[redacted]

ALASKAN AIR COMMAND

REPORT OF A MAJOR AIRCRAFT ACCIDENT

INVOLVING C124A NO. 51-101A

WHICH OCCURRED 11 NOV 54

AT WHITTIER, ALASKA

[redacted]

12-29 RESTRICTED (WHEN FILLED IN) [redacted] Pub 11-24

REPORT OF AF AIRCRAFT ACCIDENT

Use this form in accordance with AF Reg. 62-14 and AF Manual 62-5, "Aircraft Accident Investigators' 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

1-345-??

1. Place of Accident: State, county, nearest town—Distance and direction to accident: ALASKA (No Cnty) Whittier - 37 mi NNE	2. Nearest Airport Suitable for landing this plane—Distance and direction to accident: Elmendorf AFB - 53 mi E
3. Elevation above S. L. at accident scene: 8,900'	4. Date of Accident: 22 Nov 52
5. Hour and Time Zone: 2017 AST	6. ☐ Day ☒ Night ☐ Dawn ☐ Dusk
7. List Numbers of All Other Aircraft Involved: (File separate Form 14 for each aircraft) N/A	8. ☒ Incident to Flight ☐ Not Incident to Flight
9. Classification of Accident: ☒ Major ☐ Minor	10. Clearance: ☒ VFR ☐ IFR ☐ Local ☒ Other
If Other— From: McChord AFB, Wash To: Elmendorf AFB, Alas	11. This was a: ☐ CAP Flight ☐ Air Reserve Flight ☐ ANG Flight ☒ Other
12. ☐ Fire Occurred Before Accident ☒ Fire Occurred After Accident ☐ Fire Did Not Occur	
13. Airfield of Last Takeoff: McChord AFB	14. Duration of Flight Since Last Takeoff: 7:47
15. Mission of Flight (See Form 1 Symbol): 0-1	16. Activity Aircraft Was Engaged in Just Prior to Accident: Flying Airways on Instruments

Section B—AIRCRAFT

1. Aircraft No.: 51-107A	2. Type, Model, Series and Block No.: C-124A
3. Organization Reporting Aircraft on AF-110 Report — Major Command: MATS (MAT)	Subcommand: Continental Division
AF Wing: —	Group Number and Type: 1705 ATGp
Squadron or Unit: 34 ATSq	Base: McChord AFB, Wash (9762)
4. Technical Orders affecting this aircraft were not complied with at time of accident. (List number and title of these T. O.'s on separate sheet.)	

Section C—OPERATOR (Person at controls at time of accident)

1. Last Name (Jr., II, etc.)	First Name	Middle Name	Grade	Component	Serial No.	Nationality and Race	Year of Birth
Duvall,	Kenneth	James	Capt	READ	AO-742695	US W	1915

	Base	Major Command	Subcommand	AF Wing	Group No. and Type	Squadron or Unit
2. Assigned Base	McChord AFB, Wash	MATS	Continental Div		1705 ATGp	34 ATSq
3. Attached Base for Flying	McChord AFB, Wash (9762)	MATS (MAT)	Continental Div	—	1705 ATGp (CA)	34 ATSq (CA)

4. Original Aeronautical Rating and Date Received	5. Present Aeronautical Rating and Date Received	6. Primary Duty Assignment
Pilot - 12 April 1943	Pilot - 12 April 1943	1044A

OPERATOR'S FLYING EXPERIENCE (Including Civilian)

7. Type of Instrument Card: Green — Expiration Date: 11Apr53		17. List by Type and Model 1st Pilot Experience in Similar Aircraft (e. g., B-26, 80 hrs.)	
8. Total Pilot (1st Pilot, Copilot, Command Pilot, etc.) Hours	2659	18. Was Operator on Instruments at Time of Accident or Immediately Before? ☐ No ☐ Unk ☒ Yes: ☐ Hood ☐ Weather. If above answer is "Yes" or if accident occurred at night or during IFR weather or unknown conditions, fill in items below.	
9. Total 1st Pilot Hours	1657		
10. 1st Pilot Hours Last 90 Days	185		
11. 1st Pilot Hours Last 30 Days	84	19. Total 1st Pilot Instrument Weather Hours	213
12. 1st Pilot Hours This Model (B-25, F-51, etc.)	290	20. Total 1st Pilot Instrument Hood Hours	142
13. Other Pilot Hours (CP, C, SC) This Model	126	21. 1st Pilot Instrument (Weather and Hood) Hours Last 6 Months	62
14. 1st Pilot Hours Last 90 Days This Model	135	22. 1st Pilot Instrument (Weather and Hood) Hours Last 60 Days	44
15. 1st Pilot Hours Last 30 Days This Model	87	23. 1st Pilot Night Hours Last 6 Months	51
16. Total Time Spent in Air During 24 Hrs. Prior to Accident	7:47?	24. 1st Pilot Night Hours THIS MODEL Last 60 Days	149

Section D—PERSONNEL INVOLVED (Including operator and all other persons, whether in plane or not)

Duty at time of accident (1)	Name (Last name first) (2)	Type of Aero. Rating (Symbol) (3)	Serial No. (4)	Grade and Branch of Service (5)	Component (See AFM 62-5) (6)	Organizational Assignment—Command, Subcommand, Group Number and Type, Base (7)	Fatal, Major, Minor, None, Missing (8)	Parachute Used Yes (9)	Parachute Used No (10)
AC	Duvall, Kenneth J	P	AO-?42695	Capt, USAF	READ	MATS, ConDiv, 1705ATG, McChord AFB, Wash	Miss	Unk	
CP	Cheney, Alger M	SP	AO-??8251	Capt, USAF	READ	Same	Miss	Unk	
NO	Turner, William T	N	AO-?212344	1Lt, USAF	READ	Same	Miss	Unk	
FE	Hagen, Engolf W		AF18275585	T/Sgt, USAF	USAF	Same	Miss	Unk	
2dR	Sprague, Conrad N		AF19354551	A/2C, USAF	USAF	Same	Miss	Unk	
2dW	Costley, Eugene R		AF?2111722	S/Sgt, USAF	USAF	Same	Miss	Unk	
RO	Owen, Robert A		AF14067412	A/2C, USAF	USAF	Same	Miss	Unk	
RO	Scott, Marion L		AF16377386	A/3C, USAF	USAF	Same	Miss	Unk	
[illegible]	Ingram, George [illegible]		AF1[illegible]	A/1C, USAF	USAF	Same	Miss	Unk	
PA	Kimball, James R		AF19445476	A/3C, USAF	USAF	Same	Miss	Unk	
PA	Jackson, Wayne D		AF17345502	A/3C, USAF	USAF	Same	Miss	Unk	
	Passengers listed on separate sheet								

52 on board

AF Form 14, 8 Jun 48. Previous editions are obsolete. Replaces AF Form 14A, 1 Jan 45, which is obsolete. [redacted] RESTRICTED (WHEN FILLED IN)

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Section E—RATED PERSONNEL AT OTHER SET OF DUAL CONTROLS (Instructor, Copilot, etc.)

1. Last Name (Jr., II, etc.)	First Name	Middle Name	Grade	Component	Serial No.	Nationality and Race	Year of Birth
Cheney,	Alver	Meredith	Capt	USAF	AO-746251	US - W	1920

2. Assigned Base	Major Command	Subcommand	AF Wing	Group No. and Type	Squadron or Unit
McChord AFB, Wash	MATS	Continental Div		1705 ATSg	34 ATSq

3. Attached Base for Flying	Major Command	Subcommand	AF Wing	Group No. and Type	Squadron or Unit
McChord AFB, Wash	MATS	Continental Div		1705 ATSg	34 ATSq

4. Original Aeronautical Rating and Date Received	5. Present Aeronautical Rating and Date Received	6. Primary Duty Assignment
Pilot - 20 May 1943	Sr Pilot - 9 July 1952	1044A

FLYING EXPERIENCE (Including Civilian)

7. Type of Instrument Card: Green — Expiration Date: 7Jul53	
8. Total Pilot (1st Pilot, Copilot, Command Pilot, etc.) Hours	3492
9. Total 1st Pilot Hours	2003
10. Total Hours. ☐ IP ☒ CP ☐ C (Check applicable one)	1239
11. Pilot Hours Last 90 Days	245
12. 1st Pilot Hours Last 90 Days	148
13. Hours Last 90 Days. ☐ IP ☒ CP ☐ C	97
14. Pilot Hours Last 30 Days	75
15. Total Pilot Hours This Model (B-25, F-51, etc.)	645
16. 1st Pilot Hours This Model	361
17. Hours This Model. ☐ IP ☒ CP ☐ C	284
18. Total Pilot Hours This Model Last 90 Days	245
19. 1st Pilot Hours This Model Last 90 Days	148
20. Hours This Model Last 90 Days. ☐ IP ☒ CP ☐ C	97

21. List by Type and Model: ☐ IP ☐ CP ☐ C Experience in Similar Aircraft (e. g., B-25, IP, 50 hrs.)

8:00 C-74

Fill in items below if Instrument and Night Experience of Operator was listed in Section C

22. Total 1st Pilot Instrument Weather Hours	287
23. Total 1st Pilot Instrument Hood Hours	145
24. 1st Pilot Instrument (Weather and Hood) Hrs. Last 6 Months	51
25. 1st Pilot Instrument (Weather and Hood) Hrs. Last 60 Days	18
26. Total Pilot Night Hours Last 6 Months	96
27. 1st Pilot Night Hours Last 6 Months	70
28. Night Hours Last 6 Mos., ☐ IP ☒ CP ☐ C	137
29. Total Pilot Night Hours This Model Last 60 Days	108
30. 1st Pilot Night Hours This Model Last 60 Days	67
31. Night Hrs. This Model Last 60 Days. ☐ IP ☒ CP ☐ C	108

Section F—DAMAGE

1. Describe Briefly in General Terms the Extent of Damage to the Airplane, Engines, and Propellers.

Destroyed.

4 : 1,939,494

2. Check Proper Damage Classification

None	
Minor	
Substantial	
Destroyed	X

3. ☐ Plane or Wreckage Was Returned to an AF Base
☒ Plane or Wreckage Was Left at Scene of Accident

4. Is Plane Damaged Beyond Economical Repair? ☒ Yes ☐ No

5. If Plane Is To Be Repaired, Give Engineering Officer's Estimate of Number of Man-Hours Required for Repair: _____ Man-Hrs.

6. Was Private Property Damaged? ☐ Yes ☒ No
If "Yes," Describe Damages on Separate Sheet.

7. Give below a considered estimate of cost of this accident to the Air Force:

Cost of Damage to Aircraft	$
Cost of Damage to Other Government Property	$
Cost of Damage to Private Property	$
Cost of Injuries	$
Cost—Other (Explain)	$
Total Estimated Cost of Accident	$

Section G—SPECIAL EQUIPMENT

1. Check items of special equipment which affected the accident.

☒ Radios ☐ Armament ☐ De-Icers ☐ Equipment for Clear Vision From Cockpit
☐ Instruments ☐ Fire Extinguishing Equipment in Plane ☐ JATO ☐ _____

2. Describe Briefly How the Use, Nonuse, Misuse, or Absence of Special Equipment Affected the Accident

Precipitation static which is known to have existed in the Whittier area at the time of this flight is believed to have rendered the radios ineffective, thereby contributing to this accident.

Section H—WEATHER (At time and place of accident)

Ceiling	Visibility	Wind Direction and Velocity	Temp.	Dew Point	Other Weather Conditions
W600 X	2mi-fog	SSE - 26	46	45	Weather section attached

If weather other than unfavorable wind conditions for takeoff, landing, or taxiing was a factor in the accident, attach statement of weather officer describing climatic conditions and how they probably contributed to accident.

Section I—CHECK LIST FOR ATTACHMENTS

☒ Form 1	☒ Clearance	☒ Photographs	☐ Form 14C
☒ Form 1A	☐ Crew Members' Statements	☒ Form 14A	☐ Form 14D
☒ List of T.O.'s Not C/W	☒ [redacted]' Statements	☐ Form 14B	☐ Form 14E
☒ Weather report			

Section J—ACCIDENT TYPE

Check one accident type as "Primary."
Check all others applicable as "Secondary."

Primary	Secondary	
		Ground or Water Loop
		Wingtip Landing
		Wheels-Up Landing
		Hard Landing
		Collapse or Retraction of Landing Gear
		Undershoot
		Overshoot
		Nose Up or Nose Over
		Collision With Other Aircraft
X		Collision With Ground or Water
		Other Collisions
		Spin or Stall
		Fire on Ground
		Fire and/or Explosion in Air
		Airframe Failure in Flight
		Abandoned Aircraft
		Prop or Jet Blast Accident
		Other (List):
		Undetermined

Section K—PHASE OF OPERATION

(Check only ONE)

	Taxiing Incident to Flight
	Take-Off
X	In Flight
	Landing
	Go Around
	Engine Running—Not Taxiing
	Ground Operations
	Undetermined

Section L—CONDITIONS AFFECTING ACCIDENT

(Check all applicable)

	Immediate Forced Landing
	Precautionary Landing
	Fuel Exhaustion
	Engine Stoppage
	Lost
	Pertinent T.O.'s Not Complied With
X	Other (List): Off course due to navigational error.

Section M—VIOLATIONS

(Check all applicable)

	Improper Taxiing Procedure
	Failure To Use Checklist
	Unauthorized Low Flying
	Instrument Flying on VFR Clearance
	Unauthorized Formation
	Other (List):

Section N—CAUSE FACTOR ANALYSIS

Check one specific cause as "Primary." Check all others applicable as "Secondary."
(See AFM 62-5 for definitions)

Primary	Secondary	
		1. ERRORS OF AIR CREW
		Misused Power Plant or Power Plant Controls
		Misused Brakes and/or Flight Controls on Ground
		Improper Use of Flight Controls in Air
		Exceeded Stress Limits of Aircraft
		Inattentive To Fuel Supply or Fuel Selector Valves
		Failed to Extend or Retract Landing Gear Properly
		Selected Unsuitable Terrain or Runway for Takeoff or Landing
	X	Failed To Compensate for Wind Conditions
		Misjudged Distance
		Failed To Level Off Properly
		Failed To Observe Other Aircraft or Objects
		Failed To Maintain Adequate Flying Speed
		Became Lost (Weather adverse or above)
		Continued VFR Flight Into Unfavorable Weather
		Improper Operation on Authorized Instrument Flight
		Operated Aircraft in Reckless Manner
		Made Inadequate Flight Preparations
		Attempted Flight Beyond Ability or Experience
		Failed To Use or Incorrectly Used Miscellaneous Equipment
X		Other (List): Incorrect navigation.
		2. ERRORS OF OTHER PERSONNEL
		Aircraft Inadequately Maintained
		Aircraft Improperly Cleared for Flight
		Weather Incorrectly Forecast
		Improperly Operated ARTC/Airway Facilities
		Improperly Supervised Training (Ground Personnel)
		Improperly Supervised Training (Flight Instructor and Flight Leader)
		Other (List):
		3. MATÉRIEL FAILURE—POWER PLANT
		Cooling System
		Lubricating System
		Fuel System
		Engine Structure (Includes Jet Engine)
		Engine Control System
		Propeller and Propeller Accessories
		Supercharger (Reciprocating Engine only)
		Ignition System
		Engine Accessories
		Other:
		Undetermined
		4. MATÉRIEL FAILURE—AIR FRAME
		Flight Control System
		Wings, Rotors, and Flaps
		Cowling and Fairing
		Fuselage
		Other:
		Undetermined

Primary	Secondary	
		5. MATÉRIEL FAILURE—LANDING GEAR
		Main Landing Gear
		Nose Wheel or Tail Wheel
		Landing Gear Position Indicators
		Brakes
		Tires
		Other:
		Undetermined
		6. MATÉRIEL FAILURE—EQUIPMENT AND ACCESSORIES
		Automatic Pilot
		Radio Equipment
		Electrical System
		Hydraulic System
		Oxygen or Pressurization System
		Safety Equipment
		Instruments
		Cockpit, Seat, Canopy, Fittings, Doors, Hatches
		Armament
		Other:
		7. WEATHER
		Low Ceiling
		Smoke—Haze
		Rain—Fog
		Snow—Hail
	X	Icing Conditions
		Unfavorable Wind Conditions for Landing, Taxiing, or Takeoff
	X	Turbulence in Flight
	X	Winds Aloft
		Thunderstorms
		Downdraft—Updraft
		Other:
		8. LANDING AREA
		Wet
		Soft
		Snow
		Ice
		Rough
		Glassy
		Runway Too Short
		Other Hazard:
		9. GROUND EQUIPMENT
		Airport Facilities
	X	Airway Facilities
		Arresting Devices
		Launching Devices
		Other:
		10. MISCELLANEOUS
		Bird in Flight Path
		Shot-Out Target in Flight Path
		Other:
		11. UNDETERMINED

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RESTRICTED (WHEN FILLED IN)

Section D—DESCRIPTION OF ACCIDENT

Tell in narrative form, in as much detail as necessary, everything that is known about the accident. Make certain that items checked on reverse side are justified by this narrative. If fire was involved in accident, explain in detail its origin and progress and steps taken to extinguish it.

RECOMMENDATIONS for action to prevent similar accidents:

B.L.I

Section F—AUTHENTICATION (Each investigating board member must sign below)

1. ☐ PERSONNEL RESPONSIBLE FOR THIS ACCIDENT HAVE BEEN OFFERED OPPORTUNITY OF REBUTTAL ☒ NO REBUTTAL REC'D ☐ REBUTTAL STATEMENT(S) ATTACHED

2. PERSONNEL RESPONSIBLE NOT AVAILABLE BECAUSE OF: ☐ DEATH; ☐ CRITICAL INJURY; ☒ OTHER (Explain) Missing

BASE SUBMITTING REPORT	MEMBER (Name and Grade)	MEDICAL OFFICER (Name and Grade)
Elmendorf AFB, Alaska	WILLIAM J. MCDOUGALL, MAJ, USAF	CARL M. RUSSELL, CAPT, USAF
PRESIDENT (Name and Grade)	AIRCRAFT ACCIDENT OFFICER (Name and Grade)	RECORDER (Name and Grade)
JAMES E. JOHAM, LT COL, USAF	NICK J. TSACRIOS, 1ST LT, USAF	ORVILLE M. GATTON, CWO, USAF

[redacted]

2 December 1952

STATEMENT

I state that I, Thomas S. Sullivan, 1st Lieutenant, USAF, as assigned to the 5002nd IG, Special Investigations Squadron, Elmendorf AFB, Alaska; that I have approximately 200 hours experience as an air crew member in the Air Forces of the United States; that I have been a parachutist since 1951; that I have flown at least 2,000 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 0830 hours, I departed Elmendorf AFB, Alaska, in a Piper Super Cub aircraft flown by Dr. Terris 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 Rescue. However, a search of the Surprise Glacier on the slopes of Mount Gannett soon revealed what appeared to be the tail section of an aircraft on the floor of the Surprise Glacier, and close to the principal western ridge of Mount Gannett. We flew directly on to the glacier, and landed in the soft snow which covered the greater part of the glacier. Our altimeter indicated approximately 8,100 feet upon landing, and the temperature of our thermometer, which was fixed on the wing strut of the aircraft, indicated zero degrees Fahrenheit. This temperature fluctuated plus or minus 5° during daylight hours. Dr. Moore stated that he had set the altimeter at 100 feet at Elmendorf before our takeoff. We landed at approximately 1000 hours. After landing, we proceeded immediately to the tail section of the wrecked aircraft, which was approximately 1,500 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 numerals 1107 appearing on the right side of the vertical stabilizer of a C-124 type aircraft, that we had positively identified the missing aircraft. The tail section appeared to have been sheared completely off from the fuselage section of 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 skin covering the vertical stabilizer and rudder was stripped completely off, but that 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 Dr. Moore remarked to me that "the impact 'G's' must have been tremendous". (See photograph attached.) A blanket was caught on and hanging from the left elevator of the tail section, and upon examination showed a slight charring. Dr. Moore and I probed 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 extremities

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[redacted]

of the right and left horizontal stabilizers 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 mound in the snow approximately 150 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 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 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 dispersal 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 examination I concluded that the aircraft had struck the face of the western ridge of Mount Gannett below its saddle and above the drifted snow line at an angle of about 20 degrees in azimuth, and thus 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 longerons 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 Elmendorf AFB as soon as possible. Before Dr. Moore returned to the floor of the glacier, however, I saw a dark form below him in the snow, and having excavated the snow for about two or three feet, pulled up a Military parka. This parka bore no marks of identification. It was buttoned up and there were no human remains evident thereon or nearby. The significant thing about this parka 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 mound for approximately one half hour, but was unable to discover anything of real interest. I uncovered several fragments of cardboard cartons near the site of the blanket. As I began to probe underneath this mound I discovered that it appeared to be a huge 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 called 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 500 feet in length and ten feet in width, running generally east and west, and because of a prevailing wind down glacier in the necessary direction of our takeoff, we began to construct a new runway to the south at 90 degrees to our east-west runway. Dr. Moore thought that a cross-wind takeoff would be too

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hazardous, and we abandoned this attempt after a short time. Our construction 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 down glacier increased steadily towards 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 east-west runway, which we lengthened (because of the prevailing tail wind of five to eight miles per hour) some 200 feet. The engine of our aircraft had become frozen during the night, and Dr. Moore worked with a plumber's smoke pot and a blow torch for approximately one hour before 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 lulls we boarded 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 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 Dr. Moore decided that he would fly on down to Elmendorf. We then turned south and proceeded down the Knik Arm and flew over the water at an altitude of 150 feet, arriving at Elmendorf at approximately 1200 hours. As we approached Elmendorf, Dr. 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 Gannett, 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-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, that 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 fresh 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 evacuated upon completion of their operation by light aircraft or helicopter.

Thomas S. Sullivan

THOMAS S. SULLIVAN
1st Lieutenant, USAF
AO-1849397
Headquarters, Alaskan Air Command

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HEADQUARTERS, 1705TH AIR TRANSPORT GROUP
CONTINENTAL DIVISION MATS
McChord AFB, Washington

TCNGO 29 November 1952

MEMORANDUM FOR: Record

SUBJECT: Brief on D-39/22, C-124 S/N 1107

Flight D-39/22, C-124 #1107, departed TCM for EDF at 2330Z (1530L) via Military Airways, 22 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 power due 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 time of landing (within limits).

There was 11 crew members and 41 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. Ladd AFB was the alternate and was forecast to be 7/8 9000-12000, 8/8 15,000-18,000 with 7 miles visibility. The cross section for the route indicated clear skies to approximately 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 Sitka and Middleton Island. (Pilot reports from other aircraft in the vicinity indicated moderate to severe icing and turbulence.) The weather cross section forecast 30 knot winds from 180° to 9000 ft between Middleton and EDF. Pilot reports from this area indicated 65 to 80 knot winds; however, this information was not then available to the pilot. A C-47 southbound into EDF at approximately the same time reported a ground speed of 68 knots.

The pilot was considered qualified in all respects and had recently been checked by the CNTLD Chief Pilot (Major Warren) on a trip to Europe. (Pilot's and Co-Pilots Qualifications are attached). There is much conjecture as to how the flight passed through two range legs to hit the mountain and the concensus of opinion is that severe precipitation static was a logical factor. It is considered that this assumption plus the unpredicted high cross wind were major considerations in the flight drifting so far off course.

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Hq 1705 ATG, CNTLD, MATS, McChord AFB, TCNCO, Memo for Record, Subject: "Brief on D-39/22, C-124 S/N 1107"

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

The aircraft was subsequently sighted at approximately the 8300 ft level on a mountain 45 miles from EDF on a bearing of 74 degrees.

[redacted]

UNIVERSITY of ALASKA

COLLEGE, ALASKA

OFFICE OF THE PRESIDENT

December 2, 1952

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 skiis 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 1951, 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 28, 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 overnight because there was a downslope wind blowing which made landing easy but made takeoff hazardous, if not impossible, thus we decided to stay overnight and wait until the wind moderated.

Approximately What Time Did We Leave the Glacier the Next Day?: We left the glacier sometime between 11:00 and 12:00, I believe most probably around 11:30 in the morning, November 29.

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

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 as just how closely did the pilot miss those peaks and was he perhaps somewhat higher and naturally brought down by icing?

Condition of Snowat 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 are typical glaciers 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 ~~list of~~ identification as to the location of the aircraft, the air 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.

[redacted]

[redacted]

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 preceeded 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 ailerons 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 Uphill 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 Avalancheto 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.

It 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 x 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 excavate 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

[redacted]

[redacted] [redacted]ION

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 undoubtedably done best by hand and hand-shoveling.

What Do I Feel Is the Largest Type Aircraft ~~I Feel~~ Can Get In There?: This question was discussed at length with various colonels in 10th Search and Rescue at Elmendorf and General Kepner and I repeat my opinion that since helicopters are not available, and since the SA16 aircraft probably would be unsafe 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 Gannett 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 held other views on the subject.

TM:ar

Tem Moore

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PASSENGERS C-124 SEATTLE

Duty	Name	Serial No.	Gr & Br	Comp	Organization	Class	Parachute Yes	Parachute No
X	MILLER, Edward J	AF16385003	A/2C,USAF	USAF	3rd Radio Sq Mob Security Service, Elmendorf AFB,Alas	Miss		Unk
X	HOOTON, Marion E	AF24555306	A/1C,USAF	USAF	39th A/D Wg, Elmendorf AFB, Alas	Miss		Unk
X	MCMANN, Dan F	AF16352209	A/2C,USAF	USAF	2d AACS I&M Sq, Elmendorf AFB,Alas	Miss		Unk
X	ANDERSON, Isaac W	AF14411771	A/B,USAF	USAF	531st AC&W Gp, Elmendorf AFB, Alas	Miss		Unk
X	GREEN, James Jr	US51149825	Pvt,Army		239th T Port Co, APO 987, Seattle,	Miss		Unk
X	HOBLIT, Noel E	18845A	Col,USAF	USAF	39th Med Gp, Elmendorf AFB, Alas	Miss		Unk
X	SMITH, Eugene	3259A	Col,USAF	USAF	5002d IG Sp Inves Sq, Elmendorf AFB, Alas	Miss		Unk
X	SEEBOTH, Albert J	142-177	Cmdr,Navy		Naval Petroleum Res No 4,Fairbanks,Alas	Miss		Unk
X	SINGLETON, Lawrence B	295776	LtCol,Army		1st Gen Disp,Hq USARAL APO 949,Seattle	Miss		Unk
X	STEARNS, Earl J	O-11132	Maj,Marines		Marine Corps School Quantico, Va	Miss		Unk
X	JACKSON, William C	9167A	Maj,USAF	USAF	7th Wea Gp, Elmendorf AFB, Alas	Miss		Unk
X	COOMBS, William M	AO1998804	Capt,USAF		10th Air Rescue Gp, Elmendorf AFB,Alas	Miss		Unk
X	DRASKEY, Delbert D	AO857385	Capt,USAF		10th Air Rescue Gp, Elmendorf AFB,Alas	Miss		Unk
X	GOEBEL, Jerome H	AO786012	Capt,USAF		10th Air Div, Hq AAC Elmendorf AFB, Alas	Miss		Unk
X	PONIKVAR, John E	AO2090619	Capt,USAF		10th Air Rescue Gp, Elmendorf AFB, Alas	Miss		Unk
X	TRIBBLE, Walter P	AO838004	Capt,USAF		7th Wea Gp, Elmendorf AFB, Alas	Miss		Unk
X	TURNBULL, Robert W	AO539077	Capt,USAF		Hq Sq Sec, AAC, Elmendorf AFB, Alas	Miss		Unk
X	SHEDA, Donald A	AO788268	1Lt,USAF		Hq Sq Sec, AAC, Elmendorf AFB, Alas	Miss		Unk
X	BERGER, Alan	01676195	2Lt,Army		925th Engr Avn Gp, Ft Richardson, Alas	Miss		Unk
X	BUIE, Reginald	01887253	2Lt,Army		925th Engr Avn Gp, Elmendorf AFB, Alas	Miss		Unk
X	LEAFORD, Jack R	AO1852316	2Lt,USAF		1930th AACS Sq, APO 731, Seattle	Miss		Unk
X	LOSKFLER, Edwin H	01692859	2Lt,Army		925th Engr Avn Gp, Elmendorf AFB, Alas	Miss		Unk
X	MOOR, Robert E	AO2223981	2Lt,USAF		10th Air Div, Elmendorf AFB, Alas	Miss		Unk
X	SCHNEE, Edward J	RA6707990	M/Sgt,Army		967th AAA AW Bn, Ft Richardson, Alas	Miss		Unk

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PASSENGERS C-124 51-107[illegible] (Cont'd)

X	UNGER, Leonard J	AF37051019	T/Sgt, USAF	5001st Comp Wg, Ladd AFB, Alas	Miss	Unk
X	RAY, James H Jr	AF33266952	S/Sgt, USAF	39th A/D Wg, Elmendorf AFB, Alas	Miss	Unk
X	VAN FOSSEN, Robert D	AF25417604	S/Sgt, USAF	3rd Radio Sq Mob Security Service, Elmendorf AFB, Alas	Miss	Unk
X	CODY, Delroy	AF13388325	A/1C, USAF	5001st Comp Wg, Ladd AFB, Alas	Miss	Unk
X	NEWSOME, Sterling S	AF12270861	A/1C, USAF	2d AACS IAM Sq, Elmendorf AFB, Alas	Miss	Unk
X	BUDAHN, Verne C	AF17345292	A/2C, USAF	3rd Radio Sq Mob Security Service, Elmendorf AFB, Alas	Miss	Unk
X	BURNS, Bateman R	AF18396484	A/2C, USAF	Same	Miss	Unk
X	CONDON, Thomas J	AF16376614	A/2C, USAF	Same	Miss	Unk
X	DYER, CARROLL R	AF11221975	A/2C, USAF	Same	Miss	Unk
X	LYONS, Thomas S	AF12365760	A/2C, USAF	Same	Miss	Unk
X	MIZE, Edmond W Jr	AF14401304	A/2C, USAF	Same	Miss	Unk
X	THIGPEN, Thomas C	AF14438910	A/2C, USAF	Same	Miss	Unk
X	WHITE, Bernis F	AF16398936	A/2C, USAF	5001st Comp Wg, Ladd AFB, Alas	Miss	Unk
X	MARTIN, Howard E	AF16397317	A/3C, USAF	10th Air Rescue Gp, Elmendorf AFB, Alas	Miss	Unk
X	MATTHEWS, Lloyd L	AF14438630	A/2C, USAF	3rd Radio Sq Mob Security Service, Elmendorf AFB, Alas	Miss	Unk
X	CARD, Robert D	US55220866	Pvt2, Army	813th Eng Avn Bn, Elmendorf AFB, Alas	Miss	Unk
X	KITTLE, Leonard A	US55222156	Pvt, Army	559 Comp Ser Co, Hq, APO 937, Seattle	Miss	Unk

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SECURITY INFORMATION

[illegible]
[illegible]

MAY 7 1953

SUBJECT: (Restricted) Final Evaluation of Aircraft Accident Involving C-124A, AF 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:

a. Aircraft: C-124A, AF 51-107.

