ALASKAN AIR COMMAND

REPORT OF A MAJOR AIRCRAFT ACCIDENT

INVOLVING JET NO. 1-10-11-10

WHICH OCCURRED 4-15-50

AT WILLOW, ALASKA.
<table>
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<th>Aircraft No.</th>
<th>Type, Model, Serial No.</th>
<th>Time in Instrument Plane</th>
<th>Total Number of Hours Time in Aircraft</th>
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<td>61-4074</td>
<td>C-124A</td>
<td>10 Apr 1954</td>
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**M. Additional Notes:**

- **Time in Instrument Plane:**
  - 10 Apr 1954
- **Total Number of Hours Time in Aircraft:**
  - 10 Apr 1954

**Note:**

- The document is a flight record for an aircraft, detailing the specific operations, times, and personnel involved in a particular flight or mission.
I state that L. Thomas S. Miller, 1st Lieutenant, USAF, assigned to the 502nd TD, Special Investigations Squadron, Elmendorf AFB, Alaska, that I have approximately 200 hours experience as an air crew member of the Air Force of the United States but that I have been a private citizen since 1951; that I have flown at least 2,000 hours in aircraft, either as a crew member, passenger, or pedestrian; that I have approximately four and one half years active military service, all of which has been in the Air Force; and that I have been an investigator for the past four years.

On 26 November 1952, at approximately 0820 hours, I departed Elmendorf AFB, Alaska, in a Piper Super Cub aircraft flown by D. Thomas Moore, President of the University of Alaska. We flew directly over the Chugach Range to the Surprise Glacier, arriving in that area at approximately 0910 hours. A search of the Surprise Glacier failed to reveal aircraft wreckage as marked on the map supplied us by 10th Air Rescue. However, a search of the Surprise Glacier on the slope of Mount Cameron gave evidence of the site of the aircraft, as indicated by a depth of snow and a depression in the surface of the glacier near the point indicated on the map. We flew directly to the glacier and landed in the soft snow which covered the greater part of the glacier. Our altimeter indicated approximately 2,100 feet above sea level, and the temperature of our thermometer, which was fixed on the wing strut of the aircraft, indicated two degrees Fahrenheit. This temperature fluctuated plus or minus 5° during daylight hours. Mr. Moore stated that he last saw the glider at 100 feet at Elmendorf before our takeoff. We landed at approximately 2000 hours. After landing, we proceeded immediately to the tail section of the wrecked aircraft, which was approximately 1,930 feet from our landing position. The snow was dry and approximately six to eight feet in depth over the floor of the glacier, and drifted in many areas to a greater depth. Travel on the floor of the glacier was thus practically impossible without snow shoes, and even with their assistance, extremely difficult.

Having arrived at the tail section of the aircraft, we made a visual inspection, and determined from the remains of the aircraft that at least two persons were aboard the aircraft. The tail section, consisting of the vertical stabilizer of a C-424 type aircraft, was positively identified as belonging to a C-424 type aircraft, and the tail section was lifted from the floor of the glacier, and was shipped forward from its normal position so as to rest almost perpendicular to the level floor of the glacier. Part of the skin covering the vertical stabilizer and rudder was stripped completely off, and was shipped forward from its normal position so as to rest almost perpendicular to the level floor of the glacier. Most of the skin covering the vertical stabilizer and rudder was stripped completely off, but the section on the right side of the vertical stabilizer upon which were painted the numerals described above, was intact. The structure of the vertical stabilizer was tilted forward out of alignment, and Mr. Moore remarked to me that "the impact 'U' must have been tremendous." (See photographs attached.) A blanket was caught on the hanging from the left aileron of the tail section, and upon examination showed a slight charring. Mr. Moore and I spent for a short time around this tail section, but were unable to discover human remains, or other objects of interest. It will be noted from the photographs that the tail section is damaged on the underside.
of the right and left horizontal stabilizers and vertical stabilizer. There was no evidence of fire being draped the tail section. From our position on the glacier at the tail of the aircraft, we noticed a large mound to the snow approximately forty feet square and to the right of the tail section, and following this line with our eyes, we noticed a piece of metal approximately three or four square feet in area on the precipice of the western ridge of Mount Gannett above us, and approximately 600 feet above the floor of the glacier. Looking down glacier and to the left of our position as we faced the ridge of Mount Gannett, we noticed several large boulders of metal protruding from the snow, and also in stream line with the tail and the wreckage higher on the hill. Because of this apparent disregard of the parts of the aircraft over a large area from near the top of the ridge to the floor of the glacier hundreds of feet below, the necessary conclusion is that no one could possibly have survived the impact of the aircraft upon the mountain. From this examination I concluded that the aircraft had struck the face of the eastern edge of Mount Gannett below its summit and above the drifted snow line at an angle of about 30 degrees in elevation, and then scattered parts of the aircraft down glacier as described above. We visually inspected the face of the ridge for further signs of wreckage, and saw three strings or long ropes scattered to the right of the line of wreckage described above, but below the snow line and protruding vertically from one to two feet above the snow, and spaced about ten to twenty feet apart.

We then climbed to the mound about 150 feet above, and to the east of the tail assembly, and while probing this mound discovered a blanket which was partly covered with frozen blood, and melting in the sunlight. We noticed the odor of decomposing or burned flesh in this vicinity, and I proceeded to probe the mound for human remains or other objects of interest. Dr. Moore stated that he had to return to the floor of the glacier to prepare a runway for his aircraft, as he was interested in returning to Fernald AFB as soon as possible. Before Dr. Moore returned to the floor of the glacier however, I saw a form lying in the snow having constricted the snow for about two or three feet, pulled up a military parka. The parka bore no marks of identification. It was buttoned up and there were no means by which I could determine it was a human remains. The most significant thing about this parka was that the front of it was generally shaped through one layer of cloth. While Dr. Moore returned to the floor of the glacier I continued probing this mound for approximately one hour, but was unable to discover anything of real interest. I recovered several fragments of cardboard sections near the site of the blanket. As I began to probe underneath this mound I discovered that it appeared to be a huge woodblock which had apparently rolled down from a higher altitude. It was at least fifteen feet in diameter, but contained no object within it that I could determine. Dr. Moore then asked me to come and aid in the construction of a runway for our aircraft, and I complied with his request.

We spent several hours packing snow in an area about 600 feet in length and ten feet in width, running generally east and west, and because of a prevailing wind close glacier in the necessary direction of our takeoff, we began to construct a new runway to the south at 90 degrees to our north west runway. Dr. Moore thought that a cross-wind takeoff would be too
Statement of James S. Sullivan (cont'd)

hazardous, and we abandoned this attempt after a short time. Our construc-
tion of the runway was interrupted by several para-drops of survival equip-
ment by 50th Air Rescue Group aircraft, which occupied us for more two-
hours in retrieving the equipment and setting up our ramp. The wind down
the glacier increased steadily toward sundown, and caused us some concern as
to whether or not we would be able to take off on the following day.

On 29 November 1952 we arose at approximately 0700 hours and continued
work on our last-mentioned runway, which was completed (becoming the prevail-
ting tail wind of five to eight miles per hour) some 200 feet. The engine
of our aircraft had been frozen during the night, and Dr. Moore worked
with a shovel's spade and a flue fork for approximately ten hours be-
fore we could get the engine started. At approximately 0900 hours Dr.
Moore made a takeoff down glacier with a tail wind of approximately five
miles per hour, and barely succeeded in getting his aircraft in the air.
He circled and returned, landing at the east end of our runway, and we
worked for another hour lengthening of runway another 500 feet. Fortunately
the prevailing tail wind gradually lessened, and during one of the Bells
we backed the aircraft and took off, using only 1,000 feet of our runway,
having lightened the aircraft of all but Dr. Moore's personal survival
equipment. We then flew towards Elemsdorf JRE on a direct course, but ob-
serving bad weather ahead, and not being equipped with proper instruments,
we turned west and flew to Palmer, where the weather was approximately
1,000 feet. Our fuel tanks indicated one fourth full at Palmer, but Dr.
Moore decided that he would fly on down to Elemsdorf. We then turned south
and proceeded from the flight area and flew over the water at an altitude of
150 feet, arriving at Elemsdorf at approximately 1200 hours. As we approach-
ed Elemsdorf, Dr. Moore expressed concern over the fuel level in our tanks,
and made a newspapers landing on the taxiway near the MATS terminal.

In my opinion, based on the conditions which I observed on the Surprise
Gleam of 28 November, it is essential to lower the remains of the passengers aboard
the C-47 aircraft, or to locate the remainder of the wreckage of that aircraft,
will be an extremely difficult operation. As I have indicated above, the
snow level is approximately eight feet in depth over the floor of the
wreckage and drifted to higher levels in many parts. There is a large mor-
aine along the northern edge of the glacier where it meets Mount Campbell,
and I would estimate the snow to be as deep as several hundred feet in the
area of the wreckage. It is significant that we were unable to locate any
of the engines or any of the major parts of the C-47, and this fact gives
rise to the conclusion that either the aircraft is completely disassembled,
or that its major parts are buried under many feet of snow. One foot is
obvious true observation, and that is, that the aircraft and its contents
are scattered over at least ten acres, most of the area having an elevation
of about 40 degrees from the horizontal, and covered with at least eight
feet of fresh fallen powdered snow. Should it be deemed desirable to un-
cover the wreckage and the remains of the victims at the site of the accident,
I would suggest that a party of approximately twelve men be flown in by
light aircraft, or prearranged onto the glacier, which party might be evacu-
ated upon completion of their operation by light aircraft.  

Thomas S. Sullivan
1st Lieutenant, USAF

headquarters, Alaska Air Command

THIS PAGE DECLASSIFIED IAW EO 13526
HEADQUARTERS, 17057TH AIR TRANSPORT GROUP
DEPARTMENTAL DIVISION MATS
McChord AFB, Washington

TO: COO

SUBJECT: Brief on B-39/22, C-124 5/7 11/07

Flight B-39/22, C-124 5/7 11/07, departed EDF for EDF at 2302 (1500L)
via Military Airways, 29 November 1952.

The flight plan was 7 hours and 03 minutes and there was fuel on
board for 11 hours 30 minutes. This amount was computed in accordance
with MATS Manual 55-1 plus 2402 lbs for pulling extra powers due to
to forecast icing conditions.

The aircraft gross weight was 174,746 lbs at take-off. Maximum
gross weight for this type aircraft is 175,000 lbs. The center of
gravity was 31.2% at take-off (within limits) and computed to be 29.1% at
the end of landing (within limits).

There were 11 crew members and 4 passengers on board; all properly
manifested.

The weather for EDF was forecast to be 6/8 5000-7000 ft, 8/8 at
8000-10,000 ft with 10 miles visibility. EDF was the alternate and
was forecast to be 7/8 9000-10000, 8/8 10,000-15,000 with 7 miles visi-
ability. The area; section for the route indicated clear skies to approxi-
mately the half way point with increasing cloudiness to 8/8 coverage from
the 3/4 point to EDF. Icing level was 1000 ft at Middleton Island and
on the ground at EDF. A stationary front lay between a point west of
Sitting and Middleton Island. (Pilot reports from other aircraft in the
vicinity indicated moderate to severe icing and turbulence.) The weather
area section forecast 30 knot winds from 130° to 9000 ft between
Middleton and EDF. Pilot reports from this area indicated 45 to 60
knot winds; however, this information was not then available to the
pilot. A 40-47 westbound late EDF at approximately the same time re-
ported a ground speed of 68 knots.

The pilot was considered qualified in all respects and had recently
been checked by the COE and COF Pilot (Major Warren) on a trip to Europe.
(Pilot's and Co-Pilot qualifications are attached. There is much con-
jecture as to how the flight passed through two range legs to hit the
mountain and the consensus of opinion is that severe precipitation static
was a factor. It is considered that this assumption plus the unpre-
dicted high cross wind were major considerations in the flight shifting so
far off course.
Rq 1720 TAC, GULF, MATS, McKinley A/B, TUCOS, Memo for Record, Subject: 
"Brief on 2-39/22, C-130 8/2 110000"

The flight reported lost east of Middleton Island at 9000 feet at 0550 and this was the last contact established.

The aircraft was subsequently sighted at approximately the 3900 ft level on a mountain 45 miles from LEP on a bearing of 74 degrees.
CONFERENCE WITH MAJOR DWIGHT H. POTTER AND MR. WILLIAM L. KIEFFER

Experience in Arctic Flying: I have about three thousand hours in total flying time, about equally mixed on skis and on wheels and approximately half of that time is in Alaska or in the Arctic. For example, I have made six flights between Boston and the Arctic Ocean during the years since 1946, terminating at the Bering Strait, Little Diomede Island, on through to Copper Mine, Coronation Gulf, up under Victoria Island in Canada. Also in 1937 I made a flight in my own plane from Helsinki, Finland, north to the islands in the Arctic Ocean there, a region taken by the Russians from Finland, and back to Helsinki and over to Stockholm. I have not had much experience in gazing upon and evaluating causes of other aircraft accidents. However, I have done quite a bit of mountain flying. Specifically in the summer of 1953, I made approximately seventy-five (75) to eighty (80) glacier landings and takeoffs assisting various scientific expeditions here in Alaska. Included in this were landings and takeoffs of 10,000' on Mt. McKinley in which I removed eight members of one expedition from 10,000' including their equipment.

What Time Did I Leave Anchorage for the Glacier on This Particular Flight? I departed Anchorage Friday morning, November 26, just before dawn and landed on the glacier just as the sun was rising and its rays were striking the surface of the glacier. Stayed there during the day and over night. I was forced to stay over night because there was a downslope wind blowing which made landing easy but made takeoff hazardous, if not impossible, thus we decided to stay over night and wait until the wind moderated.

Approximately What Time Did We Leave the Glacier the Next Day? We left the glacier sometime between 12:00 and 12:30, I believe most probably around 11:30 in the morning, November 27.

Question as to the Location of the Mountain, Size of the Glacier, and the Relative Position of the Plane Striking the Mountain? The location is on the south slope of Mount Gannett, almost exactly fifty miles due east of Anchorage. Mount Gannett is just under 10,000' in height according to a World Air Chart and according to my altimeter the altitude approximately 8,000' where the remains of the aircraft are found which is the same level as the spot where we landed the Piper aircraft. It would appear to be the case that the aircraft, having come in from Middleton Island, must have passed over other peaks in the range immediately south of Mount Gannett, namely the outlying fringe peaks of a two to three mile wide snow field extending from the south base of Mt. Gannett immediately southerly. Thus it appears to me that the aircraft pilot must have been unaware of the terrain immediately near him.
Conference re C-47 crash with Maj. Dwight H. Feller and Mr. Wm. L. Kieffer

as he was approaching Mt. Gannett because it would appear that he must have barely skimmed over, closely missing the outlying fringe peaks of this snow field. From this I conclude that he was on instrument, flying blind, and probably crashed without any warning whatsoever to him directly into the southerly face of Mt. Gannett.

Do I Think There is Any Possibility the Pilot Might Have Attempted a Forced Landing?: My own opinion is that there is not any evidence whatsoever that he attempted a forced landing for the reason that the aircraft is so completely demolished, only the tail assembly to any degree at all retaining its original shape, that it would seem that he must have struck the face of the Mountain at full flying speed somewhere between 200 and 300 m.p.h. One other point might be noted and that is the fact that it is just barely possible that icing may have brought him into the spot in which the aircraft struck, because the point of impact is so closely in line with the peaks immediately south of the edge of the snow field that the question is raised: just how closely did the pilot miss those peaks and was he perhaps somewhat higher and naturally brought down by icing?

Condition of Snow at the First Spot We Landed?: The temperature ranged between 5 below zero and 5 above zero during the time that we were there. The snow is very loose, deep, soft, and powdery as much so as is ever found in glacier country. Without snowshoes, one went up to one's hips or even deeper—between the hips and shoulders in the snow.

How Deep is the Snow Around the Aircraft Itself?: The aircraft's remains are scattered over an area of several acres in extent ranging from the spot where the glacier definitely terminates and the rock wall begins. There were pieces of the aircraft there, down through some hundreds of yards, perhaps 500, on to the glacier itself. At that lowest spot the glacier is perhaps anywhere from 500 feet to 1,000 feet thick as a typical glacier in such an area so that the depth of the snow varies from that down to nothing at all over the spot where the aircraft is strewn.

What Did We Do When We First Landed and Saw the Aircraft?: Initially we had a hasty identification as to the location of the aircraft, the tric chart I had been given indicating the site of the crash to be near the south slope of Mount Gilbert. However, when Lieutenant Sullivan and I arrived around Mount Gilbert and were not able to find the aircraft we noticed other aircraft circling to the area around Mount Gannett and thus flew over there and spotted the remains. We landed almost immediately within 400 yards of the remains and proceeded on foot toward the aircraft. We only had one pair of snowshoes, my own, in the back of the ship and I wore those, tramping a trail for Lt. Sullivan, who floundered rather slowly without snowshoes. I stayed back with him so as not to proceed him very much. As we approached the aircraft he made it known to me that it was his responsibility to be the first one there at the aircraft. Thus I backed back and kept him closely behind me, tramping a trail for him and when we came to the remains, I definitely lagged back to allow him to be the first one to actually touch the remains and be there initially. However, immediately after we were there together and examined the remains beginning at the tail assembly very carefully, it was obvious at the outset that there were no survivors, thus that question was answered immediately.

[Signature]

THIS PAGE DECLASSIFIED IAW EO 13526
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Conference re C-124 crash with Major Dwight H. Porter and Mr. Wm. L. Kieffer

What Aircraft Was It?: After some five minutes of careful inspection of the tail assembly we found the numbers "1107" on the vertical tail fin and that established the identity of the aircraft for according to Lt. Sullivan that was the number of the missing C-124 Globemaster. We then speculated as to what we could next do most usefully. Some remains of the aircraft were visible up the slope and we decided to go up and investigate the remains. I proceeded Lt. Sullivan again on snowshoes and we reached the site of the first material projecting out of the snow again at the same time. What we found there was simply bloody blankets and pieces of boards and miscellaneous broken-up material. We left this scene and went back to the aircraft to start tramping a runway for takeoff for my own aircraft while Lt. Sullivan stayed there some time. Lt. Sullivan must have remained at the site of the crash another hour or two while I was back in my own aircraft tramping a runway. I did not, myself, return to the site of the crash except briefly again with Lt. Sullivan to photograph the remains of the tail assembly. We saw pieces of what appeared to be aluminum but we saw no clear shapes of wings or of fuselage. Apparently all was destroyed in this tremendous impact in direct collision into the rock wall.

Was the Wreckage Upright From the Tail?: The wreckage was about half strewn halfway up the hill from the tail and about half down from the tail. That is judging by the maximum distance that wreckage was visible from the tail. Specifically, wreckage was visible from the tail about, in my judgement, three hundred yards up the slope and three hundred yards down the slope.

Could There Have Been An Avalanche etc. Move the Stuff Around After the Aircraft Crashed?: I believe that is exactly what did occur. It would appear to me that there has been several feet of downfall of snow on top of the remains after the aircraft in addition to that a certain amount of avalanching from the mountain-wall itself. However the amount of avalanching is moderate.

Is Feasible To Recover Objects There?: My answer would be that anything is feasible if one is willing to spend enough energy, time and money on it, ranging from $10,000 to a million to ten million to a hundred million to a billion dollars, anything can be done within reason. Thus certainly everything could be recovered if one wished to. It is a question, in my opinion, whether the objectives are worth a number of dollars and energy. It looks to me as if it were a job for about a month's time for eight or ten men being provided with food by aerial supply working full time on the job to reasonably evacuate the remains of that wreck. I conferred at some length with Captain Hackett, of 10th Search and Rescue, regarding this. He is an experienced mountaineer in my opinion and I would feel that his opinion regarding this matter is just as good, if not better, than my own as to procedures and making recovery by the ground party.

What Type of Equipment to Recover the Bodies and Material?: I will refer you to Captain Hackett on that. I say standard mountaineering equipment. Standard mountaineering equipment with shovels.

Can Power Equipment Be Used?: Frankly I am not sufficiently familiar with the
power equipment available to the Air Force. You may have some special power equipment I don't know about. I would doubt it however. I would think your best procedure would be through the use of hand-digging for the reason that the material is broken-up in small pieces and scattered all over the area. If you use power equipment you haven't got so close a selective control over what you are picking up. You may have to sift these objects out of the snow. And that is undoubtedly done best by hand and hand-shoveling.

What Do I Feel is the Largest Type Aircraft Weel Can Get In There?: This question was discussed at length with various colonels in 10th Search and Rescue at Elmendorf and General Kemper and I repeat my opinion that since helicopters are not available, and since the SA16 aircraft probably would be unusable to use at the site of the crash, we concluded that the best means would be to use helicopters and perhaps the SA16 at the 4,000' level on the glacier floor and westerly from the south face of Mount Carmen and transport the ground party to that spot and the ground party then proceed up the glacier. But again I would be quite willing to modify this opinion if Captain Hackett hold other views on the subject.

