



National Transportation Safety Board Aviation Accident Final Report

Location:	KOTZEBUE, AK	Accident Number:	ANC03LA029
Date & Time:	03/02/2003, 1504 AST	Registration:	N205BA
Aircraft:	Cessna 208	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 Minor

Flight Conducted Under: Part 91: General Aviation - Positioning

Analysis

Prior to departing on an air taxi flight, the airline transport certificated pilot obtained a weather briefing and filed a VFR flight plan for a trip from his home base, to several remote villages, and return. The area forecast contained an AIRMET for IFR conditions and mountain obscuration due to clouds and light snow. The terminal forecast contained expected conditions that included visibilities ranging from 3 to 3/4 mile in blowing snow, a vertical visibility of 500 feet, and wind speeds from 14 to 22 knots. During the filing of the flight plan, an FAA flight service station specialist advised that VFR flight was not recommended. The pilot acknowledged the weather information and departed. When the pilot took off on the return flight from an airport 128 miles east of his home base, the pilot reported that the visibility at his base was greater than 6 miles. As he neared his home base, the visibility had decreased and other pilots in the area were requesting special VFR clearances into the Class E surface area. The pilot requested a special VFR clearance at 1441, but had to hold outside the surface area for other VFR and IFR traffic. At 1453, a METAR at the airport included a wind 080 of 26 knots, and a visibility of 1 mile in blowing snow. While holding about 7 miles north of the airport, the pilot provided a pilot report that included deteriorating weather conditions east of the airport. Once the pilot was cleared to enter the surface area at 1458, he was provided with an airport advisory that included wind conditions of 25 knots, gusting to 33 knots. While the pilot was maneuvering for the approach, a special aviation weather observation at 1501 included a wind condition of 26 knots, and a visibility of 3/4 mile in blowing snow. The pilot said he established a GPS waypoint 4 miles from the runway and descended to 1,000 feet. He continued inbound and descended to 300 feet. At 1 mile from the airport, the pilot said he looked up from the instrument panel but could not see the airport. He also stated that he was in a whiteout condition. The airplane collided with the snow-covered sea ice, about 1 mile from the approach end of the runway threshold at 1504.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's continued VFR flight into instrument meteorological conditions, and his failure to maintain altitude/clearance above the ground, resulting in a collision with snow and ice

covered terrain during the final approach phase of a VFR landing. Factors in the accident were whiteout conditions and snow-covered terrain.

Findings

Occurrence #1: IN FLIGHT ENCOUNTER WITH WEATHER

Phase of Operation: APPROACH - VFR PATTERN - FINAL APPROACH

Findings

1. (F) WEATHER CONDITION - WHITEOUT
2. (C) VFR FLIGHT INTO IMC - CONTINUED - PILOT IN COMMAND

Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER

Phase of Operation: APPROACH - VFR PATTERN - FINAL APPROACH

Findings

3. (F) TERRAIN CONDITION - SNOW COVERED
4. (C) ALTITUDE/CLEARANCE - NOT MAINTAINED - PILOT IN COMMAND

Factual Information

On March 2, 2003, about 1504 Alaska standard time, a Cessna 208 airplane, N205BA, sustained substantial damage when it collided with ice and snow-covered terrain during the final approach phase of a visual flight rules (VFR) landing, about 1 mile from the approach end of runway 08 at the Ralph Wien Memorial Airport, Kotzebue, Alaska. The airplane was being operated by Bering Air, Nome, Alaska, as a VFR cross-country positioning flight under Title 14, CFR Part 91, when the accident occurred. The airline transport certificated pilot, the sole occupant, received minor injuries. Instrument meteorological conditions prevailed at the airport, and the airplane was operating under a special VFR clearance. The flight originated at the Shungnak Airport, Shungnak, Alaska, at 1358, and a VFR flight plan was filed.

The director of operations for the operator reported the airplane was returning to Kotzebue from Shungnak without passengers at the conclusion of an on-demand air taxi flight. Shungnak is located about 128 miles east of Kotzebue.