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

c. Operator: [illegible], Capt, [illegible].

2. The report of this accident and the [illegible] have been [illegible] by this office. [illegible] in the final evaluation of the accident report.

3. The report of the special [illegible] that [illegible] error [illegible] probably [illegible]. A contributing cause was the [illegible] of the [illegible].

4. From the evidence available, it is the opinion of this office that an error in navigation [illegible] as outlined in paragraph [illegible] of the special report. [illegible] six degree [illegible] Island [illegible] six degree correction was applied. The pilot's error was induced by inadequate navigational aids, [illegible] radio equipment, and incorrect forecast of winds aloft.

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Hq, USAF, AFCIG-[illegible] [illegible]: (Sec) Final Evaluation of Aircraft Accident Involving C-124A, [illegible] at Surprise Glacier, Alaska, on 22 Nov 52

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 preflight planning. Atmospheric hazards such as unpredictable winds and [illegible] 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 preflight 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 [illegible] to successful safe air navigation.

6. Further analysis of the accident indicates that experience is a factor which must be considered. The commander of this aircraft had made only two previous trips over this route. The copilot, who was newly qualified, had made six previous trips. It was the navigator's first flight on this route. On 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 preflight planning by operators, with closer supervision by commanding officers, is mandatory to an accident prevention program. 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 [illegible] through [illegible], contains recommendations to responsible [illegible] agencies with the objective of improving the effectiveness and safety of flight operations in the Alaskan area. A report prepared by this office, "Survey of Transport Operations of the USAF", dated 15 March 1952, copies of which were forwarded to your Headquarters, discusses the problems and makes recommendations concerning cargo type 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. The Air Weather Service has taken steps to establish a procedure with CAA to provide aircraft calling Talkeetna radio with the latest enroute weather to Elmendorf.

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[redacted] Subj: (Doc) Final Evaluation of Aircraft Accident Involving C-124A, AF 51-107 at Harpoon Glacier, Alaska, on 22 Mar 53

1. 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 41b, AFR 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 16f, AFR 62-14, 14 January 1953.

BY COMMAND OF THE CHIEF OF STAFF,

RICHARD J. O'KEEFE
Brigadier General, U. S. Air Force
Director, Flight Safety Research
The Inspector General

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SECURITY INFORMATION

SECTION "O"

On 22 Nov 52, at 1330 AST, MATS Flight D-39/22 C-124A 51-107A departed on a flight plan specifying Instrument Flight Rules, McChord 9000 direct Rolling Bay Blue 32 Dungeness 10,000 Neah Bay 8,500 direct Sandspit 9,000 Middleton Island 9000 Whittier Amber 1 Anchorage Elmendorf Air Force Base. At 1954 AST MATS 1107 reported to Yakataga Radio that he was over Middleton Island at 1947 9,000 estimating Whittier at 2017 AST. 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 25 Nov 52 a search aircraft assigned to the 10th Air Rescue Group reported sighting wreckage on Mt. Bennett, Alaska. Positive identification of the wreckage was not made, however, until 28 Nov 52, when a light aircraft landed at the scene.

It is the opinion of the board that the accident was caused by an unforecasted 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.

SECURITY INFORMATION

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FINDINGS:

1. The aircraft crashed into the side of Mt. Gannett 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 ETA at Whittier.

RECOMMENDATIONS:

B 1. That a procedure be established with the CAA to provide northbound aircraft calling Yakutaga with the latest enroute weather to Elmendorf.

B 2. That an additional radio aid to navigation be installed in the Whittier area.

B 3. That consideration be given to changing the military airways from the Middleton Island-Anchorage direct route to a Middleton Island-Kenai-Anchorage route.

B 4. That the minimum altitude from Middleton Island to Anchorage, direct route, be raised to 11,000 feet.

L 5. That continued study be made to develop radio receivers that eliminate precipitation static.

I 6. That a Radar Altimeter APR 7A be installed in the C-124 type aircraft.

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MEDICAL REPORT OF AF AIRCRAFT ACCIDENT

Use this form in accordance with AF Reg. 62-14 and AF Manual 62-5, "Aircraft Accident Investigators' 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

1. Station Investigating Accident	2. Assigned Station of Aircraft	3. Approximate Distance of Accident From Investigating Station (Miles)
Elmendorf AFB	McChord AFB	54 miles

4. Place of Accident	5. Plane Type, Model, Series, Serial No.	6. Time of Accident	7. Date of Accident
Mt Gannet, Alaska	C-124A, #51-107A	Approx 0617Z	22 Nov 52

8. Brief Description of Factors and Events Leading to Accident

This transport plane was on a routine flight from McChord AFB, Washington, enroute to Elmendorf AFB, Alaska. Position report was given over Middleton Island in the Gulf of Alaska. This was the last contact with the plane. Later investigation revealed that between Middleton Island and the place of the crash strong crosswinds to the east were encountered. They had not been predicted by the Weather Service. This factor plus loss of radio contact, as, for example, because of precipitation static, could account for this plane's being 30 miles off course at the time of impact.

Section B—EQUIPMENT AND AIRCRAFT FACTORS

1. Seats: Number, Fixed	Number, Ejection	Number Fired	2. Number of Parachutes Provided	Number Used
102	0	0	0	0

3. Oxygen Equipment: Type	Serviced	Used This Flight	Type Masks	Did Masks Fit Properly?	No.	No.
Demand	☒ Yes ☐ No	☐ Yes ☒ No	A-14	☒ Yes ☐ No		
	Date 21 Nov 52	Length of Use	Number 5			

4. Safety Helmets: Number Standard Type Used	None	5. Anti-G Suits:	Number Available, Used	0	☒ Not Available
Number Improvised Type Used		0	Number Available, Not Used		

6. Special Factors Which Contributed to or Prevented Injury: (List any items of personal or aircraft equipment, details of structure, incidents such as being trapped in plane, or any other factors which aided or impeded escape from aircraft.)

Unknown

7. Specifically Describe Damage to:

Cockpit

Demolished

Seats, Shoulder Harness, Safety Belts

Unknown

Crew Stations (Other Than Cockpit)

Demolished

Emergency Exits, Hatches

Demolished

Passenger Cabin

Demolished

AF FORM 8 JUN 49 14A Previous editions are obsolete. Replaces AF Form 206, 15 May 44, which is obsolete

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Section C—PERSONNEL INVOLVED—(NOTE: Form 14B must also be completed on all rated Pilots regardless of injury, and on all other personnel with fatal or major injuries, as defined in AF Reg. 62-14.)

Name and Rank	Rating Symbol	Height	Weight	At Time of Accident			Shoulder Harness			Safety Belt		Escape Exit Used (Designate)	Results (2)
				Flight Duty	Body Position (1)	Location in Plane	Available	Used	Failed	Used	Failed		
DUVALL, KENNETH J. Capt (DAF)	AC	Unk	Unk	AC	Unk	Unk	Yes	Unk	Unk	Unk	Unk	Unk	5
CHENEY, ALGER M. Capt (DAF)	P	Unk	Unk	1st P	Unk	Unk	Yes	Unk	Unk	Unk	Unk	Unk	5
TURNER, WILLIAM T.1/Lt (DAF)	Nav	Unk	Unk	Nav	Unk	Unk	Yes	Unk	Unk	Unk	Unk	Unk	5
HAGEN, ENGOLF W.T/Sgt (DAF)	Eng	Unk	Unk	I E	Unk	Unk	Yes	Unk	Unk	Unk	Unk	Unk	5
SPRAGUE, CONRAD N.A/2C (DAF)	Eng	Unk	Unk	2dE	Unk	Unk	No	N/A	N/A	Unk	Unk	Unk	5
COSTLEY, EUGENE R.S/Sgt (DAF)	Eng	Unk	Unk	2dE	Unk	Unk	No	N/A	N/A	Unk	Unk	Unk	5
OWEN, ROBERT A. A/2C (DAF)	RO	Unk	Unk	RO	Unk	Unk	Yes	Unk	Unk	Unk	Unk	Unk	5
SCOTT, MARION L. A/3C (DAF)	RO	Unk	Unk	RO	Unk	Unk	No	N/A	N/A	Unk	Unk	Unk	5
INGRAM, GEORGE H. A/1C (DAF)	IM	Unk	Unk	IM	Unk	Unk	No	N/A	N/A	Unk	Unk	Unk	5
KENDALL, JAMES R. A/3C (DAF)	FA	Unk	Unk	FA	Unk	Unk	No	N/A	N/A	Unk	Unk	Unk	5
JACKSON, WAYNE D. A/3C (DAF)	FA	Unk	Unk	FA	Unk	Unk	No	N/A	N/A	Unk	Unk	Unk	5

1. Use following code numbers and letters for position of body: Seated (1); Standing (2); Prone (3); Supine (4); Crouched (5)— Facing forward (F); Facing rear (R).
Examples: 2-F means Standing Facing Forward; 5-R means Crouched Facing Rear, etc.

2. Use following code numbers to specify result to personnel: (1) No injury; (2) Minor injury (par. 13c, Reg. 62-14); (3) Major injury (par. 13b, Reg. 62-14); (4) Killed; (5) Missing.

Section D—MEDICAL OFFICER'S RECOMMENDATIONS

That the minimum altitude for flights over the mountainous region of this crash be increased to 11,000 feet.

CARL F RUSSELL, CAPT, USAF (MC) (ASE)

(SIGNATURE) (NAME AND GRADE)

U. S. GOVERNMENT PRINTING OFFICE 16—60035-1

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Section C—PERSONNEL INVOLVED—(NOTE: Form 14B must also be completed on all rated Pilots regardless of injury, and on all other personnel with fatal or major injuries, as defined in AF Reg. 62-14.)

Name and Rank	Rating Symbol	Height	Weight	At Time of Accident			Shoulder Harness			Safety Belt		Escape Exit Used (Designate)	Result (*)
				Flight Duty	Body Position (1)	Location in Plane	Available	Used	Failed	Used	Failed		
ROBINETT, NOEL E Col (DAF)	Pass	Unk	Unk	Pass	Unk	Unk	No	N/A	N/A	Unk	Unk	Unk	5
SMITH, RUSSELL Col (DAF)	Pass	Unk	Unk	Pass	Unk	Unk	No	N/A	N/A	Unk	Unk	Unk	5
GERSTEN, ALBERT J Cmdr (DN) (DA)	Pass	Unk	Unk	Pass	Unk	Unk	No	N/A	N/A	Unk	Unk	Unk	5
SINGLETON, LAWRENCE S Lt Col	Pass	Unk	Unk	Pass	Unk	Unk	No	N/A	N/A	Unk	Unk	Unk	5
STEARNS, EARL J Maj (DA)	Pass	Unk	Unk	Pass	Unk	Unk	No	N/A	N/A	Unk	Unk	Unk	5
JACKSON, WILLIAM C. Maj (DAF)	Pass	Unk	Unk	Pass	Unk	Unk	No	N/A	N/A	Unk	Unk	Unk	5
COOMBS, WILLIAM N.Capt (DAF)	Pass	Unk	Unk	Pass	Unk	Unk	No	N/A	N/A	Unk	Unk	Unk	5
DRASKEY, DELBERT D. Capt (DAF)	Pass	Unk	Unk	Pass	Unk	Unk	No	N/A	N/A	Unk	Unk	Unk	5
GOEBEL, JEROME H.Capt (DAF)	Pass	Unk	Unk	Pass	Unk	Unk	No	N/A	N/A	Unk	Unk	Unk	5
PONTKAN, JOHN E.Capt (DAF)	Pass	Unk	Unk	Pass	Unk	Unk	No	N/A	N/A	Unk	Unk	Unk	5
TREBLE, WALTER P.Capt (DAF)	Pass	Unk	Unk	Pass	Unk	Unk	No	N/A	N/A	Unk	Unk	Unk	5

1. Use following code numbers and letters for position of body: Seated (1); Standing (2); Prone (3); Supine (4); Crouched (5)— Facing forward (F); Facing rear (R).
Examples: 2-F means Standing Facing Forward; 5-R means Crouched Facing Rear, etc.
2. Use following code numbers to specify result to personnel: (1) No injury; (2) Minor injury (par. 13c, Reg. 62-14); (3) Major injury (par. 13b, Reg. 62-14); (4) Killed; (5) Missing.

Section D—MEDICAL OFFICER'S RECOMMENDATIONS

CARL M. RUSSELL, CAPT, USAF (MC) (AME)
(SIGNATURE) (NAME AND GRADE)

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Section C—PERSONNEL INVOLVED—(NOTE: Form 148 must also be completed on all rated Pilots regardless of injury, and on all other personnel with fatal or major injuries, as defined in AF Reg. 62-14.)

Name and Rank	Rating Symbol	Height	Weight	At Time of Accident			Shoulder Harness			Safety Belt		Escape Exit Used (Designate)	Result (1)
				Flight Duty	Body Position (1)	Location in Plane	Available	Used	Failed	Used	Failed		
TURNBULL, ROBERT W. Capt (DAF)	Pass	Unk	Unk	Pass	Unk	Unk	No	N/A	N/A	Unk	Unk	Unk	5
CUEDA, DONALD A.1/Lt (DAF)	Pass	Unk	Unk	Pass	Unk	Unk	No	N/A	N/A	Unk	Unk	Unk	5
BERGER, ALAN 2/Lt (DA)	Pass	Unk	Unk	Pass	Unk	Unk	No	N/A	N/A	Unk	Unk	Unk	5
RUIE, REGINALD 2/Lt (DA)	Pass	Unk	Unk	Pass	Unk	Unk	No	N/A	N/A	Unk	Unk	Unk	5
LEAFORD, JACK R.2/Lt (DAF)	Pass	Unk	Unk	Pass	Unk	Unk	No	N/A	N/A	Unk	Unk	Unk	5
LOEFFLER, EDWIN H.2/Lt (DA)	Pass	Unk	Unk	Pass	Unk	Unk	No	N/A	N/A	Unk	Unk	Unk	5
MOON, ROBERT E. 2/Lt (DAF)	Pass	Unk	Unk	Pass	Unk	Unk	No	N/A	N/A	Unk	Unk	Unk	5
MILLER, EDWARD J.A/2C (DAF)	Pass	Unk	Unk	Pass	Unk	Unk	No	N/A	N/A	Unk	Unk	Unk	5
HOOTON, MARION E.A/1C (DAF)	Pass	Unk	Unk	Pass	Unk	Unk	No	N/A	N/A	Unk	Unk	Unk	5
McVANE, DAN F. A/2C (DAF)	Pass	Unk	Unk	Pass	Unk	Unk	No	N/A	N/A	Unk	Unk	Unk	5
ANDERSON, ISAAC W. A/B (DAF)	Pass	Unk	Unk	Pass	Unk	Unk	No	N/A	N/A	Unk	Unk	Unk	5

1. Use following code numbers and letters for position of body: Seated (1); Standing (2); Prone (3); Supine (4); Crouched (5)—Facing forward (F); Facing rear (R).
Examples: 2-F means Standing Facing Forward; 5-R means Crouched Facing Rear, etc.
2. Use following code numbers to specify result to personnel: (1) No injury; (2) Minor injury (par. 13c, Reg. 62-14); (3) Major injury (par. 13b, Reg. 62-14); (4) Killed; (5) Missing.

Section D—MEDICAL OFFICER'S RECOMMENDATIONS

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Section C—PERSONNEL INVOLVED—(NOTE: Form 14B must also be completed on all rated Pilots regardless of injury, and on all other personnel with fatal or major injuries, as defined in AF Reg. 62-14.)

Name and Rank	Rating Symbol	Height	Weight	At Time of Accident			Shoulder Harness			Safety Belt		Escape Exit Used (Designate)	Result (*)
				Flight Duty	Body Position (1)	Location in Plane	Available	Used	Failed	Used	Failed		
GREEN, JAMES JR Pvt (DA)	Pass	Unk	Unk	Pass	Unk	Unk	No	N/A	N/A	Unk	Unk	Unk	5
SORENSEN, EDWARD J.M/Sgt (DA)	Pass	Unk	Unk	Pass	Unk	Unk	No	N/A	N/A	Unk	Unk	Unk	5
UNGER, LEONARD G.T/Sgt (DAF)	Pass	Unk	Unk	Pass	Unk	Unk	No	N/A	N/A	Unk	Unk	Unk	5
RAY, JAMES H JR.S/Sgt (DAF)	Pass	Unk	Unk	Pass	Unk	Unk	No	N/A	N/A	Unk	Unk	Unk	5
VAN ROSSEN, ROBERT D S/Sgt (DAF)	Pass	Unk	Unk	Pass	Unk	Unk	No	N/A	N/A	Unk	Unk	Unk	5
COLY, DELROY A/1C (DAF)	Pass	Unk	Unk	Pass	Unk	Unk	No	N/A	N/A	Unk	Unk	Unk	5
NEWSOME, STERLINE E.A/1C (DAF)	Pass	Unk	Unk	Pass	Unk	Unk	No	N/A	N/A	Unk	Unk	Unk	5
BULAHN, VERNE C.A/2C (DAF)	Pass	Unk	Unk	Pass	Unk	Unk	No	N/A	N/A	Unk	Unk	Unk	5
BURNS, BATEMAN R.A/2C (DAF)	Pass	Unk	Unk	Pass	Unk	Unk	No	N/A	N/A	Unk	Unk	Unk	5
CONDON, THOMAS J.A/2C (DAF)	Pass	Unk	Unk	Pass	Unk	Unk	No	N/A	N/A	Unk	Unk	Unk	5
DYER, CARROLL R.A/2C (DAF)	Pass	Unk	Unk	Pass	Unk	Unk	No	N/A	N/A	Unk	Unk	Unk	5

1. Use following code numbers and letters for position of body: Seated (1); Standing (2); Prone (3); Supine (4); Crouched (5)—Facing forward (F); Facing rear (R).
Examples: 2-F means Standing Facing Forward; 5-R means Crouched Facing Rear, etc.

2. Use following code numbers to specify result to personnel: (1) No injury; (2) Minor injury (par. 13c, Reg. 62-14); (3) Major injury (par. 13b, Reg. 62-14); (4) Killed; (5) Missing.

Section D—MEDICAL OFFICER'S RECOMMENDATIONS

Carl M Russell

CARL M RUSSELL, CAPT, USAF (MC) (AME)

(SIGNATURE) (NAME AND GRADE)

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Section C—PERSONNEL INVOLVED—(NOTE: Form 14B must also be completed on all rated Pilots regardless of injury, and on all other personnel with fatal or major injuries, as defined in AF Reg. 62-14.)

Name and Rank	Rating Symbol	Height	Weight	At Time of Accident: Flight Duty	At Time of Accident: Body Position (1)	At Time of Accident: Location in Plane	Shoulder Harness: Available	Shoulder Harness: Used	Shoulder Harness: Failed	Safety Belt: Used	Safety Belt: Failed	Escape Exit Used (Designate)	Results (2)
LYONS, THOMAS S. A/2C (DAF)	Pass	Unk	Unk	Pass	Unk	Unk	No	N/A	N/A	Unk	Unk	Unk	5
MIZE, EDMOND W JR A/2C (DAF)	Pass	Unk	Unk	Pass	Unk	Unk	No	N/A	N/A	Unk	Unk	Unk	5
THIGPEN, THOMAS C. A/2C (DAF)	Pass	Unk	Unk	Pass	Unk	Unk	No	N/A	N/A	Unk	Unk	Unk	5
WHITE, FERRIS F. A/2C (DAF)	Pass	Unk	Unk	Pass	Unk	Unk	No	N/A	N/A	Unk	Unk	Unk	5
MARTIN, HOWARD E. A/3C (DAF)	Pass	Unk	Unk	Pass	Unk	Unk	No	N/A	N/A	Unk	Unk	Unk	5
MATTHEWS, LLOYD L. A/2C (DAF)	Pass	Unk	Unk	Pass	Unk	Unk	No	N/A	N/A	Unk	Unk	Unk	5
CARD, ROBERT D. Pvt-2 (DA)	Pass	Unk	Unk	Pass	Unk	Unk	No	N/A	N/A	Unk	Unk	Unk	5
KITTLE, LEONARD A. Pvt (DA)	Pass	Unk	Unk	Pass	Unk	Unk	No	N/A	N/A	Unk	Unk	Unk	5

1. Use following code numbers and letters for position of body: Seated (1); Standing (2); Prone (3); Supine (4); Crouched (5)—Facing forward (F); Facing rear (R).
Examples: 2-F means Standing Facing Forward; 5-R means Crouched Facing Rear, etc.
2. Use following code numbers to specify result to personnel: (1) No injury; (2) Minor injury (par. 13c, Reg. 62-14); (3) Major injury (par. 13b, Reg. 62-14); (4) Killed; (5) Missing.

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Section D—MEDICAL OFFICER'S RECOMMENDATIONS

Carl M Russell

CARL M RUSSELL, CAPT, USAF (MC) (AME)

(SIGNATURE) (NAME AND GRADE)

U. S. GOVERNMENT PRINTING OFFICE 16—60035-1

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SECURITY INFORMATION

S T A T E M E N T

3 December 1952

Having been advised of my rights under Article 31, 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 state 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 Cheney flew a four (4) hour local transition on 21 November 1952 between the hours of 1445 and 1845. The pilot, co pilot and navigator were seen and talked to by the 34th Air Transport Squadron Operations Officer between 1100 and 1200 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.

William A. McLaughlin

WILLIAM A. McLAUGHLIN
Major USAF
Commanding
34th Air Transport Squadron

Sworn and subscribed to this third (3) day of December 1952.

Willis L. Baldwin

WILLIS L. BALDWIN
Captain USAF
Adjutant

SECURITY INFORMATION

RESTRICTED

S T A T E M E N T

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/C 1107, Trip No. D3/22:

Comp.	Cargo Wt.	No. Pax and Wt.	Restraint Used
"C"	2,150	4 @ 720	6 A-1 Straps @ 1,250 10 B-1 Cables @ 5,000
"D"	3,032 (Mail)	2 @ 360	15 A-1 Straps @ 1,250
"E"	5,500	5 @ 900	10 B-1 Cables @ 5,000
"F"	5,700	5 @ 900	10 B-1 Cables @ 5,000 2 C-1 Chains @ 10,000
"G"		8 @ 1,440	ALL PASSENGERS
"H"	3,110 (Pax baggage)	15 @ 2,700	10 A-1 Straps @ 1,250
"I"	2,064 (Fly-away Kit)	2 @ 360	

"D" Compartment was all mail.

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

"H" Compartment (The Elevator) was loaded with passengers, baggage, and 210 pounds of Courier Mail.

"I" 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, being hooked to 10,000 pound chains, through 10,000 pound floor "D" rings.

Melvin G. Ober

MELVIN G. OBER
1/LT., USAF
AIR FREIGHT OFFICER

SECURITY INFORMATION

RESTRICTED

S T A T E M E N T

To the best of my knowledge, the following is a description of the tie-down equipment and restraint utilized in securing the cargo and mail loaded on aircraft No. 1137, Trip No. D39/22.

"C" Compartment

2,150 pounds general cargo.
Tie-down equipment utilized.
(a) Six (6) 1,250 pound straps A-1.
(b) Ten (10) 5,000 pound cable B-1.

Total restraint employed approximately 15,000 pounds

"D" Compartment

3,030 pounds mail.
Tie-down equipment utilized.
(a) Fifteen (15) 1,250 pound straps A-1.
Total restraint employed approximately 10,000 pounds.

"E" Compartment

5,500 pounds general cargo.
Tie-down equipment utilized.
(a) Ten (10) 5,000 pound cable B-1.
Total restraint employed approximately 30,000 pounds.

"F" Compartment

5,700 pounds general cargo.
Tie-down equipment utilized.
(a) Ten (10) 5,000 cable B-1.
(b) Two (2) 10,000 chains C-1.
Total restraint employed approximately 30,000 pounds.

"G" Compartment

3,010 pounds baggage, mail, and cargo.
Tie-down equipment utilized.
(a) Ten (10) 1,250 pound straps A-1.
Total restraint utilized approximately 12,000 pounds.

The preceeding compartments tie-down equipment were all connected to 10,000 pound chains connected to 10,000 pound "D" rings. The cargo level did not exceed three (3) feet in height except in "D" compartment where the mail was loaded to approximately five (5) feet from the aircraft floor.

Richard C. Baker
RICHARD C. BAKER
Civilian

[redacted]

S T A T E M E N T

My final inspection of tie-down of cargo and baggage on C-124, 1107, Trip 239/22 to the best of my knowledge was as follows:

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

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

"E" Compartment had approximately 5,500 pounds and was lashed with approximately five (5) "G's", consisting of chains and cables.

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

"H" Compartment had approximately 3,000 pounds of baggage and mail and was lashed with about three (3) "G's".

All tie-down equipment was secured to 10,000 pound chains connected to ten and 25,000 pound "D" rings.

The cargo, mail, or baggage did not exceed five (5) feet in heighth in any compartment.

Stanley R. White

STANLEY R. WHITE
Civilian

2

SECURITY INFORMATION

RESTRICTED

S T A T E M E N T

At approximately 1100 on Saturday, 22 November 1952, I boarded A/C No. 1107, Trip No. D39/22, 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. Nowhere 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) G's in all directions. I am certain that, from a lashing standpoint, this load was absolutely safe and that the actual safety measures taken far exceeded tie-down requirements as published in pertinent directives.

DONALD E. HONEY
Captain, USAF
Traffic Officer

SECURITY INFORMATION

RESTRICTED

HEADQUARTERS
39TH AIR DEPOT WING AND ELMENDORF AIR FORCE BASE
Elmendorf Air Force Base
APO 942, U. S. Air Force

REPORT OF PROCEEDINGS OF BOARD OF OFFICERS

Proceedings of a board of officers which convened at Elmendorf Air Force Base, APO 942, U. S. Air Force, pursuant to paragraph 8, Special Orders Number 161, Headquarters, 39th Air Depot Wing and Elmendorf Air Force Base, Elmendorf Air Force Base, APO 942, U. S. Air Force, dated 18 August 1952, as amended.

The board met pursuant to the foregoing order at Headquarters, 39th Air Depot Wing, at 0830 hours, 8 December 1952.

