National Transportation Safety Board
Aviation Accident Final Report

Location:	WALES, AK	**Accident Number:**	ANC00LA027
Date & Time:	02/09/2000, 1205 AST	**Registration:**	N110JK
Aircraft:	Piper PA-31-T3	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	2 Serious, 7 Minor
Flight Conducted Under:	Part 135: Air Taxi & Commuter - Scheduled		

Analysis

The airline transport certificated pilot was landing a twin-engine turboprop airplane at a remote airport on a scheduled air taxi flight. Rising hilly terrain is located east of the airport. The pilot said that during the approach for landing, he noticed the airport wind sock indicating a wind from the east about 25 knots. When the pilot descended to 500 feet, about mid-base, the airplane encountered moderate turbulence and an increased rate of descent. He added engine power to arrest the descent. As he turned toward the runway, the airplane encountered 3 to 4 rolling oscillations with a bank angle up to 90 degrees while descending toward the runway. According to a company mechanic who traveled to the scene, it appeared that the airplane struck the runway about 1,200 feet from the approach end with the left wing and left elevator, while yawed about 45 degrees to the left of the runway centerline. The airplane then slid off the left side of the runway. After the collision, the pilot evacuated the passengers, and noticed the airport wind sock was indicating a tailwind. The Airport/Facility Directory contains the following in the airport remarks: 'Unattended. Easterly winds may cause severe turbulence in vicinity of runway.'

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's inadequate evaluation of the weather conditions, and his inadvertent flight into adverse weather conditions. Factors in the accident were terrain induced turbulence and a tailwind.

Findings

Occurrence #1: IN FLIGHT ENCOUNTER WITH WEATHER
Phase of Operation: APPROACH - VFR PATTERN - BASE LEG/BASE TO FINAL

Findings
1. (F) WEATHER CONDITION - TURBULENCE,TERRAIN INDUCED
2. (C) WEATHER EVALUATION - INADEQUATE - PILOT IN COMMAND
3. (F) WEATHER CONDITION - TAILWIND

Occurrence #2: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: APPROACH - VFR PATTERN - FINAL APPROACH

Findings
4. (C) FLIGHT INTO ADVERSE WEATHER - INADVERTENT - PILOT IN COMMAND

Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT - UNCONTROLLED

Findings
5. TERRAIN CONDITION - RUNWAY

Factual Information

On February 9, 2000, about 1205 Alaska standard time, a Piper PA-31-T3 airplane, N110JK, sustained substantial damage while landing at Wales, Alaska. The airplane was being operated as a visual flight rules (VFR) scheduled domestic passenger flight under Title 14, CFR Part 135, when the accident occurred. The airplane was operated as Flight 350 by Cape Symthe Air Service Inc., Barrow, Alaska. The airline transport certificated pilot, and one passenger received serious injuries. Seven passengers received minor injuries. Visual meteorological conditions prevailed. A VFR flight plan was filed. The flight originated at the Nome Airport, Nome, Alaska, at 1115.

The director of maintenance for the operator reported the airplane was landing on runway 35. A mechanic for the company traveled to the scene, and described impact marks beginning 1,200 feet from the approach end of runway 35. The mechanic said it appeared to him that the airplane struck the runway with the left wing and left elevator, with the airplane yawed about 45 degrees to the left of the runway centerline, and that the airplane then slid off the left side of the runway, through a snow berm, and came to rest about 200 feet to the left of the runway.

The director of maintenance said the weather conditions at Wales, reported by the Fairbanks, Alaska, Automated Flight Service Station (AFSS) were: Wind, 180 degrees at 15 knots, gust to 20 knots; visibility, 10 miles; clouds and sky condition, 1,500 feet broken; temperature, 30 degrees F.

A Federal Aviation Administration (FAA) inspector, Fairbanks Flight Standards District Office (FSDO), interviewed six of the passengers after their return to Nome. He said the passengers reported the flight arrived over Wales, and the airplane spiraled down through a hole in the clouds. Once below the cloud layer, the pilot began a landing approach. During the turn onto the final approach segment, the airplane began oscillating violently, rolling several times left and right, with the angle of bank near 90 degrees each time. The airplane then struck the runway.

