



# Aviation Investigation Preliminary Report

<b>Location:</b>	St. Marys, AK	<b>Accident Number:</b>	ANC23FA074
<b>Date &amp; Time:</b>	September 12, 2023, 20:47 Local	<b>Registration:</b>	N109T
<b>Aircraft:</b>	Piper PA-18-150	<b>Injuries:</b>	1 Fatal
<b>Flight Conducted Under:</b>	Part 135: Air taxi & commuter - Non-scheduled		

On September 12, 2023, about 2047 Alaska daylight time, a Piper PA-18-150, N109T, sustained substantial damage when it was involved in an accident near St. Mary's, Alaska. The pilot was fatally injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 135 on-demand flight.

Two days before the accident, the pilot ferried a group of five hunters, a guide, and their equipment from the operator's base in Holy Cross, Alaska. The group then set up camp next to the landing strip, which was oriented north-south within hilly terrain about 80 miles northwest of Holy Cross.

The group planned to hunt for a moose and prepare it for transportation back to the operator's base. During the day before the accident, the group successfully hunted a moose and coordinated with the pilot, via satellite messaging devices, to ferry the meat the next day. On the day of the accident, the pilot arrived at the camp about 1540. The pilot and hunters loaded the airplane with the first batch of meat, and the airplane departed to the north from the airstrip. After takeoff, the airplane made an uneventful climbing right turn over an adjacent ridgeline that paralleled the airstrip to the east and then continued in the general direction of Holy Cross.

The pilot returned to camp about 1940 for the second and final load of meat. During the next hour, the pilot and the hunters loaded the airplane with the meat. One of the hunters reported that the airplane held about 50 to 70 pounds more meat than during the previous flight. The meat was strapped into the rear passenger seat area with both the seatbelt and chord and was loaded into the airplane's belly pod, which did not have tie-down provisions. The pilot then tied the antlers to the right wing strut; the antlers were cupped outward and perpendicular to the direction of flight.

The pilot told a hunter that he had performed fuel calculations and would be at reserve fuel levels on arrival at Holy Cross. Both discussed the weather and observed that the wind at the airstrip was generally calm and from the north but that the wind was also intermittently variable and gusting. Members of the group reported to the pilot that the wind was gusting much stronger at the departure end of the airstrip.

The pilot then boarded the airplane and positioned it for a departure to the north. The hunters noticed that the ground roll was slightly longer than before, and that the airplane appeared to be more “labored” than during the previous flight. They stated that, as the airplane reached the end of the airstrip, it pitched up and turned sharply to the right but, rather than climbing as before, the airplane flew behind the adjacent ridgeline and out of view. The group initially thought that the pickup had been successful, but the airplane did not reappear from behind the ridge. The group ran to the top of the ridgeline, looked down, and saw that the airplane had crashed.

One of the hunters approached the accident site and found the pilot still conscious. The hunter activated the SOS feature on his satellite messenger device and began to extricate the pilot. Fuel was leaking from the wings, and the front of the airplane was crushed. Once he was removed, they covered the pilot in blankets, and set a heater upwind to keep him warm. The pilot was talking and did not appear to be in pain, but he became less responsive during the next 2 hours, after which time the pilot no longer had a pulse.

The airplane’s emergency locator transmitter activated during the accident, and an alert signal was received by the Alaska Rescue Coordination Center about 2048. According to the hunters, an Alaska Air National Guard team arrived at the accident site via helicopter between 0130 and 0200 on September 13.

One of the hunters recorded a video of the accident takeoff. The video showed that the airplane began the ground roll at the southern end of the airstrip and departed to the north and uphill. The flaps were retracted, and the tail of the airplane came up as soon as the pilot applied engine power (see figure 1). The ground roll lasted about 530 ft, and, immediately after takeoff, the airplane pitched up and rolled about 20° right. The airplane then appeared to roll to a wings level attitude. The video ended a few seconds later. The engine was heard operating during the recording, and the airplane was not trailing smoke or vapors.



Figure 1. Airplane during the takeoff roll (Source: Hunter video) Note: The figure shows the antlers attached to right wing strut.

A team comprised of the National Transportation Safety Board investigator-in-charge and technical representatives from the Federal Aviation Administration, Piper Aircraft, and Lycoming Engines responded to the accident and arrived on site on September 15. Examination revealed that the airplane came to rest on a 30° downward slope on the other side of the adjoining ridgeline, at an elevation of 1,210 ft mean sea level, about 10 ft lower, and 600 ft east of the departure end of the airstrip (see figure 2). The surrounding area consisted of rolling hills covered in tundra, grass, and low-lying shrubs and bushes.

