-class musicians, who could perform traditional music, but also pop songs. They were part of the commanding admiral's staff, and played ceremonies, gave concerts, and acted as United States representatives.

Pictured above are Vernon Lipscomb, Rick Sunier, Scott Smith, and Dave Daniels all playing the trombone; Mike Jones behind them on guitar, an unidentified trumpet player in back; then Bob Jones on baritone saxophone, Walt Hendrix on trumpet in the back; Dave Edwards on soprano sax, Bradley Johnson and Zosimo Ascano on saxophone, and behind Ascano is Joseph Wessler on electric piano. (On electric bass guitar, cut off the right, was Mike Woody.)

The band is pictured at right on a ship, and below at a sporting event. Below right the band plays pop music.

The Navy Band parades on Saipan, below, around December, 1977. In front is leader Berger. On the left is Mike Jones with the bass drum, Sunier with a tuba, and Lipscomb with a trombone.

4. The Airplane

The DC-3

Douglas Aircraft produced 607 civilian DC-3s from 1935 until 1942. It was replaced with the military version of the DC-3, called the C-47 (a cargo plane). Douglas built 10,048 C-47s, including C-47A and C-47B models, and the Navy version, designated an R4D. After the war many of these were converted to DC-3s, and so there was no need to build any more DC-3s.

The Super DC-3

After the war, Douglas in 1949 produced a larger, more powerful DC-3, named a Super DC-3, but sold only five in the civilian market, due to the many regular DC-3s being available.

The R4D-8, a.k.a. the C-117D

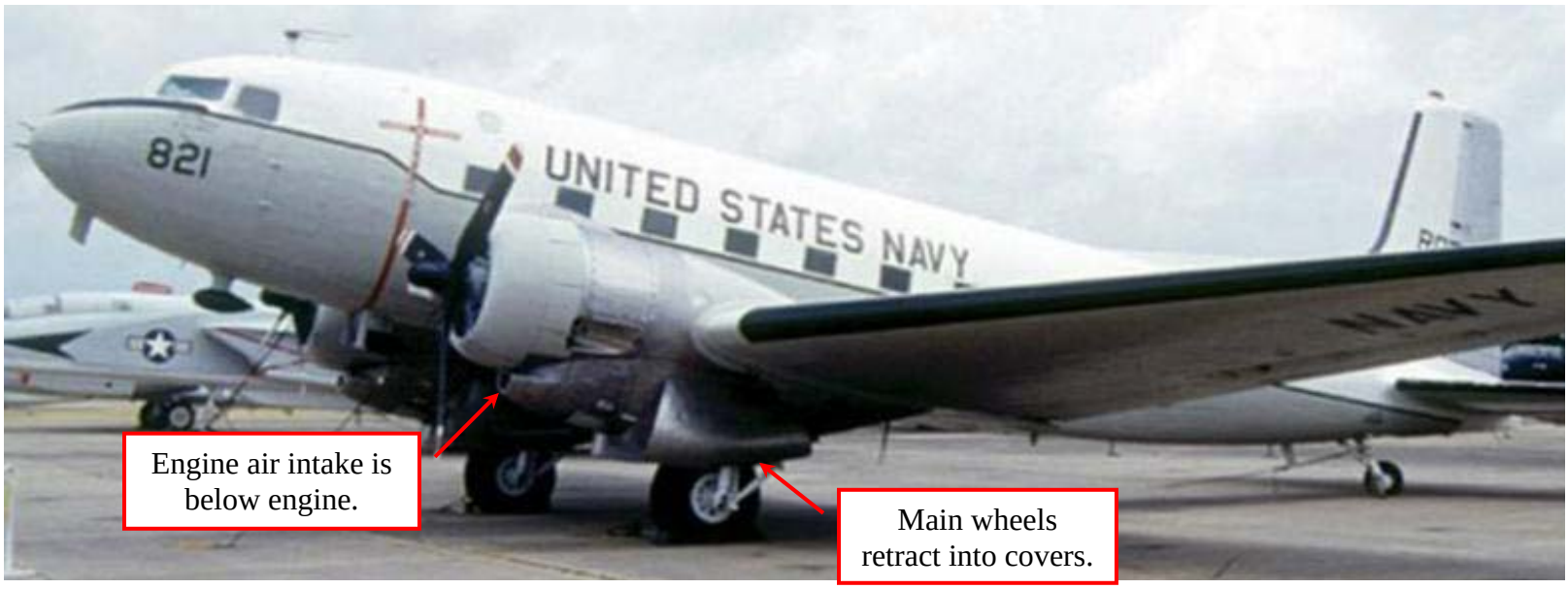
During the 1950s, the U.S. Navy had 100 of their later model R4D-5s and R4D-6s converted to Super DC-3s. This was a major modification, with a lengthened fuselage for greater cargo carrying capacity, rear-facing passenger seats (when installed) to allow airborne meetings, a new and narrower empennage (tail), new wings with a swept-back trailing edge, and extra fuel tanks in the outer wings, increasing the range from 1200 miles to 1600 miles, more powerful engines (Curtis Wright 1820s, but 1820-80s) for higher horsepower, redesigned landing gear, landing gear doors, and a retractable tail wheel. After these major modifications, these new R4Ds would have been as strong as new airplanes. These were initially designated as R4D-8s.

In 1962 the Navy renamed the R4D-8 the C-117D. There already existed a version of the DC-3 called a C-117, but the C-117D was a Super DC-3.

In 1978, the Navy had at least six C-117Ds in the Pacific. NAF Atsugi (Tokyo) had #17270, and #50801; NAS Kadena had #50804, which flew the officials 2,240 miles as described on page 6; NAS Cubi Point (Luzon) had #12435 and #39087, and NAS Agana (Guam) had #17152.

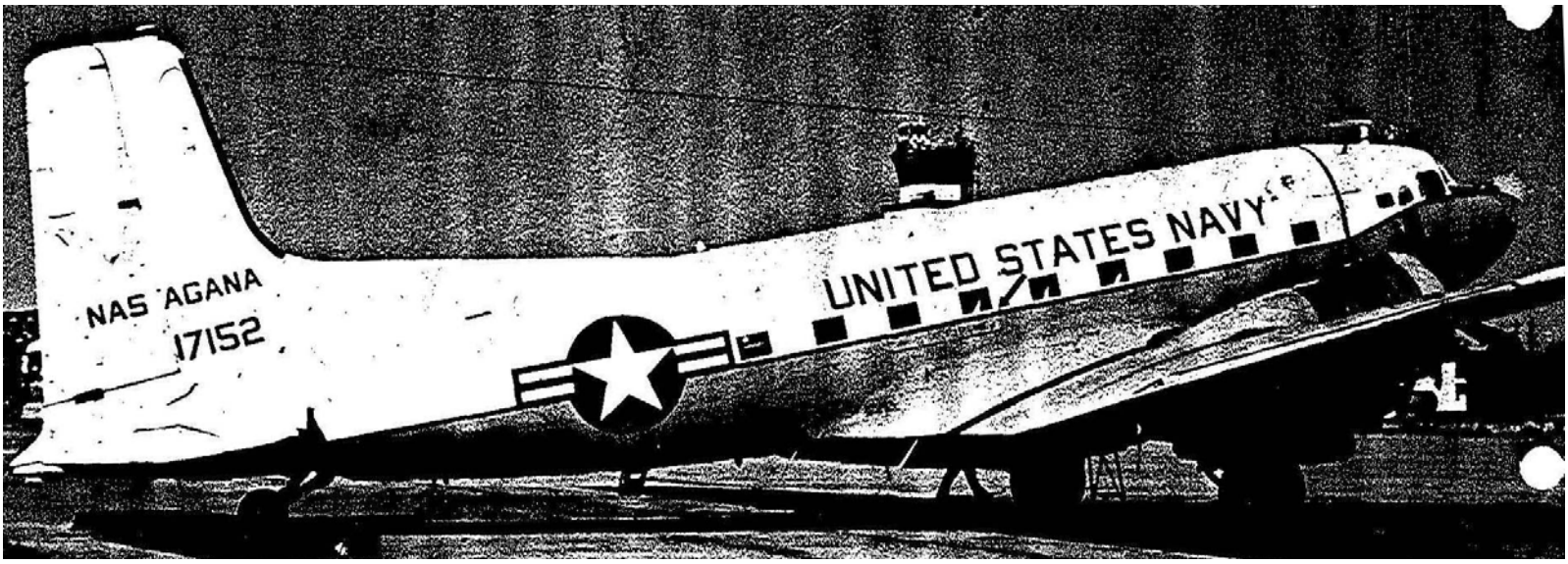
The C-117D Up-Close

Compared to the DC-3, and base model R4D, the C-117D, as shown on this page, has a more squared off tail, is longer, the engine air inlet is below the engine vs. on top, the main landing gear has covers, it has a crew chief window, and a red line shows where the propeller is.



The C-117D for this Trip

Pictured above is the C-117D with Bureau Number (BuNo) 017152, and construction number (c/n) 12342, that was built as an R4D-5 in January 1944, and converted to an R4D-8 with new c/n 43364, estimated before 1953 (based on similar c/n 43346 crashing in 12/53). This photo is from May 1970 while assigned to NAF Naha (Okinawa). It is pictured below at NAS Agana in 1978 and at the bottom (by mechanic ADR3 Scott McNabb) on the morning of August 14, 1978. Two crewmen underneath the airplane are doing the preflight inspection.



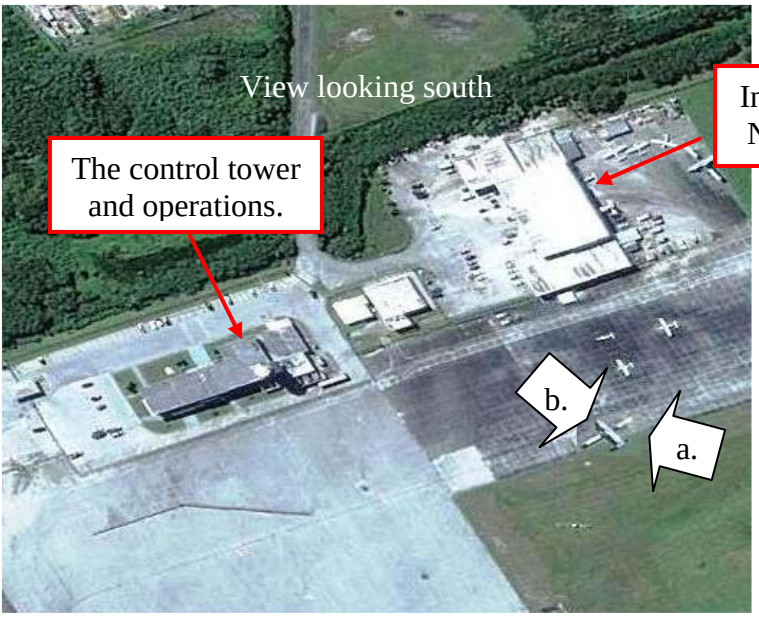
5. The Departure Point: NAS Agana

The day after Pearl Harbor, the Japanese invaded Guam, meeting little resistance. Around 1943 they built an airfield on Guam near the letter "A" on the map at right. American forces captured Guam in 1944, and in October 1944 the airfield was used by the U.S. Army Air Force (USAAF). The USAAF built a larger base at the north end of Guam, Andersen AFB, and in 1947 turned over the prior field to the Navy, and it became Naval Air Station (NAS) Agana. Civilian flights were allowed, but the air traffic controllers were always Navy. The airfield is pictured above in 2004.

In 1978, the NAS Agana hangar was in the location noted above, on the south side of the airfield, and west end of the ramp. This area is shown again below [the photo below right is from 1994 from the AIMD Paraloft, a parachute drying tower].

The view in the middle of the prior page is in the direction of arrow (a) below left (of an unrelated plane). The view at the bottom of the prior page is in the direction of arrow (b). Behind the plane is a mound of growth, visible in the photo below right, and the ground rises up to the runway elevation. Everyone loaded in front of the operations building, below right, on the right.

[Base Realignment and Closure closed the Navy base in 1993.]



B. Combined Accounts

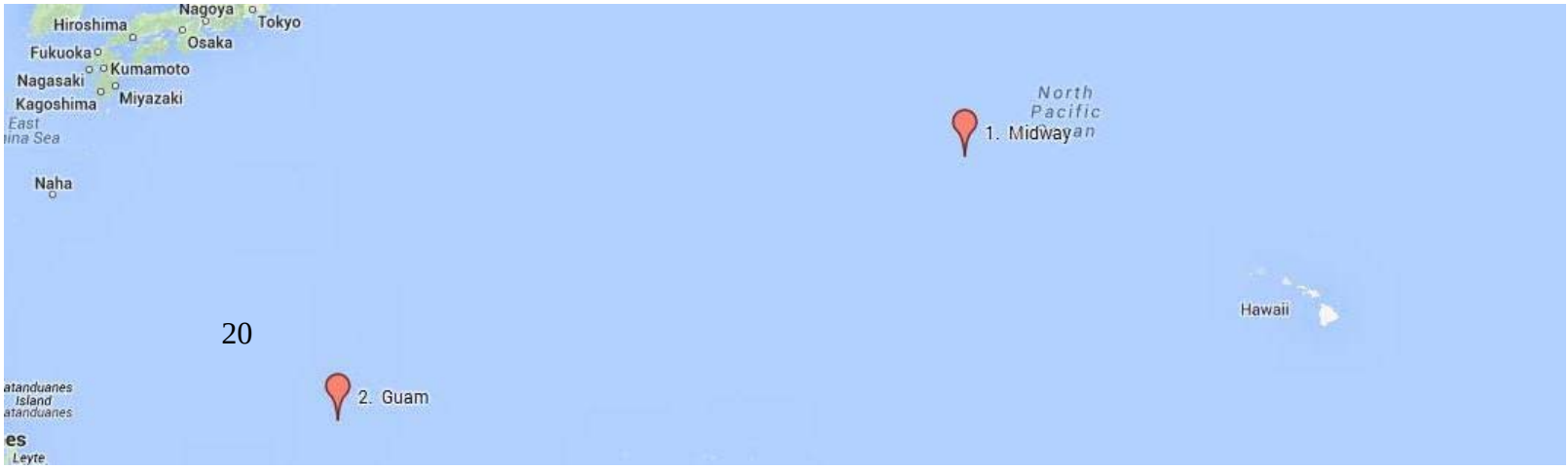
6. What Happened

Naval Air Station Agana in August 1978 primarily operated the three UH-1N "Huey" helicopters, and Grumman US-2B Tracker pictured above (Arnes Collection, in Guam from 1978). These were used in Search and Rescue, "SAR," a vital function on a Pacific island. The US-2B was not used very often, mostly for pilots to stay current with fixed-wing time. The US-2B debuted in 1952, and was withdrawn from service, in the tracker role, in August 1976.

On May 15, 1978, the base received from Midway Island a fifth aircraft: C-117D #17152, at right.

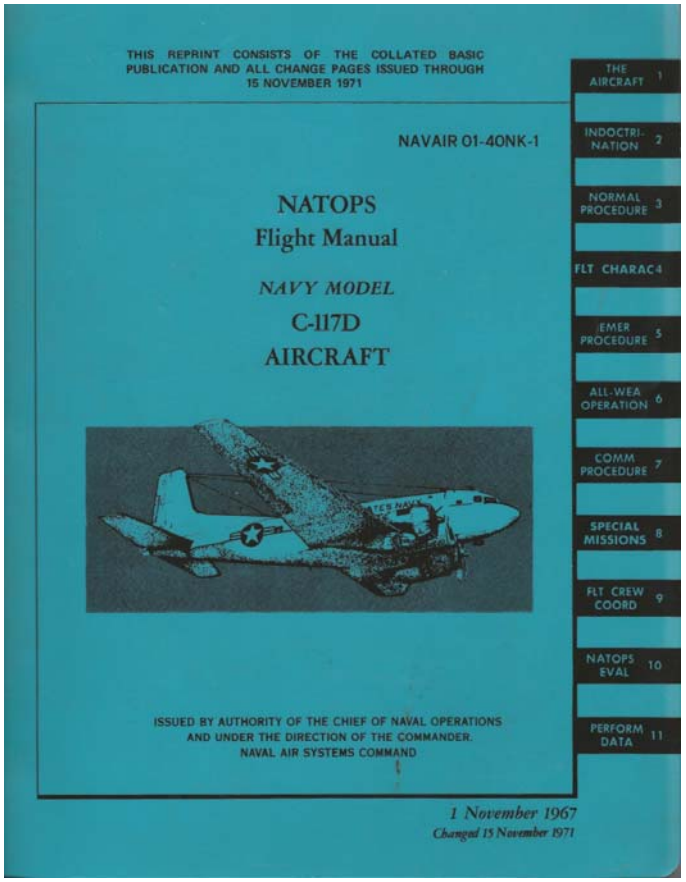
NAS Agana was run by **Captain Ed Estes**, 44 years old. In the Navy ranking system captain is just below rear admiral, and equivalent to a colonel in other service branches. Estes' days as a duty pilot (when his main job was to fly) ended in January 1968 when he ejected from an A-4 over Vietnam. After five years as a POW, he spent a year on special projects, attended War College, and was made head of NAS Agana in August 1977. Most of his flight hours were in single-engine jets, and he had limited multi-engine propeller time.

The main pilot who flew the C-117D was Navy **Lieutenant Bob Bell**, 27 years old. A Navy lieutenant is equivalent to a captain in other service branches. Bell became a Naval Aviator in August 1973. His first tour was flying the Grumman E-2 Hawkeye, similar to that at right, a multiengine prop plane, but with turboprops. He flew off of aircraft carriers in the Mediterranean and Western Pacific. After spending time on Midway, at the location mapped below, on May 15, 1978, he was transferred to Guam with the C-117D, helping to fly it over as a co-pilot, covering 2,636 miles.



NATOPS Training and Qualification

Bell had about four months experience with the C-117D. His first training in it was on Midway Island around April of 1978, from a Commander Hirth, but Bell noted "For my training we more or less just sat down and talked philosophy, a little bit about the airplane." Bell did no landings of the plane at Midway due to crosswinds. Then he and Hirth flew the plane, serial number 17152, to Guam, and Bell flew about 4 or 5 hours locally there.



After Bell and the C-117D arrived in Guam, Bell was sent to NAS Cubi Point, on the Bataan Peninsula in the Philippines, for C-117D formal training. Bell in a sworn statement August 24, 1978, stated he had about 175 hours C-117D time. He logged 57.2 on Guam suggesting he logged 110 hours at Cubi Point.

After his training at Cubi Point, Bell was designated a NATOPS Transport Plane Commander, "TPC," in the C-117D, indicating proficiency with the Naval Air Training Operational Procedures Standardization ("NATOPS") Flight Manual, pictured at right.

Capt. Estes went along on many C-117D flights with Bell, sat in the left seat, and did much of the flying. Following accepted procedure (in the Air Force, too) he and Bell both logged the flying time, even though one was the co-pilot. Estes recorded in his logbook the hours below.

Estes had four main times in the C-117D. First, there were two flights on June 25 and 26 prior to a June 29, 9-hour flight to Taiwan, and 9.5 hours back on July 2. Regarding the return, Estes stated "I would say we were more heavily loaded than on the August trip. We brought a lot of furniture back for the guys. We took out a lot of seats to fit it in." Two weeks later he got in 10.2 hours July 16-18. Six days he later got 1.9 more. After the plane was down for a cylinder change July 27-August 8, Estes logged 4.1 more hours, including flying two Red Cross people to Saipan on August 13. On at least one flight they feathered the left engine, and then the right.

There was only one problem: some of these flights violated regulations.

The NATOPS manual, with parts extracted on Page 22, states that for local training flights the co-pilot could be any "designated aviator," but for extended over-water flights, such as that to Taiwan, and carrying passengers such as on August 13, the co-pilot had to be rated in this plane "T3P" or higher. Estes was not. Estes never passed a NATOPS evaluation in the C-117D.

Capt. Estes' C-117D Time with Bell

Date (1978)	Hours	Comments
17-May	?	Local
25-Jun	0.3	
26-Jun	3.3	
29-Jun	9	To Taiwan
2-Jul	9.5	Fr. Taiwan
16-Jul	1.5	
17-Jul	4.7	
18-Jul	4	
24-Jul	0.9	
26-Jul	1	7 landings
10-Aug	1.9	7 landings
13-Aug	2.2	Saipan
Total	38.3	

Crew Requirements

The 1971 C-117D NATOPS Flight Manual specifies on Page 2-1 and 2-2, as extracted below, that for local training flights the copilot may be any designated aviator. Passenger / cargo flights, as well as extended over-water flights, though, required a co-pilot rated "T3P" or higher. A T3P pilot, as shown below right, must "(d) Demonstrate thorough knowledge [of the C-117D] through oral and written exams," and "(f) Satisfactorily complete a NATOPS evaluation in [the] model."

MINIMUM CREW

LOCAL TRAINING FLIGHTS

Pilot - qualified aircraft commander
Copilot - a designated aviator
Crew Chief/Plane Captain - qualified crewmember able to set UHF channels on the AN/ARC-27 master control located in the radio operators compartment.

PASSENGER/CARGO FLIGHTS

Same as for training flights with the exception that the copilot will be a qualified T3P or higher.

EXTENDED OVER-WATER FLIGHTS

Same as for passenger/cargo flights, as applicable. In addition, a Flight Communications Operator and a qualified navigator shall be part of the crew.

3. Plane Commander (TPC). To be qualified as a Plane Commander, an individual must:

a. Have completed the requirements for and possess to an advanced degree the knowledge, skill and capabilities of a second pilot

b. Have a minimum of 100 hours pilot time in class and be NATOPS qualified in model

c. Have a minimum of 700 hours total individual pilot time

d. Have completed a minimum of 10 night landings in model

e. Have completed at least 10 precision and 10 non-precision instrument approaches in model

f. Possess a current instrument rating

g. Have accumulated at least 50 hours of total night time

h. Demonstrate positive ability to command and train the officers and men of the flight crew including enforcement of proper air discipline

Changed 15 November 1971

1. Third Pilot (T3P). To be qualified as a third pilot, an individual must:

a. Have a minimum of 250 hours total individual pilot time

b. Have at least 10 hours of pilot time in class and model, or more, as required by the Commanding Officer or higher authority, and demonstrate a satisfactory level of skill in the following:

(1) Ground handling

(2) Flight technique in normal and emergency procedures

(3) Radio navigation

c. Have accumulated at least 10 landings of which two must be night landings

d. Demonstrate thorough knowledge through oral and written examinations on the following subjects:

(1) All C-117 systems and equipment (NATOPS Flight Manual)

(2) Weight and balance

(3) Survival and first aid

(4) Applicable technical publications

(5) Search and rescue procedures

(6) Communications

(7) Unit mission

(8) Navigation

(9) Flight planning

(10) Local and area flight rules

(11) Flight safety

e. Possess a current instrument rating

f. Satisfactorily complete a NATOPS evaluation in model.

g. Be designated in writing by the Commanding Officer

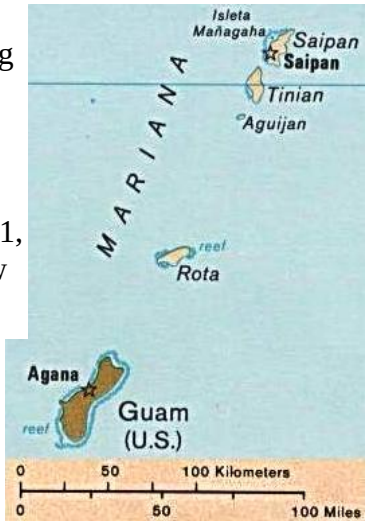
2-2

Qualified Crew Chief

The Navy's Minimum Crew listed on Page 22 for the C-117D required not only a NATOPS-qualified pilot, and a qualified co-pilot for all but local training flights, but also a qualified Crew Chief for all flights. AE2 Curtiss trained at NAS Cubi Point, and was a designated NATOPS Plane Captain /Crew Chief on the C-117D. Two other mechanics of NAS Agana, AD2 Rathbun and ADR2 Broadbent, were not NATOPS designated crew members. Despite pilot Bell and crew chief Curtiss once being certified in the C-117D, the investigation's Findings of Fact #4 (on page 158) state that as of August 14: "None of the flight crew had met all of the requirements." Not a single member of the crew was qualified to conduct this flight.

Pacific Fleet Commander-in-Chief Requested the Aircraft August 4

As described on page 6, the Joint Chiefs of Staff authorized the three public officials to travel on military airplanes. The investigation's Findings of Fact #10 on page 159 stated the Commander-in-Chief of the Pacific Fleet (CINCPAC), Admiral Donald C. Davis, at headquarters at Pearl Harbor Naval Base in Hawaii, presumably learning of this, and not knowing NAS Agana did not have a qualified crew, on August 4 at 5:30 p.m. sent a message specifically requesting that the officials be flown on C-117D 17152. Perhaps he was familiar with it from its time on Midway. Rear Admiral Cruden, Commander of U.S. Naval Forces in the Marianas, on August 5 at 10:02 a.m. replied suggesting he accepted this as a directive. But no evidence was found directing NAS Agana to perform the mission, and normal procedures for scheduling aircraft through the Naval Air Logistics Control Office (NALCO) were bypassed.



Preparing for the Flight

After learning about this flight August 5, as shown in Estes' logbook on page 21, on Thursday, August 10, he and Bell took the C-117D out for 1.9 hours. They flew to Rota to do six touch-and-go's, and returned to make a seventh landing at Agana.

Saipan had bad weather and flooding Friday, and on Sunday Bell got a call to fly a Red Cross representative and nurse to Saipan to evaluate the situation. Based on the small load, he decided to take the S-2, and took off with Estes at 1:10 p.m., but had a warning light, so returned, and maintenance grounded the S-2. They took the C-117D, checked the yellow sheets, and departed at 3 p.m. for Saipan.

When flying #17152 over the north end of Saipan, pictured at right, at 800 feet to inspect the flooding, heading south to land at the airport, Bell got a fire warning light for the right engine. Crew chief Curtiss recalled that after the plane arrived from Midway this happened, and was due to a faulty connection in the junction box, and opened this up in-flight and fixed it, and the light went off. This would need a new part, but not ground the airplane for the next day's flight. The Kadena C-117D had the same issue.

Bell and Estes dropped off the two Red Cross workers in Saipan. They flew to Rota so Estes could shoot four touch-and-go's on their 3,000' runway, practicing for Ulithi, and got back to Guam by 5 p.m., logging 2.2 hrs.

Aircraft Status August 14, 1978

A review by the Aircraft Mishap Board of airplane maintenance is shown at right (Arnes Collection). "JCN" stands for "Job Control Number." It uses the Julian day number, and so JCN 220-160 is the 220th day of the year, and the 160th maintenance job written for the month. The number of jobs per month is high because NAS Agana maintained 3 UH-1Ns, one US-2B, and the C-117D. The Board noted:

(6) MAINTENANCE/AIRCRAFT CONDITION. BUNO 017152 WAS ON ITS TENTH SERVICE TOUR WITH 282 OPERATIONAL SERVICE MONTHS. THE AIRCRAFT WAS TRANSFERRED TO NAS AGANA, GUAM ON 15 MAY 1978. THE AIRCRAFT HAD ACCUMULATED 57.2 HOURS SINCE ACCEPTANCE BY NAS AGANA WITH NO NOTICEABLE ADVERSE MAINTENANCE TRENDS ALTHOUGH NUMEROUS DISCREPANCIES WERE DISCOVERED AND CORRECTED. THE NINTH CALENDAR ODD INSPECTION WAS COMPLETED ON 10 JULY 1978, ALL MAJOR DISCREPANCIES WERE CORRECTED AND A FUNCTIONAL CHECK FLIGHT WAS FLOWN. THE AIRCRAFT IS CONSIDERED TO HAVE BEEN MATERIALLY A SAFE FLYABLE ASSET FOR THE ASSIGNED MISSION. A CHIP LIGHT DISCREPANCY ON THE STARBOARD ENGINE WAS DISCOVERED ON 19 JULY 1978. JCN 199-652 WAS ISSUED AND THE DOCUMENTED CORRECTIVE ACTION WAS TO REMOVE PRESSURE AND DRAIN PUMP STRAINERS AND INSPECT THE MAGNETIC CHIP PLUG FOR METAL PARTICLES. THE ENGINE WAS OPERATED IN ACCORDANCE WITH GENERAL RECIPROCATING ENGINE BULLETIN (GREB) 165. THE STRAINERS WERE REMOVED AND INSPECTED THREE TIMES WITH NO EVIDENCE OF METAL. ON 27 JULY 1978, APPROXIMATELY NINE FLIGHT HOURS FOLLOWING THE COMPLETION OF JCN 199-652, THE NUMBER FOUR CYLINDER OF THE STARBOARD ENGINE WAS FOUND TO HAVE OIL BLOW-BY AND LOW COMPRESSION. JCN 208-792 WAS ISSUED TO CORRECT THIS DISCREPANCY. DURING THE JCN 208-792 REPAIR CYCLE, AN INCORRECT NR 4 CYLINDER WAS RECEIVED FROM SUPPLY AND INSTALLED PRIOR TO ENGINE OPERATION. THE QUALITY ASSURANCE REPRESENTATIVE (QAR) INSPECTED AND DISCOVERED THE MISTAKE. THE CYLINDER WAS THEN REMOVED AND THE CORRECT PART ORDERED, ON 8 AUGUST, JCN 220-160 WAS ISSUED TO INSTALL THE CORRECT CYLINDER. ALL MAINTENANCE WAS COMPLETED AND A GROUND OPERATIONAL RUNUP OF THE ENGINE WAS PERFORMED. THE GROUND OPERATION AND FUNCTIONAL CHECK FLIGHT FLOWN ON 9 AUGUST EXCEEDED THE 1 HOUR OPERATION REQUIRED WHEN A CYLINDER IS REPLACED. UPON SERVICING THE AIRCRAFT AFTER A FLIGHT ON 10 AUGUST, OIL WAS NOTED TO HAVE GUSHED FROM THE STARBOARD OIL FILLER NECK WHEN THE FILLER CAP WAS REMOVED, NO OIL WAS ADDED AND THE LOSS OF THE OIL WAS ESTIMATED TO BE APPROXIMATELY ONE QUART. ON 13 AUGUST, THE AIRCRAFT WAS FLOWN AND THE SAME SITUATION DESCRIBED ABOVE OCCURRED. AS BEFORE, NO OIL WAS ADDED TO THE STARBOARD ENGINE AND AGAIN THE LOSS WAS ESTIMATED TO BE ONE QUART. ON 14 AUGUST, THE AIRCRAFT WAS LOST AT SEA.

- Bureau Number 017152 entered service with the Navy in February 1962, 23.5 yrs before. With NAS Agana it flew 57.2 hrs with no adverse trends. Numerous discrepancies were discovered and corrected.

- <u>As of July 10, 1978, it was considered a safe, flyable asset</u> – The ninth calendar ODD inspection (vs. the even one, one more detailed) was completed on July 10, and all major discrepancies were corrected, and a functional check flight was flown.

- <u>A starboard engine chip light discrepancy July 19</u> – the pressure and drain pump strainers were removed, and the magnetic chip plug inspected for metal particles. The engine was operated in accordance with General Reciprocating Bulletin (GREB) 165. The strainers were removed and inspected three times with no evidence of metal.

- <u>A starboard engine cylinder change August 8</u> – On July 27, the #4 cylinder [of 9, at the 4 o'clock position when viewed from behind, so outboard and low] of the starboard engine was found to have an excessive oil leak coming from the cylinder's exhaust port, and to have low compression. An incorrect No. 4 cylinder was received from supply and installed, but the Quality Assurance Representative (QAR) inspected and discovered the mistake, and the cylinder was removed and the correct part ordered August 8. This required a penalty run and functional check flight, that were performed in accordance with GREB 50 on August 9 (without Estes, because not in his logbook on page 21), and this exceeded the 1 hour operation required when a cylinder is replaced.

- <u>A starboard engine oil gush from the tank cap August 10</u> – Upon servicing the aircraft after a flight on August 10 about one quart of oil "was noted to have gushed from the filler neck when the filler cap was removed." No oil was added.

- <u>A starboard engine oil gush from the tank cap August 13</u> – the same as August 10.

The Aircraft Mishap Board Report concluded (in another section) that no maintenance was considered to be a Cause Factor or even a Contributing Factor of the accident.

The Investigation's Observations about Maintenance at NAS Agana

The investigation report also made the following observations:

- There were discrepancies in the maintenance practices and procedures at NAS Agana, in that Maintenance Action Form (MAF) discrepancy write-ups, and signoffs were not always complete, discrepancies listed as non-grounding were not verified prior to release of the aircraft, and there was a failure to ensure compliance with Maximum Operating Time (MOT) limits on components.

- The airplane manufacturer issued periodic Technical Directives to all operators of the plane, and these had all been complied with, except one. Propeller Bulletin 4, Amendment 1, required the replacement of the propeller chafing rings at 800 hours operating time. Records showed that the chafing rings on the starboard propeller had accumulated 1023 hours since installation in 1975, and so were 28% beyond replacement time.

- The most recent discrepancy, on the copilots inertia reel [his shoulder harness not buckling] was carried as an "up" (non-grounding) discrepancy [this would be significant].

- The Aircraft Discrepancy Book, containing the yellow sheets (pilot squawks) and previous aircraft discrepancy sheets, was taken with the aircraft, and so was not recovered. <u>The aircraft had not been released by maintenance personnel for flight on August 14, 1978.</u>

- Captain Estes and Lt. Bell had made two flights on the day prior to the accident, both of which involved emergency situations [the warning light in the S-2, which was an engine fire warning due to the exhaust manifold being loose, directing hot exhaust gas onto the warning element; and the starboard engine fire warning light in the C-117D over Saipan].

Airplane Not Signed For

TPC (Bell) did not sign Part A of the yellow sheet certifying that he had inspected past discrepancy reports, insured proper filing of weight and balance data, and accepted the aircraft for flight. Bell had gone to maintenance and looked through the book on the C-117D, but because he was the only pilot for it, he was familiar with everything that was in the book.

<u>Copilot Bell:</u> "I pre-flighted the aircraft that morning out in front of Ops, but I did not sign the yellow sheet. I saw the yellow sheet; it was in Petty Officer Curtiss' briefcase, but we were going to do that after we got airborne, even though that's the incorrect way to do it. I know that, but that's the way we were going to do it that morning, because we were pushed for time and there were so many other things happening [the book was then lost with the aircraft].

"Petty Officer Curtiss was the kind of guy that got everything done early. He did have the aircraft ready for flight that morning – the proper amount of fuel and oil on board, and he had to complete the daily MRC deck [a ringed deck of 4" x 6" cards used for preflight inspections]."

<u>Arnes (SAR Rescue Swimmer, and C-117D QAR):</u> "Maintenance Control should have never let the Aircraft Discrepancy Book (ADB) out of their possession."

Monday Morning

Monday started out as a happy and exciting day for the passengers and crew.

Deputy Under Secretary Green: "Before breakfast on the morning of August 14, I packed my clothing and other items and placed them at the front door at Government House. They were to be picked up by Navy aides. Our plan was to depart at 9 a.m. Promptly at 8:30 a.m., the Navy aides arrived to carry our luggage to the plane.

"Shortly after 9 a.m., Under Secretary Joseph and Mrs. Van Cleve left for the airport, running slightly behind schedule. I was in a separate car behind them. En-route, we received a call on the car radio indicating that a document had been left at Government House – a briefing book prepared by the Office of Territorial Affairs in advance of the trip. The car in which I was riding pulled to the side of the road, as did the car in which the Under Secretary and Mrs. Van Cleve were passengers. I got into the lead car, and my driver went back to retrieve the document.

"Upon arriving at the airport, we were welcomed by various Navy officials. The flight crews had changed, but members of the previous crew were standing nearby. I approached them to thank them individually for the great service they had provided to the Under Secretary and to the rest of us. I suggested to the Under Secretary that he also thank them, and to wish them luck in the future. He did so, and from the smiles I saw as he shook their hands individually, they were very much delighted that he had taken the time to extend his gratitude."

Under Secretary Joseph: "I was surprised and disappointed to find out that the old crew would no longer be with us. We had come to regard them as regular members of our official group, and they had been visibly delighted to be a part of our mission.

"Upon boarding the plane, I realized for the first time that we not only had a new crew, but a different aircraft as well."

Rear Admiral Cruden: "The next morning our take off time was advertised as 0915. I arrived about 0910. The Under Secretary and his party hadn't arrived yet, but I could see the band instruments had been loaded. While the aircraft was being loaded, the Under Secretary and Mrs. Van Cleve [and Mr. Green] arrived. [Joseph's briefing book] had been left at Government House, and they wanted to wait for it, but we got on the aircraft."

Director Van Cleve: "As earlier agreed, Jim, Wallace, and I arrive at the Naval Air Station in Guam at about 9:10 a.m. on Monday, August 14, for our 9:15 a.m. departure. Trust Territory High Commissioner Adrian Winkel is there. We are also joined by Rear Adm. Neal Clements, Capt. Ralph Smith, the Officer in Charge of Construction in Guam, and several other Naval officers who are along with Adm. Clements and Capt. Smith, engaged in constructing for us ("us" being the department of the Interior and the Government of the Trust Territory) many major capital improvements in the Trust Territory.

"I am particularly keen about the Ulithi visit (I was there in 1964), and have represented it to Jim with special enthusiasm as the most exotic place I've ever visited, and closer than any other I know firsthand to some earlier age of mankind.

"Because the Ulithians are reported to be especially delighted by the Navy Band, and because the dedication [of the dispensary] is of real moment to both the U.S. and Ulithi, 13 Navy bandsmen from Guam are also on the flight. The event will be both exotic and gala."

Lt. Betancourt: "It was a bright sunny day, and I would say the temperatures probably were in the 80s or 90 degrees. Our uniforms were all short-sleeved, of course, as were the uniforms for all of the enlisted and officers who travelled on that flight with us."

Musician Washburne: "The weather that morning was tropical: sunny, 80° and partly cloudy. On or about 7:30 a.m. in the morning, about 15 to 24 band members of the COMNAVMAR U.S. Navy Band, mustered at our band room near the Apra Heights on Guam. We were all dressed in 'Salt and Peppers,' that's Navy lingo for white short-sleeved shirts, with two button-down breast pockets, and black trousers. Many of us young guys were carrying cameras on our shoulders and prepared with a small carry-on bag for the flight we were to make. We were up in spirit and in a good mood - we were heading to an exotic island!

"We young guys had been told that on the islands we were to visit there would be topless women – tribal, indigenous native women, who dress with grass skirts, and may appear in public with paint on their faces, too. While all us band members were milling around in our band room lobby, I observed an older married band member with a big telephoto lens camera strapped around his neck, and I felt immediately a strong negative sensation. I thought 'He shouldn't be taking that to photograph the half-naked girls; he's married.'

"At about 8:30 or so about 15 or 16 of us bandsmen hopped aboard into our transportation vehicle, an old American school bus (pictured at right), which we usually employed for island engagements. Some of the musicians, like me, carried large musical instrument cases, which we loaded in through the back door of the school bus. In about 20 – 25 minutes we arrived at the Navy Air Field.

"When we arrived at the airport, a Lt. Bell came on the bus and told us there would be a 20 pound maximum of gear per person we could take on the flight. We unloaded our musical instruments from the bus.

"The crew loaded the plane, including big boxes about a foot and a half long by a foot wide, and then peoples' baggage. There was a lot of luggage along, with tennis racquets and scuba diving equipment, too. None of our instruments or luggage were weighed. We got on the plane.

"When I boarded the plane, I wished to sit as near to the back of the plane and as near to any emergency exit as I could, and this I tried to do."

Copilot Bell: "[I] got up around 5 o'clock Monday morning, and got my bag that had already been packed about a week before. [I] got ready and went to operations. I got there about 0615.

"Petty officer Curtiss had ordered coffee and doughnuts. He had done a lot of things that the Captain [Estes] asked. He had the VIP covers on the seats for several days, and the inside of the plane was very, very clean. It was old, and not a very good looking aircraft, but he had it clean on the inside. He had all of the servicing done after we got back Sunday evening. Then he double-checked it again the next morning when he came in, before he did the engine run-up.

"[Curtiss] was an air crewman with the helicopters. He had had some previous experience in C-117s when he was assigned to NAS Bermuda. He had somewhere in the vicinity of 1,000 hours riding around in them as a plane captain, not as a crew chief. A plane captain is basically a guy who rides in the back with the passengers, and does your plane captain functions, maintenance-wise."

Weight and Balance

Bell got the weight and balance sheet out, and did the weight and balance with round figures. The weight and balance was Enclosure 14 to the investigation, and has not been seen by this author, so an estimate is at right.

For takeoff fuel Bell assumed 860 gallons. He assumed 31 passengers, at 170 lbs per passenger.

Bell stated he assumed 1,500 pounds for cargo, and that he included 350 lbs for the band instruments. He assumed 20 lbs of baggage per person, what he told the band members on the bus. The number in the table at right of boxes of refreshments, 12, which must include the boxes of shovels and scuba gear, was backed into to get near his assumed 1,500 lbs total cargo.

Estimated C-117D Weight and Balance

Item	#	Each	Total
Empty Weight	Backed into		22,662
Fuel (gallons)	860	6 lbs	5,177
Passengers	31	170 lbs	5,270
Cargo:			
Instruments	13	27 lbs	350
Luggage	18	20 lbs	360
Luggage - band	13	20 lbs	260
Refreshments	12	45 lbs	540
Sub-total ("1,500 lbs")			1,510
Total			34,619

Bell calculated a total gross weight of 34,619 lbs. Per the table, this implies this C-117D had an empty weight of 22,662 lbs. He determined the center of gravity would fall within limits. This was an estimate, but the investigation opined that the aircraft was not loaded beyond the allowable maximum gross weight, and that the center of gravity was within limits. A Captain Patterson decided not to go, and only 30 went, so Bell over-estimated by 190 lbs.

Copilot Lt. Bell: "I'd told [Curtiss] I'd wanted to top off the tanks after the run-up, and he said, 'Sir, are you sure you want to do that?' Because of the added load, and because we didn't need the gas, I said, 'No, let's not do that.'"

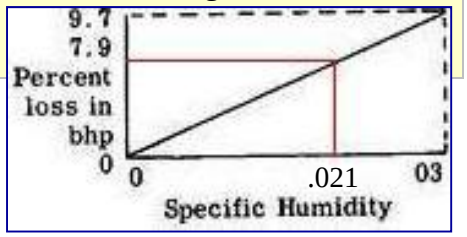
Mechanic Rathbun: "The amount of fuel is correct – 860 gallons. That was the planned fuel for the trip. 860 gallons was more than sufficient to perform the mission.

"We never topped off the C-117 because it was always in the hanger, unlike the S-2 which always was parked on the apron, so we kept it topped off so the moisture would not accumulate in the tanks due to the temperature changes and rain squalls."

Kadena C-117D Warns about Temperature and Humidity

Copilot Lt. Bell: "[I] talked with Dave Ganger out in the passageway. He [the Kadena C-117D] was backing us up that morning. We were talking about runway temperatures, and things that normally we don't talk too much about in the S-2 [other airplane]. All my experience in the C-117, in Cubi anyway, we didn't worry too much about runway temperature, specific humidity or anything. But now I was calculating the runway I was going to need for takeoff at Ulithi.

"After talking with Dave I looked at the NATOPS Manual, and the take off chart, then I went to weather and asked them for the specific humidity for Guam that day. They had to do a little bit of checking and go back into a couple of books and find out how to calculate it, but they did give me a figure of .021 I think it was. So I plugged that into the chart [on page 11-4 of the Flight Manual, below, which shows a 7% loss in horsepower], and that did lengthen our take-off roll by about a hundred feet at Ulithi, at our expected take-off weight with the whole crew when we took off out of there."



Loading and Pre-flight

As was standard procedure, Crew Chief AE2 Curtiss, who arrived early, and was qualified to do so, performed a preflight inspection using a checklist. He started both engines, ran the power up to check the oil pressure, checked the magnetos, raised and lowered the flaps, and made other checks while it was still parked away. During the engine runup smoke came from the outboard cowl flaps above the exhaust stacks of the left engine. A cluster clamp bolt on the port engine exhaust stacks was tightened. He then shut down the engines. The adequacy of the preflight inspection could not be determined. The aircraft was towed to in front of operations, facing left.

Musician Washburne: "[The band members arrived early enough to watch the pre-flight runup, and] There was black smoke billowing out of one of the aircraft's engines."

Bell asked the LPO (Loading Petty Officer) of the line to start loading up around 8 a.m. The band had been there waiting. A customs agent told Bell he had already checked the band through customs, and so their instruments and personal baggage were loaded onboard, with the instruments aft of the passenger seats on the right hand side.

Three days before, on Friday afternoon around 4:30 p.m., Bell had gotten a call from someone who worked for Captain Smith, the Officer In Charge of Construction (OICC), stating they wanted to take along soft drinks, beer and scotch for the Yap dock ground breaking ceremony. Bell estimated it would weigh 400 to 500 lbs, and said he could accept the weight. He now on Monday morning noticed the boxes of these refreshments in flight support. There were also boxes filled with shovels and hardhats for the ground breaking ceremonies. He picked up each box to get an idea of the weights. He already knew the drink boxes weighed about 45 lbs. each.

The soft drinks and liquor were stored underneath the troop seats along the left wall. Alcoholic beverages were supposed to be in a locked compartment, but none of the boxes were marked, so this was ok. Everything was loaded and strapped down between 8:15 and 9 a.m.

First Attempt to Start the Right Engine

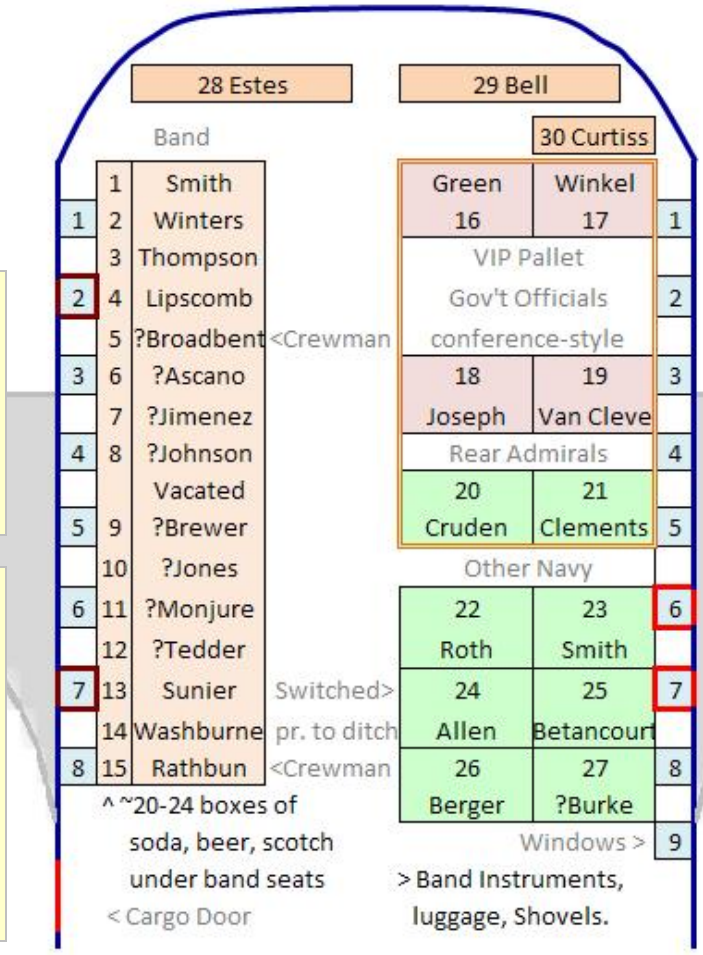
Captain Estes arrived around 7:30 a.m., but the first time Bell recalled seeing him was when they boarded the plane just before 9 a.m. With takeoff set for 9:15 a.m., they thought they could start the #2 engine, on the right, that would not blow on the officials boarding on the left, and then start #1 after everyone was onboard.

At 9:10 a.m., after everyone was aboard except Joseph, Van Cleve, and Green, Estes attempted to start the right (#2) engine. He did not have a lot of experience starting the engines, and it acted as if it wanted to start, and then it was either flooding, or the ignition exciter was not working. Curtiss, standing between the pilots joked with Estes that he, Curtiss, had been able to start #2 earlier that morning. Then they let it sit for about 5 minutes to cool the starter. They got an electrical power cart out and plugged it in, and tried again to start #2, but it still didn't work.

Then the VIPs arrived and boarded.

Seating Chart

The seating chart was as estimated at right.



Mechanic Rathbun: "We installed the VIP pallet, which was four seats conference-style, and two behind it, on a pallet that we mounted to the floor. They were airline type of seats, more spacious. It wasn't anything we made; it all comes mounted. You had to open the main [aft] cargo door to get those in."

Rear Admiral Cruden: "Green was in #16, Winkel in #17 [both in aft-facing seats], Joseph in #18, Van Cleve in 19. I was in #20, Clements in #21, Roth behind me in #22. Band members were all in jump seats, along with the photographer [Tedder].

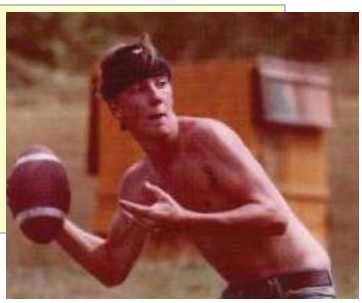
"When everyone was in and seated, LCDR Roth said we needed one more seat. Chief Berger named one musician who left the plane. Roth said the district administrator wanted a ride [from Ulithi] to Yap, and so he wanted to leave one seat open."

Musician Washburne: "Musician Senior Chief Frank Berger asked us musicians 'Who wants to stay back?' I immediately exclaimed 'I will!'

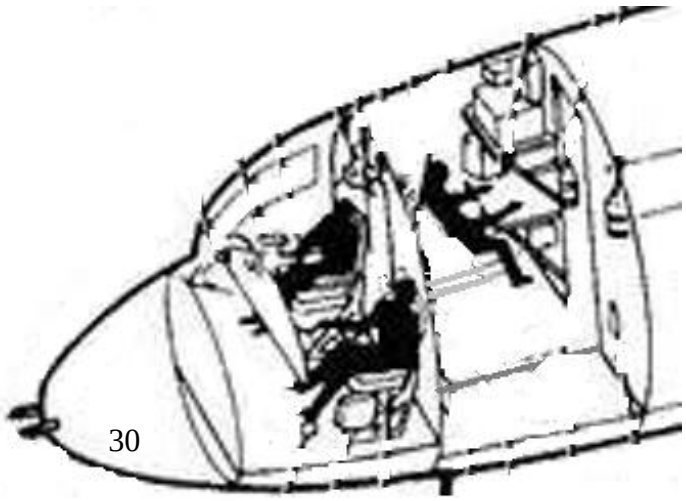
"'We need a bass [sousaphone],' replied MUSC Berger.

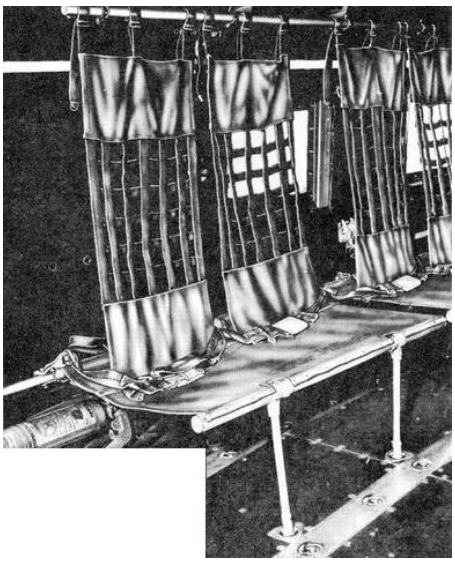
"Then, after a trumpet player [at right] was chosen to stay behind, as he walked past me, under his breath he muttered 'The plane's gonna crash.'

"I asked again if I could stay behind, but Berger said 'No.'"



Below left (with leader lines from the manual deleted), behind the pilots was a narrow section for a crewman to sit, on the right side, by a window. This was the ditching station for the crew chief, Ron Curtiss. According to Dan Arnes, this was a very small space, and the left side was closed off at the aisle (not open as shown below), with only an outer panel of circuit breakers visible to the crew chief. Below right is what the troop seats looked like on which the musicians sat. The boxes of soda, beer, and scotch were stored beneath these seats.





Second Attempt to Start the Right Engine

After Joseph, Van Cleve, and Green boarded, AD2 Rathbun removed the top cowling on the right side, shook the induction vibrator, and signaled for Bell to start the engine while he sat on top of the nacelle, about six feet aft of the blades, to visually look at the induction vibrator to see if it was putting out a spark. Bell tried, and it started this time. Bell then shut it down so Rathbun could put the top cowling piece back on. Then both engines were started.

Deputy Under Secretary Green: "I was looking out to my left on the wing and noticed a Navy mechanic straddling the [right] engine. The mechanic was giving some type of signal to the pilot which seemed to be directing him to raise the revolutions of the engine so that he (the mechanic) might ensure that the problem was resolved. There was another individual standing on the ground below the wing holding a large piece of metal which covered a portion of the engine. I was concerned over what the mechanic was attempting to check, but once he got off of the engine and the wing, I could only assume that the problem had been corrected."

Pre-Flight Safety Briefing

As they taxied out, mechanic Rathbun gave a safety briefing.

Rear Admiral Cruden: "Rathbun gave us a briefing on emergency procedures, and I think he used handwritten notes. It was a detailed brief."

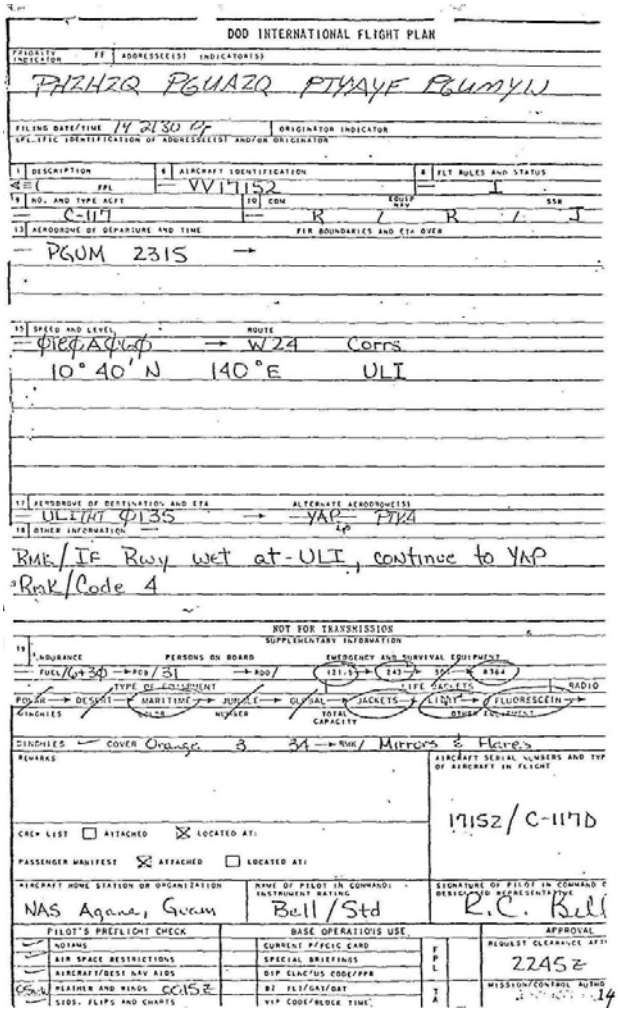
Under Secretary Joseph: "There were moments on this flight which now stand out as though they were intended to warn us of our peculiar destiny. The first of these was the safety demonstration. I have flown all around the world, in every conceivable type of aircraft, even landing uphill on a grassy strip in Kenya, but at no time did the survival demonstration catch my attention as intensely as it did on this flight.

"The Navy crewman going through the life jacket demonstration did not use the standard word, 'if,' when describing steps to be taken. He continued to say 'when.'"

Director Van Cleve: "A crewman provides the life jacket demonstration (I note that he has a worried look, and decide that he is the sort who, with his face in repose, appears worried).

"Because the life jackets are not quite like those on commercial airplanes, we all watch carefully. Boy Scout-type belt. Hooks easily. Arrange so that plastic envelope that is part of belt is in front center. Inside envelope is an orange life jacket, requiring only to be unfolded and put over head. Pulling the large blue plastic tab near waist releases yellow marking dye. Pulling the red tab near waist ('Don't pull until out of the aircraft') inflates the life vest. Inflation also possible by blowing, after unscrewing small metal device at end of black hose. Light is at upper-right, in case of need after darkness.

"The demonstration is over. Adrian observes, with a smile, that the difference between commercial and military life vest demonstrations is that the military 'sound as though they really mean it.' We all smile. I observe that no reference has been made to shark repellent. (I remember that in years past, a container of shark repellent came with military life jackets.) Someone says, 'We discovered it turned out to be a shark attractor instead of a repellent.' Someone else calls it a placebo. Either way, a conversation-stopper, I decide."



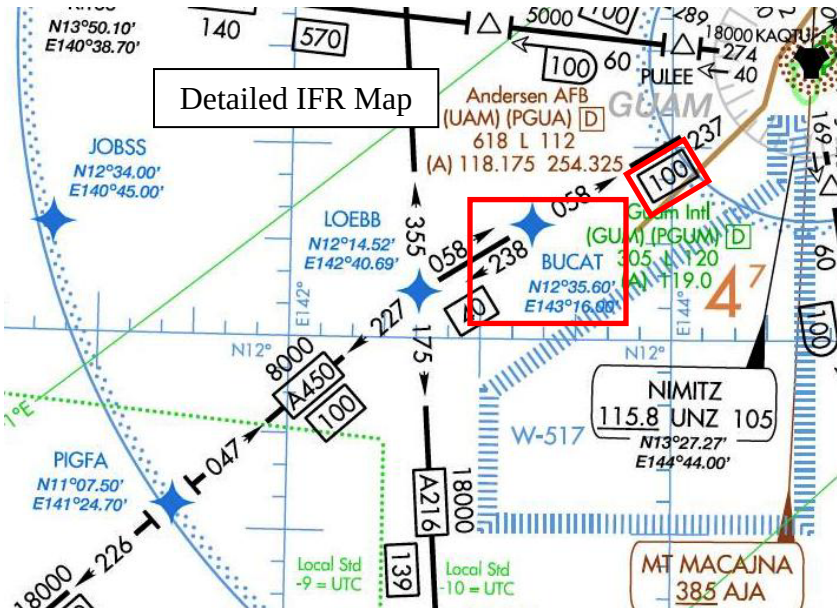
Flight Plan

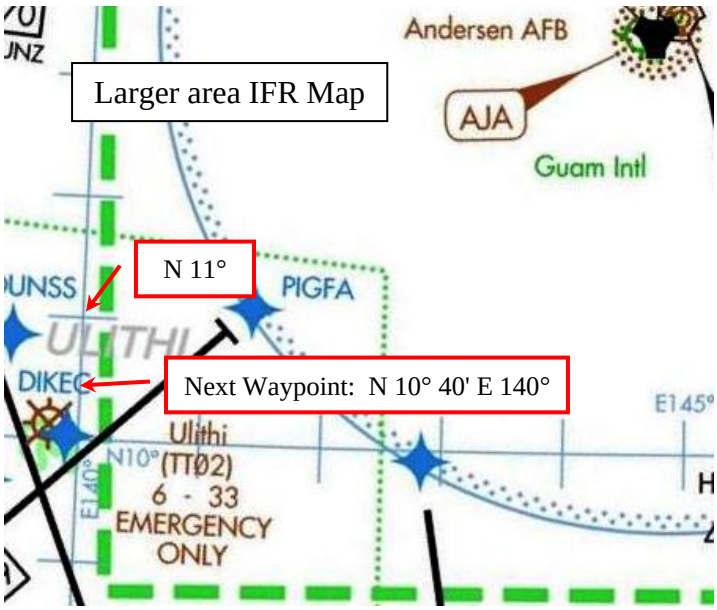
Bell filed the flight plan at right, to depart "PGUM" at "2315," 9:15 a.m. local time, W24 to the CORRS intersection, and then to a point 10° 40' N, 140° 00' E, "Just a line of longitude" according to Bell, and then direct to Ulithi. These points are plotted above. W24 was not found, but was likely the airway in a 240° direction from the Guam VORTAC. Airway intersections are locations where lines from two navigation aids cross, or at a certain distance along an airway. The departure runway had a heading of 240°, and so they would fly straight for 100 miles.

They filed to fly at 6,000 feet and 180 knots, but Bell later stated "In cruise, our indicated airspeed was 145 knots; that pretty well corresponds with what I thought we'd get on our flight plan." Landing at Ulithi, 421 miles away, was estimated in 2 1/3 hours, at 11:35 a.m., but a 34 minute delay in takeoff, the actual airspeed of 145 knots, and 15 knot headwind, would now make this a 3 ¼-hour flight, landing around 1 p.m.

In 2013 the CORRS intersection was not listed on the IFR route map for Guam, below left, appearing to have been replaced by BUCAT. CORRS (12° 38' 14" N 143° 14' 36" E) would have been 2.5 nautical miles north and 1.5 nmi. west of BUCAT (1 arc minute=1 nautical mile).

After CORRS they turned left 4° to a 234° heading. The next planned waypoint, below right, was on the 140° E longitude line, at 40' above 10° N, by the "C" of DIKEC.





Takeoff

Takeoff was delayed 34 minutes past the planned departure time due to the waiting for Joseph's briefing book, and problems starting the starboard engine. The aircraft took off from NAS Agana at 9:49 a.m. AE2 Curtiss stood between the pilots, aft of the throttle quadrant.

Copilot Lt. Bell: "Capt. Estes and I discussed the day before that we'd like to check our take-off roll there at Agana, when we got the aircraft loaded, to see how much runway it was going to take us to get airborne. We did get airborne somewhere between 2700-2800 feet, but [Estes] pulled it off a little bit prematurely. He pulled it off at about 94 knots indicated, and we used a little bit extra nose up trim for takeoff. The aircraft accelerated very nicely to 120 knots, which we use for climb-out speed, and we departed normally."

Oil Leak on Top of the Right Engine Nacelle

Either 10 minutes or 1 hour after departure, oil was observed coming from the vicinity of the oil filler cap on the starboard engine nacelle. The oil was attributed to overfilling, expansion and venting, and was considered neither abnormal nor excessive. Subsequently the flow ceased.

Pilot Capt. Estes: "As I recall, the oil coming out the filler cap on #2 engine was very soon after takeoff – before we had leveled off." [They leveled off in about 7.5 minutes.]

Musician Washburne: "About 10-25 minutes after takeoff, Lt. Betancourt noticed oil leaking from the right engine. He was seated behind the right engine.

"He yelled, 'Hey, there's something leaking from the right engine.'"

Rear Admiral Cruden: "About 30 minutes into the flight I saw a crewman [Rathbun] looking at the starboard engine. I looked out and could see traces of oil on the nacelle. I asked if it was a problem – he didn't think so. He thought maybe they serviced it last night with cold oil and maybe its venting as it heats up. It didn't look like a lot – less than a quart.

"I went up to the cockpit and the pilots thought it had been filled the night before, it was expanding, venting, and that was normal. Their indications in the cockpit were normal."

Lt. Betancourt: "After about one hour en route, I recall seeing about one-half to one quart of oil coming out of an access cover on the top of the starboard engine. I was seated on the starboard side, just forward of the trailing edge of the wing, and I could see very clearly the engine.

"Petty Officer Rathbun went forward to tell the pilot about it, and shortly thereafter the oil stopped. About five minutes later, Capt. Estes came back and looked at the oil through my window. I had to move aside for him. He did not say anything.

"When I spotted the oil, just out of instinct, I looked at the trailing edge of the wing. I thought that the exhaust that I saw was more than I had seen when flying the [Kadena] C-117 in the days earlier. I asked Capt. Smith, sitting in front of me, who is a naval aviator, and he said that it was just normal exhaust. It was whitish, not bluish, in color, and. very fine but definite.

"I thought that it was oil that had gotten on some hot engine part and was burning up. It was very, very light, but I had not seen that before. It was well defined, but not even as heavy as cigarette smoke."