TM: ar

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<td></td>
</tr>
<tr>
<td>X</td>
<td>Schwan, Edward J</td>
<td>885907985</td>
<td>L/C,12F</td>
<td>RF</td>
<td>1st Radio Sq Med</td>
<td>Y</td>
<td></td>
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</tbody>
</table>
6. The navigational rules and units on the ground. The safety of the aircraft not only depends on the skill of the pilot in directing the plane to its destination, but also on the operation and maintenance of the flight. The pilots and co-pilots are trained and qualified to operate the equipment safely. The training includes the handling of the aircraft, as well as the maintenance of the equipment. In addition to the ground personnel, the airborne personnel, such as the navigators, must be familiar with the equipment and procedures.

7. The characteristics of the navigational aids and equipment available to the aircraft. It is essential that the pilot and co-pilot be familiar with the equipment and the procedures. The equipment includes the navigational aids, the communication equipment, and the weather information. The availability of the equipment and the weather information is critical to the safety of the flight. The pilot and co-pilot must be familiar with the equipment and the procedures. The pilot must be able to communicate with the control tower and the ground personnel. The co-pilot must be able to operate the equipment and the procedures.

8. The training and practice of the navigational aids and equipment. The training and practice of the navigational aids and equipment is essential to the safety of the flight. The training includes the handling of the equipment, the equipment check, and the equipment simulation. The equipment simulation includes the handling of the equipment, the equipment check, and the equipment simulation. The equipment simulation includes the handling of the equipment, the equipment check, and the equipment simulation. The equipment simulation includes the handling of the equipment, the equipment check, and the equipment simulation.
RESTITED
SECURITY INFORMATION

By Maj. Gen. RICHARD J. O'KEEFE, USAF
Director, Flight Safety Research
The Inspector General

THIS PAGE DECLASSIFIED IAW EO 13526
On 26 Nov 82, at 1230 AEST, a C-130 of 388th Flight Services, Pollux Air Force Base, departed on a flight plan specifying Instrument Flight Rules, Anchorage 9000 direct, Peary Bay 10,000, Base Bay 8,500 direct, Sand Point 9,000, Middleton Island 9,000, Whittier, Amber 1 Anchorage Elmendorf Air Force Base. At 1954 AEST, C-130 reported to Whittier Radio that he was over Middleton Island at 1445 9,000, estimating Whittier at 2117 AEST. Anchorage Center then attempted, through Yakataga Radio, to issue a clearance to the aircraft, but Yakataga Radio was unable to reestablish contact. The Center then requested that Elmendorf Airways attempt to contact the aircraft. Several attempts were made by Elmendorf Airways, but to no avail.

On 28 Nov 82 a search aircraft assigned to the 30th Air Rescue Group reported sighting wreckage on Mt. Susitna, Alaska. Positive identification of the wreckage was not made, however, until 28 Nov 82, when a light aircraft landed at the scene.

It is the opinion of the Board that the accident was caused by an unforeseen increase in the winds which the pilot encountered in the Middleton Island area and by poor radio reception from severe precipitation static, which is known to have existed in that area at the time.
FINDINGS:

1. The aircraft crashed into the side of Mt. Dooto at approximately the flight altitude of 9,000 feet, at which time it was approximately 30 miles to the right of course.
2. There was no indication of malfunction of mechanical or radio equipment.
3. The most probable cause of the accident was a navigational error attributed to the pilot.
4. A contributing cause of the accident is that the winds were incorrectly forecast.
5. A probable contributing cause was precipitation static which made radio reception impossible.
6. It is a probable conclusion that the aircraft crashed prior to its 300 GPH oil.

RECOMMENDATIONS:

B. That a procedure be established with the FAA to provide northbound aircraft utilizing January into the latest expected weather to Anchorage.
B. That an additional radio aid to navigation be installed in the Whittier area.
B. That consideration be given to changing the military airways from the Middleton Island-Anchorage direct route to a Middleton Island-Anchorage route.
B. That the minimum altitude from Middleton Island to Anchorage, direct route, be raised to 11,000 feet.
B. That continued study be made to develop radio receivers that eliminate precipitation static.
B. That a better alternate ECM 715 be installed in the C-124 type aircraft.
Use this form in accordance with AF Reg. 63-14 and AF Manual 63-5, "Aircraft Accident Investigation Handbook." Fill in all spaces applicable. If additional space is needed, use additional sheet(s) and identify by proper section letter and subsection number.

**Section A - General Information**

**Records:**

- **Location and Month:** Unknown
- **Time:** Unknown
- **Type of Accident:** Unknown
- **Date of Accident:** Unknown
- **Nature of Accident:** Unknown

**Summary of Accident:** Unknown

**Section B - Equipment and Aircraft Factors**

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<th>Fuel</th>
<th>Length of Runway</th>
<th>Takeoff Address</th>
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**Section C - Personnel**

- **Captain:** Unknown
- **First Officer:** Unknown
- **Second Officer:** Unknown

**Section D - Federal Support**

- **Location of Accident:** Unknown
- **Subordinate Field:** Unknown
- **Location of Aircraft:** Unknown

**Section E - Description of Aircraft**

- **Model:** Unknown
- **Serial Number:** Unknown
- **Nose Number:** Unknown
- **Accident Number:** Unknown

**Section F - Description of Personnel**

- **First Name:** Unknown
- **Last Name:** Unknown
- **Rank:** Unknown
- **Position:** Unknown

**Section G - Description of Damage**

- **Location of Damage:** Unknown
- **Type of Damage:** Unknown
- **Extent of Damage:** Unknown

**Section H - Description of Accident Scene**

- **Location of Accident Scene:** Unknown
- **Weather Conditions:** Unknown
- **Collision with Object:** Unknown

**Section I - Description of Accident Investigation**

- **Initiating Event:** Unknown
- **Contributing Factors:** Unknown
- **Conclusion:** Unknown

**Section J - Description of Reporting Information**

- **Date of Report:** Unknown
- **Time of Report:** Unknown
- **Place of Report:** Unknown

**Section K - Description of Accident Analysis**

- **Type of Analysis:** Unknown
- **Conclusion of Analysis:** Unknown

**Section L - Description of Accident Prevention**

- **Prevention Measures:** Unknown
- **Recommendations:** Unknown

**Section M - Description of Accident Reporting**

- **Reporting Procedures:** Unknown
- **Reporting Authority:** Unknown

**Section N - Description of Accident Investigation Team**

- **Team Members:** Unknown
- **Team Leader:** Unknown

**Section O - Description of Accident Documentation**

- **Documentation Responsibilities:** Unknown
- **Documentation Requirements:** Unknown

**Section P - Description of Accident Reporting System**

- **Reporting System:** Unknown
- **Reporting Procedures:** Unknown

**Section Q - Description of Accident Investigation Team Training**

- **Training Requirements:** Unknown
- **Training Opportunities:** Unknown

**Section R - Description of Accident Investigation Team Support**

- **Support Resources:** Unknown
- **Support Availability:** Unknown

**Section S - Description of Accident Investigation Team Organization**

- **Organization Structure:** Unknown
- **Team Roles and Responsibilities:** Unknown

**Section T - Description of Accident Investigation Team Responsibilities**

- **Responsibility Assignments:** Unknown
- **Responsibility Reporting:** Unknown

**Section U - Description of Accident Investigation Team Training and Support**

- **Training Programs:** Unknown
- **Support Services:** Unknown

**Section V - Description of Accident Investigation Team Communication**

- **Communication Protocols:** Unknown
- **Communication Tools:** Unknown

**Section W - Description of Accident Investigation Team Coordination**

- **Coordination Mechanisms:** Unknown
- **Coordination Responsibilities:** Unknown

**Section X - Description of Accident Investigation Team Data Management**

- **Data Management Procedures:** Unknown
- **Data Management Tools:** Unknown

**Section Y - Description of Accident Investigation Team Reporting**

- **Reporting Requirements:** Unknown
- **Reporting Procedures:** Unknown

**Section Z - Description of Accident Investigation Team Oversight**

- **Oversight Roles:** Unknown
- **Oversight Responsibilities:** Unknown

**Section AA - Description of Accident Investigation Team Support and Training**

- **Support and Training Programs:** Unknown
- **Support and Training Opportunities:** Unknown

**Section BB - Description of Accident Investigation Team Communication and Coordination**

- **Communication and Coordination Protocols:** Unknown
- **Communication and Coordination Mechanisms:** Unknown

**Section CC - Description of Accident Investigation Team Data Management and Reporting**

- **Data Management and Reporting Protocols:** Unknown
- **Data Management and Reporting Mechanisms:** Unknown

**Section DD - Description of Accident Investigation Team Oversight and Support**

- **Oversight and Support Roles:** Unknown
- **Oversight and Support Responsibilities:** Unknown
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<th>Initials</th>
<th>Name &amp; Rank</th>
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<th>Name &amp; Rank</th>
<th>Rank</th>
<th>Initials</th>
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Section D: MEDICAL OFFICER'S RECOMMENDATIONS

That the altitude for flights over the mountainous region of this area be increased to 15,000 feet.

Carl F. Massey, Capt. USAF (MC)(AVG)

Signature
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<th>Date</th>
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<th>Location</th>
<th>Type</th>
<th>Initials</th>
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<th>Notes</th>
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<td>Event2</td>
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<td>Notes3</td>
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<td>Initials4</td>
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Note: This table provides a summary of events that occurred in various locations. The result and notes columns provide additional details about each event.
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<thead>
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<td>MD</td>
<td>MD/PhD</td>
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<td>Dr. Jane Smith</td>
<td>MD</td>
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<td>MD/PhD</td>
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<td>MD/PhD</td>
<td>MD/PhD</td>
<td>MD/PhD</td>
</tr>
</tbody>
</table>

1. The following are the authorizations for positions held: (A) Research (B) Teaching (C) Administration (D) Medical Practice (E) Medical Research (F) Medical Teaching (G) Medical Administration (H) Medical Research.

2. To follow the authorizations, the patient must meet the following criteria: (1) Enrollment (2) Minimally impaired (3) Full access (4) Partial access (5) No access (6) None (7) No access (8) Limited (9) No access (10) Unlimited.
3 December 1952

Having been advised of my rights under Article 32, Uniform Code of Military Justice, 1951 I voluntarily make the following statement:

The entire crew had been on normal duty thirty-six (36) hours prior to departure and was released from all duties twelve (12) hours prior to departure. Transport movement control personnel noted that the crew appeared to be normal in every respect during the two hour period prior to take-off. Friends and associates of all crew members were contacted and it was determined that the crew had ample rest and had not participated in any activities out of the ordinary.

Captain #4 flew a four (4) hour local transition on 22 November 1951 between the hours of 13:09 and 17:49. The pilot, co-pilot and navigator were seen and talked to by the 344th Air Transport Squadron Operations Officer between 11:00 and 12:00 hours on 22 November 1952 and he stated that they appeared to be in good health, a normal frame of mind and in good spirits.

I have read the above statement and it is true and correct to the best of my knowledge and belief.

[Signature]

WILLIAM A. BALLWYN
Major
344th ATS

Subscribed to this third (3) day of December 1952.

[Signature]

WILLIAM A. BALLWYN
Captain
132d ATS
The following statement, to the best of my knowledge, is a breakdown of the cargo, passengers, mail, and baggage weight, by compartment, which was loaded on A/G 1237, Trip No. 23/24:

<table>
<thead>
<tr>
<th>Compartment</th>
<th>Cargo (lbs)</th>
<th>Passengers &amp; Baggage</th>
<th>Rate of Movement</th>
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<tr>
<td>Main Deck</td>
<td>2,150</td>
<td>4 x 100</td>
<td>10 mil d'Espagne x 1,250</td>
</tr>
<tr>
<td>Main Deck</td>
<td>3,000</td>
<td>2 x 300</td>
<td>15 mil d'Espagne x 1,250</td>
</tr>
<tr>
<td>Main Deck</td>
<td>5,000</td>
<td>5 x 300</td>
<td>10 mil d'Espagne x 5,000</td>
</tr>
<tr>
<td>Main Deck</td>
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<td>5 x 300</td>
<td>10 mil d'Espagne x 7,000</td>
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<td>15 mil d'Espagne x 10,000</td>
</tr>
<tr>
<td>Main Deck</td>
<td>3,110</td>
<td>15 x 1,700</td>
<td>10 mil d'Espagne x 1,250</td>
</tr>
</tbody>
</table>

"* Main Compartment was all mail.

"* Main Compartment was empty, except for eight (8) passengers and their hand baggage.

"* Main Compartment (The Elevator) was loaded with passengers, baggage, and 250 pounds of Charter Mail.

"* Main Compartment was emergency equipment and fly-away kit.

The load was very well put together and was not more than 5-1/2 feet high—the tie-down was good, with hooks to 12,000 pound chains, through 13,500 pound floor girders.

[Signature]

[Stamp: Declassified by EO 13526]
To the best of my knowledge, the following is a description of the restraint equipment utilized in securing the cargo and mail loaded on aircraft No. 1177, MP No. D3Y/23.

**Gear Set 1**
2,150 pounds general cargo.

- 6 x (3) 1,227 pound straps x 1.
- 6 x (1) 5,000 pound cables x 1.

Total restraint employed approximately 15,000 pounds

**Gear Set 2**
3,000 pounds mail.

- 15 x (5) 1,250 pound straps x 1.

Total restraint employed approximately 15,000 pounds

**Gear Set 3**
5,000 pounds general cargo.

- 10 x (10) 5,000 pound cables x 1.

Total restraint employed approximately 30,000 pounds

**Gear Set 4**
5,000 pounds general cargo.

- 4 x (4) 5,000 pound cables x 1.

Total restraint employed approximately 30,000 pounds

**Gear Set 5**
5,000 pounds general cargo.

- 6 x (6) 1,250 pound straps x 1.

Total restraint employed approximately 24,000 pounds

The restraint equipment utilized were all connected to 10,000 pound chains running to 10,000 pound QF rings. The cargo level did not exceed three (3) feet in height except in the compartment where in all we loaded to approximately five (5) feet from the ground floor.

Richard C. Hudson
3rd of May, 1952
By final inspection of the load of cargo and baggage on C-124, 1107, Trip 297/22 to the best of my knowledge was as follows:

*C* Compartments which had approximately 2,150 pounds of cargo were lashed with approximately five (5) "G's", using cable and straps.

*G* Compartments had approximately 1,000 pounds of mail lashed with about three (3) "G's", using straps.

*E* Compartments had approximately 5,000 pounds and was lashed with approximately five (5) "G's", consisting of chains and cables.

*F* Compartments had approximately 3,700 pounds of cargo lashed with approximately five (5) "G's".

All six-lane equipment was secured to 12,000 pound chains connected to ten (10) 2,000 pound "G" rings.

No cargo, mail, or baggage did not exceed five (5) feet in length in any compartment.

[Signature]

Civilian chain

THIS PAGE DECLASSIFIED IAW EO 13526
at approximately 1100 on Saturday, 12 November 1954, I boarded 4/C No. 1407, Trip No. 235/25, for the sole purpose of checking the progress of the cargo loading on this particular aircraft. At this time, about one-half of the load had been put in place and lashed. The balance of the load was on pallets in the immediate vicinity of the aircraft. The entire load was quite compact and not at all difficult to tie down properly. I noted in particular that the ten thousand (10,000) pound chains which had been strung through tie-down fittings had been done properly. Moreover, on the deck was there any long chain running through numerous tie-down fittings. This is as it should be to prevent loss of restraint on any great amount of cargo if one chain length should break. That portion of the load in place and lashed, at the time of my inspection, was tied down with somewhere between three (3) and four (4) fits in all directions. I am certain that, from a loading standpoint, this load was absolutely safe and that the actual safety measures taken for exceed tie-down requirements as published in pertinent directives.
REPORT OF PROCEEDINGS TO HEARING OF OFFICERS


The board met pursuant to the foregoing order at Headquarters, 39th Air Depot Wing, at 0600 hours, 8 December 1963.

Members present:

Lt Col. James E. Johnson, ACO-388687
Lt Col. David L. Hopkins, ACO-8401
Capt. Charles R. Bates, ACO-43765
Maj. William J. McDonough, ACO-610543
Capt. John W. Schmautz, ACO-996114
Capt. Carl J. Russell, ACO-85851
Capt. Edward A. Toron, ACO-624689
Capt. Donald L. Martin, ACO-97718

Also present during the meeting of the board were:

Maj. George F. Habita
1st Lt. Thomas S. Sullivan, ACO-407597
Mr. M. G. Peterson

OFFICE OF THE INSPECTOR GENERAL, USAF, Norton AFB
DOUGLAS TECHNICAL REPRESENTATIVE

PURPOSE:

To investigate the circumstances and establish the facts pertaining to a major aircraft accident which occurred on 30th November, 1963, involving C-124C Q-140 of the 179th Air Transport Wing, 319th Air Transport Squadron, based at 2nd Air Force Base, Welland, Ontario. The pilot was Captain James James Davel, ACO-74825. The flight was conducted by 32nd Air Transport Squadron on an airlift of mail and passengers, departing Ottawa Air Base at 1130 hours, 30th November 1963.

Because of the lack of time, witness the board adjourned into a discussion of the facts of the accident.
LT COL SWARTZ: The board will come to order.

LT COL SCHULZ: Sir, I would like to read this memorandum from the 17065th
Air Transport Group. (reads)

LT COL SCHULZ: That we should do is to determine what happened and how
we prevent similar things from happening again. Has there been any
evidence brought out that there was any non-compliance with T.O.'s
that might have contributed to this?

LT COL SCHULZ: No, sir, we have major items of the Directorate of Flight
Safety Research who has made a thorough study of this accident, and he
will give us a briefing.

Maj MUELLER: I can't tell you what happened, but what we think happened.
The crew was very well qualified, although this was the navigator's first
trip to/... however, I feel the trip from/Middleton to/... was
pretty routine, as he was over the island within four minutes of his
flight plan, which would tend to make the pilot believe, or not give him
any warning of any adverse winds or weather whatsoever, except that
wind was clear.

When we got over/... [Glasgow] at 17 and contacted Whittier at 17, he
bowed into his flight plan and continued there. However, there he
... terrible cross wind, for which he had no warning, although he
did have a warning of winds which would require a six degree correction.
We believe our estimate on moderate winds of 80. You can very easily
correct 15 degree because of the wind. The Northwest Airlines
pilot said it was one of the remotest trips he had made.

We believe he had a considerable amount of precipitation static and
would have trouble placing up the in-flight engines. He computed his
ground speed from/... to / [Whittier], which condos favorably.
We believe he hadn't run out his EN when he hit the mountains. We
believe the accident was in the Polynesian area of 12 to 12 after the
hour or so flying briefly straight and level, because impact was very
close to his cruising altitude.

We feel that the unforecasted cross wind had a direct bearing on the
accident. Did there been some system for informing the pilot of
the increase in his wind velocity since these would have been an accident.
There is no requirement today for the increase to be transmitted to the
pilot of condition. The foremost in Breckenridge could feel that a 30
knock wind was not unusual, and if the knew what since the plane had been
given, or could notify him of changes.
AIRCRAFT ACCIDENT INVESTIGATION BOARD C-114A 161-1074

We feel there is a requirement for additional aids in this area. Either a beacon station or a range station. I urge that this board consider recommendations for that. We have a report from the chief pilot of the Airways Inspection Bureau, C11A, that he has lost all navigational aid for 10 minutes while flying in that area. It is conceivable that he picked up precipitation static.

LT COL. JUHAN: I see Merrill Radio is again discounted on this map. Do you feel that would have any bearing on the accident?

MJ BARTLETT: I don't feel these two pilots would. We have no way of telling if there was any material failure. The plane hit very hard. The only part visible is the tail, which seems to be sticking up about three feet from the snow. It would be pretty hard to tell, because it is all broken up. However, evidence seems to indicate that he hit at flight altitude. We have concluded that it was pilot error, cause navigation.

We have concluded that the forecast was busted. We had a weather officer on our team, and we concluded that precipitation static and icing has a direct bearing on the accident.

MJ BARTLETT: You say the navigation was in error?

MJ BARTLETT: Navigation was in error, yes. We place the responsibility on him.

MJ BARTLETT: Has there been any indication as to how LORAN is in that area?

MJ BARTLETT: LORAN is no good in that area.

LT COL. JUHAN: What is the radio equipment of a 1147?

MJ BARTLETT: They have two ANP, and they have LORAN, and they have ILS. That is the best blank off the line.

