Aviation Investigation Preliminary Report

Location:	Nome, AK	**Accident Number:**	ANC25MA018
Date & Time:	February 6, 2025, 15:20 Local	**Registration:**	N321BA
Aircraft:	TEXTRON AVIATION INC 208B	**Injuries:**	10 Fatal
Flight Conducted Under:	Part 135: Air taxi & commuter - Scheduled		

On February 6, 2025, about 1520 Alaska standard time, a Textron Aviation (Cessna) 208B airplane, N321BA, operated as Bering Air flight 445, was destroyed when it was involved in an accident near Nome, Alaska. The pilot and nine passengers were fatally injured. The airplane was operated as a Title 14 *Code of Federal Regulations* (*CFR*) Part 135 scheduled commuter flight.

FLIGHT SUMMARY AND COMMUNICATIONS

The operator reported the pilot initially departed from Nome Airport (PAOM), Nome, Alaska, and proceeded to Saint Michael Airport (PAMK), Saint Michael, Alaska, and then to Unalakleet Airport (PAUN), Unalakleet, Alaska. He arrived at PAUN about 1028. The pilot was expected to depart PAUN and return to PAOM that afternoon, according to the operator.

The following flight summary was compiled from archived Federal Aviation Administration (FAA) automatic dependent surveillance-broadcast (ADS-B) data, preliminary recordings of communications between the pilot and Anchorage Air Route Traffic Control Center (ARTCC), and preliminary data downloaded from the onboard avionics.

At 1436, the pilot contacted Anchorage ARTCC, reported that he was on the ground at PAUN, and requested an instrument flight rules (IFR) clearance to PAOM. The pilot was subsequently cleared to PAOM via the EMMMO waypoint intersection at a cruising altitude of 8,000 ft mean sea level (msl).

At 1437, the pilot departed from runway 33 at PAUN and proceeded west over Norton Sound toward PAOM. At 1440, the pilot contacted Anchorage ARTCC, and the controller advised the pilot that radar contact was established. About 1440, Anchorage ARTCC contacted the Nome Alaska Flight Service Station (AFSS) to inform them that the flight was estimated to arrive at

PAOM about 1535. About 1449, the flight leveled at a cruising altitude of 8,000 ft msl; it was about 20 miles west of PAUN.

At 1456, the controller cleared the flight to descend and maintain 6,000 ft msl at the pilot's discretion. At 1511, the pilot initiated a descent from 8,000 ft msl, which he reported to the controller. He also advised receiving current weather and airport information at PAOM. The flight was about 50 miles east of PAOM at that time. During the descent, the airplane's airspeed increased from about 150 knots to about 160 knots.

At 1512, Nome Airport operations advised Nome AFSS that runway 10/28 was being closed temporarily for deicing, and Nome AFSS subsequently advised Anchorage ARTCC of the runway closure. Deicing was estimated to take 10 to 15 minutes.

At 1514, the controller informed the pilot that the runway at PAOM was closed and expected to reopen in 10 to 15 minutes. The controller added that if the pilot wanted to "slow down a little bit" to prevent the flight from arriving before the runway reopened, that would be fine, and the pilot acknowledged.

About that time, the airplane's airspeed began to decrease and was accompanied by a reduction in engine power. About 1515:30, the airplane leveled at 6,000 ft msl. About 15 seconds later, the airspeed reached about 110 knots; however, it increased to about 120 knots about 2 minutes later.

About 1516, the controller instructed the pilot to descend and maintain 4,000 ft msl at the pilot's discretion, and the pilot acknowledged. Shortly afterward, the airplane began to descend. About 1519, the airplane leveled at 4,000 ft msl and the engine power started to gradually increase. The airplane's airspeed was about 112 knots and gradually decreasing.

At 1519:35, the autopilot disengaged. At that time, the airplane's airspeed was 99 knots. About 19 seconds later, the airspeed had decreased to about 70 knots, and the altitude was about 3,100 ft msl which was the end of the data available from the onboard avionics. During that time, the airplane had turned from a westerly course to a southerly course.

At 1520:07, the controller instructed the pilot to climb and maintain 4,000 ft msl.

The final ADS-B data point was recorded at 1520:09 and located about 32 miles east of PAOM and about 12 miles offshore over the Norton Sound. The airplane's altitude associated with that data point was 1,325 ft msl.