Right Engine Oil Pressure Fluctuation

Forty-five minutes after departure, at 10:34 a.m., communications were established with Andersen Airways, the primary air-to-ground station for aircraft using single sideband radio, based at Andersen AFB at the north end of Guam. They assumed "communications guard" for the aircraft. Sometime after this, indications of fluctuating oil pressure on the starboard engine were noted. At an estimated 30 miles further, which would take 12 minutes to fly, so estimated to be around 10:46 a.m., they decided to turn back.

Copilot Lt. Bell: "You normally lose contact with Guam Center roughly 100 miles out, depending on your altitude. When I called Guam Center to report CORRS, I couldn't get any response, so I checked in with Andersen Airways. They accepted our primary guard frequency, gave us a backup frequency, took our CORRS report, and our estimate for the next point.

"It was shortly after that I noticed the oil pressure give a jump. I watched it and it was pretty steady. Both of them matched up. Then it jumped down on the #2 engine. I watched it for a couple of jumps then I reached over and tapped the Captain on the arm and said, 'Captain, it looks like we've got an oil pressure problem on #2. I suggest we turn around and go back right now.' He said 'I concur with you,' and I turned left. As soon as I started turning, the Captain unstrapped and went back to inform the Admiral what was going on.

"I called Andersen Airways and told them we were returning to Guam and that we had oil pressure fluctuations on the #2 engine. I told them I was not declaring an emergency but that I was returning to base. I estimated we were probably about 125-130 miles out of Guam. We turned back and the Captain returned. He was only back there a short amount of time. As soon as he got back, I asked him to take the aircraft, because I wanted to do a little bit of figuring.

"Manifold pressure was decreased on the starboard engine and both manifold pressure and RPM were increased on the port engine during the turn back toward Guam. Indications of decreasing oil pressure on the starboard engine, including the oil pressure warning light, continued to be received in the cockpit."

Normally [the oil pressure gauge] is up around 75 [at the top of the green arc at right]. I watched it about two or three times. I've never seen those oil pressure gages do anything but give very steady indications, but now #2 was definitely dropping down and coming back up. I probably watched it about three times before I told the Captain. It was still indicating 75 or 80 PSI, but after we turned and started heading back, it continued at about the same frequency to fluctuate. You could see it wasn't coming all the way back up to 80 PSI. It was dropping.

"I had Curtiss go back and check it. He said we were definitely losing oil out of #2 and he could see it. He said it was coming from under the wing. He said there was oil all over the flap. When he said that, I wanted to ask him to correct what he said, because the flaps were up and you can't see the flaps.

"There were no abnormalities with the oil temperature up to when we feathered #2. The oil temperature was within limits the entire time. It never went out of limits. That may have been an abnormality itself [No – it wouldn't heat up until all of the oil was gone]. Even up to the time we started losing governability I didn't notice any abnormalities with the oil temperature."

Turnaround

Van Cleve heard Bell reduce power to the right engine, and was informed about the turn back to Guam. She looked for evidence of the turn by the sun's position. The sun SW of CORRS intersection at 10:38 a.m. that day was in the direction of the yellow line above, with an elevation of 62°. Bell made a 180° turn to the left, and so she would not see the sun until the turn was almost completed. The engine shut down she refers to happened after the turn.

Director Van Cleve: "A bit before 11 a.m. I turn again from my book to the ocean (possibly caused by a change in the engine sound?) and watch, transfixed, while the right engine propeller slows and slows and then wholly stops. I call Jim's attention to the fact that we are moving on one engine. Jim wonders if we will turn around. Dave Cruden comes by and reports that we will turn around and return to Guam. We all find this comforting, but we seem not to turn. I will, I say, watch the horizon and report when the sun seems to be in the right place; soon it is."

Deputy Under Secretary Green: "It was almost as if the pilot did not want us to know it. We never so much as felt the wing tilt that normally signals a turning aircraft. Mrs. Van Cleve, always alert, noticed that the sun had changed positions, and observed that we had indeed turned.

"After the plane had turned around, the pilot turned off the right engine."

Engine Shut Down

Copilot Lt. Bell: We turned around, and we were heading back to Guam and I asked the Captain to fly the aircraft. I had the NATOPS Manual and I was going over the basic first six steps of the check list, because they are the memory items. I just wanted to reassure the Captain what was going to happen if we had to shut the engine down.

"The oil pressure continued to drop. I told him when it dropped down in the 50 PSI region, sufficient to get the light on and off. Then as it did drop below 50 PSI we had a constant oil pressure light. I didn't want to shut the engine down sooner than I had to, but I didn't want to damage the engine permanently either, so I told the Captain we'd use 30 PSI for our shutdown point, and we'd shut the engine down when the gauge would not come back up to 30 PSI. Well, we never got that far down, because we started losing control over the prop governor on the engine, because it uses engine oil.

"We started losing governing control on #2, so I pointed to the RPM gauge and I said 'Captain, we are getting ready to lose control over that engine. I'm going to shut down #2'. I sat and watched it, and as the RPM passed through 3000 RPM, I took the mixture on #2 and asked him to concur that it was #2 engine. The proper engine. He nodded his head, and I shut down #2 with the mixture control, and I immediately feathered #2."

Emergency Declared

Bell declared an emergency between 11:00 and 11:04, at the time the engine was feathered, and so the engine was feathered about 15 minutes after the turn around (estimated at 10:46). At approximately 11:18 a.m., NAS Agana and the Joint Rescue Coordination Center (JRCC), Guam, was notified.

Failing to Maintain Altitude, and Slowing Down

To avoid head-on-collisions, pilots above 3,000 feet when flying west pick an altitude with an even number of thousands of feet, e.g. 6,000. When flying east they pick an odd number, e.g. 5,000 feet (airplanes not talking to radar add 500 feet to these). Therefore Bell told Estes to fly to Ulithi at 6,000 feet. After turning back east, Bell told Estes to purposely lose 1,000 feet, to get to an odd number of thousands of feet, 5,000.

After giving up 1,000 feet to get to 5,000 feet, Estes could not maintain 115 knots while maintaining altitude, and so Bell told Estes to pitch for the airspeed, and let the plane descend. He thought (correctly) that the airplane would perform better lower, and advised Guam Center he wanted to descend to 2,000 feet. Guam Center advised him "at pilot's discretion" to descend to 2,300 feet, 1,000 feet above Mt. Lam Lam, pictured above, 1,332 feet, directly along their path.

Copilot Lt. Bell: "After we feathered the engine, pointing back toward Guam, our airspeed then bled off from about 145 to 149 down to about 115 knots. I told the Captain I'd like to maintain no less than 115 knots if possible.

"I'd flown the airplane both simulated and actual single engine. Of course we never had a big load on board like we had that day, but it had flown so well on one engine in my previous experience that I really didn't think that we would have any trouble flying the airplane back to Guam. We finally got down to about 115 knots, so I told Captain Estes to go ahead and descend to 5000 feet. It made sense to me because we had reversed our course so we should be at an odd altitude coming back in.

"We got down there at 5000 feet and leveled off. We found out we were not able to maintain our airspeed. It was continuing to decrease. I told the Captain to descend and I would notify Center. We would just try to maintain an airspeed of 115, and continue a descent.

"We seemed to have a pretty consistent rate of descent of 100 feet per minute. Our airspeed was somewhere between 100 and 110 knots. It would vary a little bit. Captain Estes was flying the airplane. In fact, I had asked him, 'Captain, do you think you can make it? Do you want to try to make a single engine landing?' He said that he didn't think he'd have any problem doing that. I don't think that would have been a real good decision on my part to allow him to make the landing as aircraft commander but he [Estes] was the one who was flying. He had been the one who was going to make the landing at Ulithi.

"I felt at a lower altitude somewhere the aircraft would level off. I felt at 5000 feet possibly the wings and the props weren't as efficient as they would be at more or less 2000 feet. I didn't want to use much more power than what we had on it. We already had max continuous RPM.

"We told Center we were descending, that we could not maintain 5,000 feet. They said 'Roger, at pilot's discretion, descend and maintain 2300 feet and report the field in sight.'

"We could see Guam clearly from 70-80 miles out. They wanted us to maintain 2300 feet until we were clear of the terrain on the southern end of the island. We continued to descend down to 2300 feet, and maintained our 100 to 110 knots.

"When we got to 2300 feet we were probably 50-60 miles out. [We] went on up to max continuous power, to 46 inches. We leveled off at 2300 feet, and the aircraft maintained that altitude for a few minutes. The airspeed slowly backed down to 100 knots and even went a little bit lower than 100 knots.

Jettisoning Cargo

Jettisoning was from around 1,500 feet to 500 feet. The investigation found it had no benefit.

Copilot Lt. Bell: "At this time Petty Officer Curtiss was up forward and I said, 'Curtiss, let's throw out all the booze and cargo.' I didn't tell him any baggage, but booze and cargo was going to go. He went back aft, and with the other two crew opened the emergency door and got rid of all that stuff. A couple minutes later he came forward and said, 'We've thrown it all out sir.'

"We were still in a descent and we were still slow. I said, 'Captain, I'll take the aircraft back.' At this time we were down to about 1500-1600 feet, about 100 knots. Then I said, "OK, Curtiss, let's throw everything in back out. Petty Officer Curtiss went aft and started throwing baggage over the side, band gear and basically everything that was left in the airplane."

Musician Washburne: "There were packages under every seat along the left side. We had to loosen the seats from the deck to get the packages out. The seats were lifted and we passed the boxes – we formed sort of an assembly line – to the back of the plane, where a crewman [Rathbun] would throw the package out. He would throw them straight down with a lot of force. Twenty to 24 packages from the left side were thrown out. The next things to go were small things, like brief cases, then a few musical instruments. We were about 1,000 feet above the water. The seats [the lower attach brackets shown on page 30] were never secured back down."

Mechanic Rathbun: "I was on the left side, in the last troop seat nearest the door; that was my takeoff position and my crew seat. Prior to throwing the cargo out I made a makeshift safety strap out of a cargo strap – there were no gunner's belts, and I handed it to the chief musician [Berger, in seat 26, near the door] and said 'Wrap this around the arm of the seat, and don't let me fall out.' He was still holding the strap after we hit the water. We only jettisoned once. I was the only one tossing things out. Curtiss and the others passed everything to me.

"The first thing to go was my 70 lb. toolbox. It was either it or me. I still remember the bass drum kind of getting stuck in the door as the wind grabbed it, until I gave it the boot."

Rear Admiral Cruden: "I heard we were going to have to get rid of some baggage. I walked up to the cockpit at that time. We were at about 1,400 feet. I asked the pilots, 'Are we having trouble holding altitude?' They said 'We've lost some altitude, but it seems to be holding pretty good now. If we have some problems we're going to jettison the baggage.' In about 5 minutes after I sat down word came to crack the cargo door and start throwing things out.

"The musicians started removing cardboard boxes under their seats. They passed them back and out they went. Then they threw some instruments out, and at least some baggage."

Director Van Cleve: "At about 11:30, the flight attendant emerges in haste from the cockpit and shouts, "No smoking! Fasten seat belts! Put on life vests!"

"We do all of these things. We are otherwise silent. We seem to be flying much lower.

"I feel considerable fright now. Dave Cruden, moving in the aisle, says to us, gently, that some of the luggage may have to be thrown out. No one comments. We are all rather without speech. But I do hope that it's not mine. I do like that suitcase, and I especially like a lot of the things in it. I won't look. If I see my suitcase going out I might cry. Can't do that."

Deputy Under Secretary Green: "A crew member went to the rear of the plane, opened the rear door, and began throwing musical instruments, boxes wrapped in brown paper which were under the bench upon which the band members were seated, and an assortment of luggage. I saw my luggage and the Under Secretary's attaché being thrown out. I was now very concerned.

"Members of the band were assisting in throwing out the brown bags by sliding them from under their seats and down to the rear of the plane. This was classic. I've seen this scene many times on television.

"I wanted to tell the Under Secretary that his attaché had just been thrown out the door. I didn't. It sounded fatalistic.

"At one point the crew member [Curtiss] who had been throwing [helping throw] the items out of the plane returned to the cockpit to converse with the pilot. As he left the cockpit, my back was to him, but the Under Secretary looked up at him and noticed that his eyes were red.

"Shortly thereafter…the pilot shouted to the rear of the plane, 'Close the door!'

"I thought of my wife at home, expecting a baby that I would never see. I thought of my loyal assistant and the general scene at the office. I pictured it in my mind. I prayed. I prayed in a very personal way. Not a prayer, but a message. I was attempting to communicate through God to all those who were passing through my mind, but I had no specific message.

"I cannot remember the prayers, but I can remember the attempt to communicate it some way, something about my existence. I did conjure up slices of life which were prominent in my mind, as if to register them permanently in some place so as not to forget them, as if somehow they might otherwise be lost. I cannot at this point recall the scenes I pictured. Most were faces, not events."

Under Secretary Joseph: "It had by this time become obvious that we were losing altitude or deliberately flying closer to the water. I no longer felt fright. Somehow, I had passed that stage earlier. My emotions were all positive. No fear. No anger. I had offered a silent prayer and I felt an inner calm.

"There was complete quiet, a silent discipline which reminded me of mock combat drills at Ft. Devens in Massachusetts, where as a young company commander I had learned to repress my own emotions in order to set an example for the men under my command.

"My mind was suddenly fixed on the terror in the eyes of the crewman who had instructed us to put on our life jackets. I did not feel his fear, but I was touched by the tears visible in his eyes."

LCDR Roth: "The band members had to lift the seats from the floor to get the boxes out from under them. I have the impression that the crewmember helped with the seats.

"Afterward I remember the crewmembers scurrying to try to refasten the seats. At that time we were told to prepare to ditch."

Lt. Betancourt: "About 1130 we were told to put on our life jackets, and everybody did it. Then one of the crewmen was told to open the cargo door and start ditching cargo. The first things that went were boxes under the seats where the band members were sitting. They were sealed boxes, and I don't know what was in them. They were passed back hand over hand and thrown out. Then came the band instruments. Next he was told to shut the cargo door."

Descent from 1500

Pilot Capt. Estes: "Somewhere in a very shallow, very slow descent she'd seem to level off ok and then just lose a couple, 300 feet, then hold it for awhile and lose a little more. This was at normal rated power [i.e. they had not increased power to the good left engine].

"[After they jettisoned the extra cargo they] closed the jump door and it looked like we were still going to have a little trouble maintaining altitude so **it was about that time that Bob called for full power** and we were down around 110 knots at that point. We were getting a good 2800 RPM which is of course the prescribed RPM at military rated. The aircraft even at that full rated power could not maintain altitude.

"We kept losing altitude, and airspeed started to decay down to the point where we were now about 500 feet above the surface of the water, and airspeed was down around, as I recall, between 95 and 90 knots."

Mechanic Rathbun: "I was told to get the door back shut, so I did. I only had about 20 seconds between when I closed the door and sat down and when we hit.

"I did not have time to put a seat belt on. I had the cargo netting behind me, and so I grabbed on to that and held on with all my might. Broadbent was forward by Green."

Copilot Lt. Bell: "As they threw [the cargo and baggage] out, when the door opened it increased drag. It caused the airplane to fly a lot more unstable. Our airspeed went down somewhere between 90-95 knots and the aircraft started to buffet and shudder as if we were doing approaches to stalls. I was flying the aircraft and I still could not maintain altitude. I was trying to keep as little a rate of descent as possible without the airspeed falling off too much or without the buffeting and the vibrations becoming too bad.

Curtiss and the rest of them were back in the back throwing baggage out. We continued that descent down to about 500 feet, I think it was. It took about, I would say roughly, 10 minutes for us to descend from 1500 feet, when I took the airplane, down to about 500 feet. We were still at about 90 knots, I'd say. The aircraft was buffeting quite a bit and uncontrollable.

"**We went to full power on the engine at 500 feet.** That seemed to help for a couple of minutes because **the aircraft seemed to maintain 500 feet and 90 knots for a couple of minutes.** I really felt like maybe we could fly this thing out now we are lightening the thing up. As soon as we get the rest of the stuff out and the door closed, maybe we could get it back up to 1000 feet. We could get it back on in and land.

"All of a sudden there was a severe shudder that went through the airframe. I thought it was about to stall out, or I wondered if something thrown out could have hit the tail or possibly there was a problem with the #1 engine. I really don't know but there was a severe shudder of the airframe. I thought we were going to stall the airplane out, so **I eased the nose over and we started a more rapid descent toward the water.**

"I turned to yell and to try to tell somebody that we were going to hit the water. I could see that they had closed the door in the back. Curtiss was not between the seats and I couldn't see him in the back so I told Capt. Estes, 'Captain, we are going to hit the water.'

"Then I concentrated on flying the airplane, and keeping the wings level, and just before initial impact with the water, I reached over and feathered #1 engine."

Just Before Ditching

Pilot Capt. Estes: The last airspeed I recall seeing on the thing was 90 knots which is still well above stall speed [83-89]. I still felt that shudder with the door closed that I felt early-on when they started the second dumping evolution.

"We were kind of getting close to a touchdown when the left wing dropped. So I got on the controls with Bob and kicked the hell out of the right rudder and the wing came right up.

"The sea was pretty calm, so was not a factor. We ditched in the direction back toward Guam. There was not enough of a sea to worry about. We talked about it – that we would just make a straight in with the heading we had, rather than try to make any final turns at a relatively low altitude and perhaps get ourselves in a wing-down situation."

Copilot Lt. Bell: "The wind was pretty much on our tail coming back in, about 220 at 15 knots at altitude. On the deck it was probably pretty much the same. On take-off it was right down the runway, 240 at 15. We landed 180° out from what would have been recommended for ditching. When we got down on the water the swells were moving in the same direction as we were. We were following the swells. I can't say for sure at what point on the swell we touched down, whether we hit one on the back side or on the top. Basically, our ditching heading was the one we were using to head for Guam. I don't know exactly what it was; basically 060.

"On touchdown, the flaps were up. The setting recommended for ditching is half flaps. I didn't use flaps because we were already so slow that I just felt like it would have stalled us out. We would just go flying into the water and probably break the back of the airplane.

"The main reason you want to use that configuration [with flaps] is because it gives you the best attitude. [But] we thought we were so slow we would have probably landed like this [anyway] rather than setting the area under the wings on the water."

Deputy Under Secretary Green: "I gazed out the window looking at the ocean and the waves, white capped, become more and more distinct. There were very clearly bubbles in the water. We were getting closer to the ocean. Adrian and I were taking each other seriously. I smiled nervously at the Under Secretary, saying in a strange kind of way 'We're not going to make it.' I looked across from him at Mrs. Van Cleve. She seemed concerned. We all were."

LCDR Roth: "The word was given shortly before we ditched to crack the windows. I think Ralph Smith's window exit [seat 23, next to Roth] was the only one cracked. I'm not sure anybody really knew what cracking a window exit was, except Ralph who was an aviator."

Lt. Betancourt: "It was fairly quiet in the airplane prior to impact. No one was panicky or causing a commotion. Someone told us that we were going to ditch. The crew prepared us well by indicating that our seat belts had to be fastened, and we should assume crash positions, which means putting your head to your knees, and bracing for what likely will be a shock. I bent over with my hands covering the back of my head. I had moved from seat 25 to the aisle seat, 24."

Musician Washburne: "We were instructed to fasten our seat belts as tight as possible. [But] band members near me, seated on the jump seats, and I were not advised nor instructed by anyone to put our heads between our legs for the crash, so we just continued to sit up normally."

Impact: Hitting Tail – Getting Airborne – Nosing In

Pilot Capt. Estes: "We were both on the controls when we hit. First point of contact we had a nose-up attitude. We hit tail first, and slapped down. First contact was moderate. This was followed shortly by a second contact which was quite severe and quite loud. I was impressed by the tremendous noise.

"I can remember being thrown violently against the straps [shoulder harness], and to the best of my knowledge, it held. I felt myself hit something with my head. I have no idea what, and I think I was unconscious for a short period of time and came to. I was under water still strapped in the seat. I could not see anything but was very calm.

"The front of the aircraft…split from the top down; the top of the fuselage was totally open. I think it split off on both sides evenly – meaning we landed wings-level."

Copilot Lt. Bell: "We hit the water pretty solidly but the airplane seemed to get airborne again, and continued to fly relatively controllably, but the next time we hit the water it was very, very hard, very severe, and that was the last time I remember seeing the water. We may have gotten airborne or hit it four times, but the second one was the last one that I could distinguish.

"I have a feeling that the first time we hit the water it was such that it slammed the nose down on the second touch down, and that was what probably caused the failure in the fuselage in back, slightly aft of the cabin."

Under Secretary Joseph: "The plane touched down on the Pacific waters. I felt relief. It had been much smoother than I had imagined. I even felt gratitude to the pilot.

"But as I started to unbuckle my seatbelt, there was a second impact; this one was incredible. The sound was deafening. The plane was breaking apart. The ceiling directly in front of me had caved in. Luggage or bodies (maybe even both – I could not be sure) were everywhere."

Director Van Cleve: "A part of the plane touches the water. It does so so gently that I think we will all walk off as though we are on a landing strip. (That touchdown, I later learned, was the tail.) Within three, maybe five seconds, comes another impact, vastly more ferocious than the most terrible sound I could ever imagine. The front of the plane has, clearly, struck the water – and in turn been struck violently by it. I feel thrown upward and downward and forward all more or less simultaneously. The awful crashing sounds persist. Everything is happening so fast and with such ferocity. The cabin ceiling above me crashes downward, but I note with satisfaction that it stops short of my head."

Deputy Under Secretary Green: "The rear of the plane was the first to hit. The impact was similar to what one might imagine to be the impact of being hit from behind in an automobile by another at approximately 20 to 25 miles per hour. Shortly thereafter, seconds, the front of the plane hit the water. It was the most jolting and physically traumatic experience I have ever had.

"As the front end smacked into the water, I was looking forward at the Under Secretary. Our bodies were being thrown forward and back and around with the confines of our seat belts. At one point as I was being thrown back. I recall looking up at the ceiling of the plane, and generally wondering what portion of it would either crush me or pierce me, and kill me. I contemplated death. I seemed to be waiting for something to hit me, or to crush me, but nothing did."

Rear Admiral Cruden: "When we hit the water tail low it was a glancing blow. We came back up into the air and not much of a shock. The second time we came in quite hard. I was seated upright and was thrown forward, but my safety belt held me tightly.

"I saw people on the jump seats coming past and piling up in the forward part of the aircraft. I don't know if the seats or safety belts were letting loose. There was no panic."

LCDR Roth: "We impacted once, and at least one more hell of a wham. There might have been more. On impact, I had the impression that most of the people in the troop seats were going forward, and seats, people and all were carried away."

Mechanic Rathbun: "After the tail hit, we got airborne again, and it nosed in. The second impact is when we came to a stop."

Lt. Betancourt: "When we ditched, I only remember feeling one sharp jolt when we stopped.

"They told you to put your head down between your legs, and not to look up until you came to rest. I distinctly remember after it impacted it bounced, and I lifted my head, and it hit again, and my head hit my knees, and broke my nose."

Musician Washburne: "I looked out – we were very close to the water. I expected a smooth landing. The plane landed on its belly. I thought the pilot really did a good job, but about a second later we hit again. The second time we hit, I think the front of the plane hit a swell very hard. I was thrown into the air because the seat had not been secured. I was thrown forward. We hit a third time – a violent jolt. The plane hit a fourth time and came to a stop."

Ditching Location

The plane ditched at 13°12.8' N, 144°30.9' E, marked below. This was 20 miles along the 232° radial, the green line below right, from the NAS Agana (Nimitz) VORTAC, and 3 more miles along the blue line to the field, 23 miles from NAS Agana. It was about 16 miles, the yellow line, from Orote Point. It was 8 miles from the island at the south tip of Guam.

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Pilots Escape from the Torn-Off Cockpit

Pilot Capt. Estes: "I think in retrospect I just had the thought of the Dilbert Dunker for some reason or other. Having had several of those throughout my years of training, it was kind of the same evolution. I just very calmly found my lap belt and undid it, and tried to kick out, and couldn't because my right foot was caught somewhere, on the rudder pedal. I was out of my belt, and started to really act concerned because I couldn't get my foot out and thought that this could very well be it. I remember as the thing was sinking very clearly wondering 'Is it better to just swallow water and get this over with?' But I kept working with it and was calm throughout. Maybe I still had plenty of air. At least I certainly hadn't reached the panic point.

"Suddenly, my foot popped out and I wasn't sure which way to go, because I was totally disoriented. I had no idea which way was up, but just feeling around I remember pushing a box or suitcase or something out of the way, and I believe that I came through the normal hatch or doorway that leads from the passenger compartment into the cockpit. I believe that is how I made my exit because it felt tight and close and that is a pretty tight cockpit, if you've been in it.

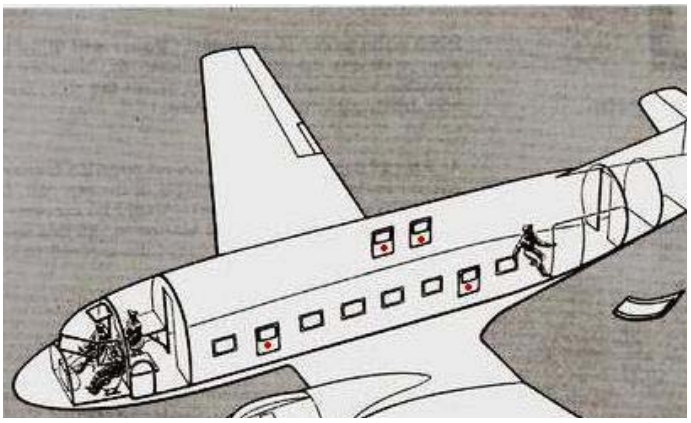
"As I floated to the service, the water was very clear, and I remember seeing the broken off cockpit [underwater] through the clear water, sinking.

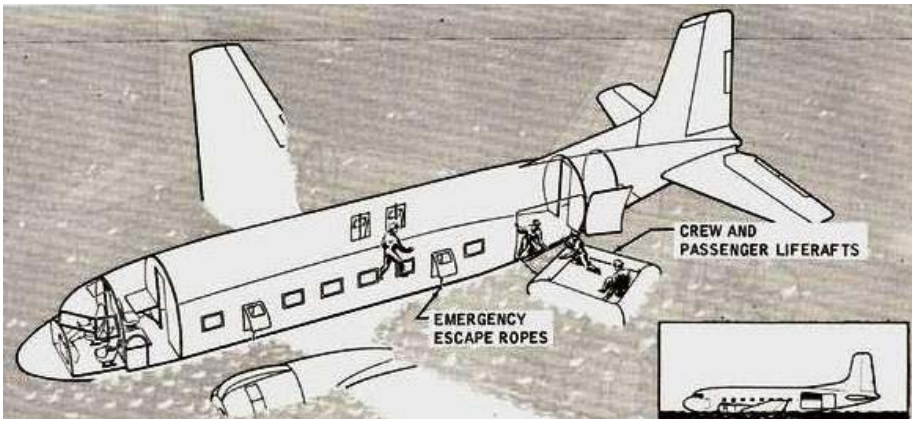
"It didn't seem like I was underwater very long once I cleared the cockpit area until I popped to the surface and found myself looking aft into the passenger compartment. I remember seeing seats and they all looked intact and good. I don't remember seeing anybody in there. It seemed like I heard somebody yelling, but I was pretty dazed and I don't know whether it was somebody outside the aircraft or not. But I thought there was a large crack over my head when I looked up, and it may have been just an open space, and the cockpit, somewhere aft of the radio compartment, physically separated from the rest of the aircraft, was sinking. Actually there wasn't really anything there but space, because I remember going to where the aircraft fuselage was cracked and crawling out on the wing and lying on the wing for several minutes."

Copilot Lt. Bell: "The next thing the entire cockpit was full of water. It was black. I couldn't see anything. I reached down and unstrapped my belt. I turned to the left to get out of the right seat. That was the last direction I know for sure where I was going. I don't know how I got out of the cockpit – whether it was the overhead hatch, a hole ripped through the deck, or whether it was straight back aft through the passageway. But I searched around and found a hole I could pull myself through. I had a sensation of going from within an enclosed aircraft out into the open water. Then I started getting my senses. I was buoyant, I was going up; there was a sensation of floating up.

"When I came to the surface, the aircraft was behind me. When I turned I was in line with the #2 [right] nacelle. The engine had been ripped completely off, and there was just the aft fire wall. All I can remember noticing was the fuselage on the starboard side from about the wing back. It looked like it was all still there and the aircraft was floating pretty nicely and there were several people on the wing.

"I swam toward the nacelle. I looked out to my left, out in the water, and I could swear I saw Capt. Estes there in the water, more or less parallel with me, swimming toward the leading edge of the wing. There was blood on his face. He was more or less like he was in shock, and his eyes were staring. I crawled up on the wing. The waves more or less just washed me up on the wing. When I got washed up on top of the wing I realized I couldn't walk. I was pretty much unable to do much of anything other than swim."





Passengers Exit Main Door and Windows, and Enter Life Rafts

As diagrammed above, the main exit was the left rear door, but the C-117D also had four windows that could be pushed out for passengers to exit. The windows on the left were blocked by the troop seats. Windows 6 and 7 on the right, similar to those pictured below for an R4D-6, were used. Window 6 opened onto the wing, and 7 onto the edge of the wing, mostly the water.

Rathbun (Mechanic): "The 20-man raft was strapped to the right-side of the aft bulkhead, and was torn off by the second impact. It flew across the plane [left] and hit the aft cargo door and knocked it open, and the raft fell out, and it floated there un-inflated. The aft cargo door was then open, and the forward one, with the jump door was still closed. I threw out the 7-man raft."

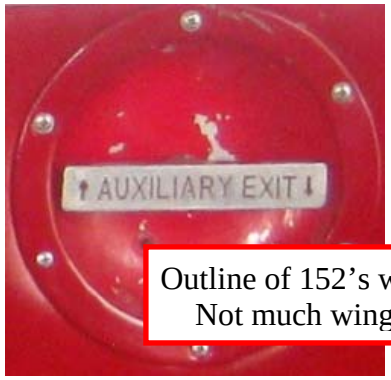
Under Secretary Joseph: "We had determined in an earlier conversation that Adrian and I were the only two who could not swim. [So after impact] I was obsessed with one thought: get to the door quickly. Once at the door, I stood for a moment to contemplate my predicament. I could see nothing but water; I was standing at ocean level. To my left I could see a member of the crew [Rathbun] inflating a raft. He appeared to be the only person ahead of me. I decided that I could reach the raft even if my vest did not inflate, [but] I pulled the string, the jacket inflated and I jumped into the water. The other person in the raft helped me aboard. Then we helped other people. They kept coming. One of the members of the crew [Rathbun] had a radio [a PRC-90, part of his survival vest] that he could not get to operate, but he kept trying anyway."

Director Van Cleve: "The angle of the fallen ceiling is different on Adrian's side. He has been struck in the head. Adrian's hands and feet are flailing. But of all the people on this plane, am I not the least competent to help him? Many are trained as to what to do. I am not. My seat belt unfastens nicely. My sole duty at this moment is to get myself out of this airplane as quickly as possible, causing as little difficulty for others as possible. Move fast. I bump into someone in the aisle. He seems to stand aside for me. I think it might be Wallace.

"To my immediate left appears an already opened emergency exit. I think it is full length [not] on to the right wing. Just one man [Cruden] climbing out. He is moving slowly.

"Someone, passing swiftly, flips open another emergency exit immediately to the right of the one with the slow mover in it [they would look as shown below left, with seats]. It's hinged at the top; perhaps 2 feet square; only a window but it's all mine; no one else ahead of me. But below there is no wing. Only ocean. Oh well. I'm not afraid of water. …I dive, head first."

An R4D's right-side two exit windows.



Outline of 152's window 7 exit.
Not much wing to step on.

Lt. Betancourt: "Mrs. Van Cleve was dressed to the nines, had her purse, her hair made up real high. After I jumped into the water, Mrs. Van Cleve took off her shoes, and put her purse in one hand, and shoes in another, and jumped in. And you know what happens when you jump in the water when wearing a dress – her dress came up."

Deputy Under Secretary Green: "I got up, planning to leave by the rear exit. It was crowded. Instead, I took one or two steps, turned left and went out the emergency exit and onto the wing. I remained on the wing because I knew I would feel guilty if I jumped into the water while there were people still in the plane, perhaps unable to escape. I did not go back into the plane, as there were persons coming out and I felt that if anyone had been trapped, these individuals had helped them. There were screams, someone was yelling from inside.

"As I stood on the wing, I noticed a window being pushed out. It was Mrs. Van Cleve. She jumped out of the window directly into the ocean. I should say that she dove into the ocean with characteristic propriety. We exchanged glances and her eyes and expression told me that she was all right. I noticed that the young Navy photographer joined her. My concern for Mrs. Van Cleve was satisfied knowing that there was assistance close by.

"Admiral Cruden was one of those coming out of the exit behind me. He [had] discovered that Adrian Winkel was still in his seat unable to release the seat belt buckle.

"As the plane slowly went down, I jumped off and began to swim to a raft. I seemed to be perhaps 30 yards from the plane and drifting away.

"Once inside the raft I was totally fatigued and seasick. Conversation and speculation centered on who and how many persons had died. There were calls for 'Scott,' but no answer. Was he dead? Soon the answer: 'Yes.'"

Director Van Cleve: "Adrian could not move, his seat having gotten pushed back when the ceiling above him came down. He was saved by Adm. Cruden. He extricated Adrian, and Adrian then joined Jim and others in the raft that was beyond my vision."

Rear Admiral Cruden: "The people in the port side [the band members] were scrambling to their feet and heading aft. The Under Secretary and Mrs. Van Cleve and Mr. Green were all past me before I even stood up.

"I heard Mr. Winkel saying 'Help me.' The overhead ahead of me, over those four seats, had caved in. In the middle it came down quite low into the passageway, but not to the point where I had to get in an uncomfortable position to get to Mr. Winkel. My view of him was unobstructed. His whole chair seemed to have gone over backwards. I know there was water around him, but I'm not sure how high it was. He was wedged in and I grabbed his arms and pulled.

"While I was helping him, I could hear some words, 'Help me' on the other side – I couldn't see over there. The overhead was down on us. Before I got [Winkel] loose, all that conversation on the other side ceased.

"All of a sudden Mr. Winkel came loose. On the way out I looked over on the other side and didn't see anybody. It seemed like we were the last two out.

"There was no water in the aisle. All the water was forward.

"It seemed to me there were two openings on my left – the right hand side of the aircraft. I went out there. There were some jagged edges there and my foot got caught and LCDR Roth, who was standing on the wing, helped me through. My impression is that Mr. Winkel went out the cargo door. (Continued)

Cruden continued: "I spotted Captain Estes up on the wing, and no life jacket on. I yelled for him to come down since I knew my life jacket would keep us both afloat. He said, 'No, I'm alright. I think the aircraft will float for awhile.'

"It is now my distinct impression that [Winkel] and I were not the last two off [the plane].

"LCDR Roth went in the airplane after I had come out to get a life vest, I think, for Captain Estes. He got a life vest and threw it out on the wing and then he spied a couple of people up forward with white shirts on. He went up there and was instrumental in getting them out. It seems to me the man LCDR Roth was directly responsible for getting loose and up and out in the water was probably MU1 Thompson. And Thompson, in turn, turned around and Winters was behind him under some metal.

"I think LCDR Roth left the airplane to go around to see if he could get in from some other way to help. I think Thompson was able to get Winters free and out. I think they were probably the last two out. I must say LCDR Roth is a real hero in this case.

"I could see life rafts – one off the tail of the aircraft and one up in front. I couldn't tell if the raft ahead was inflated or not.

"I told Tedder to stay with Mrs. Van Cleve. They headed for the raft in front of the aircraft. Because of the swell, I started heading for the other one. Someone helped me get in the raft.

"We had Bell, Betancourt, Lipscomb, Roth, Brewer, Allen and Winters. This was a big raft."

"We married up with the raft up ahead and tied them together."

LCDR Roth: "Someone [Estes] yelled for a life jacket – I reentered the aircraft. I found a life jacket floating around the vicinity of the cargo door. I didn't see anyone in that area, and started back up the aisle. There were two band members trapped up forward. I threw the life preserver out the window in the direction of someone in the water.

"The band member closest to me had his leg trapped in sheet metal. I think I moved the sheet metal and he [Thompson] pulled himself out. It was all sort of a blur.

"The other band member [estimated to be Winters] was trapped in rubble up to his chest. The first guy got loose, but I made the judgment that we could not pull the other guy out. I told him I would go outside and try to come around. I re-exited, swam around the wing, and tried to get in ahead of the wing. I couldn't find a way in. I saw the other guy come out. I yelled at him, 'Is everybody out?' I think he yelled 'Yes.'

"Not knowing how long this thing was going to float, I went out to the edge of the wing, dropped off and floated back to the life raft. I helped Bob Bell aboard. I attempted to get the rafts together, and we did get two of them together. We got a body count."

Lt. Betancourt: "Lt. Allen sitting next to me on my right opened the emergency exit. He got out, and I followed him. It was very easy to get out. I swam away from the plane, and moved toward the end of the wing, and was looking for the VIPs, especially Mrs. Van Cleve.

"I remember looking past Capt. Estes and seeing a jagged metal edge of the fuselage about right next to the right [nacelle]. All I saw was jagged edges behind Capt. Estes.

"We had been in the water about 20 minutes when someone yelled at us that there were life rafts on the port side of the aircraft. I looked and saw the life rafts on the port quarter of the aircraft, and swam about thirty yards to the nearest one. It was not drifting as fast as I expected. I did not see any rafts on the starboard side. There were only one or two people in the raft, so I got in and helped others. Some of the people in the raft were LCDR Roth, Lt. Bell, Rear Admiral Cruden, Lt. Allen, some bandsmen, and Mr. Green."

Musician Washburne: "I was, as a cause of the abrupt stop of the aircraft, slumped way down on the jump seat, perhaps 1 foot to 2 feet lower than I had been sitting previously, and I was at least 3 feet or maybe 4 feet closer to the front of the plane – [the nylon seats shown on page 30 hanging on a rod] being pushed forward by the impact.

"I had some trouble unfastening my seat belt. I eventually got it.

"The inside of that plane looked like a shambles. I went to get out and I noticed my left leg was caught between a metal bar and some part of the seat. I cut my thumb reaching back to grab something. I was able to get my foot untangled in about 10 seconds.

"People were calmly making their way to the back of the plane. All the exit hatches were open. People were walking out on the wings and jumping into the water. I didn't see anyone who needed help. I exited from the right side. I walked along the wing. I jumped into the water. After I jumped I realized I hadn't inflated my life vest yet. I could not find the tag to pull to inflate it. A Lieutenant Junior Grade [estimated Allen] came over to me and inflated my vest.

"People were calm and helping each other. I looked at the front of the plane and couldn't believe what I saw. Where the cockpit should be, I couldn't make heads or tails of what was there. Maybe the cockpit was torn off – it was just all black. It cracked like an egg right behind where the pilots sit, right at the red stripe [on page 17].

"As soon as I got in the water I noticed that all the life rafts were in the water. I later talked to the man [Rathbun] who threw them out. He said as soon as the plane stopped he threw them out immediately. He did a good job. There were three of them. Two [that floated to] the right side, and one on the left. I remember going to a raft [the second 7-man, uninflated] on the right side of the plane. I had to swim about 30 feet to get to it. Four or five people were struggling with it – straightening it out and finding the pull tag.

"I found some instructions on it but couldn't make heads or tails of them. It didn't take us long to inflate it. As it was being inflated I hopped onto one corner that wasn't inflated because with this life vest on it would be difficult to get into a raft. The corner inflated and I fell into the raft itself. I think it was a 7-man raft. Next to this one was a 20-man raft. Some people had activated their dye markers."

Director Van Cleve: "Perhaps a dozen are swimming on this side of the plane. No sign of a life raft. No sign of a boat. A few, including Wallace, are standing on the right wing. Wallace is at the emergency exit. Up swims Joe Betancourt, Dave Cruden's aide. What does Joe say? 'Is there any way in which I could possibly be of assistance to you, Mrs. Van Cleve?' I don't chuckle then, but instead say it'd be just marvelous if he could find the thing to pull that would inflate my life vest. No sooner said than done, following which Joe swims off, doubtless to see if he 'could possibly be of assistance' to someone else. Then I chuckle. Had we met at a reception at Blair House, he could not possibly have been more correct.

"Up swims young Mr. Tedder. How glad I am to see him. He suggests, ever so politely, that it might be wise if we tie ourselves together. A grand idea, I agree.

"Ahead of us, I'd have said from nowhere, after I'd guess 10 to 15 minutes of swimming, appears a most inviting sight: an orange life raft, with three or four of our plane mates already in it. (It had taken some time to move it, with one other, from the far side of the plane to our side).

"We bob (sometimes so violently - the sea is not calm).

"I can see Guam. Two miles away, I think. (It was really 16.) How close we came to making it back to Guam."

Copilot Lt. Bell: "I asked the people on the wing if they could check inside, and they said they'd already checked and there was no one else in there. I could see through the windows and out the cargo door or out the windows on the other side. I could see rafts on the other side of the aircraft.

"I slid off the back edge of the wing and swam to the tail. The tail was floating and the horizontal stabilizer was under the water. I swam over the stabilizers and around the tail. The closest raft to me was the big raft, so I made my way to it and I got in the big raft.

"Most everybody I saw looked like they were in real good shape. In the big raft when I got there, there were a couple of people with problems where they were just lying there. They didn't want to move around much.

Admiral Cruden and some others were taking charge of equalizing the load in the rafts and getting the majority of the people in the large rafts.

"I do know the guys on the wings said they had checked and there was nobody left in the airplane."

Pilot Capt. Estes: "The #2 engine was gone, and I was holding on to where the nacelle had been fastened to the wing until I got flotation gear and got myself oriented a bit. Everybody was very calm.

"I saw some people in the water and rafts were out. It was about that time that I saw Lt. Bell's head in front of the leading edge of the starboard wing, and he was very bloody around his head, but he looked to be good and I felt a great sense of relief at seeing him. He came up over the wing next to the fuselage and went off the wing aft. I then made it to the raft.

"We had radio contact [before ditching], so the rescue helicopters were already on the way."

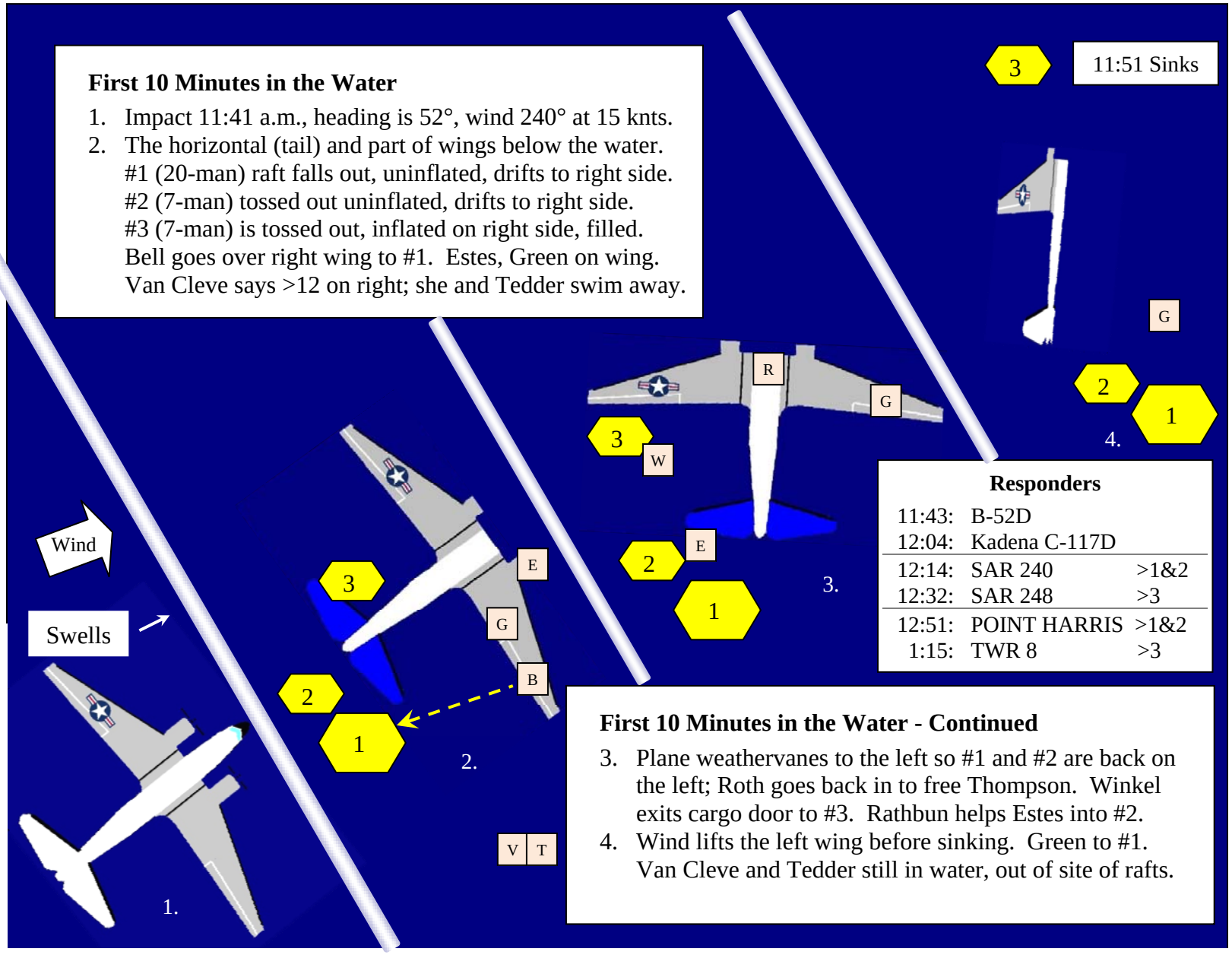
Airplane Sinks

Musician Washburne: "After about five minutes, the plane rolled to its right, and with its shiny silver left wing with the red, white, and blue military star affixed upon it, pointed straight towards the sky, it all slowly sank into the sea, like a mammoth shiny metal statue, as if pulled straight down to be swallowed by the ocean.

"Suddenly, there was no more aircraft there. It was an eerie feeling, observing the plane's wing disappear beneath the Pacific Ocean. Then I could view another life raft afloat."

Raft Sequence

The raft sequence is estimated as shown on the next page.



Exit Window or Door, and Order

Confirmed are in bold

#	Right #6	Cockpit	Cargo Door
1	**1-Smith**	**Estes**	**Rathbun**
2	**2-Green**	**Bell**	**Joseph**
3	**3-Roth**	**Right #7**	**Broadbent**
4	(^first time)	**1-Allen**	?Monjure
5	**4-Cruden**	**2-Betancour**	?Jones
6	?Lipscomb	**3-Van Cleve**	?Sunier
7	?Brewer	?Tedder	?Johnson
8	?Clements	?Berger	?Thompson
9	?Washburne	?Burke	?Winters
10		?Jimenez	**Winkel**
11		?Ascano	

Estimated Raft Occupants and Order

Confirmed are in bold.

#	Raft 1 20-Man	Raft 2 7-Man	Raft 3 7-Man
1	**Cruden**	Clements	**Rathbun**
2	**Betancourt**	Smith	(^in water)
3	**Lipscomb**	?Berger	**Joseph**
4	**Brewer**	?Burke	Broadbent
5	**Allen**	Washburne	?Monjure
6	**Winters**	?Ascano	?Jones
7	**Bell**	?Jimenez	?Sunier
8	**Roth**	Estes	?Johnson
9	**Green**	Van Cleve	?Thompson
10		Tedder	**Winkel**

Rescued by:

Helo 240 (4) POINT HARRIS (15)	Helo 248 (2) TWR-8 (7)

Responders: B-52 Arrives, Circles

At approximately 11:24 a.m., NAS Agana operations requested that Guam Center request the assistance of an airborne B-52 to escort the C-117D back to Guam. At approximately 11:25 a.m. Guam Center requested Slat 63, a B-52D from Andersen AFB, escort the C-117D back to Guam.

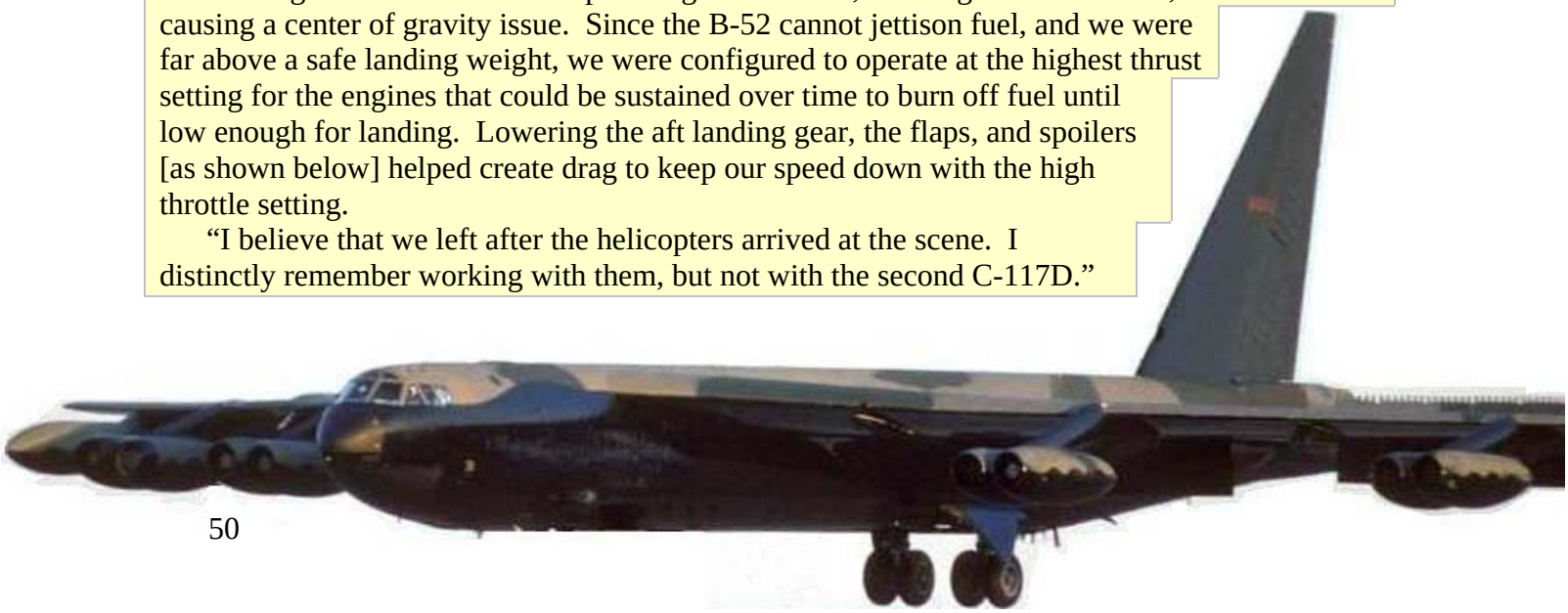
Crew E-06, led that day by Capt. Regner Rider, 60th Bombardment Squadron, was circling Guam to use up fuel. Guam approach control vectored them to the C-117D. At 11:43 a.m. they observed the airplane was in the water, and it remained afloat for 8 minutes. They saw one of the life rafts come out. They descended from 2500 feet to 1,000 feet to get a better look.

Rear Admiral Cruden: "When I noticed a B-52 flying overhead, back and forth, it looked very comforting to me. I knew then that people knew where we were."

Copilot Bell: "The B-52 was overhead almost immediately. I remember looking up and thinking it was strange, because he had his aft main gear down and the front gear was not down."

Capt. "Reg" Rider (from email in November 2013): "We were flying a B-52D, and it had the black and camouflage color scheme [similar to that here]. We had launched as part of a three-ship formation, and experienced problems with raising our flaps immediately after takeoff. One of our wing fuel tanks also developed a significant leak, draining most of its fuel, and causing a center of gravity issue. Since the B-52 cannot jettison fuel, and we were far above a safe landing weight, we were configured to operate at the highest thrust setting for the engines that could be sustained over time to burn off fuel until low enough for landing. Lowering the aft landing gear, the flaps, and spoilers [as shown below] helped create drag to keep our speed down with the high throttle setting.

"I believe that we left after the helicopters arrived at the scene. I distinctly remember working with them, but not with the second C-117D."



NAF Kadena C-117D Arrives

While Joseph, Van Cleve, and Green lay in the rafts, after enduring a terrible crash, wet, bobbing in life rafts, their luggage jettisoned, with all of the notes from their prior meetings, and this second C-117D now recently sunk below the waterline, in addition to seeing the B-52 overhead they had another airplane to look up to: the same C-117D they arrived in the night before, pictured above. It took off at 11:52 a.m., and arrived 15-20 minutes after the B-52.

Pilot Estes: "I then made it to the raft and saw the B-52. Subsequently the C-117 from Kadena came over, and not too long after that the first helo arrived on the scene."

Copilot Bell: "We were in the water, in the rafts for about an hour. The B-52 was overhead. We also had the Kadena 117, and after about 20 minutes the first of the two Hueys from Agana were there**."**

Lt. Betancourt: "When I was in the raft I saw a B-52 overhead and it stayed in the area. Then it didn't seem very long before a C-117 was overhead with its cargo door open."

Mechanic Rathbun: "There was a [fourth] raft – the Kadena C-117 dropped a raft. The raft was inflated when it hit the water. I swam over to it, and I was pushing it back toward the plane, but the helo, the second one, hovered over us and they blew it closer to the other raft [#3]. It went flying out of my hands. Then the helo picked me up. I think some of the people were able to get in that raft."

Guam SAR Helos Launch and Arrive on the Scene

At 11:56 a.m., NAS Agana SAR helicopter 158240 was launched. It returned to NAS Agana for a voltage regulator problem, but was airborne again at 12:05 p.m., and arrived at the site at 12:14 p.m. (covering the 22 miles in about 10 minutes, at 132 MPH – the Huey had a top speed of 135 mph). At 12:20 p.m. SAR Helicopter 158248, "248" or "48," pictured above (Arnes Collection, on the ramp on page 19), launched, but returned at 12:23 to obtain a horse collar rescue sling, and departed again at 12:27. The investigation said it arrived at the rescue site in 5 minutes, at 12:32 p.m., but the time may have been measured on a different watch.

As noted on page 49, #240 picked up Estes, Tedder, a lieutenant, and Washburne from rafts 1 and 2, and #248 picked up one person from raft #3, and Rathbun from the water near Raft 3.

Arnes (SAR Rescue Swimmer): "We had a helo at the scene within 25 minutes of ditching. It took us a while to get word the plane went down, and then when we launched the helo it still took a few minutes to get to the site. I learned later that a second helo launched but returned to base with an electrical problem that was fixed, and then flew to the scene.

"I was in the first helo on scene [#240], and was the first one in the water. I jumped in the water near the largest raft and sent four people up. We simply swam to whoever appeared to be hurt or needing assistance first, then have them get out of the raft, wave the helo in overhead, and they hoist them up. Usually the swimmer goes up with them, but in this case they didn't need assistance for hoisting, and we had too many survivors to pick up, so we stayed in the water to get the next one ready. The helo took those to shore for medical attention, and I stayed in the water with the survivors."

Musician Washburne: "My life raft was tied to another. After we had been in the water about five minutes I saw a B-52 flying circles around us. Twenty-five minutes later a helicopter showed up. A scuba diver jumped out of the helicopter – maybe two. They asked how everyone was, and who was hurt. Before long a second helicopter showed up. Within 10 minutes they started to pick people up.

"[The helicopter] hovered closer to the life raft I was in; I remember how the force of the wind from the helicopter's propellers affected the surface of the ocean.

"Capt. Estes was one of the first people to go up. PH2 Tedder, a Lieutenant, and then myself. A scuba man asked how I was. I was O.K., so I got out of the raft. He signaled with his right hand for a helicopter to come over to us, and he helped me into the loop and signaled to let me up. I was lifted up by a device which was pulled into the interior of the helicopter."

U.S. Coast Guard Ship POINT HARRIS

The POINT HARRIS, above, was an 82-foot long patrol boat, built in 1970, stationed in Guam from 1978-1980, in Apra Harbor, above right. [It was in Hawaii 1981-1992, and decommissioned in 1992]. It had a speed of 22.9 knots. It was underway at 12:02 p.m., and arrived at 12:51 p.m., covering the roughly 20 nautical miles in 49 minutes.

Pictured below on a stretcher is Deputy Under Secretary Green onboard the POINT HARRIS. The white pole in the foreground is the one at the arrow above (the motorboat is wrapped in a blue tarp, above). The cutter picked up 15 persons from rafts 1 and 2, as listed on page 49.

Rear Admiral Cruden: "After some passage of time, I could see the POINT HARRIS on the horizon. The cutter came up within 50 yards, and it was decided that the smaller life raft would be taken alongside first. [Injured] Captain Smith was moved to our [larger, 20-man] raft, so the smaller one had all people in good shape so they could get up and on the POINT HARRIS without any difficulty and as quickly as possible. When they had them all up on deck, they came to us [20-man, with the more-injured], and they took the ambulatory first. I went up the Jacobs ladder. Captain Smith was brought up by Stokes litter, then Winters, Lipscomb and LT Bell."

Copilot Lt. Bell: "They used a Stokes litter, with a good heavy line on it, to get myself and three others out of the big raft."

Lt. Betancourt: "When I was taken on to the Coast Guard cutter, because of my physical appearance, that I showed a blood stained shirt and blood flowing from my nose, the crew of that ship thought I was hurt more seriously than I really was. I recall being taken to a berthing compartment – it was not sick bay – where I would be observed."

COMSUBRON 15's Torpedo Weapons Retriever, TWR-8

Commander Submarine Squadron (COMSUBRON) 15 was based in Apra Harbor, Guam, and operated Torpedo Weapons Retriever 8 (TWR-8, similar to that shown below). It was underway at 12:30 p.m., arrived at 1:15 p.m., 24 minutes after the cutter. It picked up 7 people from raft 3. Two tugs, including the USS Saco, inset below, came out to sweep the area for debris, but the only identifiable piece was a seat belt. A Soviet spy ship reportedly watched the rescue operation.

Rear Admiral Cruden: "The torpedo retriever was on the scene shortly after POINT HARRIS. It wasn't easy for the torpedo retriever to take people on board. I don't think they had a Jacobs ladder. I think we picked up one or two from the last life raft. I know there were two tugs on the scene. I remember the doctor coming on board. We got some medical supplies from a helo."

Other Raft Stories

Under Secretary Joseph: "Our raft [#3] was soon full, and then overcrowded. We were piled on top of each other and there were still others clinging to the sides. I helped to pull Adrian into the raft. He was struggling to get over the side, muttering quietly that he could not swim. I grabbed a leg, two other persons also pulled. He made it into the raft, but I still saw no sign of Ruth and Wallace. I could see other people in the water, so I knew there was hope.

"Off in the distance I saw a bag that looked like mine. I wondered how long it would remain afloat. After about ten minutes on the raft, right before our eyes, the plane sank. As it disappeared from view I saw two welcome sights, a second raft off in the distance, and Wallace in the water swimming toward a third. It looked like all thirty passengers had survived.

"[Soon] It was time to rearrange the raft. Two persons were lying across my legs. One of them was in a state of shock. He kept saying that he couldn't breathe. Several of the people clinging on the sides were bleeding badly. But in rearranging people in the raft to make it a little more comfortable, someone punctured it – so here we were in an overcrowded raft in one of the deeper sections of the Pacific – crowded on top of each other, people clinging to the edges, a broiling hot sun, and a puncture in the inner wall. With a member of the crew [Broadbent] holding his hand over the hole, we seemed to be in reasonably good shape.

"We wondered aloud why it was taking so long for rescue vessels to arrive. Finally, a heli-copter arrived. The helicopter [or the Kadena C-117D] dropped a relief raft which was now tied to ours. [But] the man with his thumb on the puncture seemed to be doing a good job, and I could see a boat on the distant horizon.

"The boat [POINT HARRIS] soon arrived, but it continued to another raft. Finally, a second boat [TWR-8, as described on the opposite page] also appeared on the scene. It did not have a ladder, so they threw out a rope which I placed under my arms while three men on the deck pulled me up. Two hours after the crash, I was finally out of the water."

Mechanic Rathbun: "Broadbent jumped from the plane into the raft, and punched a hole in the raft, and used his thumb to plug the hole."

Back Ashore

Musician Washburne: "When the helicopter landed, I was loaded into an ambulance and brought in 10 minutes or so to the emergency room, or at least to the First Aid station, inside the U.S. Navy's Guam Medical Facility [pictured above]. I was checked over, temperature taken, blood pressure checked, my wound on my leg was disinfected and bandaged, other band-aids were applied where needed, and I was questioned about my name, where I was, what day it was, etc. I was shell-shocked, yes, but I was able to answer their questions correctly.

"I remember the Navy medical personnel were exceptionally helpful, friendly and professional. I was released after an hour, possibly, along with some of my band colleagues."

Lt. Betancourt: "We were brought into the Guam commercial port [closer to the hospital] and taken from there to the Medical Center."

"Of most concern for me was how my family would be notified, because we had been in an airplane crash, and whether my wife knew that I was a survivor, as we tragically had had a loss of life, of two of our shipmates. Unbeknownst to me, I was not listed initially as one of the survivors. But my wife in Guam and two boys, both elementary school kids, were not informed that I was not accounted for. My wife, along with the admiral's wife, and all of the spouses of the other crew members, were at the pier, as were the ambulances, to take us to hospitals."

Under Secretary Joseph: "I made my way over to Governor and Mrs. Bordallo, and inquired about Wallace and Ruth. They told me they were checking. I was taken to the Governor's limousine, where I waited for him to find out about survivors. He and Mrs. Bordallo soon arrived and informed me that Ruth and Wallace were safe, but two other persons were still missing."

Deputy Under Secretary Green: "After an overnight stay at the hospital, I was released. I spent the night at the Governor's house, and left for Washington as soon as possible the next day."

Summary of Injuries

Of the 28 survivors, an estimated 1/3 were unhurt, 1/3 slightly hurt, and 1/3 more so. All survivors were seen by medical personnel, 9 hospitalized. Injuries for eleven were as follows:

Estes	A broken leg, broken nose, and two compressed vertebrae.
Bell	Right ankle broken, and hurt around his face.
Van Cleve	Compression fractures of the vertebrae, five days in hospital on Guam, five days at a hospital in Bethesda, in a brace for an estimated 3 months.
Green:	An acute whiplash which later affected his back.
Betancourt	A broken nose, and injured left arm, but not broken.
Smith	A broken arm – could not sign his name to his statement.
Lipscomb	His thumb nearly severed off, sewed on, but lost all nerves in his thumb.
Monjure	Unspecified.
Washburne	Six-inch slash on left leg above knee, bleeding, other cuts and bruises.
Thompson	A fractured disc.
Winters	Chest pain, he seemed to think he had punctured a lung.

Medal for Rear Admiral David S. Cruden

Rear Admiral Cruden was awarded the Navy and Marine Corp Medal [at right] "for heroism at the risk of life not involving conflict with an armed enemy." This was for hearing Adrian Winkel, who was trapped, cry out "Help me," and going over to pull him out of his seat, which probably saved Winkel from going down with the plane and drowning.

