



National Transportation Safety Board Aviation Accident Final Report

Location:	Togiak, AK	Accident Number:	ANC17MA001
Date & Time:	10/02/2016, 1157 AKD	Registration:	N208SD
Aircraft:	CESSNA 208B	Aircraft Damage:	Destroyed
Defining Event:	VFR encounter with IMC	Injuries:	3 Fatal
Flight Conducted Under:	Part 135: Air Taxi & Commuter - Scheduled		

Analysis

The NTSB's full report is available at <http://www.nts.gov/investigations/AccidentReports/Pages/AccidentReports.aspx>. The Aircraft Accident Report number is NTSB/AAR-18/02.

On October 2, 2016, about 1157 Alaska daylight time, Ravn Connect flight 3153, a turbine-powered Cessna 208B Grand Caravan airplane, N208SD, collided with steep, mountainous terrain about 10 nautical miles northwest of Togiak Airport (PATG), Togiak, Alaska. The two commercial pilots and the passenger were killed, and the airplane was destroyed. The scheduled commuter flight was operated under visual flight rules by Hageland Aviation Services, Inc., Anchorage, Alaska, under the provisions of Title 14 Code of Federal Regulations Part 135. Visual meteorological conditions prevailed at PATG (which had the closest weather observing station to the accident site), but a second company flight crew (whose flight departed about 2 minutes after the accident airplane and initially followed a similar route) reported that they observed unexpected fog, changing clouds, and the potential for rain along the accident route. Company flight-following procedures were in effect. The flight departed Quinhagak Airport, Quinhagak, Alaska, about 1133 and was en route to PATG.

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 the visual flight rules flight into deteriorating visibility and their failure to perform an immediate escape maneuver after entry into instrument meteorological conditions, which resulted in controlled flight into terrain (CFIT). Contributing to the accident were (1) Hageland's allowance of routine use of the terrain inhibit switch for inhibiting the terrain awareness and warning system alerts and inadequate guidance for

uninhibiting the alerts, which reduced the margin of safety, particularly in deteriorating visibility; (2) Hageland's inadequate crew resource management (CRM) training; (3) the Federal Aviation Administration's failure to ensure that Hageland's approved CRM training contained all the required elements of Title 14 *Code of Federal Regulations* 135.330; and (4) Hageland's CFIT avoidance ground training, which was not tailored to the company's operations and did not address current CFIT-avoidance technologies.

Findings

Aircraft	<ul style="list-style-type: none"> Altitude - Not attained/maintained (Cause) Ground proximity system - Not used/operated Ground proximity system - Related operating info Ground proximity system - Capability exceeded Ground proximity system - Design
Personnel issues	<ul style="list-style-type: none"> Decision making/judgment - Flight crew (Cause) Lack of action - Flight crew (Cause)
Environmental issues	<ul style="list-style-type: none"> Below VFR minima - Decision related to condition (Cause) Below VFR minima - Response/compensation (Cause) Mountainous/hilly terrain - Response/compensation (Cause) Mountainous/hilly terrain - Contributed to outcome (Cause) VHF/HF radio - Not specified Meteo equip coverage/avail - Not specified
Organizational issues	<ul style="list-style-type: none"> Adequacy of policy/proc - Operator (Factor) CRM/MRM training - Operator (Factor) CRM/MRM training - FAA/Regulator (Factor) Training - Operator (Factor) Safety programs - FAA/Regulator Safety programs - Other institution/organization

Factual Information

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History of Flight

Enroute-cruise	VFR encounter with IMC (Defining event) Controlled flight into terr/obj (CFIT)
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Pilot Information