Satellite tracking data provided by a third-party vendor recorded two additional data points. The final satellite tracking data point corresponded to a time of 1520:17 and an altitude of 200 ft msl.

At 1520:18, the controller transmitted a low altitude alert to the pilot. The controller's efforts to contact the pilot were not successful, and no further communications were received.

PILOT QUALIFICATIONS AND EXPERIENCE

The pilot held a commercial pilot certificate with ratings for single-engine and multiengine land airplanes, with instrument privileges in airplanes. He held a BE-1900 type rating with a limitation for second-in-command privileges only. He held a mechanic certificate with airframe and powerplant ratings, and a remote pilot certificate with a small, unmanned aircraft system rating. He was issued an FAA first-class medical certificate on December 3, 2024, with no limitations.

The pilot was employed by the operator as a pilot since March 2022. His most recent 12-month competency check (as required by 14 *CFR* 135.293) was completed on December 9, 2024. His most recent 6-month instrument proficiency check (as required by 14 *CFR* 135.297) was completed on September 22, 2024, at Flight Safety in Wichita, Kansas. His most recent 12-month flight (line) check (as required by 14 *CFR* 135.299) was completed on July 28, 2024. The pilot had completed the Cessna Cold Weather Operations course on October 29, 2024, and recurrent ground training on January 17, 2025. At the time of the accident, he was based at PAOM.

The pilot had accumulated about 2,500 hours total flight time, including 1,060 hours in 208B airplanes. He had flown about 58.4 hours within the preceding 30 days, and 4.4 hours within the preceding 7 days.

OPERATOR AND AIRPLANE INFORMATION

The airplane was a Textron Aviation 208B (serial number [s/n] 208B5613). It was powered by a Pratt and Whitney PT6A-140 turbopropeller engine (s/n PCE-VA0701) capable of producing 867 shaft horsepower and a McCauley 4HFR34C778 (s/n 50502) four-blade, controllable pitch propeller. The airplane was manufactured in 2020 and issued a normal category, standard airworthiness certificate on December 3, 2020. It was purchased by the operator on December 29, 2020.

A fuselage cargo pod was installed along the bottom of the fuselage. At the time of the accident, the airplane was configured with two pilot seats and nine passenger seats.

The airplane was equipped with a TKS ice protection system that included porous titanium panels along the leading edges of the wings, horizontal and vertical stabilizers, and wing struts. The TKS system was designed to provide ice protection fluid from a tank in the cargo pod to the panels, propeller, and windshield to prevent the accumulation of airframe ice.

The pilot operating handbook (POH) supplement related to the TKS system specified a minimum indicated airspeed of 95 knots be maintained for operations in icing conditions with a fully functional TKS system. The supplement also noted that the maximum allowable takeoff gross weight for flight into known or forecast icing conditions was the same as that of the basic airplane, which was 8,807 lbs.

The operator reported that the quantity of ice protection fluid was checked during each preflight inspection. The pilot was responsible for ensuring that a sufficient quantity was onboard for each flight. However, no record was required when ice protection fluid was added to the airplane. A customer service representative at PAUN stated that ice protection fluid was available and that the pilot informed her that the TKS tank was full.

According to the operator's fueling log, the pilot had requested that 1,800 lbs of fuel be onboard the airplane before departure from PAOM. According to the customer service representative, the airplane was not fueled at PAUM. The investigation estimated that about 1,350 lbs of fuel were onboard at takeoff from PAUM based on average fuel consumption for a Cessna/Textron Aviation 208B airplane and the initial route from PAOM to PAMK then to PAUM.

FAA records revealed that the airplane was equipped with an Aircraft Payload Extender III (APE III) system under Supplemental Type Certificate SA01213SE. The modification provided for an increased maximum gross takeoff weight of 9,062 lbs. The flight manual supplement also noted: "Maximum Weight for Flight into Known Icing Conditions: Cargo Pod Installed – Refer to Cessna Approved AFM or Supplement."

The airplane was equipped with standard support items used at outstations, such as cargo netting, tie-down straps, engine cowling plugs, a portable scale, and a tail stand. These items collectively weighed about 80 lbs.

According to the operator's load manifest for flight 445, the baggage and cargo weighed about 709 lbs. The preliminary weight calculations for the accident flight indicated that the gross takeoff weight was about 9,776 lbs. This was about 969 lbs over the maximum takeoff gross weight for flight into known or forecast icing conditions under the TKS system supplement. It was also about 714 lbs over the maximum gross takeoff weight for any flight operation under the APE III flight manual supplement.

