Aviation Investigation Final Report

Location:	Port Alsworth, Alaska	**Accident Number:**	ANC02FA075
Date & Time:	July 12, 2002, 11:45 Local	**Registration:**	N3129F
Aircraft:	de Havilland DHC-2	**Aircraft Damage:**	Destroyed
Defining Event:		**Injuries:**	4 Fatal
Flight Conducted Under:	Part 135: Air taxi & commuter - Non-scheduled		

Analysis

The commercial pilot of the float-equipped airplane was transporting passengers to a lodge at a remote lake. When the airplane did not arrive at the lake, a search was initiated, and two days later the wreckage of the airplane was located on the side of a box canyon about the 2,400 foot elevation level. The canyon is oriented approximately east-west, and the wreckage was distributed along a 100 foot debris field on the north flank of the canyon. Ground scars and wreckage distribution were consistent with the airplane impacting terrain in a steep left bank while executing a turn to reverse direction. No evidence of any preimpact mechanical anomalies was discovered.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's failure to maintain clearance from terrain while maneuvering inside a box/blind canyon, resulting in an in-flight collision with terrain. A factor contributing to the accident was the box/blind canyon.

Findings

Occurrence #1: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: MANEUVERING

Findings

1. (F) TERRAIN CONDITION - BLIND/BOX CANYON
2. (C) CLEARANCE - NOT MAINTAINED - PILOT IN COMMAND

Factual Information

HISTORY OF FLIGHT

On July 12, 2002, about 1145 Alaska daylight time, a float-equipped de Havilland DHC-2 airplane, N3129F, was destroyed during an in-flight collision with terrain, about 6 miles east of Port Alsworth, Alaska. The airplane was being operated by Bigfoot Air, Anchorage, Alaska, as a visual flight rules (VFR) charter flight under Title 14, CFR Part 135, at the time of the accident. The commercial pilot and the three passengers were fatally injured. Visual meteorological conditions prevailed, and a VFR flight plan was filed. The flight originated at the Lake Hood Seaplane base, Anchorage, about 1045, and was bound for the Rainbow Point Lodge on Lake Iliamna, about 225 miles southwest of Anchorage.

According to FAA records, the pilot contacted Kenai Radio at 1049 and requested to file a VFR flight plan to the destination at Lake Illiamna. The FSS specialist manning the In-flight Two position activated the VFR flight plan, and relayed weather for Lake Hood, Kenai, Big River Lakes, and Port Alsworth, indicating that Lake Clark Pass was reported to be open on both sides. At 1127 the pilot contacted Kenai Radio again, and requested pilot reports for Lake Clark Pass. The FSS specialist manning the In-flight One position relayed one pilot report indicating there was a "little bit of fog on the east side," but the pass was open.

There were no further radio communications with the accident airplane, and no emergency locator transmitter (ELT) signal was detected.

During a telephone conversation with the National Transportation Safety Board (NTSB) investigator-in-charge (IIC), on July 12, about 1235, a FAA regional operations specialist reported that the accident airplane was overdue, and a search had been initiated.

On July 14, search personnel located the wreckage of the airplane. The airplane had collided with the north wall of a canyon about 2400 feet msl.

The typical route to Lake Illiamna from Lake Hood follows a path south along Cook Inlet to Lake Clark Pass, through the pass, and then along the southern shore of Lake Clark, and over Port Alsworth before turning south toward Lake Illiamna. The canyon where the accident occurred is south of Port Alsworth along a less traveled route.

PERSONNEL INFORMATION

The pilot held a commercial pilot certificate with ratings for: airplane single-engine land, airplane multiengine land, airplane single engine sea, airplane instrument. He also held flight instructor certificate for single engine land airplane. The pilot was issued an FAA Second

Class Medical Certificate on April 12, 2002. The pilot passed a CFR Part 135.293, Airman Competency/Proficiency Check in the accident airplane on May 16, 2002, and completed a biennial flight review on June 3, 2002. According to company records, the pilot had accumulated 4,745 total flying hours, 258 of which were in the same make and model as the accident airplane.

AIRCRAFT INFORMATION

The airplane, N3129F, was a float-equipped 1956 de Havilland DHC-2 Beaver. The airplane had accrued 29 hours since its last 100 hour inspection, and a total airframe time of 12,698 hours. The engine had accrued 797 hours since overhaul.

No preaccident mechanical anomalies were reported by the operator.

METEOROLOGICAL INFORMATION

The area weather forecast valid through 1200 on the day of the accident was: few clouds at 4,000 feet, scattered clouds at 6,000 feet, and scattered clouds at 10,000 feet, with occasional broken clouds at 6,000 feet, and overcast clouds at 10,000 feet. The weather outlook for the Lake Clark Pass area valid through 1200 was: rain, wind, VFR, and occasional marginal VFR conditions.

Weather observations taken at Port Alsworth (PALJ) at 1048, 1152, and 1247 indicated scattered clouds at 7,000 feet, and broken clouds at 15,000 feet. The visibility was reported as 40 statute miles. The wind at 1048 was reported as 070 degrees at 5 knots, and calm at 1152, and 1247.

COMMUNICATIONS

There were no communications with the accident airplane other than those indicated in the History of Flight section of this report.

WRECKAGE AND IMPACT INFORMATION

The accident site was located on the north wall of a box canyon, about 2,400 feet msl. The canyon runs generally east to west. The west end of the canyon turns north toward Lake Clark, and Lake Clark Pass, while the east end terminates at a high snowfield. Entering the canyon from the west, the canyon appears wide and open with moderately sloping walls. Once inside headed east, the walls steepen, and the floor rises rapidly to meet the snowfield. Melt water from the snowfield drains down the canyon toward the west forming a creek in the center of the canyon floor. The lower half of the canyon walls are covered with tundra, and the drainage areas are covered with willow like brush. There are no trees in the canyon. The upper canyon walls are steep rock outcroppings and rimrock, bounded and separated by scree fields.