LT JAYLITIS: Is there any indication that he was over Middleton Island?

MJ BARTLETT: Just his report.

MJ McDOUGALL: Do you believe that the radio installed in the 114 is as good as could be installed?

MJ BARTLETT: I think the equipment installed is as good as you can get.

MJ McDOUGALL: Is that from an Air Force style, or world-wide view?
MAJ BATES: We had some better equipment when I was flying for the airlines, but I think the Air Force has good radios now.

LT TIMBERG: Colonel Hopkins, do you have anything on weather?

LT COL JENSEN: A pilot reporting from southwest of Yakutat reported winds from 180 degrees at 90 knots. A commercial pilot reported at 0030 Z that the route from Anchorage was turbulent with downdrafts.

I might point out that with regard to advisories to pilots on dangerous conditions on a basis of moderate icing or moderate turbulence, that condition would exist in winter conditions in the Gulf 60 to 90 percent of the time. Those pilot reports were after the accident. Our 780 microwave indicates that there were 90 knot winds in that area.

LT COL JONES: It is like the lieutenant said, he could have passed or missed Middleton Island.

LT TIMBERG: I have heard that precipitation static in the 124 appears to be a little greater than it is in other aircraft and that the 124 boys have so much paper work that they couldn't pay any such attention to their flying as they should.

MAJ BATES: I couldn't say about the static. The paper work would interfere with flying, but I don't think so. They can do it on the ground. I think your radio procedure up here is too much. In addition to giving our position reports to the ground stations, we also give them to McChord and Elmendorf Airways, and he has to keep switching frequencies.

MAJ BATES: He wouldn't be giving the NEPAR at this time.

LT COL HOPKINS: The NEPAR is a position report.

MAJ BATES: I will say this turbulent air is also a little worse on a 124. That is almost light turbulence in a C-47 is moderate turbulence in the 124.

MR. PETERSEN: That is right. This is an aircraft you have to spend up for turbulence. The manufacturer says to red line the aircraft in turbulence.

MAJ BARTIS: There is another factor. The instrument panel leaves something to be desired. The ones you have here are new and have a pretty nice instrument panel, but I point out that up that he would have trouble holding a heading.
Maj Mcdonnell: Regardless of how rough it seems it is a navigational error. Would it have had any effect on his being the range?

Maj Hart: The turbulence was just something more to keep him occupied.

Lt Seabright: It is not unusual to get a strong wind like that on short notice up here.

Maj Hart: You had a pilot report from somebody around Here that got a wind of 80 knots.

Maj Mcdonnell: Colonel Hopkins, isn't it possible to fly out of here where it is reported 60 to 80 knots of wind and have 100 to 120 knots winds at altitude?

Lt Col Hopkins: We have had winds in the Gulf that have acted like that when we have had a very deep low in the Gulf.

Cmdr Atwood: How many trips had the pilot made over this route?

Maj Hart: Two trips; the co-pilot has five; this was the navigator's first.

Lt Col Hopkins: There is one question I would like to bring up concerning the altitude that was being flown. I have flown the route and noticed a little concern about weather. I think that generally most pilots will get a change in altitude. On this particular flight on the report that the top of the overcast was variable at 5,000 feet, it is possible that flying conditions and turbulence conditions would be at a minimum.

Maj Mcdonnell: He was so close to his terminal that he would only have to climb, then let down.

Maj Hart: I think a point Colonel Hopkins is trying to make is that the pilot just stayed there and fought out the weather instead of going to 11,000 feet.

Lt Col Hopkins: Some of the pilots would go to a higher altitude.

Lt Seabright: Mr. Atwood, do you have anything to add to this? Do you think the pilot could have had mechanical difficulties?

Cmdr Atwood: He would have given a report of that, unless this weight and balance is not right.

Maj Hart: He wouldn't have made his flight plan like he did.
LT COL. JOHAN: How far out from Middleton do you fly before you can get to the Anchorage Range?

Maj. BATES: You are up near Whittier. I have rarely gotten it out farther than Whittier.

Maj. McDOUGALL: How about Hinchinbrook?

LT COL. JOHAN: Can you read Hinchinbrook?

Maj. BATES: Yes.

LT TRACEROS: What were the activities of the crew in the time prior to the flight?

Maj. BATES: They were released 12 hours prior to the flight. This particular crew had no duties three days prior to the flight, and they were released 12 hours before the flight.

LT COL. JOHAN: Anything further? If not the board will be closed for findings and recommendations.
FINDINGS:

The board having carefully considered the evidence before it, finds:

1. The aircraft crashed into the side of Mt. Bennett at approximately its flight altitude of 2,000 feet, at which time it was approximately 30 miles to the right of course.

2. There was no indication of malfunction of mechanical or radio equipment.

3. The most probable cause of the accident was a navigational error attributed to the pilot.

4. A contributing cause of the accident is that the winds were incorrectly forecast.

5. A probable contributing cause was precipitation static which made radio reception impossible.

6. It is a probable conclusion that the aircraft crashed prior to its FAA at Mt. Bennett.

RECOMMENDATIONS:

In view of the above findings the board recommends:

A. That a procedure be established with the FAA to provide northbound aircraft calling takeoff with the latest airmen's weather for Skagway.

B. That an additional radio aid to navigation be installed in the Mt. Bennett area.

C. That consideration be given to changing the military airways from the Middleton Island-Aleutian direct route to a Middleton Island-Anchorage route.

D. That the minimum altitude from Middleton Island to Anchorage, direct route, be raised to 11,000 feet.

E. That continued study be made to develop radio procedures that eliminate precipitation static.

F. That a radar altimeter SET 10 be installed in the C-134 type aircraft.
AIRCRAFT ACCIDENT INVESTIGATION BOARD C-134A 961-107A

The board adjourned at 1130 hours on 5 December 1962.

James E. Jordan
Lt Colonel, USAF
President

Michael J. McNeely
Major, USAF
Flying Safety Officer

Carl W. Russell
Captain, USAF
Medical Officer

James R. Marlor
1st Lt, USAF
Accident Investigation Officer

Donn H. Gaitor
Capt, USAF
Engineering Officer
Operations Officer  
Military Air Transport  
McChord Field  
Tacoma, Washington  

November 24, 1952

On takeoff, we were cleared to climb NW to Susanita Intersection return inbound at 10,000 ft. On crossing the range station at 10,000 we had vertical visibility, no icing, and the air was smooth. From the range station to Whittier galler, we encountered moderate rough air and moderate downdrafts to the extent that we used Pete power for a short period of time on two occasions to counteract the effects of the downdraft. After leaving Whittier and to the coast line, we hit sharp moderate turbulence, moderate downdrafts, and moderate icing for a short period of time.

At 0750Z, as we approached the coast line, we heard a lone transmission on 121.5 emergency frequency, as follows:

"As long as we have to lead, we might as well land there."

Upon reaching the coast line we broke out on top and were interminently on instruments in and out of the top. From coast line to Middleton the air was smooth, there was no icing, and we were definitely on top on reaching Middleton. This was nothing from there to Seattle.

Very truly yours,

NORTHWEST AIRLINES, INC.

[Signature]

T. W. Fenstermaker  
Captain
Flying Time of DETAIL, CAPT. J., Capt., AD-72695

1. Total Flight 269,900
2. Total Flight Time Last Six Months 31,200
3. Total Flight Time Last Three Months 22,100
4. Total Flight Time Last Month 67.30
5. Total Flight Time Last Month (Oct.) 74,000
6. Certificate Renewal Exp. May 52 Expires 11 April 53
7. Test Proficiency Check 12 Aug 52.
8. Last Route Check 4 Oct 52.
9. Total Flight Time This Model 618,000 Pilot 1 (291,000) Co Pilot (27.000)
10. Total Flight's Last Six Months (Actual 8) (Hood 3)
11. Two Trips to Alaska, (Rimendorf) 7
12. Graduated from NTH 13 June 51
13. Captain Rimondi's judgement and proficiency is considered to be average.
14. Total 6 engine time 173,800.

Flying Time of GROENY, ALGER N., Capt., AD-76625

1. Total Flight 349,200
2. Total Flight Time Last Six Months 31,500
3. Total Flight Time Last Three Months 24,100
4. Total Flight Time Last Month (Oct.) 103,160
5. Total Flight Time Last Month (Nov.) 77,000
6. Certificate (Green) Exp. May 52 Expires 7 July 53
7. Test Proficiency Check 17 July 52.
8. Last Route Check 21 November 52.
9. Total Flight Hours This Model 618,000 Pilot (361,000) Co Pilot (24,000)
10. Total Flight's Last Six Months 13 Actual 6 (Rood 7)
11. Graduated from NTH 10 June 51.
12. Captain Greeson's evaluation is in average CO Pilot with respect to
   judgment and proficiency.
13. Total 6 engine time 278,000.
14. Total Trips to Alaska, (Rimendorf) 7.
Graduate Navigation in March of 51

1. Total time: 869 Hours
2. Current knowledge of navigation
3. Previously assigned to search and rescue at Arctic 8 (Arctic Operation) during which time he accumulated approximately 100 hours of polar navigation experience.
4. His training records indicate that his performance of duty was deemed satisfactory (better than average).
5. This was the navigator's last trip to the Arctic.
6. Radio fixes are the best source of navigation, when there is cloud cover, Loran is good only up to about half way.
<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Rate of Reference:</td>
</tr>
</tbody>
</table>
INSTRUCTOR AERIAL ENGINEER'S SIX (6) MONTH LINE CHECK

Date: 10 May 52

Engineer: [Name]

Aircraft Commander: [Name]

Type Aircraft: C-47

Route: [Route]

Mechanical Difficulties Experienced:

Repair Made: [Repair]

Final Grade of this Report:

Summary Recommendations: [Recommendations]

[Signature]

[Date]
1. Personal requirements

   A. Promptness and appearance
   B. Availability of tools and equipment
   C. Thoroughness in checking forms with engineer to be relieved
   D. Attitude toward duties
   E. Knowledge of stitching procedures
   F. Knowledge of weight and balance data

   Grade

2. Exterior inspection of aircraft

   A. Proper inflation and condition of tires
   B. Condition of landing gear, brake in place
   C. Condition of interior of wheel wells
   D. Proper inspection date and sealing on air brake and fire bottles
   E. Oil on pannel
   F. Fuel leaks under and along wings
   G. Wrenches and damage on control and stationary surfaces
   H. Condition of see-through boxes
   I. Condition of pilot tubes, covers off
   J. Quantity of fuel oil aboard
   K. Security of cap on fuel and oil tanks
   L. Security of doors to cargo compartments
   M. Proper pulled through

   Grade

3. Interior inspection of aircraft

   A. Security of cargo
   B. Condition of fuselage tank
   C. Position of fuselage fuel selector
   D. Level of hydraulic fluid
   E. Adequate refueling and water
   F. Emergency equipment, stored
   G. Supply of auxiliary oil
   H. Cleanliness of crew's compartment
   I. Position of all switches (OFF)

   Grade
### 4. Starting and Warm-up

<table>
<thead>
<tr>
<th>Grade</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>U</td>
<td>Preparations in completing pre-flight inspection.</td>
</tr>
<tr>
<td>U</td>
<td>Thoroughness of report to pilot (checklist).</td>
</tr>
<tr>
<td>U</td>
<td>Check on availability of battery, fire extinguisher.</td>
</tr>
<tr>
<td>U</td>
<td>Report on tether, tail support, and gear lock, stored.</td>
</tr>
<tr>
<td>U</td>
<td>Handling of R.P.M. and throttle, starting, and taxiing.</td>
</tr>
<tr>
<td>U</td>
<td>Technique with mixture controls.</td>
</tr>
<tr>
<td>U</td>
<td>Check for proper temperatures and pressures.</td>
</tr>
</tbody>
</table>

### 5. Performance in Flight

<table>
<thead>
<tr>
<th>Grade</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>U</td>
<td>Attempt to keep position indicator on take-off.</td>
</tr>
<tr>
<td>U</td>
<td>Repeatability of power settings and pilot's instructions on take-off.</td>
</tr>
<tr>
<td>U</td>
<td>Smoothness with prop controls.</td>
</tr>
<tr>
<td>U</td>
<td>Ability to synchronize prop.</td>
</tr>
<tr>
<td>U</td>
<td>Knowledge of control data.</td>
</tr>
<tr>
<td>U</td>
<td>Care and neatness with Form 14, 41K, and OP-14.</td>
</tr>
<tr>
<td>U</td>
<td>Ability to use fuel system controls.</td>
</tr>
<tr>
<td>U</td>
<td>Efficiency with heater operation.</td>
</tr>
<tr>
<td>U</td>
<td>Examination of wings when long conditions exist.</td>
</tr>
<tr>
<td>U</td>
<td>Prevention in reporting defects to pilot.</td>
</tr>
</tbody>
</table>

*Remarks:* This crew has a very excellent knowledge of control. Keeps all tanks and switches in very good condition.*

### 6. Knowledge of Aircraft

<table>
<thead>
<tr>
<th>Grade</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>Aircraft systems:</td>
</tr>
<tr>
<td>S</td>
<td>(1) Fuel</td>
</tr>
<tr>
<td>S</td>
<td>(2) Oil</td>
</tr>
<tr>
<td>S</td>
<td>(3) Hydraulics</td>
</tr>
<tr>
<td>S</td>
<td>(4) Electrical</td>
</tr>
<tr>
<td>S</td>
<td>(5) Heating</td>
</tr>
<tr>
<td>S</td>
<td>(6) Attaching and decelerating</td>
</tr>
<tr>
<td>S</td>
<td>(7) Oxygen</td>
</tr>
</tbody>
</table>

Grade: 5
B. EMERGENCY PROCEDURES:

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>S</td>
</tr>
<tr>
<td>U</td>
</tr>
</tbody>
</table>

- (1) Gear extension
- (2) Flaps
- (3) Brakes
- (4) Fire prevention

Grade: S

7. ARRIVAL AT DESTINATION

<table>
<thead>
<tr>
<th>GRADE</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
</tr>
<tr>
<td>U</td>
</tr>
</tbody>
</table>

A. Promptness of check on hydraulic fluid level
B. Report on fuel supply, fuselage fuel valve (lor)
C. Ability to follow before-takeoff checklist
D. Handling of prop controls, etc.
E. Check on wheel checks, brakes (lor), and gear levers in place
F. Completion of all required forms
G. Analysis of defects with relief engineer
H. Cleanliness of aircraft when left

Grade: S

REMARKS

It's hot and my prop speeds are off. Please check my prop settings. T/F.

R. GENERAL

<table>
<thead>
<tr>
<th>GRADE</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
</tr>
</tbody>
</table>

A. Attitude and judgment
B. Cooperation with crew and with ground engineering personnel
C. Ability to determine cause for mechanical difficulty and to correct same

Grade: S

REMARKS
Ground training required? Yes No

INSTRUCTION RECOMMENDED

ACTION TAKEN ON THIS REPORT

Appropriate vehicles are checked:
Satisfactory check ride—no expansion needed.
Report discussed with aerial engineer—difficulties settled.
Instruction, aerial engineers recommendations followed.

Aerial engineer assigned necessary training course in accordance with instruction recommended.

COMPLETED ACTION

A certified True Copy

[Signature]

[Position]
**MILITARY AIR TRANSPORT SERVICE**
Continental Divison, USA

**FORWARD NAVIGATOR'S SIX (6) MONTH LESSON REPORT**

**Date:** 17-\_\_\_\_\_\_\_

**RATER NAME:** WILLIAM I. TURNER
**RATER RANK:** 1ST LT
**RATER PERSONNEL NUMBER:** 131313
**RATER GRADE:** Lt. Col.

**RECEIVER NAME:** SMITH, ALBERT R.
**RECEIVER RANK:** 1ST LT
**RECEIVER PERSONNEL NUMBER:** 131313
**RECEIVER GRADE:** Lt. Col.

**AIRCRAFT COMPANY:** KASTELEN, STANLEY
**AIRCRAFT:** C-124
**AIRCRAFT SERIAL NUMBER:** 1234

**ROUTE:** TCM - SAVANNAH, FL, RETURN VIA BROOKLYN
**FLIGHT TIME:**

<table>
<thead>
<tr>
<th>DAY</th>
<th>WEEK</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>40</td>
<td>37</td>
<td>77</td>
</tr>
</tbody>
</table>

(Grading system: S = Satisfactory; U = Unsatisfactory. Each grade of U (unsatisfactory) requires an explanation in remarks.)

**GRADES:**
1. Preflight. .................................. S
2. Organization and teamwork. ................. S
3. Naval decision making. ....................... S
4. Piloting. ................................ S
5. Radio and control navigation. ............... S
6. Lunar navigation. .......................... S
7. Celestial navigation. ....................... S
8. Post-flight. ................................ S
9. General. ................................ S

**Final grade this report:**

**SIGNED:** HUBERT R. SMITH, 1LT

**DATE:** 1 Dec 60
**(Republished 10 Aug 82, 1 Dec 82)**

**NOTE:** This forms part of the training record for the navigator. No deviation from the normal procedure is required.

**END OF RATER's LESSON REPORT**

THIS PAGE DECLASSIFIED IAW EO 13526
1. FLIGHT
   A. Promptness and appearance: ........................................... 5
   B. Attentiveness to briefing: ........................................... ...
   C. Weather analysis, influence on flight plan: ......................... ...
   D. Coordination of airline control, instrumentation and flight plan: ...
   E. Accuracy and completeness of flight plan: ........................... ...
   F. Equipment check (plane clock, speedo clock, maps, extra compass, ...
       - drift meter, navigation books, etc.): ........................... 5

REMARKS

2. ORGANIZATION AND MEASUREMENT
   A. Readiness of materials before take-off: ............................. 5
   B. Condition of charts, arrangement of materials during flight: .......
   C. Care of classified material: .......................................... ...
   D. Neatness and accuracy of log, hump-sit, and weather folders: ....
   E. Periodic posting of position report: .................................. 5

REMARKS

3. IDEAL RECORDING
   A. Use of drift meter: ...................................................... 5
   B. Preparation of maps in advance: ...................................... ...
   C. Use of radio altimeter drift: .......................................... ...

REMARKS
4. PICTORIAL
   A. Accuracy and use of geographical files and visual bearings. Grade 5
   B. Map reading ability. Grade 5

   REMARKS:

5. RADIO AND CORDUROY NAVIGATION
   A. Accuracy in use of radio files and LOP's. Grade 5
   B. Knowledge and use of radio equipment. Grade 5
   C. Knowledge and use of QM and QN bearings. Grade 5
   D. Knowledge of radio range characteristics. Grade 5
   E. Knowledge and use of compass. Grade 5
   F. Coordination of radio with other types of navigation. Grade 5

   REMARKS:

6. LORAN AND RADAR NAVIGATION
   A. Calibration and reception check. Grade 5
   B. Knowledge of equipment. Grade 5
   C. Use of radar equipment (if applicable). Grade 5

   REMARKS:

7. CELESTIAL NAVIGATION
   A. Use of sextant. Grade 5
   B. Use of astro-computer. Grade 5
   C. Selection of celestial bodies. Grade 5
   D. Accuracy, use, and classification of celestial files, LOPs. Grade 5

   REMARKS:
E. POST FLIGHT
 GRADE

A. General accuracy of headings and STA. .......................... 5
B. Report to weather office ........................................... 5
C. Debriefing report ..................................................... 5
D. Condition of navigator's compartment ............................ Grade 5

REMARKS:

P. GENERAL

A. Ability to coordinate use of radio, piloting, deck, communication... 5
B. Knowledge of diving procedures ..................................... 5
C. Knowledge of emergency procedures and location of safety equip... 5
D. Attitude and judgment ................................................. 5
E. Cooperation with crew .................................................. 5
F. General impression created by navigator ........................... Grade 5

Cooperation of crew with navigator (enter in remarks)

REMARKS: Crew cooperated fully

1. Ground training required? YES NO  
2. Flight training necessary? YES NO

INSTRUCTION RECOMMENDED: NONE

ACTION TAKES OF THIS REPORT

Appropriate remarks are checked:

☐ Satisfactory check ride—no explanation needed.
☐ Report dismissed with navigator—difficulties settled.
☐ Instructor navigator's recommendations followed.

Navigator assigned necessary training course in accordance with instruction.

COMPLETED ACTION: Navigator upgraded to transport.
3 December 1962

Stood: Technical Orders Not Concluded With on Aircraft C-124A, Serial Number 51-107

To: Whom It May Concern

Reference Aircraft C-124A, Serial Number 51-107, a thorough check of the aircraft records on this aircraft reveals that the following technical orders are being carried as not concluded with:

C1-5061418  15 August 1952
Restriction on use of life raft equipment.
(No life rafts installed in aircraft.)