Members present:

Lt Col James E. Johan, AO-398808	Hq 39th A/D Wg
Lt Col David L. Hopkins, 4540A	7th Wea Gp (Non-voting)
Maj Charles R. Bates, AO-440985	1705th AT Gp, McChord AFB
Maj William J. McDougall, AO-801943	Hq 39th A/D Wg
Capt John W. MacNamara, AO-854014	Hq 1804th AACS Sq (Non-voting)
Capt Carl M. Russell, 20536A	39th Med Gp, Dep
1st Lt Nick J. Tsacrios, AO-[illegible]959	Hq 39th A/D Wg
CWO Orville M. Gatton, AW-2113135	54th Trp Carr Sq (H)

Also present during the meeting of the board were:

Maj George F. Babits	Office of The Inspector General, USAF, Norton AFB
1st Lt Thomas S. Sullivan, AO-1849397	5002d IG Sp Inves Sq
Mr. H. D. Petersen	Douglas Technical Representative

PURPOSE:

To investigate the circumstances and establish the facts pertaining to a major aircraft accident which occurred on Mt Gannett, Alaska, 22 November 1952, involving C-124A -51-107A which was assigned to the 1705th Air Transport Group, 34th Air Transport Squadron, based at McChord Air Force Base, Washington. The pilot was Captain Kenneth James Duvall, AO-742695. The flight was scheduled by 34th Air Transport Squadron Operations on an airlift of cargo and passengers, departing McChord AFB at 1330 hours, 22 November 1952.

Because of the lack of eye witnesses the board enters into a discussion of the facts of the accident.

[illegible]

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LT COL JOHAN: The board will come to order.

LT TSACRIOS: Sir, I would like to read this memorandum from the 1705th Air Transport Group. (Reads)

LT COL JOHAN: What we should do is to determine what happened and how to 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 TSACRIOS: No, sir, we have Major Babits of the Directorate of Flight Safety Research who has made a thorough study of this accident, and he will give us a briefing.

MAJ BABITS: 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 Alaska. However, I feel the trip from McChord to Middleton 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 which was forecast.

When he got over Middleton at '47 and estimated Whittier at '17, he based it on his flight plan and estimated time. However, along there he got those terrific cross winds, for which he had no warning, although he did have a warning of winds which would require a six degree correction. We based our estimate on moderate winds of 60. You can very easily consider it 13 degrees because of the winds. The Northwest Airlines pilot said it was one of the roughest trips he had made.

We believe he had a considerable amount of precipitation static and could have had trouble picking up the Anchorage Range. We computed his ground speed from Middleton to Mt. Gennett, which compares favorably. We believe he hadn't run out his ETA when he hit the mountain. We believe the accident was in the neighborhood of '12 or '13 after the hour. He was flying fairly 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. Had there been some system for informing the pilot of the increase in his wind velocity also there would have been no accident. There is no requirement today for the forecast to be transmitted to the point of destination. The forecaster at Elmendorf could feel that a 60 knot wind was not hazardous, and if he knew what winds the pilot had been given, he could notify him of changes.

We feel there is a requirement for additional aids in this area. Either a homing 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, CAA, 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 JOHAM: I see Merrill Radio is again misnomered on this map. Do you feel that would have any bearing on the accident?

MAJ BABITS: I don't feel these two pilots would. We have no way of telling if there was any materiel 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 had a direct bearing on the accident.

MAJ BATES: You say the navigation was in error?

MAJ BABITS: Navigation was in error, yes. We place the responsibility on that.

MAJ BATES: Has there been any indication as to how LORAN is in that area?

MAJ BABITS: LORAN is no good in that area.

LT COL JOHAM: What is the radio equipment of a 124?

MAJ BABITS: They have two ADF, and they have LORAN, and they have ILS. That is the last block off the line.

LT SULLIVAN: Is there any indication that he was over Middleton Island.

MAJ BABITS: Just his report.

MAJ MCDOUGALL: Do you believe that the radio installed in the 124 is as good as could be installed?

MAJ BABITS: I think the equipment installed is as good as you can get.

MAJ MCDOUGALL: Is that from an Air Force-wide, or world-wide view?

MAJ BABITS: We had some better equipment when I was flying for the airlines, but I think the Air Force has good radios now.

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

LT COL HOPKINS: A pilot reporting from southwest of Yakutat reported winds from 135 degrees at 90 knots. A commercial pilot reported at 0800 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 80 to 90 per cent of the time. These pilot reports were after the accident. Our 750 milibar chart indicates that there were 60 knot winds in that area.

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

LT TSAGRIOS: I have heard that precipitation static in the 124 appears to be a little greater than it is in other aircraft and that the MATS boys have so much paper work that they couldn't pay so much 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 BABITS: He wouldn't be giving the POMAR at this time.

LT COL HOPKINS: The POMAR is a position report.

MAJ BATES: I will say this turbulent air is also a little worse on a 124. What is almost light turbulence in a C-54 is moderate turbulence in the 124.

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

MAJ BABITS: 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 that up that he would have trouble holding a heading.

MAJ MCDOUGALL: Regardless of how rough it seems it is a navigational error. Would it have had any effect on his hearing the range?

MAJ BABITS: The turbulence was just something more to keep him occupied.

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

MAJ BABITS: You had a pilot report from somebody around Homer that got a wind of 80 knots.

MAJ MCDOUGALL: 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 knot 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.

CWO GATTON: How many trips had the pilot made over this route?

MAJ BABITS: Two trips; the co-pilot had 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 tops of the overcast was variable at 9,000 feet, it is possible that icing conditions and turbulence conditions would be at a maximum.

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

MAJ BABITS: I think a point Colonel Hopkins is trying to make is that this 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 TSACRIOS: Mr. Gatton, do you have anything to add to this? Do you think the pilot could have had mechanical difficulties?

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

MAJ BATES: He wouldn't have made his flight plan like he did.

LT COL JOHAM: How far out from Middleton do you fly before you can get 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 JOHAM: Can you read Hinchinbrook?

MAJ BATES: Yes.

LT TSACRIOS: 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 JOHAM: Anything further? If not the board will be closed for findings and recommendations.

ACCIDENT INVESTIGATION BOARD C-124A #51-107A

FINDINGS:

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

1. The aircraft crashed into the side of Mt. Gennett at approximately its 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 ETA at Whittier

RECOMMENDATIONS:

In view of the above findings the board recommends:

B 1. That a procedure be established with the CAA to provide north-bound aircraft calling Yakataga with the latest enroute weather to Elmendorf.

B 2. That an additional radio aid to navigation be installed in the Whittier area.

B 3. That consideration be given to changing the military airways from the Middleton Island-Anchorage direct route to a Middleton Island-Kenai-Anchorage route.

B 4. That the minimum altitude from Middleton Island to Anchorage, direct route, be raised to 11,000 feet.

L 5. That continued study be made to develop radio receivers that eliminate precipitation static.

I 6. That a Radar Altimeter SCR 718 be installed in the C-124 type aircraft.

AIRCRAFT ACCIDENT INVESTIGATION BOARD C-124A #51-107A

The board adjourned at 1130 hours on 5 December 1952.

JAMES E. JORAM
Lt Colonel, USAF
President

WILLIAM J. MCDOUGALL
Major, USAF
Flying Safety Officer

CARL M. RUSSELL
Captain, USAF
Medical Officer

NICK J. TSACRIOS
1st Lt, USAF
Accident Investigation Officer

ORVILLE H. GATTON
CWO, USAF
Engineering Officer

NORTHWEST AIRLINES INC.

Minneapolis-St Paul International Airport

MINNEAPOLIS, MINNESOTA

Telephone Dupont 3651

November 24, 1952

Operations Officer
Military Air Transport
McChord Field
Tacoma, Washington

Gentlemen:

On takeoff we were cleared to climb NW to Susitna 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 Marker, we encountered moderate rough air and moderate downdrafts to the extent that we used Meto 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 07502, as we approached the coast line, we heard a lone transmission on 121.5 emergency frequency, as follows:

"As long as we have to land, we might 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. From coast line to Middleton the air was smooth, there was no icing, and we were definitely on top on reaching Middleton. Trip was routine from there to Seattle.

Very truly yours,

NORTHWEST AIRLINES, INC.

T. W. Fenstermaker

T. W. Fenstermaker
Captain

EXECUTIVE OFFICES 1885 UNIVERSITY AVE ST PAUL 1, MINNESOTA

NWA Flight Following Forms

		150/35	210	175	
324/22		180/35	210	188	
343		210/35	210	201	
		230/25	210	210	
		290/25	210	232	
		320/30	210	240	
		030/25	210	219	

Fenstermaer

0600 / 0620 Z :10 ATC

(10)						
20			0645		10000	
18		0703	0711		10000	MDT Down Drafts MDT Turbs
41	0752	0752	0800	≠ 8	10000	
28	0820	0833	0831	≠ 11	10000	
35	0855	0908	0908	≠ 13	10000	
32	0927	0944	0935	≠ 12	10000	
31	0958	1001	1003		10000	
54	1052	1053	1058	≠ 6	85↘60	In Clr past Cpl Hrs
28	1120	1124	1124	≠ 4	6000	
14	1134	1138	1138	≠ 4	6000	
53	1227	1231	1229		60↗100	
32	1259	1310	1303	≠ 4	10000	
27	1326	1330	1329	≠ 3	6000	
10	1336	1338				
08	1344					
25	1409					

TOM

7 - 46

Flying Time of DUVALL, KENNETH J. Capt., AO-742695

1. Total Pilot 2659:00
2. Total Pilot Time Last Six Months 312:00
3. Total Pilot Time Last Three Months 224:00
4. Total Pilot Time Last Month (OCT.) 67:20
5. Total Pilot Time Last Month (NOV.) 74:00
6. Certificate (Green) 21 Aug 52 Expires 11 April 53
7. Last Proficiency Check 12 Aug 52.
8. Last Route Check 4 Oct 52.
9. Total Pilot Hours This Model 418:00 Pilot (291:00) CoPilot (127:00)
10. Total GCA's Last Six Months (Actual 8) (Hood 3)
11. Two Trips to Alaska, (Elmendorf)
12. Graduated from HTTU 13 Dec 51
13. Captain Duvall's judgement and Proficiency is considered to be average.
14. Total 4 engine Time 1738:00

Flying Time of CHENEY, ALGER M. Capt., AO-746251

1. Total Pilot 3492:00
2. Total Pilot Time Last Six Months 412:00
3. Total Pilot Time Last Three Months 245:00
4. Total Pilot Time Last Month (OCT.) 103:40
5. Total Pilot Time Last Month (NOV.) 73:00
6. Certificate (Green) 8 May 52 Expires 7 July 53
7. Last Proficiency Check 19 July 52.
8. Last Route Check 14 November 52.
9. Total Pilot Hours This Model 645:00 Pilot (361:00) CoPilot (284:00)
10. Total GCA's Last Six Months 13 (Actual 6) (Hood 7)
11. Graduated from HTTU 10 June 52.
12. Captain Cheney's evaluation is an average CO Pilot with respect to Judgement and Proficiency.
13. Total 4 engine time 2795:00
14. Total Trips to Alaska, (Elmendorf) 5.

Graduate Navation in March of 51

1. Total Time 869 Hours
2. Current MOS equal navigation
3. Previously assigned to Search and Rescue at Bluie 8 (Arctic Operation) during which time he accumulated approximately 100 hours of polar navigation experience.
4. His Training records indicates that his performance of duty was very satisfactory (better than average).
5. This was the Navigators 1st trip to TOF.
6. Radio fixes are the best means of navigation, when there is cloud cover. Loran is good only up to about half way.

UNITED STATES AIR FORCE

C124 MATS

PASSENGER MANIFEST

LOM 52-1259
ELMENDORF AIR FORCE BASE
ANCHORAGE, ALASKA
UNKNOWN

U.S. Armed Forces Passengers / U.S. Civilians and Foreign Nationals	Grade / Serial No.	Destination			Passenger Weight plus Cabin Baggage	Baggage Check No.	Property Identification
SMITH, E. (N)	COL 3259A	EDF	2	72	135		ALUS 3D 5596 AF10
SINGLETON, L.S.	LTCOL 029775	EDF	1	42	214		ALUS 3D 0229 AF11
STEARNS, E.J.	MAJ 011132	EDF	1	35	155		ALUS 1D 5423 AF11
JACKSON, U.C.	MAJ 9157A	EDF	2	59	200		ALUS 3D 5528 AF11
TRIBBLE, W.P.	CAPT A[illegible]	EDF	2	[illegible]	172		ALUS 3D 5673 AF11
PONIKVAR, J.E.	CAPT A2299517	EDF	2	52	152		ALUS 2D 0883 AF11
TURNBULL, R.W.	CAPT A0539077	EDF	2	50	233		ALUS 3D 5564 AF11
GOEBEL, J.H.	CAPT A1736012	EDF	2	55	157		ALUS 3D 5565 AF11
DRASKEY, D.D.	CAPT A0357305	EDF	1	43	234		ALUS 3D 5566 AF11
SHEDA, D.A.	1 LT A0783256	EDF	1	55	137		ALUS 3D 5564 AF11
LEAFORD, J.R.	2 LT A1552916	EDF	2	65	160		ALUS 3D 9042 AF11
MOON, R.E.	2 LT A02223331	EDF	1	35	145		ALUS 3D 5562 AF11
BERGER, A.	2 LT 01376195	EDF	2	54	222		ALUS 3D 5565 AF11
BUIE, R.	2 LT 01387293	EDF	1	42	150		ALUS 3D 5566 AF11
LOEFFLER, E.H.	2 LT 01392359	EDF	1	40	160		ALUS 4D 5565 AF11
SCHNORE, E.J.	M SGT RA6707990	EDF	2	50	180		ALUS 2D 0208 AF11
UNGER, L.G.	T SGT AF37051019	EDF	1	50	180		ALUS 2D 0872 AF11
WHITE, B.F.	A 2C AF18393936	EDF	1	40	219		ALUS 2D 0872 AF11
CODY, D.	A 1C AF13338325	EDF	3	1	215		ALUS 3D 3572 AF11
MARTIN, H.E.	A 3C AF16397317	EDF	2	65	135		ALUS 3D 5630 AF11
KAY, J.H.	S SGT AF33255252	EDF	2	65	137		ALUS 3D 0550 AF11
THISPEN, T.C.	A 2C AF1443-910	EDF	1	22	237		ALUS 3D 2559 AF11
MILLER, C.J.	A 2C AF1635073	EDF	1	60	150		ALUS 3D 0866 AF11
DYER, G.R.	A 2C AF11221375	EDF	1	65	165		0866 AF11

This page no. 1 – 2 pages in this manifest → 52 | 970 | 7374 | 9344

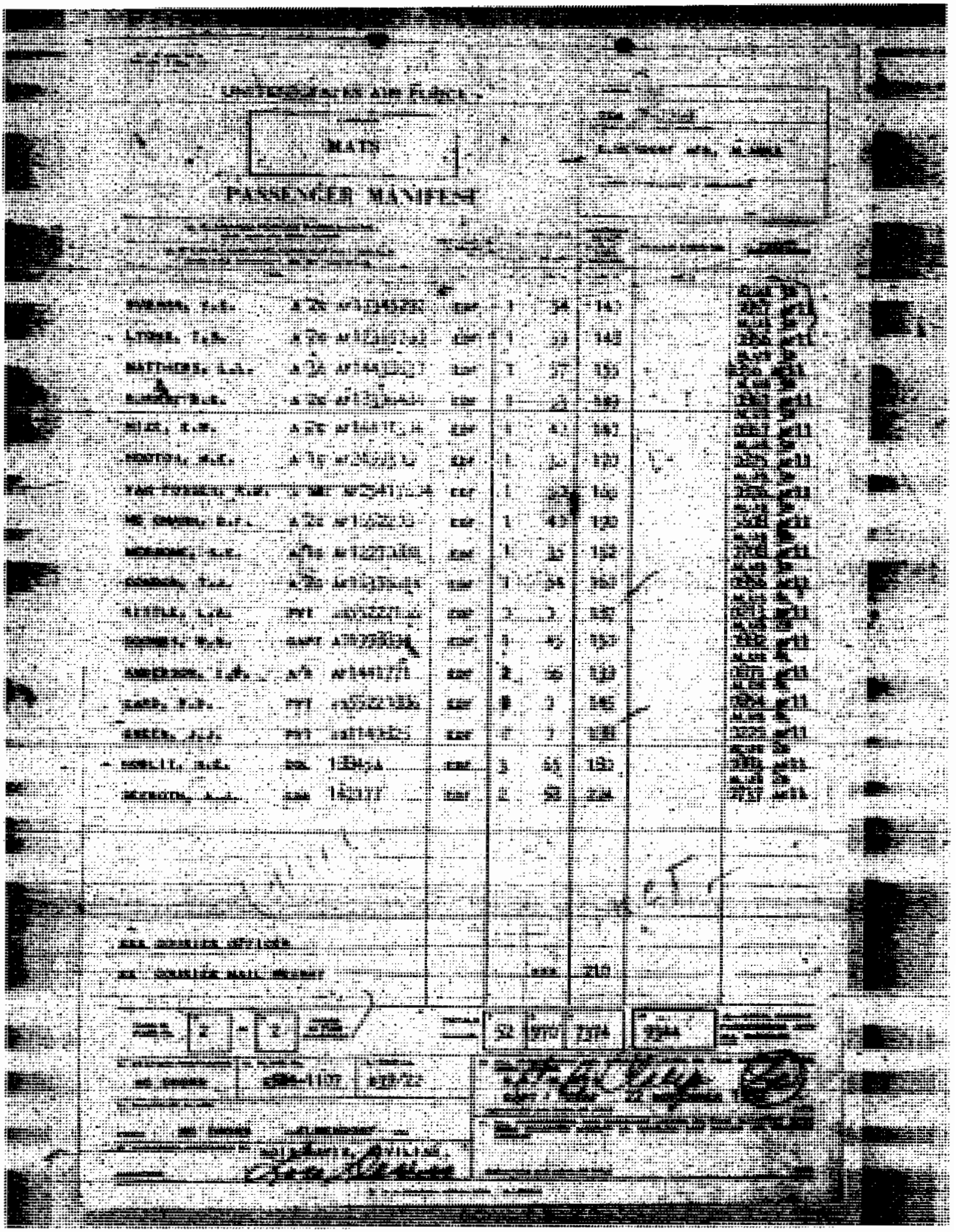
MC CHORD | 0594-1107 | 839/22

Route of flight: From MC CHORD To ELMENDORF

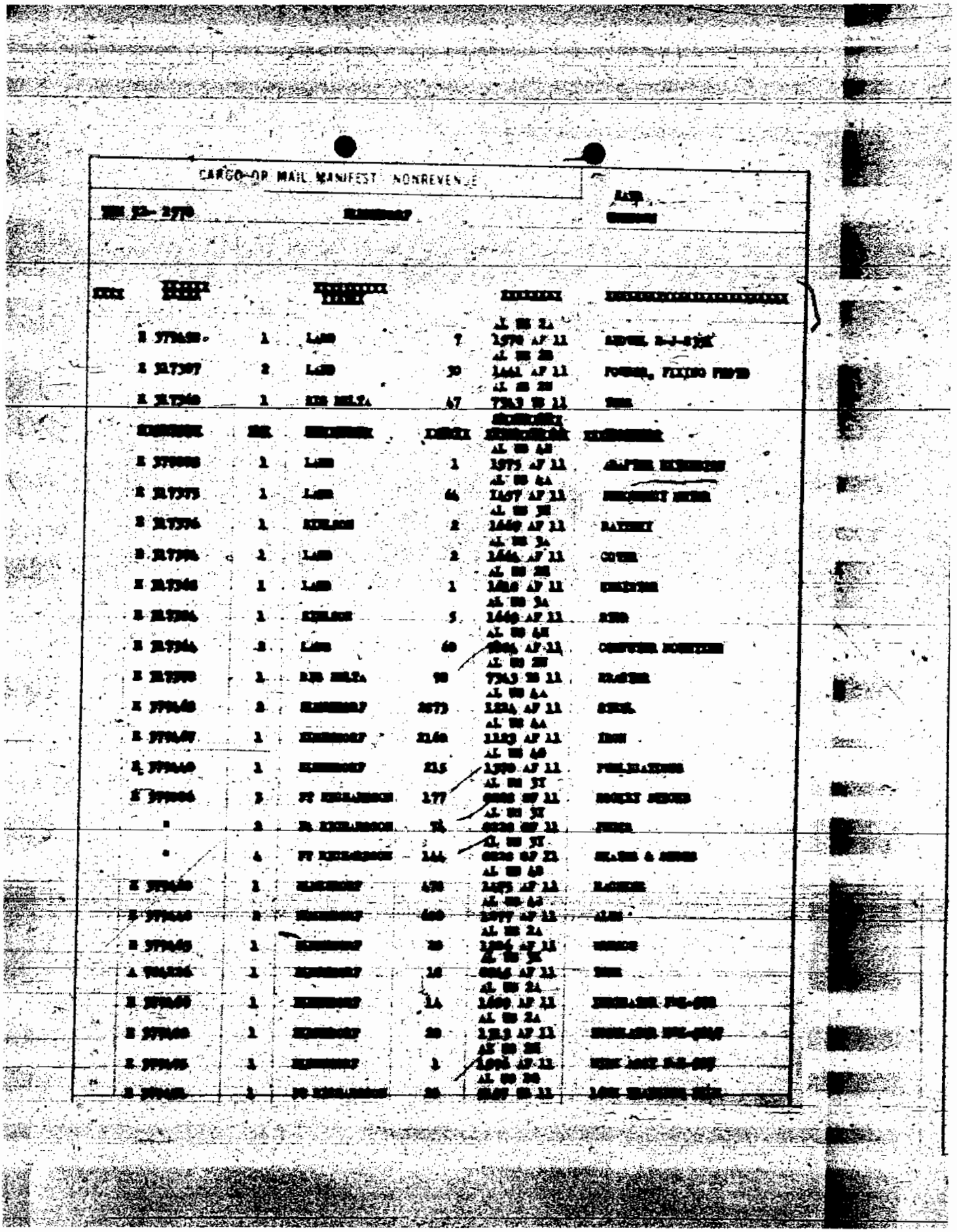
Manifest prepared by LOIS DAVIS, CIVILIAN

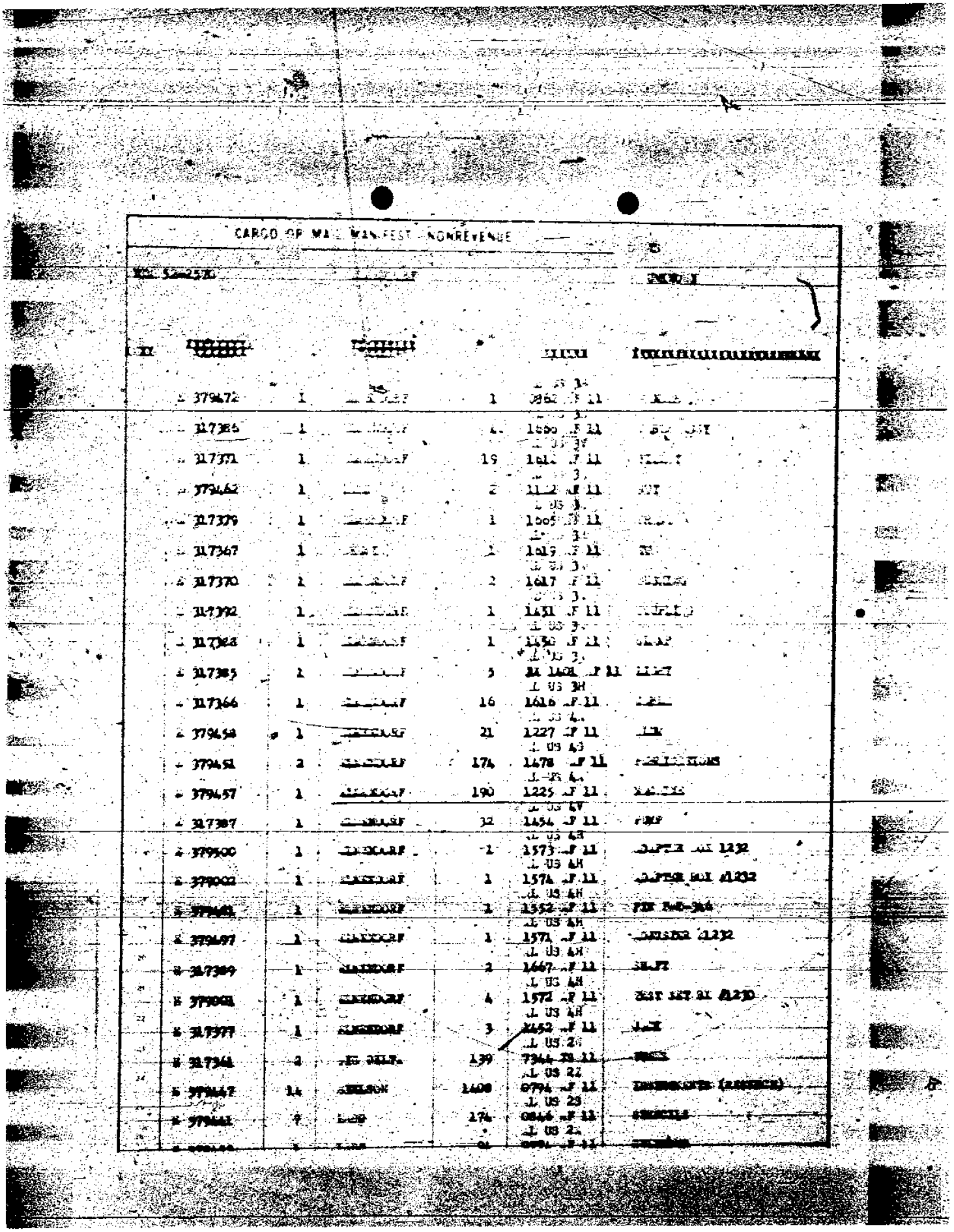
Lois Davis

CAPT / [illegible] 22



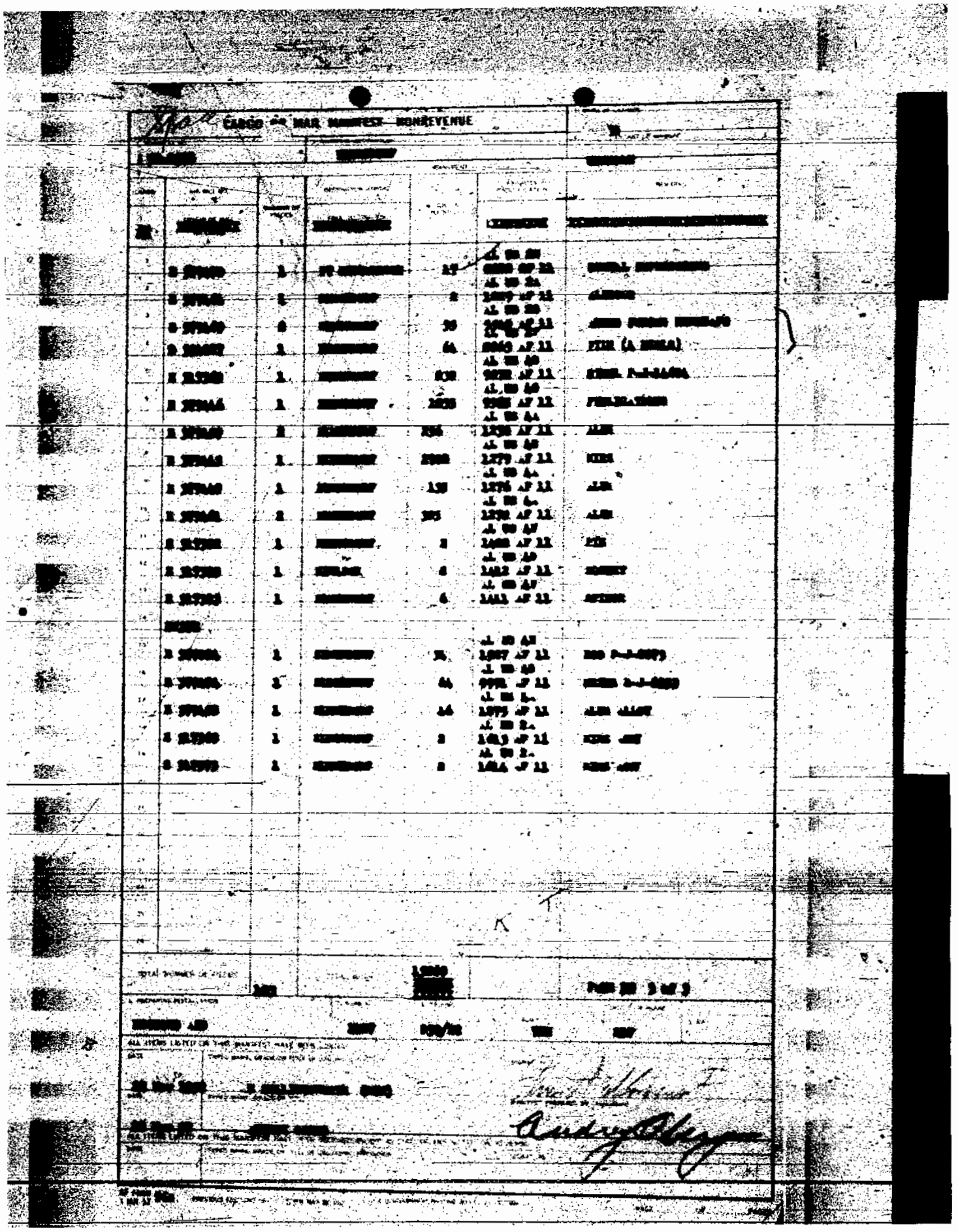
CARGO OR MAIL MANIFEST NONREVENUE





CARGO OR MAIL MANIFEST - NONREVENUE

	379472	1		1	0862 F 11
	317365	1		4	1600 F 11
	317371	1		19	1614 F 11
	379462	1		2	1142 F 11
	317379	1		1	1605 F 11
	317367	1		1	1619 F 11
	317370	1		2	1617 F 11
	317392	1		1	1451 F 11
	317383	1		1	1430 F 11
	317385	1		5	1408 F 11
	317366	1		16	1616 F 11
	379458	1		21	1227 F 11
	379451	2		174	1478 F 11
	379457	1		190	1225 F 11
	317387	1		32	1454 F 11
	379500	1		1	1573 F 11
	379502	1		1	1574 F 11
	379495	1		1	1552 F 11
	379497	1		1	1571 F 11
	317389	1		2	1667 F 11
	379501	1		4	1572 F 11
	317377	1		3	1652 F 11
	317361	2		139	7344 F 11
	379447	14		1408	0794 F 11
	379441	9		174	0846 F 11



HEADQUARTERS
1361ST AIR TRANSPORT SQUADRON
1300TH AIR TRANSPORT GROUP, CONTINENTAL DIVISION, MATS
MCCHORD AIR FORCE BASE, WASHINGTON

PERFORMANCE CONFIGURATION

DATE [redacted] A/C: [redacted] FLIGHT ENGINEER [redacted] A/C No. [redacted]

SOURCE OF INFORMATION	CONDITIONS
1. Weather	1. Temperature-Dry bulb [redacted] °F 100
2. Weather	2. Dew Point [redacted] °F
3. Weather	3. Field Elevation [redacted] FT.
4. Page 164 & 173 T.O. C1-4CNVA-1	4. Specific Humidity [redacted] %
5. Weather	5. Wind direction & Velocity [redacted]
6. Known factor	6. BHP Deficiency/Eng [redacted] BHP
7. Form 4's	7. Actual Gross Wt. [redacted] lbs
8. Page 175 T.O. C1-4CNVA-1	8. Performance Gross Wt. [redacted] lbs
9. Page 707 MATS Manual 55-5	9. TPSI available T.O. [redacted] Wet [redacted] Dry
10. 15 PSI from available	10. TPSI Reject [redacted] Wet [redacted] dry
11. Page 179 T.O. C1-4CNVA-1	11. 3 Engine critical A/S [redacted] Kts
12. Page 175 T.O. C1-4CNVA-1	12. Lift off A/S [redacted] Kts
13. Page 175 T.O. C1-4CNVA-1	13. Lift off Distance [redacted] Ft.
14. Page 193 to 198 T.O. 4CNVA-1	14. Accelerate stop distance [redacted] Ft.
15. Page 197 to 200 T.O. C1-4CNVA-1.	15. Best climb speed 4 Engines [redacted] Kts
16. Page 201 to 202 T.O. C1-4CNVA-1	16. Best Climb at 3 engines [redacted] Kts.