In the Pilot/Operator report (NTSB form 6120.1/2) submitted by the company, the pilot included a statement. In his statement, the pilot said that during the approach for landing at Wales, he made three descending turns near the airport. Upon entering the downwind portion of the landing approach, the pilot said he noticed the wind sock at the airport was indicating a wind from the east about 25 knots. About mid-base, at 500 feet, the airplane encountered moderate turbulence and an increased rate of descent. He added engine power to arrest the descent. As the pilot turned toward the runway, the airplane encountered 3 to 4 rolling oscillations with a bank angle up to 90 degrees while descending toward the runway. The airplane collided with a snow berm along the west side of the runway. After the airplane came to a stop, the pilot said he evacuated the passengers, and noticed the wind sock had changed from a crosswind to a tailwind.

The airport at Wales is located along the west coast of the Seward Peninsula, next to the Bering Sea. Rising, hilly terrain is located east of the airport. Runway 35 at Wales is 4,000 feet long, and 75 feet wide. The runway surface was packed snow. The Airport/Facility Directory - Alaska Supplement, contains the following in the airport remarks: "Unattended. Easterly winds may cause severe turbulence in vicinity of runway. Runway conditions not monitored, recommend visual inspection prior to landing..."

The closest official weather observation station is Tin City Long Range Radar Station, which is located 5 nautical miles southeast of Wales. On February 9, 1999, at 1155, an automated weather observation system was reporting in part: Wind, 165 degrees (magnetic) at 15 knots; visibility, 2 statute miles; clouds and sky condition, 500 feet overcast; temperature, 26 degrees F; dew point, 24 degrees F; altimeter, 30.02 inHg.

Pilot Information

Certificate:	Airline Transport; Flight Instructor; Commercial; Flight Engineer	**Age:**	35, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	Airplane Single-engine	**Toxicology Performed:**	No
Medical Certification:	Class 1 Valid Medical--no waivers/lim.	**Last FAA Medical Exam:**	08/30/1999
Occupational Pilot:		**Last Flight Review or Equivalent:**	
Flight Time:	4600 hours (Total, all aircraft), 195 hours (Total, this make and model), 215 hours (Last 90 days, all aircraft), 72 hours (Last 30 days, all aircraft), 7 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	**Registration:**	N110JK
Model/Series:	PA-31-T3 PA-31-T3	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	No
Airworthiness Certificate:	Normal	**Serial Number:**	31T-8375005
Landing Gear Type:	Retractable - Tricycle	**Seats:**	10
Date/Type of Last Inspection:	02/06/2000, AAIP	**Certified Max Gross Wt.:**	9000 lbs
Time Since Last Inspection:	10 Hours	**Engines:**	2 Turbo Prop
Airframe Total Time:	12385 Hours	**Engine Manufacturer:**	P&W
ELT:	Installed, activated, did not aid in locating accident	**Engine Model/Series:**	PT6A-11
Registered Owner:	CAPE SMYTHE AIR SERVICE INC.	**Rated Power:**	550 hp
Operator:	CAPE SMYTHE AIR SERVICE INC.	**Operating Certificate(s) Held:**	Commuter Air Carrier (135); On-demand Air Taxi (135)
Operator Does Business As:		**Operator Designator Code:**	CSAA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	**Condition of Light:**	Day
Observation Facility, Elevation:	PAT, 269 ft msl	**Distance from Accident Site:**	5 Nautical Miles
Observation Time:	1155 AST	**Direction from Accident Site:**	135°
Lowest Cloud Condition:	Unknown / 0 ft agl	**Visibility**	2 Miles
Lowest Ceiling:	Overcast / 500 ft agl	**Visibility (RVR):**	0 ft
Wind Speed/Gusts:	15 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	165°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30 inches Hg	**Temperature/Dew Point:**	-3°C / -4°C
Precipitation and Obscuration:			
Departure Point:	NOME, AK (PAOM)	**Type of Flight Plan Filed:**	VFR
Destination:	(IWK)	**Type of Clearance:**	None
Departure Time:	1115 AST	**Type of Airspace:**	Class G

Airport Information

Airport:	WALES (IWK)	**Runway Surface Type:**	Gravel
Airport Elevation:	25 ft	**Runway Surface Condition:**	Snow--compacted
Runway Used:	35	**IFR Approach:**	None
Runway Length/Width:	4000 ft / 75 ft	**VFR Approach/Landing:**	Full Stop

Wreckage and Impact Information

Crew Injuries:	1 Serious	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 Serious, 7 Minor	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 Serious, 7 Minor	**Latitude, Longitude:**	

Administrative Information

Investigator In Charge (IIC):	SCOTT ERICKSON	**Report Date:**	12/04/2000
Additional Participating Persons:	JOHN GAMBELL (FAA); FAIRBANKS, 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, or at 800-877-6799. Dockets released after this date are available at http://dms.ntsb.gov/pubdms/.		