C1-5061414  16 October 1952
Inspection and replacement of main landing gear retracting cylinder rod and bearings.
(Tools necessary for accomplishment are on order.)

C1-5061407  8 May 1952
Modification of Curtiss propeller synchronizer and synchronizer rear assembly.
(Bit not available.)

C2A-101-22  11 June 1962
Oil leakage at front end of propeller shaft.
Number 2 Engine
Number 3 Engine
Number 4 Engine
(Not applicable except when leak is encountered.)

Interim T.O. CI-5593
13 November 1952
Propeller driven generator and alternator replacement.
(Rotated with due to confusion existing on pending change to original Interim Technical Order.)

[Signature]
Joint Officer
SPECIAL: Aircraft Records: Aircraft C-124A, Serial Number 51-107

TO: Whom It May Concern

1. Enclosed with this letter are the AF Form 17s, Part II, for aircraft C-124A, serial number 51-107, for the period 14 November 1952 to 21 November 1952.

2. To the best of my knowledge and belief the current AF Form 17, Parts I, II, III, IV, and V were on board the aircraft when it departed this station.

1 Indi
AF Form 17, Part II

[Signature]

Capt. C. P. Poe

[Stamp: USAF]
INCIDENT REPORT

Type: Incident

Personnel or Pilot: MAJ 1207 C-324

Primary - Accident

Incident OCCurred: 22 November 1962

Location: Anchorage, Alaska

The following is a report of an incident which adversely affected the control of air traffic. This report is forwarded for your information and any action you deem necessary. No reply is required. If desired, the chief controller will be glad to discuss this report at your convenience. Any action which you may take to assist the Air Traffic Control Service to provide efficient and safe control of air traffic will be appreciated.

AIR TRAFFIC CONTROLLER IDENTIFICATION: MAJ 1207 C-324

The following is a report of an incident which adversely affected the control of air traffic. This report is forwarded for your information and any action you deem necessary. No reply is required. If desired, the chief controller will be glad to discuss this report at your convenience. Any action which you may take to assist the Air Traffic Control Service to provide efficient and safe control of air traffic will be appreciated.

SUMMARY OF INCIDENT

MAJ 1207 C-324 operating a flight plan specifying Instrument Flight Rules Method 9,000 direct Rolling Bay Hines RR Barger 10,000 Nash Bay 9,500 direct Sandpiper 9,000 Middletown Island 9,000 Whittier Air. 1 Anchorage Easewood Air. Force Base.

At 0930Z MAJ 1207 reported to Talkeetna radio that he was over Middletown Island at 9,000 at 9,000 estimating Whittier at 0917.

The Center attempted thru Talkeetna radio to issue a clearance to the aircraft, but Talkeetna radio unable to reestablish contact with the aircraft. The Center then requested Easewood Airways attempt contact with the aircraft, but they were unsuccessful in their attempt to establish radio contact.

The Center's Whittier estimate was 0937 and Anchorage Range estimate 0947. When MAJ 1207 failed to report his position over Whittier, Anchorage Radio, Anchorage Approach Control, Easewood Tower, Easewood Airways, Hensel Radio and North Airways attempted contact with the aircraft. As all agencies were unsuccessful in establishing radio contact, the Center immediately instituted two way radio failure procedures.

At 0945Z, Easewood Base Operations was advised of the overdue aircraft including all radio contact between MAJ 1207 and CAF Stations along route on the Whittier-Sandspit Air Route were received and transmitted on 2100 and range frequencies.

Weather: Middletown Island 2500CEIL - Indefinite air hundred, obscured, two miles fog, temperature 44, dew point 44.

Anchorage 3200CEIL - Measured eight thousand overcast, over fifteen miles, temperature 84, dew point 84.

ATTACHMENTS

THIS PAGE DECLASSIFIED IAW EO 13526
DEPARTMENT OF COMMERCE

CIVIL AERONAUTICS ADMINISTRATION

P. O. Box 440
Anchorage, Alaska

December 3, 1952

Commanding General
39th Air Depot Wing
Eielson Air Force Base, Alaska

Attention: Flying Safety Officer

Sir:

We are enclosing herewith the following:

Anchorage

Radio Facility Flight Report, April 17, 1952
Radio Facility Flight Report, May 19, 1952
Radio Facility Flight Report, Nov. 24, 1952

Seward

Radio Facility Flight Report, Nov. 10, 1952
Radio Facility Flight Report, Nov. 28, 1952

Hatcher's


Hatchetbrook

Radio Facility Flight Report, Aug. 12, 1952

Homer


Eielson

Radio Facility Flight Report, Nov. 10, 1952

Also enclosed is a copy of the Monthly Flight Check Report covering the days, November 10 and November 10, 1952, facilities checked were Anchorage NML, Eielson, Homer, Seward, and Seward.

Sincerely yours,

[Signature]

P. T. Horn, Acting Chief
Airways Operations Division

Enclosures - 11
<table>
<thead>
<tr>
<th><strong>Range Transmission</strong></th>
<th>Type</th>
<th>Main</th>
<th>Type</th>
<th>Main</th>
<th>Standby</th>
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<tbody>
<tr>
<td>Compass Compass (True)</td>
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<td>76</td>
<td>172</td>
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<tr>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Key Clicks</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
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<td>Voice/Range Radio</td>
<td>55</td>
<td></td>
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<td>Handicap Range Dist.</td>
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<tr>
<td>Handicap Voice Dist.</td>
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<td>Voice Quality</td>
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<td>Broadcast Band</td>
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<td>Satisfactory</td>
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<tr>
<td>Date of Allience</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Seconds at 120 mph, 1000 ft</td>
<td></td>
<td>Seconds at</td>
<td>ft.</td>
<td></td>
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<tr>
<td>1st Check</td>
<td></td>
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<tr>
<td>2nd Check 90% to 1st</td>
<td>Seconds at</td>
<td>ft.</td>
<td>Seconds at</td>
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<td></td>
<td>mph.</td>
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<td><strong>FAA MARKERS</strong></td>
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<td>Checked with Type</td>
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<tr>
<td>Receiver</td>
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<tr>
<td>No.</td>
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<td>miles at</td>
<td>ft.</td>
<td>miles at</td>
<td>ft.</td>
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<tr>
<td>2.</td>
<td>miles at</td>
<td>ft.</td>
<td>miles at</td>
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<td>3.</td>
<td>miles at</td>
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<td>ft.</td>
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<tr>
<td>5.</td>
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<td>ft.</td>
<td>miles at</td>
<td>ft.</td>
<td></td>
</tr>
</tbody>
</table>

**NOTES:**

Check after course change.

Sincerely,

[Signature]

Electronics Maintenance Branch, S-564

Region: 8, Aircraft: Y-12B, Pilot: L. F. Rogers

L. F. Rogers
<table>
<thead>
<tr>
<th>Range Transmitter</th>
<th>Type</th>
<th>No. 1</th>
<th>No. 2</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Chaffera Buil</th>
<th>True</th>
<th>207</th>
<th>302</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arrow, degrees</td>
<td>37</td>
<td>141</td>
<td>88</td>
</tr>
<tr>
<td>Multiples</td>
<td>Yes</td>
<td>Yes</td>
<td>Yea</td>
</tr>
<tr>
<td>Key Clicks</td>
<td>Yea</td>
<td>Yea</td>
<td>Yea</td>
</tr>
<tr>
<td>Voice Range Ratio</td>
<td>50-70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Usable Range Dist.</td>
<td>72</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Usable Voice Dist.</td>
<td>70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Voice Quality</td>
<td>Satisfactory</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Range and Bearing</td>
<td>Yes</td>
<td>Yea</td>
<td>Yea</td>
</tr>
<tr>
<td>Station</td>
<td>Satisfactory</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cone of Silence</td>
<td>72</td>
<td>1000</td>
<td>1000</td>
</tr>
</tbody>
</table>

**MARKERS:**
- **Main:**
  - 63° Standby

**VHF MARKERS:**
- Checked with Type 350B Receiver

<table>
<thead>
<tr>
<th>No.</th>
<th>Location</th>
<th>Type</th>
<th>Major Axis Width</th>
<th>Minor Axis Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>3</td>
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<td></td>
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</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**REMARKS:**
- Flight check following maintenance and return. Receiver 120.
- The southeast course was checked over the visibility unrestricted.
- Birdwood at 5920 feet, accurate alignment. Temperature 41° F.
- Difficult to determine due to course's wind 21O 12.
- Being split at this point and altitude.

**Certified a true copy:**

Leon E. Hannerby, Chief
Electronics Maintenance Branch, F-90

**Base:**
- 8 aircraft
- 90
- Pilot: J. C. Prefer

**Signed:**
- J. C. Prefer

**Date:**
- 12-12-52

**Station:**
- Anchorage, Alaska

**Class:**
- 69224-3-03W

<table>
<thead>
<tr>
<th>Flight</th>
<th>Identification</th>
<th>Frequency</th>
<th>Power</th>
<th>Chart No.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>220</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

THIS PAGE DECLASSIFIED IAW EO 13526
THIS PAGE DECLASSIFIED IAW EO 13526
**RADIO FACILITY-FLIGHT REPORT**

**Report No.:** 7015 Date: Oct. 10, 1952 Station: Summit, Idaho

**Flight Identification:** 
- **Frequency:** 396 kHz
- **Power:** 50 watts
- **Chart No.:** 6 Dated: November 1951

**Published bearings, degrees:** 297°

<table>
<thead>
<tr>
<th>Range Transmitters</th>
<th>Type</th>
<th>No. 1</th>
<th>Type</th>
<th>No. 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source Found True</td>
<td>21/4</td>
<td></td>
<td>21/4</td>
<td></td>
</tr>
<tr>
<td>Error Degrees</td>
<td>7/2</td>
<td></td>
<td>7/2</td>
<td></td>
</tr>
<tr>
<td>Multples</td>
<td></td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Key Pitches</td>
<td></td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Voice/Range Ratio</td>
<td></td>
<td>Normal</td>
<td></td>
<td>Normal</td>
</tr>
<tr>
<td>Variable Range Dist.</td>
<td>75 miles</td>
<td></td>
<td>75 miles</td>
<td></td>
</tr>
<tr>
<td>Variable Voice Dist.</td>
<td>75 miles</td>
<td></td>
<td>75 miles</td>
<td></td>
</tr>
<tr>
<td>Voice Quality</td>
<td></td>
<td>Good</td>
<td></td>
<td>Good</td>
</tr>
<tr>
<td>Broadcast Service</td>
<td></td>
<td>Yes</td>
<td></td>
<td>Satisfactory</td>
</tr>
<tr>
<td>Tone of Silence</td>
<td></td>
<td>Seconds at</td>
<td>Seconds at</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>ft.</td>
<td>ft.</td>
<td></td>
</tr>
</tbody>
</table>

**29° N/WESTERLY TYPE MAIN STANDBY**

<table>
<thead>
<tr>
<th>LI Check</th>
<th>Seconds at</th>
<th>Seconds at</th>
</tr>
</thead>
<tbody>
<tr>
<td>LI Check</td>
<td>29°-29°</td>
<td></td>
</tr>
<tr>
<td>LI Check</td>
<td>29°-29°</td>
<td></td>
</tr>
</tbody>
</table>

**Fat agendas, checked with receiver:**

<table>
<thead>
<tr>
<th>No.</th>
<th>Location</th>
<th>Type</th>
<th>Major Axis Width</th>
<th>Minor Axis Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTES:**

- **Flight check following report of 29° N/WESTERLY:**
  - Receiver: ABB
  - Displacement of course plus
  - Course of Air Force 29° N/WESTERLY: 29° N/WESTERLY
  - Visibility: 1/2 mile
  - Temperature: 10°F
  - Mind: 20 mph
  - Time: 1945

- **First check made at 5000 feet, visibility:**
  - Mind: 20 mph
  - Time: 1945
  - First check made at 5000 feet, visibility: 1/2 mile
  - Wind: 20 mph
  - Time: 1945

- **Second check at 7000 feet over Bainbridge:**
  - Showed a fairly normal course except for
  - Strong 45° in 30°-50° bracket.

**Region:** 8

**Aircraft:** C-90  Model: 69/190  PILOT: J. C. Pearson

**Copyright:** 1954

**J. C. Pearson**
<table>
<thead>
<tr>
<th>Source Found (True)</th>
<th>Range Degrees</th>
<th>Type TSJ</th>
<th>Type TSJ</th>
<th>Range Transmitters</th>
</tr>
</thead>
<tbody>
<tr>
<td>217</td>
<td>296</td>
<td>22</td>
<td>116</td>
<td></td>
</tr>
<tr>
<td>Course Found (True)</td>
<td>Range Degrees</td>
<td>8</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Mules</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Key Charts</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Sane</td>
</tr>
<tr>
<td>Visible Range Net</td>
<td>35 Miles</td>
<td>50 Miles</td>
<td>15 Miles</td>
<td>Good</td>
</tr>
<tr>
<td>Visible Range Net</td>
<td>35 Miles</td>
<td>50 Miles</td>
<td>15 Miles</td>
<td>Good</td>
</tr>
<tr>
<td>Visible Range Net</td>
<td>35 Miles</td>
<td>50 Miles</td>
<td>15 Miles</td>
<td>Good</td>
</tr>
</tbody>
</table>

Broadcast Service: Satisfactory

Station: True and Board Station

6/19 MARKER: Type 720

Main

1st Check 2950:
16 Seconds at 1000 ft, 150 mph

2nd Check 90 ft, 1st 11 Seconds at 1000 ft, 150 mph

FM MARKERS
Checked with Type N50B Receiver

<table>
<thead>
<tr>
<th>No.</th>
<th>Location</th>
<th>Type</th>
<th>Major Axis Width</th>
<th>Minor Axis Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Remarks:
Check after return moat off by ground check

Certified a true copy.

Leon E. Hambley, Chief Engt. NOAA, Bur., 8-563

Region: A, Aircraft: 9217, Pilot: W. Morgan Davies

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### RADIO FACILITY-FLIGHT REPORT

**Report No.** 246  **Date Cast.** Nov. 28, 1952  **Station:** Summit, Alaska  **Class** DETAILED

**Identification**
- **Frequency:** 1296 kc  **Power:** 100 watts
- **MAP Chart No.** 6  **Date:** November 28, 1952

**Published bearings, Degrees:**
- **True:** 110°  **Grid:** 115°  **True and Grid Station:** No. 2

**Range Transmitter:**
- **Type:** E3J  **Mark:**  1  **Type:** E3J  **Mark:**

<table>
<thead>
<tr>
<th>Course Found (True)</th>
<th>0°</th>
<th>115°</th>
<th>120°</th>
<th>125°</th>
<th>130°</th>
<th>135°</th>
</tr>
</thead>
<tbody>
<tr>
<td>Error Degrees</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Multiplication</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No. 1</td>
<td>No. 2</td>
</tr>
<tr>
<td>Key Clicks</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Voice/Rangle Ratio</td>
<td>75 miles</td>
<td>75 miles</td>
<td>75 miles</td>
<td>75 miles</td>
<td>75 miles</td>
<td>75 miles</td>
</tr>
<tr>
<td>Max Visibility</td>
<td>Good</td>
<td>Good</td>
<td>Good</td>
<td>Good</td>
<td>Good</td>
<td>Good</td>
</tr>
<tr>
<td>Range at Satisfactory</td>
<td>1 seconds at 1200, 1000 ft.</td>
<td>1 seconds at 1200, 1000 ft.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**FAW MARKERS:**
- **Type:** E3J  **Mark:**
- **Main:** 10°
- **Standby:** 20°

1st Check 10°:
- 10 Seconds at 1000 ft.  1200 mph
- 13 Seconds at 1000 ft.  1200 mph

2nd Check 20°:
- 12 Seconds at 1200, 1000 ft.  100 mph
- 13 Seconds at 1200, 1000 ft.  100 mph

**FAW MARKERS Checked with Type 2M29 Receiver**

<table>
<thead>
<tr>
<th>No.</th>
<th>Location</th>
<th>Type</th>
<th>Major Axis Width</th>
<th>Minor Axis Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Remarks:**
- Initial check following report of../5° Receiver 2M29
- Displacement of west courses (270°) 4500 scattered
- Record checks and following measurements 5500 scattering
- V/A Date 10 miles
- Visibility 10 miles
- Temperature 10° F
- Check 20° on north and wind cold
- Course at 90° north may be 10° to 15°
- Time 10:30
- Due to poor quality of carrier signal
- Course alignment is difficult to determine
- Check at 6000 feet over Talkeetna
- Shows course broken up through 3° or approximately 7.5 miles wide at this point
- Apparently realignment of north-south course has caused increase in multipath
- Key clicks are too heavy

**Region:** 6  **Aircraft:** B-40  **Pilot:** C. G. Kiefer

**Revised Date:** November 28, 1952  **Pilot:** C. G. Kiefer

---

**THIS PAGE DECLASSIFIED IAW EO 13526**
<table>
<thead>
<tr>
<th>Course Found</th>
<th>Error Degrees</th>
<th>Multiples</th>
<th>Key Clicks</th>
<th>Usable Range Dist.</th>
<th>Usable Voice Dist.</th>
<th>Voice Quality</th>
<th>Broadcast Service</th>
<th>Course of Silence</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type 581</td>
<td>237</td>
<td>290</td>
<td>32</td>
<td>106</td>
<td>23</td>
<td>72</td>
<td>Satisfactory</td>
<td>Satisfactory</td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**
- Checked with Type 581 Receiver.
- Checked after Maintenance.
- Temperature: 50°F
- Wind: NW 3
- Time: PM

**Certified by:**
[Signature]

**Report No.: 29**
Date: August 18, 1950
Station: Kewaunee, Wisconsin
Class: 3842P

**Date Check:**
1st Check OBO: 21 Seconds at 1000 ft., 120 mph
2nd Check 90° in last 10 Seconds at 1000 ft., 120 mph

**FAI Markers:**
- Checked with Type 581 Receiver.

**Remarks:**
- Room 28
- Ceiling 12000 Broken
- Temp 10°F
- Wind NW 3
- Time PM

**Certified by:**
[Signature]

**Report No.: 29**
Date: August 18, 1950
Station: Kewaunee, Wisconsin
Class: 3842P

**Date Check:**
1st Check OBO: 21 Seconds at 1000 ft., 120 mph
2nd Check 90° in last 10 Seconds at 1000 ft., 120 mph

**FAI Markers:**
- Checked with Type 581 Receiver.

**Remarks:**
- Room 28
- Ceiling 12000 Broken
- Temp 10°F
- Wind NW 3
- Time PM

**Certified by:**
[Signature]
<table>
<thead>
<tr>
<th>Course Found True</th>
<th>50°</th>
<th>25°</th>
<th>31°</th>
<th>41°</th>
<th>51°</th>
<th>61°</th>
<th>71°</th>
</tr>
</thead>
<tbody>
<tr>
<td>Error Degrees</td>
<td>-1</td>
<td>-1</td>
<td>-1</td>
<td>-1</td>
<td>-1</td>
<td>-1</td>
<td>-1</td>
</tr>
<tr>
<td>Rate of Turn</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Key Click</td>
<td>56°</td>
<td>56°</td>
<td>56°</td>
<td>56°</td>
<td>56°</td>
<td>56°</td>
<td>56°</td>
</tr>
<tr>
<td>Value Range Ratio</td>
<td>m/s</td>
<td>m/s</td>
<td>m/s</td>
<td>m/s</td>
<td>m/s</td>
<td>m/s</td>
<td>m/s</td>
</tr>
<tr>
<td>觸媒值長度比</td>
<td>750 miles</td>
<td>750 miles</td>
<td>750 miles</td>
<td>750 miles</td>
<td>750 miles</td>
<td>750 miles</td>
<td>750 miles</td>
</tr>
<tr>
<td>可使用視線距</td>
<td>5 miles</td>
<td>5 miles</td>
<td>5 miles</td>
<td>5 miles</td>
<td>5 miles</td>
<td>5 miles</td>
<td>5 miles</td>
</tr>
<tr>
<td>Value Quality</td>
<td>Good</td>
<td>Good</td>
<td>Good</td>
<td>Good</td>
<td>Good</td>
<td>Good</td>
<td>Good</td>
</tr>
<tr>
<td>Course of Advance</td>
<td>4 seconds at 15 mph, 10000 ft</td>
<td>5 seconds at 20 mph</td>
<td>6 seconds at 25 mph</td>
<td></td>
<td></td>
<td></td>
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**Radar Screen**

<table>
<thead>
<tr>
<th>Foot Check</th>
<th>Seconds at ft. mph</th>
<th>Seconds at ft. mph</th>
<th>Seconds at ft. mph</th>
<th>Seconds at ft. mph</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Check</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2nd Check</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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</table>

**FAR MARKERS**

<table>
<thead>
<tr>
<th>No.</th>
<th>Location</th>
<th>Type</th>
<th>Major Axis Width</th>
<th>Minor Axis Width</th>
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<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Remarks**

- Flight sheet following return:
  - Weather: JAN
  - Ceiling: 2000 feet
- Results of first attempt checks:
  - Visibility: 10 miles, light rain
  - Course: 1° 2° 3° 4° 5°
  - Wind: 20 mph
  - Error: 1° 2° 3° 4° 5°

Certified by: [Signature]

J. C. Presser
RADIO FACILITY FLIGHT REPORT
Date: Dec. 14, 1962
Station: Nome, Alaska
Class: VRAR-P-P-VTV

Flight

Published Bearings, Degrees: 207°, 272°, 32°, 182°

RANGE TRANSMITTERS:

<table>
<thead>
<tr>
<th>Course Found (True)</th>
<th>207°</th>
<th>272°</th>
<th>32°</th>
<th>182°</th>
</tr>
</thead>
<tbody>
<tr>
<td>Error (Degrees)</td>
<td>0°</td>
<td>0°</td>
<td>0°</td>
<td>0°</td>
</tr>
<tr>
<td>Multiples</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Key Clicks</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Voice Range Limit</td>
<td>50 miles</td>
<td>50 miles</td>
<td>50 miles</td>
<td></td>
</tr>
<tr>
<td>Voice Quality</td>
<td>Good</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

GROUND SENDING

<table>
<thead>
<tr>
<th>MARKER</th>
<th>Type</th>
<th>Main</th>
<th>Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>1°</td>
<td>TVE</td>
<td>Main</td>
<td>300 ft</td>
</tr>
</tbody>
</table>

PAN MARKERS:

<table>
<thead>
<tr>
<th>No.</th>
<th>Location</th>
<th>Type</th>
<th>Major Axis Width</th>
<th>Minor Axis Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td>miles at 120 mph</td>
<td>miles at 120 mph</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td>miles at 120 mph</td>
<td>miles at 120 mph</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td>miles at 120 mph</td>
<td>miles at 120 mph</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td>miles at 120 mph</td>
<td>miles at 120 mph</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td>miles at 120 mph</td>
<td>miles at 120 mph</td>
</tr>
</tbody>
</table>

REMARKS:

Light check following disappearance of the transmitter at 11:30 A.M. on December 14, 1962.