CARGO OR MAIL MANIFEST - NONREVENUE

[illegible] [illegible] [illegible]

[illegible]	13	[illegible]	7?4	FF	21-1-13X	(ARMY)
[illegible]	1	[illegible]	5	[illegible]	21-1X	"
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	21-1-4X	"
[illegible]	[illegible]					
"	1	[illegible]	10	[illegible]	21-1X	"
"	[illegible]	FT. [illegible]	195	[illegible]	21-1-4X	"
"	1	[illegible]	20	[illegible]	21-1X	"
"	14	[illegible]	6?6	FF	20-1-14X	"
"	12	[illegible]	598	FF	19-1-12X	"
"	10	[illegible]	5?5	FF	18-1-10X	"
TACOMA	3	[illegible]	127	[illegible]	21-1-3X	"
TACOMA	1	FT. [illegible]	15	[illegible]	21-1X	"
TACOMA	1	[illegible]	4?	[illegible]	20-1-1X	"

TOTAL NUMBER OF PIECES 74 3,032

PREPARING INSTALLATION

[illegible] [illegible] AFB [illegible] [illegible] [illegible] [illegible] [illegible]

ALL ITEMS LISTED ON THIS MANIFEST HAVE BEEN ...

[illegible] (USN)

[illegible] (USN)

(signatures)

ALL ITEMS LISTED ON THIS MANIFEST HAVE BEEN ... AS CERTIFIED AND NOTED ON REVERSE

DATE | TYPED NAME, GRADE ... | SIGNATURE

AF FORM 96a

MILITARY AIR TRANSPORT SERVICE

_____ DIVISION

INSTRUCTOR AERIAL ENGINEER'S SIX (6) MONTH LINE CHECK

Date 10 May 52

ENGINEER Hagen, Engolf W. T/Sgt. (Name in full) (Rank) INSTRUCTOR ENGINEER Hall, Stanley D. T/Sgt. (Name in full) (Rank)

AIRCRAFT COMMANDER Barlis, Charles E. 1/Lt (Name in full) (Rank) TYPE AIRCRAFT C-124A

ROUTE McChord - Tokyo and Return

MECHANICAL DIFFICULTY EXPERIENCED #2 PROP normalizing Relay inoperative. Prop went directly into feather when coming out of reverse on landing.

REPAIRS MADE Replaced relay.

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

GRADES: 1. Personal requirements	S
2. Exterior inspection of aircraft	—
3. Interior inspection of aircraft	—
4. Starting and run-up	S
5. Performance in flight	S
6. Knowledge of aircraft	S
7. Arrival at destination	S
8. General	—
Final grade of this report	S

SUMMARIZED RECOMMENDATIONS A very excellent engineer in all Respects.

Signed Stanley D. Hall T/Sgt - Instructor Engineer

MATS Form 450 (1 Dec. 48) (48-C)

1. Personal requirements

	GRADE S	GRADE U
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 ditching procedures	—	
F. Knowledge of weight and balance data	—	

Grade S

REMARKS

2. Exterior inspection of aircraft

	GRADE S	GRADE U
A. Proper inflation and condition of tires		
B. Condition of landing gear, locks in place		
C. Condition of interior of wheel nacelles		
D. Proper inspection date and sealing on air brake and fire bottles		
E. Oil on nacelles		
F. Fuel leakage under and along wings		
G. Wrinkles and damage on control and stationary surfaces		
H. Condition of de-icer boots		
I. Condition of pitot tubes, covers off		
J. Quantity of fuel oil aboard		
K. Security of caps on fuel and oil tanks		
L. Security of doors to cargo compartments		
M. Props pulled through		

Grade

REMARKS

3. Interior inspection of aircraft

	GRADE S	GRADE U
A. Security of cargo		
B. Condition of fuselage tanks		
C. Position of fuselage fuel selector		
D. Level of hydraulic fluid		
E. Adequate rations and water		
F. Emergency equipment stowed		
G. Supply of auxiliary oil		
H. Cleanliness of crews' compartment		
I. Position of all switches (OFF)		

Grade

REMARKS

4. Starting and run-up

	GRADE S	GRADE U
A. Promptness in completing preflight inspection	✓	
B. Thoroughness of report to pilot (checklist)	✓	
C. Check on availability of battery cart, fire guard	✓	
D. Report on ladder, tail support, and gear locks stowed	✓	
E. Handling of RPM and throttles, starting, and taxiing	✓	
F. Technique with mixture controls	✓	
G. Check for proper temperatures and pressures	✓	

Grade S

REMARKS

5. Performance in flight

	GRADE S	GRADE U
A. Attention to flap position indicator on take-off	✓	
B. Repetition of power settings and pilot's instructions on take-off	✓	
C. Smoothness with prop controls	✓	
D. Ability to synchronize props	✓	
E. Knowledge of cruise control data	✓	
F. Care and neatness with Forms 1A, 41B, and OP-14	✓	
G. Ability to use fuel system controls	✓	
H. Efficiency with heater operation	✓	
I. Examination of wings when icing conditions exist	✓	
J. Care in desludging blowers	✓	
K. Promptness in reporting defects to pilot.	✓	

Grade S

REMARKS 1/Lt Hagen has a very excellent knowledge of cruise control. Keeps all logs and aircraft forms in very good condition

6. Knowledge of aircraft

	GRADE S	GRADE U
A. AIRCRAFT SYSTEMS:		
(1) Fuel	✓	
(2) Oil	✓	
(3) Hydraulic	✓	
(4) Electrical	✓	
(5) Heating	✓	
(6) Anti-icing and de-icing	✓	
(7) Oxygen	✓	

Grade S

B. EMERGENCY PROCEDURES:

	GRADE S	GRADE U
(1) Gear extension	✓	
(2) Flaps	✓	
(3) Brakes	—	
(4) Fire prevention	✓	

Grade S

REMARKS

7. Arrival at destination

	GRADE S	GRADE U
A. Promptness of check on hydraulic fluid level	—	
B. Report on fuel supply, fuselage fuel valve (OFF)	✓	
C. Ability to follow before-landing checklist	✓	
D. Handling of prop controls, etc.	✓	
E. Check on wheel chocks, brakes (OFF), and gear locks in place	✓	
F. Completeness of all required forms	✓	
G. Analysis of defects with relief engineer	✓	
H. Cleanliness of aircraft when left	✓	

Grade S

REMARKS T/Sgt Hagan is a very good engineer in my opinion.
signed:
T/Sgt Hall, S.D.

8. General

	GRADE S	GRADE U
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

REMARKS

Ground training required? YES ..... NO .....

INSTRUCTION RECOMMENDED .....

ACTION TAKEN ON THIS REPORT

Appropriate remarks are checked:

Satisfactory check ride—no explanation needed.

Report discussed with aerial engineer—difficulties settled.

Instructor aerial engineer's recommendations followed.

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

COMPLETED ACTION .....

A certified TRUE Copy

Charles P Bates

Major U.S.A.F.

(5)

MILITARY AIR TRANSPORT SERVICE
Continental Division, MATS

INSTRUCTOR NAVIGATOR'S SIX (6) MONTH LINE CHECK REPORT

Date 17 SEPT 52

NAVIGATOR TURNER, WILLIAM I. 2/Lt (Name in Full) (Rank) INSTRUCTOR NAVIGATOR SMITH, HUBERT R. 1/LT (Name in Full) (Rank)

AIRCRAFT COMMANDER KOETEEUW, STANLEY CAPT (Name in Full) (Rank) TYPE AIRCRAFT C-124

ROUTE TCM-SAVANNAH, UK., RETURN VIA BROOKLEY

FLIGHT TIME:

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 consol navigation . . . . . S
6. Loran navigation . . . . . S
7. Celestial navigation . . . . . S
8. Post flight . . . . . S
9. General . . . . . S

Final grade this report

SUMMARIZED RECOMMENDATIONS: Lt. Turner has a very good knowledge of all phases of navigation. Works with ease, is confident, and produces good results.

SIGNED HUBERT R. SMITH 1/LT
Instructor Navigator

MATS FORM 48A (1 Dec 50)
(reproduced 1706 ATG, 2 Sep 52)

A certified true copy
Stuart Berg 1/LT

1. PREFLIGHT

	GRADE S	GRADE U
A. Promptness and appearance	S	
B. Attentiveness to briefing		
C. Weather analysis, influence on flight plan		
D. Coordination of cruise control information and flight plan		
E. Accuracy and completeness of flight plan		
F. Equipment check (time tick, sextant check, maps, astro compass, drift meter, navigation books, etc.)		
Grade	S	

REMARKS

2. ORGANIZATION AND NEATNESS

	GRADE S	GRADE U
A. Accessibility of materials before take-off	S	
B. Condition of charts, arrangement of materials during flight		
C. Care of classified material		
D. Neatness and accuracy of log, how-go-sit, and weather folder		
E. Periodic posting of position report		
Grade	S	

REMARKS

3. DEAD RECKONING

	GRADE S	GRADE U
A. Use of drift meter	S	
B. Preparation of maps in advance		
C. Use of radio altimeter drift		
Grade	S	

REMARKS

4. PILOTAGE

	GRADE S	GRADE U
A. Accuracy and use of geographic fixes and visual bearing. . .	S	
B. Map reading ability.	S	

Grade S

REMARKS:

5. RADIO AND CONSOL NAVIGATION

	GRADE S	GRADE U
A. Accuracy in use of radio fixes and LOP's.	S	
B. Knowledge and use of radio equipment.	S	
C. Knowledge and use of QDM and QDR bearings	NA	
D. Knowledge of radio range characteristics.	S	
E. Knowledge and use of consol.	S	
F. Coordination of radio with other types of navigation. . . .	S	

Grade S

REMARKS:

6. LORAN AND RADAR NAVIGATION

	GRADE S	GRADE U
A. Calibration and reception check.	S	
B. Knowledge and use of equipment.	S	
C. Accuracy of results.	S	
D. Use of radar equipment (if applicable)	NA	

Grade S

REMARKS:

7. CELESTIAL NAVIGATION

	GRADE S
A. Use of sextant.	S
B. Use of astro-compass.	S
C. Selection of celestial bodies	S
D. Accuracy, use, and classification of celestial fixes, LOPs.	S

Grade S

REMARKS:

THIS PAGE DECLASSIFIED IAW EO 13526

8. POST FLIGHT

	GRADE S	U
A. General accuracy of headings and ETA.	S	
B. Report to weather office	S	
C. Debriefing report.	S	
D. Condition of navigator's compartment.	S	

Grade S

REMARKS:

9. GENERAL

	S	
A. Ability to coordinate use of radio, pilotage, dead reckoning.	S	
B. Knowledge of ditching procedures.	S	
C. Knowledge of emergency procedures and location of emerg equip.	S	
D. Attitude and judgment.	S	
E. Cooperation with crew.	S	
F. General impression created by navigator	S	

Grade S

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 TAKEN ON THIS REPORT

Appropriate remarks are checked:

___ Satisfactory check ride--no explanation needed.

___ Report discussed with navigator--difficulties settled.

✓ Instructor navigator's recommendations followed.

___ Navigator assigned necessary training course in accordance with instruction recommended.

COMPLETED ACTION Navigator upgraded to transport navigator. HRR

SECURITY INFORMATION

RESTRICTED

34TH AIR TRANSPORT SQUADRON
1705th Air Transport Group
Continental Division, MATS
McChord AFB, Washington

3 December 1952

SUBJECT: Technical Orders Not-Complied-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-complied-with:

01-40NV-118
15 August 1952
Restriction on use of wing fillet life raft compartments.
(No life rafts installed in fillets.)

01-40NVA-41A
16 October 1952
Inspection and replacement of main landing gear retracting cylinder rod end bearings.
(Tools necessary for accomplishment are on order.)

01-40NVA-57
8 May 1952
Modification of Curtiss propeller synchronizer and synchronizer rack assembly.
(Kit not available.)

02A-10H-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.C. C1-1583
13 November 1952
Engine driven generator and alternator replacement.
(Not-complied with due to confusion existing on pending change to original Interim Technical Order.)

JOHN C. RILEY
Captain USAF
Maint Officer

13

RESTRICTED

34TH AIR TRANSPORT SQUADRON
1705th Air Transport Group
Continental Division, MATS
McChord AFB, Washington

3 December 1952

SUBJECT: Aircraft Forms, Aircraft C-124A, Serial Number 51-107

TO: Whom It May Concern

1. Forwarded as inclosures to this letter are the AF Form 1's, 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 Forms 1, Parts I, II, III, IV, and V were on board the aircraft when it departed this station.

JOE C. PILEY
Captain USAF
Asst Off

1 Incl
AF Fm 1, Part II's

AIRCRAFT CLEARANCE

A

McGuire AFB, N.J.

B

+10

C WEATHER DATA

22 Nov 62

Forecaster Initials

ALTIMETER SETTINGS

RESET

FORECASTS

D FLIGHT PLAN

Climb to 9000 — 10000 — 8000 9000 — 9000 9000

HIGH RANK CODE

E FLIGHT CLEARANCE AUTHORIZATION

Col. USAF, Commanding

1530

SECURITY INFORMATION
RESTRICTED

DEPARTMENT OF COMMERCE—CIVIL AERONAUTICS ADMINISTRATION

INCIDENT REPORT

DATE OF INCIDENT: 22 November 1952

INCIDENT NO.: ANC-ARTC-182

TO:
Inspector General
United States Air Force
Washington 25, D. C.

FROM:
Airways Operations Specialist
(Center Chief) Air Route
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.

AGENCY/AIRCRAFT IDENTIFICATION
MATS 1107 C-124

NAME(S) OF PERSONNEL OR PILOT

TYPE OF INCIDENT
Primary - Accident

SUMMARY OF INCIDENT (USE REVERSE SIDE IF NECESSARY)
MATS 1107 C-124 operating on a flight plan specifying Instrument Flight Rules McChord 9,000 direct Rolling Bay Blue 32 Dungeness 10,000 Neah Bay 8,500 direct Sandspit 9,000 Middleton Island 9,000 Whittier Amber 1 Anchorage Elmendorf Air Force Base.

At 0554Z MATS 1107 reported to Yakutaga Radio that he was over Middleton Island at 0547Z 9,000 estimating Whittier at 0617Z.

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

The Center's Whittier estimate was 0627Z and Anchorage Range estimate 0640Z. When MATS 1107 failed to report his position over Whittier, Anchorage Radio, Anchorage Approach Control, Elmendorf Tower, Elmendorf Airways, Kenai Radio and Kodiak Airways attempted contact with the aircraft. As all agencies were unsuccessful in establishing radio contact, the Center immediately instigated two way radio failure procedures.

At 0705Z, Elmendorf Base Operations was advised of the overdue aircraft including all information the Center had at this time.

Radio contacts between MATS 1107 and CAA Stations while enroute on the Whittier-Sandspit Air Route were received and transmitted on 5106 and range frequencies.

Weather: Middleton Island 2506282 - Indefinite six hundred, obscured, two miles fog, temperature 46, dew point 45.

Anchorage 2506282 - Measured eight thousand overcast, over fifteen miles, temperature 54, dew point 52.

ATTACHMENTS

FORWARDED BY:
Chief CONTROLLER
DATE 26 November 1952

U. S. GOVERNMENT PRINTING OFFICE 16—81442-1

FORM ACA-884-A (7-48)

DEPARTMENT OF COMMERCE
CIVIL AERONAUTICS ADMINISTRATION

IN REPLY ADDRESS
REGIONAL ADMINISTRATOR
CIVIL AERONAUTICS ADMINISTRATION

P. O. Box 440
Anchorage, Alaska
December 2, 1952

Commanding General
39th Air Depot Wing
Elmendorf 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 12, 1952
	Radio Facility Flight Report, Nov. 24, 1952
Summit	Radio Facility Flight Report, Nov. 10, 1952
	Radio Facility Flight Report, Aug. 13, 1952
	Radio Facility Flight Report, Nov. 28, 1952
Skwentna	Radio Facility Flight Report, Aug. 18, 1952
Hinchinbrook	Radio Facility Flight Report, Aug. 12, 1952
Homer	Radio Facility Flight Report, Aug. 28, 1952
Kenai	Radio Facility Flight Report, Nov. 10, 1952

Also enclosed is a copy of "Enroute Flight Check Report" covering two days, November 10 and November 10, 1952 - facilities checked were Anchorage MRL, Kenai, Homer, Skwentna, and Summit.

Sincerely yours,

for F. T. Unruh, Acting Chief
Airways Operations Division

Enclosures - 11

Form ACA 496
Rev. 9-18-44

Department of Commerce
Civil Aeronautics Administration

RADIO FACILITY-FLIGHT REPORT

Report No. 34 Date Chkd. April 17, 1951 Station Anchorage, Alaska Class MR/M
Flight
Identification AIZ Frequency 239 kc. Power 133watts- ~~MM~~ Chart No. 3 Dated May 1951

Published Bearings, Degrees: 256 352 76 172 True and Toward Station

Range Transmitter:	No. 1 Type TML Marks				No. 2 Type TML Standby			
Courses Found (True)	256	352	76	172				
Error, Degrees	0	0	0	0				
Multiples	Yes	Yes	Yes	Yes				
Key Clicks	No	Yes-	No	Yes-		Not checked		
Voice/Range Ratio		- - - -						
Usable Range Dist.		50 miles						
Usable Voice Dist.		- - - -						
Voice Quality		- - - -						
Broadcast Warning	Satisfactory? None				Satisfactory?			
Cone of Silence	4 Seconds at 120 mph, 1000 ft.				Seconds at			ft.

"Z" MARKER: Type ____ Main Standby

1st Check	Seconds at	ft.	mph	Seconds at	ft.	mph
2nd Check 90° fm 1st	Seconds at	ft.	mph	Seconds at	ft.	mph

FAN MARKERS Checked with Type ____ Receiver

No.	Location	Type	Major Axis Width	Minor Axis Width
1.			miles at ft.	miles at ft.
2.			miles at ft.	miles at ft.
3.			miles at ft.	miles at ft.
4.			miles at ft.	miles at ft.
5.			miles at ft.	miles at ft.

REMARKS

Check after course change.

Certified a true copy
Leon E. Hammarley
Leon E. Hammarley, Chief
Electronics Maintenance Branch, 8-563

Region: 8 Aircraft N 158 Pilot /s/ L. P. Rogers
L. P. Rogers

25647

Form ACA 496
Rev. 9-18-41

Department of Commerce
Civil Aeronautics Administration

RADIO FACILITY-FLIGHT REPORT

Report No. 42 Date Ckd. May 12, 1952 Station Anchorage, Alaska Class SBRAZ-P-DTXV

Identification ANC Frequency 338 kc. Power 400 watts Flight Chart No. 6 Dated November 1951

Published Bearings, Degrees: 206 308 38 142 True and Toward Station

Range Transmitter: Type TSG No. 1 Main Type TSG No. 2 Standby

Courses Found (True)	207	308	37	141½				
Error, Degrees	-1	0*	-1	-½				
Multiples	Yes	Yes	Yes-	Yes-		Same		
Key Clicks	Yes-	No	Yes-	No			as	
Voice/Range Ratio		Normal					No. 1	
Usable Range Dist.		75 miles						
Usable Voice Dist.		75 miles						
Voice Quality		Very good						
Broadcast Jarning	Satisfactory? Yes				Satisfactory?			
Cone of Silence	½ Seconds at 120 mph, 1000 ft.				Seconds at		ft.	

"Z" MARKER: Type ITZI Main 63° Standby

1st Check 243°	26 Seconds at 1000 ft. 120 mph	23 Seconds at 1000 ft. 120 mph
2nd Check 90°fm 1st	25 Seconds at 1000 ft. 120 mph	23 Seconds at 1000 ft. 120 mph

FAN MARKERS Checked with Type MN53B Receiver

No.	Location	Type	Major Axis Width	Minor Axis Width
1.			miles at ft.	miles at ft.
2.			miles at ft.	miles at ft.
3.			miles at ft.	miles at ft.
4.			miles at ft.	miles at ft.
5.			miles at ft.	miles at ft.

REMARKS

Flight check following maintenance*and retune.
*The southeast course was checked over Birdwood at 5000 feet. Accurate alignment difficult to determine due to course's being split at this point and altitude.

Receiver	ARB
Ceiling	6000 scattered
Visibility	Unrestricted
Temperature	41° F
Wind	NW 12
Time	1815 Alaska

Certified a true copy
/s/ Leon E. Hammarley
Leon E. Hammarley, Chief
Electronics Maintenance Branch, 8-563

Region: 8 Aircraft N 90 Pilot /s/ J. C. Pfeffer
J. C. Pfeffer

25697

Form ACA 496
Rev. 9-18-44

Department of Commerce
Civil Aeronautics Administration

RADIO FACILITY-FLIGHT REPORT

Report No. 47 Date Ckd. Nov.24, 1952 Station Anchorage, Alaska Class SBRAZ-P-DTXV

Identification ANC Frequency 338 kc. Power 400 watts Flight Chart No. 3 Dated May 1952

Published Bearings, Degrees: 206 308 (No. 1) 38 142 (No. 2) True and Toward Station

Range Transmitter: Type TSG Main Type TSG Standby

Courses Found (True)	207	308	37	142				
Error, Degrees	+1	-0	-1	0				
Multiples	Yes	Yes	Yes	Yes		Same		
Key Clicks	Yes	No	Yes	No		as		
Voice/Range Ratio		Normal					No. 1	
Usable Range Dist.		75 miles						
Usable Voice Dist.		75 miles						
Voice Quality		Very good						
Broadcast Warning	Satisfactory? Yes				Satisfactory?			
Cone of Silence	1 Seconds at 120 mph, 1000 ft.				Seconds at ft.			

"Z" MARKER: Type TZI Main Standby

	Main	Standby
1st Check 270°	34 Seconds at 1000 ft. 120 mph	Seconds at ft. mph
2nd Check 90° fm. 1st	21 Seconds at 1000 ft. 120 mph	Seconds at ft. mph

FAN MARKERS Checked with Type MN53B Receiver

No.	Location	Type	Major Axis Width	Minor Axis Width
1.			miles at ft.	miles at ft.
2.			miles at ft.	miles at ft.
3.			miles at ft.	miles at ft.
4.			miles at ft.	miles at ft.
5.			miles at ft.	miles at ft.

REMARKS

Flight check following disappearance AF 747 C-124.

Southeast course checked at 9000 feet (same altitude as AF 747) 55 miles out over Willard Island. This was closest VFR check. Course and fan marker normal over Whittier at 9000 feet.

Receiver	ARB
Ceiling	6000 overcast
Visibility	Unrestricted
Temperature	40° F
Wind	SSE 25, gusts 38
Time	10:45 a.m.

Certified a True Copy

Raymond A. Rivera

Raymond A. Rivera, Actg
Chief Elect. Mntnc. Br., 8-563

Region: 8 Aircraft N 94 Pilot /s/ J. C. Pfeffer

J. C. Pfeffer

25647

Form ACA 496
Rev. 9-18-44

Department of Commerce
Civil Aeronautics Administration

RADIO FACILITY-FLIGHT REPORT

Report No. 28.1 Date Cld. Nov. 10, 1952 Station Summit, Alaska Class SBRAZ-P-DTV

Identification DAM Frequency 326 kc. Power 400 watts Flight Chart No. 6 Dated November 1951

Published Bearings, Degrees: 187 296 22 116 True and Toward Station

Range Transmitter: Type TSJ No. 1 Main Type TSJ No. 2 Standby

Courses Found (True)			21½				21½	
Error, Degrees			-1/2				-½	
Multiples			Yes				Yes	
Key Clicks			Yes				Yes	
Voice/Range Ratio			Normal				Normal	
Usable Range Dist.			75 miles				75 miles	
Usable Voice Dist.			75 miles				75 miles	
Voice Quality			Good				Good	
Broadcast Warning	Satisfactory?		Yes		Satisfactory?			
Cone of Silence	Seconds at		ft.		Seconds at		ft.	

"Z" MARKER: Type ____

	Main			Standby		
1st Check	Seconds at	ft.	mph	Seconds at	ft.	mph
2nd Check 90° fm 1st	Seconds at	ft.	mph	Seconds at	ft.	mph

FAN MARKERS Checked with Type ____ Receiver

No.	Location	Type	Major Axis Width		Minor Axis Width	
1.			miles at	ft.	miles at	ft.
2.			miles at	ft.	miles at	ft.
3.			miles at	ft.	miles at	ft.
4.			miles at	ft.	miles at	ft.
5.			miles at	ft.	miles at	ft.

REMARKS

Flight check following report of 2° displacement of this course plus crash of Air Force 2560, C-119.

First check made at 5000 feet, vicinity Gold Creek. The course at this point is just a series of changing signals.

The second check at 7000 feet over Talkeetna showed a fairly normal course except for strong "A" in "N" twilight zone.