During a telephone conversation with the National Transportation Safety Board (NTSB) investigator-in-charge (IIC) on March 3, 2003, the pilot reported that when he departed from Shungnak, the visibility at Kotzebue was greater than 6 miles. As he neared Kotzebue, the visibility had decreased and several airplanes in the area were requesting special VFR clearances into the Class E surface area. He requested a special VFR clearance but had to hold outside the area for other VFR and IFR traffic. Once he was cleared to enter the surface area, the pilot said he established a GPS waypoint 4 miles from the runway and descended to 1,000 feet. He continued inbound and descended to 300 feet. At 1 mile from the airport, the pilot said he looked up from the instrument panel but could not see the airport. He also stated that he was in a whiteout condition. The airplane collided with the snow-covered sea ice, short of the runway threshold.

A review of a transcript of the air/ground radio communications tapes maintained by the Federal Aviation Administration (FAA) at the Kotzebue Flight Service Station (FSS) facility revealed that about 1120, the pilot obtained area weather information and filed a VFR flight plan for a 4.5 hour flight departing from Kotzebue, stopping at several remote villages and returning. The pilot inquired from the FSS specialist about anticipated weather conditions by stating, in part: "...what time do they figure that low weather is suppose to hit us?" The specialist replied: "...in the terminal [forecast] it says one o'clock, but I think it's going to be later than that. Deering, [Alaska, about 50 miles south of Kotzebue] and Buckland, [Alaska, about 65 miles southeast of Kotzebue] have some lower ceilings, but their winds aren't really that strong yet, so might be a little holding off a little longer than what they had." The pilot replied, in part: "Okay, we'll kind of keep track of it..."

The FSS specialist informed the pilot that: "Caravan 5BA roger, and due to the airmets, I do have to tell you VFR flight [is] not recommended." The specialist then provided a pilot weather report from the area of Ambler, Alaska, that indicated the ceiling was 3,000 feet overcast, the visibility was unrestricted, the wind at 1,500 feet was 090 degrees at 30 knots, but calm at the surface. Ambler is located 112 miles east-northeast of Kotzebue. The FSS specialist then provided a Kotzebue airport advisory that included an altimeter setting of 29.54 inHg. The pilot acknowledged the weather information and departed from Kotzebue about 1123.

At 1441, the pilot contacted the Kotzebue FSS via radio and stated, in part: "and Kotzebue, Caravan 205BA, I got your weather and stuff, and I'll hold outside your Class Echo surface area until arrival of the IFR inbound, and then I'd like to get a special, maintaining separation with the outbound Charlie Foxtrot." The pilot then indicated he was holding 10 miles to the northeast. At 1445, the pilot told the FSS specialist he was holding at Pipe Spit (located about 7.5 miles northeast of the Kotzebue airport).

At 1449, the pilot contacted the Kotzebue FSS and stated, in part: "...5 Bravo Alphas losing visibility over there at Pipe Spit, I'm going over to the mouth of the Noatak [river] area." The mouth of the Noatak is about 7.5 miles north of the Kotzebue airport. At 1452, the pilot provided a pilot report of the weather conditions to the FSS specialist by stating: "Yeah, it's pretty grim out to the east right now (unintelligible) northwest towards Noatak, Kivalina is still real good, but I'm getting where I can't see Lockhart Point from the mouth of the Noatak." Lockhart Point is about 5 miles north of the Kotzebue airport.

At 1453, an Aviation Routine Weather Report (METAR) at Kotzebue was reporting, in part: Wind, 080 degrees (true) at 26 knots; visibility, 1 statute mile, runway 08 visibility variable from 5,500 to greater than 6,000 feet in light snow and blowing snow; clouds and sky condition, few at 1,300 feet, 2,000 feet broken, 2,700 feet overcast; temperature, 30 degrees F; dew point, 29 degrees F; altimeter, 29.51 inHg; remarks, peak wind 080 degrees at 33 knots at 1427, snow began at 1434.