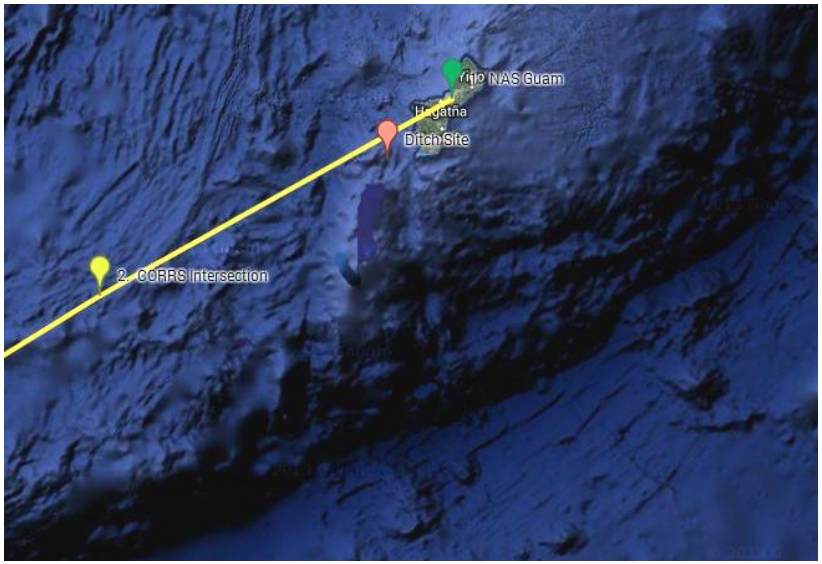
Investigation

An investigating officer conducted an investigation, resulting in the Findings of Fact and Opinions starting on page 154. The main points are included in this Part B.

Lt. Betancourt: "In the Navy they do two investigations, the first is public, with no blame assigned, and the second one is judicial, to assign blame. I sat in on the hearings."

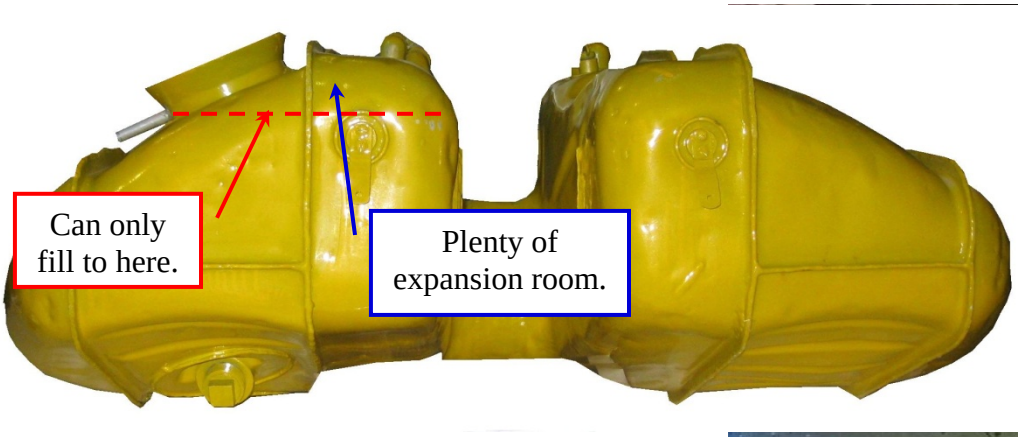
The Mariana Trench

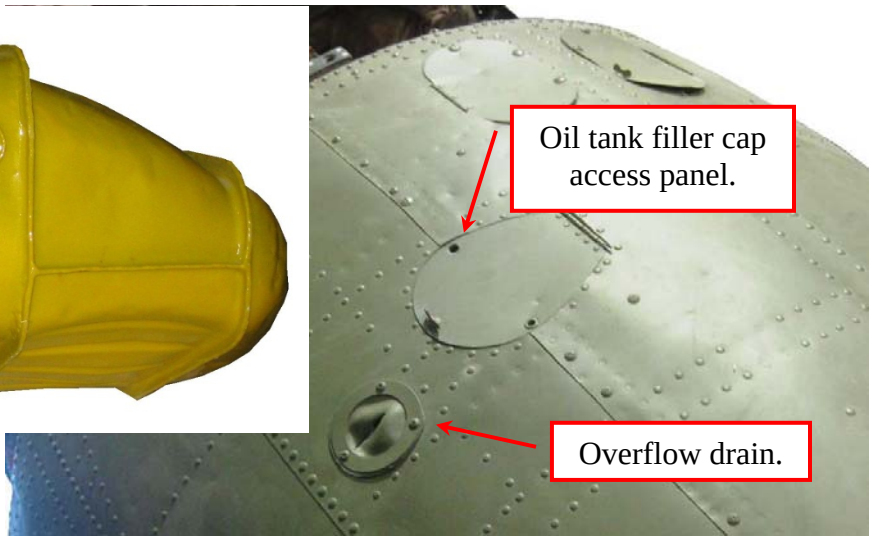
As shown at right, southeast of Guam the ocean floor falls off at a steep angle, in what is called the Mariana Trench. This is the deepest ocean on the earth, almost 35,994 feet deep. The plane sank northwest of this, at the red pin. The Navy estimated the depth where it sank was 970 fathoms, which at 6 feet per fathom is 5,820 feet.



Summary Timetable: One Hour Out, One Hour Back

9:10 a.m.	Dignitaries arrived at Naval Air Station Agana.
9:15 a.m.	Scheduled takeoff time, but waited for briefing book, and then trouble starting engine #2- removed cowling and adjusted ignition exciter.
9:49 a.m.:	**Took off from NAS Agana, Guam.**
~10:00a.m.:	Oil leaked from the oil tank cap on right engine, and then stopped.
10:34 a.m.:	Communications established with Andersen Airways.
~10:46 a.m.:	~30 miles SW of CORRS intersection,~130 miles SW of Guam, after watching indications of fluctuating oil pressure on the starboard engine: - Bell made a left turn to reverse course; - he notified Andersen Airways that they were returning to NAS Agana. - He had 50 radio transmissions in 15 min., mostly about the transponder;
10:59:50 – 11:04:30	Feathered the starboard engine, and declared an emergency. [If feathered now, was 13 to 26 minutes after discovering the problem.]
~11:18 a.m.	NAS Agana and the Joint Rescue Coordination Center (JRCC), Guam, were notified of the aircraft emergency.
11:23 a.m.	Reach 2,000-2300 feet.
11:24 a.m.	NAS Agana operations requested Guam Center request the assistance of an airborne B-52 to escort the C-117D back to Guam.
11:25 a.m.	Guam Center requested Slat 63 B-52 escort the C-117D back to Guam.
11:26:30 a.m.	Altitude of 1800 feet – jettisoning starts.
11:29:10 a.m.	Altitude of 1500 feet.
11:39 a.m.	JRCC requested USCGC POINT HARRIS to get underway.
11:39 a.m.	Reach 500 feet (“in about 10 minutes”), close to stall, so pitch forward.
11:41 a.m.	**The aircraft ditched.**
11:43 a.m.	The aircraft was observed in the water by the B-52.
11:51 a.m.	The plane sank (“within 8 minutes of the time sighted by the B-52”).
11:52 a.m.	The NAS Kadena C-117D departed NAS Agana for the ditching site.
11:56 a.m.	NAS Agana SAR helicopter 240 was launched. It returned to NAS Agana for a voltage regulator problem, and was airborne again at 12:05 p.m.
~12:02 p.m.	USCGC POINT HARRIS was underway.
12:14 p.m.	**SAR Helicopter 240 arrived at the rescue site.**
12:20 p.m.	NAS Agana SAR helicopter 248 departed, returned at 12:23 p.m. to load a horse collar rescue sling, and departed again at 12:27 p.m.
12:30 p.m.	Torpedo Weapons Retriever 8 (TWR-8) was underway.
12:32 p.m.	**SAR Helicopter 248 arrived on the scene.**
12:51 p.m.	**POINT HARRIS arrived on the scene.**
1:15 p.m.	**Torpedo Weapons Retriever 8 (TWR-8) arrived on scene.**





7. Analysis

a. Why Did the Airplane Ditch?

Oil Leak, and Oil Pressure Drop

Pictured above left is a DC-3 rights-side oil tank, the same as in the R4D. The tank sits under the nacelle, above right, behind the engine. The filler neck is underneath the access panel, above right. The filler neck is shown at right. If oil spills around the neck during filling, it will go out the drain pipe, which connects to an extension, and out through the overflow drain above. The following is of note, as shown in part above.

- There is plenty of room for expansion and foaming without it having to overflow - The filler cap is on the side, and one can only fill the tank to the bottom of the neck.
- The cap area drain cannot hold more than about ¼ quart of oil, and would be a mess.
- Once the cap is closed, it is impossible for oil to leak out of the tank. Douglas did not design the plane for oil to vent all down the wing every time it is overfilled and heats up. As noted on page 24, on the prior two flights, August 10 and 13, oil gushed out, but only after landing and the oil cap was unscrewed, not while in flight.
- The oil tank does not have a vent at the access panel or filler cap.

The investigation concluded that none of the following were significant factors:

- the oil initially observed coming from the top of the starboard nacelle - it was a normal occurrence and not directly related to the subsequent problems;
- noncompliance with the Propeller Bulletin 4 with regard to the propeller chafing ring;
- the apparent malfunction of the starboard engine induction vibrator;
- the smoke observed emanating from the port engine during the preflight run-up;
- the maintenance performed on the port engine cluster clamp.

The investigation noted that the starboard engine developed an oil leak or other malfunction, from an undetermined source, of such severity that it caused cockpit indications of low oil pressure, illuminated the oil pressure warning light, and ultimately resulted in a propeller overspeed. The relationship, if any, between the change of the No.4 cylinder on the starboard engine and this accident could not be determined.

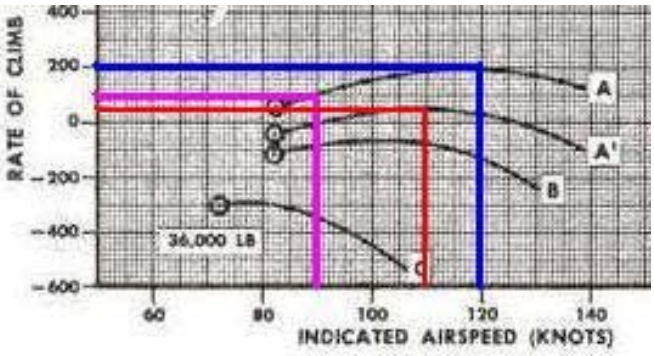
NOTE

At gross weights in excess of 31,000 pounds, the aircraft does not comply with all the FAA minimum airworthiness standards. During preflight planning the aircraft commander shall adjust payload to ensure that a 50 fpm rate of climb can be established with one propeller windmilling (figure 11-16) at best single-engine climb speed (figure 11-15).

Sea-Level Single Engine Climb Performance

The NATOPS Manual on page 1-84, Weight and Balance, has the paragraph above right, stating the aircraft commander, in this case Bell, will be sure the plane shall be able – at sea level after takeoff, at takeoff power of 2800 RPM, with standard atmospheric conditions, e.g. a temperature of 59° F – to climb at 50 feet per minute, and this with the shut down engine's propeller windmilling. In the graph at right, this configuration is curve A', and this graph, for a 36,000 lb plane, indicates 50 fpm can indeed be achieved, at 110 knots [the red line].

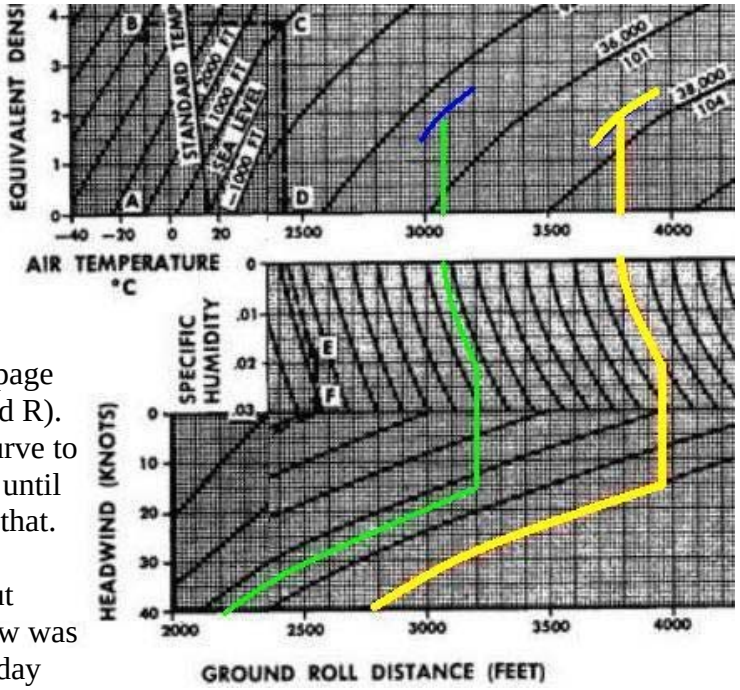
Sea Level Standard (59°) Day Performance



Van Cleve and Cruden said they saw the prop come to a stop, not windmilling, so the plane was in configuration A, not A'. When they got near sea level, they would have been able to climb at 200 fpm [the blue line] at 120 knots if on a standard day (59°F). Even when slowed to 90 knots they should have achieved 100 fpm [the purple line], but continued to sink. Five possibilities are: i) they weighed more than 36,000 lbs, ii) the flaps were accidentally down creating more drag, iii) the airspeed was lower than required, iv) the power was too low, or v) the temperature was a factor.

i. Aircraft Gross Weight

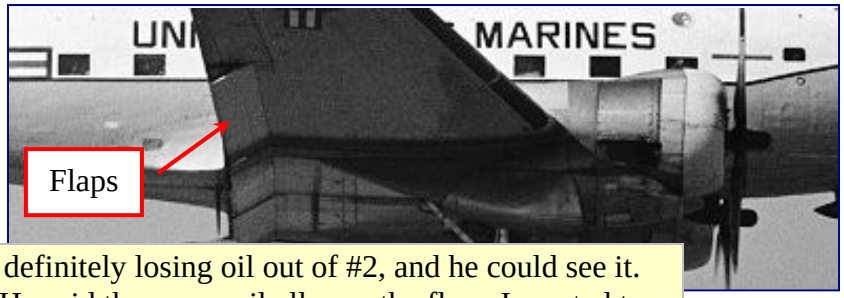
The actual takeoff gross weight may be estimated by the aircraft's takeoff distance at Guam, which was around 2800 feet. Bell indicated Estes rotated at 94 knots instead of 98 knots, so this may underestimate the weight.



The C-117D 1971 NAVAIR Flight Manual on page 11-22 has the chart at right (with the left axis shifted R). One starts at the bottom at 2800 feet, follows the curve to the horizontal line for a 15 knot headwind, goes up until they reach a specific humidity of .021, and follows that.

The temperature at takeoff was not recorded, but historical data for Guam indicate for this day the low was 77° (at 6 a.m.) and high 88°, and based on the interday patterns the temperature at the takeoff time of 9:49 a.m. would have been 84°, 29° C. As shown later, the density altitude was 1800 feet. Following the yellow line up to this, one reaches an implied curve (drawn in, also yellow) at about **37,200 lbs**. Had he been at 34,619 lbs., the green line shows he would have taken off in about 2,200 feet.

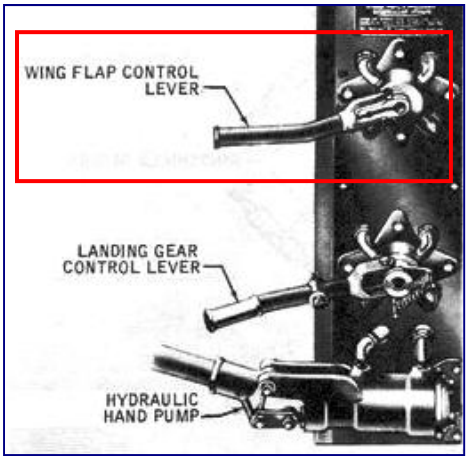
After two hours of flight, they would have burned 70 gph x (2+1) = 210 gallons x 6 lbs/gal = 1260 lbs, and so weigh 35,940, and be close to **36,000 lbs**. The graph at the top of this page was for 36,000 lbs, so the weight alone was not the problem.



ii. Flap Position

Copilot Lt. Bell: "[Curtiss] said we were definitely losing oil out of #2, and he could see it. He said it was coming from under the wing. He said there was oil all over the flap. I wanted to ask him to correct what he said, because the flaps were up and you can't see the flaps. Thinking about the airplane not being able to fly out with all that gross weight, I was just wondering if in the flailing around in the cockpit someone could have hit that flap lever and the flaps could come down a little bit, and made more drag that we should have had. I think what he meant was it was coming off the trailing end of the wing where the flaps are."

Pictured above is the subject C-117D, #152, when operated by the Marines, showing the flaps down. Bell's quote above points out that one cannot see the flaps when they are up, and so for Curtiss to have seen them, they must have been down. The flap handle is located as shown at right. This is on a bulkhead behind the co-pilot, so the co-pilot reaches with his left hand behind him to push this lever down.



It is unlikely the flaps were lowered, though, because:

- the handle is out of the way, so not easily bumped into;
- it requires some force to move this handle down;
- the plane would have descended even faster with any flaps down;
- the investigation concluded the flaps were up.

iii. Airspeed

Section 5 of the 1971 Flight Manual discusses emergency procedures. Every page has a bright red stripe around it, to make it easy for pilots to find during an emergency. The section on Engine Failure begins on page 5-3, as shown in part below. The manual states: "The single-engine flight characteristics of the aircraft are excellent; [a] key factor [is] airspeed."

When a pilot in-flight has an engine failure, reaches for the blue-covered NATOPS Flight Manual, turns to the red-trimmed pages, finds page 5-3, below, and turns the page, he will find on pages 5-4 to 5-7 the subjects listed below right, with the fourth one for "Engine Failure…Inflight." This section, at right, consists of only one sentence, to retract the gear and flaps, which was already done, and secure the bad engine, nothing more. There is no reference here to a recommended airspeed.

ENGINE FAILURE/FUEL PRESSURE DROP – INFLIGHT

In the event of engine failure inflight, retract the gear and flaps at pilot's descretion and proceed with engine secure procedures.

Continued on next page.

ENGINE FAILURE

The single-engine flight performance characteristics of the aircraft are excellent.

With proper understanding of the single-engine flight principles and a full mastery of single-engine procedures, the aircraft can be flown and landed safely with only one engine operative. It should be noted that the key factors in safe single-engine flight are airspeed and directional control; the unbalanced engine thrust, which has a tendency to yaw the aircraft into the dead engine, must be neutralized by holding

"..key factor [is] airspeed"

5-3

iii. Airspeed – continued: Recommended Airspeed for Maximum Range, at 5,000 Feet

The Flight Manual page 11-6 has a section "Range Performance" recommending airspeeds for maximum range when fuel is limited. Fuel was not an issue in this case, so Bell would not naturally turn to this page at this moment. But the charts referenced were surrounded with a red border in the Emergency section of Chapter 11, and so he should have been familiar with them.

The Flight Manual's chart for single-engine performance at 5,000 feet, its Figure 11-33, on page 11-47, is shown in part below. On the left are miles per pound of gas remaining, and on the right are curves for various gross weights, and power settings, in RPM and inches of Mercury.

At the 34,619 lbs. Bell estimated for his weight, he should have imagined a line below the 34,000 line, as added here, and estimated where this crossed the Recommended Airspeed line, and noted a recommended speed of about 135 knots. Estes said he was at 2500 RPM.

As quoted on page 36, at 5,000 feet Estes pitched for 115 knots, but slowed to 100-110.

Single Engine Nautical Miles per Gallon and Recommended Airspeed <u>at 5,000 Feet</u>

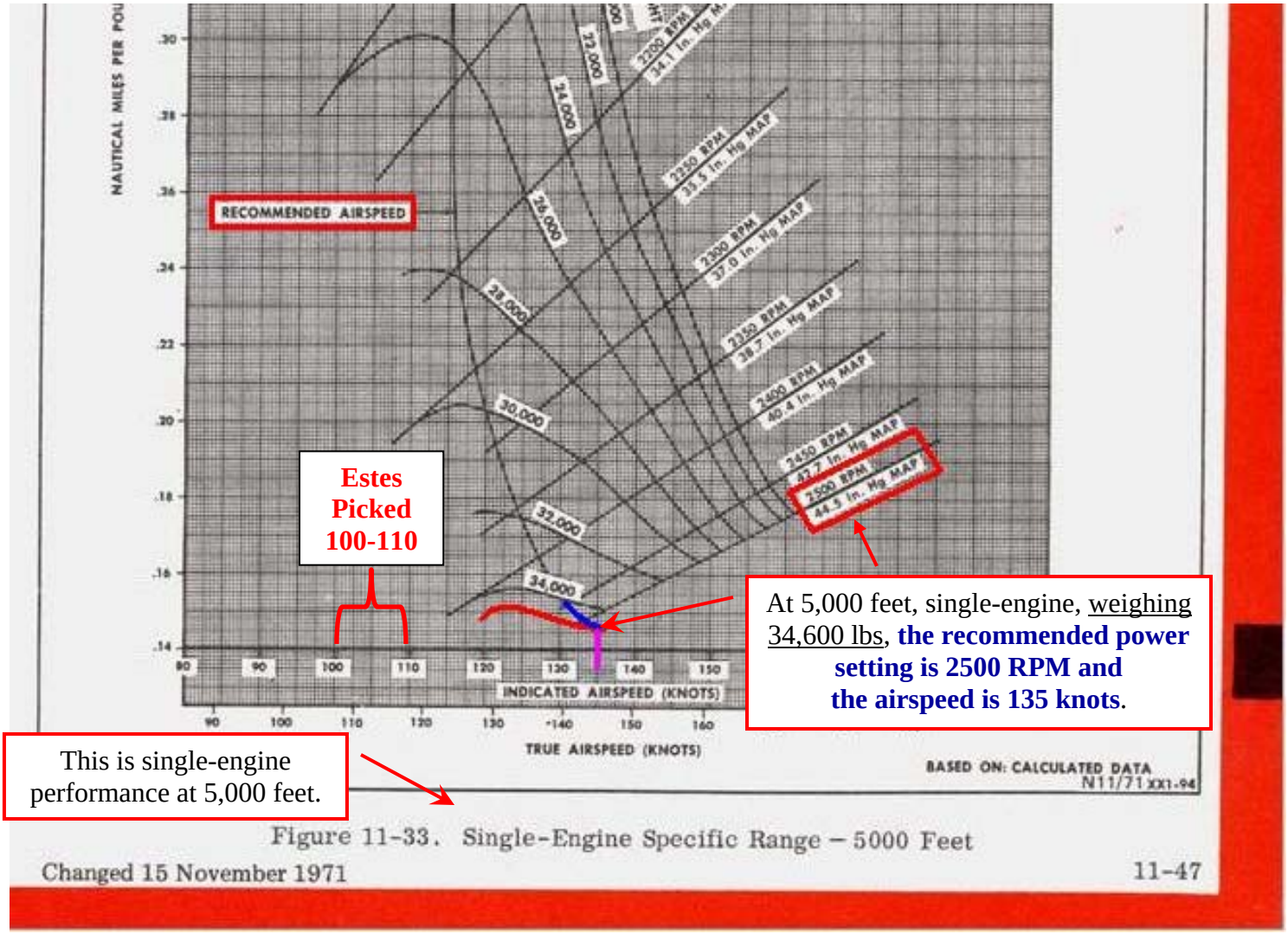


Figure 11-33. Single-Engine Specific Range – 5000 Feet

Changed 15 November 1971 11-47

iv. Power, and affect of Humidity

The Flight Manual's chart for single engine performance at sea-level, rather than 5,000 feet as on the prior page, its Figure 11-32 on page 11-46, is shown in part below. The recommended airspeed is 140 knots, at 2500 RPM. They were at 2500 RPM, but pitched for 90 knots.

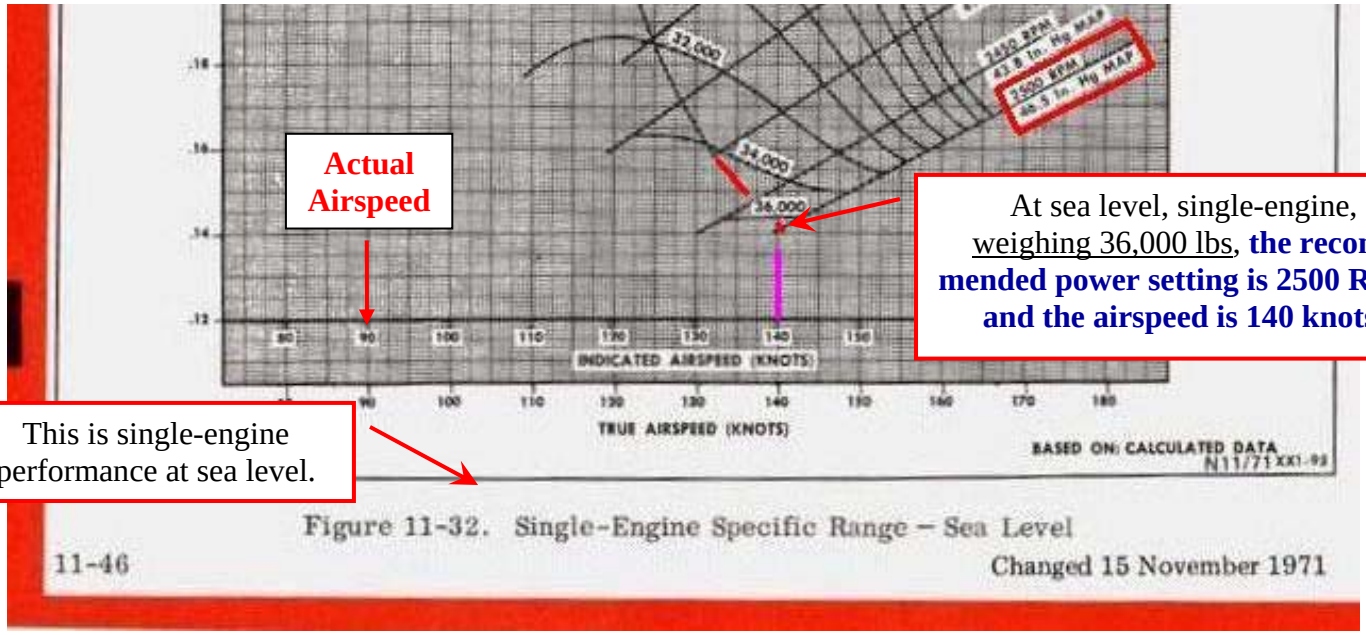
The Flight Manual's sketch of a C-117D tachometer is at right. The "Normal Range" is 1800 to 2150, and 2500 RPM. The maximum allowable RPM is 2800 RPM, at which "Continuous operation for more than 5 minutes shall be avoided" but is likely ok in an emergency.

TACHOMETER

1800 TO 2150 RPM AND 2500 RPM - NORMAL RANGES FOR CONTINUOUS OPERATION
1400 TO 1800 RPM, 2150 TO 2500 RPM, AND 2650 TO 2800 RPM - CONTINUOUS OPERATION IN THESE RANGES SHALL BE AVOIDED
2800 RPM TAKEOFF (NEVER EXCEED) - CONTINUOUS OPERATION FOR MORE THAN 5 MINUTES SHALL BE AVOIDED

Bell states on page 39 that when near sea level at 500 feet he went to 2800 RPM, and achieved 90 knots. This would have been enough to, as shown in the table on page 60, achieve a 100 FPM climb on a standard day, but on this day it was not enough.

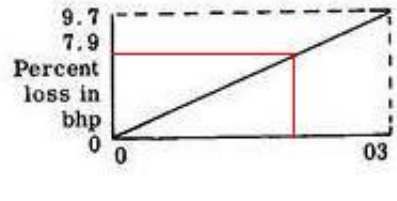
Single Engine Nautical Miles per Gallon and Recommended Airspeed <u>at Sea Level</u>

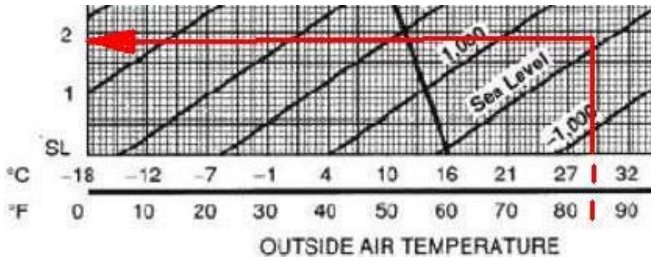


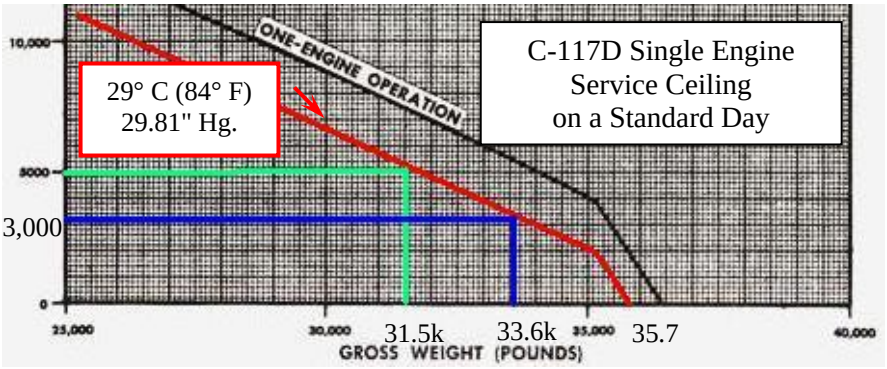
Power Reduction due to Humidity

Bell indicated at the bottom of page 28 that the Kadena C-117D pilot cautioned him about the effect of humidity and temperature, that he rarely took into account before. The Flight Manual on Page 11-4 has the diagram at right. At the .021 humidity that day, the red line shows the engine horsepower would be reduced by about 7%. Therefore when he went to max power at 46" Hg, it was equivalent to only 42.8' Hg, just normal power.

The effect of humidity on power output is shown on the following plot:







v. Temperature

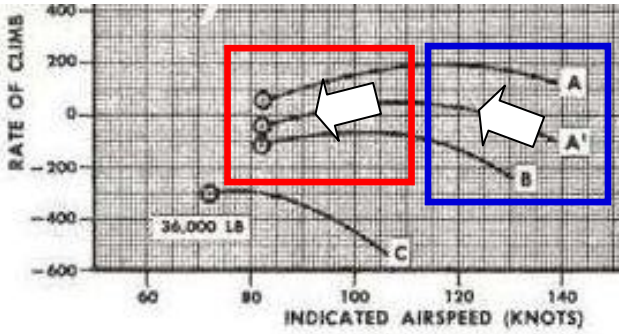
Airplane performance charts are calculated for a "standard day," defined with a specific profile of pressure and temperature vs. altitude, including at sea level 29.92" Hg and 15° C (59° F). Actual performance, though, depends on the density altitude that day, and so pilots must correct for this. On August 14, 1978, the sea-level pressure at Agana was 29.81" Hg, so the pressure altitude (compared to a standard day) was roughly 1,000 x (29.92-29.81) = 110 feet, e.g. at sea-level one would assume the airplane is at 110 feet. The temperature was an estimated 29° C (84° F) during the flight, so the density altitude (using a rough formula) was 110 feet + 120 x (29-15) = 1,790 feet, which is confirmed by the graph above right. High humidity would increase this. The investigation found that indeed "the temperature and humidity combined to produce a density altitude in excess of 2000 feet at sea level."

Bell was correct that airplanes perform better at lower altitude. The graph above right, from the Flight Manual, page 11-29, shows the "service ceiling" at which a climb of 100 fpm can be maintained with "normal power" operation (1800-2150 or 2500 RPM). As the altitude, on the left, goes down, the weight of the airplane that can be supported, on the bottom axis, goes up.

The top line in the chart is for a standard day. A second line in red is added to adjust for the density altitude on August 14, 1978. When Bell was at 5,000 feet, the green line shows a weight of only 31,500 could be supported, so he sank. At the 34,619 lb takeoff weight Bell estimated, an estimated 33,600 when about to ditch, the blue line shows he should have had a ceiling of 3,000 feet. The maximum weight at which he could climb at 100 fpm at normal power is 35,700 lbs. But the weight this author estimated (at the bottom of page 60) for when about to ditch of 36,000 lbs. He might maintain altitude (not climb), though, and do better at max power. Thus it appears that temperature was a key factor.

The Region of Reversed Command

When a pilot raises the nose of an airplane, the airplane slows, but usually has greater lift, and so goes up. This is reflected in the graph at right (from page 60), in the blue box. As airspeed, on the bottom axis, decreases, the rate of climb, on the left axis, increases.



As the graph shows (arrows added), as the airspeed declines, the rate of climb eventually levels off, and then starts to decrease. The area in the red box is called "the region of reversed command," because pitching up [a command] has a reversed affect: rather than increase lift, it decreases lift. To maintain altitude, Estes continued to pitch up. If he lowered the nose a bit and pitched up less, he would have had *more lift*, and *more airspeed*. The investigation determined that Estes and Bell entered this region, and failed to recognize it. Estes recalled this mistake:

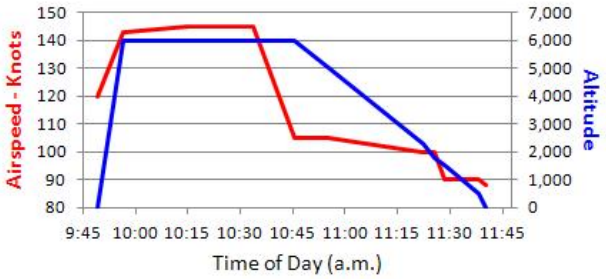
Pilot Capt. Estes [in 2013]: "In retrospect we may have been nose high was from the start. It is what is called 'getting behind the power curve,' and would have created more drag."

Orote Airfield

At Orote Point, at right, was Orote Airfield. It closed in 1946, but even in 2010, above, had two runways, usable in an emergency.

Flight Summary

Details from the timeline on page 58 and accounts are input in the table below, which adjusts for a 15 knot headwind, and then a tailwind. They ditched 23 miles from where they departed. Their altitude and airspeed are graphed at right.



The C-117D ditched because:

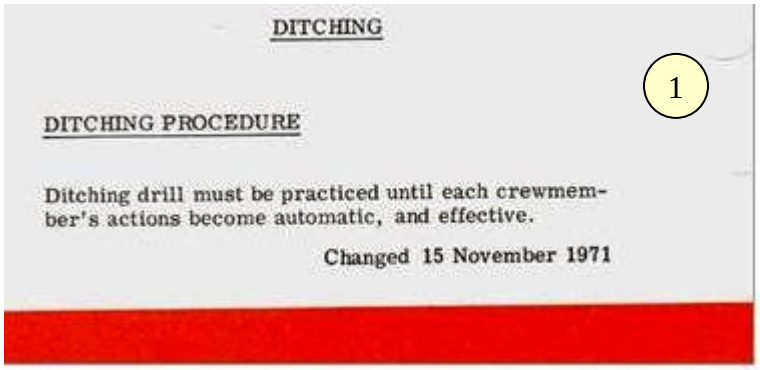
a) It was too heavy to maintain altitude at normal power, due to it being a hot and humid day.
b) When lower and lighter, max power was reduced by humidity, and it was too slow.
c) The range was decreased by entering the region of reversed command, where they had less lift, and less airspeed. They descended for 1 hour and 3 minutes at an average 101 kts. If they averaged 14 knots more, 115 knots, they could have landed at Orote Airfield. At 115 knots plus the 15 knot tail wind, they would have reached Orote in 7 minutes.

Flight Profile

				For Subsequent Time Period										
	Time	Altitude	Event	Inches Hg		RPM		Minutes	IAS	TAS	Ground	Miles	Miles	Sink rate
	(a.m.)			Left	Right	Left	Right	Elapsed	knots	knots	Spd (MPH)	Flown	Out	FPM
1	**9:49**	0	Takeoff 94 kts, climb 120	30	30	2800	2800	7.5	120.0	127	112	14	14	*-800*
2	*9:56*	6,000	Level off	30	30	2100	2100	18.5	143.0	*160*	*145*	45	59	0
3	*10:15*	6,000	Oil leak from cap	30	30	2100	2100	19.0	145.0	162	147	47	**105**	0
4	**10:34**	6,000	Report CORRS.	35	20	2500	2100	12.0	145.0	162	147	29	**135**	0
5	*10:46*	6,000	Turn back, shut down #2	35	0	2500	0	10.0	115	128	143	24	111	100
6	*10:56*	5,000	Reach 5,000 feet (estim)	40-45	0	2500	0	27.0	105	113	128	57	54	100
7	**11:23**	2,300	Reach 2,300 feet (estim)	40	0	2500	0	3.5	100	104	119	7	**47**	143
8	**11:26:30**	**1,800**	Reach 1,800 feet	40	0	2500	0	2.7	100	103	118	5	42	113
9	**11:29:10**	**1,500**	Jettisoning begins.	40	0	2500	0	10.0	90	92	107	18	24	100
10	11:39:10	500	Yelled going to hit water	46	0	2800	0	1.8	88	88	103	3	**21**	273
11	**11:41**	0	Impact the water											

Numbers in **bold** from Investigation; *italics* are this author's estimates.

Ret. Ave	103



DITCHING

1

DITCHING PROCEDURE

Ditching drill must be practiced until each crewmember's actions become automatic, and effective.

Changed 15 November 1971

b. Why Did the Airplane Ditch Badly?

The C-117D 1971 Flight Manual "Emergency Procedures" has a section on ditching, which starts with the note at right, and continues for three pages, included on the next three pages herein. Notable points are below, with corresponding numbers super-imposed on the manual's pages.

1 (Above) states that the drill must be practiced until each crewman (including the pilot), knows what to do. But Bell did not ditch correctly, as described below.

2 The commander shall ensure everyone knows their role – Rathbun did not know to tie the raft to the plane after inflating it for easier boarding, as described on page 69.

3 The crew opens the escape hatches – instead Bell yelled for the passengers to do this.

4 Set the flaps to ½, and below 7 it states for a heavy aircraft full flaps should be used. Bell should have used full flaps, but ditched with no flaps.

5 "Fasten…shoulder harness" – Bell did not, because his would not latch, and he knew this ahead of time.

"Do not mistake impact of the tail for the much greater shock which occurs subsequently when the nose strikes the water," and "Serious casualties have occurred" where people "relaxed before final impact." Betancourt stated on page 42 that someone [Rathbun] read this to everyone. The investigation stated this saved lives.

6 "Have the lowest possible forward speed" and "Under no circumstances should the aircraft be stalled in, as this will result in severe impact and cause the aircraft to nose into the water." Below this it says to "Ditch at the lowest possible rate of descent." Bell had the highest possible ground speed, with a tail wind of 15 knots added to his airspeed of 90 knots, for 105 knots, had a high rate of descent, and nearly stalled.

7 "Ditch approximately 5 degrees nose-high," i.e. almost level – Bell hit with the nose pitched up at least three times as much, at least 15°, as described later.

8 Ditch "parallel to the rows of the swells," but in winds >30 knots ditch perpendicular, into the wind, to lower the speed. Bell ditched perpendicular away from the wind.

9 "It must be remembered that [if one lands perpendicular] the possibility of ramming nose into a wave is increased, as is the possibility of striking the tail on a wave crest and nosing in" – Estes and Bell took this risk.

10 "Avoid nose striking a wave face." "Hold the nose up after first impact" – Bell was thrown forward due to not having not having his shoulder harness fastened, pushing the nose forward, and so did not hold the nose up after the first impact.

The pilot must decide whether to ditch or bailout. Resort to bailout only if surface ships are on the spot or if there is no chance of ditching successfully. Ditching is preferred because more equipment would be available for survival; several rafts would provide a better chance of attracting rescuers.

Prior to any overwater flight, each item of emergency survival equipment carried in the aircraft or worn by crew and other personnel shall be inspected. Ditching bill placards will be prepared and posted in the aircraft by the operating units. It is the responsibility of the aircraft commander to ensure that all flight personnel are familiar with the contents of the ditching bill, their assigned duties, and location of emergency equipment. 2

PREPARATION FOR DITCHING

Use the following procedure in preparation for ditching:

1. Alert crew and passengers.
2. Transmit distress signals – IFF/SIF SET TO EMERGENCY
3. Escape hatches – OPEN (figures 5-1 and 5-2) 3

WARNING

The aft cargo door must not be released while in flight.

4. Jettison loose equipment
5. Crew/passengers – DITCHING STATIONS.

APPROACH AND CONTACT

1. Landing gear – UP
2. Flaps – 1/2. 4

DITCHING POSITIONS

After accomplishing assigned duties in preparation for ditching, each crewmember will go to his assigned ditching station at once, reporting by interphone to the pilot that his assigned duties have been accomplished. Unbuckle parachutes, but use for protection and support if necessary. Fasten safety belt and shoulder harness, but remove any other entangling equipment which might delay exit. When impact warning is given, brace for impact and do not relax until aircraft has come to rest. Do not mistake impact of the tail for the much greater shock which occurs subsequently as the nose strikes the water. 5

WARNING

Serious casualties have occurred in cases where crewmembers have not taken proper ditching stations, or have relaxed before final impact.

HANDLING THE AIRCRAFT

NORMAL POWER ON DITCHING

Experience gained in ditching has shown that best results are obtained by the following:

If possible, use up most of the fuel supply to lighten the aircraft and reduce stalling speed. Empty tanks also contribute to flotation.

Ditch while power is available. Power will allow the pilot to choose the spot for ditching, to obtain the best possible sea conditions, and to select the most favorable landing position and attitude.

At time of contact, have the lowest possible forward speed consistent with safe control of the aircraft; this will reduce the landing impact. Under no circumstance should the aircraft be stalled in, as this will result in severe impact and cause the aircraft to nose into the water. 6

Ditch at the lowest possible rate of descent.

Ditch the aircraft approximately 5 degrees nose high. This attitude gives best distribution of landing shock. 7

One half flap setting should be used in most cases; however, with a very heavy aircraft, the stall speed will be high and full flaps may be necessary.

In daylight, it is recommended that the aircraft be ditched along the top of the swell, parallel to the rows of the swells, if the wind does not exceed 30 knots. In high winds, it is recommended that ditching be 8

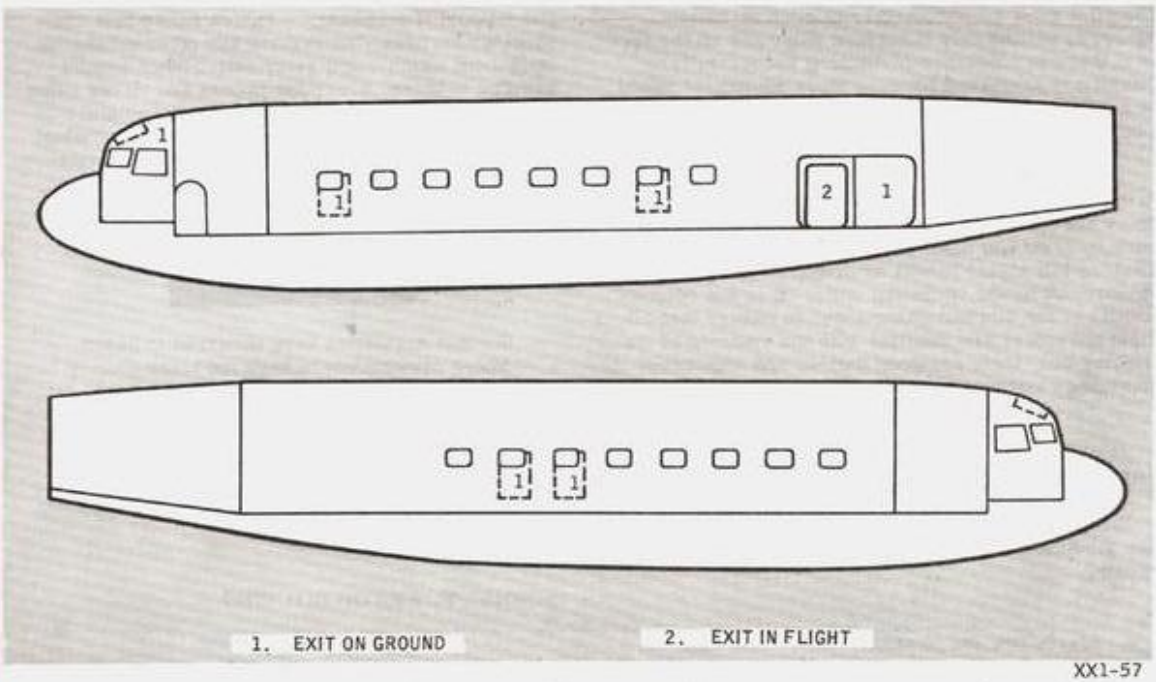


Figure 5-1. Emergency Exits

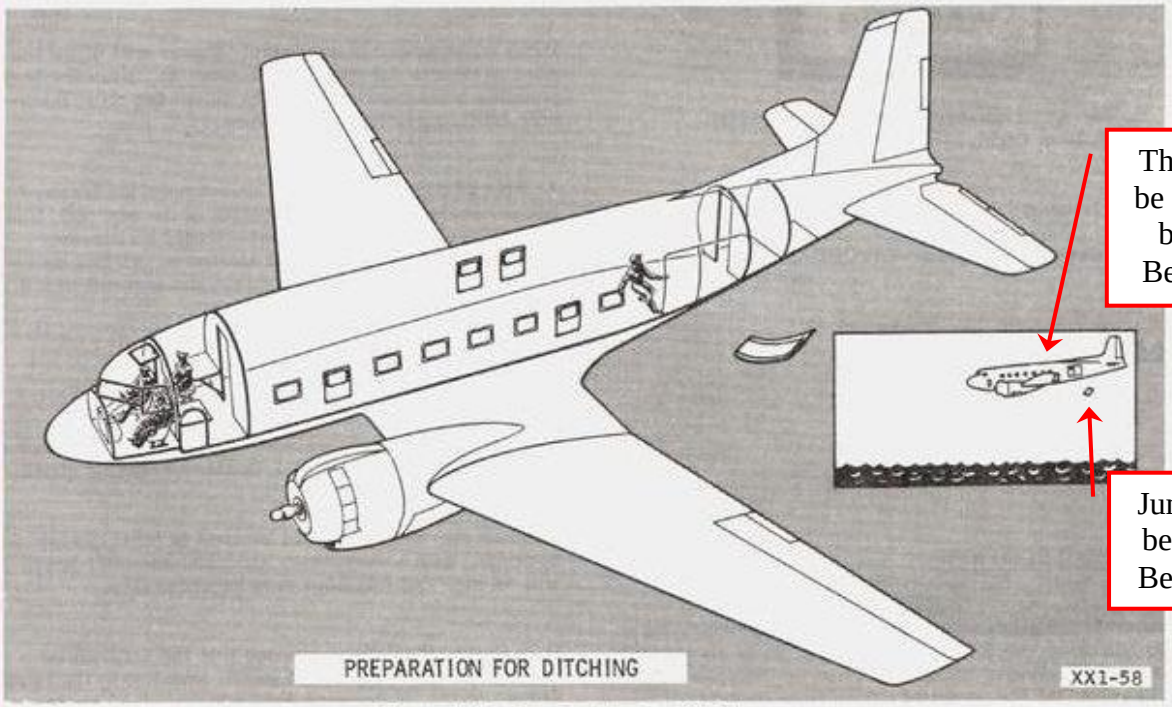
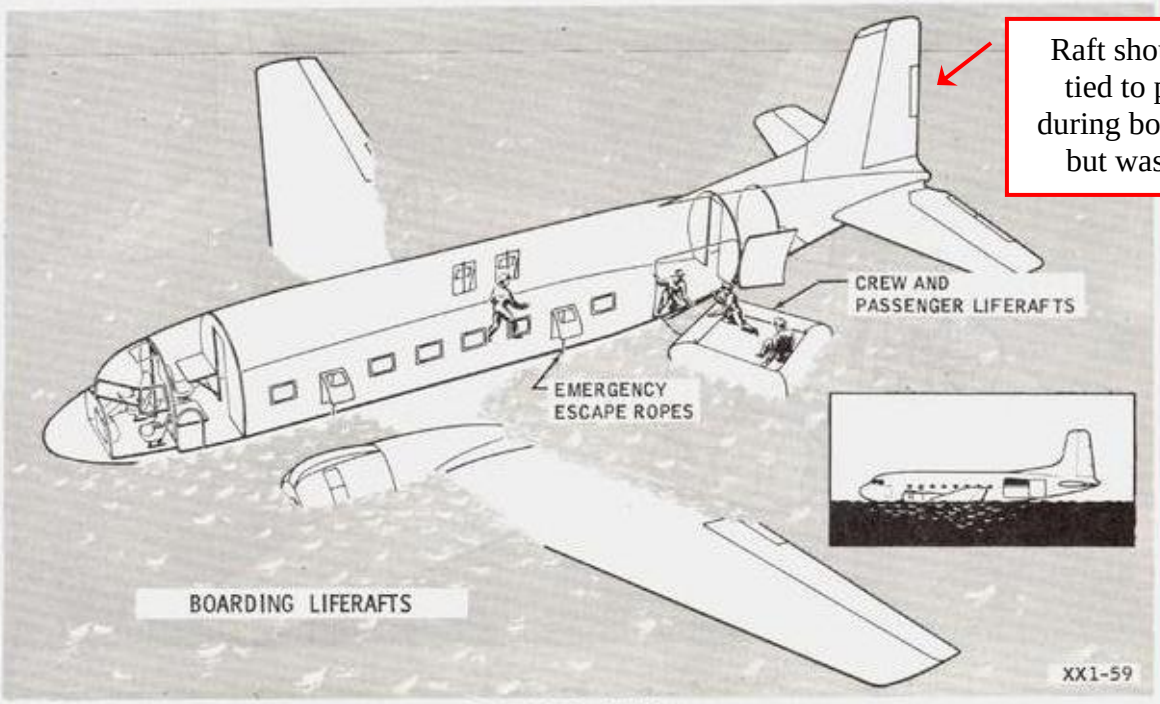


Figure 5-2. Preparation for Ditching

The nose should be pitched down, but Estes and Bell pitched up.

Jump door should be jettisoned, but Bell reinstalled it.



Raft should be tied to plane during boarding, but was not.

Figure 5-3. Ditching

9

conducted upwind to take advantage of lower forward speed. However, it must be remembered that the possibility of ramming nose on into a wave is increased, as is the possibility of striking the tail on a wave crest and nosing in.

CROSSWIND DITCHING

The basic rules for ditching will apply in addition to the following:

1. Land aircraft with as little drift as possible.
2. Land on downwind side of swell or wave.

UPWIND DITCHING

The basic rules for ditching will apply in addition to the following:

10

1. Maintain a noseup attitude and avoid nose striking a wave face.
2. Touch down immediately before the crest of a rising wave.
3. Hold the nose up after first impact.

NIGHT DITCHING

In ditching at night, the following procedure should be followed:

1. Make an instrument letdown, holding airspeed 20 knots above stalling speed, and at lowest possible rate of descent.
2. Use landing flares and landing lights as necessary.
3. Landing attitude should be 5 degrees nose high, with half flaps.

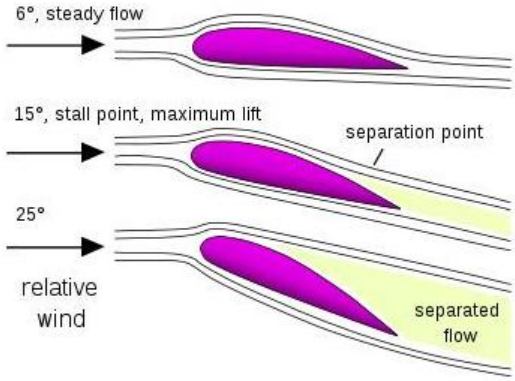
ABANDONING THE AIRCRAFT (Figure 5-3)

Hold ditching positions until the aircraft comes to rest; then proceed as follows:

1. Abandon the aircraft as quickly as possible. Do not overlook necessary equipment or assigned duties.
2. Crewmembers detailed to life raft removal shall remove life rafts through main cabin door and inflate them.
3. Each crewmember and other personnel exit through assigned escape hatch and upon emerging, inflate life jackets (figure 5-3).

Wing Stalls

When an airplane stalls, it has nothing to do with the engine, but rather the wing. Air flow in normal flight is smooth across the entire upper side of the wing, but, as shown at right, as the pilot pitches the airplane nose upward, the airflow on top of the wing separates from the surface, and this separation point gradually moves forward (a C-117D's pitch angle to create a stall will be different from those shown). When separation nears the front of the wing, the wing "stalls," meaning it produces zero lift, and the plane falls.



Stall Speed, and Ground Speed

The airspeed at which the C-117D stalls is shown at right. They were close to 36,800 lbs., had the flaps up, the wings level, and power off (Bell feathered #1 before impact), so the stall speed for level flight was 83 knots. As they jettisoned items the stall speed was probably 89 knots. With 45° flaps (not shown) the stall speed would have been a much better 74 knots. Before hitting the water, they were at 90 knots, and with the 15 knot tail wind had a ground speed of 105 knots, 120 MPH.

APPROXIMATE STALLING SPEEDS • KIAS

Gross Weight (Pounds)		Flaps Up	
		Level Flight	30° Bank
25,000	KNOTS	68	73
27,000	KNOTS	72	78
29,300	KNOTS	74	80
31,000	KNOTS	76	82
33,000	KNOTS	79	85
36,800	KNOTS	83	89
42,000	KNOTS	89	96

Ditching Configuration

The computer image below of a C-117D, shows the smooth profile of the bottom of the plane when the landing gear doors are closed. One would imagine if the water was smooth, as it reportedly was if landing parallel to the swells (not across them) that one could come in even completely level, 0° pitch up, and touch the landing gear doors first, skim along the water on these "pontoons," and let the tail gradually come down. They would first have to pitch down, and build up airspeed, to be able to flare into a 0° pitch.

Ditching Angle

Below is the profile of a Super DC-3. <u>When pitched up by the 5° specified for ditching in the flight manual, #7 on page 67 herein, the tail will touch after the landing gear doors.</u>

The second row shows the minimum angle to get the tail to hit at the same time as the landing gear doors, and this is 10°. Everyone indicated the tail hit first, and this was several seconds before the nose came down, so at the first impact the nose must have been up about 15°.

Pitch 0°

The specified ditching angle, a pitch of 5°

Below: 10° - tail and gear housing hit the same time.

One needs 15° for the tail to hit first by seconds.

These angles are shown again below for the actual plane, C-117D #17152 (from a photo on the ground). At 5° the gear housing would hit first; at 10° the gear and empennage. The only way to get a 3-4 second delay after the tail hitting, and severe hit, would be with about 15°.

Pitch 0°

The specified ditching angle, a pitch of 5°

Below: 10° - tail and gear housing hit the same time.

One needs 15° for the tail to hit first by seconds.

<u>Bell and Estes probably pitched up at 15°, three times the specified angle.</u>

Impact Sequence

The impact sequence is listed below, and shown on the opposite page. Recall that the ground speed when they first hit was a very fast 120 MPH (their indicated airspeed of 90 knots, plus a 15 knot tailwind, x 1.15), and with a high sink rate – the worst possible scenario. They "nosed in," exactly as the Flight Manual herein by #9 on page 69 forewarned them not to do.

1. Pilots Pitched Up

Deputy Under Secretary Green: "It was a matter of minutes from the time the pilot yelled to the crew to close the back door until the rear of the plane seemed to lower."

Lt. Betancourt: "It was obvious that the aircraft was flying tail low."

2. Tail Touched Down – Airplane Got Airborne Again – Arches Forward and Down

Rear Admiral Cruden: "As we got near the water we were flying tail-low. When we hit the water tail low it was a glancing blow. We came back up into the air."

Copilot Bell: "We hit the water pretty solidly, but the airplane seemed to get airborne again, and continued to fly relatively controllably, but the next time we hit the water it was very, very hard, very severe, and that was the last time I remember seeing the water. We may have gotten airborne or hit it four times, but the second one was the last one that I could distinguish.

"I remember locking [my shoulder strap] and checking it. It didn't hold. **I felt the first time we hit I'd been thrown against the yoke, forcing the nose for the second time we'd hit**."

3. Nose Hits Hard into the Water, and Airplane Yaws Right

Mechanic Rathbun: "After the tail hit, we got airborne again, and it nosed in."

Musician Washburne: "The second time we hit, I think the front of the plane hit a swell very hard. I was thrown into the air because the seat had not been secured. I was thrown forward. We hit a third time – a violent jolt. The plane hit a fourth time and came to a stop.

Bell was likely thrown against the yoke the second time, too, pushing the nose into the water.

The 20-man raft hit hard against the left door indicating a strong left yaw. Estes and Bell added right rudder before impact, and may have left their feet near the pedals, because both hurt their right foot. The second impact likely pushed their right feet onto the right rudder pedals, and made the airplane, still going more than 100 MPH yaw to the right.

4. Airplane Skin Failed near the Cabin Bulkhead

Director Van Cleve: "The cockpit section had been reduced to about one-third its original length – a genuine accordion effect."

Aircraft Sequence

0. Pitches up 15° prior to impact.

-1. 5° up, high descent rate, 105 knt gnd spd

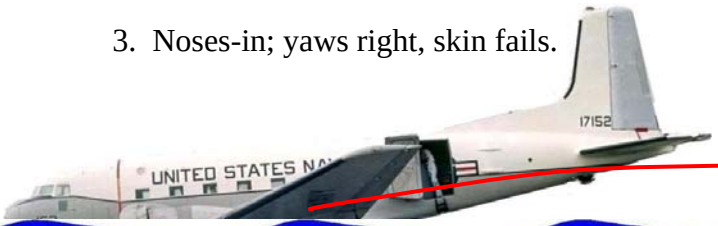
2. Airborne; yoke pushed forward, and so arches.

1. Tail hits water.

Arched trajectory after impact

4. Hits two more wave crests; water friction drags the cockpit off completely.

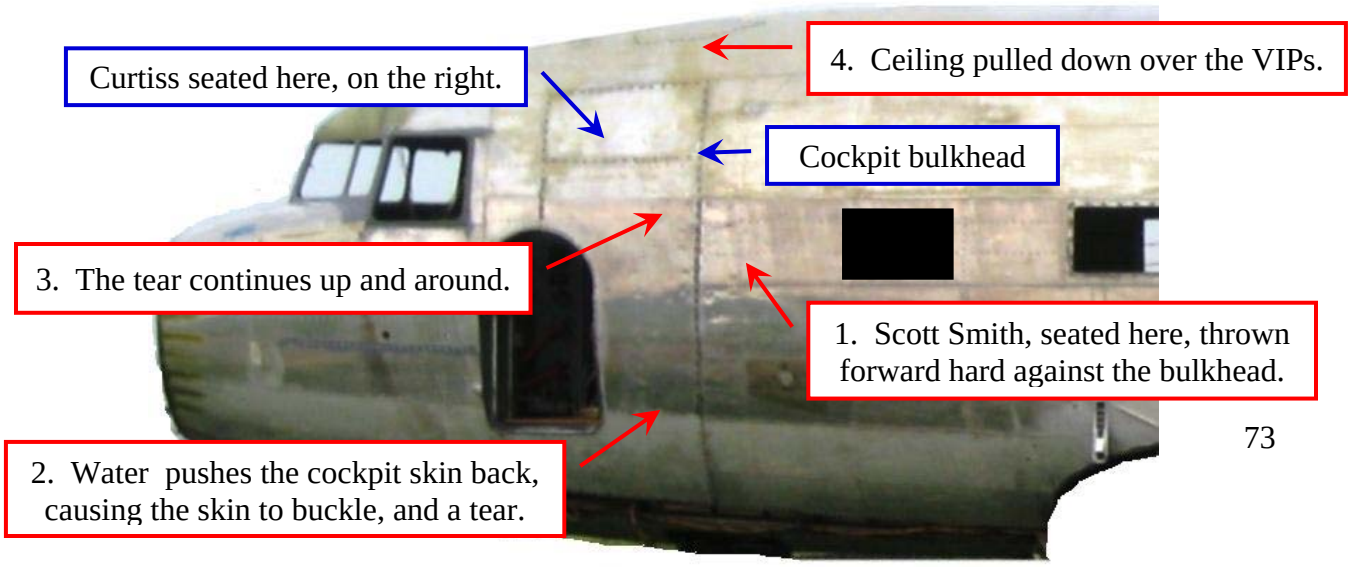
3. Noses-in; yaws right, skin fails.



Cockpit Sequence

Below is the forward fuselage of a DC-3 with the paint stripped off, showing the structure, which is the same as on a C-117D. The sequence for the cockpit detaching is estimated as:

1. Upon the second impact, accentuated by the airplane yawing right, the band members slide forward against Smith, with a strong force against the cockpit bulkhead.
2. Water pushes the cockpit skin back, and it buckles forward of the cockpit bulkhead.
3. The tear continues up and around to the other side. The 3/32"-Al tears easily (right). The terrible noise everyone heard was the metal being ripped apart.
4. The nose, pulled forward, pulls the ceiling down over the VIPs.



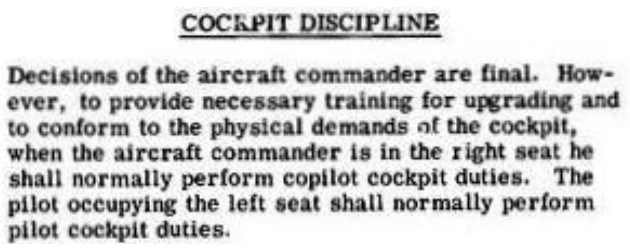
c. Other Observations

Other Things Wrong

There was a long list of things wrong on this flight, in addition to those just mentioned. Some of these are listed below.

- It is noted on page 23 that the Commander-in-Chief of the Pacific Fleet, Admiral Donald C. Davis, at headquarters at Pearl Harbor Naval Base in Hawaii, on August 4 at 5:30 p.m. sent a message specifically requesting that the officials be flown on C-117D #17152, and Rear Admiral Cruden responded accepting this assignment. According to one source it was not their responsibility to be sure there was a qualified crew, and instead Captain Estes, receiving the request, should have told Cruden he did not have a qualified crew.

- The NATOPS Flight Manual on page 9-2 has the paragraph at right stating that when the aircraft commander is seated in the right seat he shall perform co-pilot duties (elsewhere identified as including working the radios), and the left-seat pilot will be the main pilot. Bell should not have ceded the roll of the pilot to Estes, who was not qualified.



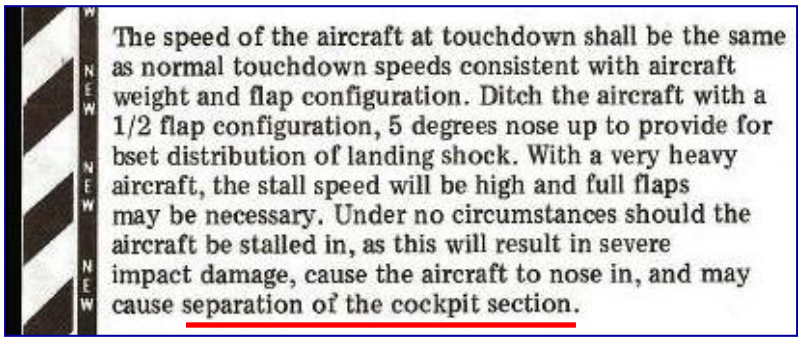
COCKPIT DISCIPLINE

Decisions of the aircraft commander are final. However, to provide necessary training for upgrading and to conform to the physical demands of the cockpit, when the aircraft commander is in the right seat he shall normally perform copilot cockpit duties. The pilot occupying the left seat shall normally perform pilot cockpit duties.

- Bell should have told Rathbun to leave the removable jump door (the door within the cargo door) open, and to throw the door out, as shown on page 68. If the empennage was collapsed, it may have been impossible to open any doors or windows for people to exit.

- When the plane came to rest, Rathbun should have spread out the first life raft in the water, tied it to the airplane, inflated it, and directed people to simply step into it, as shown on page 69. After the first was filled, he should have set out the second one, tied it to the plane, and perhaps tied it to the first raft, inflated and loaded it. Everyone could have easily entered the rafts, and they would all be together. Instead:

    - After the 20-man fell out the door, it appears Rathbun tossed out a 7-man uninflated, and inflated the other 7-man, jumped in, then got out and pushed it back to the plane.
    - When people in the water did find the two uninflated rafts, they had to figure out how to inflate them, which was not obvious.
    - People floated in the water for in some cases 10 minutes before noticing the rafts.
    - People had to swim up to 30 yards to get to the rafts, and when people did reach the rafts, had to get pulled aboard by those onboard, using up more energy.
    - The rafts were not evenly loaded, with an estimated nine people in or clinging onto the first 7-man raft, and only an estimated nine in the 20-man raft.