Receiver	ARB
Ceiling	8000 broken
Visibility	15 miles
Temperature	28° F
Wind	WSW 8
Time	1515

Certified a true copy

Leon E. Hammarley

Leon E. Hammarley, Chief Elect. Mntnc. Br., 8-563

Region: 8 Aircraft N 90 Pilot /s/ J. C. Pfeffer

J. C. Pfeffer

25617

Form ACA 496
Rev. 9-18-44

Department of Commerce
Civil Aeronautics Administration

RADIO FACILITY-FLIGHT REPORT

Report No. 27 Date Chd. Aug 13 1952 Station Summit Alaska Class SBRAZ P DTV

Identification SMK Frequency 326 kc. Power 400 watts Flight Chart No. 6 Dated Nov 1951

Published Bearings, Degrees: 187 296 22 116 True and Toward Station

Range Transmitter: Type TSJ No. 1 Type TSJ No. 2 Standby

Courses Found (True)	187	296	22	116				
Error, Degrees	0	0	0	0				
Multiples	Yes	Yes	Yes	Yes		Same		
Key Clicks	No	Yes	No	Yes		as		
Voice/Range Ratio		OK					#1	
Usable Range Dist.		75 Miles						
Usable Voice Dist.		75 Miles						
Voice Quality		Good						
Broadcast Warning	Satisfactory? Yes				Satisfactory?			
Cone of Silence	1 Seconds at 6000 ft.				Seconds at ft.			

"Z" MARKER: Type TZO

	Main	Standby
1st Check 296°	16 Seconds at 1000 ft. 120 mph	Seconds at ft. mph
2nd Check 90° fm 1st	14 Seconds at 1000 ft. 120 mph	Seconds at ft. mph

FAN MARKERS Checked with Type MN53B Receiver

No.	Location	Type	Major Axis Width	Minor Axis Width
1.			miles at ft.	miles at ft.
2.			miles at ft.	miles at ft.
3.			miles at ft.	miles at ft.
4.			miles at ft.	miles at ft.
5.			miles at ft.	miles at ft.

REMARKS

Check after retune acct off by ground Check Rec ARB
Ceiling 8000 Broken
Vis 50 +
Temp 52 F
Wind NE 12
Time 4 pm

Certified a true copy

Leon E. Hammarley

Leon E. Hammarley, Chief Elect. Mntnc. Br., 8-563

Region: 8 aircraft 90579 Pilot /s/ W. Morgan Davies

25647

W. Morgan Davies

Form ACA 496
Rev. 9-18-41

Department of Commerce
Civil Aeronautics Administration

RADIO FACILITY-FLIGHT REPORT

Report No. 28.2 Date Chkd. Nov. 28, 1952 Station Summit, Alaska Flight Class SBRAZ-P-DTV

Identification ~~[illegible]~~ Frequency 326 kc. Power 400 watts ~~[illegible]~~ Chart No. 6 Dated November 1951

Published Bearings, Degrees: 187 296 22 116 True and Toward Station

Range Transmitter: Type TSJ No. 1 ~~[illegible]~~ Type TSJ No. 2 ~~Standby~~

Courses Found (True)	187½	296	21½	116				
Error, Degrees	+ ½	0	-½	0				
Multiples	Yes +	Yes +	Yes +	Yes +		Same		
Key Clicks	Yes	Yes	Yes	Yes		as		
Voice/Range Ratio		Normal					No. 1	
Usable Range Dist.		75 miles				—		
Usable Voice Dist.		75 miles						
Voice Quality		Good						
Broadcast Warning	Satisfactory? Yes				Satisfactory?			
Cone of Silence	1 Seconds at 120 mph, 1000 ft.				Seconds at ft.			

"Z" MARKER: Type T30 Main Standby

1st Check 180°	18 Seconds at 1000	ft.	120	mph	Seconds at	ft.	mph
2nd Check 90° fm 1st	13 Seconds at 1000	ft.	120	mph	Seconds at	ft.	mph

FAN MARKERS Checked with Type MN53B Receiver

No.	Location	Type	Major Axis Width		Minor Axis Width	
1.			miles at	ft.	miles at	ft.
2.			miles at	ft.	miles at	ft.
3.			miles at	ft.	miles at	ft.
4.			miles at	ft.	miles at	ft.
5.			miles at	ft.	miles at	ft.

REMARKS

Flight check following report of -3½° displacement of northwest course (22°) by ground check, also following maintenance this date.

Receiver	ARB
Ceiling	3000 scattered; 5500 overcast
Visibility	10 miles
Temperature	15° F
Wind	Calm
Time	1530

Displacements shown as ½° on north and south courses actually may be ½ to 1°. Due to poor quality of on course signal accurate alignment is difficult to determine. Check at 8500 feet over Talkeetna shows course broken up through 6° or approximately 7.5 miles wide at this point. Apparently realignment of north-south courses has caused increase in multiples. Key clicks are too heavy.

Certified a True Copy
Raymond G. Rivers
Raymond A. Rivers, Actg
Chief Elect. Engrg. Br., 8-563

Region: 6 Aircraft N 90 Pilot /s/ J.C.Pfeffer J.C.Pfeffer

25647

Form ACA 496
Rev. 9-18-44

Department of Commerce
Civil Aeronautics Administration

RADIO FACILITY-FLIGHT REPORT

Report No. 29 Date Chkd. August 18, 1952 Station Skwentna Alaska Class SBRAZ P DTV

Identification SKA Frequency 269 kc. Power 400 watts Sec. Chart No. 7 Dated March 1952

Published Bearings, Degrees: 237 291 32 106 True and Toward Station

Range Transmitter: Type TSI No 1 Main Type TSI No 2 Standby

Courses Found (True)	237	290	32	106				
Error, Degrees	0	-1	0	0				
Multiples	Yes	Yes	Yes	Yes	Same			
Key Clicks	Yes	No	Yes	No		as		
Voice/Range Ratio		OK				No 1		
Usable Range Dist.		75 Miles						
Usable Voice Dist.		75 Miles						
Voice Quality		Good						
Broadcast Jarming	Satisfactory? Yes				Satisfactory?			
Cone of Silence	½ Seconds at 1000 ft.				Seconds at ft.			

"Z" MARKER: Type TZO Main Standby

1st Check 080°	21 Seconds at 1000 ft. 120 mph	Seconds at ft. mph
2nd Check 90° fm 1st	19 Seconds at 1000 ft. 120 mph	Seconds at ft. mph

FAN MARKERS Checked with Type MN53B Receiver

No.	Location	Type	Major Axis Width	Minor Axis Width
1.			miles at ft.	miles at ft.
2.			miles at ft.	miles at ft.
3.			miles at ft.	miles at ft.
4.			miles at ft.	miles at ft.
5.			miles at ft.	miles at ft.

REMARKS

Checked after Maintenance.

Rec ARB
Ceiling 12000 Broken
Vis 15 +
Temp 50 F
Wind NW 3
Time PM

Certified a true copy

Leon E. Hammarley

Leon E. Hammarley, Chief Elect. Mntnc. Br, 8-563

Region: 8 Aircraft 90579 Pilot /s/ W. Morgan Davies

W. Morgan Davies

25647

Form ACA 496
Rev. 9-18-44

Department of Commerce
Civil Aeronautics Administration

RADIO FACILITY-FLIGHT REPORT

Report No. 32 Date Ckd. Aug 12 1952 Station Hinchinbrook Alaska Class SBRAZ P DTV
Flight
Identification HBK Frequency 362 kc. Power 400watts SSB. Chart No. 10 Dated Oct 1951

Published Bearings, Degrees: 206 286 26 106 True and Toward Station

Range Transmitter:	No 1 Main	No 2 Standby
	Type TSG	Type TSG

Courses Found(True)	206	286	26	106				
Error, Degrees	0	0	0	0				
Multiples	Yes	Yes	No	Yes	Same			
Key Clicks	Yes	No	Yes	No		as		
Voice/Range Ratio		Good				# 1		
Usable Range Dist.		75 Miles						
Usable Voice Dist.		75 Miles						
Voice Quality		OK						
Broadcast Warning	Satisfactory? Yes				Satisfactory?			
Cone of Silence	# Seconds at 1000 ft.				Seconds at ft.			

"Z" MARKER: Type TZI Main Standby

1st Check 358°	14 Seconds at 1000 ft. 120 mph	Seconds at ft. mph
2nd Check 90° fm 1st	15 Seconds at 1000 ft. 120 mph	Seconds at ft. mph

FAN MARKERS Checked with Type MN53 Receiver

No.	Location	Type	Major Axis Width	Minor Axis Width
1.			miles at ft.	miles at ft.
2.			miles at ft.	miles at ft.
3.			miles at ft.	miles at ft.
4.			miles at ft.	miles at ft.
5.			miles at ft.	miles at ft.

REMARKS

Routine Check

Rec ARB
Weather CAVU
Wind NW 12
Time PM

Certified a true copy

Jack T. Jefford, Chief
Airways Flight Inspection Division, 8-507

Region: 8 aircraft 90579 Pilot /s/ W. Morgan Davies
W Morgan Davies

Form ACA 496
Rev. 9-18-44

Department of Commerce
Civil Aeronautics Administration

RADIO FACILITY-FLIGHT REPORT

Report No. 37 Date Chkd. Aug. 28, 1952 Station Homer, Alaska Class SRAN-P-DTV

Identification HOM Frequency 320 kc. Power 400 watts Flight Insp. Chart No. 3 Dated May 1952

Published Bearings, Degrees: 200 265 20 85 True and Toward Station

Range Transmitter: Type TSI No. 1 Main Type TSI No. 2 Standby

Courses Found (True)	199	264	21	84				
Error, Degrees	-1	-1	-1	-1				
Multiples	Yes-	Yes	Yes	Yes-		Same		
Key Clicks	No	Yes-	No	Yes-		as		
Voice/Range Ratio		Normal					No. 1	
Usable Range Dist.		75 miles						
Usable Voice Dist.		75 miles						
Voice Quality		Good						
Broadcast Warning	Satisfactory? Yes				Satisfactory?			
Cone of Silence	4 Seconds at 120 mph, 1000ft.				Seconds at			ft.

"Z" MARKER: Type FIO Main Standby

1st Check	Seconds at	ft.	mph	Seconds at	ft.	mph	
2nd Check 90°fm 1st	Seconds at	ft.	mph	Seconds at	ft.	mph	

FAN MARKERS Checked with Type ____ Receiver

No.	Location	Type	Major Axis Width		Minor Axis Width	
1.			miles at	ft.	miles at	ft.
2.			miles at	ft.	miles at	ft.
3.			miles at	ft.	miles at	ft.
4.			miles at	ft.	miles at	ft.
5.			miles at	ft.	miles at	ft.

REMARKS

Flight check following retune.

Results of first adjustment check:

Courses	1	2	3	4
Error		-1	2	-1

Receiver ARR
Ceiling 2000 overcast
Visibility 10 miles; light rain
Wind Calm
Time 2000

Certified a true copy

Jack T. Jefford

Jack T. Jefford, Chief, Airways Flight Inspection Division, 8-507

Region: 8 Aircraft N 90 Pilot /s/ J. C. Pfeffer

J. C. Pfeffer

Form ACA 496
Rev. 9-18-41

Department of Commerce
Civil Aeronautics Administration

RADIO FACILITY-FLIGHT REPORT

Report No. 28 Date Ckd. Nov. 16, 1952 Station Kenai, Alaska Class BMRLZ-P-DTV

Identification ENA Frequency 379 kc. Power 133 watts Flight Svc. Chart No. 3 Dated May 1952

Published Bearings, Degrees: 209 299 29 119 True and Toward Station

Range Transmitter: Type TML No. 1 Main Type TML No. 2 Standby

	No. 1 Main				No. 2 Standby			
Courses Found (True)	209	299	29	119				
Error, Degrees	0	0	0	0				
Multiples	Yes-	Yes	No	Yes	Same			
Key Clicks	No	Yes-	No	Yes-	as			
Voice/Range Ratio	Voice slightly low				No. 1			
Usable Range Dist.	50 miles							
Usable Voice Dist.	50 miles							
Voice Quality	Very good							
Broadcast Warning	Satisfactory? None				Satisfactory?			
Cone of Silence	1 Seconds at 120 mph, 1000 ft.				Seconds at ft.			

"Z" MARKER: Type TZO

	Main	Standby
1st Check 94°	30 Seconds at 1000 ft. 120 mph	Seconds at ft. mph
2nd Check 90° fm 1st	33 Seconds at 1000 ft. 120 mph	Seconds at ft. mph

FAN MARKERS Checked with Type MN53B Receiver

No.	Location	Type	Major Axis Width	Minor Axis Width
1.			miles at ft.	miles at ft.
2.			miles at ft.	miles at ft.
3.			miles at ft.	miles at ft.
4.			miles at ft.	miles at ft.
5.			miles at ft.	miles at ft.

REMARKS

Flight check following disappearance of C119 AF2570

Receiver	ARB
Ceiling	3000 scattered; 9000 scattered
Temperature	35° F
Wind	SSE 8
Time	1145

Certified a true copy

Leon E. Hennarley

Leon E. Hennarley, Chief
Electronics Maintenance Branch, 8-563

Region: 8 Aircraft N 90 Pilot /s/ J. C. Pfeffer
J. C. Pfeffer

25647

1542

575

500

FLIGHT CHECK REPORT

DATE | PILOT | PLANE

TIME	FACILITY CHECKED	COMMENTS
November 16, 1952		Pilot J. C. Pfeffer — Plane N 90
1120	Anchorage MRL	Alignment southwest leg normal.
1145	Kenai	Range flight checked OK.
1525	Homer	Southwest course checked normal vicinity Anchor Point.
1705	Homer	North leg checked OK at Tustumena Lake.
November 10, 1952		Pilot J. C. Pfeffer — Plane N 90
1430	Anchorage MRL	North leg flight checked plus 1° with light key clicks.
1500	Skwentna	NE leg checked on course over Talkeetna with light key clicks and multiples.
1530	Summit	SW leg flight checked normal. (Report 28.1)

DEPARTMENT OF COMMERCE
CIVIL AERONAUTICS ADMINISTRATION

622/C119 2560
622/C124
IN REPLY ADDRESS
REGIONAL ADMINISTRATOR
CIVIL AERONAUTICS ADMINISTRATION

P. O. Box 440
Anchorage, Alaska
December 5,1952

Commanding General
39th Air Depot Wing
Elmendorf AFB, Alaska

Sir:

Enclosed herewith are copies of Aircraft Flight Contact Records from Yakataga and Yakutat, Alaska, showing record of contacts with MATS C-124 51107 on November 22, 1952.

This completes all information available from our facilities in response to your message 250006Z November, which requested the following:

1. Who, when and where C-119 2560 was cleared from ten thousand to twelve thousand on November 7, 1952.

2. Pilot and aircraft number of aircraft flying route three hours before to three hours after C-124 51107 passed Middleton Island.

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

Item No. 1 was answered by our message 020157Z. 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 ARTC Center records was delivered to your Headquarters by Mr. T. L. Walker, Air Defense Liaison Officer, on December 2.

Item No. 3 was partially answered by our 020157Z. The only contacts with 51107 from Yakutat were: Southwest Yakutat (reported to Yakutat); Abeam Yakataga, and over Middleton (reported to Yakataga). Copies of these contacts are enclosed with this letter.

Sincerely yours,

F. T. Unruh

F. T. Unruh, Acting Chief
Airways Operations Division

Enclosed: (3)

DEPARTMENT OF COMMERCE—CIVIL AERONAUTICS ADMINISTRATION

AIRCRAFT FLIGHT CONTACT RECORD

Yakutat Alaska
11/23/52

AIRCRAFT IDENTIFICATION	STATION	POSITION	TIME	ALTITUDE	ROUTE FROM	ROUTE TO			
1. MAT 1107 TOD 306 0508/FM	/	SW YAK	0502Z	90	ABEAM CTT	0531Z	0507Z	07	R

REMARKS: PSN DLVRD TO ARTC CW 2423272, TIME OF CTC DLVRD TO ARTC CW 2423552, (ARTC REQUEST)

2. REMARKS

3. REMARKS: The above is a transcript of entry made on 406A at Yakutat, INSACS at time of contact with Air Force aircraft C-124 51-107 November 22, 1952 Yakutat local time.

4. REMARKS

Joseph L. Klaudi
Joseph L. Klaudi
INSACS, Station Chief

5. REMARKS

6. REMARKS

7. REMARKS

8. REMARKS

Form ACA—406A (4-51)

THIS PAGE DECLASSIFIED IAW EO 13526

IN REPLY ADDRESS
REGIONAL MANAGER
DEPARTMENT OF COMMERCE
CIVIL AERONAUTICS ADMINISTRATION

DEPARTMENT OF COMMERCE
CIVIL AERONAUTICS ADMINISTRATION

IN REPLY REFER TO
FILE

Air Route Traffic Control Center
Box 4
Seattle-Tacoma Airport
Seattle 88, Washington

November 28, 1952

The following is a transcription of the Seattle Air Route Traffic Control Center interphone recordings of the conversation pertaining to Military Air Transport 1107 between McChord Air Force Base and Elmendorf Field, Alaska on November 22, 1952:

Record #1	11/22/52	DC	1324PST	1450PST
Record #2	11/22/52	DC	1441PST	1845PST
Record #3	11/22/52	DC	1624PST	2125PST

[illegible] Tower	McChord Air Force Base Control Tower
SEA Center	Seattle Air Route Traffic Control Center
[illegible]	Bellingham Interstate Airways Communication Station
SEA [illegible]	Seattle Interstate Airways Communication Station
[illegible] Center	Vancouver Air Route Traffic Control Center
MATS	Military Air Transport Service

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

Name James L. Whitmore

Title Chief, Seattle ARTC Center

FOR VICTORY BUY UNITED STATES WAR BONDS AND STAMPS

Item #38

93

[redacted]

D6 1324PST - 1350PST

SEA Center	Seattle Control.
MATS	I have an IFR flight plan, northbound.
SEA Center	Go ahead.
MATS	MAT one one zero seven, charlie one twenty-four, pilot Duvall (delta, union, victor, alpha, lima, lima) McChord IFR climbing to nine thousand direct Rolling Bay nine thousand Blue thirty-two Dungeness nine thousand Neah Bay, eight five hundred direct Cape St. James, eight five hundred direct Sandspit nine thousand direct Middleton Island nine thousand direct Whittier nine thousand Amber one Anchorage landing HDF, true air speed one nine five knots, transmitting normal plus VHF, proposed fifteen hundred pacific, estimates seven plus zero three, eleven plus thirty fuel, pilot rating three-one, alternate FAA and code eight. Sugar How MATS
SEA Center	Coca Coca 57 (1357P)

05 1141PST - 1816PST

SEA Center	Seattle Control.
TCM Tower	Tripple nickel six airborne at one zero and one one zero seven is standing by for ATC clearance.
SEA Center	Just a moment, I'll call you right back, McChord WL, one two (1512P)
SEA Center	McChord Tower, Seattle Control clearance.
TCM Tower	Tower on.
SEA Center	ATC clears MAT one one zero seven to the Elmendorf Airport via direct Rolling Bay Blue thirty-two Dungeness direct Neah Bay direct Cape St. James, direct Sandspit direct Middleton Island direct Whittier, Amber One to Elmendorf maintain at least five hundred on top while in control area, request further altitude changes enroute and climb VFR to five hundred on top, report reaching, just leave that, just climb VFR to five hundred on top. WL
TCM Tower	Tower (initials not readable)
SEA Center	One one (1511P)
SEA Center	McChord Tower from Seattle Control.
TCM Tower	Towers on.
SEA Center	MATS one one zero seven ever get off?
TCM Tower	Negative, he's still down warming up at the end of the runway.
SEA Center	WL two one (1521P)
SEA Center	Seattle Control.
TCM Tower	One one zero seven airborne at three zero.
SEA Center	Three zero, WL, three zero (1530P)
SEA Center	Bellingham Radio, Seattle Control, connect Vancouver.
VR Center	Vancouver.
SEA Center	Seattle, with Dungeness estimate.
VR Center	Go ahead.
SEA Center	MAT one one zero seven C one two four estimated Dungeness one five five six Pacific (1556P) at least five hundred on top, true air speed filed one nine five nautical, McChord direct Rolling Bay Blue thirty-two Dungeness direct Neah Bay direct Cape St. James direct Sandspit direct Middleton Island direct Whittier Amber one Elmendorf. WL
VR Center	Will you a - is he cleared at five hundred on top?
SEA Center	Right.
VR Center	Have him maintain at least one thousand on top.
SEA Center	WL, three one (1531P) Bellingham Radio release Vancouver.
SEA Center	Bellingham Radio, Seattle Control, connect Vancouver.
VR Center	Vancouver.
SEA Center	This is Seattle, MAT one one zero seven has now been cleared to maintain one thousand on top. WL
VR Center	RG

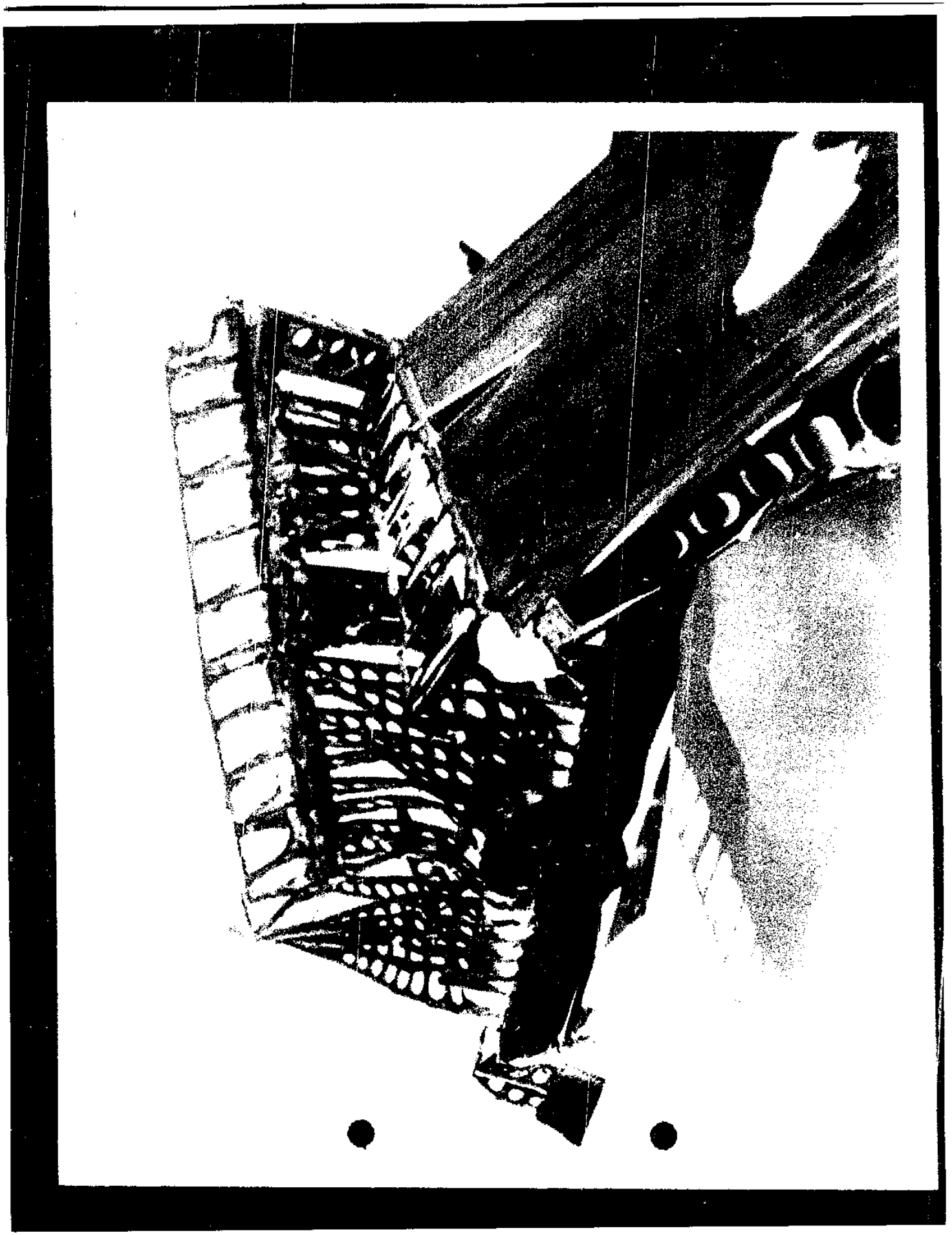
SEA Center	Bellingham Radio this is Seattle Control, crelease Vancouver.
SEA Center	Seattle Control.
SEA INSAC	This is Seattle Radio with a position on MAT one one zero seven.
SEA Center	Go ahead.
SEA INSAC	He's over Dungeness at five five, one thousand on top, estimating Neah Bay at twelve, one two. LB (1612P)
SEA Center	WL, five eight (1558P)
SEA Center	Seattle Control.
BLI INSAC	This is Bellingham Radio, MATS one one zero seven Neah Bay one five (1615P) one thousand on top, southwest leg Comox at three seven. (1637P) WG.
SEA Center	WL, one eight (1618P)
VR Center	AR, two zero (1620P)

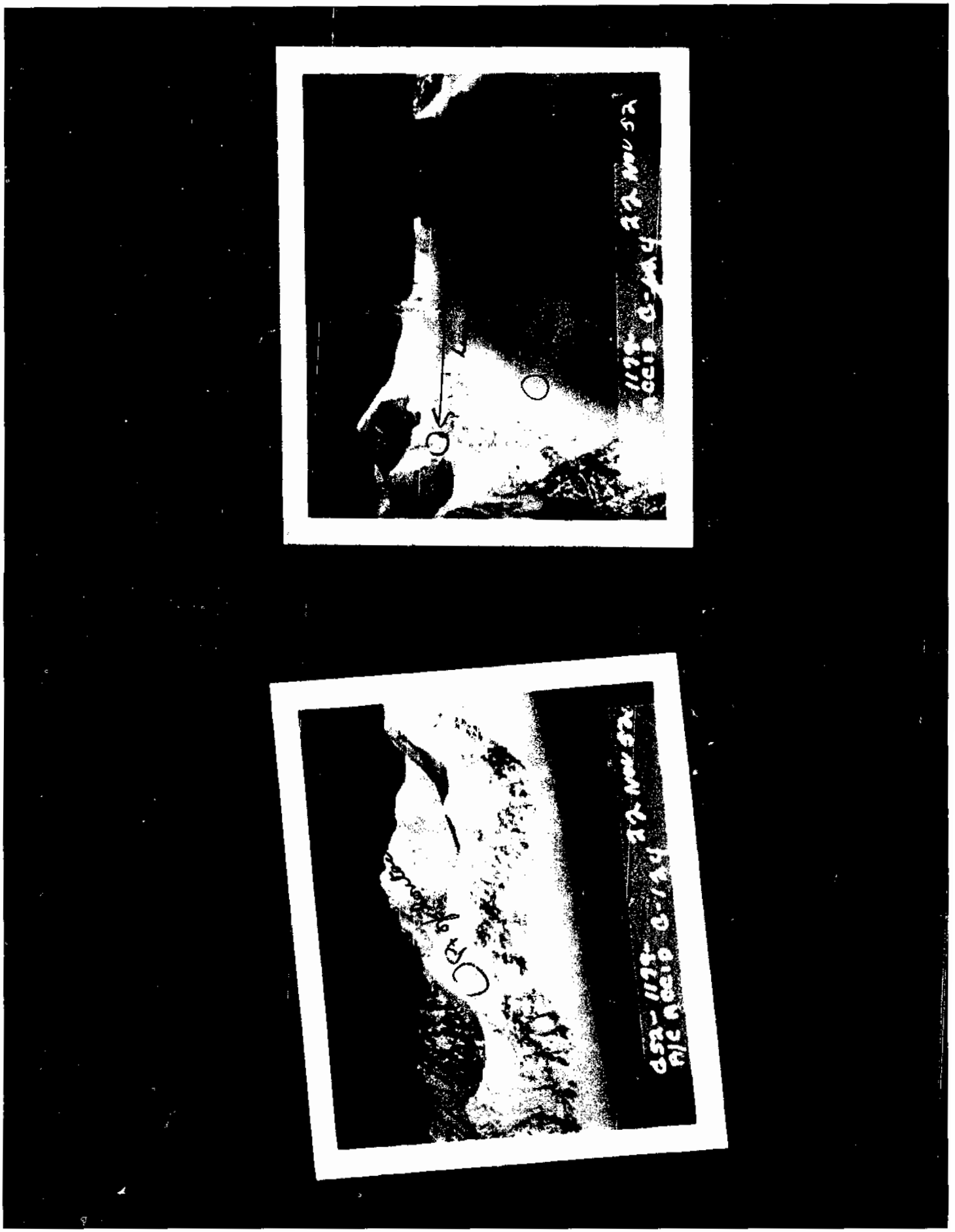
RESTRICTED

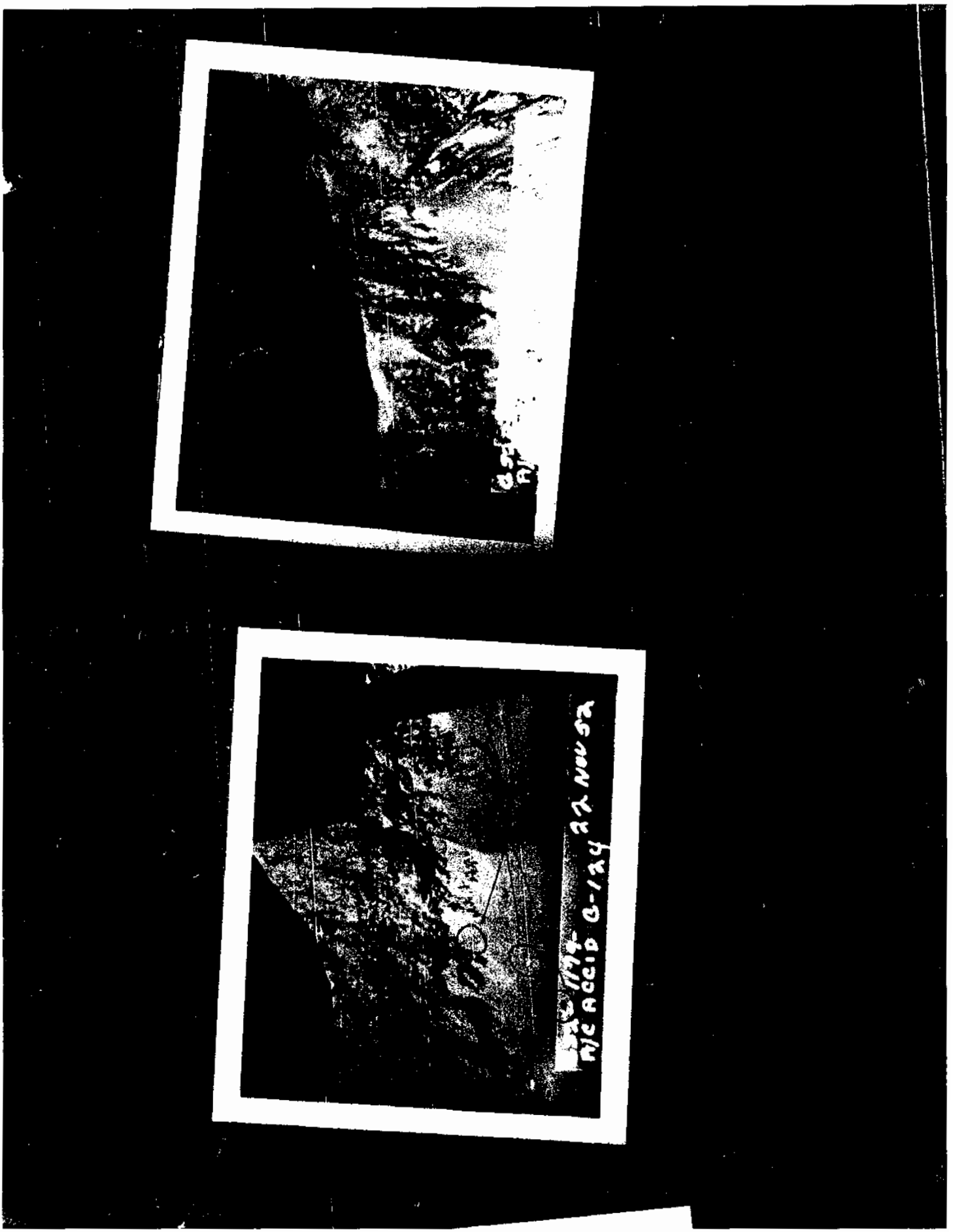
06 1624PST - 2125PST SECURITY INFORMATION