Postaccident examination of the airplane contents indicated that the baggage and cargo weighed approximately 798 lbs. Based on that information, the airplane's estimated gross takeoff weight at departure was about 9,865 lbs, which was about 1,058 lbs over the maximum takeoff gross weight for flight into known or forecast icing conditions. It was also about 803 lbs over the maximum gross takeoff weight for any flight operation under the APE III flight manual supplement.

A senior NTSB aerospace engineer will conduct a detailed review of the airplane's performance as part of the investigation, including an evaluation of the airplane's center of gravity location.

The airplane was maintained under a continuous airworthiness maintenance program. An initial review of the available maintenance records indicated that the most recent inspection activity included 12-month/100-hour airframe, engine, and propeller inspections, which were completed on January 7, 2025. At the time of those inspections, the airframe total time was

4,291.3 hours. At the time of the postaccident examination, the recording hour (Hobbs) meter indicated 4,333.7 hours.

Review of the airplane's discrepancy log revealed two items since the inspections were completed. One noted a broken static wick on the left elevator, which was replaced. The second noted improper safety wiring on the battery, which was corrected.

WEATHER OBSERVATIONS AND ADVISORIES

The accident site was located north of a stationary front that stretched west to east from the Bering Sea into northwestern Canada.

The PAOM weather observation recorded at 1505 noted: wind calm, visibility 10 statute miles or greater, light snow, broken ceiling at 2,700 ft above ground level (agl), broken clouds at 3,500 ft agl, overcast skies at 5,500 ft agl, temperature of -10°C, dew point temperature of -12°C, and an altimeter setting of 30.20 inches of mercury (inHg). Remarks noted that snow began at 1503, and trace precipitation since 1453.

The PAOM weather observation recorded at 1545 noted: wind from 350° at 6 knots, visibility 4 statute miles, haze, few clouds at 900 ft agl, broken ceiling at 2,500 ft agl, overcast clouds at 3,200 ft agl, temperature of -10°C, dew point temperature of -13°C, and an altimeter setting of 30.20 inHg. Remarks noted that snow began at 1503 and ended at 1512, trace precipitation since 1453, and trace icing since 1453.

No significant meteorological information advisories or center weather advisories (CWA) were issued for the accident site at the accident time. Airmen's meteorological information (AIRMET) advisories Sierra and Zulu were issued for the accident site at the accident time for below 15,000 ft. The AIRMETs were issued at 1237 and forecast IFR conditions and mountain obscuration due to light snow and mist, clouds and precipitation, and occasional moderate icing between 2,000 and 8,000 ft msl.

At the time of the accident, the sun was at an elevation of 9.37° and an azimuth of 196.75°. Sunset was at 1803 on the day of the accident.

The investigation will be reviewing all weather factors pertaining to this accident.

INVESTIGATION RESPONSE AND ON-SCENE EXAMINATION

An investigator from the NTSB Alaska Regional Office responded to the community of Nome during the early morning hours of February 7 to observe the ongoing search and rescue efforts. On the afternoon of February 7, aerial search and rescue personnel found the wreckage on a large floating icepack on Norton Sound. The icepack, which was subject to the tidal ocean currents, continuously moved about 5 to 10 miles per day, complicating search, rescue, and recovery efforts.

In the late afternoon of February 7, the NTSB investigator responded to the accident site along with numerous rescue personnel. While on scene, the investigator was able to document the airplane and its contents, as well as recover avionics equipment that contained electronic memory, which was sent to the NTSB vehicle recorder laboratory in Washington, DC, to be downloaded and examined.

The airplane came to rest upright. The propeller assembly separated from the engine and was located adjacent to the wreckage. The engine cowling was dislocated and fragmented. The engine remained secured to the mount; however, both the engine assembly and the mount were damaged consistent with impact forces. The fuselage exhibited upward crushing damage along the entire length. Both wings were damaged, with the left wing being partially separated from the fuselage. Both wings exhibited leading-edge crushing damage along the entire spans. The outboard portion of the right wing was rotated aft and partially separated. An initial airframe examination revealed no evidence of an in-flight structural failure.