Failure to Follow Procedures

Ultimately what happened was a failure to follow procedures in the Flight Manual.

The Flight Manual was revised in 1979, with part of the ditching procedures shown above. It still requires a 5° nose-up pitch for distribution of landing shock. The 1979 Flight Manual, perhaps due to this accident, adds that stalling in "may cause separation of the cockpit section."

Cockpit Break Was Partly Because Bell Couldn't Fasten his Shoulder Harness

Copilot Bell: "I didn't fly with my shoulder straps on that much. I rarely do fly with them on. This is something I guess I've picked up from the guys at Cubi, because in Cubi they routinely don't use their inertia reel straps. The Captain and I both took off without our straps on.

"When CDR ROBERTS, the Operations Officer, arrived and he was in his first flights, he put his straps on, and he noticed the inertia reel [shoulder harness] would not lock. He wrote a gripe up on it, it was replaced – at least there were new straps in there – but it still did not lock.

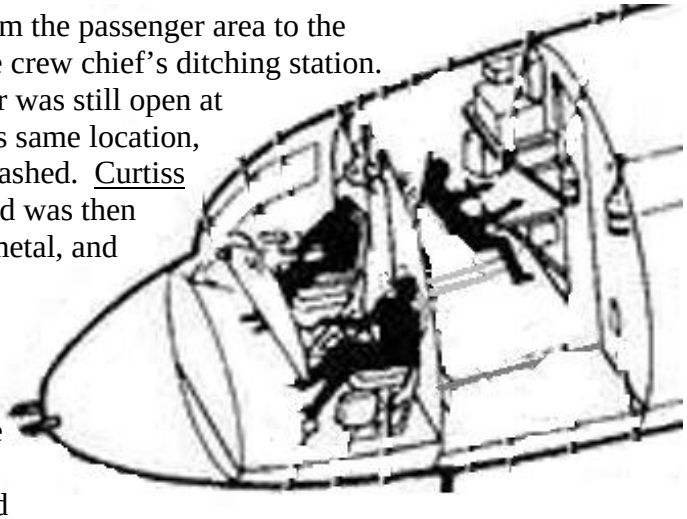
"When we turned back, we both put our shoulder straps on, and I remember locking mine and checking it. It didn't hold. That was one thing I did check and it wasn't working properly.

"I felt the first time we hit I'd been thrown against the yoke forcing the nose for the second time we'd hit. I have a feeling that the first time we hit the water it was such that it slammed the nose down on the second touch down, and that was what probably caused the failure in the fuselage in back slightly aft of the cabin."

Causes of Death

Copilot Bell: "I turned to yell and to try to tell somebody that we were going to hit the water. I could see that they had closed the [jump] door in the back. Curtiss was not between the seats and I couldn't see him in the back.'

In the cockpit diagram at right, a door from the passenger area to the cockpit opened to the right, covering over the crew chief's ditching station. The quote above from Bell indicates this door was still open at impact. WWII radio operators who sat in this same location, worried they would be trapped if the plane crashed. Curtiss may have taken this risk to help the pilots, and was then trapped behind the door, or pinned by other metal, and drowned.



Regarding Smith, the investigation found that the improper configuration of one or more troop seat belts resulted in failure of the retention devices, that could have been a factor in his death – that the other men all slid forward against him, and Smith against the bulkhead.

d. Conclusions

No one should think badly about the airplane itself. Most of the aluminum structure if stripped of paint would look brand new, and the 1820 engines when maintained would work as if brand new. This airplane was rebuilt in 1952, and so was 26 years old, but many DC-3s built in 1941 still fly as well as new in 2013, after 72 years. They go out of service due to human errors or because not economical – but they are still mechanically 100% sound. This was human error.

What Happened – In Brief

At its simplest, it was not factoring the hot, humid day into performance, with a heavy plane.

The pilot may have underestimated the weight of the airplane by 2,000 lbs.

They took off on a hot day, on which at their expected weight they may have been able to maintain a low altitude on one engine, but at the actual weight the ceiling was below zero.

They had an opportunity to make it back, because this happened only about 130 miles out, and they had a 15 knot tailwind.

Not realizing they would not be able to maintain altitude, they held the nose back to try and maintain altitude, and the airspeed fell to 100 MPH, which not only made them slow, but made them sink faster, because in the region of reversed command.

They waited until about 1,800 feet to jettison anything.

They waited until 500 feet to use max power, and at that point were too tail low and slow for the airplane to speed up right away. At 90 knots and the plane shuddering as if about to stall, they conceded, pitched up less, and before impact feathered the good engine.

Due to being close to a stall, because slow, they did not put in any flaps, and did not attempt a turn, and so hit with a ground speed of 120 MPH, rather than have 25% less energy to dissipate if parallel to the swells at 91 MPH, and 40% less if into the wind at 74 MPH.

During the first and second hits, while the tail was in the air, Bell was thrown against the yoke due to his shoulder harness not latching, pitching the nose into the water at a high speed.

The second impact caused his and Estes' right legs to put in right rudder yawing the plane.

The fuselage failed by the cabin bulkhead, and tore all the way around, causing the cockpit to fall off, and two deaths perhaps by being trapped, and injuring at least a dozen others.

What Should Have Happened

Estes should have alerted someone when the assignment first came up that he did not have a qualified crew, questioned Bell on the weight and balance, to be sure the plane was within limits, and insisted Bell sit left seat. It was disrespectful for him to treat this as his training flight.

Bell should have refused this plane, because the copilot shoulder harness did not lock in, kicked Estes out of the left seat immediately when they turned back to Guam, focused on flying the plane, once in the left seat pitched for the 130 knots, jettisoned earlier, gone to max power on the left engine at 1,500 feet, not 500; if going to ditch, added full flaps, turned parallel to the swells, and pitched down, and then raised the nose up to only the specified 5°, still almost level.

Assigning Responsibility

If the plane made a smooth landing on the water, with no one even bruised, everyone calmly walked to the door and stepped into a raft, and floated there until the rescue ships arrived, then this story would be about the loss of the plane, the suitcases, favorite clothes, rolls of film, the officials' notes from their prior visits, band instruments, and some loss of faith in airplanes. But there was a second event: the way it ditched, that resulted in a human toll. So there were two events that caused harm:

The plane ditched: A material impact – the loss of the plane, and personal items, some with sentimental value;

It ditched badly: A human impact – the loss of two lives, and numerous injuries.

Every pilot knows that the Pilot in Command (PIC) bears 100% responsibility for the safe operation of the airplane, and this is a good thing – it makes pilots to be take-charge, responsible people. Therefore these two events were 100% the fault of Bob Bell, and no one else. Estes did what Bell asked in pitching for 115 knots, may have justifiably deferred to Bell even if Estes was NATOPS qualified if not PIC. But if one wanted to look beyond Bell it would go as follows.

The contributing factors to the plane ditching and the material costs were:

30%: For the return they got slow and with less lift (Bell 20%, Estes 10%).
20%: Not having a correct weight. (Bell 10%, Estes 10% - should have checked on Bell)
20%: Not factoring in the density altitude (Bell 10%, Cubi Point 5%, Estes 5%)
15%: They did not go to full power on the left engine until 500 feet (Bell 15%).
15%: They waited to jettison until 1,500 feet (Bell 15%).
100% Bell 70%, Estes 25%, Cubi Point 5%.

The contributing factors to the plane ditching badly and the human costs were:

40%: Risking landing perpendicular with a tailwind (Bell 25%, Estes 15%)
30% Bell having a non-latching shoulder harness (Bell 10%, Cubi Point 10%, Curtiss 10%)
30% Coming in steep, slow, at a high rate of descent, with no flaps (Bell 20%, Estes 10%)
100% Bell 55%, Estes 25%, Curtiss 10%, and NAS Cubi Point 10%.

Overall: Bell 62.5%, Estes 25%, Cubi Point 7.5%, Curtiss 5%

*** * ***

C. Individual Accounts

The individual accounts have additional details, from many perspectives. Some recollections differ from others, and these differences are sometimes noted. The accounts by the Department of the Interior officials of pre-Guam visits in Part E are also worthwhile, especially that of Under Secretary Joseph. Quote marks are left off of the beginnings and ends of the individual accounts.

8. Pilot Captain Edward D. Estes

Statement August 25, 1978

Training

My designation as a Naval Aviator was in June 1957 in Memphis, Tn. My flight experiences have been in single engine prop or jet. Basic types in order would be: T-28 as a flight instructor and AD-1s. Subsequent assignment was to a jet squadron, A-4s. Most of my experiences with Attack Squadrons were A-7s. I have had some multi-engine experience on a random basis throughout my years designated as an aviator, primarily at Washington D.C. This was in the SNB and S-2. I have close to 4500 flight hours.

My C-117 training was all accomplished at Agana. I'd never flown that airplane prior to receiving it from Midway Island. I have somewhere between 40-50 hours in the C-117. I know we had at least one mission where we did fly single-engine where #1 engine was secured, and later on with #2 engine secured, so I have had some experience at it.

The Flight Request

As far as the tasking is concerned, there was some liaison between myself and COMNAV-MARIANAS Operations Officer CAPT BACKMAN concerning this tasking, and it was discussed on an informal basis that it would probably be coming.

The first official notification was a message, as I recall, from CINCPAC. It said that the personnel being transported were authorized access to DOD aircraft, and that NAS Agana would be tasked to fly the mission.

With regard to the alcohol we were transporting, I can't remember exactly what it consisted of, but it was somewhere around 20 cases of beer. Some of those cases consisted of soft drinks. I think probably 3 or 4, I am not sure, because it was all wrapped. I believe there were perhaps 4 or 5 fifths of alcohol.

The request to carry this alcohol came rather late on Friday afternoon prior to the scheduled mission, which was to go on Monday. On the preceding Friday at about 1600 we received a call from CAPT Ralph SMITH, the Officer In Charge of Construction on Guam, stating that they would like to take this in conjunction with a certain ground breaking ceremony that they had planned in the Trust Territory. I said off the top of my head I didn't see a problem, but I would

have to have some of my people do some checking on it to make sure we were legal in doing so. He subsequently checked with customs, OPNAV REGS. I think my OPS made a couple of phone calls, and we ascertained that as long as the seals weren't broken and we were keeping it within the Trust Territories that it was perfectly legal from a governmental view point.

We found out about a change in the number of people to be transported rather late. As a matter of fact, it was Sunday evening, after the group arrived, after the first part of their tours of the Western Islands. I can't recall, I think their last stop may have been Ponape [Truk] before they came to Guam, but this was the Under Secretary and his party, and ADM CRUDEN and his party. I met them at the aircraft.

This was Kadena's C-117 that landed at NAS Agana, I think around 1830. I can't remember the exact time. It was on Sunday. After the official party departed, I was informed that RADM CLEMENTS, who was to be onboard for the next day's flight, was taking his aide. This was the first notification that any of us at NAS had received. Also, there would need to be a seat for a civilian who was associated with the Trust Territory, who, it was my understanding, was to be picked up at Ulithi and would be flown to Yap. That was basically the only passenger change.

Sunday Flight to Saipan

For my Sunday activities, I came in to work, I think it was around 1000 or 1030, I can't remember the exact time, met my family at 1100 and went to church, and went home for lunch. After lunch I came back to the operations building, because we had been requested to fly two Red Cross personnel to Saipan. This was in conjunction with the extensive flooding that Saipan has recently experienced due to excessive rainfall. We utilized the US-2B.

Unfortunately, we had to return right after take-off because of mechanical problems. Then we had the 117 pre-flighted, turned, and launched that. We flew the two personnel to Saipan. We flew over the island to give them a look at the flooding situation, then landed and discharged passengers at Saipan, at the civilian terminal. We flew back to Rota, and stopped off at Rota and shot 4 touch-and-go's, mainly because they only have a 3000' runway and I wanted to get short field approach practice. Then we proceeded back to NAS Agana for final landing. I changed into the uniform of the day, and went back to operations, because ADM CRUDEN and his party were coming in that evening.

I think their arrival time was around 1830. I met them, and spent a brief time there. They departed in a few moments, and I went back to my quarters. I had dinner a little later, around 1930, and spent the rest of the evening watching TV. I retired about 2300.

There were no problems at all on the flight to Saipan. The only unusual occurrence was a fire warning light on the #I engine, as we were circling Saipan. We quickly discovered it was in the junction box. The plane Captain suspected that it might be a loose connection. We could shake the junction box and get the light. I understand it is not an uncommon problem. I've talked to Kadena about this, and they said they experience the same thing. So we got that repaired subsequent to our arrival back at NAS Agana.

Monday, August 14

On the morning of the 14th of August, I arose about 0630, had breakfast, and arrived at the administrative building about 0730. I ensured that the C-117 had been preflighted, turned and had a brief discussion with TPC LT BELL – some kind of last minute final planning and preparation for our flight that day.

It was my perception that all the crewmembers were looking forward to the flight. We were disappointed in that we had been unable to meet the first half of the commitment, and this commitment was to cover those islands basically to the East: Truk, Ponape, Bikini, etc. We were looking forward to this mission which was a relatively short one.

We were scheduled to take off at 0915, I believe, for a flight direct to Ulithi, spend a few hours at Ulithi for the ground breaking ceremony in conjunction with the Trust Territory business, then proceed to Yap where we would RO1N [Remain Over 1 Night], depart the following morning for Palau Islands, and spend the remainder of that day and another RO1N and then return to Guam on the following day. We were scheduled to return to Guam on the 17th.

We had, I felt, prepared ourselves well for the mission. Of course, the field at Ulithi, although I know C-117s have been in there before, is relatively short, 3300 feet. Both of us had been out and shot several full stop short field landings measuring our stopping distance, just to make sure we can handle it without any difficulty whatsoever. I was quite satisfied in that regard; we stopped at 2500'. We had already briefed on that mission, that if there was any precipitation and the runway was wet that we would not land there because of the possibility of poor braking.

We didn't feel that any kind of a risk was warranted. We had already mentioned this to ADM CRUDEN. He also made a very careful check of our weight and balance and I had previously asked Bob to make sure that everything we put on was weighed [but Bell only estimated] so we could ascertain our weight very accurately. The crew commenced loading.

The preparation seemed to be quite uneventful, at least from my observation. Everything was loaded aboard, and the band members arrived. They were put on board about the time ADM CRUDEN arrived. The official party and the civilians were a little bit late, as if they had some transportation problems or something from the hotel. I can't remember the exact arrival time.

We did experience a little difficulty starting the starboard engine, the #2 engine. We were actually unable to get it started prior to boarding all the passengers as we wanted to do. That would have saved a little more time. We attempted three starts on it without any success. The mechanic felt it was the induction vibrator. So he removed the cowling and tapped the induction vibrator. Incidentally, we did have a spare one on board just for this kind of a problem.

The induction vibrators are known to go out on occasion. But evidently the points were dirty or some similar problem because the engine started immediately with no difficulty. So then we shut it down and replaced the cowling, got him back aboard and got everything buttoned up and it started without any problem at all.

Takeoff

The aircraft had already been high-powered, mags checked, and everything of this nature, so we went ahead and taxied out, received our clearance, and I made the take off. I was in the left seat. As we were going out I was talking with LT BELL that I would really like to get an exact look at our takeoff run to see how we came out with our estimated take off run. I can't remember the exact distance, but it was just under 3,000 feet.

We went through our check list and briefed our minimum one engine speed for the weight, our prescribed takeoff speed and either he or I, whoever wasn't making the takeoff, always wrote these on the wind screens so we could have it for a ready reference. And, of course, all of our landing weights: clean, quarter flap, half flap, three quarter, full, are all tabulated in the cockpit on a placard, and these we always discussed prior to each landing regardless of how many we made. We always went over it and wrote the speeds on our wind screen.

We got off at 2700 feet, which was a little better than advertised, which I was quite pleased with in view of our weight, which was I think 46,000 lbs [probably not]. That doesn't sound right, 43.6 I guess [Bell estimated 34.6]. It was an uneventful takeoff, everything looked good, checked out. It was an uneventful climb out and level off at 6,000 feet, and I adjusted the manifold pressure, the props, made sure we went through our post climb check list, cruise check list, got everything set up, leveled out, and proceeded on our way.

It wasn't too long after we took off that one of the crewmembers, Petty Officer CURTISS, reported we were getting a little bit of oil out of #2 engine at the filler cap, which is easily seen from the cockpit. It's at the top of the engine on the left hand side as you're facing forward, and he reported shortly thereafter that he was sure it was just from over-servicing. This is not unusual at all.

Very shortly after he reported it, it stopped and it was dry, no problem.

Later on, when Bob was flying, I went back and looked at it myself, and it was clean. This was some time after the crew member had reported it.

I believe LT BELL was flying when we passed our first check point, CORRS intersection, and were proceeding about 240 degrees towards Ulithi.

Oil Surge, Turn Back, Engine Shutdown, Descent

We must have been out something over 100 miles, I really can't recall exactly, when all of a sudden we noticed a very sudden surge in the oil pressure gauge, with the corresponding warning light which would flicker on and off. The surge was from between about 53 to 55 PSI down to 40 and it was just an even surge back and forth between those two figures, and that caused the light to flicker on and off corresponding to the pressure. The light, I think, is supposed to come on at 50 plus or minus 5. I know 50 is the minimum.

Immediately, we made a 180°-turn, because we didn't know what the hell the problem was, but that is something you don't experiment with. We contacted Andersen Airways and told them what we were doing. We were out of range of the UHF [Guam Center] at this point in time.

Bob was flying the aircraft at this time. We were watching it very closely. We discussed it, and we reviewed the emergency procedures immediately on it, and LT BELL said he felt we ought to shut it down if it ever hit 30, and I concurred because we were somewhat worried about the possibility of the thing perhaps freezing, running out of lubricant, and we might not be able to feather it.

As I recall, Bob changed power at that point. We put on 2500 RPM on the good engine, and I can't remember the exact manifold pressure, it was somewhere between 30 and 40 inches of manifold pressure. We reduced the manifold pressure on the #2 engine and as I recall left the RPM where it was, at 2100. Normal cruise is about 2100 RPM at 30 inches manifold pressure.

We went ahead and called for 5,000 feet, since we were coming in and we were supposed to be at an odd altitude for that direction of flight. Subsequently, we received clearance to do so, so we were kind of in a gradual descent. I know Bob and I talked about maintaining air speeds and no more than a minimum of 120 knots. We found out then that to level off at 5,000 we weren't going to be able to do it, so it was somewhere around that time frame that we came up with the power to somewhere around 45 inches of manifold pressure.

Let me back up. After we had turned around and were heading back to Guam, approximately a heading of 060°, the #2 engine RPM started to increase rather rapidly. We made the assumption that she was running out of oil and we'd feather. So we went immediately to the normal routine and Bob went ahead and secured the engine mixture, to idle cutoff, hit the feather button, and cut off the fuel and oil supply at the firewall to the #2 engine. I think at that point we were probably at about 5,000 feet. I can't really recall for sure, and I think it was about that point we started coming on with some more power and found we were having a hell of a hard time maintaining altitude with normal rated power on the good engine.

The gauges and everything looked good [on #1]. The engine seemed to be putting out proper performance from all the gauges, indications were good. I might mention that on the #2 engine, also, we never saw any other abnormalities other than the fluctuating oil pressure gauge. The temperature remained constant, the oil cooler flaps never came open, at least according to the crew members, and they were in the automatic position. I had to ask them to be sure and watch it so that if they did start coming open it would indicate we were getting an increase in temperature. There was never a change in the temperature at all.

We were doing a lot of talking with Andersen, and about that time we started picking up the Center [too], and there was a lot of confusion for a while. We were both very, very busy in there with one of us talking to Andersen, trying to get them off the air so the Center could take over, and at the same time talking to Center and get them briefed. We were also instructing the crew members to re-brief everybody on flotation gear and ditching procedures, etc., and the crew did this. But we just couldn't maintain altitude.

Somewhere, in a very shallow, very slow, descent, she'd seem to level off ok, and then just lose a couple 300 feet, then hold it for awhile, and lose a little more. This was at normal rated power [2500 RPM].

Finally, LT BELL issued the order to start dumping loose gear, and I can't remember the exact altitude, but it seems to me around 2,000 feet, but I just can't be positive of that. But the crew handled it very professionally. They opened up the jump door and jettisoned, I think, all the gear aft. I know the first thing that went was the cases of beer and coke and alcoholic beverages. I believe I was flying the aircraft at that point in time.

[I] didn't notice a change in any feel of the aircraft at all when they opened the jump door and started jettisoning. That was completed in a very short period of time, closed the jump door, and it looked like we were still going to have a little trouble maintaining altitude. So it was about that time that Bob called for full power, and we were down around 110 knots at that point. Then we came up with full power on the engine, and of course we were both concerned about the fact that normal limitation is 5 minutes, but in extremis I guess it is a secondary consideration. We were getting a good 2800 RPM which is of course the prescribed RPM at military rated. Manifold pressure was good, right at 54 1/2. Gauges all looked good, temperature was good. The aircraft, even at that full rated power, could not maintain altitude. So it was at that point that LT BELL issued the order to go ahead and start dumping the rest of the loose gear, that is, the baggage, which was all that remained, and the crewmen did start doing that. I don't know when they opened the door, but shortly after they opened the door, I glanced back, Bob was flying. I knew they were dumping gear out. It felt like the aircraft was kind of shuddering all of a sudden.

We had plenty of airspeed. We had over 100 knots at that point. It was not a stall. I wondered to myself if maybe something could have hit the vertical stabilizer back there. I don't know. I was reminded of a similar 117 incident that happened in the MED some years ago, where they had a problem and lost an engine and were dumping something, and something wrapped around the port horizontal stabilizer back there and they just flat had it, and had to go ahead and ditch. I'm familiar with that one because my brother-in-law happened to be the pilot on the thing. But I have no way of knowing.

We kept losing altitude, and airspeed started to decay down to the point where we were now about 500 feet above the surface of the water and airspeed was down around, as I recall, between 95 and 90 knots. No noticeable benefit from any ground effect whatsoever that I could ascertain from the time we got to a relatively low altitude until we hit the water. I just never noticed it at all.

Bob was doing most of the flying. At about that point, I yelled for them to close the hatch, because the thing still felt like it was shuddering, and I thought maybe it might be because that door was open. There were a couple or three suitcases up front yet to go. I'm not sure. But I turned to the guy in front and said, "Secure that hatch and standby, it looks like we are going in," and they did get the hatch secured.

This aircraft did not have an alarm bell system. I remember talking to Center right up almost - . They kept calling us and asking us questions, and I kept telling them to standby, standby, and

that was the last transmission I got out. That was at about 300 feet as I recall. The last airspeed I recall seeing on the thing was 90 knots which is still well above stall speed, and Bob was flying the aircraft, doing a fine job.

We were kind of getting close to a touchdown when the left wing dropped. Incidentally, I still felt that shudder with the door closed that I felt early-on when they started the second dumping evolution. So I got on the controls with Bob and kicked the hell out of the right rudder and the wing came right up, no problem, and we were both on the controls when we hit.

First point of contact we had a nose-up attitude. We were somewhere probably between 85-90 knots at this point. Still above stall speed, but close [the stall speed shown in the table on page 70 was 83-89 knots].

So just before we hit I gave a little forward [pressure – Estes, too, was on the controls when they first hit], and we had a nice rate of descent going, and had a rather easy initial contact which I felt may have been the midsection of the aircraft on top of a swell. The swells didn't appear to be significant from the air, there was very little wind, and I've got a lot of experience flying over water. There weren't any whitecaps, and the surface wind was low. So that's why we talked about it, and when we came to that point, we had already gone through our ditching procedures in detail. That we would just make a straight in with the heading we had, rather than try to make any final turns at a relatively low altitude and perhaps get ourselves in a wing down situation.

Impact

First contact was moderate. This was followed shortly by a second contact which was quite severe, and quite loud. I was impressed by the tremendous noise. I can remember being thrown violently against the straps, and to the best of my knowledge, it held. I felt myself hit something with my head. I have no idea what, and I think I was unconscious for a short period of time and came to. I was underwater, still strapped in the seat. I could not see anything but was very calm.

I think in retrospect I just had the thought of the Dilbert Dunker for some reason or other. Having had several of those throughout my years of training, it was kind of the same evolution. I just very calmly found my lap belt and undid it and tried to kick out, and couldn't because my right foot was caught on something. I could feel some boxes or something around me but that cockpit was fairly tight, and I was feeling around.

I never felt LT BELL at all. I don't know if he was still in the cockpit or not, but I just can't help feeling that if he was there, I would have, but I didn't. I was out of my belt, and started to really act concerned, because I couldn't get my foot out and thought that this could very well be it. But I kept working with it and was calm throughout. Maybe I still had plenty of air. At least I certainly hadn't reached the panic point.

Suddenly, my foot popped out and I wasn't sure which way to go, because I was totally disoriented. I had no idea which way was up, but just feeling around I remember pushing a box or suitcase or something out of the way, and I believe that I came through the normal hatch or

doorway that leads from the passenger compartment into the cockpit. I believe that is how I made my exit because it felt tight and close, and that is a pretty tight cockpit if you've been in it.

It didn't seem like I was underwater very long once I cleared the cockpit area until I popped to the surface and found myself looking aft into the passenger compartment. I remember seeing seats, and they all looked intact and good. I don't remember seeing anybody in there. It seemed like I heard somebody yelling, but I was pretty dazed and I don't know whether it was somebody outside the aircraft or not. But I thought there was a large crack over my head when I looked up, and it may have been just an open space, and the cockpit, somewhere aft of the radio compartment, physically separated from the rest of the aircraft, was sinking. Actually, there wasn't really anything there but space because I remember going to where the aircraft fuselage was cracked and crawling out on the wing and lying on the wing for several minutes.

The #2 engine was gone, and I was holding on to where the nacelle [or engine?] had been fastened to the wing until I got flotation gear and got myself oriented a bit.

Everybody was very calm. I saw some people in the water and rafts were out. I could see two and later found out there were three. Didn't see or hear any panic whatsoever. It was about that time that I saw LT BELL's head in front of the leading edge of the starboard wing, and he was very bloody around his head, but he looked to be good and I felt a great sense of relief at seeing him. He came up over the wing next to the fuselage and went off the wing aft.

I surveyed my damages. I knew my back was hurting, but everything else seemed to be working fairly well, so I wasn't too concerned about that. I got my flotation gear with the help of, I believe, Admiral Clements' aide. I'm just not sure, but he was a big help to me. Bob and I just hadn't had time to get flotation gear on. Quite frankly, we were just too damn busy.

I then made it to the raft and saw the B-52. Subsequently the C-117 from Kadena came over, and not too long after that the first helo arrived on the scene. They dropped personnel in the water at each raft to find out who was most severely injured and they took four of us on the initial run back to Apra Harbor and put us in the ambulance.

My primary concern at that point was my nose. I could not get it to stop bleeding, and I almost passed out. On the raft, because I had lost a lot of blood, I was spitting up a lot of blood, because it was going down inside my throat, so the guys in there thought I had some pretty bad internal injuries, which, fortunately, I didn't. It was just from my nose.

I think our enlisted crewmen did a superb job, and I am very proud of them, and I am heart-sick at the loss of Petty Officer CURTISS, because I think he probably did the best job of all. He was a true professional. I think it was largely as a result of his efforts that 28 of us got out of it.

One of the SAR crewmen helped me out of the raft, and hoisted me aboard the helicopter, and I think 2 or 3 others were hoisted aboard.

I remember arriving at the Naval Station and seeing the ambulances, and I remember being out in an ambulance and then being in the X-ray room.

Retold from the Start with Other Details

LT BELL briefed the crew members on briefing the passengers and the procedures to follow there, and he and I briefed on a final briefing on the mission. Of course we had already talked about this a lot in detail anyway: navigation, weather, that type of thing. He did the flight planning, I did not assist in that flight planning evolution. I did not walk around the aircraft on pre-flight. We talked about the minor maintenance that had been done on the aircraft. The entire crew talked about it. I had gone down to check after the high-power runup. They said they were getting a little blow-by [smoke]. I think it was the #1 engine, I can't recall for sure. They indicated that it was a very minor problem, that they could have it repaired in a few minutes. They reported after the aircraft had been towed to the quarterdeck and the discrepancy repaired.

Other than that, the problem we had on the start with the induction vibrator was the only maintenance malfunction I was aware of, or LT BELL. I'm sure, because he was very, very, meticulous about briefing me on any mechanical problems that came up. We did not do an engine run-up. The aircraft had already been high-powered; all we did was run it up to 30 inches on the runway, checked all the gauges, everything was good and we proceeded with our take off. The flight engineer – I assume this is always his normal position – was in the cockpit with us to operate the gear and anything else that might need to be done. I have to assume that is standard practice. That is the way I was told they did it in Cubi. That is where both LT BELL and P.O. CURTISS received their training.

We never raised the gear or powered or raised the flaps – that was always done by the crew chief upon command of the pilot in control of the aircraft. As I recall, the oil coming out the filler cap on #2 engine was very soon after takeoff – before we had leveled off. I can't remember exact time frame. It was reported, and shortly after that it had stopped. It must have been an hour, well in advance of the oil pressure fluctuation.

I never had a chance to look at the oil [the second time] coming off the trailing edge of the starboard wing, nor did LT BELL. I can't remember at what point in time during the evolution it occurred. It occurred after the engine was feathered, but I remember P.O. CURTISS coming up and saying something. This is when we were getting to a fairly low altitude, and both pilots were very busy. He said something about oil all over the flap or something on the starboard wing. At that point, it was rather immaterial because we had already shut the engine down and the thing was feathered. But I remember him reporting a very large quantity of oil, I think he said on the flap. We just roger'd it, and pressed on.

We made the turn back to Guam just as soon as we started getting the fluctuation. LT BELL made that decision, which I had to concur with as it was the only logical decision to make. The first thing we ascertained was that that was the engine that was fluctuating on the gauge, and again we checked the engine and couldn't see anything wrong. At least nothing was reported as being wrong with it. Temperatures were normal, and I found myself perhaps wishfully thinking that maybe we got a gauge problem of some kind, because it was such an even fluctuation. I never saw it drop below 40 PSI. It got to the point where she started surging, and we shut it down.

We broke out the NATOPS Manual and went over oil pressure loss procedures, which doesn't have much to say anyway in that regard. The main thing we were concerned about is a timely feather in case this thing started going, so we could make damn sure it did get feathered and did not freeze on us.

We notified Andersen Airways immediately. We said we are not declaring an emergency at this time; however, we are returning because we have fluctuating oil pressure on the #2 engine.

I can't recall how long we flew, it was several minutes before the RPM started increasing rather rapidly, and we had already discussed the procedures and just exactly how we were going to do it [feather the #2 engine]. LT BELL did the actual feathering of the engine. At that point we did declare an emergency. I think we were probably somewhere between 120-130 miles out. I really can't say because I had been doing most of the initial flying and Bob was doing the navigating and he had the check points written on his wind screen. I know we had already reported our first check point though.

As I recall, we came on with some power on the port engine right after we made our 180° turn, because manifold pressure was reduced on the #2 engine, to ease the load on it, so we compensated for it by increasing the manifold pressure on the #1 engine and moving the RPM up to 2500 RPM on the #1 engine. We talked about air speeds, and not letting it get below 120 knots. Bob was flying the aircraft at that time and I think we did a little descending in the turn as a matter of fact. We were kind of talking this over here in the hospital and as I recall he said he wanted to go to 5,000 because of the odd altitude requirement, so that was an intentional descent to 5, I'm quite certain.

From all indications the #1 engine sounded good, and all the gauges indicated that it was performing as it should be. The only malfunction I saw on any gauge whatsoever was the oil pressure on the #2 engine. No other gauge at any time was ever out of limits that I'm aware of. We never did attempt to start #2.

On the way back, the wind was light on our tail, I couldn't see much swell from up there. It was pretty calm, but I would say that swell direction was headed pretty much northeast. It really was very light.

I have no idea where any of the crew were at the latter stages of flight. Bob reached up to feather #1 just before we touched down.

* * *

Recollections by Pilot Ed Estes in 2013

Background

"The station aircraft [of Naval Air Station Agana] were:

- 3 - Huey UH-1N helicopters;
- 1 – US-2B, an anti-submarine aircraft, a 2-engine prop job, 2 radial engines, primarily for maintaining flying currency. It could haul 2-3 passengers, and limited cargo, but not used for this very often;
- 1 - C-117D, it was relatively new to the station.

The maintenance on the aircraft was done by the Aircraft Intermediate Maintenance Department (AIMD), which was part of the NAS, which was under my command.

We got the C-117 aircraft maybe in May of that year. Bob Bell had formal training in that airplane at another base, and had taken the NATOPS exam, but I hadn't. Still I would say we were inexperienced flight-time-wise in the aircraft. My logbook shows that I flew 13 flights in #17152 [totaling 38.6 hours] with Bob Bell as PIC (he may have had other flights, too):

1) May 17 - the first flight that I flew was as a co-pilot, just local.
2) June 25 - we flew 0.3 hours.
3) June 26 - 3.3 hours.
4) June 29 - we flew to Taiwan 9.0 hours one way.
5) July 2 - 9.5 hours on the return trip; we had a little headwind coming back. I would say we were more heavily loaded than on the August trip. We brought a lot of furniture back for the guys; we took out a lot of seats to fit it in. This shows you the range of the aircraft.
6) July 16 - we had a 1.5 flight.
7) July 17 - a 4.7 flight.
8) July 18 - a 4.0 flight.
9) July 24 - a 0.9 flight
10) July 26 - a 1.0 flight, and we shot 6 landings, and I know we went to one of the islands north of Guam. We shot some touch-and-go's, and then a final at NAS Agana.
11) August 10 - 1.9 hours, and we did seven landings that day,
12) August 13 – a 2.2 hour flight, to practice; it may have been to Rota or Tinian.
13) August 14 - the total time of 1.8 hours airborne was recorded.

August 14, 1978

We had a pretty good load, and had a heck of a time maintaining altitude. In retrospect, we may have been nose-high from the start, it is what is called getting behind the power curve, and the nose-high attitude would have create more drag; I am speculating.

I felt we were getting a little nose high. I do distinctly remember the left wing started to dip just before impact, and I hit the right rudder and pushed the right yoke forward a little, and turned a bit to the right, to bring the wing up. Technically I should have said something to Bob first, but I automatically, without thinking, put the correction in.

We hit tail first, and the aircraft slapped down on the water, [and the second time] caused a tremendous noise, like an explosion, and the front of the aircraft started to break off, if it didn't break off entirely. But I know that it split from the top down. I know that most of it, let's put it this way, the top of the fuselage was totally open. I think it split off on both sides evenly – meaning we landed wings-level. That nose section went down. I do not remember the moment when it cracked.

My right foot was caught somewhere, on the rudder pedal, and I remember as the thing was sinking very clearly wondering "Is it better to just swallow water and get this over with?" But I just kept pulling, and my foot got free, and I exited through the back where it was broken off. As I floated to the service, the water was very clear, and I remember seeing the broken off cockpit [underwater] through the clear water, separated [but held on by control cables under the floor].

I remember getting in a life raft. The only people I knew well on that flight were the crew members, and Admiral Cruden, and Betancourt casually.

Ron Curtiss was a loadmaster. What I was told later was that he went to the back of the aircraft, and then went forward. I didn't see him, because I was looking forward, I wasn't looking back. It was his job to go back and tell everyone to put their seatbelts on. We had plenty of advance notice.

We had radio contact, so the rescue helicopters were already on the way. I had a broken leg and broken nose, and two compressed vertebrae. I was helo'd.

[Scott] The other young man I heard was in the forward-most seat, aft of the pilots' compartment, so the slap-down was more pronounced.

I deeply regret that we lost those two men.

* * *

9. Co-Pilot Lt. Robert C. Bell

Statement August 24, 1978

I was designated a Naval Aviator on 31 AUG 73 at Corpus Christi, TX. I went to NAS North Island, San Diego, to RVAW 110, the E2 RAG, trained there, and then went to VAW 116. It was an E-2 Squadron at the time, part of Carrier Air Wing NINE on the CONSTELLATION. I spent my first tour as an E-2 flier, making a WESTPAC cruise on the CONSTELLATION. Shortly after the WESTPAC cruise, the CONSTELLATION went into extensive rework in Washington. I transferred to Air Wing EIGHT on the east coast aboard the NIMITZ, and I made a Med cruise and a North Atlantic cruise. I came to Agana from a Med cruise.

The first C-117 training I got was probably on Midway Island from CDR HIRTH, who was the Ops Officer at the time. He was their only aircraft commander for that airplane. For my training we more or less just sat down and talked philosophy, a little bit about the airplane. He was an experienced VP aviator. He did have a lot of time. I don't know how much time he had in the 117, but I felt he was very knowledgeable about the airplane. He talked to me, especially when I questioned him about the crosswind characteristics of the aircraft. I didn't have a chance to do any landings in the aircraft while we were in Midway, because the crosswinds were so bad at times when we were flying over the station.

After we'd flown the aircraft to Guam and transferred it, he and I flew about 4, maybe 5 hours in the aircraft locally here. Most of the flying was for the acceptance checks and some bounce pattern work. I think possibly once we may have gone up and shut the engines down as part of the acceptance check. Shortly after that CDR HIRTH went back to Hawaii.

After about a week and a half delay, I went to NAS Cubi Point for formal training with a formal syllabus. The syllabus included both actually feathering an engine and simulated single-engine flying. I estimate that I have about 175 hours in the C-117 by now. While I was assigned to Cubi, I had a pretty good opportunity to see how mission tasking and assignment is done in WESTPAC. NALCO is the primary logistics tasking point, with all the station support aircraft and VRC-50 providing services. That's basically where I felt all of our tasking should come from. Of course, COMNAVMAR might modify it slightly. Basically NALCO would task us.

Changes to the Load

I was involved with the assignment of the alcoholic beverages aboard the aircraft. I got a call from someone who worked for CAPT SMITH over in OICC. I think it was a commander, but I don't recall his name. I got a call from him right at quitting time on Friday afternoon, before I was about to take off. They wanted to bring along the additional cargo of soft drinks, beer and scotch. I was irritated, mainly because they waited so late to let us know that they wanted to take this stuff along. They told me how much they had, and with just a tabulation I came up with a figure of 400/500 lbs and I said we could accept the weight. I didn't know that restrictions might be on beverages on the aircraft. I talked with the customs agent, BH1 EVERS, and he said as long as there are no seals broken, no cans open, no customs regulation prohibited it. I think he has already departed, he had orders to the states, but he was the inspector from customs. I didn't

know whether or not there might be some more regulations that might talk to this subject, but as I said before, it was 1630 on Friday afternoon and I was a little bit irritated.

I was waiting on a ride from a neighbor, and I was just sitting there looking out a window in my office. As soon as I [almost] finished talking with the commander, my ride showed up, so I went ahead and told him that it looked like we could carry the weight. Customs said there were no restrictions to taking it, but that I wanted him to check it through the Commanding Officer, who would be on the flight. I hung up when my ride came, and I went home. As soon as I got home I got a call from one of the other guys in flight support, concerning the same thing. I guess basically the Captain had called them (called the OPS Officer) trying to cover the questions that I had already covered. When I got home, it was a quarter till five, and I felt guilty because there were other people who looked like they were doing my job over there in the office, and I needed to go back to work or something. I called CAPT ESTES up and told him "Can't understand why their guys didn't call us at 0730 Monday morning instead of 1630 Friday afternoon on this, and to be honest with you, I'd just as soon say no to them. But I'm sure this ceremony that they've got planned down there, it'd be nice to have some soft drinks and some beer or something."

CAPT ESTES had already talked, I guess, with either CAPT SMITH or somebody above him. I was rather irritated about the late change to the passenger load also. It seemed, I guess, it was ADM CLEMENTS who wanted to bring along his aide, who was not on the original list.

As aircraft commander, I didn't know about it until a couple hours before the flight. I got the notification from the Duty Officer. I really wasn't in a real good position to try to determine what was to be done about it, because most of the people weren't there. The people who maintain the aircraft were ready to go. The Admirals and Captains were not there, but as it turned out, CAPT PATTERSON didn't want to go.

Sunday

Now, going back to my activities the previous 24 hours. We had a system of bad weather. I'd been on call on the C-117 since about midday on Saturday. Saipan had been hit pretty hard with flooding. The Red Cross and the Navy were standing by to take supplies to Saipan, so I had been standing by, and Sunday I was in a standby status also. When I got up, about 0700/0730 Sunday morning, I got a call from the Duty Officer about the plane, saying I would be taking a couple of people up to Saipan, a Red Cross representative from Guam, plus a Red Cross Nurse, to evaluate how bad a situation they had. They had been cleared by CINCPAC, PACFLT, or a higher level to ride as passengers on a Government aircraft. CAPT ESTES and I were going to take the station S-2 up there. The crewmen had come in, preflighted, and got the S-2 ready and we were going to take off at 1300 for Saipan last Sunday. We got off a little bit late, about 1310 or so. By the time we got the wheels in the well, we got a fire warning light on our #2 engine. The weather was pretty bad, so we had to stay low, and made a VFR turn downwind behind an aircraft. I felt the fire warning light was not a valid one, because of all the moisture, but as it turned out it was valid. The exhaust manifold was loose. The hot exhaust gas was right on the fire warning element, so we did have a potential problem. He landed the aircraft and spent about a half hour trouble shooting because we didn't know what the problem was.

After about a half hour the maintenance people told us that the aircraft would be down, so we decided to take the C-117. The crew chief of the C-117 was also the section leader that day. He had been here doing some last minute work on the aircraft, flight support work, so the airplane was ready for the pilot's pre-flight. I filled out the paperwork on the S-2, checked the yellow sheet on the C-117, did the pre-flight inspection on it. I taxied over, picked up the Captain and two passengers, took off about 1500, and flew to Saipan. En-route we did a low level in Rota and Tinian, and when we got to Saipan we did a low level around Saipan [mapped on page 23].

We had a little bit of a shock up there when we were at 800 feet at the North end of Saipan heading south to land at the airport. We got another fire warning light in #2 engine in the C-117. I immediately added power. I was going to climb up to 1300 feet and shut the engine down, but the crew chief, Petty Officer CURTISS, was forward and he saw it. He knew that immediately after we had gotten the aircraft at Midway it had a fire warning indicator discrepancy. We have a junction box in the area of the cockpit for this fire warning system. We've had a problem with the contacts in there closing early, or corrosion built up on the contacts where the light would come on. So as soon as he saw the fire warning light, he immediately opened the box up, made an adjustment, closed the box up and the light went off, and he told me what he did. He knew what the problem was and he'd take care of it. He'd have to order a part, but we could probably take this aircraft on the trip.

Finally, we went back down south, landed in Saipan, let the passengers out, took off, flew back to Guam and landed. We got back about 5 o'clock and went in and filled out the yellow sheets for the gripe on the fire warning light.

I got home about quarter till six, ate supper (hamburgers), did a little more final flight planning, which I'd been working on for quite some time. In fact, we had anticipated taking the flight from the beginning, with the first leg [too], so I started almost a week earlier. I went to bed.

Monday Preparation

[I] got up around 5 o'clock Monday morning, and got my bag that had already been packed about a week before. All I needed to do was get my shaving kit and my other things. I got them together with my NAVBAG that I had brought home with me. I got my wife and son up, had a glass of juice, got ready and went to operations.

I got there about 0615. All I had for breakfast Monday was a glass of juice. I went to the mission planning and got the ICAO flight planning forms [shown on page 32], and filled them out, one for each leg of the flight: to Ulithi, and from Ulithi to Yap. I got a weather briefing and brought them back over and left them on my desk in flight support. I went to the Duty Officer with a hand-written passenger manifest with everybody's name who had appeared on message traffic. The only people I still needed on my manifest were the 14 band members [later 13].

I left the manifest at the desk, and asked the Duty Officer to please have someone get all the information on the band members as the band arrived, and put it on the manifest. Then I walked over to maintenance to look at the yellow sheet, and to prepare the weight and balance sheet for the flight.

I had noticed that there were some boxes stacked in flight support. They were wrapped in plain brown paper and each box or each container appeared to be two cases of soft drinks or beer, wrapped with paper, and taped quite securely. Someone did a good job preparing them for the flight. There were also a couple of boxes filled with shovels and hardhats for the ground breaking ceremonies. I picked up each box just to get an idea of the weights. I just wanted to have a good feel for what kind of weight we were carrying. They were alright. The only things that were heavy were the soft drinks and beer. I already knew that they would weigh approximately 45 lbs per 2 cases.

Next I went over to maintenance and looked through the book on the C-117. Because I'm the only pilot for it, I'm pretty familiar with everything that's in the book, so it doesn't take me very long to go through and note if maintenance has been completed on outstanding gripes, and if they've been outstanding for awhile.

I got the weight and balance sheet out, and did the weight and balance with round figures. I used 170 lbs per passenger. I used 31 people, vice 30 people which we ended up taking. I used 20 lbs of baggage per individual and I used 1500 pounds of baggage and cargo. In addition, 860 gallons of gasoline was used for take-off fuel. The 1500 pounds of baggage and cargo included 350 of band instruments. I worked up the weight and balance form, and went back over to operations and made copies of it, left the original with the Duty Officer, and kept a copy for myself. Then I submitted my flight plans, checked with weather one more time, and talked with Dave Ganger out in the passageway. He was backing us up that morning. We were talking about runway temperatures and things that normally we don't talk too much about in the S-2 [airplane].

All my experience in the C-117, in Cubi anyway, we didn't worry too much about runway temperature, specific humidity or anything. But now I was calculating the runway I was going to need for takeoff at Ulithi. You can do it either by using, or not using, specific humidity. If you know specific humidity, you can more or less fine tune it a little closer.

After talking with Dave, I looked at the NATOPS Manual, and the take off chart, then I went to weather and asked them for the specific humidity for Guam that day. They had to do a little bit of checking and go back into a couple of books and find out how to calculate it but they did give me a figure of .021 I think it was. So I plugged that into the chart, and that did lengthen our take-off roll by about a hundred feet at Ulithi, at our expected take-off weight, with the whole crew when we took off out of there. Then we started loading the aircraft.

We don't have a real organized air terminal here, like you might find at Cubi Point or Kadena or Atsugi, because we haven't been in that business. So it was about 0730 and we really hadn't started getting things loaded or the aircraft positioned.

The aircraft was towed in front of operations, and I asked the LPO of the line to start loading up. I checked military customs to see if it would be alright to start loading the cargo that was in flight support: the soft drinks, beer, scotch, the shovels and the hardhats. They said that would be fine, so we started loading. Then I guess it must have been after 0800 by the time we had the aircraft positioned and started loading.

We got the gear loaded on board. The band had been there waiting. They had all their personal gear, so we loaded that on. The customs agent had told me they had already checked the band through customs, and the personal baggage could be loaded on board. We wanted to get as much of it on board as we could before any last minute people arrived with last minute loading to do. So we did get everything pretty much loaded and strapped down between 0815 and 0900.

I pre-flighted the aircraft that morning out in front of Ops, but I did not sign the yellow sheet. I saw the yellow sheet – it was in Petty Officer CURTISS' briefcase, but we were going to do that after we got airborne, even though that's the incorrect way to do it. I know that, but that's the way we were going to do it that morning, because we were pushed for time, and there were so many other things happening. Petty Officer CURTISS was the kind of guy that got everything done early. He did have the aircraft ready for flight that morning – the proper amount of fuel and oil on board and he had to complete the daily MRC deck.

CAPT ESTES had been around the general area, I guess, since 0730. He had been doing some things up in his office and came down. I'd seen him several times, but I think the first time I'd seen him, actually out at the airplane, was to get on board for the flight. That was sometime before 0900. We discussed what time we wanted to start engines, and since take-off was set for 0915 we thought that if we started #2 at 0910, then we could sit there and run till the last VIP's arrived and were on board [delay starting the left engine to not blow exhaust on the VIPs].

At 0910 we turned #2 for the first time, but we had trouble starting #2 that morning. We tried to start it twice with no luck. CAPT ESTES was starting and he did not have a whole lot of experience starting the engines. It would turn and a couple of times it fired. It acted as if it wanted to start, and then it was either flooding out or as if the ignition exciter was not working. We tried a couple starts on #2, and then we let it sit for approximately 5 minutes to cool the starter. We were also talking about the possibility of starting #1, then starting #2, and then shutting #1 down again to load the rest of the passengers, but we were afraid we'd be in the middle of that when the VIPs arrived.

We were doing battery starts, but we got an electrical power cart out, plugged it in, and tried one more time to start #2. It still didn't work, so we popped the nacelle cover off. I think all that one of the mechanics did, basically, was shake the induction vibrator. Then he signaled to me to start the engine and he sat on top of the nacelle. I guess he wanted to visually look at the induction vibrator to see if it was putting out a spark, so I started up #2 and it started this time. He shut it down and buttoned the nacelle back up again.

By this time the rest of the VIPs had arrived, and we were delayed for a few minutes. Mr. JOSEPH had left one of his bags [a briefing book] over at Government House, so we had to wait for his bag to arrive.

We got the engine closed up, I started #2 again, and then Petty Officer CURTISS, I believe, started the #1 engine. We taxied out. I had gotten our clearance earlier before we initially started the engines, about 0900.

Takeoff

Petty Officer CURTISS had already done an engine run-up earlier in the morning over on the maintenance ramp. This is standard procedure, and so all we really needed to do was take off. We did not do an engine run-up at the end of the runway.

CAPT ESTES and I had discussed the day before that we'd like to check our take-off roll there at Agana, when we got the aircraft loaded, to see how much runway it was going to take us to get airborne. When we took the runway we taxied up until our tail wheel was even with the 9000' marker. We completed the take-off checklist, went up to 30 inches as we usually do, checked the gages and warning lights, and released the brakes. The Captain went on up to full power almost instantaneously after releasing the brakes. Our lift-off speed at our take-off weight was 98 knots, and I had told him I would give him thumbs up at 98 knots and we would try to get airborne at 3,000 feet. We did get airborne somewhere between 2700/2800 feet, but he pulled it off a little bit prematurely. He pulled it off at about 94 knots indicated, and we used a little bit extra nose up trim for takeoff. The aircraft accelerated very nicely to 120 knots, which we use for climb-out speed, and we departed normally.

He climbed out to 6000 feet. Our NAVAIDS seemed to be working well. The engines seemed to be running very well. When we got out roughly 50 miles, I took the aircraft from the Captain, and we turned off the seat belt and smoking lights.

Oil from the #2 Engine

Admiral CRUDEN came forward and said, "How is everything going?" I said, "Pretty good, Admiral." He said, "I was just noticing that it looks like there is a little oil coming off of the #2 engine. I just wanted to let you know about it." I said, "Thank you. It's not abnormal that we have oil coming out of our engine, but we'll check it out."

So CURTISS went back, looked at it, and came forward and said it looked like it was a normal amount of oil, and that he had full tanks that morning. It probably expanded, and a little bit of oil had come out the breather and it was out there on the nacelle. He didn't notice anything unusual about it. But I think maybe the Admiral, sitting back there, had seen something coming in a continuous amount streaming off the trailing edge of the wing. I don't know, he didn't really tell us. He just said that there was oil. That was the first indication that morning that we were having trouble with our #2 engine.

We got out about to our first reporting point, I was flying the aircraft, and we were routine in that stage of the flight. I was trying to get a fairly accurate ground speed, and get good estimates to reporting points. We were talking to Andersen Airways. You normally lose contact with Guam Center roughly 100 miles out, depending on your altitude. When I called Guam Center to report CORRS, which was 100 miles out and our first reporting point, I couldn't get any response, so I checked in with Andersen Airways. They accepted our primary guard frequency, gave us a backup frequency, took our CORRS report, and our estimate for the next point. It was a line of longitude.

Oil Pressure Drop, Turning Around, Feathering the Prop

It was shortly after that I noticed the oil pressure give a jump. I watched it and it was pretty steady. Both of them matched up. Then it jumped down on #2 engine. I watched it for a couple of jumps, then I reached over and tapped the Captain on the arm and said, "Captain, it looks like we've got an oil pressure problem on #2. I suggest we turn around and go back right now." He said "I concur with you," and I turned left. As soon as I started turning the Captain unstrapped and went back to inform the Admiral what was going on.

I called Andersen Airways and told them we were returning to Guam and that we had oil pressure fluctuations on #2 engine. I told them I was not declaring an emergency but that I was returning to base. I estimated we were probably about 125-130 miles out of Guam. We turned back, and the Captain returned. He was only back there a very short amount of time. As soon as he got back, I asked him to take the aircraft, because I wanted to do a little bit of figuring.

I wanted to get the NATOPS Manual out, because I felt that we may have to secure that engine, and I wanted to make sure that we do everything by the book. The oil pressure warning light had not come on yet. The light won't come on till your oil pressure gets down to about 50 PSI. It didn't fluctuate down to the 50 PSI for another couple of minutes anyway. Normally it is up around 75. Initially it would fluctuate 10/12 PSI and then come back up.

I watched it about two or three times. I've never seen those oil pressure gages do anything but give very steady indications, but now #2 was definitely dropping down and coming back up. I probably watched it about three times before I told the Captain. It was still indicating 75 or 80 PSI, but after we turned and started heading back, it continued at about the same frequency to fluctuate. You could see it wasn't coming all the way back up to 80 PSI. It was dropping. I had CURTISS go back and check it. He said we were definitely losing oil out of #2, and he could see it. He said it was coming from under the wing. He said there was oil all over the flap. When he said that, I wanted to ask him to correct what he said, because the flaps were up and you can't see the flaps.

[The photo at right of airplane 17152 when with the Marines shows the view (red line) from the crew chief window did not include the flaps, so Curtiss would have seen this from an aft window, the blue line.]

After all was said and done, thinking about the airplane not being able to fly out with all that gross weight, I was just wondering if in the flailing around in the cockpit someone could have hit that flap lever and the flaps could come down a little bit, and made more drag that we should have had. He may have seen oil on the flap. CURTISS, above anyone on the airplane other than myself, would have known the flaps were not supposed to be down. I almost have to discount that the flaps could have been down, but he said it. He said that there was oil all over the flaps, and I think what he meant was it was coming off the trailing end of the wing where the flaps are.

We turned around, and we were heading back to Guam and I asked the Captain to fly the aircraft. I had the NATOPS Manual and I was going over the basic first six steps of the check list, because they are the memory items.

I told the Captain there were basically only three things we had to do. One: shut the mixture off. Two: feather the engine. Three: pull the cut off handle on the engine. The other three are: alcohol pumps, cowl flaps – which were closed, and, unless we had a fire, we didn't need to use the fire extinguisher. I just wanted to reassure the Captain what was going to happen if we had to shut the engine down.

The oil pressure continued to drop. I told him when it dropped down in the 50 PSI region, sufficient to get the light on and off. Then, as it did drop below 50 PSI, we had a constant oil pressure light. I didn't want to shut the engine down sooner than I had to, but I didn't want to damage the engine permanently either, so I told the Captain we'd use 30 PSI for our shutdown point, and we'd shut the engine down when the gauge would not come back up to 30 PSI. That's what we were looking for. Well, we never got that far down, because we started losing control over the prop governor on the engine, because it uses engine oil. I guess we had lost so much that the prop governor was starting to lose control.

In the turn toward Guam I pulled the power back on that engine to about 20 inches, and, as I recall, we left the engine at 2100 RPM. But I heard a rising RPM, and, when I looked over at the RPM gages, #2 was steadily rising up through 2200/2300/2400 RPM. CAPT ESTES was still flying. Additionally, we had put #1 engine up to 2500 RPM and it was 35 inches. We reduced power in #2 and increased power on #1. Precautionarily we turned back to Guam.

We started losing governing control on #2, so I pointed to the RPM gauge and I said "Captain, we are getting ready to lose control over that engine. I'm going to shut down #2." I sat and watched it, and as the RPM passed through 3000 RPM, I took the mixture on #2 and asked him to concur that it was #2 engine. The proper engine. He nodded his head, and I shut down #2 with the mixture control, and I immediately feathered #2.

Petty Officer CURTISS was standing between the seats with us, and he pulled the fluid cutoff handle on #2 engine. I looked out the window and observed that it did feather after about 10 to 15 seconds. I asked the Captain to continue to fly the airplane, and I immediately called Andersen Airways and told them I was declaring an emergency and what my estimated position was, souls on board, fuel on board. They asked me for an estimate and I had to tell them to stand by, and CURTISS and I completed the remainder of the checklist after the first six items.

There were several things: Shutting the generator off, closing the fuel control, several things on the engine secure check list. We completed these items on the checklist. I told the Captain I'd like to maintain no less than 115 knots if possible. I'd flown the airplane, like I said before, both simulated and actual single engine. Shutting down one engine and leaving the other engine at cruise power setting of 2100 RPM and 31 inches. We had pretty much always been able to maintain about 120 knots. Of course we never had a big load on board like we had that day, but it had flown so well on one engine in my previous experience that I really didn't think that we would have any trouble flying the airplane back to Guam.

Descending from 6,000 to 5,000 feet

We were still at 6,000 feet, but we were starting to slow up now because we had feathered the #2 engine, and the #1 engine was still at 2500 RPM and about 35 inches. We increased our power on the good engine up to about 40 inches. Our airspeed continued to decrease. I think we finally got down to about 115 knots, so I told CAPT ESTES to go ahead and descend to 5,000 ft, and I'd advise Andersen Airways. It made sense to me because we had reversed our course so we should be at an odd altitude coming back in. I called Andersen and told them we were going to descend to 5,000 feet, and they said "Roger," and asked us to contact Guam Center. We tried to contact Guam Center a couple of times with no luck. We were finally able to get an answer from Guam Center, and they asked us to squawk a certain code and ident, which we did. Andersen Airways was also telling us that, passing it through Center, telling us to squawk. It was 1100 and ident, and we were rogering them.

I told Andersen Airways we were in contact with Guam Center and we were maintaining their frequency. After that time we still had a little trouble talking with Center, I guess because of the distance we were out. We probably weren't out more than 70-80 miles. We were in that area where communications start to come in. We were at 5000 ft.

Descending from 5,000

We got down there at 5000 feet and leveled off. We found out we were not able to maintain our airspeed. It was continuing to decrease. I told the Captain to descend and I would notify Center. We would just try to maintain an airspeed of 115 [knots] and continue a descent.

We seemed to have a pretty consistent rate of descent of 100 feet per minute. Our airspeed was somewhere between 100 and 110 knots. It would vary a little bit. CAPT ESTES was flying the airplane and I think I took it from him a couple of times, but I was also talking with Guam Center and Andersen Airways on the radios. Sometimes I would give the control of the aircraft back to the Captain to make a calculation for the estimates back to Guam or to complete the checklist. I had the Captain continue to fly the aircraft. The Captain was doing a good job flying the aircraft, and there didn't seem to be any reason that he should not fly it. In fact, I had asked him, "Captain, do you think you can make it? Do you want to try to make a single engine landing?" He said that he didn't think he'd have any problem doing that. I don't think that would have been a real good decision on my part to allow him to make the landing as aircraft commander but he was the one who was flying. He had been the one who was going to make the landing at Ulithi.

Finally, we were in a position where we were not able to maintain altitude at 5000 feet, and our airspeed was down to about 100/110 knots, so I still felt at a lower altitude somewhere the aircraft would level off. We'd be able to get the aircraft to maintain a level altitude. I felt at 5000 feet possibly the wings and the props weren't as efficient as they would be at more or less 2000 feet [he was correct about this], but we still had a margin of power left that I wanted to keep in reserve. I didn't want to task the #1 engine too much, so I didn't want to use too much more power than what we had on it. We already had max continuous RPM [2500, page 63].

I wanted to keep something in the bag for when we got closer in because I didn't know how much of a strain on the engine flying back an hour at 2500 RPM would be. 46 inches MAP [Manifold Absolute Pressure] is maximum continuous, but we had about 40 inches at this time.

Our descent continued. We told Center we were descending, that we could not maintain 5000 feet. They said "Roger, at pilot's discretion, descend and maintain 2300 feet, and report the field in sight." We could see Guam clearly from 70-80 miles out. They wanted us to maintain 2300 feet until we were clear of the terrain on the southern end of the island. We continued to descend down to 2300 feet, and maintained our 100 to 110 knots.

Descending from 2300 Feet

When we got to 2300 feet we were probably 50-60 miles out, and went on up to max continuous power, to 46 inches. We completed the descent checklist so all we would have to do on final would be to lower the gear and finish the checklist and land. After we added power and leveled off at 2300 feet the aircraft maintained that altitude for a few minutes. The airspeed slowly backed down to 100 knots and even went a little bit lower than 100 knots.

The Captain said, "I don't think we are going to be able to maintain this altitude, Bob." I said, "OK, Captain, go ahead and continue your descent." Then we had max continuous power, so I called Center and told them to be advised we couldn't maintain 2300 feet. They said, "Roger, report the field in sight."

Jettisoning Cargo

At this time Petty Officer CURTISS was up forward and I said, "CURTISS, let's throw out all the booze and all the cargo." I didn't tell him any baggage, but booze and cargo was going to go. He went back aft, and with the other two crew opened the emergency door and got rid of all that stuff. A couple minutes later he came forward and said, "We've thrown it all out sir."

We were still in a descent and we were still slow. I said, "Captain, I'll take the aircraft back." At this time we were down to about 1500-1600 feet, about 100 knots. Then I said, "OK, CURTISS, let's throw everything in back out."

Let me backtrack. As soon as we shut the engine down and completed the checklist, before I thought of it, Petty Officer CURTISS said to me, "Sir, do you want me to go ahead and prepare the cabin for ditching?" Like I'd said, I'd flown this aircraft single engine before, and I just didn't think this airplane wasn't going to fly back to Guam. After he had said that to me it kind of startled me. I said, "Yes CURTISS." So he went back and had everyone prepare for the ditching as he had briefed them prior to take off; to put their LPP-1 on and go over their stations and positions that they should be in for ditching. We were quite a ways out, about 100 miles out.

The crew was in the back and pretty much ready for ditching from that time on. I took the aircraft back from the Captain, and Petty Officer CURTISS went aft and started throwing baggage over the side, band gear, and basically everything that was left in the airplane.

As they threw it out, when the door opened, it increased drag. It caused the airplane to fly a lot more unstable. Our airspeed went down somewhere between 90-95 knots, and the aircraft started to buffet and shudder as if we were doing approaches to stalls. I was flying the aircraft, and I still could not maintain altitude. I was trying to keep as little a rate of descent as possible without the airspeed falling off too much or without the buffeting and the vibrations becoming too bad. CURTISS and the rest of them were back in the back throwing baggage out.

Descending from 500 Feet

We continued that descent down to about 500 feet, I think it was. It took about, I would say roughly, 10 minutes for us to descend from 1500 feet, when I took the airplane, down to about 500 feet. We were still at about 90 knots, I'd say. The aircraft was buffeting quite a bit and uncontrollable. We went to full power on the engine at 500 feet. That seemed to help for a couple of minutes because the aircraft seemed to maintain 500 feet and 90 knots for a couple of minutes. I really felt like maybe we could fly this thing out, now we are lightening the thing up. As soon as we get the rest of the stuff out and the door closed, maybe we could get it back up to 1000 feet. We could get it back on in and land.

All of a sudden there was a severe shudder that went through the airframe. I thought it was about to stall out, or I wondered if something thrown out could have hit the tail or possibly there was a problem with the #1 engine. I really don't know, but there was a severe shudder of the airframe. I thought we were going to stall the airplane out, so I eased the nose over and we started a more rapid descent toward the water.

Impact

I turned to yell, and to try to tell somebody that we were going to hit the water. I could see that they had closed the door in the back. CURTISS was not between the seats, and I couldn't see him in the back, so I told CAPT ESTES, "Captain, we are going to hit the water." Then I concentrated on flying the airplane, and keeping the wings level, and just before initial impact with the water, I reached over and feathered #1 engine.

We hit the water pretty solidly, but the airplane seemed to get airborne again, and continued to fly relatively controllably, but the next time we hit the water it was very, very hard, very severe, and that was the last time I remember seeing the water. We may have gotten airborne or hit it four times, but the second one was the last one that I could distinguish.

The next thing, the entire cockpit was full of water. It was black. I couldn't see anything. I reached down and unstrapped my belt. I turned to the left to get out of the right seat. That was the last direction I know for sure where I was going. I don't know how I got out of the cockpit – whether it was the overhead hatch, a hole ripped through the deck, or whether it was straight back aft through the passageway. But I searched around and found a hole I could pull myself through. I had a sensation of going from within an enclosed aircraft out into the open water.