SEA Center	Seattle Control.
MATS	Reference to this MAT one one zero seven from McChord to Elmendorf, have you had any position on him?
SEA Center	One one zero seven?
MATS	Yeah, from McChord to Elmendorf, he departed at two eight (1528P)
SEA Center	Wasn't nine four zero seven was it?
MATS	No, one 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 checked Dungeness about fifteen minutes ago, do younneed the time?
MATS	He reported Dungeness at -
SEA Center	Yes, he reported Dungeness 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	He did report there though?
SEA Center	Roger.
MATS	I'll make it about fifty-five (1555P)
SEA Center	RM ten (1610P

DECLASSIFIED







PHOTOGRAPHS

ATTACH PHOTOS TO HORIZONTAL LINES
WITH CELLULOSE TAPE

4. _____

5. _____

6. _____

HEADQUARTERS 39TH AIR DEPOT WING
OFFICE OF THE COMMANDING GENERAL
APO, 942 C/O PM, SEATTLE, WASHINGTON

360.33

24 DEC 1952

SUBJECT: 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 #51-107A, which occurred 37 miles North-Northeast of Whittier, Alaska on 22 November 1952. Pilot was Captain James Kenneth Duvall, AO 742695.

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 Airway Amber 1 from Hichinbrook Range to Anchorage Range has been changed to 11,000 feet. The Anchorage-Sandspit route from Middleton Island radio beacon to Whittier Fan Marker has been changed to an enroute altitude of 11,000 feet.

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

1436

1 Incl
AF Form 14

JOHN W. PERSONS
Brigadier General, USAF
Commanding

[redacted]

HEADQUARTERS
1705TH AIR TRANSPORT GROUP
CONTINENTAL DIVISION, MATS
McChord AFB, Washington

TCNCO 360.33 4 JUL 1953

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

TO: Commander
Continental Division, MATS
Kelly Air Force Base, Texas

1. Reference is made to letter, subject as above, file AFCFS-1E, Office of the Inspector General, USAF, dated 7 May 1953. This letter, with indorsements, has been forwarded in accordance with paragraph 18f, AFR 62-14.

2. In compliance with paragraph 8 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 APS-42 in operating condition, (reference letter, Subject: Restrictions on Late Model C-124 Aircraft, file OP 360.1, Headquarters, 1705th Air Transport Group, dated 22 December 1952.

c. All pilots and aircrew members were reminded of difficult terrain, unusual weather and navigational aid deficiencies on the McChord-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:

1 Incl
Cy of ltr fr Hq USAF
dtd 7 May 53

JAMES P. PERRELL
Lt Col, USAF
Deputy Commander

[redacted]

Hq, 1705th Air Trans Gp, TCNCO 360.33, Subj: (Restr) Final Evaluation of Acft Accident Involving C-124A, SN 51-107 at Surprise Glacier, Alaska, on 22 Nov 52

CDOFS 360.33 (4 Jun 53) 1st Ind

HQ, CONTINENTAL DIVISION, MATS, Kelly Air Force Base, Texas

TO: Commander, Military Air Transport Service, Andrews Air Force Base, Washington 25, D. C.

1. Forwarded in compliance with Par 8 of Inclosure 1.

2. With reference to Par 6 of Inclosure 1, the route qualifications for aircraft commanders and navigators as set forth in MATS Manual 55-1 "Transport Operations," are:

a. Aircraft Commander:

(1) Successfully complete a flight proficiency check (MATS Form 4) 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 main and alternate routes.

(3) Successfully complete an initial route flight check (MATS Form 48) 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 Command. In cases where Transport Navigators are transferred from one division to another, unit commanders may direct route familiarization flights as required.

RESTRICTED

Hq, 1705th Air Trans Gp, TCNCO 360.33, Subj: (Restr) Final Evaluation of Acft Accident Involving C-124A, SN 51-107 at Surprise Glacier, Alaska, on 22 Nov 52

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 rated 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 1705th 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 briefing facilities. Close supervision will be continued by this headquarters.

1 Incl:
n/c

George S. Cassady

GEORGE S. CASSADY
Brigadier General, USAF
Deputy Commander

SECURITY INFORMATION

RESTRICTED

B/L fr Hq 1705th ATG, Subject: (Restricted) Final Evaluation of Acft Acdt Involving C-124A, 51-107 at Surprise Glacier, Alaska on 22 Nov 52, dtd 4 Jun 53

MACFS 360.33 2d Ind

HQ MILITARY AIR TRANSPORT SERVICE, Andrews AF Base, Washington 25, D. C.

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

1. Forwarded in accordance with paragraph 41, Air Force Regulation 62-14.

2. As requested in paragraph 8, basic letter, this headquarters believes that the action taken by this command as indicated in the 1st indorsement is adequate and should prevent recurrence of similar type accidents.

FOR THE COMMANDER:

Robert L. Dunham

ROBERT L. DUNHAM
Lt Colonel, USAF
Deputy Chief, Office of Flying Safety

1 Incl
n/c

C O P Y

SECURITY INFORMATION

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
WASHINGTON

Office of the Inspector General, USAF
Norton Air Force Base
San Bernardino, California

52-11-22-S
AFCFS-1E

7 May 1953

SUBJECT: (Restricted) Final Evaluation of Aircraft Accident Involving C-124A, SN 51-107 at Surprise Glacier Alaska, on 22 November 1952

TO: Commander
MilitaryAir Transport Service
Andrews Air Force Base
Washington 25, D. C.

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

a. Aircraft: C-124A, SN 51-107.

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

c. Operator: Kenneth James Duval, Capt, AO-742695.

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.

SECURITY INFORMATION

[redacted]

C O P Y

Hq USAF, AFOOS-1E, Subj: (Res) Final Evaluation of Aircraft Accident Involving C-118A, SN 51-107 at Surprise Glacier, Alaska, on 22 Nov 52

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. On 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 vigorous check out procedures for pilots on weather flying, various navigational techniques and preflight 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 1952, contains recommendations to responsible USAF agencies with the objective of improving the effectiveness and safety of flight operations in the Alaskan area. A report prepared by this office "Survey of Transport Operations of the USAF", dated 15 March 1953, copies of which were forwarded to your Headquarters, discusses the problems and makes recommendations concerning cargo type 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 CAA to provide aircraft calling Yakataga radio with the latest enroute weather to Elmendorf.

[redacted]

C O P Y

Hq USAF, AFOFS-1S Subj: (Res) Final Evaluation of Aircraft Accident Involving C-124A, S/N 51-107 at Surprise Glacier, Alaska, on 22 Nov 52

8. 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 41b, AFR 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, AFR 62-14, 14 January 1953.

BY COMMAND OF THE CHIEF OF STAFF:

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

SECURITY INFORMATION

2

RESTRICTED

12 MAR 1953

AMS DO 360.33

SUBJECT: (UNCLASSIFIED) Aircraft Accident

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

1. The inclosed evaluation of the weather factor and weather service in Aircraft Accident, C-12hA, SN 51-107A, on Surprise Glacier, Alaska, 0617Z, 22 November 1952, is forwarded for the cognizance of the USAF IG, Director of Flight Safety Research.

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

FOR THE COMMANDING GENERAL:

1 Incl
Evaluation

J. [redacted]
1st Lt, USAF
Asst AG

RESTRICTED

EVALUATION OF WEATHER FACTOR AND WEATHER SERVICE IN ACCIDENT OF C-124A, SN 51-107A, ON MT. GANNETT, 53 MILES EAST OF ELMENDORF AFB, ANCHORAGE, ALASKA, AT 0617Z, 22 NOVEMBER 1952.

CONTENTS

Prepared by:

Directorate of Operations
Operational Analysis Division
Headquarters, Air Weather Service
Andrews 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 AWSL 62-3, has not been received.

B. The data submitted by the AWS Liaison Officer, inclosed as tabs, 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)

TabA4 - 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 - Reported just east of Middleton Island
0554Z - Aircraft reports to Yakataga Radio (142° 28' W, 60° 02'N). Arrival at Whittier (approximately 50 miles SE of Anchorage) is estimated at 0617Z.

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 8900' 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°28'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).

[redacted]

		Average
Wind direction:	180-210°	195°
Wind speed:	30-20 knots.	25k

b. Reference Tab A 4, Flight Forecast to Northwest Airlines flight departing Anchorage at 0600Z, 22 November 1952, approximately 6 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. Hopkins, USAF, Base Weather Officer, Elmendorf AFB, 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 Yakataga. Reference Tab C. Attempts were made by Yakataga, Elmendorf Airways, Kenai 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 par 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 McChord AFB, 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 planning weather 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.

THIS PAGE DECLASSIFIED IAW EO 13526

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 aloft 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:

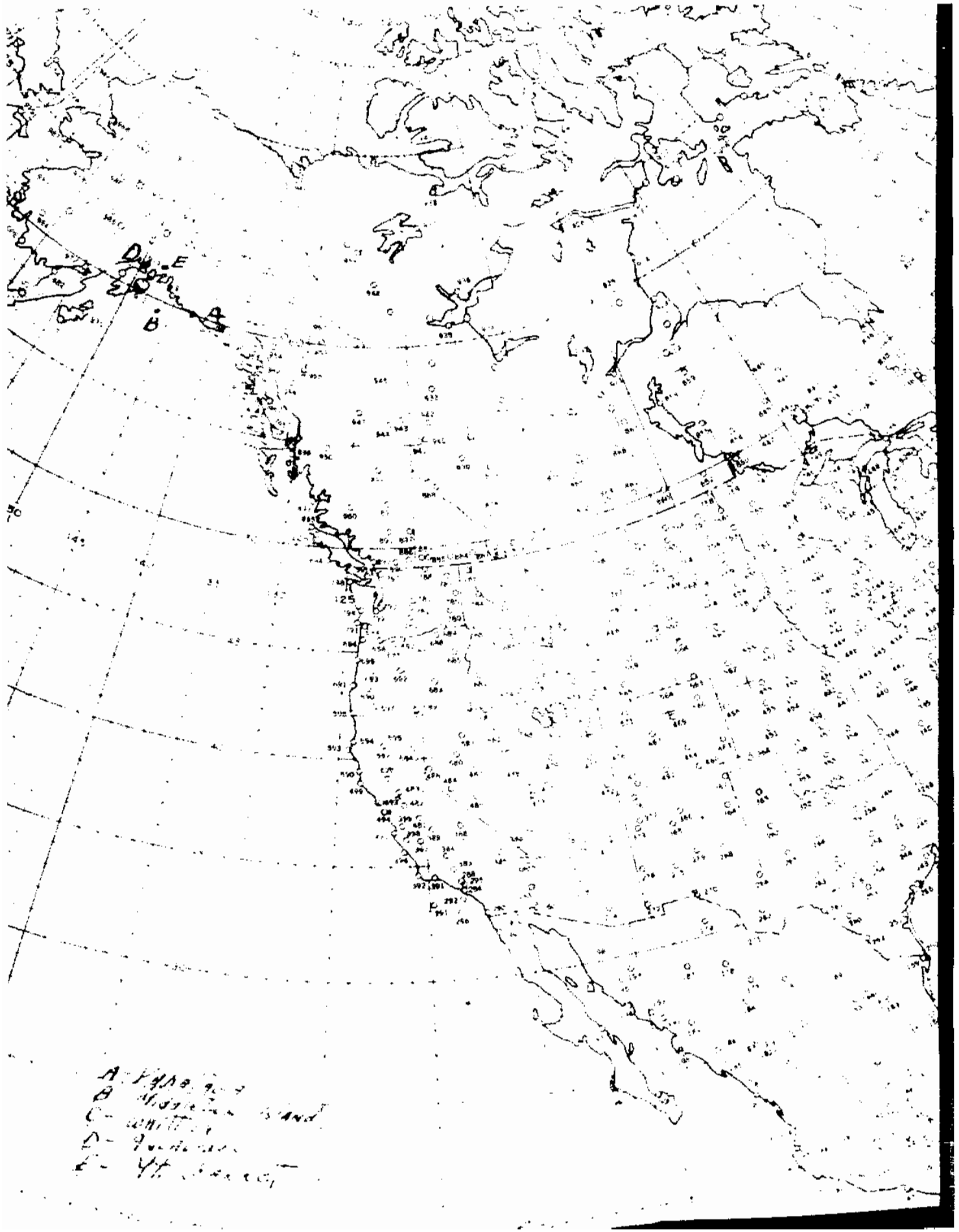
1. That a procedure be established with the CAA to provide northbound aircraft calling Yakataga with the latest en route weather to Elmendorf."

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 impressed 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 whenever "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 par 47, AFR 62-14.

accomplished
7 Wea Sq
Ltr fwd 4



RESTRICTED
SECURITY INFORMATION

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
WASHINGTON

Office of The Inspector General, USAF
Norton Air Force Base
San Bernardino, California

AFCFS-2D

3 March 1953

SUBJECT: (Unclassified) Opportunity for Rebuttal

TO: Commanding General
McChord Air Force Base
Washington

1. Reference is made to the report of aircraft accident involving C-124A SN 51-107A at Surprise 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, 4th Weather Squadron, McChord Air Force Base, Washington.

3. Request the affected personnel be given the opportunity for rebuttal in accordance with paragraph 47, AFR 62-14, dated 14 January 1953. Further, request submission of rebuttal information in accordance with paragraph 42 of the same regulation.

BY COMMAND OF THE CHIEF OF STAFF:

Henry C. Hughes

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

366-33-3

SMAMA Nov 52 [illegible]

Restricted

SECURITY INFORMATION

DAF, Hq USAF, Washington D.C., AFCFS-2D, Subject: (Unclassified) Opportunity for Rebuttal

CO 360.33 (3 Mar 53) 1st Ind

HEADQUARTERS 567TH AIR DEFENSE GROUP, McChord Air Force Base, Washington
11 MAR 1953

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

1. Forwarded for necessary action.

2. Request correspondence be returned through this headquarters.

HOUSTON W. LONGINO, JR.
Colonel, USAF
Commanding

360.33 (3 Mar 53) 2nd Ind

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

TO: Commanding Officer, 567th Air Defense Group, McChord Air Force Base, Washington

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

2. It is the concensus 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 RDF winds-aloft reporting station, utilizing equipment of the SCR-658, AN/GMD-1A or SCR-584B-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

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Off of The Inspector General, USAF, Norton AFB, San Bernardino, Calif, AFCFS-2D, Subj: (Unclassified) Opportunity for Rebuttal

EX 360.33 (3 Mar 53) 3d Ind

HEADQUARTERS 567TH AIR DEFENSE GROUP, McChord AFB, Washington 20 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 E. HOLCOMBE
Lt Colonel, USAF
Executive Officer

3

~~SECRET~~ Restricted
SECURITY INFORMATION

APR 3 1953

C. H. SCOTT
Colonel, U. S. Air Force
Executive
Deputy Inspector General

Withdrew Incl #2
for Inclusion in Form 14
52-2720-4
Incl # 1 filed in M & R (Secret)

When inclosure(s) No(s) 1
(is) (are) withdrawn from correspondence.
Classification of this correspondence is
downgraded to Restricted
in accordance with AFR 205-1.

~~SECRET~~ Restricted
SECURITY INFORMATION

52-11-32-8

RESTRICTED
SECURITY INFORMATION

COPY

SUBJECT: (RESTRICTED) Report of Special Investigation of Aircraft Accident Involving C-12A8 SN 51-107 at Surprise Glacier, Alaska, on 22 November 1952

TO: The Inspector General, USAF

DATE 18 Feb 1953

COMMENT NO 2
Maj Cunniff/gc/55648
AFOOP-OC-S

FROM: Directorate of Operations, DCS/O

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

2. Your recommendation that action be taken to provide a directional radio facility in the Middleton-Whittier area is, in effect, included in your report, (Unclassified) Survey of Navigational Aids and Communications Facilities EnRoute to and Within the Alaskan Theater, dated 30 January 1953. This survey is being processed by this Directorate in coordination with the Directorate of Communications. Comments on this survey to include comment on the installation of a high power, low frequency radio beacon at Whittier, and an SRA radio range at Middleton, will be provided as requested in RAR, comment No. 1, your office, subject: (Unclassified) Survey of Radio Navigational Aids and Communications Facilities En Route to and Within the Alaskan Theater, dated 30 January 1953.

3. It is noted that paragraph 7 of the inclosed report states that the recommendation contained in paragraph 4 has been referred to the Commanding General, Alaskan Air Command, for action and reply to your office. In view of this, it is considered that duplication would result if the CG AAC were required to also reply on this recommendation to this office. Upon receipt of the reply by CG AAC on this matter, it is requested that a copy be provided this office.

1 Incl
s/c

R. E. KOCH
Colonel, USAF
Deputy Director of Operations
Deputy Chief of Staff, Operations

COPY

52-11-22-8

RESTRICTED
SECURITY INFORMATION

RESTRICTED
SECURITY INFORMATION

52-11-?-8
3C

[illegible]

[illegible]

[illegible]

To: [illegible]

1. [illegible]

2. [illegible]

3. [illegible]

[illegible]

[illegible]

To file in
[illegible]
52-11-?-8

RESTRICTED
SECURITY INFORMATION

[illegible] Camback

SECURITY INFORMATION

[illegible]
[illegible] AIR [illegible] WING AND [illegible] [illegible] AIR FORCE BASE
Elmendorf Air Force Base
P.O. 942, c/o Postmaster, Seattle, Washington

3350T-F 58.33

SUBJECT: Transmittal of AF Form 14

TO: Commanding Officer
34th Air Transport Squadron
McChord Air Force Base, Washington

1. Transmitted herewith is AF Form 14 concerning major aircraft accident to C-124A 51-107A which occurred at Mt. Gannett, Alaska, on 22 November 1952. Pilot was Captain Kenneth James Duvall, AO-743[illegible], 34th Air Transport Squadron.

2. Report of accident is to be forwarded in accordance with paragraph 48b, AFR 62-14.

BY ORDER OF ACTING [illegible]:

[illegible]

1 Incl:
AF Form 14 (dup)

[signature]
[illegible]
USAF

360.33 (23 Dec 52) 1st Ind 30 Dec 1952

34TH AIR TRANSPORT SQ., 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 48b Air Force Regulation 62-14, AF Form 14, in duplicate, (reference major aircraft accident to C-124A 51-107A on 22 November 1952, at Mt. Gannett, Alaska Pilot Captain Kenneth James Duvall) is forwarded herewith.

2. Concur in findings and recommendations.

[illegible]

RESTRICTED SECURITY INFORMATION

B/Ltr fr: Hq 34th Air Depot Wing and Elmendorf AFB, Elmendorf AFB, Alaska
file 39 MOT-F 58C.33, Subject: Transmittal of AF Form 14, dtd 23 Dec 1952

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 deficiencies on McChord-Elmendorf route have been re-emphasized to all pilots and aircrew members of this organization.

1 Incl:
AF Form 14 (dup)

WILLIAM A. McLAUGHLIN
Major, USAF
Commanding

RESTRICTED SECURITY INFORMATION

SECURITY INFORMATION
RESTRICTED

1/Ltr fr: Hq 39th Air Depot Wg, Elmendorf AFB, Alaska, APO 942, c/o PM, Seattle, Wash., file BOT-F 360.33, Subj: Transmittal of AF Form 14

OF 360.33 (23 Dec 52) 2nd Ind 8 JAN 1953

HEADQUARTERS, 1705TH AIR TRANSPORT GROUP, MATS, McChord AFB, Wash.

TO: Commander, Continental Division, MATS, Kelly Air Force Base, Texas

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

2. Exception 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 when 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 ATA at Middleton Island was only 4 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 Fan which is only 30 minutes flying time on practically the same heading. 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 Fan, coupled with the reported severe precipitation static produced a situation in which it was impossible for the pilot to navigate other than by dead reckoning and flying out his ETA to Whittier Fan prior to turning in to Elmendorf. Under such circumstances as described above the safest procedure would have been to climb to emergency altitudes, however failure to do this encompasses error in technique rather than error in navigation and possibly should be indicated as the accident cause.

3. 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 of routing, new equipment, and change of altitude. There are no recommendations for change in pilot procedures nor are there any recommendations covering improved navigation methods for pilots under the above described hazardous conditions of weather and radio static.

4. If the Board considered that an error was made, then the recommendations should include desired corrective action in an effort to preclude the reoccurrence of such an error. If, under the conditions exist-

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SECURITY INFORMATION

3/Ltr fr: Hq 39th Air Depot Wg, Elmendorf AFB, Alaska, APO 942, c/o PM, Seattle, Wash., file 60T-F 360.33, Subj: Transmittal of AF Form 14

OP 360.33 (23 Dec 52) 2nd Ind (Cont'd)

ing at the time, a logical technique for preventing the accident was not available, then the cause of the accident should be attributed to inadequate equipment rather than pilot error.

1 Incl:
w/c

Jack H. Stovall
JACK H. STOVALL
Colonel, USAF
Commanding

RESTRICTED

Hq, 39th Air Depot Wg 39BOT-F 360.33, Subj: Transmittal of AF Form 14 (Uncl)

CDOFS 360.33 (23 Dec 52) 3rd Ind

HQ, CONTINENTAL DIVISION, MATS, Kelly AFB, Texas

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

1. Forwarded in accordance with Air Force Regulation 62-14 is the report of major aircraft accident pertaining to C-124A #51-107A, assigned to 1705th Air Transport Group, McChord 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 Indorsement. In addition to the installation of radar altimeter SCR 718, 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 enroute altitude of 11,000 feet Middleton Island to Anchorage and Hinchinbrook to Anchorage.

b. Continental Division C-124 type aircraft will not be operated into areas of forecasted moderate icing.

1 Incl:
n/c (1 cy w/d)

GEORGE S. CASSADY
Brigadier General, USAF
Deputy Commander

RESTRICTED
SECURITY INFORMATION

5

B/L fr Hq 39th ADW, Subject: Transmittal of AF Form 14 (Unclassified) dtd 23 Dec 52

MAOCP 168.33 4th Ind

HQ MILITARY AIR TRANSPORT SERVICE, Andrews AFB, Washington 25, D. C.

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

1. Concur 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 must have existed, or pilot would have detected the northerly drift and made the necessary corrections.

b. The Aircraft Accident Board found "the most probable cause of the accident was navigational error attributed to pilot". This statement is incongruous with other statements by the Board in their findings. Navigational errors are normally associated with definite obvious mistakes in navigation when they were avoidable. Pilot was on course to within 150 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.

2. Concur with the preceding indorsements and in particular with paragraph 4 of the 2d indorsement.

3. It is the opinion of this headquarters that the primary cause of this accident should be attributed to improperly forecast winds, with secondary cause attributed to lack of adequate navigational radio aids in the area, or suitable radio receivers in the aircraft itself. Lack of radar altimeter and Airborne Search Radar were contributing factors.

FOR THE COMMANDER:

Robert D. Forman

ROBERT D. FORMAN
Director of Operations

1 Incl
wd

SECURITY INFORMATION

RESTRICTED
SECURITY INFORMATION

[illegible]

[illegible]

SUBJECT: [illegible]

TO: [illegible]

1. [illegible]

2. [illegible]

3. [illegible]

BY COMMAND OF THE CHIEF OF STAFF:

[illegible] Incl
Rept of subj [illegible] (Dup)

[illegible]
Major General, U.S. Air Force
Deputy Inspector General

RESTRICTED
SECURITY INFORMATION

AM314

[redacted]

RESTRICTED
SECURITY INFORMATION

Major Babits/bjg/7211-6291
AFCFS-2D

AFCFS-2D

20 January 1953

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

TO: CG, AFS; CG ARDC; CG FEAF (12); Comdr, MATS; CG, SAC; CG, TAC; ~~CG, AC~~

1. Inclosed is the report of a special investigation conducted by this office involving a C-124A aircraft accident which occurred at Surprise Glacier, Alaska, on 22 November 1952.

2. This report is forwarded for your information.

BY COMMAND OF THE CHIEF OF STAFF:

1 Incl
Rept of subj invgn

RICHARD J. O'KEEFE
Brigadier General, U.S. Air Force
Director, Flight Safety Research
The Inspector General

RESTRICTED

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
WASHINGTON

Office of The Inspector General, USAF
Norton Air Force Base
San Bernardino, California

20 January 1953

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

THE ACCIDENT

1. C-124A SN 51-107, assigned to the 1704th Air Transport Group, McChord AFB, Washington, departed its home station on 22 November 1952 as Military Air Transport Service scheduled flight D 39/22 to transport personnel and air freight to Elmendorf AFB, Alaska. After passing over the Middleton Island Radio Beacon, the aircraft did not maintain the required course and crashed on Surprise Glacier, Alaska. The aircraft was destroyed by impact. The eleven crewmembers and 41 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 11).

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

d. The minimum airway altitude from the Middleton Island Radio Beacon to the Anchorage Radio Range Station does not assure safe flight under the rapidly changing and severe weather conditions existent in the area (see paragraph 13).

e. This accident might have been prevented had the pilot been informed of changes in the forecasted winds aloft (see paragraph 15)

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RECOMMENDATIONS

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

a. Initiate action to provide a directional radio facility in the Middleton-Whittier 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 en route, destination, and alternate weather changes and other information necessary to insure safety of flight (see paragraphs 11 and 15).