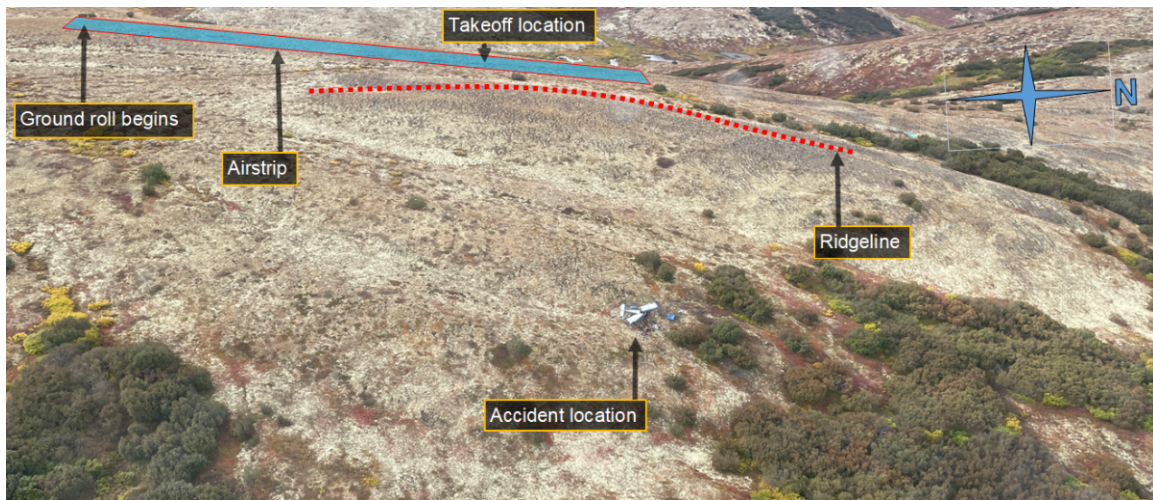


Figure 2. Accident site.

The fuselage was on a north heading, and both wings remained partially attached and generally in line with each other on a northwest-southeast orientation. The first identified point of impact, which was located about 20 ft below the main wreckage, consisted of a divot in the soil that contained blue and white fragments that matched the right wingtip (see figure 3). Next, the right wing landing light assembly and right window frame were located about 5 ft uphill in a west direction. A large divot in the soil, which was located 5 ft farther uphill, matched the general dimensions of a main landing gear tire. Adjacent to this hole was the propeller, which had separated from the crankshaft.



Figure 3. Accident site with the first point of impact in the foreground.

The engine contained oil, and no evidence indicated a catastrophic engine failure. Although the wing tank fuel lines had been breached, residual quantities of fuel were observed in both tanks. Both propeller blades exhibited similar damage, including tip twist, leading-edge nicks and dents, trailing-edge S-bending, and chordwise scratches.

The airplane cargo was weighed at the accident site, revealing a load of about 520 pounds that consisted primarily of moose meat and a set of moose antlers. About 150 pounds of meat was found in the forward section of the belly pod; the remaining portions were firmly secured in the rear cabin seating area. The antlers were secured to the inboard side of the right-wing strut.

### Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Piper	<b>Registration:</b>	N109T
<b>Model/Series:</b>	PA-18-150	<b>Aircraft Category:</b>	Airplane
<b>Amateur Built:</b>			
<b>Operator:</b>		<b>Operating Certificate(s) Held:</b>	On-demand air taxi (135)
<b>Operator Designator Code:</b>			

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	VMC	<b>Condition of Light:</b>	Dusk
<b>Observation Facility, Elevation:</b>	PASM,312 ft msl	<b>Observation Time:</b>	20:56 Local
<b>Distance from Accident Site:</b>	64 Nautical Miles	<b>Temperature/Dew Point:</b>	6°C /4°C
<b>Lowest Cloud Condition:</b>		<b>Wind Speed/Gusts, Direction:</b>	8 knots / , 340°
<b>Lowest Ceiling:</b>	Overcast / 2700 ft AGL	<b>Visibility:</b>	10 miles
<b>Altimeter Setting:</b>	29.71 inches Hg	<b>Type of Flight Plan Filed:</b>	None
<b>Departure Point:</b>	St. Marys, AK	<b>Destination:</b>	Holy Cross, AK (PAHC)

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 Fatal	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>		<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>		<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	1 Fatal	<b>Latitude, Longitude:</b>	62.863731,-161.77257

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Simpson, Elliott
<b>Additional Participating Persons:</b>	Mitch Mitchell ; FAA AVP-100 ; Washington , DC Kathryn Whitaker; Piper Aircraft David Harsanyj; Lycoming Engines
<b>Note:</b>	