To the Raft, Rescue

Then I started getting my senses. I was buoyant, I was going up; there was a sensation of floating up.

When I came to the surface, I think I was facing away from the aircraft. The aircraft was behind me. When I turned, I was in line with the #2 nacelle. The engine had been ripped completely off, and there was just the aft fire wall. That was the only thing there. I don't even remember noticing the nose section of the airplane, whether it was there, whether it was gone or what shape it was in. All I can remember noticing was the fuselage on the starboard side, from about the wing back. It looked like it was all still there, and the aircraft was floating pretty nicely and there were several people on the wing.

I swam toward the nacelle. There was some kind of line, electrical line, hydraulic line, or fuel line, coming through the fire wall and hanging down in the water. I was going to hang on it for support, and at that time I looked out to my left, out in the water, and I could swear I saw CAPT ESTES there in the water, more or less parallel with me, swimming toward the leading edge of the wing. There was blood on his face; he was more or less like he was in shock and his eyes were staring. So I swam over to the nacelle and grabbed the line, and I held that line for a few seconds until I could rest for a minute.

Then I began to realize that there was something the matter with my right leg. I was swimming and everything, but it was restricting me, although it didn't seem hurt. There wasn't any excruciating pain. I rested there for a second then I swam out in front of the nacelle. I crawled up on the wing. The waves more or less just washed me up on the wing. I was going to try to get over and look inside the cabin and see what was in there, to see if there were any bodies in there. When I got washed up on top of the wing I realized I couldn't walk. I was pretty much unable to do much of anything other than swim.

I asked the people on the wing if they could check inside, and they said they'd already checked and there was no one else in there. On top of the wing I could see through the windows and out the cargo door, or out the windows on the other side. I could see rafts on the other side of the aircraft. I said, "Come on, let's get in the rafts. They've got the rafts inflated. Let's go ahead and get over there and get in the rafts and keep everybody together."

I slid off the back edge of the wing and swam to the tail. The tail was floating and the horizontal stabilizer was under the water. It was floating but kind of under the water. I swam over the stabilizers and around the tail. The closest raft to me was the big raft, so I made my way to it and I got in the big raft, and that's when I noticed what my leg looked like. I started seeing what injuries I had as well as other people.

Most everybody I saw looked like they were in real good shape. There were a lot of people helping others out, going back into the water, and helping people get up into the rafts, things of this nature.

In the big raft, when I got there, there were a couple of people with problems where they were just lying there. They didn't want to move around much. I didn't notice anybody with any real gross wounds or anything of that nature.

When I got in the raft, I asked somebody to make a head count. I was still a little bit unsure if we had 30 or 31 people onboard at that time. He got a head count, an accurate 28 head count, very early in the game after the crash.

The only one I was sure that didn't make it out of the two or three that had not made it out was Petty Officer CURTISS. I'm really not sure now why I felt that way, except that one of the other crewmen had yelled something to me when we were out swimming in the water. I had a distinct impression that CURTISS was one that was missing. I hadn't seen him just before the accident or just before impact, so I never knew for sure whether he went through the windshield or anything of that nature. I had this feeling of knowledge that he was one of the two or three that was missing. We tried to get the rafts together.

Actually, Admiral CRUDEN and some others were taking charge of equalizing the load in the rafts and getting the majority of the people in the large rafts, then trying to figure out who was there and who was missing. We never really substantiated that CURTISS and SMITH were the two people that did not make it out of the aircraft, at that time anyway.

I don't know when I noticed the B-52 first, whether I was still swimming in the water, or after I got in the raft. The B-52 was overhead almost immediately. I remember looking up and thinking it was strange, because he had his aft main gear down and the front main gear were not down. The B-52 was there right away, and I was certain it was to Guam's reward that they'd have the cutter out pretty soon, and we wouldn't be in the water very long. As it turned out, I guess we were probably in the rafts about an hour before the Coast Guard cutter got there. They did an excellent job of getting everybody out.

After I got in the raft, I noticed the airplane maybe once or twice, but I didn't really notice when it finally sank. I don't know if anyone tried to go back inside and look for bodies for sure but I do know the guys on the wings said they had checked and there was nobody left in the airplane. I don't know now who the people on the wings were.

We were in the water in the rafts for about an hour. The B-52 was overhead. We also had the Kadena 117, and after about 20 minutes the first of the two Hueys from Agana were there. They put swimmers in the water, as well as an SAR corpsman, and they also took a couple of the people out. The majority of the people stayed in the rafts and went back in the Coast Guard cutter. The cutter was there I'd say within an hour. Everybody who could crawled up the side of the cutter. They used a Stokes litter, with a good heavy line on it, to get myself and three others out of the big raft, and I don't know if they had to use the litter on the other rafts or not.

They got us all aboard. I was lying on the deck and it didn't seem to take long at all to get back into Proteus Point [Apra Harbor, just beyond Orote Point, nicknamed Proteus Point] where they took us to get the ambulances to the hospital.

Retold from the Start with Other Details

We did not have a specific crew briefing, other than Petty Officer CURTISSand myself discussing how I had filled out the weight and balance. I'd put certain amount of weight in certain sections, and I wanted to tell him what I had calculated, so if he had some way grossly different that he wanted to configure the airplane, then I would know that there was a difference. But there was no formal brief. CURTISS did not participate in the determinations of the weight and balance.

None of the crewman mentioned to me any difficulties in the morning run-up. I had asked CURTISS if he had a good run-up, and he had said everything checked out fine. In fact, when we had trouble starting #2 he said, "It started just fine for me, Captain," as if he was trying to kid the Captain. They had a cluster clamp they had to tighten down, but I don't recall which engine. That cluster clamp is a fairly routine thing that either needs tightening or needs replacing on the airplane. I wasn't too concerned when I had heard they had to tighten down a cluster clamp.

CURTISS supervised the loading. By the NATOPS Manual, on takeoff, CURTISS has a seat in the communicator's position. For takeoff, he is normally standing in the aisle way aft and between the two pilots so he can operate the gear and the gear safety latch lever. He is seated there so he can operate the landing gear and landing gear latch lever. As soon as the aircraft is safely airborne and the pilot wants him to, he also sets climb power, depending on the pilot.

My preference is as soon as we are airborne, the gear is up and we've reached climb speed, I let go of the power and I allow him to set climb power. He sets and maintains the engines, so he does need to be in that position. He's not seated for take-off or for landing. That's the way they do it in Cubi. There were no abnormalities with the oil temperature up to when we feathered #2. The oil temperature was within limits the entire time. It never went out of limits. That may have been an abnormality itself. Even up to the time we started losing governability I didn't notice any abnormalities with the oil temperature. We discussed and concurred with which engine to feather.

I notified, not Center initially, but Andersen Airways, that we were declaring an emergency, as soon as we did the checklist. The proper way to do the checklist is for the co-pilot to read out items to the pilot or the crew chief, depending on who was the appropriate guy to respond. CAPT ESTES was flying the airplane. He did not have the experience to make the responses, so I was calling out certain items, and I was responding to some items.

One thing I had thought about was the cowl flaps on the #2 engine. I'm certain if they weren't all the way closed, if we had just left them where they were for flight, that they wouldn't have created that much more drag. But I can't be certain that we closed the cowl flaps all the way. When I got to "COWL FLAPS" I think I answered "They are already closed." I don't know if CURTISS had reached up and closed them, or whether we left them right where they were for flight. That may have been something that could have increased our drag some minute amount. I don't know.

We turned left when we turned back towards Guam. I think we were about 130 miles out then. I don't recall the exact time, but it must have been about 1045; about an hour into the flight.

In cruise, our indicated airspeed was 145 knots. That pretty well corresponds with what I thought we'd get on our flight plan. After we feathered the engine, pointing back toward Guam, our airspeed then bled off from about 145 to 149 down to about 115 knots. After we feathered, I think our power setting was about 25 to 35 inches MAP. We had reduced power on #2, and increased power on #1, either in the turn or just out of the turn, and we left that power setting on until we were unable to maintain altitude at 5000 feet.

At 5000 feet, when we got down to 115 knots and it wasn't quite hacking it, we left the RPM at 2500 and went on up to about 40 inches. Then we may have maintained 115 knots a minute or two, but it couldn't have been for any substantial amount of time. Our other engine at this point, at 5000 feet and 100 miles out, seemed to be functioning normally. Pressures and temperatures were about as expected. By this time we had 25 and 45 on, I think. The cowl flaps were closed.

I'd noticed my cylinder head temperature had gotten up a little higher than what we normally see but it was well within the operating range. That was the only thing that increased, and that was up around 210 degrees. Right up to the time we feathered, and before going in, I don't recall anything abnormal happening to the other engine. I didn't declare the emergency with Andersen Airways until we had to feather the engine, as soon as we completed the memory section of the checklist. That's why I had CAPT ESTES continue to fly the aircraft because there are so many things to do. I feel that I probably didn't get them done adequately anyway, but if I flew the airplane in addition it would have made it more difficult to get the things done.

As soon as we finished the first six things on the checklist we declared an emergency and gave all the critical data to Andersen Airways. Then we went back and finished the second part of the checklist, which is not memory items, but challenge and reply. The cargo was jettisoned out the parachute door. At that point, the airspeed got down between 90 and 95 knots. There was a time before I felt the last severe shudder we were looking at an airspeed that was moving around on the lower side of 90 knots. That was probably the lowest that we ever saw.

We never attempted to restart #2. I told the Captain, after the RPM ran away, that I didn't think it would be a good idea to try to restart the engine. I felt it would run away from us if he did, but I wish I had tried to restart it.

To restart it below 3000 feet with all the drag out there, when we were already slow, probably would have been crazy. But, knowing what I knew just before we hit the water, I wish I'd tried to restart it. If it'd run away I'd feather it.

Ditching

The wind was pretty much on our tail coming back in, about 220 at 15 knots at altitude. On the deck it was probably pretty much the same. On take-off it was right down the runway, 240 at 15.

We landed 180 out from what would have been recommended for ditching. When we got down on the water, the swells were moving in the same direction as we were. We were following the swells. I can't say for sure at what point on the swell we touched down. Whether we hit one on the back side or on the top. Basically, our ditching heading was the one we were using to head for Guam. I don't know exactly what it was, basically 060. I controlled the aircraft at the ditching, but I can't say for sure that CAPT ESTES didn't assist me. I really can't imagine him just sitting over there, if he saw something that he didn't like, that he would not have an input on the yoke. There was no conflict in the control, whether he helped me or not, we were pretty much in agreement with each other.

On touch down, the flaps were up. The setting recommended for ditching is half flaps. I didn't use flaps because we were already so slow that I just felt like it would have stalled us out. We would just go flying into the water and probably break the back of the airplane. The main reason you want to use that configuration is because it gives you the best attitude. We thought we were so slow we would have probably landed like this rather than setting the area under the wings on the water.

I didn't notice anything untoward on the other engine until I feathered it. Incidentally, when I feathered it, I just feathered it.

I locked my inertia reel [shoulder harness], but I also was checking it, and it wasn't locking. Even though I put the thing in the lock position it did not lock. We had a gripe on the inertia reel. I didn't fly with my shoulder straps on that much. I rarely do fly with them on. This is something I guess I've picked up from the guys at Cubi, because in Cubi they routinely don't use their inertia reel straps. When CDR ROBERTS, the Operations Officer, arrived and he was in his first flights, he put his straps on, and he noticed the inertia reel would not lock. He wrote a gripe up on it, it was replaced – at least there were new straps in there – but it still did not lock. It did not appear to be locked when I put my straps on. The Captain and I both took off without our straps on.

When we turned back, I can't remember exactly when it was, whether it was before or after we shut down the engine, we both put our shoulder straps on, and I remember locking mine and checking it. It didn't hold. **I felt the first time we hit I'd been thrown against the yoke forcing the nose for the second time we'd hit.** That was one thing I did check and it wasn't working properly.

I have a feeling that the first time we hit the water it was such that it slammed the nose down on the second touch down, and that was what probably caused the failure in the fuselage in back slightly aft of the cabin. I'd found out from other people that the front of the aircraft was either ripped off, or it failed so that it just hung down on the aircraft [by the control cables].

Curtiss

I don't know what the flight engineer's position was on landing, before we hit the water. He was not between our seats. I'd looked back and the door was closed [the jump door from which the items were jettisoned]. I think he must have either been back aft by the door coming forward or he was up forward but around the corner, possibly where I couldn't see him. But I know he wasn't right there where he could be seen. He could have been in his ditching station, but I don't think he was. I think he was still back in the passenger compartment.

I was not wearing a life preserver. Neither the Captain nor I asked for one, and the thought never entered my head. It was just a breakdown in my procedures. It was one thing I would have gotten immediately when we had the rest of the passengers don their LPP-1s.

I'm not sure how I got out of the airplane. I know I turned left out of the seat, but whether I went up or down, or to which side I went after that, I really don't have any perspective.

Petty officer CURTISS was a top notch aircrewman. He was an aircrewman with the helicopters. He had had some previous experience in C-117s when he was assigned to NAS Bermuda. He had somewhere in the vicinity of 1000 hours riding around in them as a plane captain, not as a crew chief. A plane captain is basically a guy who rides in the back with the passengers, and does your plane captain functions, maintenance wise.

He didn't seem particularly upset about this flight that I know of. He was a very confident, self-assured person. He had ordered coffee and doughnuts. He had done a lot of things that the Captain asked. He had done a lot the night before. He had the VIP covers on the seats for several days and the inside of the plane was very, very clean. It was old and not a very good looking aircraft, but he had it clean on the inside. He had all of the servicing done way ahead of time. In fact, he did it after we got back Sunday evening. He did almost everything then, then he double checked it again the next morning when he came in, before he did the engine run-up.

I'd told him I'd wanted to top off the tanks after the run-up, and he said, "Sir, are you sure you want to do that?" Because of the added load and because we didn't need the gas I said, "No, let's not do that."

There's really not enough superlatives. He's very outstanding. The only problem was, like the rest of us, his experience level with the plane. There was no alarm bell system in the aircraft.

* * *

10. Mechanic David F. Rathbun

From emails and phone conversations in November 2013.

The Kadena aircraft was scheduled to go on the flight. Estes wanted that flight so bad. We were supposed to be support, but he read the message that we were taking it, and so come hell or high water, we were going. The other plane volunteered to take the cargo, but Estes said no, we were taking it.

Bob Bell was a really good pilot. I think he didn't want to go. He was a JO, junior officer, and he had to do whatever the captain wanted him to do, and he was told to gear up for it.

We installed the VIP pallet, which was four seats conference style, and two behind it, on a pallet that we mounted to the floor. They were airline type of seats, more spacious. It wasn't anything we made, it all comes mounted. You had to open the main [aft] cargo door to get those in.

I worked on the fixed-wing planes. It was myself, Bill Wood, Scott McNabb, and Viviano Diaz. Ron was the crew chief. I was getting OJT [on the job training] by Ron.

The amount of fuel is correct, 860 gallons – that was the planned fuel for the trip. 860 gallons was more than sufficient to perform the mission. We never topped off the C-117, because it was always in the hanger, unlike the S-2 which always was parked on the apron, so we kept it topped off so the moisture would not accumulate in the tanks due to the temperature changes and rain squalls.

I read in Mr. Joseph's statement about my reading the emergency ditching brief! I wrote that the night before and it came right out of the C-117 NATOPS manual, and the word 'if' wasn't in the NATOPS; the word "when" was. I had to go to different sections of the manual. The investigator said that briefing was one of the things that probably saved a lot of people.

Ron is the one who checked the oil that morning. The first oil leak looked like it was coming out of the oil filler cap, but the panel covering this was closed; the airplane was buttoned up.

When they made the decision to shut the engine down, they called all of us crew up to the cockpit, and they asked "What are your suggestions?" I said "Put the right engine to 20" manifold pressure," but Estes said "What happens if it doesn't feather?" I said "There are 2.5 gallons in a standpipe for feather." But he said "No, we'll feather it, we'll go back to Guam, and then you can fix it and we'll press on with the mission." The prop definitely stopped, it was feathered.

Jettisoning Cargo

The aisle seat nearest the cargo door was occupied by the chief musician. There were no gunners' belts on board the aircraft, so prior to throwing the cargo out I made a makeshift safety strap out of a cargo strap. I handed one end to the chief musician, and said 'Wrap this around the arm of the seat and don't let me fall out.' He was still holding the strap after we hit the water.

I put on my SV2 vest, just prior to tossing out the cargo in case I did fall out of the plane. I wanted to at least have somewhat of a chance of survival, however, being strapped in I more than likely would have been crushed by the plane anyway [e.g. if dangling from the rope outside].

I threw everything out. The first thing to go was my 70 lb. toolbox. It was either it or me. It was all Navy stuff, but it was a toolbox that another guy and I put together to work on the plane. We only jettisoned once. I wanted to start throwing stuff out at 6,000 feet, but they told me no. Betancourt asked me to not chuck out the admiral's briefcase, but I told him no. My stuff went, too, my swim gear, my camera; I didn't try to save my stuff. I never went up to the cockpit, other than the oil discussion.

The passengers were very helpful. In getting me the cargo to throw out, they passed me everything and got back in their seats and strapped back in. The instruments were the first things to go. I still remember the bass drum kind of getting stuck in the door as the wind grabbed it, until I gave it the boot. I think maybe that is what Bob [Bell] talked about when he said that he thought something hit the tail. It may have been the bass drum.

I was told to get the door back shut, so I did. I only had about 20 seconds between when I closed the door and sat down and when we hit. The strap was still attached to Berger's chair, and I must have undone the loop around me. I did not have time to put a seat belt on. I had the cargo netting behind me, and so I grabbed on to that and held on with all my might. After the tail hit, we got airborne again, and it nosed in. The second impact is when we came to a stop.

Raft Deployment

When we hit the water, I was on the left side on the last troop seat nearest the door – that was my takeoff position and my crew seat. The 20-man raft was strapped to the right-side of the aft bulkhead, and was torn off by the second impact. It flew across the plane [left – so the airplane yawed right] and hit the aft cargo door and knocked it open, and the raft fell out, and it floated there un-inflated. I saw a little bit of the 20-man outside, it was back by the elevator. The aft cargo door was then wide open, and the forward one, with the jump door in it, was still closed, as far as I remember.

The 20-man raft [un-inflated] ended up on the right side. That's where the admiral and all got in. Everyone on the right went into the big 20-man. I was never on the right side.

I could swear it was a 12-man raft, I threw out. I grabbed the inflation rope – one has to pull about 8 or 10 feet of it. When that bottle fires off it goes pretty quick, about 4 to 10 seconds to fully inflate. I was in the water and let go of the rope to the raft, and then saw it drifting a bit, so jumped in the water and swam and pushed it back toward the plane.

There was a [fourth] raft – the Kadena C-117 dropped a raft. The raft was inflated when it hit the water. I swam over to it, and I was pushing it, too, back toward the other raft, but the helo, the second one, hovered over us and they blew it closer to the plane. It went flying out of my hands. Then the helo picked me up. I think some of the people were able to get in that raft.

I never got in a raft. I wore an SV2 – a Survival Vest, Modification 2. It had rations, a First Aid kit, it weighed about 20 lbs. Our parariggers screwed up the bottle, and so it had only one bladder inflated, that made it harder to swim. This was different than what the passengers had.

No one panicked, screamed in terror or anything else. After we ditched everyone was orderly and followed directions.

I believe that Ron went to his ditching station, which was the radio operator position behind the pilots.

Broadbent was forward by Green. The statement I made about seeing Ron was incorrect; I corrected that as it was Broadbent that was on the floor. He got his bell rung by not being strapped in. Broadbent was not a crewman on any of the command aircraft. He was the Maintenance Master Chief's personal assistant, and we were told that he was going on the flight and we were to begin training him to be a homegrown crewman. Broadbent should never have been wearing a flight suit; he should have been in the working uniform as he was just a mechanic. He had no swim qualifications, no flight physiology, no medical clearance, was not a Naval Air Crewman, and he admitted that he didn't know how to swim. He didn't know anything as far as a mechanic.

I helped Broadbent into the SV2 he checked out from the paraloft that morning, as he didn't know how to put it on, let alone how to inflate it. He jumped from the plane into the raft and punched a hole in the raft, and used his thumb to plug the hole.

Estes - his nose was broken and bleeding pretty good. I used my socks to try and stop the bleeding. I was in the water and got down low to help his feet get into the raft. This was on the left side of the plane – I was never on the right side.

Back at NAS Agana

My wife Karen was on duty at ComNavMar when we ditched – she was on duty in the 'hole' relieving the Chief Petty Officer for lunch. NAS operations called ComNavMar to let them know the Admiral was coming back as we had an emergency, and the Chief of Staff called and asked her to find out what the estimated time of arrival was. She called NAS operations and some Airman said "Oh they ditched." Karen asked "You mean ditched as in crashed in the water?" and he said "Yes."

Karen called the Chief of Staff, and he came running down to the 'hole' and took over from there. The Chief Petty Officer returned from lunch, and said something to the effect 'You know Robin Tedder is on that plane!' Karen said 'So is my husband.' In true Navy fashion, the Chief said 'You get out of here, I don't want some female crying around me.' Karen is pretty laid back, but she told me later that she wanted to slug him. I had been through in-flight emergencies before, and she knew I knew what I was doing, so she wasn't panicking.

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11. Under Secretary of the Interior James A. Joseph

From "Celebration and Crisis in Micronesia," August 1978, beginning on page178.

Governor and Mrs. Bordallo of Guam have always been superb hosts. This visit was no exception. We had a delightful dinner in the drawing room Sunday night, toured the house and returned to our rooms.

Mrs. Bordallo invited us to leave most of our luggage at Government House, since we were coming back by way of Guam and intended to be in Yap and Palau for only a couple of days. I packed with this in mind, putting the things I needed in my tennis bag and attaché case, but I decided the next morning to take everything with me.

Monday August 14, 1978

After breakfast, we headed out to the airport for the next leg of our trip. Admiral Cruden was waiting with another Admiral, a new crew and a small Navy band. I was surprised and disappointed to find out that the old crew would no longer be with us. We had come to regard them as regular members of our official group, and they had been visibly delighted to be a part of our mission.

Watching the crew load the musical instruments and our luggage, I thought again about leaving my large bag but dismissed the thought quickly and proceeded to my seat. Upon boarding the plane, I realized for the first time that we not only had a new crew, but a different aircraft as well. It appeared to be the same size and design, but there were more seats and a different internal arrangement. Adrian Winkel, the High Commissioner of the Trust Territory, had joined us in Guam, so he sat with us in the VIP seats especially arranged for us. Admiral Cruden sat behind us with the new Admiral. I sat as usual in the aisle seat facing forward. Wallace was in front of me with his back to the cockpit. Ruth was on my right next to the window, with Adrian facing her. Members of the band were sitting combat-style on a long bench running from the rear exit to the cockpit entrance.

Ulithi, our destination in the Yap District, was two and a half hours away. The purpose of our trip was very much the same as earlier visits to Ponape and Truk, but for the first time we were accompanied by a Navy band. They had been especially invited by local officials in Ulithi to join in ceremonies where we were to officially dedicate a dispensary and participate in a ground breaking ceremony for a new dock [in Yap].

Ruth had spoken highly of Ulithi, as she had about each of the islands, but she had ignited a special spark of anticipation in describing the cultural traditions of the people of Yap. I was also looking forward to the Palau visit. I had testified before a Congressional Committee on the proposal for a super port in Palau and was eager to see the beaches environmentalists were determined to protect. In addition, I had been repressing the temptation to buy a few pieces of art for my office, waiting instead for Palau where I had been told that the colorful story boards I saw in Kwajalein could be obtained for much less money.

There were moments on this flight which now stand out as though they were intended to warn us of our peculiar destiny. The first of these was the safety demonstration. I have flown all around the world in every conceivable type of aircraft, even landing uphill on a grassy strip in Kenya, but at no time did the survival demonstration catch my attention as intensely as it did on this flight. The Navy crewman [Rathbun] going through the life jacket demonstration did not use the standard word, "if" when describing steps to be taken. He continued to say, "when." On commercial planes, the stewardess has a calmness of demeanor and appearance which suggests that while nothing could possible go wrong, she has to give this demonstration anyway. Our Navy crewman, on the other hand, went through our instructions with such a nervous intensity that I found myself listening with unaccustomed seriousness. For some reason, I wanted to be sure I knew where the inflation tab on my life vest was located, where they kept the life rafts and which exit was closest.

About fifteen to twenty minutes after takeoff, another incident occurred which seemed in retrospect to be a warning of impending danger. A member of the crew was seen looking anxiously out of a window on the right. As I leaned in front of Ruth to get a better view of what was attracting his attention, I saw oil leaking out of the engine. A large part of the wing was covered. I asked whether we were turning around, and was told that the engine had been overfilled and was simply returning to its normal level. Finding this strange, I thought for a minute about making more of the incident, but decided that the Navy would certainly not take any unnecessary risk with 30 passengers on board.

Occasionally during this trip, I read from my briefing book while flying between islands. I found it helpful in keeping my experiences in proper perspective – trying to remember the unique political and economic situation on each island. On this occasion, I also reviewed Ruth's draft of the Memorandum of Understanding we had promised the Bikinians. I wanted to discuss it and other issues with Adrian, but the time never seemed to be right. There was a special mood in the air, and for some reason I was anxious to move through as many diversions as possible.

Right Engine Stops, Turn Around

Sometime later, maybe a half hour, maybe forty-five minutes, there was an unusual sound from the right engine. To our astonishment, the engine slowly stopped. The whole flight began to take on a measure of unreality. Could it be that the Navy had made the ultimate mistake?

As all sorts of thoughts began to rush through my mind, I wondered how far we were from Ulithi. Once again, I asked whether we were turning around. Admiral Cruden replied that we were in fact returning to Guam. Suddenly, the supreme test of the seriousness of our predicament came to focus in my mind on whether the plane could be turned around on one engine. As it appeared that we were continuing straight ahead, I asked Ruth and Adrian whether we had indeed reversed our course. Ruth said something about watching the horizon to see if the sun was in the right place. Since I had no idea which direction we were headed, I had no sense of where the sun should be but I kept my thoughts to myself. I was soon told that a complete reversal of course had been completed and we were headed in the direction of Guam.

[Note that Joseph recalls seeing the engine stop before Ruth saw the sun change positions].

Descending, Luggage Jettisoned, Ditching

I looked for my briefing book I needed a diversion again. The fact that I had read everything about Ulithi and Palau several times didn't diminish the desire to go through the material again. I was still concerned about our progress, so I asked how far we were from Guam. Adrian's reply was not especially comforting, as he said, "Too far."

Admiral Cruden tried to reassure us that everything was all right by telling us that the plane had the capability of flying back to Guam on one engine. A member of the crew gave us the expected arrival time in Guam, but we decided that he was confused, since his estimate of how long it would take and what time we would land didn't add up correctly.

For the first time, I felt a little anger. Why had the Navy put us in this predicament? Why didn't we turn around when we saw the oil flow onto the wing? Why hadn't I spoken out and ordered them to turn around? As quickly as the flash of anger emerged, it subsided. I even felt a twinge of guilt for having allowed such a thought to surface to consciousness.

Ruth, almost as though she recognized my struggle to think of something more pleasant, suggested that we try to read something. She was still working on a novel which had been her companion on other parts of the trip. As I prepared to go back to my attaché case to find something to read besides my briefing book, the Admiral informed us that some of the luggage would have to be thrown out. It had by this time become obvious that we were losing altitude, or deliberately flying closer to the water. I no longer felt fright. Somehow, I had passed that stage earlier. My emotions were all positive. No fear. No anger. I had offered a silent prayer and I felt an inner calm.

Having put on my life vest and assured myself that I knew the location of the flap I needed to pull to inflate it, I focused on the entry door which I knew I must be prepared to reach quickly if we crashed. We had determined in an earlier conversation that Adrian and I were the only two who could not swim, but even this was behind me as I completely blocked out any negative thoughts.

The back door was opened, and members of the crew began to throw out musical instruments and some pieces of luggage. I looked around for the envelope I had been instructed to use for my glasses, but finding nothing I put them in my shirt pocket. Throughout all of this there was complete quiet, a silent discipline which reminded me of mock combat drills at Ft. Devens in Massachusetts, where as a young company commander I had learned to repress my own emotions in order to set an example for the men under my command.

My mind was suddenly fixed on the terror in the eyes of the crewman who had instructed us to put on our life jackets. I did not feel his fear, but I was touched by the tears visible in his eyes. Very soon the instructions went out to close the back door.

Impact, Exit, and Rescue

Shortly thereafter the plane touched down on the Pacific waters. I felt relief. It had been much smoother than I had imagined. I even felt gratitude to the pilot. But as I started to unbuckle my seatbelt, there was a second impact. This one was incredible. The sound was deafening. The plane was breaking apart. The ceiling directly in front of me had caved in. Luggage or bodies (maybe even both – I could not be sure) were everywhere. I was obsessed with one thought get to the door quickly.

Once at the door, I stood for a moment to contemplate my predicament. I could see nothing but water. In fact, I was standing at ocean level. To my left I could see a member of the crew inflating a raft. He appeared to be the only person ahead of me. I reminded myself to pull the string on my life jacket, but I had already decided that I could reach the raft even if my vest did not inflate. I pulled the string, the jacket inflated, and I jumped into the water. The other person in the raft helped me aboard. Then we helped other people. They kept coming. I wasn't aware how many were alive, but I thought that our raft was the only one afloat. I looked around for Wallace, Ruth, and Adrian.

Our raft was soon full, and then overcrowded. We were piled on top of each other and there were still others clinging to the sides. I helped to pull Adrian into the raft. He was struggling to get over the side, muttering quietly that he could not swim. I grabbed a leg, two other persons also pulled. He made it into the raft, but I still saw no sign of Ruth and Wallace. I could see other people in the water, so I knew there was hope.

Off in the distance I saw a bag that looked like mine. I wondered how long it would remain afloat. After about ten minutes on the raft, right before our eyes, the plane sank. As it disappeared from view, I saw two welcome sights, a second raft off in the distance, and Wallace in the water swimming toward a third. It looked like all thirty passengers had survived.

A plane was circling overhead. We had been spotted. It was time to rearrange the raft. Two persons were lying across my legs. One of them was in a state of shock. He kept saying that he couldn't breathe. Several of the people clinging on the sides were bleeding badly. I looked around, and realized for the first time that others in the raft were also bleeding. One of the young men who had been helping to pull others aboard actually had a deep cut across his hand. He had never complained but he was obviously in pain. I offered to tear off a piece of my tee-shirt, but he had a blood-stained handkerchief, and he only wanted help in tightening it.

To my continuing astonishment, I suddenly realized that I had a long cut on my right forearm and a shorter cut on my left hand. In talking to one of the members of the crew in the water clinging to the side of the raft, he pointed out that I had a cut on my head which was also bleeding. Each of the cuts proved to be superficial and soon stopped bleeding. But in rearranging people in the raft to make it a little more comfortable, someone punctured it [or Broadbent did when he first jumped in]. So here we were, in an overcrowded raft in one of the deeper sections of the Pacific, crowded on top of each other, people clinging to the edges, a broiling hot sun, and a puncture in the inner wall. With a member of the crew holding his hand over the hole, we seemed to be in reasonably good shape.

One of our raft mates had a radio [Rathbun had a PRC-90] which he could not get to operate, but he kept trying anyway. We all sat anxiously hoping that he could get through. We also wondered aloud why it was taking so long for rescue vessels to arrive. After all, we had been told that we were near Guam just before we touched down.

Finally, a helicopter [#248] arrived. A couple of men medics jumped out and began to seek out the more seriously injured. They operated with a precision and competence which I found fascinating. As a young lieutenant in the Army Medical Service Corps, I had once taught medical evacuation classes to ROTC cadets. But here I was sitting on a raft watching real craftsmen at work. They took those with the worst injuries and sent them up to the helicopter, going up with them as they were lifted by a cable [only for #248, not over in #240].

When the badly injured had been taken away, the divers said there was room for me. But I chose to wait for the boat. The helicopter [or Kadena C-117D] had dropped a relief raft which was now tied to ours. And besides, the man with his thumb on the puncture seemed to be doing a good job and I could see a boat on the distant horizon.

The boat [POINT HARRIS] soon arrived, but it continued to another raft. Finally, a second boat [TWR-8, page 54] also appeared on the scene. It did not have a ladder so they threw out a rope which I placed under my arms while three men on the deck pulled me up. Two hours after the crash, I was finally out of the water. But as I banged against the side of the boat, I even longed for the Jacob's ladder which I had come to dislike.

Once on board, I went below and lay across a bunk and collapsed. Sometime later, I was awakened by someone wanting to know my name. I asked about survivors, but he had no information. He would check and let me know. I went above to find that we were arriving in Guam. The other boat was already there and ambulances were parked on the dock.

I made my way over to Governor and Mrs. Bordallo and inquired about Wallace and Ruth. They told me that they were checking. I was taken to the Governor's limousine where I waited for him to find out about survivors. He and Mrs. Bordallo soon arrived and informed me that Ruth and Wallace were safe, but two other persons were still missing.

I felt both relief and dismay, wondering if my family had heard about the crash, and how soon I would be able to call home. My wife Doris was called, by relatives, who upon hearing the news that a plane carrying a senior Carter official from the Interior Department was missing contacted her immediately. But just as she hung up and turned on the television for breaking news, she received another call. It was from Cecil Andrus, the Secretary of the Interior, who had been monitoring the news from the Situation Room. He informed her that I was safe and would be able to travel in a few days.

Throughout my visits to small Micronesian islands, I was told that no one at my level in the Federal Government had ever visited many of the outer islands. Somewhere on my way to the hospital, I realized why. But I am pleased I did. I have a better perspective on the Government's responsibilities and a much better feel for the needs, aspirations and political future of the people of Micronesia.

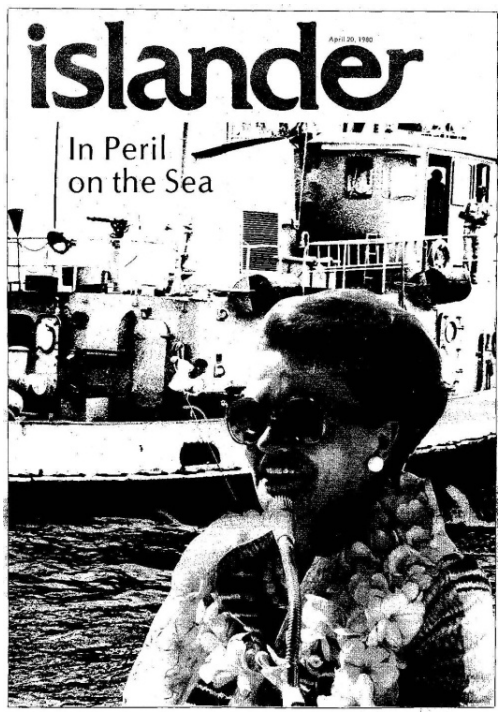
* * *

In Peril on the Sea

By Ruth G. Van Cleve

Islander magazine, April 20, 1980
Shared by Rear Adm. Joe Betancourt
Retyped by Seth Washburne

Eternal Father, strong to save,
Whose arm doth bind the restless wave,
Who bidd'st the mighty ocean deep
Its own appointed limits keep;
O Hear us when we cry to Thee,
For those in peril on the sea.
- First verse of the Navy Hymn



12. Director of the Office of Territorial Affairs Ruth Van Cleve

How would I act in a crisis? If I were in genuine peril, what thoughts would cross my mind?

I know. I know because it happened. Although I would not presume to extrapolate from that knowledge – not for myself in another crisis, and certainly not for any other human being in any kind of perilous situation – I have made what seem to me to be such surprising discoveries about how my own mind can operate, that I feel a genuine compulsion to write about the experience. My reactions were sometimes troubling; occasionally funny; but almost always startlingly unexpected.

When I was briefly in genuine and pressing peril, my mind operated with astonishing and uncharacteristic speed and clarity, directing me to take a series of steps that seem to me now to be about the best course I could have followed. Immediately thereafter, when the peril lessened materially but still continued, my mind continued to race, but my attention span was so short that I could not follow any thought, not even the simplest, to any kind of logical conclusion; and try as I might, I could not raise my level of thinking above the most mundane. It seemed to me at the time that if I had just flirted with death, as I believed to be the case, then I ought to be capable of at least one elevated thought. I was not.

In early August 1978, the Under Secretary of the Department of the Interior, James A. Joseph; his aide, the Deputy Under Secretary, Wallace Green, and I, then director of the Interior Department's Office of Territorial Affairs, left Washington for a carefully planned visit to most of the districts in the Trust Territory of the Pacific Islands.

I had successfully persuaded Joseph to make the trip. It was not difficult – but it later caused me to feel a special responsibility, in light of our collective misadventure.

We completed business in the Marshalls and moved west to Ponape, Truk and Guam in a twin engine, propeller airplane (known as a C-117, formerly a DC-3) provided by Rear Adm. David Cruden, then Commander of the Naval Forces in the Marianas, who traveled with us. He

so insisted on safety precautions (such as leaving our luggage in Kwajalein when we flew to Eneu, to avoid needless overweight), that one's sense of personal safety could not have been greater. With Dave Cruden were his aide (Lt. Joe Betancourt), his Trust Territory Liaison Officer (Lt. Cmdr. Pat Roth), and a young enlisted man who served as official photographer (PH2 Robin Tedder). I particularly liked Mr. Tedder, because he reminded me of my oldest son, who is about the same age. We all became acquainted quickly and, for my part, I liked everyone in the party enormously.

Jim, Wallace, and I, Dave and his three Navy colleagues – plus an able Navy crew – reached Guam about 6 p.m. on Sunday, August 13. The Interior trio was whisked off to Government House, where we were housed for the night as guests of former Gov and Mrs. Ricky Bordallo.

As earlier agreed, Jim, Wallace, and I arrive at the Naval Air Station in Guam at about 9:10 a.m. on Monday, August 14, for our 9:15 a.m. departure. Trust Territory High Commissioner Adrian Winkel is there. We are also joined by Rear Adm. Neal Clements, Capt. Ralph Smith, the Officer in Charge of Construction in Guam, and several other Naval officers who are along with Adm. Clements and Capt. Smith, engaged in constructing for us ("us" being the department of the Interior and the Government of the Trust Territory) many major capital improvements in the Trust Territory.

We are bound that day for Ulithi, an outer island of the Yap district, where a new dispensary is to be dedicated; later for Yap itself, where there will be a groundbreaking ceremony in connection with a new dock. The Interior trio plans to fly to Palau the next day (Tuesday, August 15), back to Guam on Wednesday, and then to Washington.

I am particularly keen about the Ulithi visit (I was there in 1964), and have represented it to Jim with special enthusiasm as the most exotic place I've ever visited, and closer than any other I know firsthand to some earlier age of mankind.

Because the Ulithians are reported to be especially delighted by the Navy Band, and because the dedication is of real moment to both the U.S. and Ulithi, 13 Navy bandsmen from Guam are also on the flight. The event will be both exotic and gala.

I am dressed to the nines. There will be lots of speeches, along with lots of ceremonies. (How many speeches have Jim and I each made in recent days? Thirty apiece? At least.) I am wearing a red and white dress that my fashion-conscious 19-year-old daughter thought I must own; hose and heeled pumps; second-rate jewelry, but a good watch; and all of those unseen layers of constricting garments that un-trim, middle-aged women wear (even in the heat, if they're vain enough) to make themselves seem more compact. I think my hair (of which I have a lot, and it's rather formally fixed, as usual) looks rather good. It was recently done by a skillful hair dresser on Kwajalein.

We board the plane promptly. It is not our plane of recent days, but is almost its twin, the principal difference apparently being that along the left side, running from almost the main entrance (rear left) to the cockpit (behind a closed door) is one very long bench on which the bandsmen sit. I note with approval that they all have seat belts.

A crewman provides the standard life jacket demonstration (I note that he has a worried look, and decide that he is the sort who, with his face in repose, appears worried). Because the life jackets are not quite like those on commercial airplanes, we all watch carefully. Boy Scout-type belt. Hooks easily. Arrange so that plastic envelope that is part of belt is in front center. Inside envelope is an orange life jacket, requiring only to be unfolded and put over head. Pulling the large blue plastic tab near waist releases yellow marking dye. Pulling the red tab near waist ("Don't pull until out of the aircraft") inflates the life vest. Inflation also possible by blowing, after unscrewing small metal device at end of black hose. Light is at upper-right, in case of need after darkness.

The demonstration is over. Adrian observes, with a smile, that the difference between commercial and military life vest demonstrations is that the military "sound as though they really mean it." We all smile. I observe that no reference has been made to shark repellent. (I remember that in years past, a container of shark repellent came with military life jackets.) Someone says, "We discovered it turned out to be a shark attractor instead of a repellent." Someone else calls it a placebo. Either way, a conversation-stopper, I decide.

There seems before take-off to be lots of activity around the right engine – maintenance people fussing rather extensively. I note this, but ascribe no significance to it. But I also note that, for the first time in my experience with military planes, we do not leave as scheduled. My watch approaches 9:45 when we take flight.

I take out my slim copy of Jane Austen's "Persuasion." I admire and enjoy Jane Austen anywhere, but particularly in the Pacific, where in earlier years I've read all of her novels, and "Persuasion" (the best?) at least twice. Again I wonder why I'm so anxious to get to her. I really do know the ultimate fate of Anne Elliot and Capt. Wentworth. Perhaps it is because I can look out of the window, gaze at the Pacific, and come back to any part of the page and be pleased with what I read. The punctuation is a bit odd, but such splendid language. Why don't people speak that way today?

The worried-looking crewman stands in the aisle by our four seats and looks especially worried. We follow his line of vision and see oil gushing from an opening behind the right airplane engine. We are, I estimate, about 20 minutes out of Guam. (I decide that I should get more deeply into Jane Austen. I cannot contribute usefully in any way to that oil situation.) In a few minutes, we are told that that is merely excess oil, safely lost; too much had been put in earlier; it's stopped now anyway; no reason to turn back; onward to Ulithi, about 2 hours away.

A bit before 11 a.m. I turn again from my book to the ocean (possibly caused by a change in the engine sound?) and watch, transfixed, while the right engine propeller slows and slows and then wholly stops. I call Jim's attention to the fact that we are moving on one engine. Jim wonders if we will turn around. I speculate aloud that we may be closer to Ulithi than to Guam. (We weren't, I later learned). Dave Cruden comes by and reports that we will turn around and return to Guam. We all find this comforting, but we seem not to turn. I argue that it's hard to tell when one is riding in such a plane. I will, I say, watch the horizon and report when the sun seems to be in the right place. Soon it is. We are going northeast. Guam is ahead. We relax a

little. Jim asks Adrian, “How far is Guam?” Adrian replies, with untypical sobriety, “Too far.” [Similar to Joseph, Van Cleve notice the engine shut down before the turnaround.]

It is 11:10 by my watch. The worried flight attendant tells us (no P.A. system) that we are 40 minutes from Guam and will land at 12:10. He moves on. We agree that he must have meant 10 minutes to 12, not 10 after. That’s a help.

I keep reading, but with little comprehension and no appreciation.

At about 11:30, the flight attendant emerges in haste from the cockpit and shouts, “No smoking! Fasten seat belts! Put on life vests!” We do all of these things. We are otherwise silent. We seem to be flying much lower.

I feel considerable fright now, but I decide that terror compounded is a destructive emotion. I will stick with Jane Austen for at least a little longer. Dave Cruden, moving in the aisle, says to us gently that some of the luggage may have to be thrown out. No one comments. We are all rather without speech. But I do hope that it’s not mine. I do like that suitcase, and I especially like a lot of the things in it. I won’t look. If I see my suitcase going out I might cry. Can’t do that.

The rear exit door is opened. Things are thrown out. (The sousaphone is said to have gone first. I don’t know what followed.) I finish (non comprehendingly) a chapter, and decide it’s time to abandon that affection. My watch says 11:42. The ocean certainly is rising fast to meet us. I feel more frightened, yet rational. I make sure my attaché case is fully closed. No classified papers there, but some delicate ones. Eyeglasses. Jim asks what we were told to do with them. I say something about an envelope behind our seats, but I don’t plan to. How will that help? I decide to put “Persuasion” and my glasses into my purse. No case, but between wallet and book, the spectacles will have some protection. All purse zippers are zipped. I think I cannot be readier for whatever will happen next.

Within a minute or two, a part of the plane touches the water. It does so so gently that I think we will all walk off as though we are on a landing strip. (That touchdown, I later learned, was the tail. That’s the right part to touch the water first in this, a “controlled ditch.”) Within three, maybe five seconds, comes another impact, vastly more ferocious than the most terrible sound I could ever imagine. The front of the plane has, clearly, struck the water – and in turn been struck violently by it. I feel thrown upward and downward and forward all more or less simultaneously. The awful crashing sounds persist. Everything is happening so fast and with such ferocity. The cabin ceiling above me crashes downward, but I note with satisfaction that it stops short of my head. Not only am I untouched by debris, but it appears that nothing will interfere seriously with my leaving my seat.

From that moment until, I estimate, roughly 15 to 20 seconds later, when I emerged from the airplane, I had a thousand thoughts. None was of fear. Each was a momentary flash only. Each shouted at me what I must do. I followed, my own directions without hesitation or dissent. My principal flashes chronologically:

Jim is already unfastening his seat belt. I must remember to do that.

The angle of the fallen ceiling is different on Adrian's side. He has been struck in the head. He may be dead. Perhaps he is only unconscious. I must help Adrian.

My seat belt unfastens nicely.

I must kick off my shoes. With heels, they are lethal instruments.

Adrian's hands and feet are flailing. He's not only alive, but conscious. How glad I am. But of all the people on this plane, am I not the least competent to help him? Yes. (Am I being selfish?) Many are trained as to what to do. I am not.

My duty, my sole duty at this moment, is to get myself out of this airplane as quickly as possible, causing as little difficulty for others as possible. Move fast.

I think I am just behind Jim. (Not quite, I learn much later. He has moved faster.) I bump into someone in the aisle. He seems to stand aside for me. I think it might be Wallace. He would do that.)

I am walking to the rear of the plane and I still have one shoe on. It took me weeks of research last spring to find those shoes (Old-fashioned brown and white spectator pumps). Will one do me any good? How silly. Kick it off immediately.

I am carrying my purse. Didn't realize until now that I'd picked it up. Instinct. One handle is already partly torn off. Shall I abandon it now? Why not hang on longer. Can't lose.

A miracle. To my immediate left appears an already opened emergency exit. I think it is full length; on to the right wing. No crowd. Just one man (Jim, I think) climbing out. (It wasn't Jim, I later learned.) He is moving slowly.

Someone, passing swiftly, flips open another emergency exit immediately to the right of the one with the slow mover in it. It's hinged at the top; I note it opens in[out]; perhaps 2 feet square; I can fit; only a window (can I climb that high?) but it's all mine; no one else ahead of me.

Window opens easily. But below there is no wing. Only ocean. Oh well. I'm not afraid of water.

No trouble climbing up to my own personal emergency exit. Really nice and low. My hair? My watch? Oh well. I'll be getting pretty wet sooner or later today anyway.

Jump or dive? Dive. I'll get further off that way. Isn't one supposed to get as far away as possible in these circumstances, lest the sinking object draws one down? Might the plane explode? Doesn't matter. Either way, dive. I dive, head first. (Later I am told by an astonished observer that it was a pretty good dive.)

The water feels grand. At first I don't reflect upon its temperature, proving that it was neither cold nor too warm – just comfortable. The buoyancy provided by the salt makes it easy to stay afloat. What a surprise. I remind myself that I've never before been swimming in the middle of an ocean. Edges of oceans, yes; middles of lakes, yes. Oceans are different.

I am treading water, staying afloat with ease, and assessing what I can of the situation. My principal emotion now is surprise. It seems such a strange place to be, odd to be fully clothed, but in no way terrifying. Dave is standing on the wing and asking me if I'm all right. I tell him "Just fine. Don't worry about me." Perhaps a dozen are swimming on this side of the plane. No sign of a life raft. No sign of a boat. A few, including Wallace, are standing on the right wing. Wallace is at the emergency exit. I decide that he's awaiting Jim's emergence. (In fact, I later learned that he knew Jim was out, but was himself attempting to help others crawl out.) Where is Jim?

Where is Adrian? Where is that red plastic tab I'm supposed to pull to inflate this life vest?

It's not hard to tread water under these circumstances but I decide it certainly is inefficient. We are swimming in yellow marking dye, and the only tab I can find to pull will simply pour out more marking dye. We don't need it. We all look quite yellow already. I'll save my yellow dye so that the Navy will have it for the next time.

I feel quite relaxed; quite safe now; wholly sound in mind and body; wholly certain that we will be picked up, probably soon. I can see Guam. Two miles away, I think. (It was really 16.) I look at my watch. 11:45. It had stopped either upon impact or with my dive. Either way, how close we came to making it back to Guam.

I still cannot find that red tab. My fingers don't work well enough to unscrew the black tube ends. (I've sprained or strained several. Don't know how or when.) I blow without effect into the black tubes thinking it irrational not to attempt to do something constructive. (But I wonder if it is not more irrational to waste one's breath in these circumstances?) I am not at all frightened. Only frustrated.

Up swims Joe Betancourt, Dave Cruden's aide. I am instantly shocked as I see blood pouring from his nose. How it must hurt! (I do not comment on his state.) But notwithstanding his condition, and notwithstanding our several previous days of informal conviviality, what does Joe say? "Is there any way in which I could possibly be of assistance to you, Mrs. Van Cleve?" I don't chuckle then, but instead say it'd be just marvelous if he could find the thing to pull that would inflate my life vest. No sooner said than done, following which Joe swims off, doubtless to see if he "could possibly be of assistance" to someone else. Then I chuckle. Had we met at a reception at Blair House, he could not possibly have been more correct.

I swim about a bit in a desultory way. Someone mentions sharks. Yes indeed, I concede, a possible problem. Lots of blood in this water. Lots of thrashing about. But I turn off that subject. (I am, I think, about as much a worrier as the next, and normally I cannot so effectively dismiss unattractive subjects from my mind. This time I did, on the unimpeachable ground that I

could do nothing about a shark if one did join us. This represented a mental discipline wholly new to me - and very likely never to be repeated.)

I focus on the appearance of the plane, still afloat, for the first time. How shocking a sight. The cockpit section (largely torn off, I later understand, on the far side that I cannot see) had been reduced to about one-third its original length. A genuine accordion effect. Could anyone have gotten out of there? (Yes was the answer, but I didn't learn it until later.)

Up swims young Mr. Tedder. How glad I am to see him. He suggests, ever so politely, that it might be wise if we tie ourselves together. A grand idea, I agree, but I comment that I can't much help, because my fingers don't work well enough to do the necessary with the shoelace-type strings on our life vests. (They seemed to work well enough, though, so that I was still, mostly unconsciously, clutching my purse.) No matter, says Mr. Tedder. He will effect the tying arrangements, and he does so efficiently, uttering pleasantries and amusing comments throughout (absolutely none of which, to my distress, can I now remember with specificity, but the happy flavor I won't forget). He then proposes, with continued careful good manners, that it might improve our situation even more if he were to put one arm around my shoulder, and I an arm around his. Splendid! I agree. (Again I think of my older son, John. It was in this posture that he and I, in Polynesian costumes, had strutted around the homemade parade ground at our neigh-bor's homemade Fourth of July parade and picnic some time back.) I suggest to Mr. Tedder that we swim in synchronized style. That would be both efficient and fun. Stroke. Stroke. Stroke. I think we both smile. He suggests we get farther from the plane. How fully I agree. We do.

But soon thereafter I look for the plane, and it is no more. Sunk. Without a whimper.

Ahead of us, I'd have said from nowhere, after I'd guess 10 to 15 minutes of swimming, appears a most inviting sight: an orange life raft, with three or four of our plane mates already in it. (In fact it came from within the plane, but it had taken some time to move it, with one other, from the far side of the plane to our side.) Stroke. Stroke. Stroke. Mr. Tedder and I are upon it.

How in heaven's name will I get into it? I reflect upon the fact that I've been unable to climb into a rowboat on a serene lake in Northern Minnesota for at least 30 years. There is general agreement from those aboard that the side (instead of the preferred bow entry) is the best point of approach for me. But the side of the raft looks to me to equal the Empire State Building in altitude.

Someone says, "Throw your leg to the top." No middle-aged, semi-dignified, energetic lady ever threw a leg with greater vigor, and it must have gotten all of 10 percent of the way to the top. But then, another stunning development: without doing anything further for myself at all, I'm in a happy heap in the bottom of the raft, at least half a dozen arms having reached out and grabbed whatever part of me was nearest. And I've a hunch Mr. Tedder pushed from below. Rather swiftly I assume a respectable sitting position: my back against one side of the raft, feet against the other, knees a bit bent because the raft is quite narrow. I demurely arrange my skirt over my knees. One stocking unrun; the other nothing but ladders. And there is my purse. Clements says with a smile that his wife would have brought hers, too. I observe and learn from

comments: three rafts are functioning; one too far away [#3] to be sure who's in it, in name or number (and soon it's out of sight), a large one [#1] near us, under-populated (but there's Dave! And Wallace! How good!); ours over-populated. We will tie ourselves together. Our admirals, one per raft, effect this maneuver, and soon some of the "able-bodied" from our little one move to the big one.

It crosses my mind that I should offer to move. But I feel so weary. Captain Smith, to my immediate left, has a broken arm. He asks me occasionally to move it for him. He winces terribly when I do, though I try to be so gentle. But when I move at all, my back feels odd. I've pulled something a bit haywire. No. I will not offer to change rafts. Too selfish.

A huge bomber from Andersen Air Force Base is now circling overhead, providing great comfort for they know where we are. They can't help directly, but it's so nice to have them in sight. Later (30 minutes? Time so hard to judge; watch so un-functioning) helicopters appear and frogmen stick their heads over the side of the rafts, to learn who needs quick helicopter evacuation for medical reasons. Some do. I don't turn to watch. (Is it because my life vest is so constricting? Or because I feel so tired?) I feel consciously sorry to miss seeing this interesting development.

Lots of people get seasick. I hope I don't. Not only is it unpleasant, but I think it might hurt a lot with my haywire back. I keep being surprised that I am not seasick. Is it because, as we bob (sometimes so violently - the sea is not calm) I keep taking deep breaths? What causes me to think this might be helpful? Long ago I was told it is a good idea during labor. And it was.

Not only do I keep being sure that my knees are covered (by that ridiculous looking, yellow streaked dripping skirt), but whenever anyone is seasick, I look the other way. To watch is to invade privacy.

For 60 to 90 minutes we float and bob about. Among my thoughts and conversations (now hard to distinguish between the two), in no particular order because they were essentially so disorderly:

Adm. Clements says he's been in the Navy for 37 years. I ask, and he says that this has never happened to him before. How extraordinary that I, never having been in the Navy, should share this First with him. There's some impeccable logic buried there. Wish I could find it.

I ought to think something elevated. What will it be? Lord Byron? No. I really can't possibly remember any Byron. Why should I think of him. "Persuasion," maybe?

How strange that Navy men keep their shoes on during a ditching. Too complicated to untie? No one gives me an answer. Maybe I haven't raised the question out loud.

Jim and Adrian must be dead. That is appalling. Why don't I cry? I usually cry rather easily. I admire them so. Feel such affection for them both. No tears.

Why didn't I today wear that jewelry that Harry just gave me for my birthday. Much better than what I did wear, which, surprisingly, has survived the dunking. Will Lord and Taylor be able to duplicate it?

Find an elevated thought. Shall I lead some hymn singing? Not "Nearer My God to Thee." Orchestra on the deck of the Titanic (or was it the Lusitania) with water rising to the knees and then above and so on. Terrible idea. How about another hymn.

That travel iron in my suitcase will be irreplaceable.

That wicker attaché case was so nice. I never had a possession I liked more. Never had one so much admired. How long have I had it! Mother's Day. Early 1960s. Can't remember for sure. Doesn't matter.

The bottom of our raft is littered with black shoes. Clements tells me that they're useful as bailers. I'll help bail. Good therapy. (But I throw most of the yellowish water over my shoulder (hurts a bit to lean forward), and it largely blows back in. No matter. Keep busy.)

Elevated thought. Will I get home in time to help Elizabeth buy a really proper rain coat before she leaves for the University of London? She'll need a really good mack. Not so elevated a thought after all.

Glad I have nail polish so well applied to my toes. They look pretty good.

Of course I'm really not hurt at all. So I will meet Harry in Minnesota later this week as we've planned. We both need a little vacation.

Clements asks me why I'm so composed. (Did I remember to say thank you?) Is it a liberal arts education? Yes, I respond it's a rigorous liberal arts education at a first rate women's college. How much I owe to Mount Holyoke. We learned so much about responsibility. We all emerged with such a determination to do our duty.

How many didn't survive? I don't know. Where are Jim and Adrian? Wallace is right over there. My admiral friends are marvelous. Competent, cool. Not too cheerful. Not utterly cheerless. Good actors, anyway.

We must all be somewhat unhappy, but I should remind myself that I'm quite alive, and I mightn't be. My hair must look a fright. Let's open my purse (but it makes me a little sick to think about that). There's a white chiffon scarf there that can cover lots of frights. Oh. It's all yellow. Don't need that dye on hair.

Put scarf back into purse. Zip it up. Don't litter.

My mind isn't really this much of a mess, but why does it jump around so? Terrible attention span. Will it pass?

Here comes a boat.

Two of the 30 on the airplane did not survive. One musician was lost, as was a member of the crew. Both are believed to have been near the point on the airplane where the cockpit partly separated from the rest of the plane.

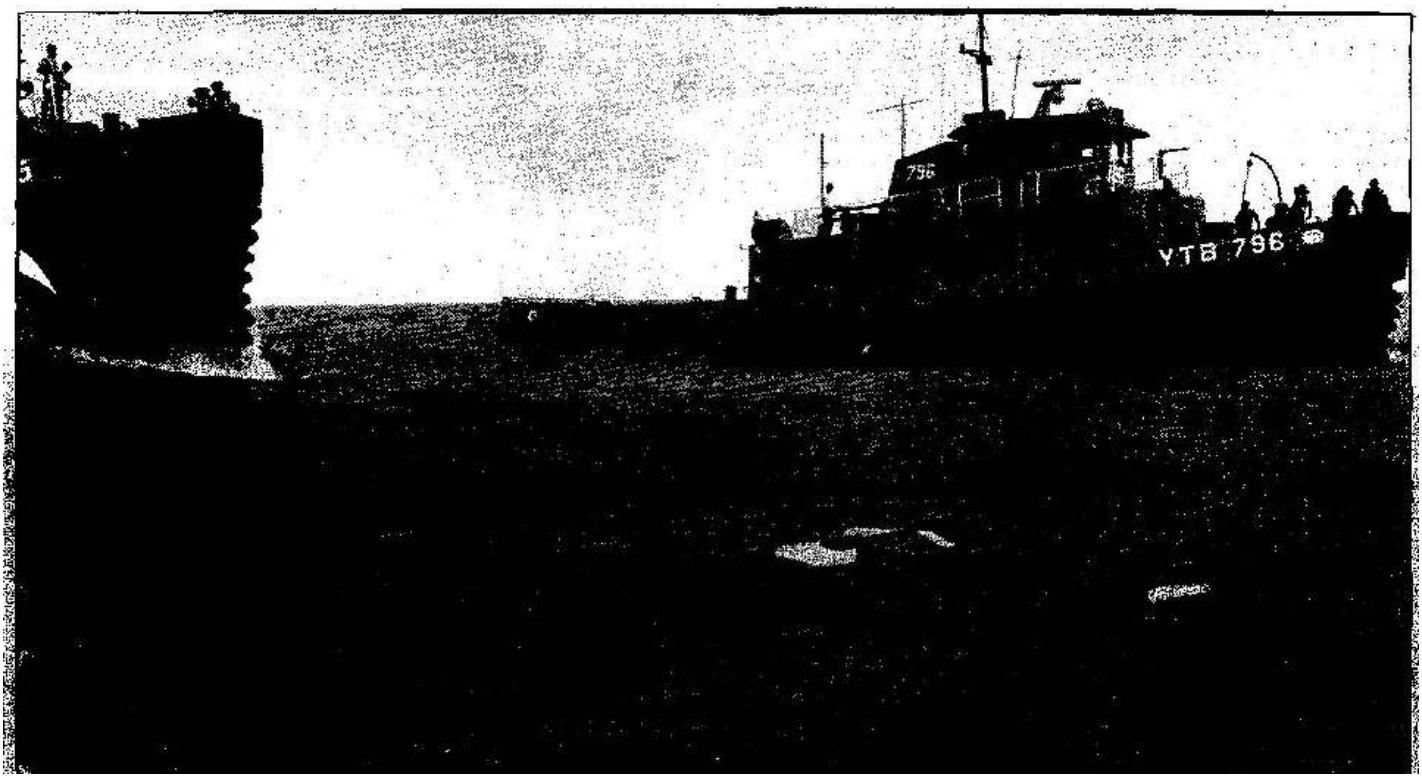
Jim Joseph had gotten out swiftly and early, through the main left exit, and was soon in a raft. Adrian could not move, his seat having gotten pushed back when the ceiling above him came down. He was saved by Adm. Cruden. He extricated Adrian, and Adrian then joined Jim and others in the raft that was beyond my vision.

Of the 28 survivors, about one-third were unhurt; about one-third were found to be only slightly hurt and were thus discharged from the hospital that day; the remainder were more seriously hurt. I am among the more seriously hurt, having compression fractures of the vertebrae. They probably occurred when the front of the airplane struck the water. I spent five days in the hospital on Guam; then, after a medical evacuation flight, five days at the Navy's Hospital in Bethesda; and now I am at home. By Thanksgiving I hope to be out of the sophisticated brace that now encompasses me.

My spectacles survived. On August 16 I reread the chapter of "Persuasion" that I had purported to read in the hour before noon on August 14, and I finished the book. It was still a little damp that day, but it is dry now.

* * *

Below: On the right, the USS Saco [YTB-796; a Natick class harbor tug, launched in July 1968, and placed in service in September 1968 in Guam] sweeps the crash area, picking up political status briefing papers that were dumped into the water when the plane crashed. A Soviet spy ship watched the rescue operation.



13. Deputy Under Secretary Wallace O. Green

From his trip recollections, written September 25, 1978, beginning on page 198.

Following our visit to Truk, the Navy plane left for an overnight stop in Guam. The next day, we would fly to Ulithi. The plane arrived in Guam at approximately 6 p.m. on Sunday, August 13. During the stop in Guam, we planned to meet with Governor Bordallo to discuss issues of local concern. We had dinner with the Governor, his wife, and members of his staff at Government House. The Under Secretary, Mrs. Van Cleve and I were very well attended to and very much impressed with the luxurious surroundings. We got to bed at a reasonable hour following a delightful dinner, and looked forward to our travel to Ulithi the next morning.

Ride to the Airport and Boarding

Before breakfast on the morning of August 14, I packed my clothing and other items and placed them at the front door at Government House. They were to be picked up by Navy aides. I did this after considering the notion of leaving some of the things at the house so as to lighten my load. However, I opted for carrying everything with me because I was uncertain about being able to return to Government House on the 16th, following our visits to Yap and Palau.

Our plan was to depart at 9 a.m. Promptly at 8:30 a.m., the Navy aides arrived to carry our luggage to the plane. Shortly after 9 a.m., Under Secretary Joseph and Mrs. Van Cleve left for the airport, running slightly behind schedule. I was in a separate car behind them.

En route, we received a call on the car radio indicating that a document had been left at Government House, possibly belonging to me. The car in which I was riding pulled to the side of the road as did the car in which the Under Secretary and Mrs. Van Cleve were passengers. I got out of the car to ask if the Under Secretary had left something at the House. He was unaware of anything that may have been left, and concluded that it was possibly a notebook given to us the previous night by the Governor. As it turned out, it was a briefing book which had been prepared by the Office of Territorial Affairs in advance of the trip. I got into the lead car and my driver went back to retrieve the document. We then proceeded to the airport to board the plane.