ACTION TAKEN

5. NOTAM 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 airway 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 D 39/22. The aircraft was cleared via Blue Airway 32 to Dungeness at 9000 feet; to Neah 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 Alaskan Standard Time (AST). The pilot estimated the time over the Whittier fan marker at 2017 AST. This position report was the last radio contact with the aircraft. At 0100 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 40 miles east of Elmendorf AFB.

INVESTIGATION AND ANALYSIS

9. Aerial reconnaissance of the crash scene indicated that the aircraft struck a ridge at approximately 8,900 feet elevation, disintegrated as a result of the impact, and fell down the mountain slope to a point approximately 8,300 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 2659 flying hours of which 1657 were as first pilot. He graduated from the MATS Heavy Transport Training Unit (HTTU) 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 290 were as first pilot. The pilot had a total of 213 hours first pilot weather and instrument time, 27 hours of which were accrued in the past 30 days. He held a green instrument card with expiration date of 11 April 1953. The copilot had a total of 3492 pilot hours of which 2003 hours were as first pilot. He had a total of 645 hours of flying time in C-124 aircraft with 361 hours as first pilot. The copilot completed the HTTU 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 287 hours instrument weather time, of which nine 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 forecast given the pilot revealed that the winds forecast for that part of the flight from Middleton Island to Anchorage were from 180 degrees at 30 knots. Postflight analysis of weather data indicated actual winds at flight altitude in the Middleton Island-Elmendorf area would have been approximately 60 knots from the south. The flight plan, computed by the navigator and approved by the pilot prior to departure from McChord AFB, 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 232 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 would not cause the aircraft to drift approximately 30 miles off course in 30 minutes.

RESTRICTED

12. A scheduled airline pilot, who flew southbound over the route two hours after C-124A SN 51-107 passed Middleton Island, encountered moderate icing and turbulence from Anchorage to Middleton Island at a cruising altitude of 10,000 feet. The headwind 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 C-124A SN 51-107 also encountered the turbulence and icing at his cruising altitude of 9000 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 30 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 altimeter 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 Whittier 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 Radio Range is not aligned with the airway from Middleton Island to Whittier. CAA flight check reports indicate the usable 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, in addition, this report, and one of 24 November 1952, reported multiples on the southeast leg. It is evident that precise radio navigation while 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 homing facility in the Whittier 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 Whittier-Middleton route of a directional capability to insure safe navigation in this area.

15. As the aircraft approached the Anchorage area, six hours after 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 to 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.

SUBSTANTIATING DATA ON FILE IN DIRECTORATE OF FLIGHT SAFETY RESEARCH

16. The following data pertaining to aircraft accident investigation of C-124A SN 51-107 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, NWA Flight 324/22

E. Aircraft Inspection and Maintenance Records, Part II, 14-21 November 1952

F. Briefing Clearance Form

G. Aircraft Clearance Form

H. MATS Flight Plan

I. Flight Orders

J. AWS flight forecast cross section

K. Brief on D39/22, C-124A SN 51-107

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 F

Q. Statements of Lt Sullivan and Dr. Terris 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 Yakatega and Yakutat, Alaska

V. Map of accident area

W. Route from McChord to Anchorage

X. Photographs

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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

Agency	Action Copies	Information Copies
DCS/O, USAF, Wash, D.C.	2	
CG, AAC, Elmendorf AFB, Alaska	2	
CG, APG, Eglin AFB, Florida		1
CG, ARDC, Attn: RDDXO Baltimore, Maryland		1
CG, FEAF, Tokyo, Japan		12
Comdr, MATS, Andrews AFB, Wash, D.C.		1
CG, SAC, Offutt AFB, Nebraska		1
CG, TAC, Langley AFB, Virginia		1
Directorate of Inspection Services, TIG Washington, D.C.		2
Chief, Liaison Office, TIG, Hq AMC W-P AFB, Ohio		6 (5 - MCM
Liaison Officer, ARDC D/FSR, Norton AFB, California		1

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SECURITY INFORMATION

ABBREVIATIONS USED ARE IN ACCORDANCE WITH AFR 11-11

HEADQUARTERS
1002D INSPECTOR GENERAL GROUP
NORTON AIR FORCE BASE
California

SPECIAL ORDERS
NUMBER 246

14 November 1952

1. UP Sec III, par 10, AFL 39-7 as amndd, A/B CHARLES T. MALICKI AF36382210 is promd to A/3C (Temp) eff this dt.

2. LT COL MARIE L. BERRY JR 9833A USAF CCA3 WP Hq USAF, Wash.25, DC on TDY o/a 15 Nov 52 for aprx five (5) days for the purpose of Coordination of Attache-Mission-MAAG Insp Program & upon compl of TDY ret to proper sta. Off clrd for mat up to & inc TOP SECRET while complying w/this par. DPUO. Off visiting the Insp Gen, USAF w/sign in & ly copy of orders at the Management Div, TIG USAF. Tvl by Mil acft, Com'l acft & Bus authd. CIPAP. TDN 5733400 P 481-02 03 07 343-5590 S 04-607. Auth: AFR 35-52.

3. The folg named Offs USAF CCA2 WP Yuma County Aprt, Yuma, Ariz on TDY o/a 14 Nov 52 for aprx ten (10) days for the purpose of Participating in special inves of F-86 acft accdt & upon compl of TDY ret to proper sta. Offs clrd for mat up to & inc SECRET while complying w/this par. DPUO. TPA. CIPAP. TDN 5733400 P 481-02 03 07 343-5590 S 04-607. Auth: AFR 35-52.

MAJ BRUCE C. JENNEY, AO578058 MAJ CLAUDE E. TABOR, AO431988

4. CAPT SMITH W. ARMS AO922750 USAF CCA2 WP Los Angeles, Calif on TDY o/a 17 Nov 52 for aprx three (3) days for the purpose of Coordinating Plt Saf Offs Crse at USC & upon compl of TDY ret to proper sta. Off clrd for mat up to & inc SECRET while complying w/this par. DPUO. TPA dird, it has been adm det that this method of tvl is more advantageous to the Govt. CIPAP. TDN 5733400 P 481-02 03 07 343-5590 S 04-607. Auth: AFR 35-52.

5. 1LT HUGH A. COVER AO1911554 USAF CCA2 WP Williams AFB, Ariz on TDY o/a 17 Nov 52 for aprx two (2) days for the purpose of Ferrying Mil Pers & upon compl of TDY ret to proper sta. DPUO. TBMA dird. CIPAP. TDN 5733400 P 481-02 03 07 343-5590 S 04-607. Auth: AFR 35-52.

6. MAJ KENNETH W. SIMPSON AO745958 USAF CCA2 WP Goodfellow AFB, Tex on TDY o/a 17 Nov 52 for aprx fifteen (15) days for the purpose of Familiarizatio in T-6G acft & upon compl of TDY ret to proper sta. Off clrd for mat up to & i SECRET while complying w/this par. DPUO. Tvl by Mil acft, Com'l acft & Bus authd. CIPAP. TDN 5733400 P 481-02 03 07 343-5590 S 04-607. Auth: AFR 35-52.

7. The folg named Amn WP sta o/a dt indicated on TDY for aprx no of days indicated for the purpose of Crewing Mil Acft & upon compl of TDY ret to proper sta. Govt qrs w/b occupied if aval. LAW sub par 5, par 4205, JTR, Amn are not required to pay for meals furn by Govt Mess a/o Box Lunches issued while complying w/this par. DPUO. TBMA dird. CIPAP. TDN 5733400 P 481-02 03 07 343-5590 S 04-607. Auth: AFR 35-52. *No Per Diem authd.

NAME	TO	EFF O/A	DAYS	CC
*SGT EDMUND A. DERNBACH AF6564348	McChord AFB, Wash	17 Nov 52	3	A2

RESTRICTED
SECURITY INFORMATION

RESTRICTED
SECURITY INFORMATION

(Par 7 SO 246, 14 November 1952, Hq, 1002d Insp Gen, Norton AFB, Calif, Cont'd)

NAME	TO	EFF O/A	DAYS	CC
T SGT EUGENE SANDERS AF14130172	Fort Worth, Tex	17 Nov 52	4	A2
S SGT BRUNO J. KAMINSKI AF16101195	McChord AFB, Wash	17 Nov 52	3	A2

8. The folg named Offs USAF CCA2 WP Elmendorf AFB, Alaska on TDY o/a 18 Nov 52 for aprx twenty-one (21) days for the purpose of Participating in invos of C-119 acft acdt & upon compl of TDY ret to proper sta. Offs clrd for mat up to & inc SECRET while complying w/this par. DPUO. Tvl by Mil acft, Com'l acft, Rail & Bus authd. CIPAP. TDN 5733400 P 481-02 03 07 343-5590 S 04-607. Auth: AFR 35-52.

MAJ GEORGE F. BARITS, A0429342 CAPT WILLIAM R. DAUTH, A0720335
MAJ MARION G. COWAN, 5873A

9. LT COL WALTER P. TALIAFERRO 9792A USAF CCA2 WP Convair Acft Co, Fort Worth, Tex on TDY o/a 17 Nov 52 for aprx five (5) days for the purpose of attending Mock-up Insp & upon compl of TDY ret to proper sta. Off clrd for mat up to & inc TD SECRET while complying w/this par. DPUO. Tvl by Mil acft, Com'l acft & Bus authd. CIPAP. TDN 5733400 P 481-02 03 07 343-5590 S 04-607. Auth: AFR 35-52.

10. M SGT ROBERT W. STOVER AF[illegible] this Hq w/b disch fr the Mil Sv eff 20 Nov 52 UP AFR 39-10 (ETS) (Disch Cert w/n/b tendered until after re-enlmt is accomplished). Amn ent to MOP. PD this sta w/pay Amn tvl alws LAW prescribed Reg's fr this sta to place of enlmt, Scott AFB, Ill. Cash Settlement for thirty-seven (37) days unused acc lv is authd. Home Address: 915 Sycamore St. Belleville, St Clair County, Ill. Amn w/b furn Hon Disch Cert DD Fm 256AF. TDN 5733500 348-401 P 534.1 02 03 07 S 99-999.

11. The folg named Offs USAF CCA2 WP Los Angeles, Calif on TDY o/a 13 Nov 52 for aprx two (2) days for the purpose of Obtaining photographic material at USC & Atlantic Productions Studio & upon compl of TDY ret to proper sta. DPUO. TIMA, VOCG 13 Nov 52, such orders having been issued under exigencies which prevented the issuance of orders in adv are cfmd & made of rec. CIPAP. TDN 5733400 P 481-02 03 07 343-5590 S 04-607. Auth: AFR 35-52.

MAJ BEN H. NEWBY, A01854121 1LT JOHN H. MOORE JR, A0800024

12. Par 5 SO 243 this Hq cs as pertains to TDY of MAJ KENNETH W. SIMPSON A0745958 USAF CCA2 is revod.

BY COMMAND OF MAJOR GENERAL [illegible]:

OFFICIAL:

L. [illegible] [illegible]
Major, USAF
Assistant Adjutant

[illegible] F. [illegible]
Lt Colonel, USAF
Adjutant

2

RESTRICTED
SECURITY INFORMATION

I & S E DIVISION

INFORMATION CHECK SHEET
for
AIRCRAFT ACCIDENT INVESTIGATION

STATISTICS

1. DATE OF ACCIDENT: 22 November 1952

TIME OF ACCIDENT: 1947 LCL (Last Pos report)

LOCATION OF ACCIDENT:

2. AIRCRAFT TYPE: C-124

MODEL: A

SERIES:

SERIAL NO.: 51-107A

3. AIRCRAFT HOME STATION AND ORGANIZATION:

COMMAND: MATS

DIVISION: Continental

AIR FORCE:

WING:

GROUP: 1705th ATG

SQUADRON: 34 ATS

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: 500:15 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: 34 ATS

(j) Time Since Last Periodic Inspection: 87:15

ENGINES:

	1	2	3	4	5	6
(a) Model	R4360-20WA	Same	Same	SAme		
(b) Number	P-4784	P-8176	P-8249	P-8175		
(c) Total Hours	800 199 plus					
(d) Hrs since Last Maj Ovhl		New	New	New		
(e) Overhauling Depot	SBAMA					

PROPELLERS:

(a) Model	C-402 C-6342	C-402 C-6345	Same	Same		
(b) Dt last Maj Ovhl						
(c) Hrs since Last Maj Ovhl						
(d) Last Ovhl by						
(e) Total Hours	1129:10	866:35	1099:20			
(f) Dt Installed in A/C	8 Jul 52	3 Jul 52	5 Aug 52	4 Apr 52		
(g) Time since Installed on this A/C	315:40	401:10	272:05	500:15		

6. PILOT:

a. Name: Duvall, Kenneth James

b. Rank: Captain

c. Service Number: AO 742695

d. Home Station: McChord

e. Organization: 1705th ATG 34th ATS

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 1948 - 9 July 1951

e. Date of Original Checkout This Type Aircraft: 13 December 1951

f. Date of Last Checkout This Type Aircraft. 12 August 1952

g. Original Aeronautical Rating and Date Received: 12 APRIL 1943

h. Present Aeronautical Rating and Date Received: 12 APRIL 1943

i. Primary Duty Assignment: 1044A

j. Flying Time:

(1) Type of Instrument Card: Green Expiration Date: 11 Apr 1953

(2) Total Pilot (1st Plt, Copilot, Comd Plt, etc) Hrs: 2659

(3) Total 1st Pilot Hours: 1657

(4) 1st Pilot Hours Last 90 Days: 185

(5) 1st Pilot Hours Last 30 Days: 87

(6) 1st Pilot Hours This Model (B-25, F-51, etc):

(7) Other Pilot Hours (CP, C, SC) This Model: 137:20

(8) 1st Pilot Hours Last 90 Days 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 Acdt: 8:00

(11) List by Type and Model 1st Plt Experience in Similar Acft (e.g., B-26, 50 hrs): _____

(12) Was Operator on Instruments at Time of Acdt or Immediately Before?

___No ___Unk X Yes ___Hood ___Weather

If above answer is "Yes" or if accident occurred at night or during IFR 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: 44:00

(17) 1st Pilot Night Hours Last 6 Months: 91:00

(18) 1st Pilot Night Hours THIS MODEL Last 60 Days: 81:00

k. Jet Bomber Experience:

(1) Total 1st Pilot Time: None

(2) Total Copilot Time: None

l. Combat Hours (Pilot and Copilot): 180

8. COPILOT:

a. Name: Cheney, Alger Meredith

b. Rank: Captain

c. Service Number: AO 746251

d. Home Station: McChord

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 1950

d. Date Reentered 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: 19 July 1952

THIS PAGE DECLASSIFIED IAW EO 13526

g. Original Aeronautical Rating and Date Received: 20 MAY 1943

h. Present Aeronautical Rating and Date Received: 9 JULY 1952

i. Primary Duty Assignment: 1044 B

j. Flying Time:

(1) Type of Instrument Card: Green Expiration Date: 7 July 1953

(2) Total Pilot (1st Plt, Copilot, Comd Plt, etc) Hrs: 3492

(3) Total 1st Pilot Hours: 2003

(4) Total Hours, ___IP X CP ___C (Check applicable one): ~~338~~ 1239

(5) Pilot Hours Last 90 Days: 245

(6) 1st Pilot Hours Last 90 Days: 148

(7) Hours Last 90 Days, ___IP X CP ___C: 97

(8) Pilot Hours Last 30 Days: 41:05

(9) Total Pilot Hours This Model (B-25, F-51, etc): 645

(10) 1st Pilot Hours This Model: 361

(11) Hours This Model, ___IP X CP ___C: 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 X CP ___C: 97

(15) List by Type & Model Experience in Similar Acft (IP, CP, C) (e.g., B-26, IP, 50 hrs.) C-74 8:00

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

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

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

(19) 1st Pilot Instrument (Weather & Hood) Hrs. Last 60 Days: 18

(20) Total Pilot Night Hours Last 6 Months: ~~102~~

(21) 1st Pilot Night Hours Last 6 Months: 102

(22) Night Hours Last 6 Mos., ___IP ___CP ___C:

(23) Total Pilot Night Hours This Model Last 60 Days: 66

(24) 1st Pilot Night Hours This Model Last 60 Days:

(25) Night Hrs. This Model Last 60 Days, ___IP ___CP ___C:

THIS PAGE DECLASSIFIED IAW EO 13526

h. Jet Bomber Experience:

(1) Total 1st Pilot time: None

(2) Total Copilot time: None

i. Combat Hours (Pilot and Copilot): 250

10. LIST OF ALL PERSONNEL ABOARD THE AIRCRAFT:

Name, Rank, and Service Number	Position in aircraft at time of accident	Injuries Sustained	Use of Parachute Yes	Use of Parachute No
DUVALL, KENNETH J. CAPT AO942695	ACFT COM.	FATAL		X
CHENEY, ALGER M CAPT. AO 9462 51	CO-PILOT	"		"
TURNER, LUTHER T. 1/LT AO 19 12 344	NAV.	"		"
HAGEN, ENGULF W T/SGT AF 16275585	INST. ENG.	"		"
SPRAGUE, CONRAD M. A/2C AF 19354551	2ND ENG	"		"
COSTLEY, EUGENE R S/SGT. AF 12111726	2ND ENG	"		"
CWSM. ROBERT A A/1C AF AO87412	RADIO OP.	"		"
SCOTT, MARION L A/3C AF 16397386	RADIO OP	"		"
INGRAM, C.G. M. A/1C AF 16285738	LOADMASTER	"		"
KIMBALL, JAMES R A/3C AF 19995496	FLIGHT ATTENDANT	"		"
JACKSON, (WAYNE) A/3C AF 17348604	" "	"		"
SEE TAB A FOR COMPLETE PASSENGER MANIFEST — ALL WERE FATALLY INJURED.				

11. FLIGHT PLAN:

a. Time of Takeoff: 1530 PST

b. Total Time Airborne: _____

c. Time of Accident: 1947 LcL

d. Estimated Time en route: 7 plus 03

e. Mission: SCHEDULED FLIGHT D 39/42

f. Gross weight at takeoff: 174,746

g. C.G. at takeoff: 31.2

h. Route:

FROM	TO	VIA AWY OR DIRECT (list no.)	ALTITUDE	IFR OR VFR
McChord	Roll Bay	Direct	9000	IFR
Roll Bay	Dungeness	B-32	9000	"
Dungeness	Neah Bay	Dir	10000	"
Neah Bay	Cape St James	Dir	8500	"
Cape St James	Sandspit	Dir	8500	"
Sandspit	Middletown	Dir	9000	"
Middletown	Whittier	Dir	9000	"
Whittier	Anchorage	A-1	9000	"

12. Total Fuel (gallons) aboard Aircraft at Time of Takeoff: 5290

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

14. Exhibits Checklist:

a. Testimony and statements: _____

b. Photos: _____

c. Form 175 and Loading List:

d. Form F:

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:

i. AF Form 1, Part I:

j. AF Form 1, Part II:

k. Technical orders not complied with:

l. Form 54 (UR):

m. List of Personnel Participating in Investigation:

15. Other Information:

[redacted]

[redacted]

[redacted]

[redacted]

DETACHMENT A, 6TH WEATHER SQUADRON
McChord Air Force Base
Tacoma, Washington

26 November 1952

STATEMENT

I came to work on the upper air charts at the MATS Weather Station at 1300P, 22 November 1952, and learned from Sergeant Holcomb, the other forecaster on duty, that three trips were going out: an MDAP North Star at 1400P to Elmendorf, a C-124 at 1930P to Elmendorf, and a C-54 to Kodiak at 1415P. Sergeant Holcomb had already made the flight level wind forecasts for these flights. Sergeant Holcomb 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 1230P. The MDAP crew came in a short time later and was briefed by me. Later an Air Force pilot who did not identify himself except to say that he was going to Elmendorf came in and asked about the route weather. Using the maps and sequences I briefed him regarding weather along Military Airways and along Amber One Airway and also on typical wintertime weather conditions. In regards to the weather along Military Airways, I told the pilot that he would have instrument conditions and icing 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 Middleton-Elmendorf sector were stronger than forecast, turbulence would probably be encountered in that area. At approximately 1345P a pilot came in with a clearance for the C-124 to Elmendorf. I told him that his cross-section had not been made up and he stated that he had the cross-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 Holcomb came in. I asked him if he had given the -124 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 MATS Operations. Sergeant Holcomb then went to work on the 1830Z surface chart and the C-124 cross-section. I returned to work on the upper-air charts.

Robert W. Evans

ROBERT W EVANS
M/Sgt, USAF
Forecaster

DETACHMENT 4, 4TH WEATHER SQUADRON
McChord Air Force Base
Tacoma, Washington

26 November 1952

STATEMENT

I began work at the MATS Weather Station at 0800P, 22 November 1952. After orienting myself on local weather, the synoptic situation, etc., I began analysing the 1230Z surface chart. This was completed at approximately 0930P. I then studied the local situation again and also the Alaskan and enroute weather. Three (3) flight folders were to be prepared for the following flights: RCAF North Star to Elmendorf at 1400P; C-54 to Kodiak at 1415P; C-124 to Elmendorf at 1500P. At approximately 1000P to cross-section for the RCAF North Star was begun (legend, etc.). At approximately 1050P I began sketching the 1500Z 700mb chart in order to forecast winds for the departures. At approximately 1125P I had completed the forecast winds for the two routes. I then continued with the RCAF North Star cross-section completing it at 1200P when M/Sgt Evans came on duty. After giving him a brief on the local forecast, I began preparing the C-54 cross-section to Kodiak inasmuch as I would not have time to complete it after lunch in time for their scheduled departure. This cross-section was completed at approximately 1230P. I then made the skeleton form for the C-124 cross-section (legend, etc) so that it could be completed in a minimum time after I returned from lunch. I then briefed Sergeant Evans on the terminal and enroute weather for Military Airways for the RCAF North Star flight. This briefing was as follows: from the forecast position of the low center and the frontal system as indicated on the 1230Z surface chart, solid instrument conditions would be encountered from 140° W to Elmendorf. I expected icing 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 Ladd (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 contend with and that I would be back in time to brief the others. I then went to lunch at 1245P. I returned from lunch at 1340P. 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 C-124 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 1830Z chart for the Gulf of Alaska

Statement-TSgt James Holcomb (Cont'd)

area and completed the C-124 cross-section at 1400P. I then made the Fort Worden forecast and participated in the terminal forecast conference. I then continued work analyzing the 1830Z surface chart. At sometime between 1430P and 1450P 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 Kodiak flight which cleared ten to fifteen minutes later. This Statement consists of two (2) pages.

James Holcomb

JAMES HOLCOMB
T Sgt., USAF
Forecaster

BIL 113 EDFO

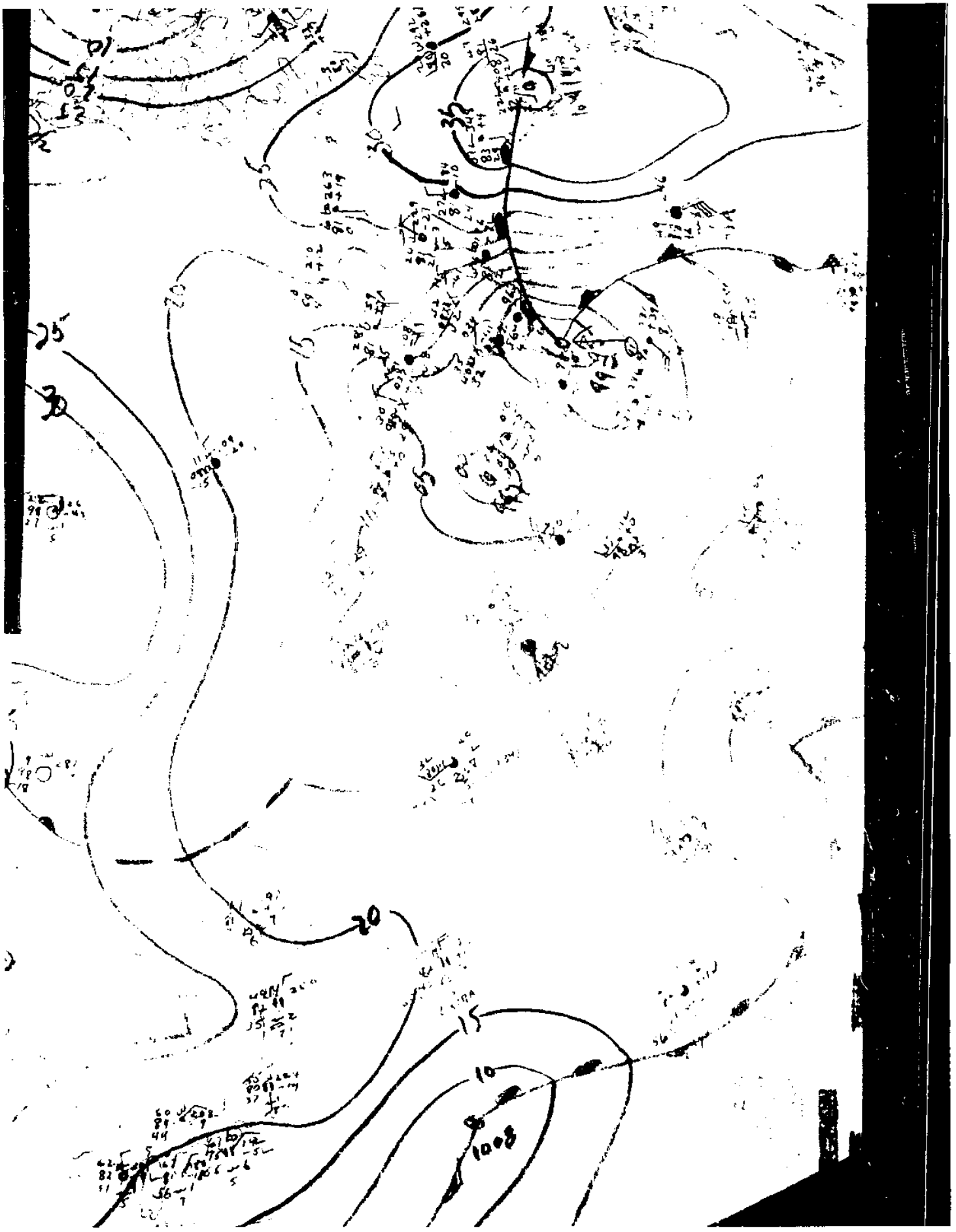
KEDFFC

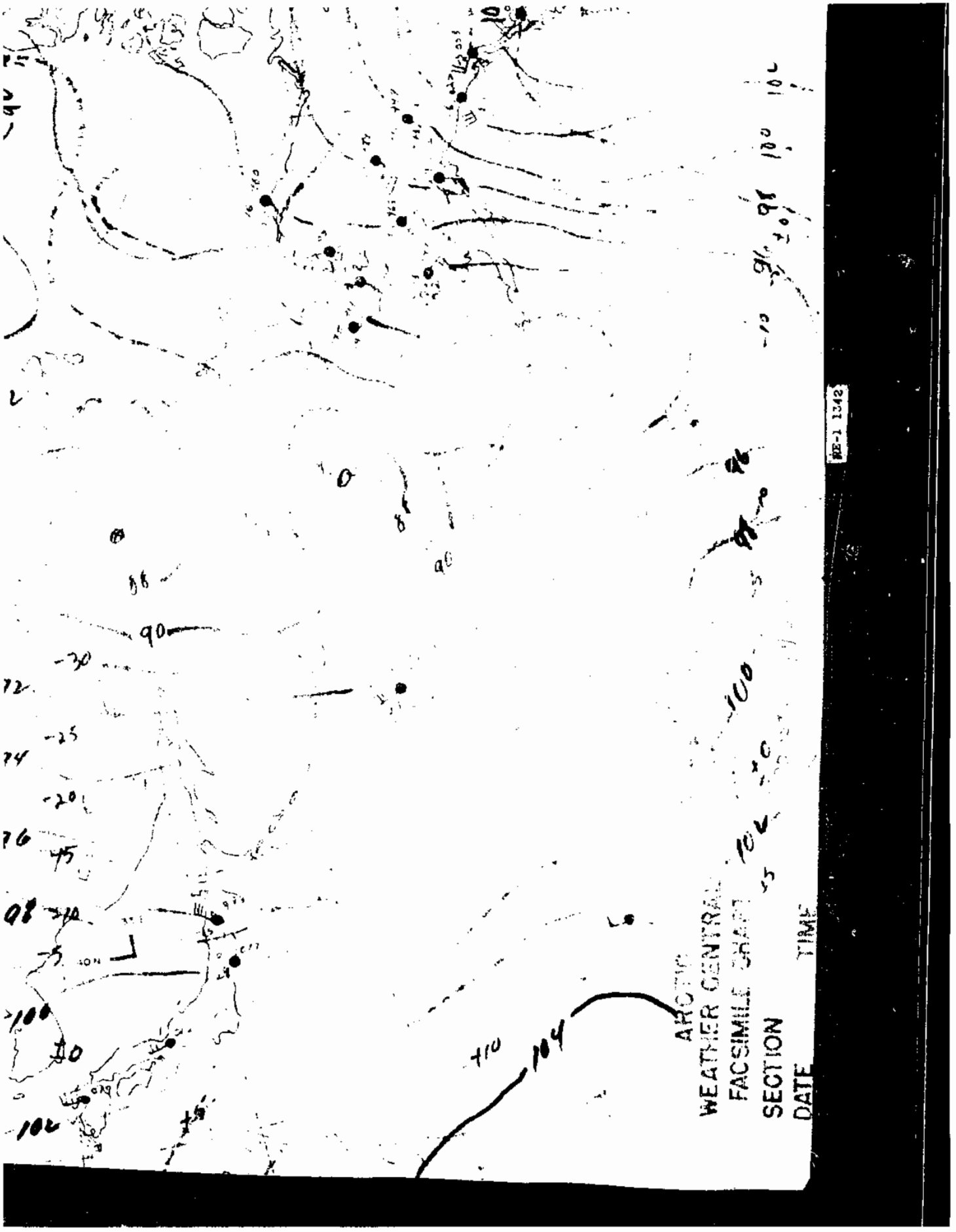
BERRY/COPY HAS BEEN SENT HELM SEA/PLZ FWCD FOLLOWING MSG TO OPERATIONS OFFICER MATS MCCHORD FIELD ASAP STOP THIS WAS FENSTERMAKER'S LAST TRIP FROM KEDF SEA AND DESIRE YOU INSERT FLT NBR IN LAST SENTENCE.