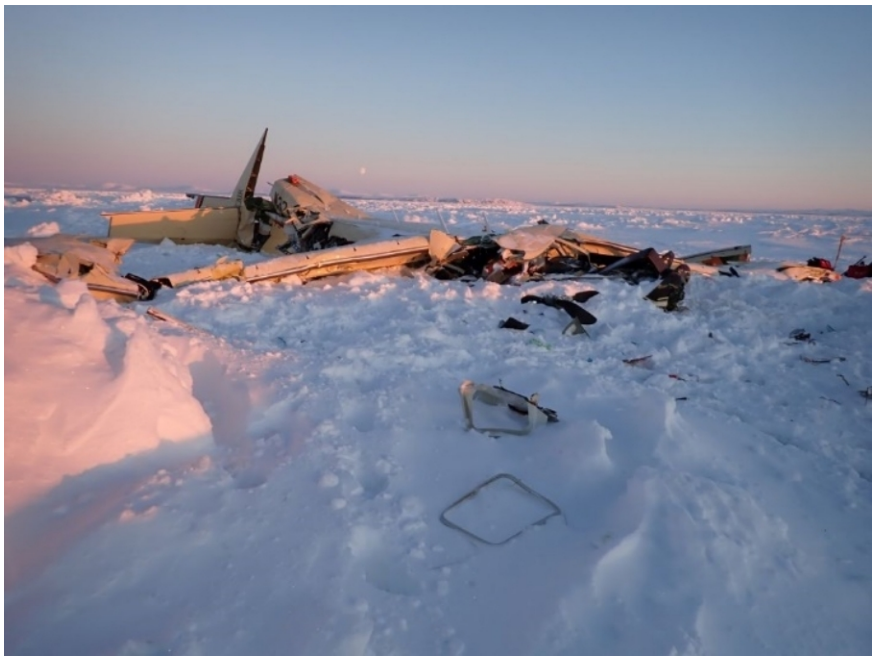

Figure 1. Accident site.

The flight control surfaces remained attached to the airframe. The ailerons remained attached to each wing at the hinges; however, they displayed similar damage to the wings. The wing flaps and spoilers remained attached. The horizontal and vertical stabilizers remained attached to the aft fuselage. The elevators and rudder remained attached to the stabilizers at the hinges. The outboard right elevator and the upper portion of the rudder were damaged. A preliminary examination of the flight control system revealed damage and control cable separations consistent with the impact sequence. The extension of the wing flap actuator was consistent with the wing flaps being retracted (up) at the time of the accident.

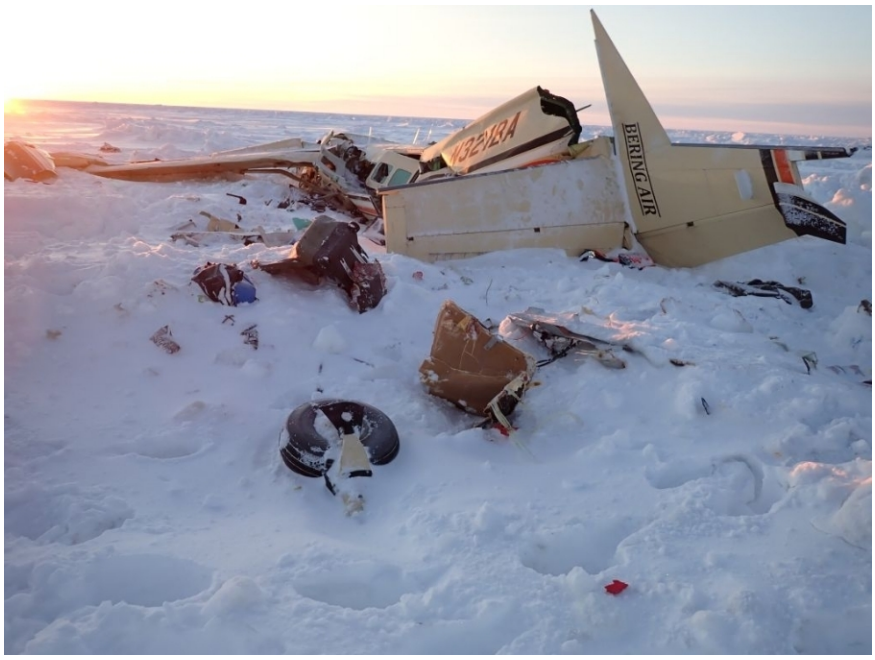

Figure 2. Accident site.