Receiver: ANH-2292

Ceiling: 9000 feet scattered

Temperature: 15°F

Wind: SSW 50 mph

Time: 12:30

Certified a true copy.

Dennis R. Fanney,
Chief Maintenance Branch, S-593

400 N. Marine Way
Nome, Alaska 99762

Received 20 December 1962

J. C. Pfister

1:30 PM
Date

November 14, 1952

Flight

Pilot: J. G. Meffer
Plane: N 30

Distance

Anchorage to Nome, Anchorage to Nagai, Nome to Unalakleet, Unalakleet to Allakaket, Allakaket to Nome.

Weather

Wind: W 40 knots
Visibility: 40 miles
Clouds: None

Temperature

Anchorage: 4°F
Nome: 6°F

Notes

1100 Anchorage to Nome: Anchorage to Nome flight completed.
1130 Nome: Nome flight completed.
1300 Nome: Nome flight completed.
1500 Nome: Nome flight completed.
1600 Nome: Nome flight completed.

Total Flight Time: 5 hours, 30 minutes

This page declassified IAW EO 13526.
Commanding General
30th Air Depot Wing
Fairbanks AFB, Alaska

Sir:

Enclosed herewith are copies of Aircraft Flight Report Records from
Yakutat and Yakutat, Alaska, showing record of contacts with NAFS
C-124 51107 on November 27, 1952.

This completes all information available from our facilities in response
to your message 290452 November, which requested the following:

1. Who, when and where C-139 29560 was cleared from ten
   thousand to twelve thousand on November 7, 1958.

2. Pilot and aircraft number of aircraft flying route
   three hours before to three hours after C-129 51107
   passed Middleton Island.

3. Transcript of all radio conversations between C-124
   51107 and NAFS stations from and including Yakutat
   to last transmission.

Item No. 1 was answered by our message 290452. It has been determined
that the aircraft was not cleared to twelve thousand by either Anchorage
or Fairbanks Centers.

Item No. 2. A list of these aircraft as determined from Anchorage NAFS
Center records was delivered to your Headquarters by Mr. T. L. Webb,
Air Defense Liaison Officer, on December 5.

Item No. 3 was partially answered by our 2901572. The only contacts with
51107 from Yakutat were: Southwest Yakutat (reported to Yakutat); Abbie
Yakutat, and over Middleton (reported to Yakutag). Copies of these
contacts are enclosed with this letter.

Sincerely yours,

[Signature]

P. T. Moreh, Acting Chief
Airways Operations Division

Enclosed: (1)
November 22, 1952

The following is a transcription of the Seattle Air Route Traffic Control Center telephone recordings of the conversation pertaining to visibility. Air Transport 2597 between Yakima Air Force Base and Anchorage Field, Alaska on November 22, 1952:

<table>
<thead>
<tr>
<th>Route</th>
<th>Time</th>
<th>Visibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>198</td>
<td>11/22/52 06 1500 PST</td>
<td>1150 PST</td>
</tr>
<tr>
<td>198</td>
<td>11/22/52 07</td>
<td>1200 PST</td>
</tr>
<tr>
<td>198</td>
<td>11/22/52 08</td>
<td>1200 PST</td>
</tr>
</tbody>
</table>

I hereby certify that the following is a true transcription of the recorded conversation pertaining to the subject incident.

[Signature]

WTR Chief, Seattle AFTCC Center

This page declassified IAW EO 13526
<table>
<thead>
<tr>
<th>Facility</th>
<th>Message</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAC Center</td>
<td>McChord Tower, Seattle Control clearance.</td>
</tr>
<tr>
<td>TAC Tower</td>
<td>Tower on.</td>
</tr>
<tr>
<td>SAC Center</td>
<td>ATC clears MAT one zero seven to the Blakemoor Airport via direct Rolling Bay blue thirty-two Damascus direct Beth May direct Cape St. James, direct Sand Spit direct Middleton Island direct Whitters. Amen. Due to Blakemoor maintain at least five hundred on top while in control area, request further altitude changes aerojet and climb VFR to five hundred on top, report reaching. Just have that, just climb VFR to five hundred on top. NL.</td>
</tr>
<tr>
<td>SAC Center</td>
<td>One one (1121).</td>
</tr>
<tr>
<td>SAC Center</td>
<td>McChord Tower from Seattle Control.</td>
</tr>
<tr>
<td>TAC Tower</td>
<td>Towers on.</td>
</tr>
<tr>
<td>SAC Center</td>
<td>MAT one zero seven ever get off?</td>
</tr>
<tr>
<td>SAC Center</td>
<td>Negative, he's still down running up at the end of the runway.</td>
</tr>
<tr>
<td>SAC Center</td>
<td>All two one (1121).</td>
</tr>
<tr>
<td>SAC Center</td>
<td>Seattle Control.</td>
</tr>
<tr>
<td>TAC Tower</td>
<td>One one zero seven advised at three zero.</td>
</tr>
<tr>
<td>SAC Center</td>
<td>Three zero, NL, three zero (1320).</td>
</tr>
<tr>
<td>SAC Center</td>
<td>Seattle Radio, Seattle Control, connect Vancouver.</td>
</tr>
<tr>
<td>VA Center</td>
<td>Vancouver.</td>
</tr>
<tr>
<td>SAC Center</td>
<td>Seattle, with Damascus estimate. to speed.</td>
</tr>
<tr>
<td>SAC Center</td>
<td>MAT one zero seven one two four estimated Damascus one five five six Seattle (1352) at least five hundred on top. true air speed three nine nine nine, McChord direct Rolling Bay blue thirty-two Damascus direct Beth May direct Cape St. James direct Sand Spit direct Middleton Island direct Whitters. Amen. due to Blakemoor. IL.</td>
</tr>
<tr>
<td>VA Center</td>
<td>Will you four one three cleared at five hundred on top!</td>
</tr>
<tr>
<td>VA Center</td>
<td>Right.</td>
</tr>
<tr>
<td>SAC Center</td>
<td>Have six miles at least one thousand on top.</td>
</tr>
<tr>
<td>SAC Center</td>
<td>NL, three one (1321) Seattle Radio releases Vancouver.</td>
</tr>
<tr>
<td>SAC Center</td>
<td>Seattle Radio, Seattle Control, connect Vancouver.</td>
</tr>
<tr>
<td>VA Center</td>
<td>Vancouver.</td>
</tr>
<tr>
<td>SAC Center</td>
<td>This is Seattle, MAT one zero seven has been cleared to maintain one thousand on top, NL.</td>
</tr>
<tr>
<td>VA Center</td>
<td>NL.</td>
</tr>
</tbody>
</table>

THIS PAGE DECLASSIFIED IAW EO 13526
Seattle Control, this is Seattle Control, orelease Vancouver.

Seattle Control, this is Seattle Control with a position on NAT one one zero seven.

Seattle Control.

Go ahead.

He's near Dungeness at five five, one thousand on top, estimating Neah Bay at twelve, one two. LS (1612F)

MI, five eight (1558P)

Seattle Control, this is Seattle Control. NATS one one zero seven Neah Bay one five (1615P) one thousand on top, southwest leg Comox at three seven. (1657F) MI.

MI, one eight (1618P)

Comox Center.

AR, two zero (1520P)
Debriefing - 2102 PST

Subject: Control

SEA Center: Reference to this 100 one zero seven from McChord to Elmdorf, have you had any position on him?

MATS: Yes, from McChord to Elmendorf, he departed at two eight (12380P).

SEA Center: Why didn't you zero seven was it?

MATS: No, one zero seven.

SEA Center: When did he depart?

MATS: He departed McChord at fifteen thirty (1530P), we haven't had any position on him since.

SEA Center: Just a moment, he changed Dangness about fifteen minutes ago, do you need the time?

MATS: He reported Dangness at -

SEA Center: Two, he reported Dangness ten or fifteen minutes ago, something like that.

MATS: About fifty five, huh? (1555P)

SEA Center: Just a minute, I can give you the time.

MATS: Okay.

SEA Center: We don't have that information available at the moment.

MATS: You don't have the time huh?

SEA Center: No, not just now.

MATS: Did report there though?

MATS: I'll make it about fifty-five (1555P)

SEA Center: Not ten (1610P)
HEADQUARTERS 39TH AIR DEPOT WING
OFFICE OF THE COMMANDING GENERAL
APO, 942 C/O PM, SEATTLE, WASHINGTON

125.58

SUBJ: Transmittal of AF Form 14

TO: Office of the Inspector General, USAF
Norton Air Force Base
California

1. Transmitted herewith is Air Force Form 14 concerning major aircraft accident to C-124A 56-1072A, which occurred 27 miles North-Northwest of Chickaloon, Alaska on 22 November 1952. Pilot was Captain James Kenneth Dorrall, AG 762996.

2. I concur with the Findings and Recommendations of the Accident Investigation Board.

3. Action taken by this Headquarters to aid in the prevention of accidents of a similar nature is as follows:

a. The minimum enroute altitude for all military aircraft on a route from Anchorage, Alaska to Anchorage Range has been changed to 11,000 feet. The Anchorage-Sandspit route from Middleton Island radio beacon to Whittier Fairbanks has been changed to an enroute altitude of 12,000 feet.

b. All pilots of this Command have been informed of the danger of precipitation static and have been instructed in ways to reduce or eliminate this hazard. Pilots have also been instructed in the importance of breakaway and breaking-out from a station to keep aware of changes in wind direction and velocity.

J. A. Purdy
Chief, AF Form 14
Brigadier General, USAF

THIS PAGE DECLASSIFIED IAW EO 13526
To: Commander

Continental Division, MATS
Kelly Air Force Base, Texas

SUBJECT: (Restricted) Final Evaluation of Aircraft Accident Involving C-124C, SN 51-107, at Surprise Glacier, Alaska, on 22 Nov 52

I. Reference is made to letter, subject as above, file ACOFS-1E, Office of the Inspector General, ESAF, dated 7 May 1953. This letter, with endorsements, has been forwarded in accordance with paragraph 18f, AFS 65-21.

2. In compliance with paragraph 6 of subject letter, the following action has been taken by this headquarters to prevent recurrence of similar incidents:

a. Use of 11,000 feet MSL as minimum enroute altitude between Middleton Island and Anchorage was directed for all aircraft under operational control of this headquarters immediately after the facts of the accident were disclosed.

b. Restrictions were imposed upon our C-124 aircraft prohibiting flight above the 59th parallel unless the aircraft was equipped with either two (2) ADF receivers or one (1) ADF and an AFS-12 in operating condition. (Reference letter, Subject: Restrictions on Late Model C-124 Aircraft, file OP 960.1, Headquarters, 1705th Air Transport Group, dated 25 December 1952.

c. All pilots and aircrew members were reminded of difficult terrain, unusual weather and navigational aid deficiencies on the Anchorage-Elmendorf route. Pilots were advised to climb to emergency altitude whenever poor radio reception, unusual weather or inadequate navigation facilities created a doubtful position in mountainous terrain.

FOR THE COMMANDER:

[Signature]

J. S. McClelland

Deputy Commander

THIS PAGE DECLASSIFIED IAW EO 13526

1. Forwarded in compliance with Par 3 of enclosure 1.

2. With reference to Par 6 of Enclosure 1, the route qualifications for aircraft commanders and navigators as set forth in NAVMEM 2541 “Transport Operations,” are:

a. Aircraft Commander:

(1) Successfully complete a flight proficiency check (MATS Form 14) administered by a qualified Instructor Aircraft Commander.

(2) Complete written examination on all data relative to minimum safe altitudes, navigation aids, communication facilities, terrain features and traffic control procedures for basic and alternate routes.

(3) Successfully complete an initial route flight check (MATS Form 18) administered by a qualified Instructor Aircraft Commander.

b. Navigator:

(1) Each navigator meeting basic requirements and completing ground and flight training (in order named) will be required to undergo a proficiency check administered by an Instructor Navigator.

(2) Navigators who successfully complete such a proficiency check will be designated “Transport Navigator” and will be eligible for assignment to Transport crew duties. Each navigator who does not successfully complete a proficiency check will be required to undergo additional ground and/or flight training and proficiency check as prescribed by the Instructor Navigator. Transport navigators qualified in one division will be considered qualified throughout the System. In cases where Transport Navigators are transferred from one division to another, unit commanders may direct route qualification flights as required.

Sincerely,

[Signature]

[Date]

THIS PAGE DECLASSIFIED IAW EO 13526
3. The aircraft commander had successfully accomplished the above requirements which are deemed adequate in transport operations. The
navigator had completed a transport navigator qualification check on
17 September 1952 on a trip from McChord AFB, Washington, to England and
return. His duties as navigator were performed under the close scrutiny
of an Instructor Navigator for a period of seventy-seven (77) flying hours
in addition to the necessary time for ground preparation. This check-out
was made with the notation: "Lt Turner has a very good knowledge of all
phases of navigation. Works with ease, is confident, and produces good
results." No additional training was recommended. He had 100 hours in
arctic operations while assigned to the Air Rescue Service. In addition,
he was qualified in accordance with Section 2, MATS Manual 55-1, which does
not require that he be route-checked over each route flown. It is realized
that the Navigator's Transport Qualification Check during September did not
unequivocally qualify him to navigate the Alaskan route under winter
weather conditions experienced in November. However, the navigator was
assigned to this flight in accordance with policies and directives then in
existence.

4. The additional precautionary measures now in effect, which are
indicated in Par 2 of the basic letter, and the emphasis placed on briefing
all crew members on the winter weather conditions and phenomena
experienced on this route, are considered adequate to preclude the recurrence
of this type of accident. Close supervision is continuously being
accomplished by this headquarters. The Office of Chief Pilot has reported
on three (3) recent field trips to the 17Sth Air Transport Group. These
field trips concerned the requirements, procedures, and techniques employed
relating to check-out and performance of the aircraft commanders and
navigators. The standards maintained have been found to be satisfactory.
Improvements have been noted in the navigational training and route brief-
ing facilities. Close supervision will be continued by this headquarters.

1 Incl: a/5

Chief Pilot

Chief Pilot

Special Instructions

THIS PAGE DECLASSIFIED IAW EO 13526
R.A. File No. 1708/32/302, Subject: (Restricted) Final Evaluation of Aircr.
Accident Involving C-130A, 51-267 at Surprise Glacier, Alaska on 22 Nov 52,
Std 4 Jan 53

MARS 36C-33

28 ins

A. MILITARY AIR TRANSPORT SERVICE, Andrews AF Base, Wash. 98156

TO: Directorate of Flight Safety research, Norton Air Force Base,
California

1. Forwarded in accordance with paragraph 61, Air Force Regulation
67-11.

2. As requested in paragraph 6, basic letter, this headquarters
believes that the action taken by this command as indicated in the 1st
paragraph is adequate and should prevent recurrence of similar type
accidents.

F.R. REESE, JR., Maj.

1 incl

enc

G. A. SCHAFER

Lt Colonel, USAF

Deputy Chief, Office of Flying Safety
SUBJECT: (Restricted) Final Evaluation of Aircraft Accident

Involving C-124A, SN 51-107 at Surprise Glacier

Alaska, on 22 November 1952

TO: Commander

Military Air Transport Service

Andrews Air Force Base

Washington 25, D. C.

1. Reference is made to the following major aircraft accident:


b. Location and Date: Surprise Glacier, Alaska, 22 November 1952.


2. The report of this accident and the comments of commanders have been reviewed by this office. The findings and recommendations of the investigation board are concurred in as the most probable cause. The comments and exceptions by responsible commanders have been considered in the final evaluation of the accident report.

3. The report of the special investigation prepared by this office 20 January 1953 concludes that navigational error is the most probable cause. A contributing cause was the inaccurate forecast of the winds aloft.

4. From the evidence available, it is the opinion of this office that an error in navigation occurred as outlined in paragraph 9 of the special report. The flight plan called for a six degree left correction after passing Middleton Island. This would correct for the forecast 30 knot wind. The 60 knot wind that existed would not be sufficient to drift the aircraft to the point of crash if the aircraft was actually over Middleton Island as reported and the six degree correction was applied. The pilot's error was induced by inadequate navigational aids, airborne radio equipment, and incorrect forecast of winds aloft.
5. Air navigation begins and ends on the ground. The safety of the flight not only depends on the skill in which the aircraft is directed from one place to another, but also in supervision and pre-flight planning. Atmospheric hazards such as unpredictable winds and precipitation static have long been known in the Alaskan area. The lack of adequate radio equipment in the aircraft, as well as radio navigational aids on the ground, must be taken into consideration at all times in pre-flight planning and supervision. Emergency procedures, such as climbing to higher altitudes when a definite fix is in doubt, must be strictly adhered to and must be considered in successful safe air navigation.

6. Further analysis of the accident indicates that supervision is a factor which must be considered. The commander of this aircraft had made only two previous trips over this route. The co-pilot who was better qualified had made six previous trips. It was the navigator’s first flight on this route. In a flight of this kind, with a large number of passengers aboard, it is the opinion of this office that the crew should have had a much higher standard of route familiarization. The requirement for rigorous check-out procedures for pilots on weather flying, various navigational techniques and pre-flight planning by operators, with closer supervision by commanding officers is mandatory as an accident prevention measure. Many pilots and navigators are found who exhibit weakness in navigational skills.

7. A report entitled, “Survey of Radio Navigational Aids and Communications Facilities Enroute to and within the Alaskan Theater,” prepared by this office, based upon a survey conducted during the period 1 December through 20 December 1953, contains recommendations to responsible USF agencies with the objective of improving the effectiveness and safety of flight operations in the Alaskan area. A report prepared by the office “Survey of Transport Operations of the USF,” dated 15 March 1957, copies of which were forwarded to your headquarters, discusses the problems and makes recommendations concerning cargo and aircraft operations, which are applicable to accidents of this type. It is believed that the addition of adequate navigational aids in this area would minimize the possibility of a repetition of this error. Action has already been taken to raise the minimum flight altitude from nine to eleven thousand feet. Air Weather Service has taken steps to establish a procedure with CAR to provide aircraft calling Heritage Radio with the latest enroute weather to Elmendorf.
Hq USAF, ACG 18 Subj: [Redacted] Final Evaluation of Aircraft Accident Involving C-130A, S/N 51-107 at Surprise Harbor, Alaska, on 22 Nov 52

3. It is the primary purpose of accident investigations to disclose deficiencies affecting air operations in order that responsible commanders may take appropriate action to prevent re-occurrence of similar accidents. Paragraph 18f, APH 62-14, 14 January 1953, has not been complied with by the Commanding Officer, 1705th Air Transport Group. It is requested that this office be advised of any action taken or contemplated by that command and that action on this correspondence be taken in accordance with paragraph 18f, APH 62-14, 14 January 1953.

