



# National Transportation Safety Board Aviation Accident Final Report

---

<b>Location:</b>	Astoria, OR	<b>Accident Number:</b>	SEA03LA010
<b>Date &amp; Time:</b>	12/03/2002, 0612 PST	<b>Registration:</b>	N546PA
<b>Aircraft:</b>	Learjet 36A	<b>Aircraft Damage:</b>	Destroyed
<b>Defining Event:</b>		<b>Injuries:</b>	4 None

**Flight Conducted Under:** Part 91: General Aviation - Other Work Use

---

## Analysis

The pilot (PIC) reported that during acceleration for takeoff (approximately V<sub>1</sub> [takeoff decision speed]) the airplane collided with an elk. The PIC reported that after the collision, he applied wheel brakes and deployed the airplane's drag chute, however, the airplane continued off the departure end of the runway. The airplane came to rest in a marshy bog approximately 50 feet beyond the departure threshold. Currently, approximately 15,000 feet of the airport's perimeter is bordered with animal control fence. The airport recently received a FAA Aviation Improvement Program (AIP) Grant that will provide funding for an additional 9,000-feet of fence. Airport officials stated that the fencing project should be completed by summer of 2003. At the completion of the project, game control fencing will encompass the entire airport perimeter. The U.S. Government Airport/Facilities Directory (A/FD) contains the following remarks for the Astoria Regional Airport: "Herds of elk on and in the vicinity of airport..."

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: Collision with an elk during the takeoff roll. Factors include dark night VFR conditions.

## Findings

---

Occurrence #1: ON GROUND/WATER COLLISION WITH OBJECT  
Phase of Operation: TAKEOFF

### Findings

1. (C) OBJECT - ANIMAL(S)
2. (F) LIGHT CONDITION - DARK NIGHT
3. (F) AIRPORT FACILITIES, PERIMETER FENCE - NOT INSTALLED

-----

Occurrence #2: OVERRUN  
Phase of Operation: TAKEOFF - ABORTED

-----

Occurrence #3: ON GROUND/WATER ENCOUNTER WITH TERRAIN/WATER  
Phase of Operation: TAKEOFF - ABORTED

### Findings

4. TERRAIN CONDITION - SWAMPY

## Factual Information

On December 3, 2002, at 0612 Pacific standard time, a Gates Learjet 36A, N546PA, was destroyed after colliding with an elk, and subsequent runway overrun, at the Astoria Regional Airport, Astoria, Oregon. The airplane is registered to C F F Air, Incorporated, Wilmington, Delaware, and was being operated in support of a Canadian Armed Forces training exercise under the provisions of Title 14, CFR Part 91, when the accident occurred. The two pilots and two support personnel aboard the aircraft were not injured. The accident occurred approximately 1 hour and 30 minutes before sunrise under visual meteorological conditions. Impact forces and post crash fire destroyed the airplane.

During a telephone conversation with the National Transportation Safety Board (NTSB) investigator-in-charge on December 3, the pilot-in-command (PIC) reported that during acceleration for takeoff (approximately V<sub>1</sub> [takeoff decision speed]) the airplane collided with an elk (the left wing was the initial impact point). The PIC reported that after the collision, he applied wheel brakes and deployed the airplane's drag chute, however, the airplane continued off the departure end of the runway 08. The airplane came to rest in a marshy bog approximately 180 feet beyond the departure threshold.

The pilot (PIC) reported that he was aware of elk in the vicinity of the airport, but observed none prior to the departure roll on the morning of the accident. Additionally, he stated that prior to takeoff he taxied the aircraft northbound on runway 30 to the intersection of runway 30/08, shined the aircraft lights down the remainder of runway 08, and then back taxied on runway 08. No elk were sighted.

Currently, approximately 15,000 feet of the airport's perimeter is bordered with animal control fence. The airport recently received a FAA Aviation Improvement Program (AIP) Grant that will provide funding for an additional 9,000-feet of fence. Airport officials stated that the fencing project should be completed by summer of 2003. At the completion of the project, game control fencing will encompass the entire airport perimeter.

