Aviation Investigation Final Report

Location:	Wade, Oklahoma	**Accident Number:**	CEN23LA147
Date & Time:	March 29, 2023, 09:23 Local	**Registration:**	N82851
Aircraft:	Bell OH-58A	**Aircraft Damage:**	Substantial
Defining Event:	Fuel contamination	**Injuries:**	1 Minor
Flight Conducted Under:	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

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

Pilot Information

Certificate:	Airline transport; Commercial	**Age:**	70,Male
Airplane Rating(s):	Single-engine land; Single-engine sea	**Seat Occupied:**	Right
Other Aircraft Rating(s):	Helicopter	**Restraint Used:**	
Instrument Rating(s):	Airplane; Helicopter	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	
Medical Certification:	Class 2 Without waivers/limitations	**Last FAA Medical Exam:**	December 13, 2022
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	April 1, 2021
Flight Time:	(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

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

Meteorological Information and Flight Plan

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

Wreckage and Impact Information

Crew Injuries:	1 Minor	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:		**Aircraft Explosion:**	None
Total Injuries:	1 Minor	**Latitude, Longitude:**	33.847506,-96.119761

Administrative Information

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