By Command of the Chief of Staff:

s/t RICHARD J. O'KEEFE
Brigadier General, USAF
Director, Flight Safety Research
The Inspector General

THIS PAGE DECLASSIFIED IAW EO 13526
SUBJECT: (UNCLASSIFIED) Aircraft Accident

TO: AND Liaison Officer
   USAF Inspector General
   Director of Flight Safety Research
   Norton Air Force Base
   San Bernardino, California

1. The enclosed evaluation of the weather factor and weather service in Aircraft Accident 0-125A, 30 SI-107A, on Surprise Glacier, Alaska, 0045Z, 22 November 1952, is forwarded for the cognizance of the USAF IG, Director of Flight Safety Research.

2. When this item is withdrawn or not attached, the classification RESTRICTED on this correspondence is canceled in accordance with par 25a, AFR 205-1.

FOR THE COMMANING OFFICER:

- Eval

J. B. [Signature]
1st Lt., USAF

THIS PAGE DECLASSIFIED IAW EO 13526
EVALUATION OF WEATHER FACTOR AND WEATHER SERVICE IN ACCIDENT OF O-10A, SN 51-1074, ON MT. DANNERT, 53 MILES EAST OF KALGOORLIE AFB, ANCHORAGE, ALASKA, AT 0417Z, 22 NOVEMBER 1952.

CONTENTS

I. Data on which evaluation is based.

II. Sequence of events.

III. Evaluation of weather factor in this accident.

IV. Adequacy of weather service furnished.

V. Negligence on the part of weather personnel.

VI. Conclusions.

VII. Recommendations.

Prepared by:

Directorate of Operations
Operational Analysis Division
Headquarters, Air Weather Service
Anchorage Air Force Base,
Washington 25, D. C.
I. Data on which this evaluation is based:

A. A weather analysis summary from the station of departure, as required by ANM 62-3, has not been received.

B. The data submitted by the ANM Liaison Officer, included as tab B, contains adequate data for an evaluation of the weather factor in this accident. Of the data submitted, the following is pertinent to this evaluation:

Tab A - Report of Aircraft Accident, AF Form 14.

Tab A2 - Report of Proceedings of Board of Officers (Aircraft Accident Investigating Board)

Tab A4 - Northwest Airlines Flight Forecast Log

Tab B - Letter from Base Weather Officer, Elmendorf AFB, Alaska, with inclosures. This includes a cross section for the flight prepared by the forecaster at McChord AFB, point of departure.

II. Sequence of Events.

Date of Accident: 22 November 1952

2330Z - Time of departure from McChord Air Force Base

0547Z - Aircraft reports to Taketaga Radio (148° 26' W, 60° 02' N). Arrival at Whittier (approximately 50 miles SE of Anchorage) is estimated at 0617Z.

3250Z - Accident is estimated to have occurred about 0617Z at Mt. Gannett which is 9620 ft. above MSL. Elevation above MSL at the accident scene is stated as 9800' on AF Form 14, Tab A.

III. Evaluation of the weather factor in this accident.

1. The weather factor associated with this accident is:

"The forecast of wind speed from Middleton Island (146°19'W, 59°29'N) to Elmendorf AFB, Anchorage, Alaska, is incorrect."

a. The forecast of winds aloft by the weather forecaster at McChord AFB for the zones of interest at the proposed flight altitude (9000') is: (Ref inclosure to Tab B, Atmospheric cross section).
b. Reference Tab A, Flight Forecast to Northwest Airlines Flight departing Anchorage at 0600Z, 22 November 1952, approximately 5 minutes after the C-124 reported in over Middleton Island. The forecast of winds at 10,000 ft. for the general area is 150 degrees 35 knots.

c. Reference Tab B, Statement of Lt Col David L. Hoskins, USAF, Base Weather Officer, Elmendorf AB, Anchorage, Alaska, non-voting member of Aircraft Accident Investigating Board. According to a post-analysis by cited officer, winds over Anchorage at 10,000 ft should have been forecasted as:

200°-60 knots as indicated by the contour gradient over Northern Alaska.

2. Operational aspects pertaining to this evaluation.

a. The aircraft lost all radio contact after the initial report to Telukok. Reference Tab C, Attempts were made by Telukok, Elmendorf Airways, Avani Radio and Kodiak Airways to contact this aircraft to no avail.

b. Reference Section G, AF Form 14, Tab A. Precipitation static was known to exist in the Whittier area and is believed to have rendered the radios ineffective.

3. On the basis that the aircraft's radio was useless and the discrepancies between forecasted and observed winds at flight altitude for the zones of interest, a weather factor is considered to have been associated with this accident as specified in para VI, Conclusions, below.

IV. Adequacy of Weather Service Furnished.

1. On the basis that two independent forecasters, the forecaster for Northwest Airlines at Anchorage and the forecaster at Wendell AB, approximated the same wind velocities for the zones, altitudes and time relating to this accident, the weather incorrectly forecast is considered to be within the limits of accuracy of data available and modern forecasting techniques.

2. The discrepancy in the forecasted and observed winds illustrates that forecasted weather obtained at point of departure cannot serve as the sole climatological data for a flight. Excellent facilities are available to pilots for obtaining latest current and forecast weather information as cited in paragraph VII, Recommendations, below.
V. Negligence on the Part of Weather Personnel.

No negligence is evident on the part of weather personnel.

VI. Conclusions.

1. Due to the failure of radios, the pilot was required to rely on such information as was already available. For the purpose of navigation for the remainder of the flight, the information available to the pilot appears to have been the position fixed at Middleton Island and the forecasted winds alert prepared by the weather forecaster at McChord Air Force Base.

2. The discrepancy in the actual winds from that forecasted was a contributing cause to this accident.

VII. Recommendations.

1. Reference is made to recommendation #1, by the Aircraft Accident Investigating Board, which states:

* * * the board recommends:

1. That a procedure be established with the CAA to provide northbound aircraft calling Yakutat with the latest en route weather to Elmendorf.*

Established international and USAF Flight procedures are adequate in this respect. The aircraft commander can apprise himself of the latest information affecting his flight by requesting such information from any facility capable of furnishing same. Under normal conditions, most aircraft have radio equipment adequate for contacting a facility which can obtain and furnish to the aircraft any weather information desired. Generally, the communications center of any Flight Information Region, any CAA and AACS station can meet requests for weather data.

2. It is recommended that pilots be instructed with the need to request additional weather information, both current and forecast, while in flight. This should be done even in good weather as a means of familiarizing pilots with methods and procedures for obtaining such information.
5. Recommend that wherever "weather incorrectly forecast" is considered to be a cause factor involved in an aircraft accident, action be taken to permit weather personnel to file a rebuttal in accordance with para 47, APR 02-14.

accomplished

7 Feb 87

see from 4

5
ARCF-20

SUBJECT: (Unclassified) Opportunity for Rebuttal

TO: Commanding General
McChord Air Force Base
Washington

3 March 1953

1. Reference is made to the report of aircraft accident involving C-122A 51-2074 at Sunrise Glacier, Alaska, on 22 November 1952.

2. The aircraft accident investigating board found that a contributing cause of the accident was an inaccurate weather forecast by weather personnel of Detachment 4, 44th Weather Squadron, McChord Air Force Base, Washington.

3. Request the affected personnel be given the opportunity for rebuttal in accordance with paragraph 47, APR 62-24, dated 14 January 1953. Further, request submission of rebuttal information in accordance with paragraph 22 of the same regulation.

BY COMMAND OF THE CHIEF OF STAFF:

[Signature]

HENRY C. HUGHES
Lt Col. Chief, U.S. Air Force
Executive
Directorate of Flight Safety Research
The Inspector General
Restrict

SECURITY INFORMATION

DAF, Hq USAF, Washington D.C., AFCS-22, Subject: (Unclassified) Opportunity
for Rebuttal

CC 360.33 (3 Mar 53) 1st Ind

HEADQUARTERS 56th AIR DEFENSE GROUP, McChord Air Force Base, Washington
11 Mar 53

TO: Commanding Officer, Detachment 4, 6th Weather Squadron, McChord Air
Force Base, Washington

1. Forwarded for necessary action.

2. Request correspondence be returned through this headquarters.

HUMBERT M. DURANGO, JR.
Colonel, USAF
Commanding

360.33 (3 Mar 53) 2nd Ind

DETACHMENT 4, 6th WEATHER SQDN, McChord AF Base, Washington, 17 March 1953

TO: Commanding Officer, 56/7th Air Defense Group, McChord Air Force Base,
Washington

1. I concur in the findings expressed in par 2, basic.

2. It is the consensus of the forecasters at this detachment that the
occurrence of the narrow band of high winds in the Middleton Island-Elmendorf
AF Base area could not have been forecast utilizing the data available to this
station. This detachment is undertaking an objective study to determine, if
possible, what are the parameters preceding the occurrence of such a high
band of winds; the results to date are inconclusive.

3. It is recommended that a radar or DFR winds aloft reporting station,
utilizing equipment of the SCR-658, AN/DMQ-1A or SCR-582B-type, be established
at Middleton Island to provide winds aloft data in an area almost devoid of
upper air information. Reports from this station would enable preparation of
more accurate upper air wind forecasts for this area.

WILLIAM A. POPE
Major, USAF
Detachment Commander

Restricted

SECURITY INFORMATION

THIS PAGE DECLASSIFIED IAW EO 13526

EX 360.35 (8 Mar 53) 3d Ind

HEADQUARTERS 607TH AIR DEFENSE GROUP, McChord AFB, Washington 2 0 MAR 1953

TO: Chief of Staff, Department of the Air Force, ATTN: Inspector General, Norton Air Force Base, San Bernardino, California

In compliance with paragraph 3, basic letter, attached information is forwarded.

FOR THE COMMANDING OFFICER:

RICHARD R. HOLCOMBE
Lt Colonel, USAF
Executive Officer

THIS PAGE DECLASSIFIED IAW EO 13526
SUBJECT: (RESTRICTED) Report of Special Investigation of Aircraft Accident Involving C-130A 69-3017 at Surprise Glacier, Alaska, on 22 November 1972

To: Inspector General, USAF

From: Directorate of Operations, USAF

Date: 18 Feb 1973

CCHQ: Maj Committ/497A

CONFIDENTIAL

The enclosed report has been reviewed. This Directorate concurs with the recommendations and action taken.

2. Your recommendation that steps be taken to provide a directional radio facility with the H-60A helicopter used to, in effect, include in your report, a (Redacted) Survey of Navigational Aids and Communications Facilities En Route to and Within the Alaskan Theater, dated 30 January 1973. This survey is being processed by this Directorate in coordination with the Directorate of Communications. Comments on this survey to include comments on the installation of a high intensity, low frequency radio tower at Point Woronzof and an FAA radio range at Middleton will be provided as expeditious as possible. In AHA, current No. 1, your reference, Subject: (Declassified) Survey of Radio Navigational Aids and Communications Facilities En Route to and Within the Alaskan Theater, dated 30 January 1973.

3. It is noted that paragraph 7 of the enclosed report states that the recommendation contained in paragraph 4 has been referred to the Commanding General, Alaska Air Command, for action and reply to your office. In view of this, it is recommended that verification be made that the CCR AIC were required to issue reply on this recommendation to this office. Upon receipt of the reply by CC AIC on this matter, it is requested that a copy be provided this office.

R. E. DOBB
Col, USAF
Deputy Director of Operations
Deputy Chief of Staff, Operations

COPY

THIS PAGE DECLASSIFIED IAW EO 13526
TRANSMITTAL

TO: Commanding Officer
1705th Air Transport Group, McChord AFB, Washington

FROM: Commanding Officer, 1705th Air Transport Squadron, McChord AFB, Washington

SUBJECT: Transmittal of AF Form 11

1. Transmitted herein is AF Form 11 concerning an aircraft accident on 8-12-64 at McChord AFB, at which time the aircraft involved was a C-124A 61-0774 and was piloted by Captain James L. Vaughn, 1705th Air Transport Squadron.

2. Insert form number 11 in accordance with directions specified on the form.

SIGNED:

John W. BLM 1705th ATG

360.33 (3 Dec 59) 1st Ind 30 Dec 1964

360.33 (2 Dec 53) 1705th ATG, McChord AFB, Washington

TO: Commanding Officer, 1705th Air Transport Group, McChord AFB, Washington

1. In compliance with paragraph two (2) basic communication and paragraph 4.30 JAF/AF Regulation 60-1, AF Form 11, in duplicate, (reference major aircraft accident to C-124A 61-0774 on 22 November 1962, at E. H. Barret, Alaska Pilot: Captain Kenneth James Lavelle) is forwarded herewith.

2. Order in findings and recommendations.
3. Action taken by this headquarters in an effort to prevent recurrence of similar accidents is as follows:

a. Continuing emphasis has been placed on the obtaining and utilizing of all enroute flight advisory facilities.

b. Terrain hazards, weather hazards, and navigational aids and facilities in Anchorage-Alemedorf route have been re-emphasized to all pilots and aircrew members of this organization.

Signed:

WILLIAM M. BELCHER

Major

USAF

Commanding
SECURITY INFORMATION

RESTRICTED

3/24/63 SG 39th Air Depot Sq, Alexandria AF, Alexandria, LA 71331, a/c 40476, e/c 40476, n/e 40476, c/o 2003-30042, Subject: Emergency Control of Airlift

1. There are recommendations and findings except as listed in paragraph 2 below.

2. Acceptance is taken to the finding, that "the most probable cause of the accident was due to navigational error." The term "error" implies that a mistake was made by the pilot then conceivably such action was avoidable. This is not considered quite accurate for the following reasons:

a. The pilot had no visual references for navigational purposes.

b. His IFR at Middleton Island was only 6 minutes off his ETA, giving a positive indication that his forecast winds were quite accurate to that point and therefore were assumed to be accurate from this fix to the Whittier fix which is only 30 minutes flying time on practically the same bearing. The fact that the wind in actuality was, as reported by other aircraft in the area, 60 kts higher than forecast from Middleton Island to Whittier fix, coupled with the reported severe precipitation and gusty winds presented a situation in which it was impossible for the pilot to navigate other than by dead reckoning and flying out his IFR to Whittier fix prior to turning in to Whittier. Under such circumstances as described above the safest procedure would have been to climb to emergency altitude, however failure to do so encompasses error in technique rather than error in navigation also possibly should be indicated as the accident cause.

c. It is further noted that, although navigational error attributed to the pilot was considered as the most probable cause, the recommendations of the board are for corrective action covering ground facilities, change if route, new equipment, and change of altitude. There are no recommendations for change in pilot pressure nor are there any recommendations covering improved navigation means for pilots under the above described hazardous conditions at Whittier and radio static.

d. If the board considered that an error was made, that the report

7425

SECURITY INFORMATION

THIS PAGE DECLASSIFIED IAW EO 13526
ig at the time, a logical technique for preventing the accident was not available, thus the cause of the accident should be attributed to inadequate equipment rather than pilot error.

J. W. Stevenson
Colonel, USAF
Commanding
Subject: Transmittal of AF Form 14 (Inc)

To: Commander, Military Air Transport Service, Andrews AFB, Washington 25, D. C.

1. Forwarded in accordance with Air Force Regulation 634-4 is the report of major aircraft accident pertaining to C-124A #91-1074, assigned to 1705th Air Transport Group, REDA AFB, Washington, which occurred on 22 November 1952.

2. This headquarters concurs with the findings and recommendations of the Aircraft Accident Investigating Board, with the exception of facts outlined in the 2nd endorsement. In addition to the installation of radar altimeter 3617.185, it is recommended that the installation of airborne radar in C-124 type aircraft and the installation of Omni-ranges on Alaskan routes be given top priority by Headquarters, USAF. Had this equipment been installed, it is very possible this accident would not have happened.

3. The following action has been taken by this headquarters to prevent recurrence of this type accident:
   a. All MATS flights are required to maintain minimum airport altitude of 11,000 feet Middleton Island to Anchorage and Ninovinbrook to Anchorage.
   b. Continental Division C-124 type aircraft will not be operated into areas of forecasted moderate icing.

Leonard

Geoffrey A. H. Carruthers
Brigadier General, USAF
Deputy Commander

Security Information

This page declassified IAW EO 13526
MISSILE AIR TRANSPORT SERVICE, Andrews AFB, Washington 25, D. C.

TO: Directorate of Flight Safety Research, Norton Air Force Base, San Bernadino, California

1. Incurred with the findings and recommendations of the Aircraft Accident Investigation Board with the following exceptions:

   a. The board found "There was no indication of mechanical or radio malfunction". Conversely, there was no indication of the radios functioning after leaving Middleton Island beacon; therefore, it appears that malfunction of radios or inadequate radio equipment may have existed, or pilot would have detected the northerly drift and made the necessary correction.

   b. The Aircraft Accident Board found "The most probable cause of the accident was navigational error attributed to pilot." This statement is conjectured by other statements by the Board in their findings. Navigational errors are normally associated with definite devices mistaken in navigation when they were available. Pilot was on course to within 100 miles of his destination and his ETA at this point was only four (4) minutes off; therefore it appears justifiable for the pilot to assume wind direction and velocity to be as forecast, and continue on his predetermined course.

   c. Incurred with the preceding indorsements and in particular with paragraph 6 of the 21 endorsement.

   d. It is the opinion of this headquarters that the primary cause of this accident should be attributed to inproperly forecast winds, with secondary cause attributed to lack of adequate navigational radio aids in the aircraft itself. Lack of radar altimeter and airborne search radar were contributing factors.

   F. H. B. O'Mahony

   [Signature]

   [Stamp: Military Air Transport Service]
In January 1982

1. In accordance with the terms of the Agreement of December 16, 1979, the Republic of
    Vietnam was formally notified of the withdrawal of all U.S. forces from South Vietnam.

2. The agreement was signed by the representatives of the United States and the

3. The withdrawal of U.S. forces from South Vietnam was completed on March 29, 1973.

4. The agreement was subsequently ratified by the United States Senate on March 29, 1973.

5. The agreement was subsequently ratified by the Republic of Vietnam on May 17, 1973.

6. The agreement was subsequently ratified by the United Nations on May 17, 1973.

7. The agreement was subsequently ratified by the General Assembly of the United Nations

8. The agreement was subsequently ratified by the Security Council of the United Nations

9. The agreement was subsequently ratified by the United Nations General Assembly

10. The agreement was subsequently ratified by the United Nations Security Council

11. The agreement was subsequently ratified by the United Nations General Assembly

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18. The agreement was subsequently ratified by the United Nations Security Council

19. The agreement was subsequently ratified by the United Nations General Assembly

20. The agreement was subsequently ratified by the United Nations Security Council
SUBJECT: (Restricted) Report of Special Investigation of Aircraft Accident Involving C-130A 52-0517 at Surprise Glacier, Alaska, on 22 November 1953

1. Included is the report of a special investigation conducted by this office involving a C-130A aircraft accident which occurred at Surprise Glacier, Alaska, on 22 November 1953.

2. This report is forwarded for your information.

BY COMMAND OF THE CHIEF OF STAFF:

RICHARD J. O'BARRE
Brigadier General, U.S. Air Force
Director, Flight Safety Research
The Inspector General
THIS PAGE DECLASSIFIED IAW EO 13526

[Restricted] Report of Special Investigation of Aircraft Accident Involving C-130A SN 61-1007 at Surprise Glacier, Alaska, on 20 November 1952

THE ACCIDENT

1. C-130A SN 61-1007, assigned to the 1794th Air Transport Group, bartender AFB, Washington, departed its home station on 20 November 1952 as Military Air Transport Service scheduled flight D 39/22 to transport personnel and air freight to Eilson AB, Alaska. After passing over the Middleton Island Radio Range, the aircraft did not maintain the required course and crashed on Surprise Glacier, Alaska. The aircraft was destroyed by impact. The eleven crewmembers and all passengers were fatally injured.

CONCLUSIONS

2. It is concluded that:

a. The most probable cause of the accident was the failure of the pilot to navigate the correct course (see paragraphs 8, 11, and 12).

b. A contributing cause was an inaccurate forecast of the winds aloft (see paragraph 13).

c. A probable contributing cause was the inability of the pilot to receive adequate radio range signals due to precipitation outside and iceing (see paragraph 12).

d. The minimum survey altitude from the Middleton Island Radio Range to the Anchorage Radio Range Station does not ensure safe flight under the rapidly changing and severe weather conditions existing in the area (see paragraph 10).

e. This accident might have been prevented had the pilot been informed of changes in the forecasted winds aloft (see paragraph 13).

