



AVIATION



HIGHWAY



MARINE



RAILROAD



PIPELINE

# Aviation Investigation Final Report

<b>Location:</b>	Wade, Oklahoma	<b>Accident Number:</b>	CEN23LA147
<b>Date &amp; Time:</b>	March 29, 2023, 09:23 Local	<b>Registration:</b>	N82851
<b>Aircraft:</b>	Bell OH-58A	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>	Fuel contamination	<b>Injuries:</b>	1 Minor
<b>Flight Conducted Under:</b>	Part 137: Agricultural		

## Analysis

While maneuvering during an aerial application flight, the engine lost power, and the pilot conducted an autorotation to a field. During the autorotation, the helicopter landed hard, rolled over, and sustained substantial damage.

Postaccident examination of the helicopter revealed a foamy cream-colored liquid in the airframe fuel filter and fuel line. The pilot reported that before the accident flight the helicopter was fueled from the operator's support truck fuel tank. Initial examination of the tank showed no visible signs of fuel contamination. A subsequent visual examination, several days later, showed the same cream-colored contamination that was identified in the helicopter fuel system. The pilot reported that the truck's fuel tank was filled the day before from his on-site fuel storage tank. The reason for the fuel contamination in the operator's on-site fuel storage or the helicopter fuel system could not be determined. The loss of engine power was attributed to fuel contamination.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The total loss of engine power due to fuel contamination.

## Findings

Aircraft	(general) - Failure
Aircraft	Fuel - Fluid condition

## Factual Information

### History of Flight

<b>Maneuvering-low-alt flying</b>	Fuel contamination (Defining event)
<b>Maneuvering</b>	Loss of engine power (total)
<b>Autorotation</b>	Off-field or emergency landing
<b>Landing-flare/touchdown</b>	Roll over

### Pilot Information

<b>Certificate:</b>	Airline transport; Commercial	<b>Age:</b>	70, Male
<b>Airplane Rating(s):</b>	Single-engine land; Single-engine sea	<b>Seat Occupied:</b>	Right
<b>Other Aircraft Rating(s):</b>	Helicopter	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	Airplane; Helicopter	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	
<b>Medical Certification:</b>	Class 2 Without waivers/limitations	<b>Last FAA Medical Exam:</b>	December 13, 2022
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	April 1, 2021
<b>Flight Time:</b>	(Estimated) 33100 hours (Total, all aircraft), 12000 hours (Total, this make and model), 31000 hours (Pilot In Command, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Bell	<b>Registration:</b>	N82851
<b>Model/Series:</b>	OH-58A	<b>Aircraft Category:</b>	Helicopter
<b>Year of Manufacture:</b>	1972	<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Restricted (Special)	<b>Serial Number:</b>	72-21118
<b>Landing Gear Type:</b>	High skid	<b>Seats:</b>	4
<b>Date/Type of Last Inspection:</b>	January 3, 2023 Annual	<b>Certified Max Gross Wt.:</b>	3200 lbs
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	1 Turbo shaft
<b>Airframe Total Time:</b>	12010 Hrs as of last inspection	<b>Engine Manufacturer:</b>	ALLISON
<b>ELT:</b>	Installed	<b>Engine Model/Series:</b>	T63 SERIES
<b>Registered Owner:</b>	On file	<b>Rated Power:</b>	420 Horsepower
<b>Operator:</b>	Prentice Aviation, Inc	<b>Operating Certificate(s) Held:</b>	Agricultural aircraft (137)
<b>Operator Does Business As:</b>	On file	<b>Operator Designator Code:</b>	TDZG

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>	KDUA, 698 ft msl	<b>Distance from Accident Site:</b>	15 Nautical Miles
<b>Observation Time:</b>	09:15 Local	<b>Direction from Accident Site:</b>	293°
<b>Lowest Cloud Condition:</b>	Scattered / 12000 ft AGL	<b>Visibility</b>	10 miles
<b>Lowest Ceiling:</b>		<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	4 knots /	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	110°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	30.28 inches Hg	<b>Temperature/Dew Point:</b>	10°C / 2°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	Wade, OK	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>	Wade, OK	<b>Type of Clearance:</b>	None
<b>Departure Time:</b>		<b>Type of Airspace:</b>	Class G

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 Minor	<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 Minor	<b>Latitude, Longitude:</b>	33.847506,-96.119761

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Finne, Andrew
<b>Additional Participating Persons:</b>	Parsons, Jason; FAA-FSDO; Oklahoma City, OK
<b>Original Publish Date:</b>	May 4, 2023
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class 4</a>
<b>Note:</b>	The NTSB did not travel to the scene of this accident.
<b>Investigation Docket:</b>	<a href="https://data.nts.gov/Docket?ProjectID=106987">https://data.nts.gov/Docket?ProjectID=106987</a>

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).