Certificate:	Flight Instructor; Commercial	Age:	43, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Unknown
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	Airplane Multi-engine; Airplane Single-engine; Instrument Airplane	Toxicology Performed:	Yes
Medical Certification:	Class 2 Without Waivers/Limitations	Last FAA Medical Exam:	07/22/2016
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	07/07/2016
Flight Time:	6481 hours (Total, all aircraft), 781 hours (Total, this make and model), 6181 hours (Pilot In Command, all aircraft), 271 hours (Last 90 days, all aircraft), 102 hours (Last 30 days, all aircraft), 4 hours (Last 24 hours, all aircraft)		

Co-Pilot Information

Certificate:	Commercial	Age:	29, Male
Airplane Rating(s):	Single-engine Land	Seat Occupied:	Right
Other Aircraft Rating(s):	None	Restraint Used:	Unknown
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	Yes
Medical Certification:	Class 2 None	Last FAA Medical Exam:	07/13/2016
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	09/03/2016
Flight Time:	273 hours (Total, all aircraft), 84 hours (Total, this make and model), 139 hours (Pilot In Command, all aircraft), 84 hours (Last 90 days, all aircraft), 83 hours (Last 30 days, all aircraft), 5 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	CESSNA	Registration:	N208SD
Model/Series:	208B	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	208B0491
Landing Gear Type:	Tricycle	Seats:	4
Date/Type of Last Inspection:	09/15/2016, AAIP	Certified Max Gross Wt.:	7449 lbs
Time Since Last Inspection:		Engines:	1 Turbo Prop
Airframe Total Time:	20562.1 Hours at time of accident	Engine Manufacturer:	P&W
ELT:	C126 installed, activated, aided in locating accident	Engine Model/Series:	PT6-114A
Registered Owner:	ICECAP LLC TRUSTEE	Rated Power:	675 hp
Operator:	HAGELAND AVIATION SERVICES INC	Operating Certificate(s) Held:	Commuter Air Carrier (135); On-demand Air Taxi (135)
Operator Does Business As:	RAVN CONNECT	Operator Designator Code:	EPUA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	PATG, 20 ft msl	Distance from Accident Site:	11 Nautical Miles
Observation Time:	1156 AKD	Direction from Accident Site:	124°
Lowest Cloud Condition:	Scattered / 3900 ft agl	Visibility	7 Miles
Lowest Ceiling:	Overcast / 4700 ft agl	Visibility (RVR):	
Wind Speed/Gusts:	Calm /	Turbulence Type Forecast/Actual:	/
Wind Direction:		Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.88 inches Hg	Temperature/Dew Point:	7°C / 6°C
Precipitation and Obscuration:	Light - Rain		
Departure Point:	QUINHAGAK, AK (PAQH)	Type of Flight Plan Filed:	Company VFR
Destination:	TOGIAK, AK (PATG)	Type of Clearance:	None
Departure Time:	1133 AKD	Type of Airspace:	Class G

Airport Information

Airport:	TOGIAK (PATG)	Runway Surface Type:	N/A
Airport Elevation:	18 ft	Runway Surface Condition:	Unknown
Runway Used:	N/A	IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	2 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:	1 Fatal	Aircraft Fire:	Fire At Unknown Time
Ground Injuries:	N/A	Aircraft Explosion:	Explosion At Unknown Time
Total Injuries:	3 Fatal	Latitude, Longitude:	59.165556, -160.653333

Administrative Information

Investigator In Charge (IIC): David S Williams **Adopted Date:** 05/01/2018

Additional Participating Persons: Hugh Youngers; FAA; Anchorage, AK
Thomas Berthe; Pratt & Whitney Canada; Montreal, MB
Dave Lowell; Hageland Aviation Services, Inc.; Anchorage, AK
Les Doud; Hartzell Propellers; Piqua, OH
Jim Allen; Honeywell Aerospace; Phoenix, AZ
Adam Ricciardi; Hageland Aviation; Anchorage, AK
Eric West; FAA; Washington, DC

Publish Date: 05/01/2018

Note: The NTSB traveled to the scene of this accident.

Investigation Docket: <http://dms.ntsb.gov/pubdms/search/dockList.cfm?mKey=94121>

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