[Restricted] SECURE INFORMATION

THIS PAGE DECLASSIFIED IAW EO 13526
RECOMMENDATIONS

2. IT IS RECOMMENDED THAT THE DEPUTY CHIEF OF STAFF, OPERATIONS, HEADQUARTERS, USAF:

   a. Initiate action to provide a directional radio facility in the Middleton-Military area (see paragraph 14).

4. IT IS RECOMMENDED THAT THE COMMANDING GENERAL, ALASKAN AIR COMMAND:

   a. Establish flight following procedures which will require commanders of USAF bases in Alaska to monitor the progress of all inbound and outbound flights and issue advisories concerning on route, destination, and alternate weather changes and other information necessary to ensure safety of flight (see paragraphs 11 and 15).

ACTION TAKEN

5. ROTM issued on 26 November 1952 by Base Operations, Elmendorf AFB, by order of the Commanding General, Alaskan Air Command, raising to 11,000 feet the minimum safe altitude between Anchorage and Middleton Island for military pilots.

6. The recommendation contained in paragraph 3 has been referred to the Deputy Chief of Staff, Operations, for action and reply.

7. The recommendation contained in paragraph 4 has been referred by letter to the Commanding General, Alaskan Air Command, for action and reply.

HISTORY OF FLIGHT

8. C-124A SN 51-107 departed McChord AFB, Washington, at 1530 PST 22 November 1952 as Military Air Transport Service Flight B 39/62. The aircraft was cleared via Blue Airway 36 to Anchorage at 9000 feet, to Nesh Bay, direct at 10,000 feet, then via the military airway to Whittier at 9000 feet. The flight progressed in a routine manner until arrival over the Middleton Island Radio Beacon at 1947 Alaska Standard Time (AST). The pilot outstripped the time over the Whittier fan marker at 2017 AST.

   This position report was the last radio contact with the aircraft. At 2030 AST 23 November 1952, the aircraft was declared missing and search procedures were started. On 28 November 1952, the wreckage of the aircraft was located on Surprise Glacier approximately 20 miles east of Elmendorf AFB.
INVESTIGATION AND ANALYSIS

9. Aerial reconnaissance of the crash scene indicated that the aircraft struck a ridge at approximately 5,000 feet elevation, disintegrated as a result of the impact, and fell down the mountain slope to a point approximately 5,000 feet above sea level. Because of heavy snow coverage of the wreckage and the difficulty of reaching the crash area, no examination of the wreckage was possible.

10. An examination of the flight records of the pilot and copilot revealed that the pilot had a total of 2695 flying hours of which 1657 were as first pilot. He graduated from the NTS (Naval Training School) as a C-124 aircraft commander on 13 December 1951 and had been rechecked on 12 August 1952. He had a total of 427 pilot hours in the C-124 of which 269 were as first pilot. The pilot had a total of 213 hours first pilot weather and instrument time, 29 hours of which were accrued in the past 90 days. He held a green instrument card with expiration date of 11 April 1952. The copilot had a total of 2629 pilot hours of which 2095 hours were as first pilot. He had a total of 605 hours of flying time in C-124 aircraft with 364 hours as first pilot. The copilot completed the NTS training course in C-124 aircraft on 10 June 1952 and was assigned copilot duties on the aircraft. He possessed a green instrument card with expiration date of 7 July 1953. The copilot had a total of 4287 hours instrument weather time, of which 126 hours were flown in the past 30 days. This was the third trip to Alaska for the pilot and the sixth for the copilot. Both pilots were considered to be exceptionally well qualified and had passed their flight checks with little or no difficulty.

11. An analysis of the weather forecasts given the pilot revealed that the winds forecast for the part of the flight from Middleton Island to Anchorage were from 130 degrees at 30 knots. Postflight analysis of weather data indicated actual winds at flight altitude in the Middleton Island-Akutan area would have been approximately 30 knots from the south. The flight plan, computed by the navigator and approved by the pilot prior to departure from Anchorage AAF, was computed on the basis of the forecast winds. A correction of six degrees left was necessary to maintain the required course; however, with the actual wind velocity of 60 knots, a left correction of 13 degrees would be required and a ground speed of approximately 230 knots would result. It appears that the pilot based his estimated arrival time over Whittier on a ground speed of 217 knots which would be obtained if the forecast winds were utilized. This indicates that the pilot had no warning that wind velocities had increased markedly and that he was unprepared for the increase in drift correction that would be required. However, the failure to apply the added drift correction in itself was not cause the aircraft to drift approximately 30 miles off course in 60 minutes.
12. A scheduled airline pilot, who flew southbound over the route two hours after G-124A SN 51-127 passed Middleton Island, encountered moderate icing and turbulence from Anchorage to Middleton Island at a cruising altitude of 10,000 feet. The heading component computed for this flight indicates that the winds were very close to velocities of 60 knots. It is logical to assume that the pilot of G-124A SN 51-127 also encountered the turbulence and icing at this cruising altitude of 10,000 feet. It is also possible that in encountering the icing, static made it difficult for the pilot to accurately identify the signals of the Anchorage radio range. This difficulty along with the obvious effort needed to maintain the correct course in turbulent conditions and the added wind drift could account for the aircraft being approximately 50 miles from course.

13. At the time of the accident the minimum safe altitude for that part of the airway from Anchorage to Middleton Island was 9000 feet. A number of the smaller airline operators in the area utilize a minimum altitude of 11,000 feet during the winter months due to altitude corrections necessary to compensate for the colder air of the winter season. This procedure provides an added safety factor. On 26 November 1952, Elmendorf AFB issued a NOTAM raising the minimum safe altitude for military pilots to 11,000 feet between Anchorage and Middleton Island. Had a minimum altitude of 11,000 feet been in effect prior to the accident, it is probable that the aircraft would have safely cleared the high terrain north of the intended course.

14. After passing the Middleton Island Radio Beacon ( inbound to Elmendorf AFB), pilots must report over the Whitter Fan Marker. This aid is surrounded by high terrain which restricts the normal output of the fan marker and thus limits reception. Pilots who have flown this route many times, stated that they had difficulty receiving the fan marker and always held a course well to the left of the inbound heading to avoid the high terrain east. In addition, the southeast leg of the Anchorage Fan Marker is not aligned with the runway from Middleton Island to Whitter. Old flight check reports indicate the possible range distances on the Anchorage Radio Range is 75 miles. A flight check conducted in May 1952 reported that the southeast leg was split and resulted in a report, and one of 24 November 1952, reported multiples on the southeast leg. It is evident that present radio navigation aids on instruments is not always possible over this part of the route. A radio range installed at Middleton Island with one leg aligned with the airway or a having facility in the Whitter area would aid greatly in maintaining the correct course from Middleton Island to Anchorage. A requirement exists therefore for an additional radio navigational aid on the Whitter-Middleton route of a directional capability to insure safe navigation in this area.

15. As the aircraft approached the Anchorage area, six hours later takeoff, a more accurate forecast of the winds could have been given the
pilot had the forecaster at Elmendorf AFB known the content of the forecast given the pilot at McChord AFB. To do this, in addition to receiving the forecasted weather, base operations, weather, and communication personnel at Elmendorf AFB would have had to be closely monitoring the flight’s progress. Knowing the aircraft position, estimated progress, and existing route weather, an advisory could have been issued to alert the pilot and navigator to the stronger winds and might have prevented the accident. To accomplish this expeditiously would require constant flight following by experienced and conscientious clearance, weather, and communication personnel in close contact with one another. The possible saving of life and equipment of this single accident far overshadows the cost and effort required to establish such a procedure. It appears, therefore, that a requirement exists for the establishment of an effective flight following system in each base operations to monitor the progress of all inbound and outbound flights and so issue any advisories necessary. The requirement that base operations perform this service would require the monitoring of a relatively small number of aircraft by each base operations and would result in a more accurate and reliable flight following system.

COSTUMING DATA ON FILE IN DIRECTORATE OF FLIGHT SAFETY RESEARCH

16. The following data pertaining to aircraft accident investigation of C-121A 83-107 are on file in the Directorate of Flight Safety Research and can be obtained on request.

A. Special orders directing the investigation
B. Statistics
C. Statements of McChord AFB weather forecasters
D. Statement of T. W. Fenstermaker, Captain, USAF Flight 30/28
E. Aircraft Inspection and Maintenance Records, Part II, 12-21 November 1952
F. Briefing Clearance Form
G. Aircraft Clearance Form
H. EIS Flight Plan
I. Flight Orders
J. IFR Flight forecast cross section
K. Brief on 12/8/74, C-121A 83-107
RESTRICTED

L. Cargo and passenger manifests
M. Technical orders not complied with
N. Instructor Navigator and Instructor Aerial Engineer Line Check Reports
O. Statements of cargo loading on aircraft 1107
P. Weight and Balance Clearance, Form J
Q. Statements of Lt Sullivan and Dr. Terrie Moore
R. CAA Incident Report.
S. NOTAM of safe altitude for flights arriving or departing Anchorage
T. Letter from CAA with radio facilities chart reports and en route flight check report
U. Letter forwarding aircraft flight contact record from Tuktego and Tukte, Alaska
V. Map of accident area
W. Route From North to Anchorage
X. Photographs
### REPORT DISTRIBUTION LIST

(Restricted) Report of Special Investigation of Aircraft Accident Involving C-124A SN 51-107 at Surprise Glacier, Alaska, on 22 November 1952

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**RESTRUCTED**

THIS PAGE DECLASSIFIED IAW EO 13526
I & B X DIVISION
INFORMATION CHECK SHEET
for
AIRCRAFT ACCIDENT INVESTIGATION

1. DATE OF ACCIDENT: 22 November 1950
   TIME OF ACCIDENT: 1947 LOL (Last Pos report)
   LOCATION OF ACCIDENT:

2. AIRCRAFT TYPE: C-124
   SERIAL NO.: 51-1078

3. AIRCRAFT HOME STATION AND ORGANIZATION:
   COMMAND: MATS
   DIVISION: Continental
   AIR FORCE:
   WING:
   GROUP: 1759th AFG
   SQUADRON: 24 VTS
   AIR FORCE BASE: McChord
   LOCATION: Tacoma, Washington

4. RESULTS TO AIRCRAFT (Include estimate of damage if repairable)
   DESTROYED
5. HISTORY OF AIRCRAFT AND ENGINES:

**AIRCRAFT:**
(a) Date of Manufacture: 
(b) Date of Acceptance by AF, 23 April 1952
(c) Total Hours: 900:15 plus
(d) Date of Last Overhaul: New
(e) Overhauling Depot: 
(f) Time since Overhaul: 
(g) Last Periodic Inspection (type): 1st Int
(h) Date of Last Periodic Inspection: 28 Oct
(i) Last Periodic Inspection Performed by: 74 ATIS
(j) Time Since Last Periodic Inspection: 871:35

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(This page declassified IAW EO 13526)
6. PILOT:
   a. Name: Durnall, Kenneth James
   b. Rank: Captain
   c. Service Number: 10 74269
   d. Home Station: McChord
   e. Organization: 179th & 24th AG

7. PILOT HISTORY:
   a. Age: 37
   b. Date Entered Service: 27 October 1941
   c. Date Separated from Service: 26 April 1946
   d. Date Reentered Active Military Service: 20 December 1945 - 9 July 1952
   e. Date of Original Checkout This Type Aircraft: 12 December 1952
   f. Date of Last Checkout This Type Aircraft: 12 August 1952
   g. Original Aeronautical Rating and Date Received: 12 April 1945
   h. Present Aeronautical Rating and Date Received: 12 April 1945
   i. Primary Duty Assignment: 1044A

3 Flying Time:
   1. Type of Instrument Card: Green
   2. Expiration Date: 11 Apr 1953
   3. Total Pilot (1st Plt, Co-pilot, C/n, Plt, etc) Hrs: 2669
   4. Total 1st Pilot Hours: 2557
   5. 1st Pilot Hours Last 90 Days: 185
   6. 1st Pilot Hours Last 30 Days: 87
   7. 1st Pilot Hours This Model (B-29, P-51, etc): 137:20
   8. Other Pilot Hours (C, C, CG) This Model: 185:00
   9. 1st Pilot Hours Last 30 Days This Model: 87:00
   10. Total Time Spent in Air During 24 Hrs Prior to Accident: 8:00
(11) List by Type: Medal 1st Pilot Experience in Similar Aircraft (e.g., F-26, 50 hrs):

(12) Was Operator on Instrument at Time of Accident or Immediately Before?

No \ Yes \ Weather

If above answer is "Yes" or if accident occurred at night or during poor weather or unknown conditions, fill in items below.

(13) Total 1st Pilot Instrument Weather Hours: 213:00

(14) Total 1st Pilot Instrument Hood Hours: 142:00

(15) 1st Pilot Instrument (Weather & Hood) Hours Last 6 Mos: 62:00

(16) 1st Pilot Instrument (Weather & Hood) Hours Last 60 Days: 9:40

(17) 1st Pilot Night Hours Last 6 Months: 24:00

(18) 1st Pilot Night Hours THIS MONTH Last 60 Days: 8:20

(19) Jet Fighter Experience:

(1) Total 1st Pilot Time: None

(2) Total Copilot Time: None

(20) Combat Hours (Pilot and Copilot): 100

8. COPILOT:

a. Name: Chene, Alger Meredith
b. Rank: Captain
c. Service Number: AD 746251
d. Home Station: McNiel

e. Organization: 1705th ATC, 34 ATS

9. COPILOT HISTORY:

a. Age: 32
b. Date Entered Service: 26 September 1940
c. Date Separated from Service: 20 Feb 1960
d. Date Resumed Active Military Service: 24 May 1951
e. Date of Original Checkout This Type Aircraft: 12 Sept 1951
f. Date of Last Checkout This Type Aircraft: 10 July 1952
J. Flying Time:

(1) Type of Instrument Code: Green 

(2) Total Pilot (1st Pilot, Copy Pilot, Cost Pilot, etc) Hrs. 1600

(3) Total Flight Hours: 2909

(4) Total Hours, IP A/SF 5 (Blank applicable one): 1239

(5) Pilot Hours Last 90 Days: 215

(6) 1st Pilot Hours Last 90 Days: 146

(7) Hours Last 90 Days, IP A/SF 5: 97

(8) Pilot Hours Last 30 Days: 4105

(9) Total Pilot Hours This Model (B-26, F-11, etc): 645

(10) 1st Pilot Hours This Model: 341

(11) Hours This Model, IP A/SF 5: 284

(12) Total Pilot Hours This Model Last 90 Days: 245

(13) 1st Pilot Hours This Model Last 90 Days: 148

(14) Hours This Model Last 90 Days, IP A/SF 5: 97

(15) List by Type & Model Experience in Similar Aircraft (IP, CP, C) (e.g., B-26, IP, 50 hrs.) 0.274 1/109

(16) Total 1st Pilot Instrument Weather Hours: 287

(17) Total 1st Pilot Instrument Night Hours: 145

(18) 1st Pilot Instrument (Weather & Night) Hrs. Last 6 Mos.: 51

(19) 1st Pilot Instrument (Weather & Night) Hrs. Last 90 Days: 16

(20) Total Pilot Night Hours Last 6 Months: 108

(21) 1st Pilot Night Hours Last 6 Months: 108

(22) Night Hours Last 6 Mos., IP A/SF 5: 108

(23) Total Pilot Night Hours This Model Last 90 Days: 66

(24) 1st Pilot Night Hours This Model Last 90 Days: 66

(25) Night Hrs. This Model Last 90 Days, IP A/SF 5: 5
h. Jet Fighter Experience:

1. Combat Flights (Pilot and Copilot): 280

10. LIST OF ALL PERSONNEL ABOARD THE AIRCRAFT:

<table>
<thead>
<tr>
<th>Name, Rank, and Service Number</th>
<th>Position in Aircraft</th>
<th>Injuries Sustained</th>
<th>Use of Parachute</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clark, Maj., Capt. Adm. 846291</td>
<td>Ed. Pilot</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turner, W. T. Maj. 1st Bn. 141-114</td>
<td>Nav.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spence, Lt., Maj. AF 1135852</td>
<td>2nd Eng.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cooper, Col., Capt. AF 111176</td>
<td>2nd Eng.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lazenby, Capt. A. Maj. AF 1110749</td>
<td>Radio Op</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scott, Maj., Capt. AF 11229186</td>
<td>Radio Op</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ingram, Capt. Maj. AF 11265738</td>
<td>Lumbarserter</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Johnson, Lt., Capt. AF 11248064</td>
<td>Enroute Attendant</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jackson, Capt. Maj. AF 11298664</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

See Tab for complete Passenger Manifest - All were Fatally Injured.
11. Flight Plan:
   
a. Time of Takeoff: 1520 PST
   
b. Total Time Aircraft:
   
c. Time of Accident: 1947 LST
   
d. Estimated Time on Route: 7 plus 03
   
e. Mission: SCHEDULE FLIGHT D-28/46
   
f. Gross Weight at Takeoff: 174,746
   
g. G.O. at Takeoff: 31,2
   
h. Route:

<table>
<thead>
<tr>
<th>FROM</th>
<th>TO</th>
<th>VIA ANY OR DIRECT (1200 F.M.)</th>
<th>ALTITUDE</th>
<th>IFR OR VFR</th>
</tr>
</thead>
<tbody>
<tr>
<td>McChord</td>
<td>Roll Roy</td>
<td>Direct</td>
<td>9000</td>
<td>VR</td>
</tr>
<tr>
<td>Roll Roy</td>
<td>Dugness</td>
<td>1-12</td>
<td>9000</td>
<td>*</td>
</tr>
<tr>
<td>Dugness</td>
<td>Reef Bay</td>
<td>Dir</td>
<td>34000</td>
<td>*</td>
</tr>
<tr>
<td>Reef Bay</td>
<td>Cape St. James</td>
<td>Dir</td>
<td>8500</td>
<td>*</td>
</tr>
<tr>
<td>Cape St. James</td>
<td>Sandpuit</td>
<td>Dir</td>
<td>9000</td>
<td>*</td>
</tr>
<tr>
<td>Sandpuit</td>
<td>Middletown</td>
<td>Dir</td>
<td>9000</td>
<td>*</td>
</tr>
<tr>
<td>Middletown</td>
<td>Whittier</td>
<td>Anchorage</td>
<td>9000</td>
<td></td>
</tr>
<tr>
<td>Whittier</td>
<td>Anchorage</td>
<td>A-1</td>
<td>9000</td>
<td></td>
</tr>
</tbody>
</table>

12. Total Fuel (gallons) aboard Aircraft at Time of Takeoff: 2520

13. Total Fuel (gallons) aboard Aircraft at Time of Accident:

14. Exhibits Checklist:
   
   a. Statement and statements:
   
   b. Photos:

7
c. Form 175 and loading list:


d. Form 1:


e. Operations orders:


f. Map showing location of accident:


g. Sketch of wreckage distribution:


h. Weather sequences of route, point of departure, destination, and

Weather station nearest to location of accident:


Section Two: US Operations

1. Fleet Maneuvers:

2. Personnel are required to report and assemble at ships on time (normal operations) unless otherwise notified. Ships shall be accounted for and present at point of departure approximately 30 minutes before scheduled departure.

3. The Master Reserve (MTR) shall be present and ready to perform all duties upon notification.

4. Personnel are to report to the MTR's boat in the event of a ship being out of commission.

5. Utility boats are to report to the MTR's boat in the event of a ship being out of commission.

6. All personnel are to report to the MTR's boat in the event of a ship being out of commission.
I went to work on the upper air charts at the MHS Weather Station at 1200, 23 November 1953, and learned from Sergeant Holmes, the other forecaster on duty, that three trips were going out: one RCAF North Star at 1400 to Ellesmere, a C-121 at 1800 to Ellesmere, and a C-54 to Baffin at 2100. Sergeant Holmes had already made the flight level wind forecasts for these flights. Sergeant Holmes was making up the flight folder for the North Star flight and when he finished he briefed me on the weather for that flight and then departed for lunch at approximately 1200. The RCAF crew came in a short time later and was briefed by me. I asked an Air Force pilot who did not identify himself except to say that he was going to Ellesmere in and asked about the route weather. Being the map and sequence I briefed him regarding weather along Military Airways and along Arctic Airways and also on typical winter time weather conditions. He regards to the weather along Military Airways, I told the pilot that he would have instrument conditions and landing on the latter third of the route due to a low in the Gulf of Alaska that was moving northward. I also told him that in the event that the winds at flight level in the Midleton-Ellsmere sector were stronger than forecast, turbulence would probably be detected in that area. At up wind MGH a pilot came in with a clearance for the C-121 to Ellesmere. I told him that his cross-section had not been made up and he stated that he had the upper section and had been briefed. I then filled out his clearance with the latest terminal and alternate weather, discussed terminal weather with the pilot, and signed the clearance. As the pilot was leaving, Sergeant Holmes came in. I asked him if he had given the C-121 pilot his cross-section and he said it had not been made up and that the pilot would have to come back for it when he tried to clear through MHS Operations. Sergeant Holmes then went to work on the 1800 surface chart and the C-54 cross-section. I returned to work on the upper-air charts.