We were all somewhat concerned about being a bit late, since everything had been so punctual during the previous portions of the trip. The military was always impressive for its punctuality.

Upon arriving at the airport, we were welcomed by various Navy officials. The flight crews had changed, but members of the previous crew were standing nearby. I approached them to thank them individually for the great service they had provided to the Under Secretary and to the rest of us. I suggested to the Under Secretary that he also thank them, and to wish them luck in the future. He did so, and from the smiles I saw as he shook their hands individually, they were very much delighted that he had taken the time to extend his gratitude. We then boarded the plane.

For those unfamiliar with the Navy C-117, it is a dual propeller aircraft also known as a DC-3. While it is certainly an outdated aircraft, it appeared to be adequate for our purposes. It was a different plane from the one we had used during the first portion of our travels, as additional seats were required to accommodate the members of the Navy band. There were approximately thirty (30) seats. They were traveling with us to add a bit of color to the dedication ceremonies for new facilities in Ulithi and Yap – respectively a dispensary and a dock.

As we boarded the plane, the seats were arranged two across on one side of the aisle, with the front-most two seats facing the rear. On the opposite of the aisle was a long canvas bench which seated approximately 12 persons. These seats accommodated the band members. On the previous aircraft that section of the plane had been used to tie down our luggage and that of the crew members. I was sitting in one of the two front seats facing the rear of the craft, the one nearest the aisle. Next to me, near the window was Adrian Winkel, the High Commissioner of the Trust Territories. We were sitting over the wing.

Facing me was Under Secretary Joseph, and next to him was Ruth Van Cleve, the Director of the Office of Territorial Affairs. This seating arrangement was ideal, as it permitted the four of us to conduct business discussions en route to Ulithi – a 2 ½ hour flight.

As crew members were making last minute arrangements inside the plane, ensuring the luggage was properly tied down and whatever else flight crews do, I was looking out to my left on the wing and noticed a Navy mechanic straddling the [right] engine. He seemed to be adjusting a lid over an oil tank. The mechanic was giving some type of signal to the pilot which seemed to be directing him to raise the revolutions of the engine so that he (the mechanic) might ensure that the problem was resolved.

There was another individual standing on the ground below the wing holding a large piece of metal which covered a portion of the engine. I was concerned over what the mechanic was attempting to check, but once he got off of the engine and the wing, I could only assume that between he and the pilot, the problem had been corrected.

The other fellow on the ground, at some point, replaced the piece of metal [cowling] and the engine seemed to be functioning properly.

Before takeoff, a member of the flight crew informed us as to how the life jackets were to be put on should it become necessary. It was a strange experience in that Adrian and I chuckled over the fact that we were for some reason very attentive during the explanation; almost as if we were really concerned that we might have to use them at some point. We listened carefully to the instructions and to information about the location of emergency exits and the utilization of life rafts.

Takeoff

Soon we were airborne. Guam is as beautiful from the plane as from the ground. It was a normal take off as takeoffs go – more comforting than the one from Eneu on the other plane following our visit to Bikini. I'll explain. To get to Bikini by air one must fly to Eneu and take a

boat the remaining 10 miles. We had a full load of passengers. After the meeting on Bikini, we returned by boat to Eneu. The Navy crew decided that because the airstrip was very short [4,460 feet], at least a half dozen persons would have to be left on the island to ensure that the plane [flying back to Kwajalein] would be light enough to take off from the coral runway [pictured on page 4]. This I regretted very much. The Marshallese who were left on the island would have to take a long, slow boat to Kwajalein or Majuro – wherever they lived. They seemed to recognize the danger in attempting to take off with a full load of passengers.

The take off from Eneu was uneventful, but we each had a moment of nervousness. The plane seemed to rise above the ground long before we approached the end of the strip, and thus, the Pacific Ocean. We were as nervous as we allowed ourselves to become. So the take off from Guam was a piece of cake.

As we flew to Ulithi, I was delighted to have the opportunity to sit next to Adrian as we had not had an opportunity to discuss any of the concerns that he had about any number of things, and I was delighted to share with him some of the many notes that I had taken during the visits to Bikini, Kili, Truk, Ponape, Ebeye and Kwajalein. He was very interested in some of the points that were made and suggested that we discuss them in some detail later.

Oil Problems, Turn Around, Descent

We flew for what seemed like 40 minutes or more before the right engine began to spout oil. The oil was gushing from the very cap which the mechanic on Guam had fidgeted before takeoff. That was strange. It was also frightening, as it was first brought to our attention when a flight crew member rushed from the rear of the plane to the cockpit, obviously to inform the pilot that there was a problem. The flight member returned from the cockpit to look out the window to my left with a concerned eye. We were deeply worried, though the conversation was minimal. No one wanted to speculate or otherwise heighten the anxiety. We asked about the seriousness of the problem. Would we be turning around? I do not recall ever hearing anyone respond to the question. There were the patient, “We’re ok; don’t worry” comments. But that was all.

As to the-reason for the leak, we were told that the oil had been cold at takeoff, and it was now heating up and thinning out, thus causing an apparent overflow. This seemed a likely and logical explanation of the problem, and we once again gave credibility to the pilot and crew for knowing the situation.

We continued on our way to Ulithi, perhaps traveling an hour or more from Guam. Adrian and I continued to wonder whether or not we would be turning around. Quietly, the two of us felt genuinely concerned. No one seemed to want to say that there was trouble that warranted concern. Perhaps we were just afraid of the unknown.

At some point the plane turned around [due to a second oil problem]. It was almost as if the pilot did not want us to know it. We never so much as felt the wing tilt that normally signals a turning aircraft. Mrs. Van Cleve, always alert, noticed that the sun had changed positions and observed that we had indeed turned. But there was never any announcement. After the plane had turned around, the pilot turned off the right engine. We could look out of the window and

see that while the oil had stopped gushing, so had the propeller stopped turning. I was frightened. Not because of an immediate feeling of the possibility that we were going to crash, but again because of the unknown danger.

Shortly after we turned around, perhaps fifteen minutes, I could see Guam in the distance and felt somewhat relieved that with the one engine we would be able to return to Guam for a safe landing. This was not to be.

We seemed to be flying at a reasonably high altitude which suggested that indeed there was nothing to worry about. Some equation began to form in my mind that was continuously calculating the distance of the plane from the water as compared to the distance from the plane to the island. It was an imprecise equation, as I had no real idea as to how rapidly we were losing altitude. I gazed out the window looking at the ocean and the waves, white capped, become more and more distinct. They were no longer confused with sail boats, which is a frequent illusion from high above the sea. They were waves. There were very clearly bubbles in the water. We were getting closer to the ocean. My imprecise equation did not permit me to conclude either our inability to reach the island or any certainty about survival. Adrian and I were taking each other seriously. I smiled nervously at the Under Secretary, saying in a strange kind of way "We're not going to make it." I looked across from him at Mrs. Van Cleve. She seemed concerned. We all were.

One of the flight crew members instructed us to put on our life preservers which we did promptly. We were told again that everything was OK. The message was clear. We had to put on our life preservers as a precaution. We seemed to have some remaining hope that it would be possible to reach the island and land safely.

Shortly before or after putting on the life preservers, a crew member went to the rear of the plane, opened the rear door, and began throwing musical instruments, boxes wrapped in brown paper which were under the bench upon which the band members were seated, and an assortment of luggage. I saw my luggage and the Under Secretary's attaché being thrown out. I was now very concerned. My equation was becoming increasingly clear. We did not have sufficient altitude to reach the island. It was not possible to say how far away we were.

Members of the band were assisting in throwing out the brown bags by sliding them from under their seats and down to the rear of the plane. This was classic. I've seen this scene many times on television. Luggage and anything else that wasn't fastened down was being thrown out the rear door to lighten the plane. Maybe, just maybe, it would enable the pilot and passengers to make it to safety. Again, I thought how I had seen this in the movies.

My thoughts during the time that the luggage and other items were being thrown out are muddled. I thought, of course, that by lightening the load we would indeed make it and I would be without whatever was inside that luggage. I agreed that I could do without the suits and shirts, and other items, as they could all be replaced.

I wanted to tell the Under Secretary that his attaché had just been thrown out the door. I didn't. It sounded fatalistic. His expression was blank. I gave a nervous smile, and he just returned the glance. I wondered what he was thinking about.

At one point the crew member [Curtiss] who had been throwing [helping throw] the items out of the plane returned to the cockpit to converse with the pilot. As he left the cockpit, my back was to him, the Under Secretary looked up at him and noticed that his eyes were red. I learned of this after we returned to Washington. He had known then that we were going down.

Shortly thereafter, as my equation, as now precise, we were clearly not going to make it to Guam. The pilot shouted to the rear of the plane: "Close the door!" As the crew member began to attempt to close the door a whole series of confusing and brief thoughts passed in and out of my mind. I thought of my wife at home, expecting a baby, that I would never see. I thought of my loyal assistant and the general scene at the office. I pictured it in my mind. I prayed. I prayed in a very personal way. Not a prayer. But a message. I was attempting to communicate through God to all those who were passing through my mind, but I had no specific message. I cannot remember the prayers, but I can remember the attempt to communicate it some way, something about my existence. I did not have a cliché experience of having my life pass before my eyes, but I did conjure up slices of life which were prominent in my mind, as if to register them permanently in some place so as not to forget them, as if somehow they might otherwise be lost. It was as if certain things had to be fixed in the mind to ensure that they would always be with me. I do not know the reasons for this particular exercise, but I did it. I cannot at this point recall the scenes I pictured. Most were faces, not events.

It was a matter of minutes from the time the pilot yelled to the crew to close the back door until the rear of the plane seemed to lower. In my mind I felt that the lowering of the rear of the plane was a very logical approach to landing a plane on water. It suggested that we would slide and come to a smooth stop, and all would be well. I had a strange confidence that because the rear end was down everything would be fine.

Impact, then Exit

Out of the window I saw that we were about to crash. We were only a few feet above the water. The rear of the plane was the first to hit. As I recall it, the impact was similar to what one might imagine to be the impact of being hit from behind in an automobile by another at approximately 20 to 25 miles per hour. Perhaps it was not that severe, but my recollection is that it was. Shortly thereafter, seconds, the front of the plane hit the water. It was the most jolting and physically traumatic experience I have ever had. I recall looking up at the ceiling of the plane and generally wondering what portion of it would either crush me or pierce me, and kill me. I contemplated death.

As the front end smacked into the water, I was looking forward at the Under Secretary. Our bodies were being thrown forward and back and around with the confines of our seat belts. At one point as I was being thrown back, I seemed to be waiting for something to hit me, or to crush me, but nothing did. The plane had come to a stop and there was no explosion, there was no screaming, I was alive.

Immediately after the plane stopped, the Under Secretary unbuckled his seatbelt and moved quickly to the rear of the plane and out the main exit. I knew that this would be the location of the life rafts, and that he would be OK. The thing that was most prominent in my mind about him was his earlier indications that he could not swim. It seemed as if that was also the most prominent thought in his mind as that recognition prompted him to move quickly in the hopes of getting into the raft and not having to swim any great distance to save his life.

I looked next to Mrs. Van Cleve who seemed just a bit shaken, but in control and able to get out of her seat. I then got up, planning to leave by the rear exit. It was crowded. Instead, I took one or two steps, turned left and went out the emergency exit and onto the wing. I remained on the wing, because I knew I would feel guilty if I jumped into the water while there were people still in the plane, perhaps unable to escape. I thought to myself, "I can swim, and I am young." Standing on the wing I asked a Navy officer, who was on the opposite one, if there was any possibility that the engine might explode. He said no, but that the plane was sinking. I decided to remain there to help those who were trying to get out. I did not go back into the plane, as there were persons coming out and I felt that if anyone had been trapped, these individuals had helped them. There were screams, someone was yelling from inside.

As I stood on the wing, I noticed a window being pushed out. It was Mrs. Van Cleve. She jumped out of the window directly into the ocean. I should say that she dove into the ocean with characteristic propriety.

As she waded away from the plane, we exchanged glances and her eyes and expression told me that she was all right. She drifted away and I noticed that the young Navy photographer joined her. My concern for Mrs. Van Cleve was satisfied knowing that there was assistance close by.

Admiral Cruden was one of those coming out of the exit behind me. As I understand it, he [had] discovered that Adrian Winkel was still in his seat unable to release the seat belt buckle.

Everyone seemed to be out of the plane within ten minutes of the crash. I was standing on the wing, but it was now totally submerged. The Naval lieutenant indicated that the plane would soon be sinking and that we should get into the water and into a raft. As the plane slowly went down, I jumped off and began to swim to a raft. I seemed to be perhaps 30 yards from the plane and drifting away. It was very difficult swimming with the life preserver. I thought to take it off, but rejected it immediately, as equally prominent in my thoughts was the possibility that sharks might be in the water. My shoes were heavy. I wondered if I should take them off. I rejected this too, partly because it seemed to be unnecessary and could be just the kind of movement that would attract a shark. A human lure. The other reason I did not stop to take off the shoes, was that they were the most expensive I had ever purchased. What a silly thought. Am I so materialistic?

I continued to swim, hampered by the life preserver, weighted down by the shoes, and frightened by the prospect of sharks. As I got within 10 yards or so of the raft, I turned over on my back to swim the remaining distance. The waves and the weight had caused me to use every

muscle and bit of energy I had. I got to the raft. As I threw my leg up to the side of the raft in the effort to rollover into it, a rope dangling from the side seemed to wrap around my foot. For less than a second, I thought it may have been a shark. A moment of fright. I realized it was the rope, shook it loose, and got into the raft.

Once inside the raft I was totally fatigued and seasick, vomiting from having swallowed the yellow dye that was in the water to help rescue planes spot us. Others were getting into the raft. My stomach seemed to be turning inside out. As I stretched out in the raft, my neck was noticeably painful. I wanted to be still, but my sickness and fatigue would not permit me to be. I had to move about with my head over the side of the raft, vomiting constantly for what seemed like a half hour.

While floating in the water, I was in a daze. I could see clearly the Under Secretary in a raft some distance away. I looked around me and saw numerous bloody noses and cuts, individuals looking both sick and very hurt. Most of us seemed to be OK. Conversation and speculation centered on who and how many persons had died. There were calls for "Scott," but no answer. Was he dead? Soon the answer was yes. Were there others? Being in the midst of death was an experience I cannot convey. I thought about how easy it was to die. Here today, gone today. So easy to die…

Something was very unreal about those minutes in the raft. While I was dazed I could hear the conversation among the Naval personnel. It was shocking reality. I wondered about their parents and wives and families. This trip was supposed to be light duty for the military officers. How did it turn out to be such a disaster?

We floated in the ocean for perhaps 40 minutes before rescue helicopters were heard in the distance. I do not remember seeing very much of the rescue operations. I seemed to be fading away from the fatigue, not unconscious but dazed.

As the helicopters hovered above, I wondered how lucky we were. I thought about how bad it could have been. It could have been me in that plane floating slowly to the bottom of the ocean.

Most of us were taken to the Guam hospital by boat. The helicopters took those in greatest need of emergency treatment. After several examinations and x-rays, it was decided that I had sustained an acute whiplash which later affected my back. After an overnight stay at the hospital, I was released. I spent the night at the Governor's house and left Guam for Washington as soon as possible the next day – by plane.

While I have told this story many times, it seems to come out somewhat differently each time. There are so many moments and emotions to recall. One of the constant questions I get from people since the crash, however, has to do with what lessons about life were learned as a result of the experience. Perhaps two. First, it is so easy to die. Second, enjoy life today – tomorrow is not promised. Simple, but true.

* * *

14. Rear Admiral David S. Cruden

Statement August 22, 1978

We landed at 1900 on Sunday, 13 August, in the Kadena-C-117. CAPT Estes was part of the welcoming party, and he said it was ready to go for the next day's evolution. He said we were going to be heavily loaded and we might not be able to land at Ulithi. I said fine, if that's the case we'll fly on to Yap.

The next morning our take off time was advertised as 0915. I arrived about 0910. The Under Secretary and his party hadn't arrived yet, but I could see the band instruments had been loaded.

While the aircraft was being loaded the Under Secretary and Mrs. Van Cleve arrived. Mr. Green's briefcase [actually Joseph's briefing book] had been left at Government House, and they wanted to wait for it, but we got on the aircraft. Mr. Winkel was in #17, Mr. Green was in #16, both facing aft, Mrs. Van Cleve was in #19, and Under Secretary Joseph was in #18. They were facing forward as were the rest of us on the starboard side.

RADM Clements was in #21 and I was on the aisle in #20. The band members were all on the jump seats, along with my photographer. LCDR Roth was sitting just aft of me. When everyone was in and seated, LCDR Roth said we needed one more seat. Chief Berger named one musician who left the plane. LCDR Roth said the district administrator, I think, wanted a ride back to Yap, and so we wanted to leave one seat open.

The left engine was running and we were having trouble getting the starboard engine started. One of the crewmen got out, and I saw him up on top of that wing taking the inspection cover off. He was out there less than 5 minutes – they tried the engine and it started right up. Then they shut the engine down, then I think another crewman came up on the wing and they put the inspection cover back on. They got off the wing and they started the engine up.

The first gent on the wing was PO2 Rathbun. I asked him the problem and he said something about sticking contacts on an induction vibrator, and it's only used to start the engine.

Departure

We taxied out. Rathbun gave us a briefing on emergency procedures, and I think he used handwritten notes. It was a detailed brief. I recall the runup at the end of the runway. I'm not positive, but I think it was one engine at a time. Then at take off, a runup of both engines, then release of brakes, then more throttle and down the runway we went.

I believe we were off the ground before we hit the 3000 feet marker. I watched that, because I knew the runway at Ulithi was 3300 feet as I recall. I watched the signs go by—between the second and third markers we were off the ground. Climb out seemed normal to me and we were on our way.

Oil Problem

About 30 minutes into the flight I saw a crewman looking at the starboard engine. I looked out and could see traces of oil on the nacelle. I asked if it was a problem – he didn't think so. He thought maybe they serviced it last night with cold oil and maybe it's venting as it heats up. It didn't look like a lot – less than a quart.

I went up to the cockpit and the pilots thought it had been filled the night before; it was expanding, venting, and that was normal. Their indications in the cockpit were normal.

In perhaps another 30 minutes – an hour into flight – I heard something about fluctuating oil pressure. And then I saw the prop being feathered and the engine stopped, and we were turning around. I saw the propeller stopped. I believe it was a crewman who told me we had fluctuating oil pressure. Someone also said we were saving the engine in case we needed it for landing.

I didn't see any perceptible loss of altitude then for some time. It's been indicated to me since that the starboard engine was started up at some point [no], but I didn't notice that. Maybe 20-25 minutes later I heard we were going to have to get rid of some baggage. I walked up to the cockpit at that time.

We were at about 1400 feet. I asked the pilot, "Are we having trouble holding altitude?" He said "We've lost some altitude, but it seems to be holding pretty good now. If we have some problems we're going to jettison the baggage." In about 5 minutes after I sat down word came to crack the cargo door and start throwing things out.

The musicians got up and started removing cardboard boxes under their seats. They passed them back and out they went. Then they threw some instruments out, and at least some baggage. I could see the water, but even as a private pilot I'm not sure how close we were to the water. I don't know if all the baggage went out.

At some point, one of the crewmen said to get our life jackets on. Word was passed to get strapped in. Then "Shut the cargo door and prepare to ditch." I think one of the crewmen relayed that. I don't have a good feel for how much time passed.

Impact

As we got near the water we were flying tail-low. When we hit the water tail low it was a glancing blow. We came back up into the air and not much of a shock. The second time we came in quite hard. I was seated upright and was thrown forward, but my safety belt held me tightly. I saw people on the jump seats coming past and piling up in the forward part of the aircraft. I don't know if the seats or safety belts were letting loose. There was no panic.

Exit to Rafts

The people in the port side were scrambling to their feet and heading aft. The Under Secretary and Mrs. Van Cleve and Mr. Green were all past me before I even stood up. I heard Mr. Winkel saying "Help me."

The overhead ahead of me over those four seats had caved in. In the middle it came down quite low into the passageway, but not to the point where I had to get in an uncomfortable position to get to Mr. Winkel. My view of him was unobstructed. His whole chair seemed to have gone over backwards. I know there was water around him, but I'm not sure how high it was. He was wedged in and I grabbed his arms and pulled. While I was helping him, I could hear some words, "Help me" on the other side – I couldn't see over there. The overhead was down on us. Before I got loose all that conversation on the other side ceased.

All of a sudden Mr. Winkel came loose. On the way out I looked over on the other side and didn't see anybody. It seemed like we were the last two out.

There was no water in the aisle. All the water was forward. My impression was the overhead has caved in and the bottom has split open, and its letting water in up forward. It seemed to me there were two openings on my left – the right hand side of the aircraft. I went out there. There were some jagged edges there and my foot got caught and LCDR Roth who was standing on the wing, helped me through. My impression is that Mr. Winkel went out the cargo door.

I went out the forward exit on the starboard side. It seemed to me I was right on the fillet. I ducked down and stepped through it. At some point I inflated my life jacket and got in the water at the trailing edge of the wing.

My life jacket worked as advertised. I spotted CAPT Estes up on the wing, blood on his face looking like he'd been hurt quite badly and no life jacket on. I yelled for him to come down since I knew my life jacket would keep us both afloat. He said, "No, I'm alright. I think the aircraft will float for awhile."

It looked to me like the cockpit section of the aircraft was missing. The swells washed me under the wing and I lost sight of CAPT Estes and LCDR Roth. I could see life rafts – one off the tail of the aircraft and one up in front. I couldn't tell if the raft ahead was inflated or not. I swam away, and although I didn't see the aircraft go down, the next time I looked it was gone.

I told Tedder to stay with Mrs. Van Cleve. They headed for the raft in front of the aircraft. Because of the swell, I started heading for the other one. Someone helped me get in the raft.

In the raft we had LT Bell, quite badly injured – his right ankle was broken and had been hurt up around the face – conscious, very calm, no complaints – Joe Betancourt, Lipscomb, Pat Roth- he must have come after me – Brewer, and Admiral Clements' aide [Allen], and Winters. He was complaining of a chest pain. He seemed to think he punctured a lung. This was a big raft. We married up with the raft up ahead and tied them together.

After 15-30 minutes in the raft the first helo showed up. We indicated for him to go over to the other raft – we had some injured but everybody seemed to be doing alright. I think he put two corpsmen in the water. We also had a corpsman over with the two of us. We assessed the injuries and CAPT Smith and Winters would be bad to hoist aboard the helo. And LT Bell with his broken leg. So we decided to take the people who were in good shape. The fellow with the fins and the mask took the people out away and the horse collar was dropped to them. The second helo showed up shortly thereafter.

After some passage of time, I could see the POINT HARRIS on the horizon. The cutter came up within 50 yards and it was decided that the smaller life raft would be taken alongside first. CAPT Smith was moved to our raft so the smaller one had all people in good shape so they could get up and on the POINT HARRIS without any difficulty and as quickly as possible.

When they had them all up on deck they came to us and they took the ambulatory first. I went up the Jacobs ladder. CAPT Smith was brought up by Stokes litter, then Winters, Lipscomb, and LT Bell.

I know the torpedo retriever was on the scene shortly after POINT HARRIS and the C-117 from Kadena. It wasn't easy for the torpedo retriever to take people on board. I don't think they had a Jacob's ladder. I think we picked up one or two from the last life raft. I know there were two tugs on the scene. I remember the doctor coming on board. We got some medical supplies from a helo.

It is now my distinct impression that the High Commissioner and I were not the last two off. LCDR Roth went in the airplane after I had come out to get a life vest, I think, for CAPT Estes. He got a life vest and threw it out on the wing and then he spied a couple of people up forward with white shirts on. He went up there and was instrumental in getting them out. It seems to me the man LCDR Roth was directly responsible for getting loose and up and out in the water was probably MU1 Thompson. And Thompson in turn turned around and Winters was behind him under some metal. I think LCDR Roth left the airplane to go around to see if he could get in from some other way to help. I think Thompson was able to get Winters free and out. I think they were probably the last two out. I must say LCDR Roth is a real hero in this case.

* * *

15. Lt. Commander Patrick H. Roth

Statement August 22, 1978

I was a passenger aboard the NAS Agana C-117 that crashed at sea on Monday, the 14th of August.

On getting underway, coordinating with LT Joe Betancourt as to who we had seats for, we did remove one member of the band – but not for weight. We had promised a seat for the District Administrator in Yap flying back from Ulithi to Yap. I sat in seat #22, next to CAPT Ralph Smith.

Starting the Right Engine

Prior to getting underway there was some kind of mechanical problem in the starboard engine. They opened the engine cowling and I'd guess they spent 10-15 minutes at it.

Takeoff seemed O.K. to me – we used a lot of runway. We were briefed on emergency exits and donning life jackets.

First Oil Leak

Sometime en route – maybe 20 minutes – a fair quantity of oil started to flow out of an access hatch on top of the starboard engine. It flowed for a while and stopped. The crew came back and looked and we continued on.

Turning Around, Feather the Engine, Jettison Cargo

About fifty minutes or an hour out, I went to the cockpit to find out our ETA at Ulithi. Somebody told me that we were going to turn back and feather the engine. En route back the engine was feathered.

Sometime after it was feathered, it appeared we were losing altitude. Later, we were definitely losing altitude. At about 1800-2000 feet word was given to jettison cargo, although it may have been given first to put on our life jackets. It was in the same general time frame. The band members, in some cases, had to lift the seats from the floor to get the boxes out from under them. I have the impression that the crewmember helped with the seats. Afterward I remember the crewmembers scurrying to try to refasten the seats. At that time we were told to prepare to ditch.

We were losing altitude quickly. Some of the aft cargo was jettisoned, including band instruments. The word was passed to ditch by a crewman who came from the cockpit area. The word was given shortly before we ditched to crack the windows. I think Ralph Smith's window exit was the only one cracked. I'm not sure anybody really knew what cracking a window exit was, except Ralph, who was an aviator. Just before impact the left engine sounded like it was tearing itself apart [feathered], I do not know if they had restarted the starboard engine.

Impact and Exit

We impacted once and at least one more hell of a wham. There might have been more. On impact, I had the impression that most of the people in the troop seats were going forward, and seats, people and all were carried away. I saw no one standing up at impact. My chair and seatbelt worked like a champ.

Wallace Green exited in front of my seat, as I was trying to get up. I exited third out the window exit. There wasn't much of a window exit anymore – there was a lot of jagged metal. I stayed on the wing and held the jagged edge down and held the window up to help people exiting [i.e. the window opened outward]. RADM Cruden was the last one out of that window that I can recall.

Someone yelled for a life jacket – I reentered the aircraft. I found a life jacket floating around the vicinity of the cargo door. I didn't see one anyone in that [cargo door] area, and started back up the aisle.

There were two band members trapped up forward. I threw the life preserver out the window in the direction of someone in the water. The band member closest to me had his leg trapped in sheet metal. I think I moved the sheet metal and he pulled himself out. It was all sort of a blur.

The other band member was trapped in rubble up to his chest. The first guy got loose, but I made the judgment that we could not pull the other guy out. I told him I would go outside and try to come around. I re-exited, swam around the wing, and tried to get in ahead of the wing. I couldn't find a way in. I saw the other guy come out. I yelled at him, "Is everybody out?" I think he yelled "Yes." Not knowing how long this thing was going to float, I went out to the edge of the wing, dropped off and floated back to the life raft.

I helped Bob Bell aboard. I had inflated my life vest when I got out of the airplane. It apparently had a cut in it, because it deflated in the raft. I attempted to get the rafts together, and we did get two of them together. We got a body count.

Rescue

When the helo came about 30 minutes later we ascertained that although people were hurt, we could wait, so we waved him out to the other raft. Swimmers were in the water.

POINT HARRIS arrived about an hour and 15 minutes later. We got the uninjured up first and the POINT HARRIS paramedics get the injured people aboard.

* * *

16. Lt. Jose L. Betancourt

Statement August 22, 1978

On the diagram I have indicated the seats that I was seated in, 24 and 25. Lt. Allen and I changed during the flight. I have also labeled who was seated where, as best I can remember.

On Monday, 14 August, we arrived at NAS Agana about 0900. The flight on the C-117 was scheduled to leave about 0915, but it was about one-half hour late. There was a problem starting the starboard engine, but a crewman removed a cover, tapped on something, and it started. It was shut down, the cover replaced, the engine started, and we taxied.

Oil Leak

After about one hour en route, I recall seeing about one-half to one quart of oil coming out of an access cover on the top of the cowling of the starboard engine, which I have marked on the diagram. Petty Officer RATHBUN went forward to tell the pilot about it, and shortly thereafter the oil stopped. After that one quart, it did not start coming out again. It was dark in color.

About five minutes later, Capt ESTES came back and looked at the oil through my window. I had to move aside for him. He did not say anything.

When I spotted the oil, just out of instinct, I looked at the trailing edge of the wing. I thought that the exhaust that I saw was more than I had seen before when flying the C-117 in the days earlier. I asked Capt. Smith, sitting in front of me, who is a naval aviator, and he said that it was just normal exhaust. It was whitish, not bluish, in color, and very fine, but definite. I thought that it was oil that had gotten on some hot engine part and was burning up. It was very, very light, but I had not seen that before. It was well defined, but not even as heavy as cigarette smoke.

About 1100, or a little after, the right propeller was shut down, that is, to a slow RPM. I did not, however, see it get so slow that I could see individual blades. I heard a rumor that it was shut down because of oil pressure problems. About the same time I heard from LCDR ROTH that we were going to return to Guam, and I saw us make a slow turn to the right.

About 1130 we were told to put on our life jackets, and everybody did it. Then one of the crewmen was told to open the cargo door and start ditching cargo. The first thing that went was boxes under the seats where the band members were sitting. They were sealed boxes, and I don't know what was in them. They were passed back hand over hand and thrown out. Then came the band instruments. Next he was told to shut the cargo door.

Impact

We were still losing altitude. It was at about this time, I don't remember the exact time, that we hit the water. Prior to impact I know that the starboard engine had been started [maybe not], because the guy that had been sitting next to me said "Yay, the other engine's on." From where I

was sitting it seemed that the port engine was working harder and just prior to impact it sounded different from the normal C-117 engine that I was used to. If I were to compare it to anything, I would compare it to an automobile engine that was missing. It was irregular, not a high RPM or high power condition. That was the left engine. I only recall it right before impact [feathered].

It was fairly quiet in the airplane prior to impact. No one was panicky or causing a commotion. The only guys that I remember standing at the time were the two crewmen: one back aft (RATHBUN), and a guy with a dark black beard and a blue uniform that was somewhere in the area of seat 16 or 18, in the aisle. The last I remember seeing the crewman with the black beard was after he told everyone to put on a life jacket. I don't know whether he put one on or not, or where he went.

Someone told us that we were going to ditch. I bent over with my hands covering the back of my head. By this time I had moved from seat 25 to the aisle seat, number 24. It was obvious that the aircraft was flying tail low.

When we ditched, I only remember feeling one sharp jolt when we stopped. It was when we stopped that I hit my nose against the armrest and got it broken.

Exit to Rafts

LT ALLEN, sitting next to me on my right opened the emergency exit. The plane was in the water, stopped. He got out, and I followed him. It was very easy to get out. In the water I swam away from the plane, and moved toward the end of the wing, and was looking for the VIPs, especially Mrs. VAN CLEVE.

The first person I remember seeing was RADM CRUDEN. Soon I spotted Mrs. VAN CLEVE close to the starboard side of the airplane. She was a little panicky because her life vest was not inflated, so I swam over to her and inflated it with the toggle. Mine had been inflated properly earlier.

We were swimming aft of the starboard wing. Soon I saw CAPT ESTES standing on the starboard wing just aft and to the left of the starboard engine. I do not know how he got there. I remember looking past CAPT ESTES and seeing a jagged metal edge of the fuselage about right next to the right propeller, forward of seat 15 on the diagram. I do not know whether the nose of the plane was there or not, but I do not recall seeing it. All I saw was jagged edges behind CAPT ESTES. He had a lot of blood on his face as though his nose had been broken. The Admiral asked him some questions. I don't recall his response, but he seemed to be alert.

We had been in the water about 20 minutes [10; aircraft sank in 10] when someone yelled at us that there were life rafts on the port side of the aircraft. I looked and saw the life rafts on the port quarter of the aircraft, and swam about thirty yards to the nearest one. It was not drifting as fast as I expected. I did not see any rafts on the starboard side. There were only one or two people in the raft, so I got in and helped others. Some of the people in the raft were LCDR ROTH, LT BELL, and RADM CRUDEN, as well as LT ALLEN, some bandsmen, and Mr. GREEN.

When I was in the raft I saw a B-52 overhead and it stayed in the area. Then it didn't seem very long before a C-117 was overhead with its cargo door open, followed by the NAS helicopters and the Coast Guard Cutter. The Cutter came alongside and the ambulatory made their way up to the ship, and the others were lifted aboard on stretchers.

I must say here that when the Cutter got there the helicopters had helo'ed a couple from our raft and the corpsmen from the helicopters that had been dropped in the water had come to each individual raft.

When I got onboard the POINT HARRIS, I checked who was there. We were brought into the Guam commercial port [Apra Harbor; the commercial port on the north side was nearest to the medical center], and taken from there to the Medical Center.

Regarding the accuracy of the diagram. There was an emergency exit right next to where I was sitting in seat 25, but I don't know where the other one was.

I have flown in C-117s before, including this one. One time in Korea I was on a C-117 that shut down an engine and flew okay, so I was not worried.

* * *

A Recording made October 16, 2013

I enlisted in the Navy 1971 in Brownsville, Texas, where I was raised. I enlisted as a Hospital Corpsman, got my degree, and went to Officer Candidate School. By 1978 I had served on two ships, and reached the rank of Lieutenant. I was then assigned as an aide-de-camp to Rear Admiral David Cruden, the Commander of the Naval Forces in Marianas, in Agana, Guam.

In 1978 the United States still maintained control and influence in what is known as the Trust Territory of the Pacific Islands, which included many of the islands in Micronesia, including the island chain of Yap, southwest of Guam. We were in the process of turning over the islands, allowing the inhabitants to make a right decision as to what kind of an association they would like to have post independence. On this particular occasion we were visited in Guam by a group of dignitaries from the Department of the Interior in Washington, D.C., and by the High Commissioner of the Trust Territory. The purpose of the visit was to make a tour of the islands.

Among the visitors to Guam for the trip was the Under Secretary of the Interior, Mr. James Joseph, and we had the High Commissioner for the Trust Territory [Adrian Winkel]. We also had onboard Mrs. Ruth Van Cleve, who was also known as DOTA, that is the Director of the Office of Territorial Affairs, in Washington, D.C., and she had principal responsibilities for administration of matters relating to the trusteeship. I do have still a very vivid memory of the events as they occurred, which I want to recount.

We made preparations to depart Guam as I recall at about 0900, or 9 a.m., on the 14th. It was not unusual in any way, with clear skies, a bright sunny day, and I would say the temperatures

probably were in the 80s or 90 degrees. Our uniforms were all short-sleeved, of course, as were the uniforms for all of the enlisted and officers who travelled on that flight with us.

The departure from Guam was uneventful. I was seated on the starboard side, just forward of the trailing edge of the wing, and I could see very clearly the engine, and not long after our departure there appeared to be trailing smoke, no fire, but trailing smoke from that engine. The pilot, Captain Estes, came back and made his way through the cabin, and explained to me that we might have a problem with oil in the engine, and I believe he said it might have been overfilled, and therefore we would see the excess oil being burned somehow.

That did not turn out to be the problem. I do not recall if we had been airborne for about an hour or so, but it was certainly before noon and that engine quit. Attempts were made to feather the propeller so that it provided less drag.

The captain and the pilot decided that we should jettison much of the luggage, and extraneous cargo that we had on the aircraft, to lighten our load, and to allow us to return safely to Guam. The aircraft clearly was noticeably losing altitude.

We had not been long in the departure for Guam, when it became very obvious that the loss of altitude would result in a ditching at sea. As I recall there was a significant large rolling swell, but it was not insurmountable, it was not stormy; it was a bright, clear, sunny day.

The crew of the aircraft prepared us well for the ditching by indicating that our seat belts had to be fastened, and we should assume crash positions, which means putting your head to your knees, and bracing for what likely will be a shock.

When an incident like that happens, one would assume that the immediate reaction on the part of the passenger would be that he or she would die. What I particularly remember about that incident is that death was the farthest thing from my mind. I was certain that somehow we would survive.

We were also to don our life vests. It was equipped with a CO_2 cartridge you can pull, and it will inflate the life vest. You don't do that until you enter the water. There was a tube about 6" – 8" long where you can push down on a section of the tube which is about 1" and this opens a valve in which one can blow, in case it fails to inflate by use of the CO_2 cartridge. There was a lanyard that could be used to tie several people together so that you don't drift with the current. These also came with a whistle attached in case of darkness, so we can find individuals in the water. The water was nice and warm, as want to be in a tropical area, very warm and pleasant in many ways, and we were able to stay together as a group.

It was very fortuitous that we had to ditch the aircraft only about 16 miles southwest of Guam, because we were able to get an emergency distress signal out. Guam was home at the time to Air Force airplanes, B-52s in particular, and one happened to be flying, and they were the first ones to spot us in the water. They marked the location where we were, and alerted the Coast Guard, and the Naval Air Station, so that a helicopter, and a ship, were deployed to look for survivors and to rescue survivors.

Two of the injured personnel were flown back to Guam after having been rescued by an air crew from one of the helicopters, and about an hour after our entry into the water a Coast Guard ship arrived, and picked up the remainder of the survivors. I would estimate that we were in the water for perhaps about an hour.

None of the VIPs to the best of my knowledge suffered any severe physical damage. Captain Estes broke a leg, and had some damage to his spinal column. It is my understanding that he recovered fully from it.

As for me, I had a broken nose, and I injured my left arm, but thankfully it was not broken, and I think I looked worse than I really was because of blood streaming from my nose. What I thought about was the stories we hear about blood, and how it can attract sharks. But that thought never really crossed my mind. I thought about it, and then let it go; my instinct was for survival.

When I was taken on to the coast guard cutter, because of my physical appearance, that I showed a blood stained shirt and blood flowing from my nose, the crew of that ship thought I was hurt more seriously than I really was. I recall being taken to a berthing compartment – it was not sick bay – where I would be observed.

Of most concern for me at that time, I was 30 years old, I am 65 now, was how my family would be notified, because we had been in an airplane crash, and whether my wife knew that I was a survivor, as we tragically had had a loss of life, of two of our shipmates. Unbeknownst to me, I was not listed initially as one of the survivors. But my wife in Guam and my two babies – I had two boys in Guam, at the time both elementary school kids – were not informed that I was not accounted for. My wife, along with the Admiral's wife, and all of the spouses of other crew members were at the pier, as were the ambulances, to take us to hospitals and so forth.

We arrived in Guam, disembarked, some of us in stretchers, and others just walked off the ship, and most of us were released either the same day, or the following day, after doctors and nurses and others took care of us.

Additional Notes from October 2013 Phone Call

They told you to put your head down between your legs, and not to look up until you came to rest. I distinctly remember after it impacted it bounced, and I lifted my head, and it hit again, and my head hit my knees, and I broke my nose.

In the Navy they do two investigations, the first is public, with no blame assigned, and the second one is judicial, to assign blame. I sat in on the hearings.

* * *

17. Musician 3rd Class Peter G. Washburne

Statement August 19, 1978

On the 14th of August 1978, the COMNAVMARIANAS Band was scheduled to fly from Guam NAS to Ulithi. A Lieutenant Bell came on the bus and told us there would be 20 pound maximum of gear we could take on the flight. We started loading our musical instruments, big boxes about a foot and a half long by a foot wide, and then peoples' baggage. I think there were mechanics working around the engines. We got on the plane.

Fourteen band members boarded, a photographer, a couple of Rear Admirals, some VIPs – 30 passengers in all. Before we took off there was some confusion. We had too many people for the seats. Thirty-one boarded – we had to let one off. One of the band got off. One of the engines was slow to start. They never really revved the engines up.

We taxied out to the runway. As we taxied out one of the crewmen was giving us emergency instructions. For instance, where the emergency exits were, what we were to do if we ditched, how to put on the life preservers, where they were located, he put one on himself, showed us how everything worked on it, and I would say he did this well. We taxied down to the northern tip of the runway, made a U-turn without stopping to rev up the engines, and started heading down the runway. Takeoff was beautiful – very smooth.

We were out about 10-25 minutes after takeoff when LT Betancourt noticed oil leaking from the right engine. He yelled, "Hey, there's something leaking from the right engine." He was seated behind the right engine. They assessed this as not significant.

The right engine at this time was shutdown if I'm not mistaken. We started getting rid of baggage, so the rear hatch was opened and crewmen started to throw out packages. We formed sort of an assembly line. There were packages under every seat along the left side. We had to loosen the seats from the deck to get the packages out.

The seats were lifted and we passed the boxes to the back of the plane where a crewman would throw the package out. He would throw them straight down with a lot of force. Twenty to 24 packages from the left side were thrown out. The next things to go were small things, like brief cases, then a few musical instruments. We were about 1,000 feet above the water.

The seats were never secured back down. People were very calm. There was a little confusion, but no panic. The crewman instructed us to put on our life vests about 20 minutes before we hit the water. The crewmen were helping us put them on. I was dismayed because I wanted to put mine on and I couldn't find one. One of the crewmen handed me one. I think there should have been one right there within reach. We were instructed to fasten our seat belts as tight as possible

I think before we hit the rear hatch was secured. I looked out – we were very close to the water. I expected a smooth landing. The plane landed on its belly. I thought the pilot really did a good job, but about a second later we hit again. The second time we hit, I think the front of the

plane hit a swell very hard. I was thrown into the air because the seat had not been secured. I was thrown forward. We hit a third time – a violent jolt. The plane hit a fourth time and came to a stop.

I had some trouble unfastening my seat belt. I eventually got it. The inside of that plane looked like a shambles. I went to get out, and I noticed my left leg was caught between a metal bar and some part of the seat, I cut my thumb reaching back to grab something. I was able to get my foot untangled in about 10 seconds. People were calmly making their way to the back of the plane.

All the exit hatches were open. People were walking out on the wings and jumping into the water. I didn't see anyone who needed help. I exited from the right side in the back of the plane. I walked along the wing. I jumped into the water. After I jumped I realized I hadn't inflated my life vest yet. I had not been instructed on when to inflate it. I knew not to inflate it in the plane. I could not find the tag to pull to inflate it. A Lieutenant Junior Grade came over to me and inflated my vest. People were calm and helping each other.

I looked at the front of the plane and couldn't believe what I saw. Where the cockpit should be, I couldn't make heads or tails of what was there. Maybe the cockpit was torn off – it was just all black.

As soon as I got in the water I noticed that all the life rafts were in the water. I later talked to the man who threw them out. He said as soon as the plane stopped he threw them out immediately. He did a good job. There were three of them. Two on the right side and one on the left. I remember going to a raft on the right side of the plane. I had to swim about 30 feet to get to it. Four or five people were struggling with it – straightening it out and finding the pull tag.

I found some instructions on it but couldn't make heads or tails of them. It didn't take us long to inflate it. As it was being inflated I hopped onto one corner that wasn't inflated because with this life vest on it would be difficult to get into a raft. The corner inflated and I fell into the raft itself. I think it was a 6-man raft [7]. Next to this one was a 12-man raft [20]. Some people had activated their dye markers. The plane stayed afloat about five minutes. People were out of the plane in about three minutes, those who were alive. I think one was standing up when the plane hit the water. There was no notice that we were going to hit the water.

My life raft was tied to another. After we had been in the water about five minutes I saw a B-52 flying circles around us. Twenty-five minutes later a helicopter showed up. A scuba diver jumped out of the helicopter – maybe two. They asked how everyone was and who was hurt. Before long a second helicopter showed up. Within 10 minutes they started to pick people up.

CAPT Estes was one of the first people to go up. PH2 Tedder, a Lieutenant, and then myself. A scuba man asked how I was. I was O.K., so I got out of the raft. He signaled with his right hand for a helicopter to come over to us and he helped me into the loop and signaled to let me up. This was without a hitch.

Memories from Guam, August 14, 1978

By Peter G. Washburne
Musician 2nd Class, U.S. Navy, Veteran

Written October 21, 2013.

The weather that morning was tropical: sunny, 70° and partly cloudy. On or about 7:30 a.m. on the morning of August 14, 1978, about 15 to 24 band members of the COMNAVMAR U.S. Navy Band, mustered (Navy talk for we convened, or met) at our band room near the Apra Heights on Guam. We were all dressed in 'Salt and Peppers,' that's Navy lingo for white short-sleeved shirts, with two button-down breast pockets, and black trousers. Many of us young guys were carrying cameras on our shoulders and prepared with a small carry-on bag for the flight we were to make. We all appeared to be up in spirit and in a good mood: we were heading on a trip to an exotic island!

I remember, while all us band members were milling/standing around in our band room lobby, I observed a married band member with a big telephoto or zoom lens camera strapped around his neck (he resembled a Hawaiian tourist), and I felt immediately a strong negative sensation. I thought, 'He shouldn't be taking that to photograph the half-naked girls, he's married.' [This author later learned this man always carried this lens.] We young guys had been told that on the islands we were to visit there would be topless women; that is, tribal, indigenous native women who dress with grass skirts and may appear in public with paint on their faces, too.

At about 8:30 or so about 15 or 16 of us bandsmen hopped aboard carefree into our transportation vehicle, an old American school bus (pictured at right, which we usually employed for island engagements—as there was plenty of room for 30 or so band members along with their musical instruments). Some of the musicians, like me, carried large musical instrument cases, which we loaded in through the back door of the school bus. In about 20 – 25 minutes we arrived at the Navy Air Field.

Observing the Preflight Engine Runup

Upon arriving at the U.S. Navy Airfield, I made the following observations: the airplane in which we were to fly (which was not far from the main hangar) was a tail dragger, a C-117 cargo plane, owned by the U.S. Navy. It looked like an old DC-3. There was black smoke billowing out of one of the aircraft's port engine [Findings of Fact #24, page 160]. There was apprehension in the air as enlisted mechanics were still turning wrenches on metallic parts of the port engine. Observing these details made me feel apprehensive and a slight bit of panic.

Loading

Now about this time, suitcase after suitcase, musical instrument case after musical instrument case, box after box, were being loaded into the plane. 'Where's all this cargo going to go?,' I

wondered. There were many boxes, possibly more than 10 or as many as 20, all wrapped identically in plain brown wrapper, and unmarked without any identification nor title, nor placard stating what they contained. They were rather big and rectangle in size, 2 feet high by 15 inches wide. I assumed there was whisky or were liquor bottles inside this mystery cargo. There was a lot of luggage along, with tennis racquets and scuba diving equipment, too.

About this time, while the band members still stood outside the plane waiting to board, it was decided and announced that some musicians must stay behind. When my superior, Musician Senior Chief Frank Berger asked us musicians, "Who wants to stay back?" I immediately exclaimed, "I will!" "We need a bass," replied MUSC Frank Berger. Then, after a trumpet player was chosen to stay behind, as he walked away from the plane, under his breath he uttered "The plane's gonna crash." I again asked if I could stay behind, but Berger said "No."

When I boarded the plane I wished to sit as near to the back of the plane and as near to any emergency exit as I could; and this I tried to do.

On the left side of the aisle there were jump seats. That is, there was red and olive green nylon stretched upon a metal frame which all the band members were obliged to sit upon. We all were told to fasten our seatbelts before take-off.

The pre-flight safety briefing was being done by a very nervous young guy – his face showed fright. I think at one point he even dropped what looked like a slightly crumpled piece of paper on the cabin deck in front of him: the piece of paper presumably contained an outline for his safety briefing. Normally, before any flight I'm a little anxious. Like other times before flying, I usually look at the face of the stewardess or steward, to feel their countenance and pick up on their confidence. This time, the safety briefing guy's countenance affected my own, and I became even more scared and doubtful about this flight.

Take-off

The take-off was smooth. After about ten minutes of flight, in order to pass the time, I had been glancing at a current copy of Newsweek, or perhaps Time magazine, and I just happened to stumble upon an article in which there was a black and white picture of a crashed airplane in the sea. I felt queasy. However, Lt. Betancourt was seated in front of me. A Naval officer, in his white dress uniform, very sharp looking, confident, a look in his eyes that inspired confidence. I concentrated my vision on the expression in his eyes (visible to me was only his left eye) and at brief moments I could see both of them, and on his countenance. I felt faith. I felt inspired with confidence. I keyed off of his attitude. Immediately his countenance reassured me, and in that moment I believed that I would survive whatever fate was about to befall me.

Turnaround

After a while there was some word buzzing around inside the aircraft, that we were headed back to Guam, and then it was said that one of the engines had been leaking oil – referring to the right side engine. I was completely unaware that our plane had turned around and was headed in the opposite direction. I thought 'I didn't feel the plane tilting to turn or turning.'

Jettison

Then it was said that we had to throw overboard all of the luggage – everything loose had to be immediately jettisoned into the ocean: suitcases, uniform/clothing bags, small hand bags, all of the musical instruments in their cases, the tennis racquets, the diving equipment, and cameras; all of the many mysterious boxes in plain wrapper had to go as well. At that time, the rear left side passenger access door was opened.

The dumping of cargo was conducted in a disciplined manner – there was no complaining. We assisted those crew members involved. I remember having a smirk on my face as I observed the Navy band's big bass drum thrown out of the door. I was slightly amused as well seeing the sousaphone (I played that sousaphone for our ceremonial engagements) in its big black case being thrown out of the door. Additionally, all the 10 to 20 boxes, along with every single piece of luggage, were thrown out. But I recall my personal dismay at watching Bradley Johnson's prized French-made Selmer alto saxophone – his own possession, which he played so skillfully, being jettisoned into the middle of the Pacific Ocean as if it were refuse or ballast. "How unfair," I thought to myself.

Final Descent

At a certain point in the flight, the word was announced to the passengers that the plane would 'ditch.' I thought, "So, I was right in assuming the plane is overloaded. Some airplanes can fly on one engine. This one cannot because it's overloaded, and all the weight is just too much for one little engine to support."

Inside the doomed aircraft a quiet, serene, controlled atmosphere prevailed. No yelling, no, no screaming, no commotion, no one was hysterical—military discipline, I guess you'd call it. We were all quietly anticipating the landing upon the ocean; and presumably all silently hoping and praying that our plane would ditch safely.

Just minutes before contact with the ocean, my good friend, MU3 Rick Sunier, seated to my left said to me very calmly, "Peter, you should put your glasses in your pocket," and this I did, and secured my prescription eye glasses in the left breast pocket of my Navy uniform with the pocket button. Shortly thereafter, I recall stretching my neck in order to look out of the plane's window, and I observed and that we were flying at a height equal to a four story building.

After I looked out the window, it became clear that I was to embrace for a chance landing on the ocean, and that this event would happen within a half a minute from now, at the most. How odd it was that there was still this young crewman in a blue flight overall and he was still parading up and down the aisle reminding passengers to tighten their seatbelts and/or verify that their seatbelts were secured. I worried about him – I wondered "When is he gonna sit down and put on his seatbelt?" He appeared to be 5' 10" and slim—not of a stocky build. Band members near me, seated on the jump seats, and I were not advised nor instructed by anyone to put our heads between our legs for the crash, so we just continued to sit up normally.

Impact

When the plane ditched, we all felt the plane "smack" upon the ocean – it was a hard hit, and then the plane's movement resembled a stone skipping over the ocean – and, and then there were three very loud violent hits: bang! bang! bang! Then, the aircraft came to an abrupt stop. I was unconscious.

My good friend, MU3 Scott A. Smith, was sitting in the first seat of the jump seats; that is, he was sitting with his left shoulder to the bulkhead or wall that separates the cockpit from the passenger area. The musician who sat to his immediate right, was MUSN Francis Winters or MUSN Vernon Lipscomb, I think, who, upon being questioned days later by me about Scott Smith, said, "When I came to, I was under water. I felt something touch my (left) leg." The musician who sat to the right of Lipscomb was also injured. Incidentally, Lipscomb told me that his thumb had been nearly severed off in the accident, and attempts to sew his thumb back on failed to allow the functioning of his nerves in his thumb; hence, Lipscomb complained bitterly that he had no feelings in his thumb. To the right of Lipscomb, I think Musician First Class Randy Thompson was seated, who suffered a fractured disc, as I was told.

When I regained consciousness I felt a sharp pain in my left leg above the knee. I was bleeding, as I had been cut by shrapnel, loosened upon impact during the plane crash. Also, I had other cuts and or bruises which I immediately became aware of.

I looked around the inside of the aircraft, and there was no one sitting to my right, no one sitting to my left, and there were no people left sitting in the normal seats, and the jump seats were all cleared-off. I noticed that I was, as a cause of the abrupt stop of the aircraft, slumped way down on the jump seat, perhaps 1 foot to 2 feet lower than I had been sitting previously, and I was at least 3 feet or maybe 4 feet closer to the front of the plane [the nylon seats hanging on a rod] being pushed forward by the impact. My head may have been cushioned upon impact by the stomach of Rick Sunier, who, during the flight, sat on my left.

I was one of the last passengers to exit the aircraft. I stood up inside the mangled aircraft cabin (which looked asunder with loose sheet metal projections dangling overhead and about), and I clumsily stepped in the direction of an open exit hatch. I had to be careful where I extended my hands, as there were sharp metal filaments lying around and or hanging precariously. I was aware that survivors were exiting through other exits.

Exit

Approaching the exit hatch, there was a crew member and possibly another individual who both cautioned me to be careful when jumping into the ocean from the aircraft. I think they assured that I had put on my life vest properly. I jumped into the ocean from the cargo door. Then, I felt the warm ocean. My impression was that it was like bathwater, very warm.

I remember that it was a sunny day and there were 2 to 3 foot swells on the ocean, although, no white-capped waves. I swam towards the nearest inflatable raft which was probably no more than 40 feet away.

There was almost one foot of water inside the rubber raft. I remember removing one or both of my shiny black military dress shoes, so to use them as a makeshift bucket to try and empty the water from my floating life raft. This seemed to no avail, though. There was another man, older than me, already in this raft. Possibly there was another survivor in the raft, too. The other man in the life raft with me appeared to be in his 40s, a civilian, medium build, blond or reddish hair, he appeared to be unscathed or unhurt, and I assumed he was a dignitary. We may have exchanged a word or two, but I don't remember.

The marker color, released from the life jacket of the other survivor in my life raft, had colored the ocean water yellow in our life raft; my mind noted the strange color of the ocean water in the raft. I was worried about sharks, too. During the pre-flight safety briefing we were told that the colored die which is used to help search teams locate us coincidentally also attracts sharks.

So here I was, in a small rubber life raft in the middle of the Pacific Ocean. I had no thoughts about the other band members. I don't know if I thought about my family back home. It's likely that I was just 'taking in impressions' of everything around me. I was squirming around in the rubber raft, trying in vain to dump out ocean water from it, sitting with an unknown survivor and not hearing nor seeing any of my friends/fellow band members with whom I had commenced my journey that day.

I observed the plane afloat upon the sea. It was at a distance of 15 to 20 yards. It was facing to the right. The fuselage was cracked or broken in the front just where the cockpit joins the fuselage. The cockpit, however, was no longer attached to the plane.

After about five minutes, the plane rolled to its right, and with its shiny silver left wing with the red, white, and blue military star affixed upon it, pointed straight towards the sky, it all slowly sank into the sea, like a mammoth shiny metal statue, as if pulled straight down to be swallowed by the ocean. Suddenly, there was no more aircraft there. It was an eerie feeling, observing the plane's wing disappear beneath the Pacific Ocean. Then, I could view some other life rafts afloat

Rescue

After 5 or 10 or 15 minutes, way up high in the sky, I observed an aircraft circle above our life raft. I recognized it as a U.S. military B-52. Then, perhaps 25 to 30 minutes later a military helicopter appeared. It hovered closer to the life raft I was in; I remember the force of the wind from the helicopter's propellers affect the surface of the ocean.

Suddenly, a young man jumped from the helicopter into the ocean and swam towards our life raft. He was a professional rescuer and diver, and he motioned to me as if to say "You're next." And I was lifted up by a device which was pulled into the interior of the helicopter. I think that another survivor was also retrieved into this helicopter before it headed back to Guam.

When the helicopter landed, I was loaded into an ambulance and brought in 10 minutes or so to the emergency room, or at least to the First Aid station, inside the U.S. Navy's Guam Medical Facility. I was checked over, temperature taken, blood pressure checked, my wound on my leg

was disinfected and bandaged, other band-aids were applied where needed, and I was questioned about my name, where I was, what day it was, etc. I was shell-shocked, yes; but, I was able to answer their questions correctly. I remember the Navy medical personnel were exceptionally helpful, friendly, and professional. And subsequently I was released after an hour, possibly, along with some of my band colleagues from the Naval Hospital.

That Evening's Sunset

That evening, I observed the sunset over the Philippine Sea from the vantage point on the roof of the Navy band barracks. The sunset, similar to that pictured below from the same location, was the most beautiful, with intense orange-pink, salmon colors over the sea. I reflected on the loss of my good friend, Scott Smith; that Scott was now confirmed dead and missing, never to be found. I felt so melancholy.

* * *

18. SAR Swimmer Daniel L. Arnes

Search and Rescue Swimmer
and C-117D QA Representative
Pictured at left in 1978

I was a Crew Chief on the UH-1N "Huey" rescue helicopters, and a Navy Rescue Swimmer. We had a helo at the scene within 25 minutes of ditching. It took us a while to get word the plane went down, and then when we launched the helo it still took a few minutes to get to the site. All of us, including the C-117D flight crew, were stationed at Naval Air Station Agana, Guam.

I learned later that a second helo launched but returned to base to obtain a horse collar, and then flew to the scene. Both helos picked up survivors. I have no idea who we picked up by helo. We simply swam to whoever appeared to be hurt or needing assistance first, then have them get out of the raft, wave the helo in overhead, and they hoist them up. Usually the swimmer goes up with them, but in this case they didn't need assistance for hoisting, and we had too many survivors to pick up, so we stayed in the water to get the next one ready.

I was in the first helo [#240] on scene, and was the first swimmer in the water. I jumped in the water near the largest raft [#1] and sent 4 people up. The helo took those to shore for medical attention, and I stayed in the water with the survivors.

Ron Curtiss was the qualified Crew Chief on the C-117D. Ron was an Aviation Electricians Mate 2nd Class (selected for 1st Class, but never got the chance to sew it on). When you qualify in a Crew Chief position, you are the Crew Chief, and it has nothing to do with your Rate/Rank. Ron was also assigned as a Navy Rescue Swimmer, and a very good friend of mine. We both ended up flying on the C-117 as an additional collateral duty to our Rescue Swimmer duties.

In addition to being a Rescue Swimmer, Jet Engine Mechanic, and Quality Assurance Representative (QAR) on the helicopters, I was also a QAR for the C-117D. I was not an experienced Reciprocating Engine Mechanic, but I was an experienced QAR who knew how to read the manuals to ensure maintenance was done correctly, regardless of the job.

After the crash there was an investigation by the Aircraft Mishap Board. Their Summary Message Report, issued on 29 August 1978, included in the Conclusions and Recommendations a paragraph 6, titled "Maintenance / Aircraft Condition," shown on the next page.

Aircraft Mishap Board Summary Message

To better understand the "snapshot" below, "JCN" stands for "Job Control Number" and uses the Julian date calendar, so JCN 220-160 would be Julian Date 220th day of the year, and the 160th maintenance job written for the month. The number of jobs was for all aircraft maintained, not just the H-1s and C-117D. For example, JCN 208-792 was written at the end of July and there had been 792 jobs for the month on the day it was written.

(Retyped on the next page for greater readability)

(6) MAINTENANCE/AIRCRAFT CONDITION, BUNO 017152 WAS ON ITS TENTH SERVICE TOUR WITH 282 OPERATIONAL SERVICE MONTHS, THE AIRCRAFT WAS TRANSFERRED TO NAS AGANA, GUAM ON 15 MAY 1978. THE AIRCRAFT HAD ACCUMULATED 57.2 HOURS SINCE ACCEPTANCE BY NAS AGANA WITH NO NOTICEABLE ADVERSE MAINTENANCE TRENDS ALTHOUGH NUMEROUS DISCREPANCIES WERE DISCOVERED AND CORRECTED. THE NINTH CALENDAR ODD INSPECTION WAS COMPLETED ON 10 JULY 1978. ALL MAJOR DISCREPANCIES WERE CORRECTED AND A FUNCTIONAL CHECK FLIGHT WAS FLOWN. THE AIRCRAFT IS CONSIDERED TO HAVE BEEN MATERIALLY A SAFE FLYABLE ASSET FOR THE ASSIGNED MISSION. A CHIP LIGHT DISCREPANCY ON THE STARBOARD ENGINE WAS DISCOVERED ON 19 JULY 1978. JCN 199-652 WAS ISSUED AND THE DOCUMENTED CORRECTIVE ACTION WAS TO REMOVE PRESSURE AND DRAIN PUMP STRAINERS AND INSPECT THE MAGNETIC CHIP PLUG FOR METAL PARTICLES. THE ENGINE WAS OPERATED IN ACCORDANCE WITH GENERAL RECIPROCATING ENGINE BULLETIN (GREB) 165. THE STRAINERS WERE REMOVED AND INSPECTED THREE TIMES WITH NO EVIDENCE OF METAL. ON 27 JULY 1978, APPROXIMATELY NINE FLIGHT HOURS FOLLOWING THE COMPLETION OF JCN 199-652, THE NUMBER FOUR CYLINDER OF THE STARBOARD ENGINE WAS FOUND TO HAVE OIL BLOW-BY AND LOW COMPRESSION. JCN 208-792 WAS ISSUED TO CORRECT THIS DISCREPANCY, DURING THE JCN 208-792 REPAIR CYCLE, AN INCORRECT NR 4 CYLINDER WAS RECEIVED FROM SUPPLY AND INSTALLED PRIOR TO ENGINE OPERATION, THE QUALITY ASSURANCE REPRESENTATIVE (QAR) INSPECTED AND DISCOVERED THE MISTAKE. THE CYLINDER WAS THEN REMOVED AND THE CORRECT PART ORDERED, ON 8 AUGUST, JCN 220-160 WAS ISSUED TO INSTALL THE CORRECT CYLINDER, ALL MAINTENANCE WAS COMPLETED AND A GROUND OPERATIONAL RUNUP OF THE ENGINE WAS PERFORMED, THE GROUND OPERATION AND FUNCTIONAL CHECK FLIGHT FLOWN ON 9 AUGUST EXCEEDED THE 1 HOUR OPERATION REQUIRED WHEN A CYLINDER IS REPLACED. UPON SERVICING THE AIRCRAFT AFTER A FLIGHT ON 10 AUGUST, OIL WAS NOTED TO HAVE GUSHED FROM THE STARBOARD OIL FILLER NECK WHEN THE FILLER CAP WAS REMOVED, NO OIL WAS ADDED AND THE LOSS OF THE OIL WAS ESTIMATED TO BE APPROXIMATELY ONE QUART. ON 13 AUGUST, THE AIRCRAFT WAS FLOWN AND THE SAME SITUATION DESCRIBED ABOVE OCCURRED. AS BEFORE, NO OIL WAS ADDED TO THE STARBOARD ENGINE AND AGAIN THE LOSS WAS ESTIMATED TO BE ONE QUART. ON 14 AUGUST, THE AIRCRAFT WAS LOST AT SEA.

The Aircraft Mishap Board Report concluded [elsewhere] that there was **no maintenance considered to be a "Cause Factor", or even a "Contributing Factor" of the accident.**

* * *

From the C-117 Aircraft Mishap Board Summary
Provided by Dan Arnes.

(6): Maintenance/Aircraft Condition. BuNo. 017152 was on its tenth service tour, with 282 operational service months.

The aircraft was transferred to NAS Agana, Guam on 15 May 1978. The aircraft had accumulated 57.2 hours since acceptance by NAS Agana with no noticeable adverse maintenance trends, although numerous discrepancies were discovered and corrected.

The ninth calendar ODD inspection was completed on 10 July 1978. All major discrepancies were corrected, and a functional check flight was flown. The aircraft is considered to have been materially a safe, flyable asset for the assigned mission.

