



# National Transportation Safety Board Aviation Accident Final Report

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<b>Location:</b>	KENAI, AK	<b>Accident Number:</b>	ANC01FA026
<b>Date &amp; Time:</b>	12/20/2000, 1620 AST	<b>Registration:</b>	N1419Z
<b>Aircraft:</b>	Curtis-Wright C46A	<b>Aircraft Damage:</b>	Destroyed
<b>Defining Event:</b>		<b>Injuries:</b>	2 Fatal
<b>Flight Conducted Under:</b>	Part 125: 20+ Pax,6000+ lbs		

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## Analysis

The flight crew was returning from off-loading their cargo at a remote site on the west side of a mountain range. The return flight would provide an option of following a lower mountain pass, or flying over the mountainous terrain. Witnesses related that prior to the flight's departure, the marginal VFR weather conditions began to deteriorate very rapidly, with winds in excess of 50 knots, lowering ceilings, rain, and turbulence. An airmet, valid during the time of the accident, forecast high winds, mountain obscuration, and turbulence. The wreckage of the airplane was located near the crest of a 2,900 feet msl ridge. Wreckage debris was scattered on both sides of the ridge, and the airplane was destroyed by the high speed impact. Inspection of the wreckage disclosed no evidence any mechanical anomalies. A radar track analysis of a target airplane believed to be the accident airplane, depicted a track on a direct route of flight over the mountains from the departure airport towards the destination airport. Altitude data was not received from the target airplane's Mode C transponder, and therefore was extrapolated from the less reliable radar plot information. The maximum altitude plotted was approximately 10,800 feet, prior to a descent as the airplane neared the west side of the range. Mountains along the route of flight exceed 10,000 feet msl.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The flight crew's decision to continue VFR flight into instrument meteorological conditions. Factors associated with the accident are high winds, turbulence, and low ceilings.

## Findings

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Occurrence #1: IN FLIGHT ENCOUNTER WITH WEATHER  
Phase of Operation: CRUISE

### Findings

1. (F) WEATHER CONDITION - HIGH WIND
2. (F) WEATHER CONDITION - TURBULENCE
3. (F) WEATHER CONDITION - LOW CEILING

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Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER  
Phase of Operation: CRUISE

### Findings

4. TERRAIN CONDITION - MOUNTAINOUS/HILLY
5. (C) VFR FLIGHT INTO IMC - CONTINUED - FLIGHTCREW

## Factual Information

### HISTORY OF FLIGHT

On December 20, 2000, about 1620 Alaska standard time, a Curtis-Wright C46A airplane, N1419Z, operated by Everts Air Fuel, inc., under 14 CFR part 125, was destroyed when it collided with mountainous terrain, about 43 miles southwest of Kenai, Alaska, at 60.2179 degrees north latitude, and 152.3701 west longitude. The two commercial certificated flight crew members, the only people aboard, were fatally injured. The flight originated at Kenai, and was scheduled to return to Kenai, with intermediate stops at Big River Lakes, and Nondalton, Alaska. The purpose of the flight was to deliver fuel. The flight departed Nondalton about 1540, en route to Kenai. Visual meteorological conditions prevailed at Kenai and Nondalton at the time of the accident; however, witnesses described deteriorating weather conditions, low clouds, visibility less than a mile, and 50-60 knot surface winds in the general vicinity of the accident site. A VFR flight plan was filed.

The airplane was reported overdue when it failed to return to Kenai, and a search was initiated by the Alaska Air National Guard on December 20. A radar target track identified an aircraft departing Nondalton about the time of accident airplane, with the radar track terminating near where the airplane was eventually located. Dark night, low clouds, and mountain cloud obscuration at the crash site precluded searchers from reaching the area of the crash site. The fragmented wreckage was located on December 21, about 1320, near the crest of a 2,900 feet msl mountain. According to rescue personnel, it appeared that the airplane struck the ridge at high speed in a nearly level attitude, with some debris going over the top of the mountain ridge, and some falling down slope. The Alaska Mountain Rescue Group, in conjunction with the Alaska State Troopers, recovered the second pilot's remains on December 22. Due to deep snow and avalanche hazards, the first pilot's remains were not located on December 22, and were not discovered until a site survey by an insurance wreckage recovery team was initiated on July 6, 2001. At that time, an Alaska State Trooper took a helicopter to the accident site and retrieved the remains.

### PERSONNEL INFORMATION

The first pilot held a commercial pilot certificate with airplane single engine land and sea, and multiengine land instrument airplane ratings. He also held two type certificates, for C-46, and DH-4 airplanes. The pilot's personal flight log was not located. According to FAA airman records and the pilot's application for his C-46 type certificate on July 23, 2000, he noted a total flight experience of 5,700 hours, with 938 hours in the accident type airplane. Company flight records indicate he flew an additional 602 hours in the C-46 from August 8, 2000, until the accident on December 20.