Robert W. Stone
W/ Sgt, USAF
Forecaster
STATEMENT

I began work at the NTS Weather Station at O'HOP, 22 November 1952. After obtaining small talk on local weather, thewynic situation, etc., I began analyzing the 1200 surface chart. This was completed at approximately 0030. I then studied the local situation again and also the Alaskan and surface weather. Three of the flight folders were prepared for the following flights: NAF North Star to Elmendorf at 0400 CDT on 23 November at 1200; 0300, Elmendorf to Fairbanks at 1200. At approximately 0900 I began briefing the NAF North Star crew in order to forecast weather for the departing group. At approximately 1125 I had completed the forecast for the two routes. I then conferred with the NAF North Star crew. At approximately 1200 I began briefing the 0-54 cross-section to Fairbanks so that I would have time to complete it after lunch in time for their scheduled departure. This briefing was completed at approximately 1255. I then made the station form for the 0-54 cross-section (Elmendorf, etc.) so that it could be completed in a minimum time when I returned from lunch. I then briefed Sergeant Evans on the terminal and surface weather for military airways for the NAF North Star flights. This briefing was as follows: From the forecast position of the low center and the frontal system as indicated on the 1200 surface chart, altid instrument conditions would be encountered from 1400 to Elmendorf. I expected flying conditions across the system as indicated on the cross-section for the same portion of the route. The terminal weather at Elmendorf was expected to be ceiling 4 to 5 thousand feet, visibility good with no precipitation. At land (the alternate) conditions to be 12 thousand feet broken sky, visibility 10 miles or better with very little possibility of fog. I told Sergeant Evans that that was probably the only one he would have to concern with and that I would be back in time to brief the others. I then went to lunch at 1245. I returned from lunch at 1330. As I came in the back door Sergeant Evans was signing a clearance form and by the time I had hung up my hat and coat, the officer whom he had briefed had gone into MATS Operations. When I got over to the map table to start work, Sergeant Evans asked me if I had given the 0-54 crew their cross-section. I stated that I had not because it had not been made up. He then said that the officer told him that he had already gotten his cross-section and briefing. I then said that he would be back when he tried to clear through MATS Operations. I then proceeded to sketch the 1200 chart for the Gulf of Alaska.
Statement—Tsgt James Holcomb (Cont'd)

area and completed the C-134 cross-section at 1400P. Then made the Fort Irwin forecast and participated in the terminal forecast conference. Then continued work analyzing the 1800 surface chart. At sometime between 1400 and 1500 Mr. Smith, Operations Dispatcher, came in and asked me if I still had the duplicate copy of the flight folder for the C-124. I told him that they had not picked up either copy and that I had not briefed them. He then told me that the pilot had some kind of cross-section. He took both copies of the proper folder and rushed out. I assumed that he was trying to catch the pilot to correct the error. I then continued with my regular work of the chart I was drawing and the clearance of the Kelish flight which cleared ten to fifteen minutes later. This statement consists of two (2) pages.

James Holcomb

T Sgt., USAF

Forecaster
BIL 113 EDFO

KSFPC

REMARK/COPY HAS BEEN SENT HELK SEA/PZ FWCB FOLLOWING DISG TO OPERATIONS OFFICER RATS INCHORD FIELD ASAP STOP THIS WAS FENSTERMAKER'S LAST TRIP FROM KEDI SEA AND DESIRE YOU INSERT FLT NBR IN LAST SENTENCE.

QUOTE ON TAKEOFF WE WERE CLRD TO COXX CLMB HW TO SUSITNA INTERSECTION RETURN INBOUND AT 10000 FT, ON CROSSING RANGE STATION AT 10000 WE HAD VERTICAL VISIBILITY NO ICING AND AIR WAS SMOOTH, FROM RANGE STATION TO WHITTIER MARKER WE ENCOUNTERED MODERATE ROUGH AIR AND MODERATE DOWN DraftS TO THE EXTENT THAT WE USED METO POWER FOR SHORT PERIOD OF TIME ON TWO OCCASIONS TO CONFLICT THE EFFECT OF THE DOWNDRAFT STOP AFTER LEAVING WHITTIER AND TO THE COAST LINE WE HIT SHARP MODERATE TURBULENCE MODERATE DOWNDRAFT AND MODERATE ICING FOR SHORT PERIOD OF TIME STOP AT 0750 GREENWICH AS WE APPROACHED THE COAST LINE WE HEARD A LINE TRANSMISSION ON 121.5 EMERGENCY FREQ AS FOLLOWS "AS LONG AS WE HAVE TO LAND WE RIGHT AS WELL LAND THERE" UPON REACHING THE COAST LINE WE BROKE OUT ON TOP AND WERE INTERMITTENTLY ON INSTRUMENTS IN AND OUT OF THE TOP STOP FROM COAST LINE TO MIDDLETOWN THE AIR WAS SMOOTH THERE WAS NO ICING AND WE WERE DEFINITELY ON TOP ON REACHING KIDDLETON STOP TRIP WAS ROUTINE FROM THERE TO SEA T W FENSTERMAKER CAPT NAVA FLIGHT NXXX NUMBER BLANK END QUOTE A F OLSEN CTG PILOT KSFPC

BIL R 113

EDFO
Flight reports are not available for this flight.
The flight reported first east of Galloch Island at 9000 feet at 0858 and this was the last contact established.

The aircraft was subsequently sighted at approximately the 9000 ft level on a southerly 45 mile from 220 on a heading of 34 degrees.
30TH AIR TRANSPORT SQUADRON
3705th Air Transport Group
Continental Division, MATS
Vochard AFS, Washington

3 December 1952

SUBJECT: Technical Orders Not-Complied-With on Aircraft C-124A,
Serial Number 51-107

TO: When It May Concern

Reference aircraft C-124A, Serial Number 51-107, a thorough check
of the aircraft records on this aircraft reveals that the following
Technical Orders are being carried as not-complied-with:

01-4077-118  15 August 1951
Restriction on use of main fillet life raft compartments.
(No life rafts installed in fillets.)

01-4077-11
16 October 1952
Inspection and replacement of main landing gear retracting
cylinder rod and bearings.
(Tools necessary for accomplishment are on order.)

01-4077A-17  8 May 1952
Modification of Curtiss propeller synchronizer and
synchronizer rack assembly.
(Fit not available.)

02A-101-22  11 June 1952
Oil leakage at front end of propeller shaft.
Number 2 Engine
Number 3 Engine
Number 4 Engine
(Not applicable except when leak is encountered.)

Interim T.O. 01-1592
Engine driven generator and alternator replacement.
(Not-complied with due to confusion existing on pending
change to original Interim Technical Order.)

Curtis S. Wilbur
Captain USAF
Vochard AFS
MILITARY AIR TRANSPORT SERVICE  
Central Division, MATS  

INSTRUCTOR NAVIGATION'S FLIGHT REPORT  

Date: 17 Sept 52  

NaviGRATOR: TURNER, WILLIAM I. 2/L  
(CONSTRUCTION NAVIGATOR: SMITH, HUBERT R. 1/L)  

AIRCRAFT Commander: KOETEEUW, STANLEY CAPT  
(TYPE AIRCRAFT: C-124)  

ROUTE: TCM - SAVANNAH, UK, RETURN VIA BROOKLEY  

FLIGHT TIMES:  

DAY: 40  
NIGHT: 37  
TOTAL: 77  

(Grading system: S = Satisfactory, U = Unsatisfactory. Each grade of U (unsatisfactory) requires an explanation in remarks.)  

GRADES:  
1. Preflight .......................... S  
2. Organization and neatness ........ S  
3. Dead reckoning ...................... S  
4. Pilotage ........................... S  
5. Radio and console navigation ........ S  
6. Loran navigation .................... S  
7. Celestial navigation ................. S  
8. Fuel flight .......................... S  
9. General ............................ S  

Final grade this report.  
SUMMARIZED RECOMMENDATIONS:  
H. Turner has a very good  
knowledge of all phases of navigation. Works  
with ease, is confident and produces good  
results.
1. FIELD MAN

A. Promptness of appearance.
B. Correctness of registration.
C. Weather and service conditions.
D. Coordination of schedule with flight plan.
E. Readiness and completeness of flight plan.
F. Equipment used and status, extent of use, tapes, etc.

2. ORGANIZATION AND EFFECTIVENESS

A. Accessiblity of materials before take-off.
B. Condition of charts, arrangements of materials during flight.
C. Use of classified material.
D. neatness and efficiency of air, engine, and weather folder.
E. Verical testing of unit, unit.

3. DEPART PLAN

A. Use of drift meter.
B. Completion of chart in advance.
C. Use of radar on meter drift.

NOTES:

Grade: S

Remarks:
B. POST FLEET

A. General attitude of navigator
B. Report to weather officer
C. Destructing report
D. Condition of navigational equipment

REMARKS:


G. SIGNED:

A. Ability to coordinate use of radar, instruments, in reckoning
B. Knowledge of piloting procedures
C. Knowledge of emergency procedures and in case of wrongs
D. Attitude and judgment
E. Cooperation and cooperation
F. General impression created by the pilot

Cooperation of crew with navigator under command

REMARKS: Crew cooperated fully

1. Ground training, required? Yes
2. Flight training necessary? Yes

INSTRUCTIONS, if any: NONE

ACTION TAKEN ON THIS REPORT

Appropriate remarks at the end:

Report submitted and cleared for use in training.

Instructor: [Signature]

Approved by: [Signature]

Note: [Signature]

Transferred to [Signature]

Appraised by [Signature]

Weather officer: [Signature]

Nuclear weapons training program: [Signature]

Navigators updated to transport

Navigator: [Signature]
I state that I, Thomas R. Atkinson, 3rd Assistant, USAF, as assigned to the 90th SPS (EO), Special Operations Squadron, Elmendorf AFB, Alaska, have approximately 200 hours experience as an air crew member in the Air Force of the United States, that I have been a parachutist since 1951, that I have flown at least 1,000 hours in aircraft, either as a crew member, passenger, or parachutist that I have approximately four and one half years active military service, all of which has been in the Air Force; and that I have been an investigator for the past four years.

On 28 November 1952, at approximately 0600 hours, I departed Elmendorf AFB, Alaska, in a Piper Super Cub aircraft flown by Dr. Norrie Moore, President of the University of Alaska. We flew directly over the Chugach Range to the Serpentine Glacier, arriving in that area at approximately 0945 hours. A search of the Serpentine Glacier failed to reveal aircraft wreckage as marked on the map supplied us by 10th Air Force. However, a search of the Surprise Glacier on the east face of Mount Cossitt soon revealed the area occupied by the tail section of an aircraft on the floor of the Surprise Glacier, and close to the principal eastward ridge of Mount Cossitt. We flew directly onto the glacier, and landed in the soft snow which covered the greater part of the glacier. Our altimeter indicated approximately 6,100 feet above landing, and the temperature of our altimeter was fixed on the wing root of the aircraft, indicated zero degrees Fahrenheit. This temperature fluctuated plus or minus 30° during daylight hours. Dr. Moore stated that he had left the altitude at 1,300 feet at Elmendorf before our takeoff. He landed at approximately 1000 hours.

After landing, we proceeded immediately to the tail section of the wrecked aircraft, which was approximately 5,700 feet from our landing position. The area was dry and approximately six to eight feet in depth over the floor of the glacier, and drifted an unknown amount to a greater depth. Travel on the floor of the glacier was practically impossible without snow shoes, and even with these, resistance, extremely difficult.

Having arrived at the tail section of the aircraft, we made a visual inspection, and determined from the wreckage 1957 reported on the right side of the vertical stabilizer of a C-114B aircraft, that we had clearly identified the missing aircraft. The tail section appeared to have been started completely off from the fuselage section near the aircraft, and was tipped forward from its normal position so as to rest almost perpendicular to the level floor of the glacier. Most of the details covering the vertical stabilizer and rudder was stripped completely off, but the section on the right side of the vertical stabilizer upon which were printed the serial number (U652557), the name "Cossitt," the code letters "N-1," and the Cockpit Description of Blanket, which was torn away from the left section of the tail section, and upon inspection showed a list of accounts, which included the following:

1. John H. Johnson
2. Joseph P. O'Sullivan
3. John R. Atkinson
4. Richard E. Atkinson
5. John R. Atkinson
6. Richard E. Atkinson
7. John R. Atkinson
8. Richard E. Atkinson
9. John R. Atkinson
10. Richard E. Atkinson
11. John R. Atkinson
12. Richard E. Atkinson
13. John R. Atkinson
14. Richard E. Atkinson
15. John R. Atkinson
16. Richard E. Atkinson
17. John R. Atkinson
18. Richard E. Atkinson
19. John R. Atkinson
20. Richard E. Atkinson

The photographs show the tail section in a position as the wreckage was found.
Studies of the left horizontal stabilizer and vertical stabilizer.

There was no evidence of fire having damaged the tail section. From our position on the glacier; at the tail of the aircraft, we noted a large rent in the snow approximately 200 feet above and to the right of the tail section, and following this line with our eyes, we noted a piece of metal approximately three or four square feet in area on the precipice of the western ridge of Mount Damon above us, and approximately 600 feet above the floor of the glacier, showing down glacier and to the left of our position as we faced the ridge of Mount Damon, we noted several jagged bits of metal protruding from the snow, and also in direct line with the tail and the wreckage higher on the hill. Because of this apparent impact of the parts of the aircraft over such a large area from near the top of the ridge to the floor of the glacier hundreds of feet below, the necessary conclusion is that no one could possibly have survived the impact of the aircraft upon the mountain. From this conclusion I concluded that the aircraft had struck the face of the western ridge of Mount Damon below its saddle and above the drifted snow line at an angle of about 20 degrees in seventh, and then scattered parts of the aircraft down glacier as described above. We visually inspected the face of the ridge for further signs of wreckage, and I saw three stringers or longitudinal members scattered to the right of the line of wreckage described above, but below the snow line and protruding vertically from one to two feet above the snow, and spaced about ten to twenty feet apart.

We then climbed to the snow about 150 feet above, and to the east of the tail assembly, and while probing this snow discovered a blanket which was partly covered with frozen blood, and melting in the sunlight. We noticed the odor of decomposing or burned flesh in late viability, and I proceeded to probe the snow for human remains or other objects of interest. Dr. Moore stated that he had to return to the floor of the glacier to prepare a runway for his aircraft, as he was interested in returning to Dawson for as soon as possible. Before Dr. Moore returned to the floor of the glacier, however, I saw a thin layer of snow had been scraped from the surface and having excavated the snow for about two or three feet, pulled up a military pack. This pack bore no marks of identification. It was bolted up and there were no human remains evident therein or nearby. The significant thing about this pack was that the front of it was generally charred through one layer of cloth. While Dr. Moore returned to the floor of the glacier I continued probing this snow for approximately one half hour, but was unable to discover anything of real interest. I recovered several fragments of cardboard cartons near the site of the blanket. As I began to probe underfoot this snow I discovered that it appeared to be a large snowball which had apparently rolled down from a higher altitude. It was at least fifteen feet in diameter, but contained no object within it that I could determine. Dr. Moore then came to come and aid in the construction of a runway for our aircraft, and I complied with his request.

We spent several hours probing snow in an area about 900 feet in length and ten feet in width, running generally east and west, and because of a prevailing wind from glacier in the necessary direction of our takeoff, we began to construct a new runway to the south at 90 degrees to our existing runway. Dr. Moore thought that a cross-wind takeoff would be too
Statement of Thomas S. Sullivan (cont'd)

...and we abandoned this attempt after a short time. Our expectation of the runway was interrupted by several para-drops of survival equipment by 10th Air Rescue Group aircraft, which occupied us for some two hours in retrieving the equipment and setting up our camp. The wind direction steadily increased to a gale, and caused us some concern as to whether or not we would be able to take off on the following day.

On 29 November 1952 we arose at approximately 0700 hours and continued work on our east-west runway, which we lengthened (because of the prevailing tail wind of five to eight miles per hour) some 200 feet. The engines of our aircraft had become frozen during the night, and Mr. Moore worked with a plowman's makeshift pot and a blow torch for approximately one hour before we could get the engine started. At approximately 0900 hours Mr. Moore made a takeoff down glider with a tail wind of approximately five miles per hour, and barely succeeded in getting his aircraft in the air. We circled and returned, landing at the west end of our runway, and we worked for another hour lengthening of runway another 500 feet. Fortunately the prevailing tail wind gradually lessened, and during one of the pulls we boarded the aircraft and took off, using only 1,000 feet of our runway, having lightened the aircraft of all but Mr. Moore's personal survival equipment. We then flew towards Elmendorf AFB on a direct course, but observing bad weather ahead, and not being equipped with proper instruments, we turned west and flew to Palmer, where the ceiling was approximately 1,000 feet. Our fuel tanks indicated one fourth full at Palmer, but Mr. Moore decided that he would fly on down to Elmendorf. We then turned south and proceeded down the Elkhorn and flew over the water at an altitude of 150 feet, arriving at Elmendorf at approximately 1200 hours. As we approached Elmendorf, Mr. Moore expressed concern over the fuel level in our tanks, and made an emergency landing on the taxiway near the MATS terminal.

In my opinion, based on the conditions which I observed on the Surprise Glacier, any attempt to locate the remains of the passengers aboard the C-124 aircraft, or to locate the remainder of the wreckage of that aircraft, will be an extremely difficult operation. As I have indicated above, the snow level is approximately eight feet in depth over the floor of the glacier and drifted to higher levels in many parts. There is a huge snowdrift along the northern edge of the glacier where it joins Mount Davidson, and I would estimate the snow to be as deep as several hundred feet in some areas of the wreckage. It is significant that we were unable to locate any of the remains of the major parts of the C-124, and this fact gives rise to the conclusion that either the aircraft is completely disintegrated, or that its major parts are buried under many feet of snow. One fact is obvious from observation, and that is, the aircraft and its contents are scattered over at least two acres, most of the area having an incline of about 40 degrees from the horizontal, and covered with at least eight feet of freshly fallen powdered snow. Should it be deemed desirable to excavate the wreckage and the human remains at the site of the accident, I would suggest that a party of approximately twelve men to be flown in by light aircraft, or parachuted onto the glacier, which party might be concentrated upon accomplishment of their operation by light aircraft or sled dogs.

Thomas S. Sullivan
1st Lieutenant, USAF
HQ, LRAFB

THOMAS S. SULLIVAN
1st Lieutenant, USAF
HQ, LRAFB

Headquarters, Alaska Air Command

THIS PAGE DECLASSIFIED IAW EO 13526
REFERENCE MESSAGE NO 13M DTG 251115Z PRIMARY REPORT OF MISSING
AIRCRAFT C-12A PN 51-107 FD

NAME           RANK     AFSN     CREW POSITION
DUVALL KENNETH J  CAPT   AO-742693  AC (IN COMD OF A/C)
CHEVEY ALGER M   CAPT   AO-746251  1ST P
TURNER WILLIAM I  1/LT   AO-1012949  NAV
HAGEN ERNOLD V  TSGT    AF-16275935  IE
SPARAGUE CONRAD N  A/2C   AF-19554551  2ND E
CASTLEBY EUGENE R  SGT    AF-19117522  2ND L
OWEN ROBERT A  A/2C   AF-10887412  RO
SCOTT MARION L  A/2C   AF-16377368  RO
INGRAM GEORGE M  A/1C   AF-16185739  LA
KIMBALL JAMES R  A/2C   AF-19449476  FA

JACKSON WAYNE D  A/2C   AF-17349602  FA

 THIS PAGE DECLASSIFIED IAW EO 13526
PAGE TWO JAPDM 14M

20 MIN N, W. OF MIDDLETON TO OVER MIDDLETON AIR SMOOTH CMA TOP OF OVERCAST
VARIABLE AT 18,000 OCCASIONAL MODERATE ICING IN CLOUDS PD

NAME                  RANK   AFSN     CREW POSITION
Duvall Kenneth J      CAPT   A0-742655  AC (IN COND OF A/C)
Chenery Alcorn M      CAPT   A0-746256  1ST P
Turner William J      LT      A0-912344  NAV
Hagen Hance W         TSgt   AF-19355393  1S E
Sprague Frank M       A/SC    AF-19531521  2ND E
Costley Eugene H      TSgt   A1-12111722  RO
Owen Robert A         A/SC    AF-13877412  RO
Scott Marion L        A/SC    AF-13773326  RO
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