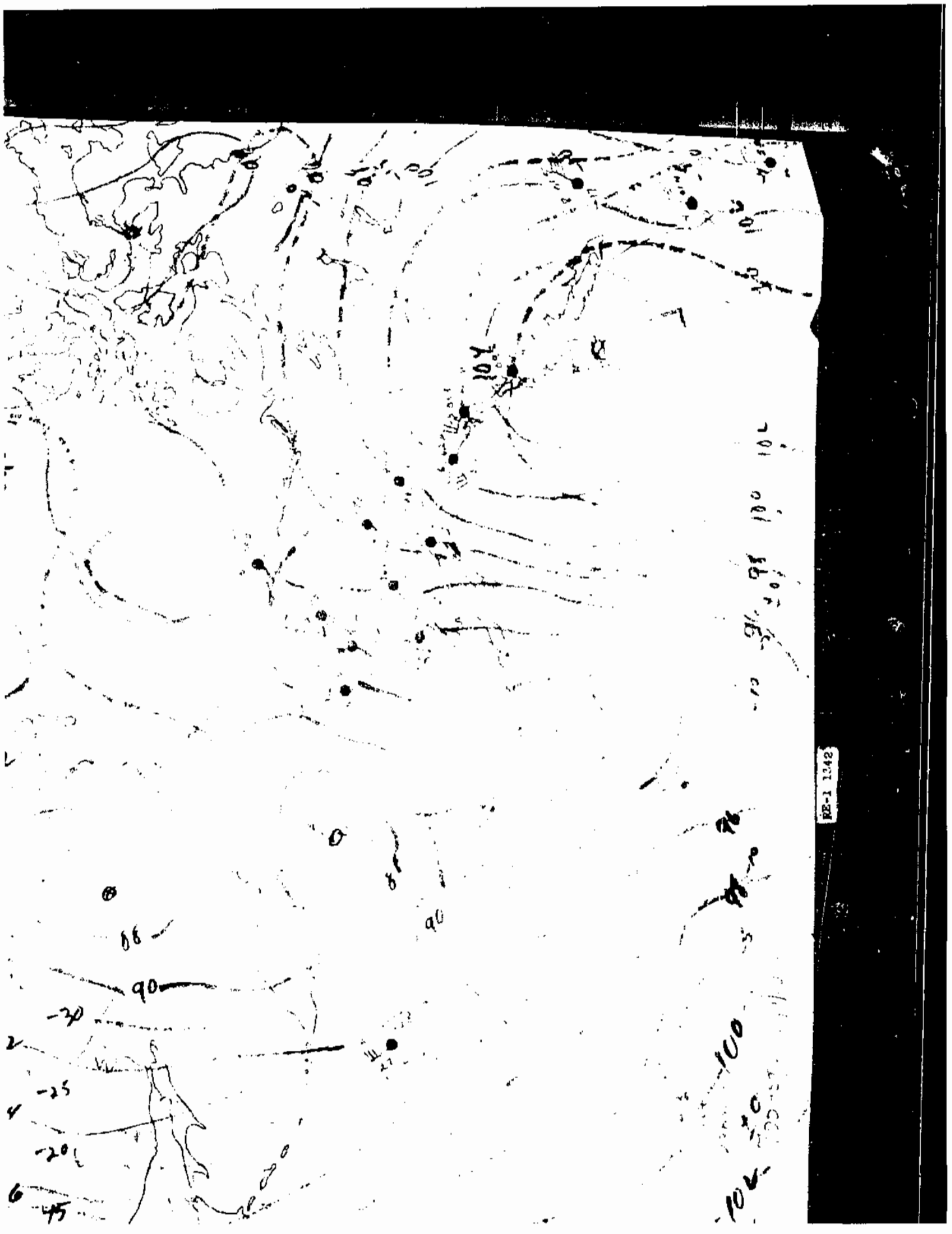
QUOTE ON TAKEOFF WE WERE CLRD TO COXXX CLIMB NW TO SUSITNA INTERSECTION RETURN INBOUND AT 10000 FT. ON CROSSING RANGE STATION AT 10000 WE HAD VERTICAL VISIBILITY NO ICING AND AIR WAS SMOOTH. FROM RANGE STATION TO WHITTIER MARKER WE INCOUNTERED MODERATE ROUGH AIR AND MODERATE DOWN-DRAFTS TO THE EXTENT THAT WE USED METO POWER FOR SHORT PERIOD OF TIME ON TWO OCCASIONS TO CONERACT 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 MIGHT AS WELL LAND THER"
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 MIDDLETON THE AIR WAS SMOOTH THERE WAS NO ICING AND WE WERE DEFINATELY ON TOP ON REACHING MIDDLETON STOP TRIP WAS ROUTINE FROM THERE TO SEA
T W FENSTERMAKER CAPT NWA FLIGHT NYXXX NUMBER BLANK END QUOTE
A F OLSON CHF PILOT MSPFO

BIL R 113

EDFO







HEADQUARTERS, 1705TH AIR TRANSPORT GROUP
CONTINENTAL DIVISION MATS
McChord AFB, Washington

[illegible]   29 November 1952

MEMORANDUM FOR: Record

SUBJECT: Brief on [illegible], C-124, A/C 1107

Flight [illegible], C-124 #1107, departed TCM for EDF at 2330Z (1530L) via Military Airways, 22 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 55-4 plus 2400 lbs for pulling extra power due to forecast icing conditions.

The aircraft gross weight was 174,716 lbs at takeoff. Maximum gross weight for this type aircraft is 175,000 lbs. The center of gravity was 31.25 at takeoff (within limits) and computed to be 29.15 at time of landing (within limits).

There was 11 crew members and 41 passengers on board; all properly manifested.

The weather for EDF was forecast to be 6/8 [illegible] ft, 4/8 at 9000-10,000 ft with 10 miles visibility. [illegible] was the alternate and was forecast to be 7/8 [illegible], 8/8 13,000-15,000 with 7 miles visibility. The cross section for the route indicated clear skies to approximately the half way point with increasing cloudiness to 8/8 coverage from the 3/4 point to EDF. Icing level was 1800 ft at Middleton Island and on the ground at EDF. A stationary front lay between a point west of Sitka and Middleton Island. (Pilot reports from other aircraft in the vicinity indicated moderate to severe icing and turbulence.) The weather cross section forecast 30 knot winds from 180° to 9000 ft between Middleton and EDF. Pilot reports from this area indicated 65 to 80 knot winds; however, this information was not then available to the pilot. A C-47 [illegible] into EDF at approximately the same time reported a ground speed of 66 knots.

The pilot was considered qualified in all respects and had recently been checked by the [illegible] Chief Pilot (Major Warren) on a trip to Europe. (Pilot's and Co-Pilots Qualifications are attached). There is much conjecture 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 logical factor. It is considered that this assumption plus the unpredicted high cross wind were major considerations in the flight drifting so far off course.

Hq 1705 [illegible], [illegible], [illegible], McChord AFB, [illegible], Memo for Record, Subject: "Brief on D-39/22, C-124, S/N 1107"

The flight reported just east of Middleton Island at 9000 feet at 0958 and this was the last contact established.

The aircraft was subsequently sighted at approximately the 8300 ft level on a mountain 45 miles from [illegible] on a bearing of 74 degrees.

34TH AIR TRANSPORT SQUADRON
1705th Air Transport Group
Continental Division, MATS
McChord AFB, Washington

3 December 1952

SUBJECT: Technical Orders Not-Complied-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-complied-with:

01-40NV-118 — 15 August 1952
Restriction on use of wing fillet life raft compartments.
(No life rafts installed in fillets.)

01-40NVA-41A — 16 October 1952
Inspection and replacement of main landing gear retracting cylinder rod end bearings.
(Tools necessary for accomplishment are on order.)

01-40NVA-57 — 8 May 1952
Modification of Curtiss propeller synchronizer and synchronizer rack assembly.
(Kit not available.)

02A-10B-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. 01-1583 — 13 November 1952
Engine driven generator and alternator replacement.
(Not-complied with due to confusion existing on pending change to original Interim Technical Order.)

JOE C. WILEY
Captain USAF
Maint Officer

MILITARY AIR TRANSPORT SERVICE
Continental Division, MATS

INSTRUCTOR NAVIGATOR'S SIX (6) MONTH LINE CHECK REPORT

Date 17 SEPT 52

NAVIGATOR TURNER, WILLIAM I. 2/LT (Name in full) (Rank) INSTRUCTOR NAVIGATOR SMITH, HUBERT R. 1/LT (Name in full) (Rank)

AIRCRAFT COMMANDER KOETEEUW, STANLEY CAPT (Name in Full) (Rank) TYPE AIRCRAFT C-124

ROUTE TCM-SAVANNAH, U.K., RETURN VIA BROOKLEY

FLIGHT TIME:

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 consol navigation . . . . . S
6. Loran navigation . . . . . S
7. Celestial navigation . . . . . S
8. Post flight . . . . . S
9. General . . . . . S

Final grade this report

SUMMARIZED RECOMMENDATIONS: Lt. Turner has a very good knowledge of all phases of navigation. Works with ease, is confident, and produces good results.

SIGNED: HUBERT R SMITH 1/LT
Instructor Navigator

MATS FORM 46A (1 Dec 50)
(reproduced 1705 ATC, 2 Sep 52)

A certified True copy
Stuart Berg 1/LT

1. PREFLIGHT

A. Promptness and appearance. . . . . S
B. Attentiveness to briefing . . . . . S
C. Weather analysis, influence on flight plan . . . . . S
D. Coordination of cruise control inter crew and flight plan . . . S
E. Accuracy and completeness of flight log . . . . . S
F. Equipment check (time tick, octant [illegible], maps, astro compass, drift meter, navigation books, etc. . . . . S

Grade . . . S

REMARKS

2. ORGANIZATION AND NEATNESS

A. Accessibility of materials before take-off . . . . . S
B. Condition of charts, arrangement of materials during flight . . S
C. Care of classified material . . . . . S
D. Neatness and accuracy of log, flow-graph and weather folder. . S
E. Periodic posting of position [illegible] . . . . . S

Grade . . . S

REMARKS

3. DEAD RECKONING

A. Use of drift meter. . . . . S
B. Preparation of maps in advance. . . . . S
C. Use of radio altimeter drift. . . . . S

Grade. . . S

REMARKS

4. PILOTAGE

A. Accuracy and use of [illegible] bearing. . . S
B. Map reading ability. . . . . S

Grade S

REMARKS:

5. RADIO AND [illegible] NAVIGATION

A. A[illegible] use of [illegible] . . . . S
B. Knowledge and use of radio equipment. . . . . S
C. Knowledge and use of [illegible] . . . . VN
D. Knowledge of radio range [illegible] . . . . S
E. Knowledge and use of consol. . . . . S
F. Coordination of radio with other types of navigation. . . . S

Grade S

REMARKS:

6. LORAN AND [illegible] NAVIGATION

A. Calibration and reception [illegible] . . . . S
B. Knowledge and use of equipment. . . . . S
C. Ac[illegible] of results. . . . . S
D. Use [illegible] . . . . NA

Grade S

REMARKS:

7. [illegible]

A. [illegible] . . . . S
[illegible] . . . . S
[illegible] . . . . S
[illegible] . . . . . S

[illegible] S

EX-1 2242

8. POST FLIGHT

		Grade
A.	General accuracy of headings [illegible]	S
B.	Report to weather office	S
C.	Debriefing report.	S
D.	Condition of navigator [illegible]	S
	Grade	S

REMARKS: ____________________

9. GENERAL

		Grade
A.	Ability to coordinate use of [illegible] pilotage, de[illegible] reckoning.	S
B.	Knowledge of [illegible] procedures.	S
C.	Knowledge of emergency procedures [illegible] location of emerg equip.	S
D.	Attitude and judgment.	S
E.	Cooperation wit[illegible] crew.	S
F.	General impression created by navigat[illegible]	S
	Grade	S

Cooperation of crew with navigator (enter in remarks)

REMARKS: *Crew cooperated fully*

1. Ground training required? Yes ____ No ✓.
2. Flight training necessary? Yes ____ [illegible] ✓.

INSTR[illegible]TION [illegible] *NONE*

ACTION [illegible] ON [illegible]IS REPORT

Appropriate remarks are checked:

____ [illegible] needed.

____ Report [illegible] settled.

✓ Inst[illegible] navigator [illegible] followed.

____ Navigator [illegible] in accordance [illegible]

[illegible] *Navigator upgraded to transport navigator. HCS*

3 December 1952

STATEMENT

I state that I, Thomas S. Sullivan, 1st Lieutenant, USAF, am assigned to the 5002nd IG, Special Investigations Squadron, Elmendorf AFB, Alaska; that I have approximately 200 hours experience as an air crew member in the Air Forces of the United States; that I have been a parachutist since 1951; that I have flown at least 2,000 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 0850 hours, I departed Elmendorf AFB, Alaska, in a Piper Super Cub aircraft flown by Dr. Terris 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 Rescue. However, a search of the Surprise Glacier on the slopes of Mount Gannett soon revealed what appeared to be the tail section of an aircraft on the floor of the Surprise Glacier, and close to the principal western ridge of Mount Gannett. We flew directly on to the glacier, and landed in the soft snow which covered the greater part of the glacier. Our altimeter indicated approximately 6,100 feet upon landing, and the temperature of our thermometer, which was fixed on the wing strut of the aircraft, indicated zero degrees Fahrenheit. This temperature fluctuated plus or minus 5° during daylight hours. Dr. Moore stated that he had set the altimeter at 100 feet at Elmendorf before our takeoff. We landed at approximately 1000 hours. After landing, we proceeded immediately to the tail section of the wrecked aircraft, which was approximately 1,500 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 them, extremely difficult.

Having arrived at the tail section of the aircraft, we made a visual inspection, and determined from the numerals 1107 appearing on the right side of the vertical stabilizer of a C-124 type aircraft, that we had positively identified the missing aircraft. The tail section appeared to have been sheared completely off from the fuselage section of 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 skin covering the vertical stabilizer and rudder was stripped completely off, but that 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 Dr. Moore remarked to me that "the impact 'G's' must have been tremendous". (See photographs attached.) A blanket was caught on and hanging from the left elevator of the tail section, and upon examination showed a slight charring. Dr. Moore and I probed 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 at the extremities

of the right and left horizontal stabilizers 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 mound in the snow approximately 150 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 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 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 dispersal 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 examination I concluded that the aircraft had struck the face of the western ridge of Mount Gannett below its saddle and above the drifted snow line at an angle of about 20 degrees in azimuth, and thus 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 longerons 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 Elmendorf AFB as soon as possible. Before Dr. Moore returned to the floor of the glacier, however, I saw a dark form below him in the snow, and having excavated the snow for about two or three feet, pulled up a Military parka. This parka bore no marks of identification. It was buttoned up and there were no human remains evident thereon or nearby. The significant thing about this parka 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 mound for approximately one half hour, but was unable to discover anything of real interest. I uncovered several fragments of cardboard cartons near the site of the blanket. As I began to probe underneath this mound I discovered that it appeared to be a huge 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 called 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 800 feet in length and ten feet in width, running generally east and west, and because of a prevailing wind down glacier in the necessary direction of our takeoff, we began to construct a new runway to the south at 90 degrees to our east-west runway. Dr. Moore thought that a cross-wind takeoff would be too

hazardous, and we abandoned this attempt after a short time. Our construction 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 down glacier increased steadily towards 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 east-west runway, which we lengthened (because of the prevailing tail wind of five to eight miles per hour) some 200 feet. The engine of our aircraft had become frozen during the night, and Dr. Moore worked with a plumber's smoke pot and a blow torch for approximately one hour before 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 lulls we boarded 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 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 Dr. Moore decided that he would fly on down to Elmendorf. We then turned south and proceeded down the Knik Arm and flew over the water at an altitude of 100 feet, arriving at Elmendorf at approximately 1200 hours. As we approached Elmendorf, Dr. 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 Gannett, 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-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, that 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 fresh 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 evacuated upon completion of their operation by light aircraft or helicopter.

Thomas S. Sullivan

THOMAS S. SULLIVAN
1st Lieutenant, USAF
AO-1849397
Headquarters, Alaskan Air Command

NTA035
XMA050
JWPDM43
OPOP JEPC JWPNT JEPFF JWFMB JEDWP JKDC JEDEN 777
DE JWPDM 13M
OP 2311307
FM CO 1726TH SPT SQ MCCHORD AFB WASH
TO JEPC/INSPECTOR GENERAL USAF HQ USAF WASH DC
JWPNT/DIRECTORATE OF FLIGHT SAFETY RESEARCH OFFICE OF THE DEPUTY INSPECTOR GENERAL FOR TECH INSPECTION AND FLIGHT SAFETY RESEARCH NORTON AFB CALIF
JEPFF/CO GENERAL MATS ADREWS AFB MD
JWFMB/CMDR CNTLDIV MATS KELLY AFB TEX
JKDC/COMMANDING GENERAL ALASKAN AIR COMMAND ELMENDORF AFB ALASKA
JEDWP/COMMANDING GENERAL AIR MATERIEL COMMAND WRIGHT PATTERSON AFB DAYTON OHIO
JEDEN/CG ADC ENT AFB COLO
/R E S T R I C T E D/
PLIMARY REPORT OF MISSING AIRCRAFT:
A. 23/1100Z OVERDUE ELMENDORF AFB ALASKA
B. C-124A 51-107 34TH AT GP 1705TH AIR TRANS GRP MCCHORD AFB CNTLD MATS MCCHORD AFB CNA UNKNOWN
C. OPERATOR AIRCRAFT COMMANDER DUVAIL KENNETH J. CAPT AO-742655 34TH AT SQ 1705TH AT GP CNTLD MATS MCCHORD AFB UNKNOWN UNKNOWN PD
D. SAME AS ABOVE
C. CREW 11
PAXS 41
LIST TO FOLLOW

PAGE TWO JWPDM 13M

F. A/C OVERDUE ON IFR FLIGHT PLAN TCM-EDF PD LAST POSITION REPORT PD MIDDLETON ISLAND PD TIME 2305472 NO TROUBLE REPORTED AT THIS POSITION
PAGE TWO
G. UNKNOWN
H. UNKNOWN
I. IFR TCM TO EDF
J. TRANSPORTATION FREIGHT AND PAXS PD D39/22
K. UNKNOWN
L. UNKNOWN
23/1145Z NOV JWPDM

729

Ref TH 11/728

A

NTA041
XMA055
JWPDM48
OPOP JEPC JWPNT JEPFF JWFMB JEDWP JKDC JEDEN 777
DE JWPDM 15M
OP 231217Z
FM CO 1726TH SPT SQ MCCHORD AFB WASH
TO JEPC/INSPECTOR GENERAL USAF HQ USAF WASH DC
JWPNT/DIRECTORATE OF FLIGHT SAFETY RESEARCH OFFICE OF THE DEPUTY INSPECTOR GENERAL FOR TECH INSPECTION AND FLIGHT SAFETY RESEARCH NORTON AFB CALIF
JEPFF/CO GENERAL MATS ADREWS AFB MD
JWFMB/CMDR CNTLDIV MATS KELLY AFB TEX
JKDC/COMMANDING GENERAL ALASKAN AIR COMMAND ELMENDORF AFB ALASKA
JEDWP/COMMANDING GENERAL AIR MATERIEL COMMAND WRIGHT PATTERSON AFB DAYTON OHIO
JEDEN/CG ADC ENT AFB COLO
/R E S T R I C T E D/
REFERENCE OUR MESSAGE NO 13M DTG 231130Z PRIMARY REPORT OF MISSING AIRCRAFT C-124 PN 51-107 PD

NAME	RANK	AFSN	CREW POSITION
DUVALL KENNETH J	CAPT	AO-742695	AC (IN COMD OF A/C)
CHENEY ALGER M	CAPT	AO-746251	1ST P
TURNER WILLIAM I	1/LT	AO-1912344	NAV
HAGEN ENGOLF W	TSGT	AF-16275585	IE
SPRAGUE CONRAD N	A/2C	AF-19354551	2ND E
COSTLEY EUGENE R	SSGT	AF-12111722	2ND E
OWEN ROBERT A	A/2C	AF-14087412	RO
SCOTT MARION L	A/3C	AF-16377386	RO
INGRAM GEORGE M	A/1C	AF-16235738	LM
KIMBALL JAMES R	A/3C	AF-19445476	FA

728

Ref T# 11/727

PAGE TWO JWPDM 15M

JACKSON WAYNE D	A/3C	AF-17348602	FA

NAMES	RANK	AFSN
SMITH E (N)	COL	3259A
SINGLETON L S	LT COL	0295776
STEARNS E J	MAJ	011132
JACKSON W C	MAJ	9167A
TRIBBLE W P	CAPT	A0838094
PONIKVAR J E	CAPT	A02090619
TURNBULL R W	CAPT	A0539077
GOEBEL J H	CAPT	A0786012
DRASKEY D D	CAPT	A0857385
SHEDA D A	1/LT	A0788268
LEAFORD J R	2/LT	A01852916
MOON R E	2/LT	A02223881
BERGER	2/LT	01876195
BUIE R	2/LT	01887253
LOEFFLER E H	2/LT	01892859
SCHNORE E J	MSGT	RA6707990
UNGER L G	TSGT	AF37051019
WHITE B F	A/2C	AF18398936
CODY D	A/1C	IAF13388325

PAGE THREE JWPDM 15M

MARTIN H E	A/3C	AF16397317
RAY J H	SSGT	AF33266952
THIGPEN T C	A/2C	AF14438910
MILLER E J	A/2C	AF1635003
DYER C R	A/2C	AF11221975
BUDAHN V C	A/2C	AF17345292
LYONS T S	A/2C	AF12365760
MATTHERS LL	A/3C	AF14438630
BURNS B R	A/2C	AF18396484
MIZE E W	A/2C	AF14401304
HOOTON M E	A/1C	AF2455308
VAN FOSSEN R D	SSGT	AF25417604
MC CMANN D F	A/2C	AF1652208
NEWSOME S E	A/1C	AF12270881
CONDON T J	A/2C	AF16376614
KITTLE L A	PVT	US55222166
COOMBS W N	CAPT	A01996894
ANDERSON I W	A/S	AF1441771
CARD R D	PVT	US55220886
GREEN J J	PVT	US1149825
HOBLIT N E	COL	18845A
SEEROTH A J	CDR	142177

728

23/1222Z NOV JWPDM

13:03

NTA038
XMA053
JWPDM45
OPOP JEPC JWPNT JWFMB JEPFF 444
DE JWPDM 14M
OP 231557
FM CO 1726TH SPT SQ MCCHORD AFB WASH
TO JEPC/DIRECTOR OF PLANS AND OPERATIONS HQ USAF ATTENTION OPERATIONS DIVISION WASH DC
JWPNT/FLYING SAFETY DIVISION OFFICE OF THE AIR INSPECTOR C/O INSPECTOR GENERAL USAF NORTON AFB CALIF
JWFMB/CMDR CNTLD DIV MATS KELLY AFB TEX
JEPFF/CMDR MATS ANDREWS AFB MD
/R E S T R I C T E D/
UP PAR 4N (1) AFR 60-6 THE FOLLOWING IS SUBMITTED:
C-124 NO 51-107 HOME BASE OF A/C AND CREW 1705TH AT GP GRP MCCHORD AFB WASH POINT OF DEPARTURE MCCHORD AFB TIME OF DEPARTURE 2330Z/22 PD DESTINATION CMA ELMENDORF AFB CMA ROUTE CMA MILITARY AIRWAYS MISSION CMA MATS SCHEDULED TRANSPORT PD ESTIMATED TIME EN ROUTE CMA 7&03PD POSITION LAST REPORTED CMA OVER MIDDLETON ISLAND AT 0547Z/23 PD WEATHER OVER ROUTE CMA FORECAST VFR TO SO WEST LEG YAKUTAT RANGE 1 FR REMAINDER OF ROUTE PD (PILOT REPORT OVER MIDDLETON 0800Z/23 WEATHER FROM ANCHORAGE TO WHITTIER MODERATE TURBULANCE AND DOWN DRAFTS PD WHITTIER TO MIDDLETON AIR SMOOTH WITH OCCASIONAL MODERATE TURBULENCE OF SHORT DURATION PD

PAGE TWO JWPDM 14M

20 MIN N. W. OF MIDDLETON TO OVER MIDDLETON AIR SMOOTH CMA TOP OF OVERCAST VARIABLE AT 10,000 OCCASIONAL MODERATE ICING IN CLOUDS PD)

NAME	RANK	AFSN	CREW POSITION
DUVALL KENNETH J	CAPT	AO-742695	AC (IN COMD OF A/C)
CHENEY ALGER M	CAPT	AO-746251	1ST P
TURNER WILLIAM I	1/LT	AO-1912344	NAV
HAGEN ENGOLF W	TSGT	AF-16275585	IE
SPRAGUE CONRAD N	A/2C	AF-19354551	2ND E
COSTLEY EUGENE R	SSGT	AF-12111722	2ND E
OWEN ROBERT A	A/2C	AF-14087412	RO
SCOTT MARION L	A/3C	AF-16377386	RO
INGRAM GEORGE M	A/1C	AF-16285738	LM
KIMBALL JAMES R	A/3C	AF-19445476	FA
JACKSON WAYNE D	A/3C	AF-17348602	FA

NAMES	RANK	AFSN
SMITH E (N)	COL	3259A
SINGLETON L S	LT COL	0295776
STEARNS E J	MAJ	011132
JACKSON W C	MAJ	9167A
TRIPPLE W P	CAPT	AO838004

727

[redacted]

PAGE THREE JWFDM

PONIKVAR J E	CAPT	AO2092619
TURNBULL R W	CAPT	AO538077
GOEBEL J H	CAPT	AO786012
DRASKEY D D	CAPT	AO557385
SHEDA D A	1/LT	AO785268
LEAFORD J R	2/LT	AO1852916
MOON R E	2/LT	AO2223881
BERGER	2/LT	01876195
BUIE R	2/LT	01887253
LOEFFLER E H	2/LT	01892859
SCHNORE E J	MSGT	RA6707990
UNGER L G	TSGT	AF37051019
WHITE B F	A/2C	AF18398936
CODY D	A/1C	IAF13388325
MARTIN H E	A/3C	AF16397317
RAY J H	SSGT	AF33266952
THIGPEN T C	A/2C	AF14438910
MILLER E J	A/2C	AF1635003
DYER C R	A/2C	AF11221975
BUDAHN V C	A/2C	AF17345292
LYONS T S	A/2C	AF12365760

PAGE FOUR JWFDM 14M

MATTHERS J L	A/3C	AF14438630
BURNS B R	A/2C	AF18396484
MIZE E W	A/2C	AF14401304
HOOTON V E	A/1C	AF2455308
VAN FOSSEN R D	SSGT	AF25417604
MC CMANN D F	A/2C	AF1652208
NEWSOME S E	A/1C	AF12270881
CONDON T J	A/2C	AF16376614
KITTLE L A	PVT	US55222166
COOMYS W N	CAPT	AO1998894
ANDERSON I W	A/S	AF1441771
CARR R D	PVT	US55220886
GREEN J J	PVT	US1149825
HOLLIT N E	COL	18545A
SEEBOTH A J	CDR	142177

21/1200Z NOV JWFDM

127