A chip light discrepancy on the starboard engine was discovered on 19 July 1978. JCN 199-652 was issued, and the documented corrective action was to remove pressure and drain pump strainers, and inspect the magnetic chip plug for metal particles. The engine was operated in accordance with General Reciprocating Bulletin (GREB) 165. The strainers were removed and inspected three times with no evidence of metal.

On 27 July 1978, approximately nine flight hours following the completion of JCN 199-652, the number four cylinder of the starboard engine was found to have oil blow-by and low compression. JCN 208-792 was issued to correct this discrepancy.

During the JCN 208-792 repair cycle, an incorrect No. 4 cylinder was received from supply and installed prior to engine operation. The Quality Assurance Representative (QAR) inspected and discovered the mistake. The cylinder was then removed and the correct part ordered, on 8 August.

JCN 220-160 was issued to install the correct cylinder. All maintenance was completed, and a ground operational run-up of the engine was performed. The ground operation and functional check flight flown on 9 August exceeded the 1 hour operation required when a cylinder is replaced.

Upon servicing the aircraft after a flight on 10 August, oil was noted to have gushed from the starboard oil filler neck when the filler cap was removed. No oil was added, and the loss of this oil was estimated to have been approximately one quart.

On 13 August, the aircraft was flown and the same situation described above occurred. As before, no oil was added to the starboard engine, and again the loss was estimated to be one quart.

On 14 August, the aircraft was lost at sea.

19. Investigation Findings of Fact and Opinions

DEPARTMENT OF THE NAVY
OFFICE OF THE JUDGE ADVOCATE GENERAL
WASHINGTON D.C. 20370

The Honorable James A. Joseph
Under Secretary of the Interior
Washington, D. C. 20240
(Attention: Mr. W. Green)

IN REPLY REFER TO
JAG: 21.1:MAS:esf
21/46 154
15 Mar 1979

Dear Mr. Joseph:

This is in further response to your request to the Secretary of the Navy for a copy of the report of the investigation into the crash of a C-117, on which you were a passenger, near Guam on August 14, 1978.

This office regrets the delay in your receipt of this copy. By telephonic communications to Hawaii, this office has learned that senior commanders in the field are still [seven months later] addressing some complex issues raised in the report. In order to avoid any further delay, a copy has been prepared for you from our advance copy.

The Social Security numbers of other persons have been deleted as their release would constitute an unwarranted invasion of their privacy. In addition, enclosures (2) through (5), (8), (9) and (64) as well as portions of enclosures (13), (41), (51), (53), (62), (63) and (65), which relate to the injuries, medical treatment, and personal data of others, have been deleted on privacy grounds.

Enclosure (68) has been deleted, as well as opinions (1) through (6), (14) through (17), (19), (23), (58) through (62) and the recommendations of the investigating officer. This matter is withheld since it constitutes predecisional, intra-agency memorandums, the release of which would tend to stifle valuable internal discussion. Since this copy has been prepared with the privacy interests of others in mind, there is no legal objection to your releasing copies to such of your associates as have an interest in the case. Reproduction fees for this copy are waived.

We trust that the enclosed material satisfies your request. If any pages prove illegible, your secretary may phone 694-5247/5419 or send a memo to this office listing them, and upon receipt of the original report, we shall reproduce other copies. You will probably find the rescue photographs at enclosure (54) particularly valuable. Since the original report has not yet arrived, we also possess mere photocopies of those scenes. In the event you desire photographic prints, we shall gladly assist you in obtaining them, at modest cost, if you indicate which titled scenes you desire.

It is hoped that this document will answer the questions you may have concerning that tragic day.

Sincerely,
C. E. McDOWELL
Rear Admiral, JAGC, U. S. Navy
Judge Advocate General of the Navy

28 September 1978

From: Captain Steven Block, USN, [SSN deleted]/1310
To: Commander Fleet Air, Western Pacific
Subj: Investigation to inquire into the circumstances connected with the emergency ditching, approximately 16 miles off Orote Point, Guam, of a Navy C-117 Aircraft, BUNO 17152, on 14 August 1978, resulting in the death of AE2 Ronald Hugh Curtiss, USN, and MU3 Scott A. Smith, USN, and injuries to other crew members and passengers

Ref: (a) JAG [Judge Advocate General] Manual
(b) OPNAV Instruction 3710.7H, NATOPS General Flight and Operating Instructions
(c) NAVAIR 01-40HK-l, NATOPS Flight Manual, C-117D Aircraft
(d) CINCPACFLT Instruction 4630.2H
(e) U.S. Navy Regulations - 1973
(f) SECNAV Instruction 1700.11B
(g) COMNAVAIRPAC Instruction 4660.1A
(h) OPNAV Instruction 4790.2A CH-6, Volume II
(i) FLIP (enroute) Supplement

Encl. (1) Appointing order from Commander Fleet Air, Western Pacific, ser 577, dtd 17 August 1978
(2) NATOPS Evaluation Report ICO LT BELL, dtd 27 JUN 78
(3) CO, NAS Agana, Guam ltr 3740, dtd 27 JUN 78
(4) NATOPS Evaluation Report ICO AE2 CURTISS, dtd 4 JUL 78
(5) Flight Crew Training and Qualifications Summary
(6) Statement of LT Robert C. BELL, USNR
(7) Statement of CAPT Edward D. ESTES, USN
(8) Extract from Pilot's Logbook of LT Robert C. BELL, USNR
(9) Extract from Pilot's Logbook of CAPT Edward D. ESTES, USN
(10) Statement of RADM David S. CRUDEN, USN
(11) Statement of MU3 Peter G. WASHBURNE, USN
(12) Statement of LCDR Patrick H. ROTH, USN
(13) Statement of LT Jose L. BETANCOURT, USN

This author received only enclosures 6-7, and 10-13, highlighted here in blue, being the six statements previously included. The prior-page cover letter indicates 2-5, 8-9 and 64-68 highlighted here in red were withheld for privacy. The other enclosures are probably available.

(14) Flight Plan, Weight & Balance Form, Heather Briefing and Passenger Manifest
(15) NAS Agana Tower Traffic Control Strips
(16) JCS msg 272219Z JUL 78
(17) CINCPAC msg 020620Z AUG 78
(18) NAS Agana, Guam, Flight Schedule, dtd 12 AUG 78
(19) CINCPACFLT msg 040730Z AUG 78
(20) COMNAVMARIANAS msg 050002Z AUG 78
(21) C-117D BUNO 17152 Maintenance History Summary
(22) Statement of AD2 David F. RATHBUN, USN
(23) Statement of ADR2 James L. BROADBENT, USN
(24) Statement of AD2 Ramon S. CAPULE, USN .
(25) Statement of AD3 Viviano DIAZ, USN.

These 14-63 and 65-67 were not reviewed by this author.

(26) Joint Statement of OMD Supervisors, LT Douglas J. ANDERSON, USN, AVCM John H. MOYNA, USN, ETC Gerald W. BOGDANOFF, USN, and AT1 Thomas M. McCANN, USN.
(27) Statement of AMSC Lawrence C. PARMENTER, USN
(28) Statement of AD1 Daniel L. ARNES, USN
(29) C-117 BUNO 17152 Crew and Passenger List and Seating Diagram
(30) Statement of MUSN John B. BREWER, USN
(31) Statement of LCDR William F. BURKE, USN
(32) Statement of AT3 Marvin L. LONGSTREET, Jr., USN
(33) Statement of CAPT Ralph A. SMITH, USN
(34) Statement of MU3 Vernon T. LIPSCOMB, USN
(35) Transcription of Radio Communications with Andersen Airways
(36) C-117D Performance Data
(37) Transcription of Landline Communications between Guam Center/ RAPCON, Honolulu ARTCC, Andersen Airways, JRCC, and NAS Agana Ops
(38) JRCC Log
(39) Transcription of Radio Communications between Guam Center/RAPCON and Navy 17152
(40) Statement of MU1 Charles R. THOMPSON, USN
(41) Statement of PH2 Robin L. TEDDER, USN
(42) Statement of MUCS Francis P. BERGER, USN
(43) Statement of MU3 Michael A. JONES, USN
(44) Statement of MU3 Richard J. SUNIER, USN
(45) Statement of MU3 Anthony J. MONJURE, USN
(46) Transcription of Radio Communications between Guam Center/RAPCON, NAS Agana Tower, and Air Force B-52, SLAT-63
(47) Statement of MU3 Bradley C. JOHNSON, USN
(48) Joint Statement of CDR Gordon W. ROBERTS, USN and AVCM John H. MOYNA, USN
(49) Ground track of C-117, BUNO 17152, on 14 August 1978
(50) Statement of CAPT Regner C. RIDER, USAF, and Crew
(51) Statement of Mrs. Ruth G. VAN CLEVE
(52) Statement of MU3 Zosimo C. ASCANO, USN
(53) Statement of MUSN Francis J. WINTERS, USN
(54) Photographs pertaining to C-117, BUNO 17152, Incident on 14 August 1978
(55) Statement of MU3 Ernesto G. JIMENEZ, USN
(56) Statement of LT Arthur E. BROOKS, USCG
(57) Statement of LT Ronald A. THOMPSON, USNR
(58) NAS Agana Tower summary of C-117 incident, VVl7152, 14 August 1978
(59) Statement of LT Mark MENDILLO, USN
(60) Statement of LCDR S.L. PORCH, USN
(61) Statement of BM1 Terry W. CHILDERS, USN
(62) Statement of CDR William M. JACKMAN, MC, USN
(63) Medical reports on personnel examined after C-117 aircraft accident occurring on 14 August 1978 by Naval Regional Medical Center, Guam

(64) Death Certificates in the case of AE2 Ronald H. CURTISS, USN, and MU3 Scott A. SMITH, USN
(65) NAS Agana, Guam, msg 150735Z AUG 78 and statement of CDR William M. JACKMAN, MC, USN
(66) Statement of PRI Morris TURNAGE, USN
(67) Statement of PRI Lee R. LECHLEIDNER, USN
(68) C-117 Publication Deficiencies

PRELIMINARY STATEMENT

1. As directed by enclosure (1) and in accordance with reference (a), an informal investigation was conducted into the circumstances surrounding the emergency ditching, at approximately 1141, 14 August 1978, approximately 16 miles off Orote Point, Guam, of a Navy C-117 aircraft, BUNO 17152, in which the aircraft was lost at sea, resulting in the deaths of AE2 Ronald H. CURTISS, USN, and MU3 Scott A. SMITH, USN, and injuries to other passengers and crewmembers.

2. Difficulties were encountered in this investigation in attempting to determine the precise cause of this accident due to the fact that the aircraft sank in approximately 970 fathoms of water. With the exception of a seat belt and attaching fittings, none of the debris recovered was of value to the investigation. Completion of the investigation was delayed due to the complexity caused by the large number of survivors to be interviewed and the remoteness of the accident location. A listing of claims against the government is not included since all claims have not yet been filed.

3. The Honorable James Joseph, Mr. Wallace Green, Mr. Adrian Winkel, Rear Admiral Neal H. Clements, USN, and Lieutenant James R. Allen, USN, all passengers on the aircraft, had departed Guam prior to the arrival of the investigating officer. It was considered not necessary to interview these persons in view of the essentially corroborative statements of the remainder of the passengers, and no attempt was made to contact them.

4. The Chief, Guam Combined Center/Radar Approach Control (CERAP), operated by the Federal Aviation Administration of the Department of Transportation, declined to allow air control personnel to furnish statements without first clearing such statements with the regional headquarters in Hawaii. Since clearance was estimated to take 10 weeks, and since controllers statements were considered not crucial to the investigation, the request for such statements was withdrawn by the investigating officer. The Chief, CERAP did furnish transcriptions of recorded pertinent voice radio communications. The transcriptions were not signed and were subject to the caveat that they were drafts and subject to revision. A copy of the pertinent taped recordings was reviewed by the investigating officer and the draft transcriptions were considered to be accurate.

5. All individuals whose statements contain personal information were afforded their rights under the Privacy Act of 1974 and executed Privacy Act statements (except Captain Ralph A. SMITH, USN, who, as a result of his injuries, was unable to make his signature). Social Security numbers were not solicited and where appearing were obtained from pre-existing official records or volunteered by the individual.

6. Personnel who suffered injury during the course of the accident were advised in writing of the contents of paragraph 0306 of reference (a). Copies of this written advice are appended to their statements.

7. Although certain documentary evidence depicts events in Greenwich Mean Time (GMT), expressed as "Z," all times in this report have been converted to Guam local time, GMT+10. Similarly, all mileages are nautical miles.

8. Those statements not signed by the witnesses were appropriately edited and accurately summarized prior to typing in final form. However, in the interest of time, these summaries were not submitted to those witnesses for signing. Rather, they have been authenticated as accurate summaries by the investigating officer as provided for in Section 0606(e) of reference (a).

FINDINGS OF FACT

1 LT BELL was a designated NATOPS Transport Plane Commander (TPC) in the C-117 aircraft at the time of this flight. (Enclosures (2),(3)).

2 AE2 CURTISS was a designated NATOPS Plane Captain/Crew Chief in the C-117 aircraft at the time of this flight. (Enclosure (4)).

3 CAPT ESTES, AD2 RATHBUN and ADR2 BROADBENT were not NATOPS designated members in the C-117 at the time of this flight. (Enclosure (5)).

4 None of the flight crew had met all of the requirements of reference (b) and (c) at the time of this flight. A summary of individual flight crew qualifications and requirements is contained in enclosure (5). (Enclosures (5), (8), (9)).

5 CAPT ESTES and LT BELL had made two flights on the day prior to the accident, both of which involved emergency situations. (Enclosures (6), (7), (8), (9)).

6 Late adjustments were made to cargo and passengers to be carried. (Enclosures (6), (7), (10), (11), (12), (30)).

7 Take-off was delayed approximately 34 minutes past the planned departure time due to the late arrival of the official party and one piece of baggage, and problems encountered in starting the starboard engine. (Enclosures (6), (7), (10), (13), (14), (15) (22), (23)).

8 The TPC received a weather briefing on the morning of 14 August 1978 prior to the flight. (Enclosures (6), (14)).

9 Use of DOD aircraft to support the visit of the Under Secretary of Interior and party to the Trust Territory of the Pacific Islands was approved by the Joint Chiefs of Staff. (Enclosure (16)).

10 The C-117 assigned to NAS Agana was specifically requested by CINCPAC. (Enclosure (17)).

11 The NAS Agana flight schedule, dated 12 August 1978, authorized a VIP flight of seven hours duration on Monday, 14 August 1978, with LT BELL as TPC, CAPT ESTES as copilot, and PO2 CURTISS, PO2 BROADBENT, and PO2 RATHBUN as crew. The flight was scheduled to remain over two nights (RO2N) at an unspecified destination. (Enclosure (18)).

12 Purpose of the flight was to transport senior government and Navy officials, assistants, and a band to Ulithi in conjunction with a visit by the Under Secretary of the Interior to individual districts in the Trust Territory of the Pacific Islands. (Enclosures (16), (17)).

13 Normal procedures for scheduling station support aircraft, as contained in reference (d), were not followed for this flight. (Enclosures (16), (17), (19)).

14 No evidence could be found directing NAS Agana to perform the mission. COMNAV-MARIANAS message 050002Z AUG 78 implies that CINCPACFLT message 040730Z AUG 78 is directive in nature. (Enclosures (19), (20)).

15 The flight was filed to depart NAS Agana at 0915 to Ulithi via W24 to Corrs intersection, thence to a point 10° 40' N, 140° 00' E, thence to Ulithi at 6000 feet at 180 knots. Landing at Ulithi was estimated at 1135. (Enclosure (14)).

16 A weight and balance form was prepared and submitted by the TPC. Total gross weight was listed as 34,619 pounds, with the weight distributed so as to fall within the limits prescribed for the aircraft. (Enclosure (14)).

17 All pertinent technical directives had been complied with except Propeller Bulletin 4, Amendment 1, which requires the replacement of the propeller chafing rings at 800 hours operating time. The records showed that the chafing rings on the starboard propeller had accumulated 1023 hours since installation in 1975. The maintenance and operating history of C-117D, Bureau Number 17152 is contained in enclosure (21).

18 Enclosure (21) lists the flight hours since last depot level rework (time this tour), since last calendar inspection, recent pertinent discrepancies noted on the yellow sheets (OPNAV Form 3760/2), and significant maintenance performed on the aircraft.

19 On 8 August 1978 the number 4 cylinder on the starboard engine was changed due to an excessive oil leak coming from the exhaust port. [The 1820 engine has nine cylinders, numbered clockwise when viewed from the rear, so #4 was at the 4 o’clock position, outboard.] The required penalty run and functional check flight were performed in accordance with GREB 50. (Enclosures (21), (26)).

20 There were discrepancies in the maintenance practices and procedures at NAS Agana in that Maintenance Action Form (MAF) discrepancy write-ups and signoffs were not always complete, discrepancies listed as non-grounding were not verified prior to release of the aircraft, and there was failure to ensure compliance with Maximum Operating Time (MOT) limits on components. (Enclosures (21), (26)).

21 The most recent discrepancy on the copilots inertia reel was carried as an "up" (non-grounding) discrepancy. (Enclosure (21)). **[This may have accentuated the nosing-in.]**

22 A preflight inspection was performed by AE2 CURTISS, who was qualified to perform such an inspection, using a daily, turnaround (postflight) or preflight checklist. Adequacy of the preflight inspection could not be determined. (Enclosures (4), (6), (22), (23)).

23 AE2 CURTISS performed an engine runup of both engines prior to the flight. (Enclosures (22), (23), (24)).

24 During the engine runup, smoke was observed coming from the outboard cowl flaps above the exhaust stacks of the port engine. (Enclosures (22), (24), (54)).

25 A cluster clamp bolt on the port engine exhaust stacks was tightened after the runup and prior to the flight. (Enclosures (22), (23), (24), (25), (54)).

26 The Aircraft Discrepancy Book containing the yellow sheet and previous aircraft discrepancy sheets was taken with the aircraft and not recovered. (Enclosures (6), (26))

27 The aircraft had not been released for flight by maintenance personnel on 14 August 1978. (Enclosures (21), (26), (27), (28)).

28 A total of 30 persons was manifested on the flight including a crew of five. All persons manifested were onboard the aircraft. (Enclosures (6), (7), (12), (14), (18), (23), (30), (31), (33), (34), (40), (42), (43), (44)).

29 The seating arrangement corresponded to the diagram in enclosure (29).

30 The cargo was comprised of personal luggage stowed forward and aft of the passenger seats on the starboard side; band instruments stowed aft of the passenger seats on the starboard side; soft drinks, beer, and liquor stowed under the troop seats on the port side. (Enclosures (6), (22), (23), (30), (31), (33), (42), (44), (47), (55)).

31 The alcoholic beverages were handled in accordance with article 1150 of reference (e) and references (f) and (g), with the exception that they were not stowed in a securely locked compartment. The adequacy of the package marking could not be determined. (Enclosures (6), (7), (22), (32), (33)).

32 The pilot's preflight inspection was performed by LT BELL, the TPC. Adequacy of the preflight inspection could not be determined. (Enclosure (6)).

33 The TPC did not sign Part A of the yellow sheet certifying that he had inspected past discrepancy reports, insured proper filing of weight and balance data, and accepted the aircraft for flight. (Enclosure (6)).

34 Several unsuccessful attempts to start the starboard engine were made by the pilots. (Enclosures (6), (7), (10), (22), (23), (33)).

35 An inboard section of the starboard engine cowling was removed, AD2 RATHBUN tapped on the case of the induction vibrator, following which the starboard engine started. (Enclosures (6), (7), (10), (22), (23), (33)).

36 The passengers were given a briefing on personal survival equipment and emergency egress prior to take-off. (Enclosures (10), (22), (31), (33), (34)).

37 No engine run up was performed by the pilots prior to take-off. (Enclosures (6), (7), (22), (23)).

38 The aircraft took off from NAS Agana, Guam, at 0949, 14 August 1978. (Enclosure (15)).

39 The take-off roll was between 2500 and 3000 feet and was the approximate pre-computed take-off distance. ((Enclosures (6), (7), (10)).

40 AE2 CURTISS was positioned between the pilots and aft of the throttle quadrant during takeoff. In this position he had neither a seat secured to the aircraft nor a restraining belt. (Enclosures (6), (7), (22), (23)).

41 Shortly after departure from Guam, oil was observed coming from the vicinity of the oil filler cap on the starboard engine nacelle. (Enclosures (6), (7), (10), (12), (13), (22), (23), (31), (33)).

42 The oil from the oil filler cap was attributed to over-servicing, expansion and venting, and was considered neither abnormal nor excessive. Subsequently the flow ceased. (Enclosures (6), (7), (10), (12), (13), (22), (33)).

43 At 1034 communications were established with Andersen Airways who assumed communications guard for the aircraft. (Enclosures (6), (35)).

44 At approximately 1038, in the vicinity of 30 miles southwest of Corrs intersection and approximately 130 miles southwest of Guam, indications of fluctuating oil pressure on the starboard engine were noted in the cockpit. [Note: at 1034 they were at CORRS at 100 miles out, and could not fly 30 miles in 4 minutes, and so this must have been around 1046.] A left turn was made to reverse course and Andersen Airways was notified that the aircraft was returning to NAS Agana. An emergency was not declared at this time. (Enclosures (6), (7), (22), (23), (35) (49)).

45 Manifold pressure was decreased on the starboard engine and both manifold pressure and RPM were increased on the port engine during the turn back toward Guam. (Enclosures (6), (7)).

46 AE2 CURTISS reported to the cockpit that the starboard engine was losing oil. (Enclosures (6), (23) (54)).

47 Indications of decreasing oil pressure on the starboard engine, including the oil pressure warning light, continued to be received in the cockpit. (Enclosures (6), (7), (23)).

48 There was no evidence in the cockpit that indicated abnormal, operation of the port engine. (Enclosures (6), (7)).

49 Indication of an uncommanded increase in the starboard engine RPM was noted and the TPC elected to feather that engine as the RPM passed 3000. (Enclosures (6), (7)).

50 The starboard engine was feathered. (Enclosures (6), (7), (10), (23), (31), (54)).

51 The landing gear warning horn sounded when the starboard throttle was closed. [This was as it should have been.] (Enclosures (6), (23)).

52 Between 1059:50 and 1104:30 Andersen Airways was notified of the difficulty and an emergency was declared. (Enclosures (6), (35)).

53 From the time the emergency was declared until Andersen Airways secured communications guard approximately 15 minutes later, there were 50 radio transmissions with the C-117, most of which were administrative in nature. (Enclosures (6), (7), (35)).

54 At some point during descent, power on the port engine was increased to approximately 2500 RPM and 40 inches of manifold pressure. (Enclosures (6), (7)).

55 During descent from 5000 feet to impact, airspeed varied but generally decreased. (Enclosures (6), (7)).

56 Power required to maintain level flight in C-117 aircraft is as plotted and tabulated in enclosure (36).

57 At approximately 1118 NAS Agana and the Joint Rescue Coordination Center (JRCC), Guam, were notified of the aircraft emergency. (Enclosures (37), (38)).

58 At approximately 1123 and an altitude of approximately 2000 - 2300 feet, the decision was made to jettison a portion of the cargo [Bell's statement, the Enclosure 6 here referenced, says it happened after reaching 2300, but does not say how long afterwards. Van Cleve stated it was 1130, and #64 below states at this time they were at 1,500 feet. Others also stated this started around 1500 feet.]. (Enclosures (6), (39)).

59 At least some sections of the troop seats were unfastened from the deck, the packages under the seats were passed aft and jettisoned out the parachute door. (Enclosures (22), (23), (40), (41), (42), (42), (44), (45)).

60 Some band instruments and baggage in the after starboard section of the cabin were also jettisoned. (Enclosures (22), (23), (42), (45)).

61 At approximately 1124 NAS Agana operations requested that Guam Center request the assistance of an airborne B-52 to escort the C-117 back to Guam. (Enclosure (37)).

62 At approximately 1125, Guam Center requested Slat 63, a B-52 from Andersen AFB, to escort the C-117 back to Guam. (Enclosure (46)).

63 Airframe buffeting was noted subsequent to initiation of jettison cargo. (Enclosures (6), (7)).

64 At 1126:30 the aircraft reported an altitude of 1800 feet and at 1129:10 reported an altitude of 1500 feet. (Enclosure (39)).

65 The passengers were directed to don LPP-1 life preservers and direction was given to "crack" the emergency exits. (Enclosures (12), (23), (30), (31), (33), (34), (41), (45), (54)).

66 Surviving flight crewmembers state that there was no warning bell system in the aircraft. (Enclosures (6), (7), (22), (23)).

67 After the order was given to close the parachute door, difficulties were encountered in getting it securely latched. (Enclosures (22), (23), (33), (34), (42), (47)).

68 At approximately 1137 the JRCC was advised that all NAS Agana search and rescue (SAR) helicopters were in a down status. (Enclosure (38)).

69 Helicopter side number 248 was down for incorporation of Airframe Change (AFC) 119 and side number 240 was down for a nick in a main rotor blade which had been discovered on the morning of 14 August. (Enclosure (48)).

70 At approximately 1139 JRCC requested USCGC POINT HARRIS to get underway. (Enclosure (38)).

71 The TPC feathered the port propeller, but did not secure the engine with the mixture control. (Enclosures (6), (7)).

72 AD2 RATHBUN and ADR2 BROADBENT were not strapped in at the time of ditching. (Enclosures (22), (23)).

73 It was not universally known in the passenger cabin that ditching was imminent. (Enclosures (10), (12), (23), (30), (40), (51), (53)).

74 At approximately 1141 the aircraft ditched on a northeasterly heading in the vicinity of the 232° radial [the heading was 052°] 16 nautical miles (13°12.8' North, 144°30.9' East) from the NAS Agana VORTAC [this is assumed to be the Nimitz VORTAC, 20 statute miles away, and this was 3 statute miles from the runway]. (Enclosures (6), (7), (39), (46), (49), (50)).

75 The recommended ditching heading was approximately 300° in the weather data received by the TPC prior to the flight. (Enclosure (14)).

76 The aircraft struck the water initially in a nose high attitude followed by one or more impacts of greater severity. (Enclosures (6), (7), (10), (13), (33), (51)).

77 The troop seats collapsed and/or failed during the ditching. (Enclosures (12), (22), (34), (40), (43)).

78 Most of the occupants of the troop seats were thrown forward during the ditching. (Enclosures (10), (11), (12), (34), (40), (41), (44), (52), (53)).

79 At least one attaching device for the troop seat lap belts was improperly configured. (Enclosures (21), (44), (54)).

80 The cockpit section was either totally or partially detached from the fuselage. (Enclosures (10), (11), (33), (44), (50)).

81 The cabin section of the fuselage cracked longitudinally and buckled laterally in the midsection, but generally remained intact. (Enclosures (10), (33), (43), (44), (47), (50), (51), (52), (55)).

82 At approximately 1143 the aircraft was observed in the water, headed into the wind [This was 2 or 4 minutes after impact, and the plane could not weathervane around that fast, so the observer probably meant exactly away from the wind] with the fuselage section forward of the wing missing. (Enclosures (46), (50)).

83 The starboard engine was torn from its mounting. (Enclosures (6), (31)).

84 The aircraft sank in approximately 970 fathoms within eight minutes from the time it was sighted. (Enclosures (49), (50), (56)).

85 At approximately 1152 the NAS Kadena C-117 departed NAS Agana for the ditching site. (Enclosures (15), (57)).

86 At 1156 NAS Agana SAR helicopter 240 was launched. It returned to NAS Agana for a voltage regulator problem, and was airborne again at 1205. It arrived on scene at approximately 1214. (Enclosures (15), (48), (50), (58), (59)).

87 USCGC POINT HARRIS was underway at approximately 1202 and arrived on scene at approximately 1251. (Enclosure (56)).

88 At 1220 NAS Agana SAR helicopter 248 departed NAS Agana, returned at approximately 1223 to load a horse collar rescue sling, and departed again at 1227. It arrived on scene at approximately 1232. (Enclosures (15), (48), (50), (58), (60)).

89 At approximately 1230 the torpedo retriever TWR-8 was underway, and arrived on scene approximately 1315. (Enclosure (61)).

90 One 20-man and two 7-man life rafts were carried on the aircraft. (Enclosures (14), (22), (23) (54)).

91 The 20-man raft and one 7-man raft were deployed by an aircrewman out of the cargo door exit. Neither raft was attached to the aircraft for boarding. The third raft [#3] was observed forward of the starboard wing. (Enclosures (22), (23), (33), (42), (50), (52)).

92 The enlisted crewmembers were equipped with SV2 survival vests and LPA-2 life preservers. The passengers utilized LPP-1 life preservers. Neither of the pilots was wearing flotation equipment at the time of ditching. (Enclosures (6), (7), (10), (22), (23), (31), (54)).

93 Of the passengers interviewed, three reported difficulty inflating their LPP-1s. One case of inadvertent deflation was reported after the user was in a raft. In four instances no attempt was made to inflate the LPP-1. (Enclosures (11), (12), (22), (30), (33), (45), (47), (51), (53), (54)).

94 Difficulty was reported in locating the inflation toggles for both 7-man rafts [or the 20-man and one 7-man]. (Enclosures (11), (22), (33), (43)).

95 The island of Guam was visible to the survivors. (Enclosures (33), (52)).

96 Of the 28 survivors recovered, six were picked up by helicopter, seven were taken from rafts by TWR-8, and fifteen taken aboard by USCGC POINT HARRIS. (Enclosures (54), (56), (59), (60), (61)).

97 All survivors were seen by medical personnel. Injuries, treatment, degree of disability and prognosis are contained in enclosures (62) and/or (63).

98 Death certificates were issued for AE2 CURTISS and MU3 SMITH. (Enclosure (64)).

99 AD2 RATHBUN initially reported seeing AE2 CURTISS after the ditching, tangled in the wreckage and not moving. The statement was subsequently repudiated by AD2 RATHBUN. (Enclosures (22), (65)).

100 The rafts recovered were equipped with painter lines. There was no evidence that the painter lines were used. (Enclosures (66), (67)).

OPINIONS

1. Deleted – with others below because issued "pre-decisional," as noted on page 154.
2. Deleted
3. Deleted
4. Deleted
5. Deleted
6. Deleted

7. That environmental factors contributed to this accident in that the temperature and humidity combined to produce a density altitude in excess of 2000 feet at sea level, decreasing power available and increasing power required when compared to standard atmospheric conditions. No other environmental factors were considered to have contributed to the accident.

8. That there was no written tasking directive specifically requiring NAS Agana to perform the mission, and that the normal procedures for tasking and scheduling station support aircraft through NALCO were bypassed in this instance.

9. That the flight was properly planned and filed.

10. That the aircraft was not loaded beyond allowable maximum gross weight [but may still have been too heavy for the day], and that the center of gravity was within prescribed limits.

11. That noncompliance with Propeller Bulletin 4, Amendment 1,with regard to the propeller chafing ring was not a factor in this accident.

12. That the apparent malfunction of the starboard engine induction vibrator, the smoke observed emanating from the port engine during the preflight runup, and the maintenance performed on the port engine cluster clamp, were not factors in this accident.

13. That the relationship, if any, between the change of No. 4 cylinder on the starboard engine and this accident could not be determined.

14. Deleted
15. Deleted
16. Deleted
17. Deleted

18. That there was no intent to circumvent governing directives with regard to transporting alcoholic beverages on Navy aircraft. Whether or not the sealed packages were "properly" marked in accordance with reference (e) cannot be determined from the evidence. There is no lockable compartment in the C-117 capable of accommodating the quantity involved.

19. Deleted

20. That the emergency briefing given the passengers prior to takeoff was thorough.

21. That omission of an engine runup by the pilots prior to takeoff was in violation of the engine runup checklist, Part 3, reference (c).

22. That take-off and initial portion of the climb out were apparently normal.

23. Deleted.

24. That the oil initially observed coming from the top of the starboard nacelle was a normal occurrence and not directly related to the subsequent problems encountered with that engine.

25. That the starboard engine developed an oil leak or other malfunction, from an undetermined source, of such severity that it caused cockpit indications of low oil pressure, illuminated the oil pressure warning light, and ultimately resulted in a propeller overspeed.

26. That the decision to reverse course was timely and appropriate.

27. That the TPC deviated from NATOPS procedures by not attempting to restore starboard engine RPM to prescribed limits using the throttle and propeller controls; however, based on the indications available to him, the decision to feather was appropriate.

28. That the pilots were burdened with administrative radio traffic and repeated requests to set or to verify the transponder setting.

29. That the aircraft should have set or been directed to set the transponder to code 7700 and to EMERGENCY in accordance with reference (i).

30. That the power set on the port engine after the starboard engine was feathered was only 23 horsepower greater than that required ideally to maintain level flight under the prevailing atmospheric conditions.

31. That the approximate power set on the port engine by the flight crew is as tabulated and plotted in enclosure (36).

32. That airspeed was allowed to decrease to such an extent that it resulted in the aircraft entering the flight regime known as the region of reversed command. See enclosure (36) for discussion concerning this flight condition.

33. That the application of normal rated power was delayed until the airspeed had decreased below that desired for level flight in the region of normal command.

34. That neither pilot recognized that the aircraft had entered the region of reversed command.

35. That early recognition of their flight condition by the pilots would have permitted them to trade altitude for airspeed which was the only maneuver by which they could have reestablished flight in the region of normal command.

36. That the airframe buffeting resulted from a combination of three factors:

a. Although the aircraft was approximately 1.2 times stall speed as listed in reference (c), it was slow and approaching stall;
b. In the single engine condition, it was probably not precisely maintained in balanced flight; and
c. The open parachute door in unbalanced flight disturbed the airflow over the empennage.

37. That at the airspeeds flown, the jettisoning of cargo had no effect on the ability to maintain stable or level flight.

38. That cargo jettisoning was continued until crewmembers in the cabin could no longer attain their ditching stations.

39. That the troop seats were not totally or adequately refastened and that this situation contributed to the injuries and difficulties experienced by the occupants. This could have been a contributing factor in the death of MU3 SMITH, although evidence to this effect is not conclusive.

40. That the port engine functioned normally throughout the flight to the point where it was feathered.

41. That the feathering of the port engine without securing it with the mixture control resulted in the passenger observations that it was running “rough.”

42. That the pilots expected to eventually fly out of the situation and that realization that ditching was imminent occurred with insufficient altitude remaining to turn to the best ditching heading. The apparent low surface wind velocity and sea state contributed to the decision to ditch straight ahead.

43. That the wing flaps and landing gear were up at the time of ditching.

44. That the approximate track of the aircraft and major identifiable events are as depicted in enclosure (49).

45. That the improper configuration of one or more troop seat belts resulted in failure of the retention devices and that such failure was contributory to the injuries sustained by the occupants. It is possible that this could have been a contributing factor in the death of MU3 Smith, but the evidence is not conclusive.

46. That there was no warning bell system in the aircraft, making it difficult and inefficient to provide direction to the passengers and crewmembers.

47. That AE2 CURTISS was located in the forward section of the passenger cabin, not strapped in, at the time of ditching.

48. That the cargo doors carried away during the ditching; that one 7-man [or 20-man] life raft was thrown [or fell out] from the aircraft before the aircraft came to a stop; that the aircraft then weather-cocked, heading into the wind, which could account for the 7-man raft [#3] located forward of the starboard wing.

49. That salvage of the aircraft is not practicable.

50. That rescue operations were timely, efficient, and effective.

51. That the difficulties encountered in inflating the LPP-l life preservers were caused by unfamiliarity with the equipment and inattention to the pre-takeoff briefing.

52. That, other than LPP-l dye marker and PRC-90 radios, no apparent attempt was made to utilize other available survival equipment. This is ascribed to the survivors' observations that Guam was in sight, the B-52 was orbiting overhead, and a long-term sea survival situation was not anticipated.

53. That AE2 CURTISS and MU3 SMITH died as a result of the accident, and that the deaths were either instantaneous or caused by incapacitation such that they were unable to extricate themselves from the aircraft.

54. That neither AE2 CURTISS nor MU3 SMITH were observed by any survivor subsequent to the impact.

55. That the injuries listed in enclosures (62) and (63) were incurred as a result of the ditching and/or subsequent egress from the aircraft.

56. That injuries to the survivors were incurred in the line of duty and not as a result of misconduct.

57. That the presence of Slat 63 was instrumental in positioning the early rescue units and was a positive morale factor for the survivors.

D. Press and Other

20. Ocala (Florida) Star Banner

Navy Plane Crashes, 2 Missing
From the Ocala [Florida] Star-Banner, Monday August 14, 1978, page 5A.

AGANA, Guam (AP) – A twin-engine U.S. Navy airplane carrying Under Secretary of the Interior James Joseph, two admirals, and 27 other persons crashed today in the Pacific Ocean and sank. Joseph, the admirals and 27 passengers and crew were rescued, but two Navy men were missing. Nine persons were hospitalized in good condition today at the Naval Regional Medical Center on Guam, authorities said.

Joseph, Adm. David Cruden, Commander of Naval Forces in the Marianas Islands, and Adm. Neal Clements, chief engineer of the Pacific Fleet, were among those treated and released. Two other Interior Department officials, Deputy Under Secretary Wallace Green and Ruth Van Cleve, director of territorial affairs, were listed in good condition. Adrian Winkel, the department's high commissioner for the Northern Marianas, was treated and released. The pilot, Capt. Edward Estes, commanding officer of the Naval Air Station on Guam, was hospitalized in good condition. Initial reports said Guam Gov. Ricardo J. Bordallo was aboard, but the Navy said later he was not on the plane.

The C-117 piston-powered aircraft lost power in one engine and made a controlled ditch landing about 16 miles from Guam, said Lt. Anthony Hilton. The craft broke into two pieces when it plunged into the water.

A B-52 from Andersen Air Force Base on Guam was flying overhead and spotted survivors in the sea. Its crew members threw red dye into the water to mark off the area for rescuers from the Navy and Coast Guard [the pilot, Rider, in 2013 said the dye did not come from the B-52].

One passenger, Dave Rathbun, 25, a Navy man from Hopkins, Minn., told reporters at the hospital that the plane stayed afloat about five minutes before it sank. Guam is a U.S. territory about 4,000 miles west of Honolulu.

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PACIFIC
STARS AND STRIPES
34th Year, No. 227 25¢ Wednesday, August 16, 1978
AN AUTHORIZED UNOFFICIAL PUBLICATION FOR THE U.S. ARMED FORCES OF THE PACIFIC COMMAND

Navy VIP flight ditches

Off Guam: 2 missing, 9 injured

AGANA, Guam (UPI) — A U.S. Navy plane packed with top officials and piloted by a former Vietnam War prisoner crash-landed in the western Pacific Monday. Two persons were missing.

The twin-engine C-117 aircraft (the Navy version of a DC-3) carrying 31 persons, including high-ranking civilian and military officials, ditched in what naval personnel called a "near perfect landing" 3,300 miles west of Hawaii.

Survivors said all but two persons aboard — a crewman and naval musician — donned life jackets, squeezed through escape hatches and scampered aboard the aircraft's

(Continued on Page 2, Col. 4)

● From Page 1

rubber life rafts.

Nine of the 29 survivors were injured slightly, said naval officials who praised the piloting of Capt. Edward Estes, a prisoner of war in Vietnam for six years.

Estes, commander of the naval air station in Guam, was taking the VIPs and a 13-member naval band from Agana, Guam, to Ulithi Atoll in the American Trust Territory for the dedication of a hospital.

Ulithi, a naval staging area in World War II, is a four-hour flight from Agana. But 30 minutes out of Agana, the plane's number two engine failed, and Estes prepared passengers for the ditching.

The former combat pilot feathered the propeller-driven plane and headed it back toward Guam but when he was unable to keep the aircraft aloft, he brought it down in a landing "as near perfect as possible," naval spokesmen said.

Names of the missing were withheld. A search was suspended at dusk.

Officials on board included Undersecretary of the Interior James Joseph, Office of Territories Director Ruth Van Cleves, Trust Territory High Commissioner Adrian Winkel, Assistant Secretary of the Interior Wallace Greene and Rear Adms. David S. Cruden, and Neil Clements of the Pacific Fleet's commander-in-chief staff in Hawaii.

Ms. Van Cleve and Greene were kept in a naval hospital with back sprains. Estes and the copilot, Lt. Robert Bell, underwent surgery and their condition was reported good.

21. Pacific Stars and Stripes

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Pacific Stars and Stripes, Wednesday, August 16, 1978

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Survivors said all but two persons aboard – a crewman and naval musician – donned life jackets, squeezed through escape hatches, and scampered aboard the aircraft's rubber life rafts.

Nine of the 29 survivors were injured slightly, said naval officials who praised the piloting of Capt. Edward Estes [on the controls with Bell at the last moment], a prisoner of war in Vietnam for six years. Estes, commander of the naval air station in Guam, was taking the VIPs and a 13-member naval band from Agana, Guam, to Ulithi Atoll in the American Trust Territory for the dedication of a hospital. Ulithi, a naval staging area in World War II, is a four-hour [2.2 hour] flight from Agana. But 30 minutes [1 hour] out of Agana, the plane's number two engine failed, and Estes [no, Bell, through Curtiss] prepared passengers for the ditching.

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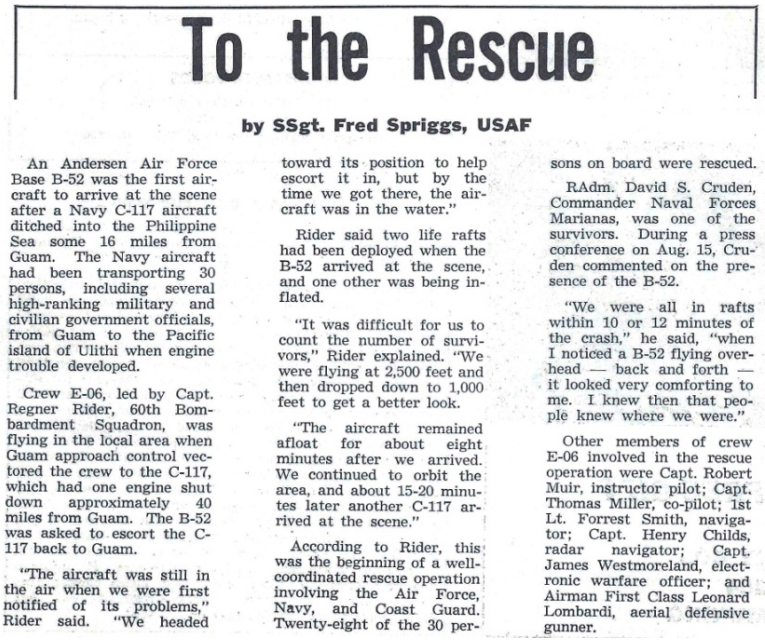
22. To the Rescue, USAF SSgt. Fred Spriggs



To the Rescue

by SSgt. Fred Spriggs, USAF

An Andersen Air Force Base B-52 was the first aircraft to arrive at the scene after a Navy C-117 aircraft ditched into the Philippine Sea some 16 miles from Guam. The Navy aircraft had been transporting 30 persons, including several high-ranking military and civilian government officials, from Guam to the Pacific island of Ulithi when engine trouble developed.

Crew E-06, led by Capt. Regner Rider, 60th Bombardment Squadron, was flying in the local area when Guam approach control vectored the crew to the C-117, which had one engine shut down approximately 40 miles from Guam. The B-52 was asked to escort the C-117 back to Guam.

"The aircraft was still in the air when we were first notified of its problems," Rider said. "We headed toward its position to help escort it in, but by the time we got there, the aircraft was in the water."

Rider said two life rafts had been deployed when the B-52 arrived at the scene, and one other was being inflated.

"It was difficult for us to count the number of survivors," Rider explained. "We were flying at 2,500 feet and then dropped down to 1,000 feet to get a better look.

"The aircraft remained afloat for about eight minutes after we arrived. We continued to orbit the area, and about 15-20 minutes later another C-117 arrived at the scene."

According to Rider, this was the beginning of a well-coordinated rescue operation involving the Air Force, Navy, and Coast Guard. Twenty-eight of the 30 persons on board were rescued.

RAdm. David S. Cruden, Commander Naval Forces Marianas, was one of the survivors. During a press conference on Aug. 15, Cruden commented on the presence of the B-52.

"We were all in rafts within 10 or 12 minutes of the crash," he said, "when I noticed a B-52 flying overhead — back and forth — it looked very comforting to me. I knew then that people knew where we were."

Other members of crew E-06 involved in the rescue operation were Capt. Robert Muir, instructor pilot; Capt. Thomas Miller, co-pilot; 1st Lt. Forrest Smith, navigator; Capt. Henry Childs, radar navigator; Capt. James Westmoreland, electronic warfare officer; and Airman First Class Leonard Lombardi, aerial defensive gunner.

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"The aircraft remained afloat for about eight minutes after we arrived. We continued to orbit the area, and about 15-20 minutes later another C-117 arrived at the scene."

According to Rider, this was the beginning of a well-coordinated rescue operation involving the Air Force, Navy, and Coast Guard. Twenty-eight of the 30 persons on board were rescued.

RAdm. David S. Cruden, Commander Naval Forces Marianas, was one of the survivors. During a press conference on Aug. 15, Cruden commented on the presence of the B-52. "We were all in rafts within 10 or 12 minutes of the crash," he said, "when I noticed a B-52 flying overhead – back and forth – it looked very comforting to me. I knew then that people knew where we were."

Other members of crew E-06 involved in the rescue operation were Capt. Robert Muir, instructor pilot; Capt. Thomas Miller, co-pilot; 1st Lt. Forrest Smith, navigator; Capt. Henry Childs, radar navigator; Capt. James Westmoreland, electronic warfare officer; and Airman First Class Leonard Lombardi, aerial defensive gunner."

23. Other Press

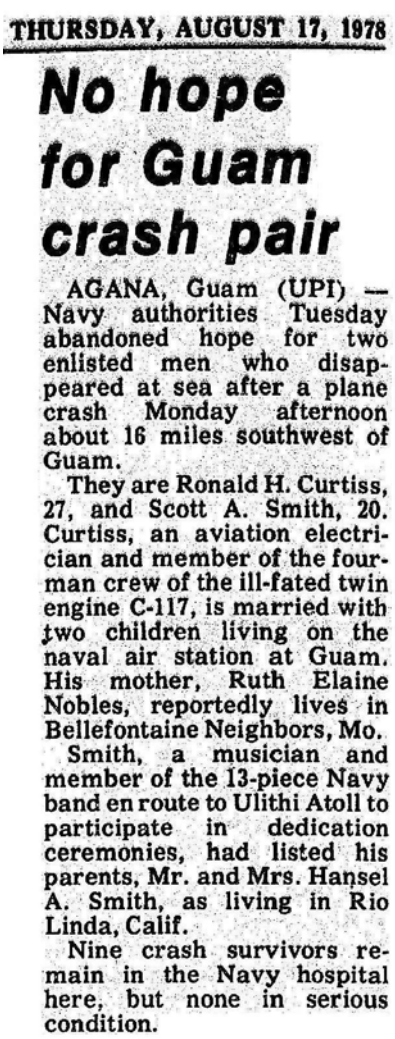
Pacific Stars and Stripes
Thursday, August 17, 1978

No hope for Guam crash pair

AGANA, Guam (UPI) – Navy authorities Tuesday abandoned hope for two enlisted men who disappeared at sea after a plane crash Monday afternoon about 16 miles southwest of Guam.

They are Ronald H. Curtiss, 27, and Scott A. Smith, 20. Curtiss, an aviation electrician and member of the four-man crew of the ill-fated twin engine C-117, is married with two children living on the naval air station at Guam. His mother, Ruth Elaine Nobles, reportedly lives in Bellefontaine Neighbors, Mo.

Smith, a musician and member of the 13-piece Navy band en route to Ulithi Atoll to participate in dedication ceremonies, had listed his parents, Mr. and Mrs. Hansel A. Smith, as living in Rio Linda, Calif. Nine crash survivors remain in the Navy hospital here, but none in serious condition.



THURSDAY, AUGUST 17, 1978

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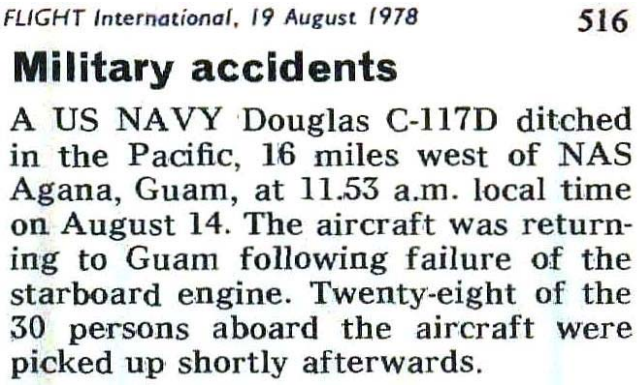
Nine crash survivors remain in the Navy hospital here, but none in serious condition.

Flight International magazine
August 19, 1978, page 516



FLIGHT International, 19 August 1978 516

Military accidents

A US NAVY Douglas C-117D ditched in the Pacific, 16 miles west of NAS Agana, Guam, at 11.53 a.m. local time on August 14. The aircraft was returning to Guam following failure of the starboard engine. Twenty-eight of the 30 persons aboard the aircraft were picked up shortly afterwards.

24. 14th Guam Legislature Resolution No 354

Guam's legislature sits for a two year term, and the first was elected in 1950, and so the 14th Guam Legislature was still seated in August 1978. On September 1, 1978, they adopted Resolution No. 354, that resolves that the legislature:

a) **Wishes a speedy recovery** to eight of the most injured, still hospitalized, but accidentally excluded Bell:
   - Captain Estes
   - Captain Ralph Smith
   - Ruth G. Van Cleve, Director of the Office of Territorial Affairs
   - Wallace Green, Deputy Under Secretary of the Interior
   - MU-1 Charles Thompson
   - MU-3 Vernon Lipscomb
   - MU-3 Anthony Monjure
   - MUSN Francis Winters.

b) **Wishes a speedy recovery from the emotional toll of the crash to those treated and released**.

c) **Commends those personnel involved in the rescue**.

d) **Commends those medical personnel who attended to the needs.**

FOURTEENTH GUAM LEGISLATURE

P. O. BOX 373
AGANA, TERRITORY OF GUAM
U.S.A. 96910

SEP 1 1978

MU-3 Pete Washburne
ComNavMar Band
P. O. Box 19
FPO San Francisco 96630

Dear MU-3 Washburne:

Transmitted herewith is Resolution No. 354, duly and regularly adopted by the Legislature.

Sincerely yours,

ERNESTO M. ESPALDON
Legislative Secretary

Enclosure

FOURTEENTH GUAM LEGISLATURE
1978 (SECOND) Regular Session

Resolution No. 354

Introduced by _____
A. R. Unpingco
B. D. Ada
J. F. Ada
K. B. Aguon
F. F. Blas
E. M. Calvo
E. T. Charfauros
E. R. Duenas
J. R. Duenas
E. M. Espaldon
C. T.C. Gutierrez
A. M. Palomo
B. M. Palomo
F. J. Quitugua
J. M. Rivera
J. T. San Agustin
F. R. Santos
R. F. Taitano
T. V.C. Tanaka
H. Trapp
J. H. Underwood

Relative to expressing the sincerest wishes of the Legislature for the speedy recovery of the survivors of the Navy plane crash August 14, and to commending the successful rescue mission.

BE IT RESOLVED BY THE LEGISLATURE OF THE TERRITORY OF GUAM:

WHEREAS, a navy transport plane, C-117, crashed into the Philippine Sea on August 14, 1978; and

WHEREAS, there were 30 persons aboard that special flight, including high-level federal officials and military leaders and band members that were to participate in opening ceremonies at the Ulithi Dispensary; and

WHEREAS, 28 of the 30 persons aboard survived the crash; and

WHEREAS, the pilot of the C-117, Captain Edward Estes, carefully and remarkably controlled the ditching thus allowing for so many survivors; and

Bell guided it the last 1,500 feet down, but Estes, too, was on the controls at impact.

WHEREAS, the calm and rational actions of those survivors led to the success of the rescue mission which was carried out smoothly by the U.S. Navy's COMSUBRON 15 Torpedo Rescue vessel; the U.S. Coast Guard's Point Harris; a U.S. Air Force B-52 crew and two Navy helicopters which were at the crash site almost immediately after the crash; now, therefore, be it

RESOLVED, that the Fourteenth Guam Legislature wishes the following survivors a speedy recovery from this tragic ordeal: Captain Estes; Captain Ralph Smith; Ruth G. Van Cleve, Director of the Office of Territorial Affairs; Wallace Green, Deputy Undersecretary of the Interior; MU-1 Charles Thompson; MU-3 Vernon Lipscomb; MU-3 Anthony Monjure and MUSN Francis Winters; and be it further

Bob Bell should be included here.

RESOLVED, that those persons who were treated and released shortly after the crash have a speedy recovery from the emotional toll of this crash: Rear Admiral David Cruden, Commander, Naval Forces Marianas; Rear Admiral Neal Clements, Commander of the Pacific Naval Facilities Engineering Command; James S. Joseph, Undersecretary of Interior; Adrian Winkel, Trust Territory High Commissioner; Commander Patrick Roth, Commander, Naval Station, Guam; Lieutenant Joe Bettancourt; Lieutenant Commander Burke; PH-2 Robin Teder; Senior Chief Musician Frank Berger; MU-3 Zosimo Bascano; MU-3 Ernesto M. Jiminez; MU-3 Brandley Johnson; MU-3 Michael Jones; MU-3 Richard Sunier; MU-3 Pete Washburne; MUSN John Brewer; Jim Allen, Aide to Rear Admiral Clements; AD-2 D.F. Rathburn and AD-2 J.L. Bent; and be it further

RESOLVED, that those personnel involved in the successful rescue mission on August 14, 1978 be commended for their efforts in bringing the victims to land; and be it further

RESOLVED, that those medical personnel who conscientiously attended to the needs of these victims be commended; and be it further

RESOLVED, that the Speaker certify to and the Legislative Secretary attest the adoption hereof and that copies of the same be thereafter transmitted to Rear Admiral David S. Cruden; to the Secretary of the Navy; to the Secretary of the Department of Transportation; to the Secretary of the Air Force; to Major General Andrew Pringle, Jr., Commander, 3rd Air Divisior (SAC), Anderson Air Force Base; to Captain Richard Thompson Commander, COMSUBRON 15; to Captain Thomas Fox, Commander, U.S.S. Proteus; to the U. S. Coast Guard Commander, Guam; to Captain Ralph Smith, OICC; to Adrian Winkel; to Rear Admiral Neal Clements; to Ms. Ruth Van Cleve; to Mr. Wallace Green; to Mr. James Joseph; to Captain Edward Estes; to the survivors; and to the Governor of Guam.

DULY AND REGULARLY ADOPTED ON THE 17TH DAY OF AUGUST, 1978.

ERNESTO M. ESPALDON
Legislative Secretary

JOSEPH F. ADA
Speaker

E. Detailed Accounts of the First Part of the Mission

25. Under Secretary of the Interior James A. Joseph

CELEBRATION AND CRISIS IN MICRONESIA:
A Tale of Intrigue and Disaster
By James A. Joseph, Under Secretary
Department of the Interior
August 1978

"Micronesians are combinations of various ethnic-types from around the Pacific basin, generally brown-skinned with coarse black hair and a tendency toward thickness of body, limb, and features… **Nationhood is still a distant concept** even for the most politically sophisticated. A man sees himself as of Jaluit, and then of the Marshalls, and hardly at all of Micronesia."

- David Nevin, *The American Touch in Micronesia [1977]*

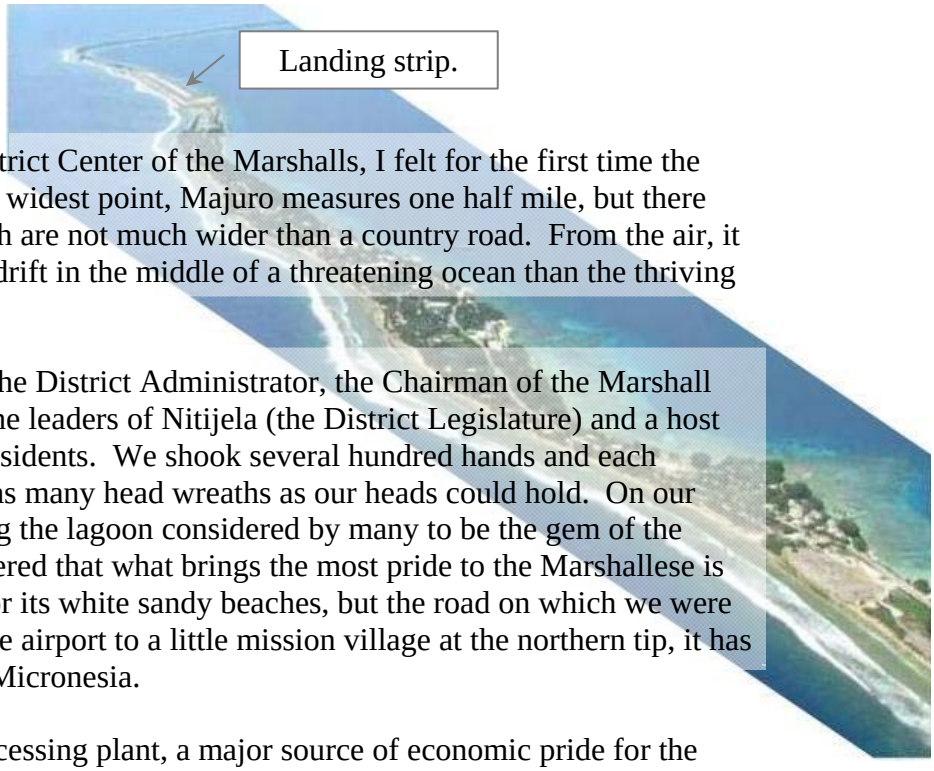
This is a report of a trip to the Trust Territory of the Pacific Islands. It started out primarily as a visit to Kili and Bikini to prepare for the relocation of Micronesians living on a radioactive island once used for atomic tests by the United States. But it was soon enlarged to include the major District Centers and selected outer islands from the Micronesian group administered by the Department of the Interior under a Trusteeship Agreement with the United Nations. I wanted to observe firsthand the social and political conditions American policies have created in order to more properly assess the role of the United States Government in preparing for the termination of the Trusteeship in 1981.

On my previous visits, I had sworn in the High Commissioner and represented the United States, along with Jeff Carter, the President's son, in a ceremony celebrating the new status of the Northern Marianas as an American Commonwealth. But my earlier visits had been restricted to Saipan, an island far more developed than any of the other islands in the Trust Territory. This trip was to take me to some of the more remote areas seldom seen by foreigners.

The miraculous escape from a plane crash on August 14 in the Pacific Ocean, 16 miles from Guam, has quite naturally overshadowed all other experiences. But trying to write a report several weeks later reminds me that along with my luggage, wallet, tennis racket and other personal effects, all trip notes and many related documents are now lying in the sunken remains of a Navy plane somewhere toward the bottom of the Pacific Ocean. So, instead of writing a political and economic report, I have decided to write a more detailed description of the total reality we experienced.

This report, therefore, is not only about the Micronesian people and American policies, but about slow ships and fast boats treading dangerous Pacific waters. It recalls emotional public meetings with displaced islanders who likened themselves to the children of Israel wandering through the desert in search of a promised land. It describes a saukau ceremony in Ponape, the beauty of the Truk lagoon under the light of a full moon, and, finally, the moments before the plane crash, and the anxiety of waiting on an over-crowded raft for the first sign of rescue.

Ruth Van Cleve, the Director of the Office of Territorial Affairs, and I left Honolulu on the morning of August 5 for the Marshall Islands. The courtesies extended by the officials of Air Micronesia were in sharp contrast to my experiences on Pan Am, which had lost my luggage in San Francisco on the first leg of the trip. Although I had gone to Honolulu two days earlier to participate in a territorial affairs conference, my bags did not finally arrive until the morning of my scheduled departure.



Majuro, Marshall Islands

As we approached Majuro, the District Center of the Marshalls, I felt for the first time the confinement of a Pacific Island. At its widest point, Majuro measures one half mile, but there are parts of this meandering strip which are not much wider than a country road. From the air, it seemed more like a raft precariously adrift in the middle of a threatening ocean than the thriving center of the Marshalls.

We were greeted at the airport by the District Administrator, the Chairman of the Marshall Islands Political Status Commission, the leaders of Nitijela (the District Legislature) and a host of other prominent local leaders and residents. We shook several hundred hands and each received about a dozen floral leis and as many head wreaths as our heads could hold. On our way from the airport, we traveled along the lagoon considered by many to be the gem of the Marshall Islands. But we soon discovered that what brings the most pride to the Marshallese is not so much the beauty of the lagoon or its white sandy beaches, but the road on which we were traveling. Measuring 35 miles from the airport to a little mission village at the northern tip, it has the distinction of being the longest in Micronesia.

Our first stop was at a coconut processing plant, a major source of economic pride for the Marshallese. It was here that we first encountered the political message local leaders were anxious to communicate. To the right of a colorful sign welcoming us to the Marshalls was a banner urging us to take immediate action to separate the Marshalls District from the rest of the Trust Territory by Secretarial Order. In the July 12 Referendum, the Marshallese electorate had disapproved the Federated States of Micronesia Constitution and the concept of Micronesian unity by a margin of 61% to 39%. They wanted assurance that we planned to move quickly to honor their wishes.

While the District Administrator apologized for this injection of politics into the welcoming ceremony, it was only fitting that our first encounter with this issue should be at the Copra plant, for the strong sentiment favoring a relationship with the United States separate from the rest of the Trust Territories is generated basically by economic reasons. The separatist leaders have long contended that the people of the Marshall Islands are supporting the less developed parts of Micronesia at the expense of their own development.

The Copra plant turned out to be more than an economic symbol of separatist politics. The Marshalls presently produce about 55% of the entire Copra production in the Trust Territory, and it is estimated that there are 26,000 acres of coconut on the 77 square miles which make up its land area.

The plans for the Majuro plant call for the processing of some 15,000 tons of Copra oil a year. The first shipment, 2,000 tons, was shipped to Long Beach, California, in January 1978. Sales through July were in excess of $2.5 million with a projection of four to five million dollars for the full year.

After the Copra plant detour, we were finally taken to the trailers where we were to be housed while in Majuro. I shared a trailer with Deputy Under Secretary Wallace Green, who had preceded us to Majuro to insure that all arrangements for the next ten days were in order. It was well equipped with the basic necessities – beds, washing machine, and beer in the refrigerator. While I was unable to find a cup or a bottle opener during our entire stay, Wallace and I learned to be creative with what was available; an important lesson for traveling in Micronesia.

After lunch with the District Administrator and wives of the major chiefs and elders, we boarded a Trust Territory ship (the Micro Pilot) for the overnight trip to Kili. Although highly romanticized as a means of travel, the rough waves of the Pacific have their own way of de-romanticizing Trust Territory vessels. The Micro Pilot carried supplies for Kili and Jaluit, as well as a large number of passengers sleeping on pandanus mats on the deck. Accommodations for most of the official members of our traveling party were provided in small cabins.

Choosing the top bunk in the cabin shared with Wallace, I came to doubt the wisdom of my decision when I found that I had to plant myself firmly on my back or stomach to keep from rolling off with each wave.

Kili – Monday, August 7

We arrived at a point near Kili early the next morning. I had been told in earlier briefings that the island was isolated and landing over the reef hazardous, but I was not prepared for what followed. We took a small boat as close as we could get and walked in the water the rest of the way (still wearing my shoes to protect my feet from the rough edges of the reef). It was immediately clear why the Bikinians, who were relocated to Kili in 1948, regarded it as a place of exile, and commonly referred to it as a prison. Without an airstrip or a dock, the island is largely cut off from the outside world during the winter months when the winds make it impossible for boats to stay afloat on the rough waters beating against the Kili beaches.

We were met on the beach by the Magistrate and the Kili Council with the flags of the United Nations, the United States, and the Trust Territory of the Pacific Islands in the background. The Magistrate led us to a reception line which included all 400 residents standing in single file, straight through the village. After shaking hands and personally greeting each resident, we took a tour of the village to see the facilities under construction for the 140 Bikinians scheduled to arrive in September.