The second pilot held a commercial pilot certificate with airplane multiengine land and sea, and instrument airplane ratings. The second pilot's personal log book was not recovered. According to FAA airman records, he listed his total flight experience on his last airman medical application, dated July 26, 2000, as 1,223 hours. Company records indicate he accrued an additional 638 of flight experience in C-46 airplanes from August 2000, until the accident.

### AIRCRAFT INFORMATION

The accident airplane had two radial reciprocating engines, and was operated as a cargo

aircraft under the provision of 14 CFR Part 125. According to the company's operations specifications, it was equipped for flight in day/night VFR and IFR conditions. A review of the airplane's maintenance records for the preceding 30 days prior to the accident disclosed no significant unresolved mechanical issues.

#### METEOROLOGICAL CONDITIONS

The closest weather reporting station is at the Kenai Municipal Airport, Kenai, about 43 miles northeast of the accident site. At 1653 Alaska standard time, the Kenai METAR reported the wind as from 280 (true) at 20 knots, with gusts to 26 knots; visibility was 10 miles, sky coverage was 2,000 scattered, temperature 3 C, dew point 01C.

An airmet for moderate, to isolated severe turbulence, associated with gusting winds and marginal VFR conditions and mountain obscuration, was in effect for the area in the vicinity of the flight.

According to the officer in charge of the USAF Rescue Coordination Center at Anchorage, Alaska, a military C-130 airplane was attempting to locate the accident airplane and was flying in the approximate vicinity of the crash site about two hours after the accident. The officer indicated that the C-130 pilot was unable to fly into the mountainous area due to severe turbulence and low clouds that started about 100 feet above the ground, and went up several thousand feet.

A person living at Chitina Bay, about 36 miles south of the accident site, said the weather at the time of the accident was some of the worst he has seen in the 25 years he has lived there. He said, in part: "It was blowing like crazy, nasty, real nasty weather; you couldn't see more than 1/2 mile. Clouds were real low, wind at least 50 to 60 knots, raining, picking up water from the bay. It was terrible, no body should be flying in that kind of stuff. It was absolutely awful stuff."

A commercial pilot who was flying from Anchorage to Nondalton and then to Lake Clark, departed Nondalton about 1535. He believes the C-46 left Nondalton just behind him, about 1540. The pilot noted that at the time he arrived at Nondalton, the weather was turbulent in the pass (Lake Clark), with visibility about 3-7 miles, and 2,000 to 2,500 feet overcast cloud cover. He said as soon as he departed, the weather deteriorated dramatically, with snow falling and winds increasing to 40 knots or more.

Sunset on the day of the accident was 1554; the end of civil twilight was 1654.

#### COMMUNICATIONS

The FAA recorded three radio contacts with the accident airplane. At 1054, when the pilot requested only current weather conditions (no briefing) from a Kenai Automated Flight Service Station (AFSS) specialist for Kenai, Big River Lakes, Port Alsworth, Iliamna, Homer, Dillingham, and Togiak. The pilot was given the current weather, and advised of the pertinent airmet. At 1339, the pilot radioed Kenai AFSS and cancelled a VFR flight plan. At 1439, the pilot air filed a VFR flight plan with the Kenai AFSS, from Kenai to Nondalton, return to Kenai. The total flight plan time was for three hours. The pilot was asked if he was aware of the airmet(s) for turbulence and mountain obscuration along his route of flight, and the pilot responded he was.

Transcripts of the radio conversations between the FAA and the crew of the accident airplane are appended.

## WRECKAGE AND IMPACT INFORMATION

The NTSB investigator-in-charge did not travel to the accident site with the mountain rescue team due to avalanche hazards.

According to rescue personnel, and an insurance company representative who went to the accident site on July 7 to survey the accident site in preparation for removal of the wreckage, the airplane impacted at what appeared to be a high velocity in a nearly level attitude. The principal impact crater was about 50 feet below, and on the west side of a north/south oriented 2,900 feet msl ridge line. Wreckage debris was scattered on both sides of the ridge, with the majority of the wreckage on the west side. An avalanche had moved the main body of the wreckage several hundred feet below the initial impact area. All major components of the airplane were located at the crash site. The wreckage was removed during the next 30 days, and transported to Homer, Alaska.

The NTSB IIC traveled to Homer on September 10, 2001, and inspected the wreckage. All major components had been recovered. Virtually all sections of the airplane had been severely damaged, exhibiting compression, separation, and tearing. Both engines were examined, and no evidence of any preimpact mechanical anomaly, or in-flight fire was discovered. Both engines had extensive impact related damage. The number one, or left side engine, had one propeller blade still attached. The remaining blade was extensively gouged and distorted, with marked chord-wise scratching/gouging, and tip fragmentation. The number two engine was absent all propeller blades, a large portion of the front engine case, and the propeller dome and hub. According to the insurance adjuster who facilitated the wreckage removal from the accident site, these pieces were seen on the opposite side of the ridge from initial impact point, but were too hazardous to recover.

## MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy was conducted on both pilots by the State of Alaska , Office of the Medical Examiner, 4500 South Boniface Parkway, Anchorage, Alaska. Both reports indicate the pilots died of massive blunt trauma associated with an airplane accident, and neither pilot had signs of any pre-existing disease. Toxicological examinations performed by the FAA's Toxicology and Accident Research Laboratory, were negative for basic drugs.

## ADDITIONAL INFORMATION

The accident flight was not under air traffic control, nor was it utilizing any flight-following or approach control services. A primary radar track, absent any altitude information from the airplane's Mode C transponder, was analyzed at the request of the NTSB IIC by Department of the Air Force, 84th Radar Evaluation Squadron, Hill Air Force Base, Utah. A copy of their analysis is attached. The radar track extrapolation depicts an essentially straight, or direct flight path, from Nondalton over the mountainous terrain to the vicinity of the impact site. A continuation of the flight path correlated to a direct route from Nondalton to Kenai. The radar analysis also includes altitude information, based upon the distance of the target airplane from the Kenai FAA radar site. The report notes that the altitudes depicted should be considered close approximations, due to the limitations/distance from the radar site. According to the analysis, the target airplane reached a maximum altitude of 10,800 feet msl, and then

descended to 8,800 feet msl, when altitude information was lost.

Nondalton's field elevation is 310 feet msl; Kenai, the intended destination, is 99 feet msl. Between Nondalton and Kenai lies the Aleutian Mountain Range, with elevations in excess of 10,000 feet along the projected route of flight. A less direct route, Lake Clark pass, transits the range at elevations well below the mountain peaks, but is subject to reduced visibility and severe turbulence in strong wind conditions.

The NTSB did not take custody of the wreckage at any time during the investigation, and no parts or components of the airplane were retained.

### Pilot Information

<b>Certificate:</b>	Commercial	<b>Age:</b>	44, Male
<b>Airplane Rating(s):</b>	Multi-engine Land; Single-engine Land; Single-engine Sea	<b>Seat Occupied:</b>	Unknown
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	Yes
<b>Medical Certification:</b>	Class 2 Valid Medical--no waivers/lim.	<b>Last FAA Medical Exam:</b>	12/15/2000
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	07/23/2000
<b>Flight Time:</b>	6302 hours (Total, all aircraft), 1540 hours (Total, this make and model)		

## Aircraft and Owner/Operator Information

Aircraft Make:	Curtis-Wright	Registration:	N1419Z
Model/Series:	C46A C46A	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Restricted	Serial Number:	30228
Landing Gear Type:	Retractable - Tailwheel	Seats:	3
Date/Type of Last Inspection:	12/06/2000, AAIP	Certified Max Gross Wt.:	48000 lbs
Time Since Last Inspection:	10 Hours	Engines:	2 Reciprocating
Airframe Total Time:	10907.7 Hours as of last inspection	Engine Manufacturer:	P&W
ELT:	Installed, not activated	Engine Model/Series:	R2800-51
Registered Owner:	EVERTS AIR FUEL, INC.	Rated Power:	2000 hp
Operator:	EVERTS AIR FUEL, INC.	Operating Certificate(s) Held:	
Operator Does Business As:		Operator Designator Code:	EVAB

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument Conditions	Condition of Light:	Dusk
Observation Facility, Elevation:		Distance from Accident Site:	
Observation Time:		Direction from Accident Site:	
Lowest Cloud Condition:	Unknown	Visibility	0.5 Miles
Lowest Ceiling:	Overcast / 500 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	60 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	90°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:		Temperature/Dew Point:	3°C / 1°C
Precipitation and Obscuration:			
Departure Point:	NONDALTON, AK (5NN)	Type of Flight Plan Filed:	VFR
Destination:	KENAI, AK (ENA)	Type of Clearance:	None
Departure Time:	1540 AST	Type of Airspace:	Class G

## Wreckage and Impact Information

Crew Injuries:	2 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 Fatal	Latitude, Longitude:	60.363056, -152.616944

## Administrative Information

**Investigator In Charge (IIC):** JAMES D LABELLE **Report Date:** 06/18/2002

**Additional Participating Persons:** TONY A FISCHER; Anchorage FSDO; Anchorage, AK

**Publish Date:**

**Investigation Docket:** NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at [pubinq@ntsb.gov](mailto:pubinq@ntsb.gov), or at 800-877-6799. Dockets released after this date are available at <http://dms.nts.gov/pubdms/>.

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).