Minor ice accumulation was observed on the leading-edge surfaces aft of the TKS porous membranes. Significant ice accumulation was observed on the base of the beacon/strobe light located at the top of the vertical stabilizer. A dusting of blown snow had accumulated on the airplane after the accident.

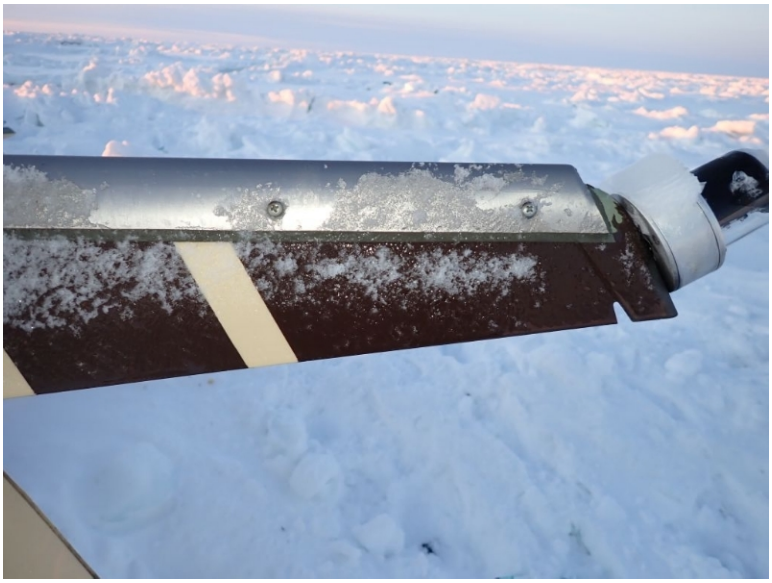

Figure 3. Vertical stabilizer at accident site.

The TKS system sustained significant damage consistent with impact forces. The tank was compromised, and no determination could be made concerning the quantity of TKS fluid onboard at the time of impact. Continuity of the porous areas of the leading-edge TKS panels

was confirmed during the postaccident airframe examination. Specifically, a positive flow of TKS fluid was observed from the individual panel sections when fluid was provided at the inlet lines.

No emergency locator transmitter (ELT) signal was detected from the airplane after the accident. However, the on-scene examination determined that the ELT had become disconnected from the antenna likely during the impact sequence. When a portable ELT antenna was installed, a strong signal was heard from a handheld receiver.

Detailed follow-up airframe, engine, and propeller examinations are pending.

Aircraft and Owner/Operator Information

Aircraft Make:	TEXTRON AVIATION INC	**Registration:**	N321BA
Model/Series:	208B	**Aircraft Category:**	Airplane
Amateur Built:			
Operator:	BERING AIR INC	**Operating Certificate(s) Held:**	Commuter air carrier (135), On-demand air taxi (135)
Operator Designator Code:	FXTA		

Meteorological Information and Flight Plan

Conditions at Accident Site:	VMC	**Condition of Light:**	Day
Observation Facility, Elevation:	PAOM,18 ft msl	**Observation Time:**	00:05 Local
Distance from Accident Site:	31 Nautical Miles	**Temperature/Dew Point:**	-10°C /-12°C
Lowest Cloud Condition:		**Wind Speed/Gusts, Direction:**	/ ,
Lowest Ceiling:	Broken / 2700 ft AGL	**Visibility:**	10 miles
Altimeter Setting:	30.2 inches Hg	**Type of Flight Plan Filed:**	IFR
Departure Point:	Unalakleet, AK (UNK)	**Destination:**	Nome, AK (OME)

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Destroyed
Passenger Injuries:	9 Fatal	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	10 Fatal	**Latitude, Longitude:**	64.351667,-164.28083 (est)

Administrative Information

Investigator In Charge (IIC):	Sorensen, Timothy
Additional Participating Persons:	Todd Gentry; FAA Accident Investigation; Washington, DC Brian Weckwerth; Bering Air, Inc.; Nome, AK Ernie Hall; Textron Aviation; Wichita, KS Jeff Zwego; Garmin Aviation; Olathe, KS Mike Hodge; Pratt & Whitney Canada; Bridgeport, WV
Investigation Class:	Class 2
Note:	The NTSB traveled to the scene of this accident.