Carrying my wet shoes in my hands with countless flower leis and headbands, I was undoubtedly a sight to behold. But the islanders were pleased that someone from Washington cared enough to take on all the hazards of South Pacific travel to meet with them directly.

My first major source of dismay was in viewing the dilapidated plywood, tin, and wood buildings in which present residents live. Relocated (temporarily they were told) from Bikini to Kili in 1948, very little had been done since the improvements necessitated by a 1958 typhoon.

The general foreman of the construction company, retained to improve Kili facilities, led us on an inspection of the housing under construction. We were pleased to find them attractive and apparently comfortable. Only a few houses were completed due to rain and the difficulty experienced in getting supplies on shore. But foundations for most of the 28 temporary structures were well underway with the completion date still scheduled for September 5, 1978. Each house was being constructed of wood frame with plywood sides and aluminum roofs. A large water tank (actually a cheap Sears swimming pool) and a bathhouse were also included. The construction crew was working although it was raining. I learned later that rain is never a deterrent to outdoor activities in the South Pacific.

After the village tour, we were taken to a community center for a meeting with the Kili Council. A large facility with chairs only for the guests, all the islanders either sat on the floor in the crammed center, or stood in windows or doorways to listen to the discussion. We were welcomed by the Kili Magistrate, and responded through our interpreter. Hanging on the back wall and printed in large letters was a sign which read (as best I can remember):

> "We must regretfully say that our situation is closely akin to the children of Israel wandering in the desert for 40 years in search of a promised land.
> After 32 years, we now know that we will never see our promised land."

That sign set the emotional tone for a three-hour public meeting.

The questions were polite but tough and emotional. The first questioner wanted to know why the Japanese were able to return to the areas bombed during the war while they were being prohibited from returning to Bikini. There was hardly a dry eye among the older people when one of the older men said that while the Americans had neglected them and almost permitted them to starve in the early years of the relocation, his one plea was that we would never permit another flag to fly over the Marshalls. Probably the most difficult comments came from those who saw me as a representative of the government which had neglected them and wanted to know why they should trust me.

A complete list of the questions and answers is being reconstructed since the notes of the meeting were lost in the airplane crash. But by the end of the meeting, with minimum new commitments, we were assured of the cooperation of the Bikinians living on Kili. Some members of the Kili Council also chose to accompany us to Bikini to assist in our efforts there. The Kili meeting involved me personally in the American commitment in a new way since much of the meeting turned on my personal assurances.

We are now developing a comprehensive plan for relocation which recognizes that some Bikinians will choose to live permanently on Kili. In the meantime, construction has been authorized for a new school, a new dispensary, a dock, and an expansion of the community center. Construction of the new dock must begin immediately in order to enable some ocean fishing to take place this winter. It is presently impossible for small boats to get over the heavy surf of the reef for four to five months of the year. This means that Kili is isolated and

inaccessible during this period. Without any refrigerated equipment, the islanders are left completely at the mercy of whatever they are able to scrounge for food.

Ruth Van Cleve and Adrian Winkel, the High Commissioner, are working on a plan to insure that permanent facilities are in place and ready to be implemented as soon as the radiological survey is completed and we are able to ascertain how many Bikinians will pursue other relocation options.

We have also held discussions with an executive of the construction company doing the work on Kili about the possibility of a short, 1,200-foot, airstrip along one side of the island, but this would mean sacrificing a considerable acreage now planted in coconuts. We are reserving a decision on this for a later date.

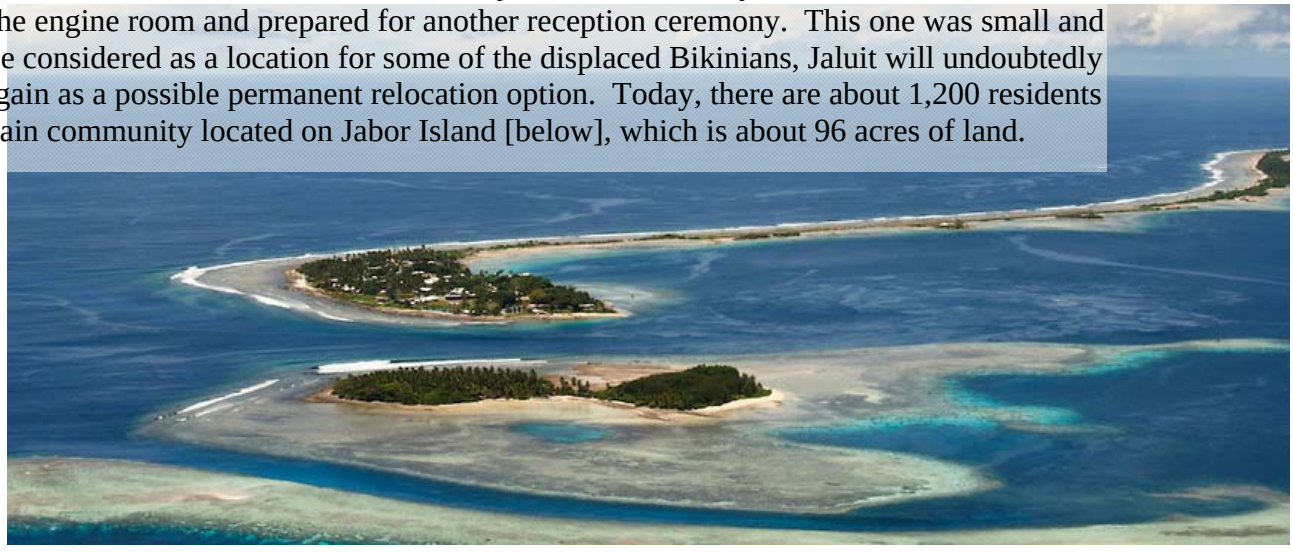
The visit to Kili was important both for the United States and the Bikinians. With a population whose median age appears to be under 15, it is important that we begin to focus on the new generation of Micronesians who have lived only under American rule. I was appalled to learn that while our instructions had been to expand educational facilities on Kili, there were no existing facilities to be expanded. Much the same is true of the dispensary which was a disgrace under any condition. What is surprising is that we encountered no overt hostility, only frank expressions of frustration and disappointment.

Leaving Kili was like trying to reach it. With the tide now rising to dangerous proportions, we were informed that we needed to leave immediately before the surf made it impossible. Looking at the size of the waves, I asked for a life jacket before boarding the small boat which was due to take us out to the ship. The boat carrying the first shift of passengers, including some of the members of the Kili Council accompanying us to Bikini, was lifted high above the water as it came into contact with the first wave (I knew I had made the right decision in waiting for a life jacket). This time I chose to carry my shoes in my hand rather than wading in the water with them on again.

When we arrived back on the ship, we felt a special relief after observing that the captain, who had spent his time fishing from the deck while waiting for us, had also caught a large shark.

Jaluit – Tuesday, August 7

On the way back to Majuro, the ship stopped on Jabor, the principal island on the Jaluit atoll located about 150 nautical miles southwest of Majuro. I retrieved my wet shoes which were now drying in the engine room and prepared for another reception ceremony. This one was small and brief. Once considered as a location for some of the displaced Bikinians, Jaluit will undoubtedly come up again as a possible permanent relocation option. Today, there are about 1,200 residents with the main community located on Jabor Island [below], which is about 96 acres of land.



On arriving at the dock, we were immediately taken to a truck (probably the only motor vehicle on the island) for transportation to the new high school. Hailed as the best high school outside of any district center, it looked like a fortress. The dominance of the structure by massive concrete was to protect it from typhoons, but it still seems that the architects could have made it a little more cheerful.

During the time of Japanese occupation, the Jaluit atoll had a population of 7,000. It could clearly be rehabilitated to accommodate more than the 1,200 residents presently living there. However, the last time this was tried, the islands were devastated by a typhoon which wiped out the new houses built for Bikinians.

Majuro – Wednesday, August 8

After about 18 to 20 hours of travel by ship, we finally returned to Majuro. Wallace Green and I made the mistake of assuming that the best way to flex our muscles, which still reacted as they did on the ocean, was to play a set of tennis. Our problem was complicated by the fact that one of our opponents was formerly the singles champion of the Marshall Islands. Ruth Van Cleve and I had already found out in playing bridge against him on the ship that he could be a formidable opponent. Yet, Wallace and I felt we could hold our own.

We were not only defeated, we were obliterated. The tennis balls seemed to have the same elusive patterns as the waves we had experienced during our 35 to 40 hours at sea. Meanwhile, our host and former singles champion was enjoying his dominance as much as he enjoyed winning at bridge.

Our next engagement called for us to participate in the dedication of a new Trust Territory ship which had just arrived from Japan. So we went off to another ceremony, where I made another speech. Following the dedication ceremony, and the shaking of hands, we were taken to the large reception the community had been planning for weeks. To be held outdoors around the government center, they were preparing food for more than 5,000 people. There were dance presentations from various villages, and speeches again. The crowd was made up of so many young people under 12, we began to feel like we were at an elementary school rally. Many of the presentations were extremely well done and entertaining, but after a few hours I thought they might understand if I excused myself for the evening. I was told, however, that there was a special ceremony at the end which we could not miss. The special ceremony turned out to be a very touching display of affection and respect as many of the elders came forward to individually shake our hands and present a personal token of welcome and esteem on the table before us. It reminded me of Sunday morning at the altar table at my father's church in rural Louisiana. There was a quality of serenity and appreciation which came through in each handshake (of which Wallace tells me there were more than 500).

Majuro – Thursday Morning, August 9

After an early morning breakfast, we met with local leaders. The discussion not only focused on amending the Secretarial Order, but the Legislative Counsel presented us with a proposal

ready for our signature. We explained the need to study the proposal, but promised to move as expeditiously as possible once we returned to Washington. It was a surprisingly short meeting.

While Ruth Van Cleve and Wallace Green were meeting with a group concerned about land claims, I visited the Majuro hospital. The disgust I felt on seeing the facilities and equipment followed me throughout my stay in the Pacific. As a former officer in the Army Medical Service Corps, I frequently inspected hospitals and post dispensaries, so I feel at home in doing so now. But my concern here was not with American standards or practices, but with why an annual hospital budget of $1.8 million was not providing better facilities, equipment and services.

Subsequent visits to hospitals in Ebeye, Ponape and Truk confirmed my suspicion that something was dreadfully wrong in Majuro. I have now asked the Office of Territorial Affairs for an audit of the hospital operations in Majuro, as well as a comparative profile of other hospitals in the Trust Territories of similar size, meeting similar needs.

Kwajalein and Ebeye – Thursday Afternoon, August 9

Our next visit was to Kwajalein, an island used by the U.S. Army as a missile range. We arrived just after noon. The importance of Kwajalein to the Marshalls is underscored by its large payroll (including 550 Marshallese), its tax contribution to the treasury of the Trust Territory government and service it provides. The military commander met us at the airport and provided housing and transportation.

At a private briefing on the importance of the Kwajalein missile range to the U.S. ballistics program, we also discussed the relationship to the Marshallese neighbors. A slide presentation on the economic impact of Kwajalein on the Trust Territory demonstrated once again the imbalance between resources available in the Marshalls and elsewhere. There is some concern among Marshallese, however, about policies in Kwajalein which restrict their use of local facilities. They would especially like access to the commissary and the main store; both are off-limits. Marshallese workers are also required to leave Kwajalein Island at the close of the work day. Ferryboats take them back and forth to their home islands, primarily Ebeye, an island which has attracted far too many residents for its limited land area. The practices of the U.S. Army appear to be standard procedure regarding post exchange privileges and security at a missile range or military base. But in the Marshalls, where there are no comparable models of military restrictions, this comes through as exclusive and discriminatory. Since Kwajalein is primarily run by civilian contractors under the supervision of a very small, military staff, additional accommodations to local demands may be possible.

We were provided helicopter transportation for our air reconnaissance of the “middle corridor” area of the Kwajalein atoll, [from] where local islanders were relocated to Ebeye to make these areas available for military use. The land owners receive an annual payment of $750,000, but a delegation from the Ebeye Council requested a meeting with me specifically to discuss the adequacy of this amount. The contract is renegotiated every five years and has another three years to run. The payment is divided among land owners, chiefs and workers according to traditional custom. The problem, however, may be as much the result of

distribution practices as it is a concern about the amount of the payment. I advised the Council to take this matter up with the District Administrator and the High Commissioner.

We spent an afternoon in Ebeye where we met with the Council, toured the island and participated in an elaborate ceremony. Located three miles from Kwajalein, Ebeye has about 10,000 residents crowded into an island about 3/4 of a mile long and 400 yards wide. One of the first facilities visited was the local hospital. Accompanied by the District Representative and the Magistrate, we were surprised to find the facilities in much better shape than we expected. Improved by recent renovations and given far better care and attention than the hospital in Majuro, it is still inadequate for a population of 10,000.

The new sewage treatment plant is a welcome addition to island facilities, but present power and water resources are inadequate to meet present needs. The future of Ebeye probably lies in the rehabilitation plan which the High Commissioner is expected to submit shortly. A Memorandum of Understanding between the Kwajalein missile range, a civilian contractor operating throughout Micronesia and the Trust Territory central government could result in a cooperative effort beneficial to all parties. But it may be necessary to make available one of the nearby islands to relieve overcrowding on Ebeye.

The festivities in Ebeye closely resembled those in Majuro, except for two important differences: the quality of the food (sandwiches), and the symbolism of the dance. We were particularly impressed by a large group of basically young adults who far exceeded every other group in precision and intensity. Each dance was a political message with dance movements depicting slogans used in campaigning against the recent referendum for a Federated States of Micronesia. We learned later that Ebeye was a hotbed of separatist sentiments. This was also reflected in questions raised by the Council which met privately with me on Kwajalein. Their first concern had to do with amending the Secretarial Order to provide a separate legislative body for the Marshalls.

It was on Kwajalein , after our return from Ebeye, that we first met Admiral Cruden, his staff, and members of the crew who were to provide transportation for our visit to the remaining islands on our schedule.

Given a little free time in the afternoon, Wallace Green and I chose to try our hand at tennis again. We scheduled a rematch with the District Administrator, knowing how much he enjoyed winning. This time we held our own, seemingly validating our suspicion that when we last played in Majuro, we were adversely affected by the 40 hours of ocean travel.

Kwajalein - Eneu - Bikini – Friday, August 11

As we prepared for our flight from Kwajalein to Eneu, I granted an interview with a local reporter, whose photographer took a picture of us boarding the Navy C-117 plane. He commented on the age of the plane, but we did not realize at the time the seriousness of his concern.

We flew to Eneu. Bikini did not have an airstrip, so we flew as close as we could get and took a Trust Territory field ship the rest of the way. The field ships are considerably older and

less well equipped than the ship we had taken to Kili. We reached the ship. (Eneu has no usable dock) by a little boat which was leaking and overcrowded. I asked the Admiral if he thought this was safe. His response wasn't clear, but since he didn't look worried I quit worrying. As we went around the side of the ship, I overheard him say to his aide, "I hope they don't have a Jacob's ladder." As we got closer, I turned around and asked him what kind of a ladder was that in front of us. He confirmed my suspicion by saying it was a Jacob's ladder.

Why the concern? A Jacob's ladder is made of rope. As one attempts to reach it from a small boat bobbing up and down on rough seas, there is the danger that a foot will get caught between the side of the boat and the ship. We all made it, including the Marshallese who didn't seem to worry about such things.

The arrival at Bikini was similar to Kili – a small boat ride, three flags flying, a long greeting line – and we got wet again. The public meeting was emotionally draining, as I found myself in the position of having to personally persuade the Bikinians that the move to Kili was in their best interest. They asked many questions; some we expected while others were new. They asked for compensation, demanded that we sign a Memorandum of Understanding clearly describing our commitments, and requested an opportunity to shop in Kwajalein if they went along with the proposed move.

The Bikini meeting was different from any other in several ways. The usually well behaved children of Micronesia were noisy. While people were speaking in the native language through an interpreter, one did not have to speak Marshallese to feel the frustration and anxiety in their voices. The tension was so thick that there were moments when I doubted whether it had been a wise decision to personally make this visit. When it was all over and there were pledges of cooperation, I knew that I had gone out on the limb again and used all my powers of persuasion to convince them that relocation was right and necessary. The awesome burden of personal responsibility began to weigh heavily on my emotions as a nervous stomach reminded me that I was emotionally exhausted.

We left Bikini with a feeling that we were part of a moment of history which we did not shape, but which had come to rest on our shoulders. It is always an awesome experience to realize that a group of people have placed their destiny in your hands. But this was not a mass meeting in Alabama. My emotions were not the satisfaction I used to know when I had just persuaded a large audience to walk with me into waiting cattle prods and Billy clubs. There were no clear victories to be won. With the Bikinians, it seemed to be lose – lose. All I could do was ease the pain and hope to make a bad situation a little better.

On the way back to Eneu, and then to Kwajalein, we agreed on the basic substance of a Memorandum of Understanding. Wallace, as usual, had taken superb notes and I had made only commitments I knew I could keep. I remember feeling as we prepared to board the plane in Eneu that Admiral Cruden seemed to be over cautious in refusing to carry 6 Marshallese back to Kwajalein. We had left our luggage there in order not be overweight, and he did not want to take any chances on burning too much fuel on the return flight.

Ponape – Saturday, August 11

We arrived in Ponape late in the afternoon. Our plane circled the islands to provide a good view of Kolonia, which by comparison to some of the islands in the Marshalls seemed enormous. The site of rugged mountains rising from the ocean was a significant contrast to the lowlands of Majuro, Ebeye and Kili. We were met at the airport by the local leaders and participated in the usual ceremony with handshaking and women placing flower bands on our head.

We were taken to the South Park Hotel overlooking Sokehs Bay, where we quickly changed and freshened up before going on to a reception where people had been waiting since before our plane arrived. The reception, held in the traditional meeting center, was smaller and more self-contained than many. Standing behind a long table full of many island delicacies, the Governor welcomed the visitors and presented me for a response.

After very brief comments about the beauty of the island and the good will and hospitality of the people, we were introduced to a saukau ceremony. Eight young men divided into two groups of four were kneeling around two large flat stones. At the appointed time, they began to pound kava roots on the facing of the rock using hand-held stones. Rhythmic sounds emanating from the rocks, coupled with a thatched roof setting, introduced us to traditional Ponapean culture. After pounding the kava roots to a near pulp, the second part of the saukau ceremony brought in two young men with long hibiscus leaves. With appropriate ceremonial flair, the shredded kava roots were wrapped into the leaves in such a way as to force the liquid into a cup. In a very ritualistic fashion, passing the cup backwards over the shoulder, each guest was handed the cup for a ceremonial drink.

The brown, syrupy substance turned out to be a potent, tongue-numbing cross between barbiturate and narcotic. After inquiring about the social obligation of visitors interested in balancing respect for local tradition with the maintenance of a clear mind and physical stability, I was told that the people would expect me to take at least four sips before designating someone to drink in my place. With everyone watching closely, I raised the cup and tilted it to the drinking position with my mouth open only wide enough to permit a slight taste. After repeating this exercise on four different occasions during the course of the evening, I knew that I had made a wise choice in not actually drinking it. The thick and slimy substance tasted even worse than it looked. We were finally given coconuts with the top cut off to permit us to wash away the saukau taste with coconut water. While I had always greeted coconut water with a special enthusiasm, I noticed for the first time a similar reaction on the part of Ruth and Wallace.

Now it was time to eat. The aluminum foil covers were removed from the top of the dishes and we could see large crabs, chicken, pork, breadfruit and other beautiful, but unfamiliar looking, dishes. Ruth pointed to a dish on her plate and said that she did not know what it was, but she recommended it highly. Wallace, who had already tasted it, pointed out that while it was indeed delicious, it was not altogether mysterious – it was chicken.

After eating (recognizing for the first time that breadfruit tasted a little bit like white yams in southwestern Louisiana), we circulated through the group to meet the Ponapean leaders and their guests. Far away from the Navy rations of bread and bologna which we had been served on the

plane, we were relishing the delicacies of the 14,000 residents who live on about one-tenth of Micronesia's entire land mass.

Encircled by a coral reef that protects a narrow lagoon, the dense vegetation on the island includes not only breadfruit and coconut trees, but mangrove and a wide variety of other trees with great potential for indigenous timber and wood materials.

After a good night's sleep – waking to a beautiful blue sky and a gorgeous view of Sokehs Bay, we joined local leaders for breakfast. I was surprised to learn that the employment breakdown between the public and private sectors was almost equal. This is indeed a rarity for an area of the world where employment is provided almost exclusively by the Government. About 21,000 persons live on the islands and atolls in the District of Ponape. Five thousand are in elementary school and another 1,200 are in high school.

A visit to the Ponape hospital reminded me of the disgust I felt on seeing the hospital in Majuro. The difference was not only in the contrast of facilities. The hospital in Ponape is relatively new and was intended as a referral center from other area hospitals less well equipped. But with a budget of $400,000 less than Majuro, they served more patients, retained more doctors and nurses, maintained more equipment, and seemed to have pride in cleanliness and general service.

At the end of the tour of the hospital, we were taken to the cafeteria for a small reception – an assortment of cookies, fruit, and the ever present coconut. While we had the experience of drinking coconut water on practically all of the islands, Bikini excluded, the local citizens in each area seemed to assume that we were being introduced to this Micronesian refreshment for the first time.

Ponape boasts a newly developed cultural center in the village of Net. Our visit was not only to see authentic portions of traditional culture, but to contemplate the center's potential as an economic entity. The center is operated around the basic principles of the Polynesian Cultural Center in Hawaii. Set along the banks of a river, visitors can reach the center by paddling their own canoe. On their arrival, they are presented with a drink of the local saukau, which is pounded and prepared against the background of local dances and crafts. We were taken to the center by car. Rather, we were taken as far as we could go, and walked the remainder of the way. We were met at the entrance by the manager and taken to a thatched building and given – you guessed it – coconut water. Greeted by bare breasted women, the traditional attire, we knew immediately that we were in for a different sort of experience.

The next part of the tour included demonstrations of the many uses of the coconut. We saw fibers of the coconut husk being twisted into a rope and palm leaves used as a weaving material for a variety of products, including hats and baskets. We also saw the coconut used in such a way as to make articles of personal adornment, like buttons, bracelets, and necklaces. Wood from the coconut tree is also used for building materials and household hardwares. All of this is in addition to the use of the coconut in the Copra industry where it is dried and shipped to a crushing mill for extraction of a high-grade oil used in the manufacture of soap, margarine, and cosmetics. The highlight of the Net cultural center was the performance of a very enthusiastic

group of dancers. Led by an elderly bare breasted woman, but including young girls similarly attired, they gave demonstrations of the traditional slap dances and variations of more familiar dance movements (including the bump).

After the dance performance, we were taken back to the thatched building where another saukau ceremony was about to begin in our honor. We were then invited to a stage where we sat cross-legged on pandanus mats. An attendant sat in front of each of us to assist in the ritual. As I sipped the saukau, I felt a little bit like I was taking Novocain in a dentist's chair, a not too pleasant thought for such a lovely setting. After two separate sips of saukau (in which I only pretended to be sipping), we were given a fried banana and a piece of baked breadfruit which had been cooked in an earthen oven (an imnu), while we were watching the dancers. To wash all this down, we were once again given coconut water.

Upon leaving the center, we noticed that someone had done us a favor (they thought) by driving the car right up to the entrance. The Governor offered to turn it around to permit us to enter without having to step in the mud. To his embarrassment, each press on the accelerator caused it to go deeper into the mud until he was obviously stuck. After a community effort, the car was pushed to solid ground.

The next stop was a saw mill, where a crowd was waiting for me to dedicate the first saw mill in the Ponape District. A very simple structure, it was an important stride in local economic development efforts. The Ponapeans are blessed with a variety of trees, including a form of mahogany, which could easily be cut and refined into lumber for building materials. The rugged mountains, dense rain forests and mangrove swamps provided the resource for this new industry.

Upon disembarking from the car, I was handed a coconut for a drink of fresh coconut water. Once again, I obliged. I had been of no help in pushing the car out of the mud, but standing in the hot sun watching others had made me thirsty, also.

The first log was now ready for cutting. Spectators and operators were anxious to launch this new era in Ponape's march to a greater degree of self-sufficiency. The technology consisted of a log on a mobile platform which rolled along on railroad tracks toward a long blade powered by a small generator. On pressing the control lever, the platform and I moved closer and closer toward the blade. Finally, they touched and the familiar sound of a saw cutting wood reverberated throughout the village of Net. When the log was finally cut in half, a cheer (and a sigh of relief from the operator) replaced the sound of cutting timber. The first phase of the dedication ceremony was over. Everyone immediately moved to the table to get another drink of coconut water.

Wallace and I left for the hotel to pick up our lunch (egg sandwiches) to be taken with us for our trip by boat to the ancient ruins of Nan Madol. A series of artificial islets estimated to have been built in the 13th Century, the ruins are an important part of Ponape's hopes for increasing tourism. Located about 30 to 40 minutes by boat from Kolonia, access is dependent upon the tide.

The Governor, who was to pilot the small power boat taking us to Nan Madol, informed us that the tides were low but that we should have no trouble. Riding across the lagoon that fronts Kolonia at 50 mph is an unusual experience on any day, but we had no idea of the drama awaiting us a few miles away. We soon came to a coral reef channel where the tide was so low we had to stop and check the water depth before continuing. For such occasions as this, the boat is equipped with a long pole attached to the side.

Indeed, the tide was too low and we were running the risk of being grounded in the middle of the lagoon. So, Wallace and I were asked to move to the front and to lean forward so that the rear end of the boat would sit up as high on the water as possible, thus raising the propeller to a safe level. We could see the bottom of the channel and knew that we were traveling a precarious route. Finally, after cutting off the engine and using the long pole to move us along, we came to deep water again. We immediately resumed the fast speed in order to get to Nan Madol and back in time for our scheduled flight departure. There was no danger of the Navy plane leaving without us, but it was important that we leave in time to reach Truk before dark, since the airstrip did not have lights.

Several times we ran into low water, and repeated the previous exercise. Finally, we were told that there should be clear sailing for most of the distance still before us. At about that time, we ran into a rain storm. It was the kind of cloudburst to which the islanders had become accustomed, but to those of us from inland areas, it seemed as if the sky had suddenly sprung a leak. With no top on the boat, we had no option but to continue as fast as we could, hoping that we would soon outrun the rain storm. We finally did, only to be told that the tide was now too low for us to reach Nan Madol, and too low for us to return to Kolonia, so we would have to stop at a nearby island and wait for the tide to rise again. Dripping wet and carrying our wet shirts in our hands, we descended upon a Catholic school to wait for the tides to rise. The local Priest who headed the school did not want to see us waste any time while in Ponape, so he arranged for us to tour the facilities (still wet and longing for a towel to at least dry our faces).

After the tour of the school and a number of agricultural and industrial projects, we returned to the cafeteria where the Priest apologized for not having offered us towels. (He probably noticed that I had taken most of the napkins on the cafeteria table.) The tides looked better, so we started our return trip. Wallace and I decided to hold our shirts (and in my case undershirt as well) in the air as we moved along at 50 mph. By the time we reached Kolonia, my shirt was dry but my undershirt was still wet, so I stuck it in my back pocket. Somewhere along the line, my shoes had also gotten wet, so I put my socks in my pocket as well and we made a quick dash for the airport. Mrs. Van Cleve, who had visited the local community college, was waiting for us with the Navy crew. I walked through the departure line with my socks and tee shirt hanging out of my pocket, while Wallace put on his wet shirt.

We arrived at Truk before dark. The twin engine propeller plane (a C-117, also known as a DC-3) was ideal for the short coral landing strips we encountered on some of the islands. Navy transportation continued to be provided by Rear Admiral David Cruden, the Commander of the Navy Forces in the Marianas, who had been accompanying us since Kwajalein. The members of the crew, from the Admiral's aide to the pilot, were very pleasant and blended into the Interior party with ease.

The reception upon our arrival at Truk was festive and full of handshaking with the usual flower leis and headbands. We were taken to a lovely hotel overlooking the beautiful Truk lagoon. After freshening up, we went to a dinner at the home of the District Administrator, where a special pavilion had been constructed to house the festivities. The dinner, preceded by speeches of welcome and responses, was probably the most elaborate of the entire trip. Fittingly, I suppose, my speech was probably the longest and most formal of the trip. Roast pigs, large crabs, fish, breadfruit and other recognizable dishes were accompanied by large tables of indigenous delicacies prepared by local families.

The drive back to our hotel took us along the banks of the Truk lagoon, where the light of a full moon accentuated what was already a spectacular sight. Although the people of Truk seemed to lack the vitality and sparkle we found on some of the other islands, they live in an unusually beautiful setting.

The hotel turned out to have neither hot water nor air conditioning. I had no problem with the cold water, but keeping the bugs out, as I tried to cope with the heat, ended up being a no-win proposition. From the looks of Wallace the next day, he must have had an even worse experience.

Truk – Sunday, August 13

At a breakfast with the Speaker of the District Legislature and other political leaders, we discussed a variety of problems but they seemed primarily concerned about the transition to an elected governor. The District Administrator and his staff, on the other hand, were primarily concerned about ambiguities regarding their own future: Would their positions be retained? For whom would they work? Who would now own Trust Territory property in the District?

After breakfast, we toured the local school and hospital facilities (with memories of the Majuro hospital still disturbing me). At the school, we were introduced to a very strange way of dealing with a budget cut. It seems that after the plans for the school had been drawn and construction started, local officials were notified that they would have considerably less funds than originally anticipated. The local response was to cut out all of the bathrooms from the plan. So, there is now on the Island of Moen in the Truk District a very good school building, with excess classrooms to cope with growth (but no bathrooms).

The briefing provided by the District Administrator and his staff was easily the best of the trip. Each member of the staff described his responsibilities and priorities. Issues raised included capital improvements, economic development efforts in fishing and Copra, the need for medical dispensaries on the outer islands, serious educational and career development needs of the young people, and funds for ongoing operation and maintenance of facilities and law enforcement.

After the Sunday morning meeting, we went to Fefan, an island a few miles from Moen. It was only later that we realized that we had taken everyone away from home and church on a Sunday morning. Working around the clock, back and forth across the international dateline, we had no concept of time or date.

The acting Police Chief, who was very proud of the recent prohibition on alcoholic beverages, was a Hawaiian police officer on loan to the District Government. As we prepared for the trip to Fefan, it became apparent that he was also extremely proud of his new, shiny police boat. I must admit that I felt much more secure in his vessel than I had felt in the little boat on the lagoon in Ponape.

After a fast ride on the new boat, we arrived in Fefan and boarded two small trucks to see the road which we had heard so much about. It was twelve miles long, extending circumferentially around the edges of the island. Driving at about 10 - 15 mph, we saw every inch of it. While we saw traffic signs on the road, the two trucks appeared to be the only vehicles on the island. After a brief discussion with the magistrate and island leaders, we were served a watermelon for refreshment, a welcome change from the ever-present Micronesian coconut water. The people were very proud of the road, but we were hard pressed to generate a matching enthusiasm.

Fefan was striking on several counts. It was one of those outer islands few foreigners visit. For the first time, I saw expressions of hostility. With the people living exclusively on the outer perimeter of the island near the beaches, the inland area looked like an overgrown forest. After returning to Moen, we left for Guam at about 3:15 p.m.

Guam – Sunday, August 13

A visit to Guam is always something special. I had first learned that shortly after my confirmation, when as a brand new Under Secretary I arrived in Guam at four o' clock in the morning, tired, sleepy and expecting to be whisked off quickly to a hotel room. To my surprise, I found a red carpet laid out at the foot of the airplane ramp, with Ricky Bordallo – the Governor, his wife, Madeleine, and members of his Cabinet waiting to greet me. At the end of the line was a police honor guard in full dress. With a large police escort and special security at the hotel, I learned quickly what it means for a Federal official to visit Guam.

In the air from Truk, I recalled my first visit and wondered whether the Governor would honor my request that he not arrange any public appearances since this was just an overnight stopover on the way to Yap and Palau. I also knew that he was in a tough fight for re-nomination and I did not want in any way to appear to be taking sides in the democratic primary.

The plane touched down in Guam at about 6:00 p.m. For the first time since we left Kwajalein, I was not concerned about whether the airstrip was long enough, or the lights sufficient. Guam has for sometime been a key location for the military, and a thriving island with many visitors, so its airports are superbly equipped.

Governor Bordallo honored my request. He met us at the airport [as pictured on page 6] with very little public fanfare and immediately led me off to his limousine. With Ruth and Wallace in cars behind us, we were taken immediately to Government House, the official residence of Guam's first family. Sitting on a hill overlooking Guam and the Pacific, it was just recently renovated and now stands out as one of the most magnificent sights in the South Pacific.

* * *

26. Director of the Office of Territorial Affairs Ruth G. Van Cleve

Pacific Trip

Reconstructed by RVC largely from memory on August 31, 1978,
but partly from ocean-streaked notes that were retained by her.

Friday, Aug. 4

Driven by HVC to National Airport, from which I departed on schedule at 8 a.m. on, I think, TWA coach. Arrived Chicago; Honolulu-Chicago flight (United, I think) moved out about on schedule (10:30 a.m. Chicago time?). Long flight, arriving Honolulu as scheduled about 2:15 p.m. Honolulu time. Long wait for suitcase, and troubled thereby because had told Matt I expected to join his conference between 3 and 3:30 p.m. and would speak. Arrived Ala Moana Hotel ($8 taxi fare, including tip) 3:25 p.m., and dragging wheeled suitcase behind me, found conference room. Had just adjourned, but Frank Solomon nearby (carried my suitcase thereafter) advised of 4 p.m. farewell cocktail party at which I was expected to appear and would be asked for few (ho ho) words. Repaired to room and repaired self. Party extremely pleasant. My words not few (related to President previous evening, not to nuts and bolts of financial management). As agreed, met young UPI woman at 6, talked to her until 7. Thereafter slept about 10 hours without stirring.

Saturday, Aug. 5

Met Frank S., Matt, and Jim Joseph in lobby at 6:30 a.m. for early (can't remember just how early, but about 8 a.m.) Air Mike flight to Majuro. They drove Jim and me to airport, where Stan Kennedy (I think that's the name) of Continental met us, and we carried on surprisingly scintillating conversation (largely in airline's suite) until plane time. Pleasant and uneventful flight to Majuro, stopping at Johnston where attractive commanding officer stood at our seats on plane for conversation, during brief stopover.

Sunday, Aug. 6

Arrived Majuro about 11:45 a.m. for huge welcome. Shook several hundred hands; received 13 floral leis plus 4 head wreaths; could hardly move to Carmen Bigler's car for ride via coconut processing plant to my trailer (Jim's and Wallace's a bit down the road). Many signs, apparently good-natured, asking for Secretarial order forthwith. Redressed to join Carmen, Oscar, others for lunch, but found ourselves on Marshallese time, so Carmen gave me useful tour of central Majuro. Collected in due course at Oriental-type restaurant for unique (but good) luncheon fare.

Then all to boat at 3 p.m. for departure to Kili. Boat (Micro Chief?) splendid, except almost no place to sit. Mrs. de Brum my roommate in only air-conditioned cabin. I troubled, for rank dictated otherwise, but did not protest since Mrs. DeB given to mild mal de mer. Had smashing bridge game that night with Jim and me v. Oscar and shark-devoted- sometime-PCV (now married to Kilian, serving as curriculum writer on Majuro). Learned of new phenomenon called the Oscar Bid. (He is both very skillful and utterly hilarious, I think the most joyous player I've ever played with, constantly slapping right knee and laughing uproariously.)

Monday, Aug. 7

Arrive Kili about 10 a.m. (as best I can recall), consuming much time in getting lightered in by means of risky looking small boat on lively waves. A bit scary. Considerable navigational feat. Very full and formal reception (US and UN flags greet us), involving shaking close to 400 hands in lengthy line. We and many Kilians enter civic assembly building (it's begun to rain) where hand-made sign says:

> "We are surely more akin to the Children of Israel when they left Egypt and wandered through the desert for 40 years. We left Bikini and have wandered through the ocean for 32 years and we will never return to our Promised Land."

Formal speeches of welcome from magistrate and others; formal speeches of reply from Jim and me. We take complete tour of village, being pleased by recent temporary construction; appalled by earlier shanties; "school" we'd promised to expand does not really exist; church well-cared for, but in all other ways pathetic; dispensary unworthy of name; but not a shell, cigarette butt, candy wrapper, or anything else out of place on all of Kili. Even this Craig's Wife could not approve more fully.

Back to Assembly Hall for substantive meeting (about 12 to 2 p.m.), commencing with singing by the Marshallese (in Marshallese) of "How Firm a Foundation" to the tune of Adeste Fideles. Of course I joined (in English). No moment hostile, many terribly moving, all instructive to us and potentially constructive for U.S. "Do not abandon us" is basic thrust.

Tony de Brum excellent translator (we hope!). Lunch for us (when they have so little!), and presentation of Kili bags, followed by somewhat harrowing return trip to our ship. (We are told to feel lucky, for some time they flip backward as they leave "shore".) We are all very wet. We restore ourselves.

At about 5 we stop at Jaluit and, on sole vehicle on island (truck with no floor in rear, where we ride), we visit new high school. Corps of Engineers helped build. It will be there, with or without typhoons, until 2378 A.D. at the minimum. Principal, whose English almost incomprehensible to me, reports Jaluit H.S. has best vocational education equipment in Marshalls, delivered 3 years ago, but it has never been used because power supply inadequate. I note water is standing in all wash bowls of girls dormitory bathrooms. Back to ship (amazingly moored by Marshallese captain) and off in early evening.

Tuesday, Aug. 8

Arrived Majuro about noon, and hurried to clean up and commence series of meetings with political people scheduled for all afternoon. Began at 2 p.m. with Amata Kabua, Tony de Brum, George Allen, and others I forget. Assured them of our awareness of their interest in Secretarial order revision. Said we did not want to err; hoped to discuss with all relevant people present at once (in Guam next week), so as to understand as many fears, aspirations, and implications as possible arising from words we choose to use; assured them of our desire to move with expedition; offered no deadline (but I said I do not customarily tarry); assured them of some

action to reflect referendum results, minimally some form of legislative separation; stated that we would prefer to deal with all components of TT at once, if feasible – but at minimum must chart full course before first definitive step taken, lest ad hoccing leads to inequity and chaos. They seemed both comprehending and sympathetic, and NOT hysterical about instant action. After less than an hour, Amata (I think) said his purposes achieved; no more meetings necessary that day; we Interior 3 go our separate ways, I on marvelous auto trip with Enid McKay (after meeting young Scott – a different story) to the very end of the Laura Road. She is a truly superior person.

Return in time to visit new ship (Micro Pilot), just arrived from Japan; this is initial cocktail party and we meet hundreds, and make more speeches. (By now it is a tradition that Jim speaks. first, then I, and we never depart from it. How hard always to follow that eloquent and wise fellow.) From there to major social event, all of Majuro invited, in civic center (near new court house). Very like political rally. Speeches (of course including JJ and RVC); much native food; LONG entertainment; then hundreds pass by our seats, singing the Marshallese Anthem and presenting us with presents. (We will effect division in Washington.)

Wednesday, Aug, 9

Up and out for early breakfast (with Speaker, among others), and then to meeting with disaffected landowners of center of Majuro. (Must write Oscar for detailed recounting, for copious notes are now lost.) Then Oscar has staff meeting, joined by Jim. (Wallace has been with me since after breakfast, which he can live without.) Thereafter, we collect ourselves and possessions and move to airport, for late morning flight to Kwajalein. Arrived Kwajalein just after noon. Col. Reeve and Bob Haley (the very same!) meet us and we review plans. Adjourn to lovely trailers and join for 3 p.m. trip to Ebeye.

Motor tour (I'd have preferred to walk), not as detailed as I'd have liked, but we did emerge for walk through hospital (looked astonishingly good). Then to L. Kabua's compound, where we remain for rest of trip. (I learned following day that many of Ebeye were gathered at the church, where they expected us for standard meeting. Of course we did not know.) After hymn ("Rock of Ages", in Marshallese, so I sang la la la), and formal speeches (guess in what order), we sit outside for lengthy and pleasant entertainment, with sandwiches in late afternoon, and concluding with now traditional endless presents while the natives sing. Really very touching. We walk to harbor; ride back to Kwajalein. I decline dinner, and instead spend an elegant evening in my elegant trailer, finishing the best detective story (by P.O. James) since D. Sayers wrote her last.

Thursday, Aug. 10

Up early and off to oral and movie briefing of PMR activity; longish helicopter ride over, among other islands, Gugeegue ["goo-gee-goo"], which has many facilities and looks very promising for Ebeye spillover; Carlson less well-located, fewer facilities; then ground (motor) tour of Kwajalein. Lunch with Eldon and Alice Buck. They remain among the greatest people I've ever known. Certainly my favorite missionaries, but that says too little. Lovely daughter (who tends bar at the Yokwe Yuk Club and who, when asked, says "nothing" they serve is

good!) Then to my hair appointment (sheer joy – good hair dresser), a brief visit to Macy's (bought shoe polish for my spectators), and to my trailer in time for a long interview with the local news hen, Pat Coraldo, or close to that. Liked her. (During these events, I didn't know that Ebeye people had come to Kwajalein to meet with us – apparently a satisfactory substitute so far as they were concerned for the missed meeting of the day before. Jim presided. All's well.) Then cocktails and massive canapés at Col. Reeve's, with much of the island present. I liked many of them enormously.

Friday, Aug 11

Up and off early (8 a.m.?) to Eneu, and from it via frightening little aged boats and Jacob's ladders) to Bikini. (But first, there are people living on Eneu. Will we remember to move them too?) Bikini greets us with the 3 flags flying, and we walk, after much handshaking through a long line, to an empty house where we are to meet. (It is already in bad shape from non-maintenance.) This meeting far different from any of the others; some moments more moving than I've ever experienced ever; some of frightening hostility; sometimes terrible tension; occasionally bad manners (background chatter; children not quieted). Jim is better than ever. My own contributions minor (but I did say, and this record should show, "Please don't eat the coconuts [due to radiation] – either here or on Eneu.")

We leave with both Oscar and the sometimes difficult Mr. Balos saying "The people will cooperate. Do not worry." Jim, Wallace, and I still worry. It rains in Bikini, too (but never elsewhere on our trip. Surely too much symbolism here.) Among ourselves we agree as to the gist of a statement of understanding, and in due course I draft same. We return, hazardously, to Eneu and the plane. Because he is so cautious, Admiral Cruden declines to carry 6 Marshallese back to Kwajalein, where we've left our luggage, so as not to be overweight in either direction. By about 5 p.m. we depart from Kwajalein for Ponape.

Small but elegant (honor guard) reception, before we're whisked to handsome hotel (South Park - don't forget the clever Japanese commode device) and then to reception that has been awaiting us for about 3 hours. Marvelous food; kava, about which of course we're polite (especially when we learn that it's an honor to designate someone else to drink it for oneself); inevitably speeches.

Saturday, Aug 12

Breakfast with Ponapean leaders (including Bethwel and wife); tour of splendid new hospital; trip to Net Cultural Center for fascinating tour of handcraft huts, their own Greek theater; kava ceremony, with Jim and me as the closest they could come to the royalty they prefer. Thereafter to a new saw mill, where Jim sawed the very first log. We then separate, Jim and Wallace to the Ruins (where they never got – a story to which they can do better justice than I), I to the College, to meet Dirk Ballendorf, talk, and borrow his typewriter to do the Bikini statement. Also had useful talk, finally, with Adrian by phone. Nice faculty people, the Hanlons took me to the airport, with a dozen attractive Community College students. Off at about 3 for Truk, where we arrived at about 5:30. Everything about Ponape seems upbeat.

Almost everything about Truk seems downbeat, except for Mitaro Danis who strikes me as very able and good. We have an elaborate airport reception, and move to Truk Continental, whose fire, a few weeks before, means we have neither hot water nor air conditioning. I manage after much struggling to get plug in washbowl to go down, and it will then not rise at all, so my Truk stay is marked by my washing teeth in bathtub. Lovely room, but so hot. At least I found an unattached screen that I placed so as to keep out bugs from my balcony. Wallace didn't have one of those (screens that is; he did have oodles of bugs). Somehow not untypical of my general and long-term feeling of depression at Truk. (Tos not in evidence; sent apologies via another, and reported he had a foot problem). In early evening to Mitaro's house for punch (Truk now dry) and magnificent array of native food. Church pot luck technique. Speeches by us. Home on early side.

Sunday, Aug. 13

Up and out for breakfast with Speaker, and other political leaders. It's clear their "transition" problem concerns how to move into their elected governor situation. I must write Adrian of this. Mitaro is unsettled and clearly troubled about the ambiguity of his own future. He gave us full tours of the "new" Truk hospital, which already needs a lot of fixing; the really new high school, which has excess classrooms but no bathrooms; the court house (which I'm glad to know Judge Furber saw at its dedication), whose only defect that I know of is that its roof leaks. (So does the VC's [Van Cleve's]). On balance, it's good to see such good facilities in Truk, but one wishes the mistakes could be fewer, especially there. Then a long and extremely useful, well-ordered meeting with Mitaro and his staff. (My notes are gone, but much will stick in my head – I feel sure.) Then a trip on a new, fast boat to Fefan, to view the circumferential! We viewed every inch of it (about 12 miles and an hour's drive), and it's nice to have made people proud of something. They so clearly are. Watermelon from the magistrate (much praised by JJ, who regards himself (rightly, I'm sure) as an expert in same), and then fast boat back. To the hotel to pack and payout – to the airport for a 3:15 p.m. departure.

Guam greeted us with its usual extraordinary cordiality, and we were whisked to Government House for the tiny, quiet dinner we'd asked for. (Only about 16 present, so it almost qualified.) I was late, partly because I had so much fascinating mail from George Milner, partly as I told Madeleine, because I couldn't figure out which colored wash cloth to use. Government House is really rather breath-taking. Almost fought at dinner with BJ and Doris over the hospital; enjoyed Mark Pangalinen, on my left; had a full tour, led by Paul Souder's daughter. Reread my mail before sleeping, so I felt fully prepared for anything.

Monday, Aug. 14

A superior breakfast at Government House with the Bordallos and Pete Sanchez, Ricky's running mate, and then off to the airport, as planned, for a 9:15 a.m. flight to Ulithi. The flight departed at about 9:45.

* * *

27. Deputy Under Secretary Wallace O. Green

His recollections, written down September 25, 1978

I left Washington on August 2, for Majuro, Marshall Islands, in the Pacific Ocean. My purpose was to finalize arrangements in anticipation of the Under Secretary's visit to Majuro en route to Kili and Bikini Islands, and to each of the districts in the Trust Territory of the Pacific Islands. Our travels were to take us to Jaluit, Kwajalein, and Ebeye, all in the Marshall Islands chain. He would then visit Truk, Guam, Ulithi, Yap, Palau, and return to Guam before departing for Washington on August 17; a long time to be away from Washington, the family, the office, all the things that are most familiar to me.

There were two purposes for the trip. First, to meet with residents of Kili and Bikini who were displaced, or about to be, respectively, due to after effects of U.S. hydrogen bomb [and other nuclear bomb] testing in 1946. All residents of Bikini were about to be relocated to Kili because traces of radioactive contamination had been discovered. To assure them of the danger, and our concern, the Under Secretary felt it important to pay a personal visit.

The second purpose was to make good on a previous commitment to local leaders that the Under Secretary would visit each District in 1978. The trip was one of the most satisfying experiences of my tenure with the Department of the Interior as Deputy Under Secretary. Surely, few individuals anywhere have had the opportunity to travel as extensively.

My advance travel served as an excellent opportunity to informally discuss pressing issues relative to the transition of the Marshall Islands to a future 'free association' status with the United States. Ambassador Peter Rosenblatt is the chief negotiator on behalf of the United States, and I was having the opportunity to discuss with members of the Marshall Islands Political Status Commission their views on governmental transition and administrative and financial issues. Each day, following the usually brief but pointed conversations, I returned to my trailer to make notations to be shared with the Under Secretary upon his arrival.

My residence, a trailer, was well equipped and situated at a central point in Majuro, from which a glance to the East or to the West revealed the expansive Pacific Ocean. The Island is some 30 miles long, but no wider than 400 yards across at any location. The trailer was at a point not more than 200 yards wide. I often wondered what would happen should a large wave materialize through a storm or typhoon. I was told by my hosts, however, that this part of the Pacific seldom experienced serious typhoons, but served as a birth place for many of the larger ones that pound the beaches of Saipan, Jaluit, and other islands in the region.

I spent approximately 2 days in Majuro discussing arrangements for our ambitious adventure. There was excitement in my bones and anticipation of the many people and places to be discovered during the next two weeks. I had arranged to carry a fairly sophisticated camera and lens arrangement which would enable me to capture the finer moments during the trip. I envisioned at least a few hundred slides to document this historic adventure. Never before had an Under Secretary, or for that matter Deputy Under Secretary, travelled so extensively throughout Micronesia.

More than the anticipated adventure that was before me, I was most delighted with the fact that this opportunity would provide the intimate familiarity with the Trust Territory that would enable me to be more supportive of the Department's effort to improve its administration, and to facilitate the Administration's goal of ending the United Nation's trusteeship by 1982.

From Majuro we planned to visit Kili to ensure that construction of the temporary housing for the Bikinians being relocated was proceeding on schedule, and was suitable to meet their temporary needs. A more permanent residence was to be decided upon at a later date.

By all accounts, our visits to Kili and to Bikini were productive. At each of the meetings, attended by political and traditional leaders, as well as citizens, I took copious notes, including precise quotations. Two such quotes I shall never forget, even though the notes went down in the plane. The first was painted on a banner hanging on the wall of the council house on Kili. It read: "Like the children of Israel who roamed in the dessert for 40 years, so we have roamed through the ocean for 32 years and we will never return to our home." This adequately expressed the anxieties of the Bikinians living on Kili, their extreme unhappiness over having moved from Bikini to a strange land never to return home again. Yet, our discussions revealed a more tempered disposition, one of acceptance and hope that their needs, wherever they may end up as permanent residents, would be adequately taken care of by the United States Government. There were several pleas during the meetings that the United States never give up its interest in protecting the rights and providing for the needs of the citizens of the Pacific Islands.

The other quotation I shall never forget came during a meeting with Bikinians on Bikini. A citizen stated: "You have a need to meet with us, but we have an even greater need to meet with you." While in this context these phrases may not be dramatic, in the setting of cinderblock dwellings, barefoot children with wanting eyes, and restrained, frustrated and confused adults, they were very moving.

The several thousand miles we had to cover seemed short, though we traveled by automobile, pickup truck, motor boat, sea-going diesel-powered ships, and the ill-fated C-117, which was made available to us by Admiral David Cruden. He and his staff accompanied us throughout the trip. The considerable amount of travel time was well consumed with note-taking, report writing, and the reading of briefing materials. The time between stops was invaluable, as it permitted us to contemplate each experience, each set of discussions, and to consider necessary follow-up while the issues were fresh in our minds.

By most accounts, the substantive objectives of our problematic and diplomatic mission were accomplished. He demonstrated that officials in Washington were indeed concerned about the problems and needs of the territories, and that we were genuinely concerned about the specific plight of the Bikini Islanders.

The real story that I set out to describe however, surrounds the circumstances which resulted in the ditching of our Navy C-117 in the Pacific Ocean en route to the Island of Ulithi, on what was to be the last leg of our trip. As a result of the crash, we were unable to reach Ulithi, Yap, Palau, and a transition meeting in Guam.

Trip Summary

Wallace O. Green
August 31, 1978

August 4 Friday — **Honolulu** - meeting with Comptrollers

August 7 Monday — **Majuro, Marshall Islands**
- toured copra plant
- brief discussions with District Administrator
- departed by boat for Kili

August 8 Tuesday — **Kili, Marshall Islands**
- Meeting with leaders and citizens, and they:
  1. Expressed desire for all [of us] to visit Bikini.
  2. Requested refrigeration unit.
  3. Asked for improvements to existing housing on Kili.
  4. One resident of an outer island asked that Interior remember those Bikinians who do not live in the larger population centers.
  5. Construction of an all weather dock and airport.
  6. Concern was expressed about Bikinians who perhaps should not receive new housing on Kili since "they are not original Bikinians."
  7. Leaders said they hoped the United States would not abandon them.

Jaluit, Marshall Islands
- Visit to boarding school;
  1. Water and power sources were noted as problems by the principal.

August 9 Wednesday — **Majuro, Marshall Islands**
- Meeting with local leaders:
  1. Revision of Secretarial Order to accomplish legislative separation. A draft was provided.
  2. Requested support for a Phase II capital improvements program.

- Visits to hospital, and Distad headquarters for staff discussions:
  1. Hospital. Under Secretary met with chief medical doctor and toured facility. Conditions were generally deplorable. Also, centralized procurement of supplies via Saipan requires a normal waiting period of 3 to 6 months. Assistance was requested in improving this situation.
  2. Headquarters staff meeting. Job insecurity was expressed as a result of the impending change in government control. A Phase II capital improvements program was also endorsed.

- Meeting with land owners whose properties had been taken over by the U.S. Government. Mrs. Van Cleve attended. this meeting and will summarize.

August 9 **Kwajalein**
Afternoon - Tour of military installation by car
(+1 hour) - Lunch.

Ebeye

- Meeting with local leaders:
  1. The meeting consisted of mutual welcoming remarks and expressions of goodwill. No substantive issues were raised.
  2. Assistance was requested in renegotiation of the next Mid Corridor Agreement (l982?).
- Driving tour. An automobile tour of the island revealed:
  1. The hospital in generally good order with air conditioning being installed.
  2. Housing of marginal quality with some evidence of more "substantial" construction.
  3. Very little open space as a result of the large and growing population.
  4. Questionable sanitation facilities in or near homes.

August 10 **Kwajalein**
Thursday - Briefing on mission of Kwajalein military installation;
  1. Technical discussion of operations and capabilities.
  2. Discussion of relationships with residents Ebeye and others throughout the atoll.
  3. Outline of financial contributions to the local government as a result of business and other activities on Kwajalein.
  4. Enforcement of the Mid Corridor Agreement was discussed.

August 11. **Bikini**
Friday - Meeting with local leaders and citizens;
  1. The need for all Bikinians to cooperate and move to Kili in September was stressed. Radioactivity in the soil and vegetation was said to present danger to their lives.
  2. Bikinians raised many issues and needs, including;
     - desire for a payment to individuals for the purpose of minimizing the inconvenience of the move,
     - request to stop at Kwajalein on the way to Kili for shopping,
     - recognition that fishing is difficult from Kili, and that this would be eased if two (2) boats were made available,
     - individuals who have put energies into agricultural production expressed hopes for reimbursement for income lost due to the move to Kili.

- Local leaders requested that the above issues and others, be written into a Memorandum of Understanding, with the implication that this would be sufficient to achieve their cooperation in the move to Kili.
- Mrs. Van Cleve, once back in Washington, completed a draft of the proposed MOU.

August 12 **Ponape**
Saturday - Breakfast meeting with political leaders;
- Tour of hospital and cultural center.

August 13 **Truk**
Sunday - Breakfast meeting with political leaders;
- Tour of school, hospital, courthouse area, and other sites;
- Meeting with the District Administrator and his division chiefs. Issues raised included:
  1. Phase II Capital improvements.
  2. Economic development activities in fishing and copra (tied to CIP).
  3. Need for medical dispensaries in the outer islands.
  4. Serious educational and career development needs of young people.
  5. Funds for ongoing operation and maintenance of facilities.
  6. The prohibition on alcoholic beverages has greatly minimized law enforcement problems.

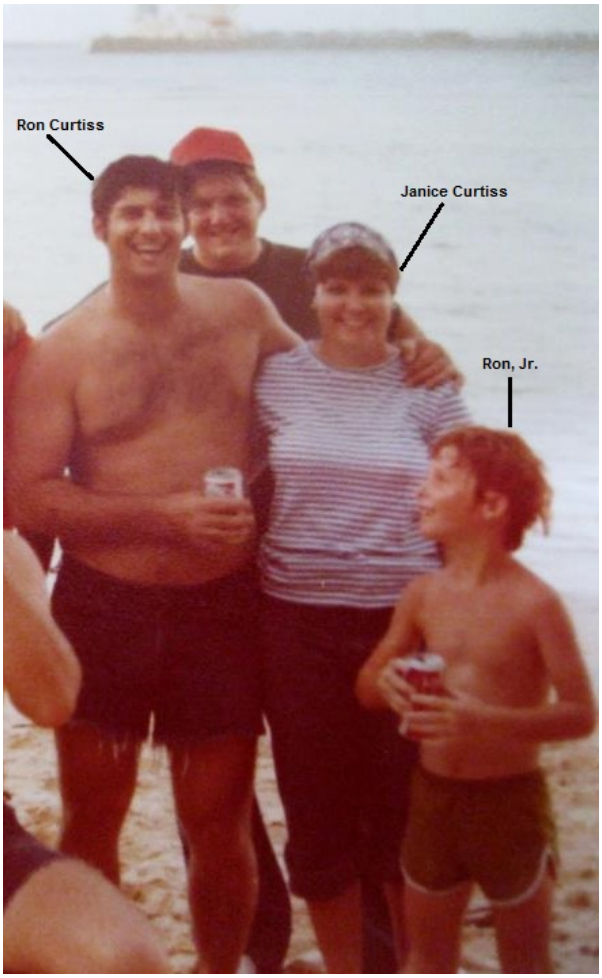
Guam
- Dinner with the Governor and his staff.
- A document listing their concerns was presented.

August 14 Due to the ditching of the Navy aircraft en route to Ulithi, visits to that island,
Monday Yap, Palau, and a meeting regarding transition government scheduled for August 17, in Guam, were canceled. All notes and documents received during the various meetings were lost at sea. Those who hosted the various meetings will be asked to provide additional copies of materials they may have distributed.

Other Notes

A follow-up discussion with Ambassador Rosenblatt may be useful to discuss:
- the feasibility of the new governments' receipt of U.S. Government funds in such a way as to enable them to fund large budget needs early in the period of free association status.
- the U.S. Government's role in developing a reliable territory-wide communications vehicle.
- the need for an economic impact statement on the effects of the negotiated "federal payment" on the provision of services in affected areas.

* * *



F. In Remembrance

Ronald Hugh Curtiss, 1950-1978
By Dan Arnes

My friend and fellow SAR crewman, AE2 Ron Curtiss (27) was killed flying collateral duty as Flight Engineer on a C-117D that crashed at sea 16 miles off the coast of Guam. Ron & I lived close to each other on base, and used to jog to work together in the morning. In Guam, Ron was also a Navy Rescue Swimmer, who helped save others' lives.

RONALD HUGH CURTISS enlisted in the U. S. Navy in St. Louis, Missouri on 16 February 1970. He attended boot camp in Great Lakes, Illinois. From there he transferred to Naval Air Technical Training Center, Naval Air Station Jacksonville, Florida, for duty under instruction. He was received at the training center on 23 May 1970, and attended the following schools: AFUN "P" School, and AE "A" School.

From the Naval Air Technical Training Center in Jacksonville, Florida, AEAA CURTISS was assigned to Naval Air Station Bermuda. He re-enlisted in the U. S. Navy at this duty station on 30 November 1973. His next permanent duty station was Naval Air Station Kingsville, Texas, where he was received on 19 February 1974. AE2 CURTISS reported to Naval Air Station Agana, Guam, on 24 March 1977.

AEAA CURTISS became an AEAN on 18 December 1970. He was promoted to AE3 on 1 March 1972, and to AE2 on 16 July 1973. He was selected for promotion to the next higher grade of AE1.

Pilot Capt. Estes: "I think our enlisted crewmen did a superb job and I am very proud of them. I am heartsick at the loss of Petty Officer Curtiss, because I think he probably did the best job of all. He was a true professional. I think it was largely as a result of his efforts that 28 of us got out of it."

Copilot Lt. Bell: "Petty officer Curtiss was a top notch aircrewman. There's really not enough superlatives. He's very outstanding."

Ron is survived by his wife, Janice, his son, Ronald Jr., and his daughter, Robyn.

Arnes (SAR Rescue Swimmer): "I have since been in contact with his now-adult son [he was 7 in 1978 in the photo above]. He said his mom Janice never got over the loss."

Scott Alan Smith, 1958-1978
By Peter Washburne

Navy Band member MU3 Scott Smith was born June 10, 1958, and had just turned 20. Scott is pictured here playing concerts, on a hike on Guam a few days before the ditching, and singing a ballad at a dance.

Musician Washburne: "I was a pall bearer at the funeral for Scott. When they took a photo of us for the newspaper saluting the casket, rather than stand proudly with my chin up, I was the only one of us who lowered his head and looked down, out of sadness of losing my friend."

Scott was survived by a younger brother Richard Lane Smith, and a younger sister Janet Lynn Smith.

G. Looking Back 35 Years Later

Pilot Capt. Estes: "As commanding officer of the air station I was responsible for what happened. What could we have done differently, what should we have done? I have asked myself a thousand times if at the first oil leak we should have turned around and headed back to Guam, and in hind sight, definitely.

"We lost two good men, and that weighs heavily on my mind.

"I deeply regret that we lost those two men."

Rathbun (mechanic): "Personally, for the first ten years afterwards, every August 14 I would go and have a drink. It has taken me years to pretty much forget this whole screwed up event.

"Bob Bell took it really hard, and this hurt his career.

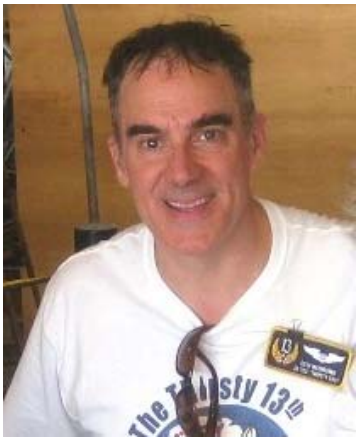
"Bell is the nicest Tennessee good ol' boy you would ever want to meet. He is godfather to my son."

In 2013 Jim Joseph was a professor emeritus at Duke University, and Wallace Green a board member of the Raleigh Area Development Authority. Green wrote: "I see Ambassador Joseph, as he has a home here in North Carolina. The ditching is a life-long bond."

In 2013 Bikini Atoll was still mostly uninhabited.

H. Index

I. About the Author



Seth P. Washburne, 54, pictured at right on August 31, 2013, is the younger brother of Peter Washburne, a musician on board the C-117D.

Mr. Washburne in 2008 researched and wrote a 57-page summary of a B-17 mission over Germany in 1943 during WWII in which his uncle, Richards P. Washburne, the co-pilot, was killed. From 2009-2011 he researched and wrote an 800-page book, *The Thirsty 13th*, about the 13th Troop Carrier Squadron, in which his father served in WWII. After his brother in 2013 made a reference to this military experience of his own, Seth thought it only right that he similarly honor his brother by writing up what happened to him, too.

In writing *The Thirsty 13th* he developed a style that served as a template for this manuscript.

This story also interested Seth because of commonalities with the Thirsty 13th, and because this was a ditching of a DC-3 variant. The Thirsty 13th flew C-47s, the military version of the DC-3, in the South Pacific including to Palau, but not Guam, and had four planes ditch – three never found. This account describes what can happen when a DC-3 variant ditches badly.

Seth is also a multi-engine, instrument-rated pilot, who started flying in 1983. He bought a Cessna Skyhawk in 1988, logged 49 states, and has flown to Newfoundland and the Bahamas.

In 2010 he purchased one of the 13 original Thirsty 13th C-47s, that his father flew on as a navigator. It was then a cargo DC-3 in Puerto Rico. Seth got his DC-3 second-in-command rating, and flew this plane to Texas, similarly over water, with a raft onboard. It had 1820 engines, the same design, but lower horsepower, as on the C-117D herein. The cockpit of his father's plane was similarly torn off, but by wind, after the fuselage was earlier separated from the centerwing. He bought a second DC-3 for parts, and then learned it parked next to the Dirty Dozen plane on D-Day, and so bought a third for parts. None of these has flown again. In 2013 these three DC-3s were in a hangar in Lancaster, Texas, and provided the oil tank photos herein.

Contact

If you were onboard this flight, or have any information you are willing to share, please contact Seth at sethpw1@gmail.com, or (212) 289-1506. Thank you.

E N D