At 1458, the Kotzebue FSS specialist issued a clearance to the pilot by stating, in part: " ATC clears Caravan 205BA to enter the Kotzebue surface area. Maintain special VFR conditions at or below 1,500 feet.... Report landing complete...Airport advisory, wind 080 [degrees] at 25 [knots], gusting to 33 [knots], favoring runway 08; altimeter 29.51." The pilot acknowledged the clearance.

At 1501, a special aviation weather observation stated, in part: Wind, 080 degrees (true) at 26 knots; visibility, 3/4 statute mile, runway 08 visibility variable from 3,500 to greater than 6,000 feet in light snow and blowing snow; clouds and sky condition, 1,100 feet broken, 2,000 feet overcast; temperature, 30 degrees F; dew point, 29 degrees F; altimeter, 29.50 inHg.

At 1504, FSS personnel picked up an emergency locator transmitter (ELT) signal and attempted to contact the pilot. The pilot acknowledged that he had crashed. FSS personnel notified search and rescue personnel and kept in radio contact with the pilot. At 1514, the pilot commented: "...I'm alright, bumped my head and bleeding a little bit, but other than that I must not a had the altimeter set quite right. I still got it showing couple hundred feet here so I must a misheard you or mis misaligned it or something."

A transcript of the air to ground communications between the airplane and the Kotzebue FSS facility is included in the public docket of this accident.

At 1507, a special weather observation stated, in part: Wind, 080 degrees (true) at 27 knots; visibility, 1/2 statute mile, runway 08 visibility variable from 2,800 to 4,500 feet in snow and blowing snow; clouds and sky condition, 700 feet broken, 1,800 feet overcast; temperature, 30 degrees F; dew point, 29 degrees F; altimeter, 29.50 inHg. At 1511, visibility for runway 08 was reported to be 2,400 to 3,500 feet in snow and blowing snow.

An area forecast issued at 0545 for the northern Seward Peninsula, and the lower Kobuk Valley, valid until 2400, stated, in part: "...AIRMETS are valid until 1200. AIRMET for IFR conditions and mountain obscuration, northern Seward Peninsula, mountains occasionally

obscured in clouds and light snow, no change. Clouds and weather for northern Seward Peninsula, valid until 1800, 2,000 feet scattered, 1,500 feet broken, tops at 12,000 feet, layers above to 28,000 feet. Occasionally, 2,000 feet overcast; visibility, 3 to 5 statute miles in light snow. Elsewhere, 5,000 feet scattered, 10,000 feet, broken, layers above to 28,000 feet. Outlook, valid from 1800 to 1200 on March 3, 2003; IFR with ceilings due to snow and blowing snow and wind. Turbulence, nothing significant. Icing and freezing level, nothing significant, freezing level at the surface."

An area forecast issued at 1145 for the northern Seward Peninsula, and the lower Kobuk Valley, valid until 0600 on March 3rd, stated, in part: "...AIRMETS are valid until 1800. AIRMET for IFR conditions and mountain obscuration, Kotzebue south, spreading north. Occasional ceilings below 1,000 feet and visibilities below 3 statute miles in light snow, blowing snow and mist, intensifying. Otherwise, Kotzebue south, spreading north, 500 feet scattered, 1,500 feet broken to overcast, 5,000 feet overcast, tops at 7,000 feet. Widely separated layers above, tops at 26,000 feet. Occasionally, visibility, 3 to 5 statute miles in light snow and mist. North of Kotzebue, until the above listed change, few clouds at 2,500 feet, 6,000 feet scattered, 12,000 feet broken, few layers above, tops at 26,000 feet. After 1500, all stations, surface wind increasing to southeast at 29 knots, gusts to 30 knots... AIRMET for turbulence after 1500, occasional moderate turbulence below 6,000 feet, intensifying. Icing and freezing level, Kotzebue south, spreading north, occasional moderate rime icing in clouds from 1,500 to 7,000 feet. Freezing level at the surface, intensifying."