The U.S. Government Airport/Facilities Directory (A/FD) contains the following remarks for the Astoria Regional Airport: "Herds of elk on and in the vicinity of airport..."

## Pilot Information

<b>Certificate:</b>	Airline Transport	<b>Age:</b>	29, Male
<b>Airplane Rating(s):</b>	Multi-engine Land; Single-engine Land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	Seatbelt, Shoulder harness
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 1 Valid Medical--no waivers/lim.	<b>Last Medical Exam:</b>	08/21/2002
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	06/28/2002
<b>Flight Time:</b>	3350 hours (Total, all aircraft), 2350 hours (Total, this make and model), 1831 hours (Pilot In Command, all aircraft), 250 hours (Last 90 days, all aircraft), 60 hours (Last 30 days, all aircraft)		

## Co-Pilot Information

<b>Certificate:</b>	Commercial	<b>Age:</b>	39, Male
<b>Airplane Rating(s):</b>	Multi-engine Land; Single-engine Land	<b>Seat Occupied:</b>	Right
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	Seatbelt, Shoulder harness
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 2 Valid Medical--no waivers/lim.	<b>Last Medical Exam:</b>	08/19/2002
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	11/10/2002
<b>Flight Time:</b>	1170 hours (Total, all aircraft), 920 hours (Total, this make and model), 210 hours (Pilot In Command, all aircraft), 75 hours (Last 90 days, all aircraft), 6 hours (Last 30 days, all aircraft)		

## Aircraft and Owner/Operator Information

Aircraft Manufacturer:	Learjet	Registration:	N546PA
Model/Series:	36A	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Restricted	Serial Number:	36A-045
Landing Gear Type:	Retractable - Tricycle	Seats:	6
Date/Type of Last Inspection:	11/26/2002, AAIP	Certified Max Gross Wt.:	18300 lbs
Time Since Last Inspection:	8.5 Hours	Engines:	2 Turbo Fan
Airframe Total Time:	12335.3 Hours	Engine Manufacturer:	Garrett
ELT:	Installed, not activated	Engine Model/Series:	TFE-731
Registered Owner:	CFF Air, Inc.	Rated Power:	3500 lbs
Operator:	Phoenix Air	Air Carrier Operating Certificate:	On-demand Air Taxi (135)

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Night/Dark
Observation Facility, Elevation:	KAST, 15 ft msl	Observation Time:	0555 PST
Distance from Accident Site:		Direction from Accident Site:	
Lowest Cloud Condition:		Temperature/Dew Point:	6°C / 3°C
Lowest Ceiling:	Overcast / 3700 ft agl	Visibility	10 Miles
Wind Speed/Gusts, Direction:	4 knots, 80°	Visibility (RVR):	
Altimeter Setting:	30.08 inches Hg	Visibility (RVV):	
Precipitation and Obscuration:			
Departure Point:	Astoria, WA (KAST)	Type of Flight Plan Filed:	IFR
Destination:	Astoria, WA (KAST)	Type of Clearance:	IFR
Departure Time:	0612 PST	Type of Airspace:	Class E; Class G

## Airport Information

Airport:	ASTORIA REGIONAL (AST)	Runway Surface Type:	Asphalt
Airport Elevation:	15 ft	Runway Surface Condition:	Dry
Runway Used:	08	IFR Approach:	None
Runway Length/Width:	5796 ft / 100 ft	VFR Approach/Landing:	None

## Wreckage and Impact Information

Crew Injuries:	2 None	Aircraft Damage:	Destroyed
Passenger Injuries:	2 None	Aircraft Fire:	On-Ground
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	4 None	Latitude, Longitude:	46.158056, -123.878611

## Administrative Information

**Investigator In Charge (IIC):** Dennis J Hogenson **Adopted Date:** 05/13/2003

**Additional Participating Persons:** Keith D Crimin; FAA - FSDO; Hillsboro, OR

**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](mailto:pubinq@ntsb.gov), or at 800-877-6799. Dockets released after this date are available at <http://dms.nts.gov/pubdms/>.

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

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.