The ground scars and wreckage path made an arc across the north canyon wall, about 150 feet in length from east to west. From the initial impact point to its midpoint, the arc increased in altitude about 15-20 feet, and then descended to where the main wreckage came to rest, about the same elevation as the initial impact.

The initial ground scar was a tear in the tundra about 1 foot long exposing the soil underneath. Imbedded in the scar was a 3-inches in diameter piece of wingtip material. The material was matched to the left wingtip.

About 25 feet further along the wreckage path was a ground scar, about 2 feet in diameter. When the tundra was pulled back, the pitot tube was found imbedded in the scar. The pitot tube was mounted on the leading edge of the left wing, about 4 feet inboard from the wingtip.

Proceeding along the path about 15 more feet there was a ground scar, about 6 feet wide and 15 feet long, with the appearance of tilled earth. Rocks and soil within the area were mostly displaced downhill, and some rocks were broken.

Another 15 feet further along the path was the main wreckage. All of the major components of the airplane were at the site, and due to the extensive damage, flight control continuity could not be established. The fuselage came to rest in a relatively level attitude facing the opposite direction of the impact. It was resting on the right float, which was downhill, and the remnants of the left float supports were on the uphill side. The left float had been severed from the airplane, and rested about 15 feet directly uphill from the fuselage, facing west. The left float exhibited major impact damage, having buckled at the midpoint, with the tip displaced upward about 30 degrees from its normal horizontal plane. The fuselage was subjected to a postcrash fire. The passenger and cargo compartments were completely burned away, as evidenced by cooled rivulets of once molten aluminum. The remaining 4 feet of the tail and empennage were complete, and relatively undamaged. The right float exhibited minor impact damage, but was extensively damaged by the fire. Both wings were severed from the fuselage. The right wing lay uphill between the fuselage and the left float, and was extensively damaged by the fire. Right wing impact damage was limited to the outboard 1 foot of the leading edge and wingtip. The right wing exhibited slight upward flexing at the root, and at mid-span. The left wing lay uphill and aft of the tail. The left wing had major impact damage at the wingtip, and leading edge damage at the pitot tube mounting point. The left wing was bent upward about 30 degrees at the pitot tube mounting point, and also exhibited upward flexing at the wing root.

The engine mounts had broken, and the engine and propeller assembly was found about 30 feet downhill from the main wreckage. All of the major engine components were present. One blade of the propeller assembly was bent 180 degrees from the tip to the hub, and had torsional twisting. The second blade of the propeller was snapped in half. Both blades exhibited major leading edge gouging, and extreme chord and span-wise scratching.

MEDICAL AND PATHOLOGICAL INFORMATION

The pilot was recovered from the burned cockpit area. A postmortem examination of the pilot was conducted under the authority of the Alaska State Medical Examiner, 4500 South Boniface Parkway, Anchorage, Alaska, on July 16, 2002. The examination revealed the cause of death of the pilot was multiple blunt force trauma, and smoke and soot inhalation. Toxicology was performed on a portion of the liver with negative results.

WRECKAGE RELEASE

The Safety Board did not take custody of the wreckage, and no parts or components were retained by the Safety Board.

Pilot Information

Certificate:	Commercial; Flight instructor	**Age:**	35,Male
Airplane Rating(s):	Single-engine land; Single-engine sea; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	Airplane single-engine	**Toxicology Performed:**	No
Medical Certification:	Class 2 Valid Medical--no waivers/lim.	**Last FAA Medical Exam:**	April 12, 2002
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	June 3, 2002
Flight Time:	4745 hours (Total, all aircraft), 258 hours (Total, this make and model), 182 hours (Last 90 days, all aircraft), 122 hours (Last 30 days, all aircraft), 4 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	de Havilland	**Registration:**	N3129F
Model/Series:	DHC-2	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	903
Landing Gear Type:	Amphibian; Float	**Seats:**	7
Date/Type of Last Inspection:	July 5, 2002 100 hour	**Certified Max Gross Wt.:**	5370 lbs
Time Since Last Inspection:	29 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	12698 Hrs at time of accident	**Engine Manufacturer:**	Pratt & Whitney Canada
ELT:	Installed, not activated	**Engine Model/Series:**	R-985
Registered Owner:	David H. Hines	**Rated Power:**	450 Horsepower
Operator:	MINTA INC	**Operating Certificate(s) Held:**	On-demand air taxi (135)
Operator Does Business As:	Bigfoot Air of Alaska, LLC	**Operator Designator Code:**	W9RA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	PALJ,280 ft msl	**Distance from Accident Site:**	6 Nautical Miles
Observation Time:	10:48 Local	**Direction from Accident Site:**	90°
Lowest Cloud Condition:	Scattered / 7000 ft AGL	**Visibility**	40 miles
Lowest Ceiling:	Broken / 15000 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	5 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	70°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.07 inches Hg	**Temperature/Dew Point:**	16°C / 12°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Lake Hood , AK (PALH)	**Type of Flight Plan Filed:**	VFR
Destination:	Iliamna, AK (PAIL)	**Type of Clearance:**	VFR
Departure Time:	09:00 Local	**Type of Airspace:**	Class G

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Destroyed
Passenger Injuries:	3 Fatal	**Aircraft Fire:**	On-ground
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	4 Fatal	**Latitude, Longitude:**	60.126667,-154.111663

Administrative Information

Investigator In Charge (IIC):	Lewis, Lawrence
Additional Participating Persons:	Grant W Chapman; FAA Anchorage, FSDO-03; Anchorage, AK
Original Publish Date:	April 18, 2003
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=55224