A terminal forecast for the Kotzebue area, issued on March 2, at 0820 and valid from 0900 until 0900 on March 3, stated, in part: "Wind, 060 degrees (true) at 14 knots; visibility, greater than 6 statute miles; clouds and sky condition, 500 feet scattered, 2,500 feet overcast. Temporary changes expected between 0900 and 1300, visibility, 3 statute miles in light snow and mist; 1,000 feet broken. From 1300, wind, 100 degrees (true) at 22 knots; visibility, 4 statute miles in light blowing snow; 400 feet scattered, 2,000 feet overcast. Temporary changes expected between 1300 and 1700, visibility, 3/4 statute mile in light blowing snow; vertical visibility, 500 feet..."

A terminal forecast for the Kotzebue area, issued on March 2, at 1438 and valid from 1500 until 1500 on March 3, stated, in part: "Wind, 080 degrees (true) at 27 knots; visibility, 6 statute miles in blowing snow; clouds and sky condition, few at 1,200 feet, 10,000 feet broken. Temporary changes expected between 1500 and 1700, visibility, 3 statute miles in light blowing snow; 1,200 feet overcast..."

Following the accident, an FAA inspector from the Fairbanks Flight Standards District Office, Fairbanks, Alaska, examined the airplane. He reported the airplane's radar altimeter was set at 200 feet, and the airplane's barometric altimeter was set at 29.69 inHg.

Pilot Information

Certificate:	Airline Transport; Commercial	Age:	53, 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):	None	Toxicology Performed:	No
Medical Certification:	Class 1 Valid Medical--w/ waivers/lim.	Last FAA Medical Exam:	12/10/2002
Occupational Pilot:	Last Flight Review or Equivalent:		
Flight Time:	25600 hours (Total, all aircraft), 4200 hours (Total, this make and model), 24900 hours (Pilot In Command, all aircraft), 180 hours (Last 90 days, all aircraft), 60 hours (Last 30 days, all aircraft), 5 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N205BA
Model/Series:	208	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	208B0890
Landing Gear Type:	Tricycle	Seats:	10
Date/Type of Last Inspection:	01/31/2003, AAIP	Certified Max Gross Wt.:	9063 lbs
Time Since Last Inspection:	82 Hours	Engines:	1 Turbo Prop
Airframe Total Time:	2082 Hours as of last inspection	Engine Manufacturer:	Pratt & Whitney Canada
ELT:	Installed, activated, did not aid in locating accident	Engine Model/Series:	PT6A-14A
Registered Owner:	BERING AIR INC.	Rated Power:	675 hp
Operator:	BERING AIR INC.	Operating Certificate(s) Held:	Commuter Air Carrier (135); On-demand Air Taxi (135)
Operator Does Business As:		Operator Designator Code:	FXTA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument Conditions	Condition of Light:	Day
Observation Facility, Elevation:	PAOT, 11 ft msl	Distance from Accident Site:	1 Nautical Miles
Observation Time:	1501 AST	Direction from Accident Site:	80°
Lowest Cloud Condition:		Visibility	0.75 Miles
Lowest Ceiling:	Broken / 1100 ft agl	Visibility (RVR):	
Wind Speed/Gusts:	26 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	62°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.5 inches Hg	Temperature/Dew Point:	-1° C / -2° C
Precipitation and Obscuration:			
Departure Point:	SHUNGNAC, AK (SHG)	Type of Flight Plan Filed:	VFR
Destination:	KOTZEBUE, AK (PAOT)	Type of Clearance:	Special VFR
Departure Time:	1358 AST	Type of Airspace:	Class E

Airport Information

Airport:	RALPH WEIN MEMORIAL AIRPORT (PAOT)	Runway Surface Type:	Asphalt
Airport Elevation:	11 ft	Runway Surface Condition:	Ice
Runway Used:	08	IFR Approach:	None
Runway Length/Width:	5900 ft / 150 ft	VFR Approach/Landing:	Straight-in

Wreckage and Impact Information

Crew Injuries:	1 Minor	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Minor	Latitude, Longitude:	66.884722, -162.598611

Administrative Information

Investigator In Charge (IIC):	SCOTT ERICKSON	Report Date:	07/23/2003
Additional Participating Persons:	MICHAEL ALKANA; FAA-AL-FAI FSDO 01; 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.nts.gov/pubdms/ .		

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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](#).