



# Aviation Investigation Final Report

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<b>Location:</b>	Tusayan, Arizona	<b>Accident Number:</b>	WPR20LA291
<b>Date &amp; Time:</b>	August 28, 2020, 11:00 Local	<b>Registration:</b>	N3422L
<b>Aircraft:</b>	Cessna TU206	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>	Loss of engine power (total)	<b>Injuries:</b>	1 Minor
<b>Flight Conducted Under:</b>	Part 91: General aviation - Skydiving		

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## Analysis

The pilot reported that while abeam the runway numbers on a left downwind in preparation to land after performing a skydiving drop, the engine lost power and then totally quit. The pilot performed a forced landing to a two-lane highway. While maneuvering to land, the airplane collided with a light pole and came to rest inverted, substantially damaging the airplane.

Postaccident examination of the airplane revealed water- and debris-contaminated fuel in the airframe fuel filter bowl and water-contaminated fuel in the fuel manifold and fuel pump. Also, the fuel inlet screen was mostly clogged with what appeared to be dirt and corrosion. The engine most likely lost power due to fuel contamination, as the fuel filter, fuel manifold, and fuel pump all tested positive for water.

## Probable Cause and Findings

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

A total loss of engine power due to fuel starvation as a result of contamination in the airplane's fuel system.

## Findings

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<b>Aircraft</b>	Fuel - Fluid condition
<b>Aircraft</b>	Fuel - Fluid level

## Factual Information

### History of Flight

<b>Approach-VFR pattern downwind</b>	Loss of engine power (total) (Defining event)
<b>Emergency descent</b>	Off-field or emergency landing
<b>Landing-landing roll</b>	Collision with terr/obj (non-CFIT)

On August 28, 2020, about 1100 mountain standard time, a Cessna TU206B, N3422L, was substantially damaged when it was involved in an accident near Tusayan, Arizona. The pilot sustained a minor injury. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 skydiving flight.

The pilot reported that while conducting skydive operations near, Grand Canyon National Park, Airport (GCN), Grand Canyon, Arizona and after releasing several jumpers, he began his descent with power settings of 15 inches manifold pressure, propeller 2,200 rpm, and a fuel burn of 7.5 gallons per hour. The pilot further reported that he was subsequently cleared to enter a midfield left downwind for runway 21, and when established on an extended downwind, the GCN control tower cleared the pilot to land on runway 21. The pilot opined that at 7,500 ft mean sea level, he configured the airplane for landing, with cowl flaps open, mixture full rich, and propeller control full forward; however, there was no response from the engine.

The pilot stated that as runway 21 was unreachable, he set up to land on Highway 64, which was located about 1,600 ft east of the approach end of runway 21. The pilot further stated that in preparation to land he switched from the right to the left fuel tank, turned on the high and low pressure fuel pumps, and tried the starter, as the propeller was windmilling. However, he continued to receive no response from the engine. The pilot mentioned that prior to touching down, he made a right banking turn to align with the highway, during which the airplane's right wing collided with a light pole. This caused the airplane to flip over and come to rest inverted in the middle of the two-lane highway, substantially damaging both wings, the fuselage, and vertical stabilizer.

A postaccident examination of the engine and airframe revealed the engine remained attached to the airframe via three of the four engine mounts. The No. 5 cylinder was impact damaged. No evidence of any fuel system breaches or damage to the fuel system was observed nor were there any mechanical anomalies with the engine noted that would have precluded normal operation.

When the airframe fuel filter was removed, it was observed to contain a small amount of liquid and debris within the bowl. The liquid was tested with water finding paste and with positive results. Additionally, when the fuel manifold was disassembled, it exposed a liquid within the fuel manifold housing with a small amount of debris within the screen. When tested with water

finding paste, the results were positive for water. Further, when the fuel pump was removed and disassembled, liquid was recovered from one of the fuel pump cavities and tested with water finding paste with positive results. Also, when the fuel inlet screen was removed, it was observed mostly clogged with what appeared to be dirt and corrosion.

The airplane was equipped with a JPI-EDM 830 engine monitoring system. Data downloaded from the device revealed that the engine did not sustain a catastrophic event that would have resulted in the loss of engine power.

### Pilot Information

<b>Certificate:</b>	Commercial	<b>Age:</b>	24, Male
<b>Airplane Rating(s):</b>	Single-engine land; Multi-engine land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	3-point
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	Airplane multi-engine; Airplane single-engine	<b>Toxicology Performed:</b>	
<b>Medical Certification:</b>	Class 2 Without waivers/limitations	<b>Last FAA Medical Exam:</b>	April 9, 2020
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	March 17, 2020
<b>Flight Time:</b>	517 hours (Total, all aircraft), 19 hours (Total, this make and model), 398 hours (Pilot In Command, all aircraft), 53 hours (Last 90 days, all aircraft), 31 hours (Last 30 days, all aircraft), 5 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Cessna	<b>Registration:</b>	N3422L
<b>Model/Series:</b>	TU206 B	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>	1967	<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	U206-0722
<b>Landing Gear Type:</b>	Tricycle	<b>Seats:</b>	1
<b>Date/Type of Last Inspection:</b>	January 26, 2020 100 hour	<b>Certified Max Gross Wt.:</b>	3600 lbs
<b>Time Since Last Inspection:</b>	62 Hrs	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	5720 Hrs as of last inspection	<b>Engine Manufacturer:</b>	Continental Motors
<b>ELT:</b>	Installed, not activated	<b>Engine Model/Series:</b>	TSIO-520
<b>Registered Owner:</b>	On file	<b>Rated Power:</b>	
<b>Operator:</b>	On file	<b>Operating Certificate(s) Held:</b>	None

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>	GCN,6609 ft msl	<b>Distance from Accident Site:</b>	1.8 Nautical Miles
<b>Observation Time:</b>	10:54 Local	<b>Direction from Accident Site:</b>	15°
<b>Lowest Cloud Condition:</b>	Few / 12000 ft AGL	<b>Visibility</b>	10 miles
<b>Lowest Ceiling:</b>	None	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	4 knots /	<b>Turbulence Type Forecast/Actual:</b>	None / None
<b>Wind Direction:</b>	260°	<b>Turbulence Severity Forecast/Actual:</b>	N/A / N/A
<b>Altimeter Setting:</b>	30.26 inches Hg	<b>Temperature/Dew Point:</b>	27°C / 2°C
<b>Precipitation and Obscuration:</b>	N/A - None - Dust or sand whirls		
<b>Departure Point:</b>	Grand Canyon, AZ (GCN )	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>	Grand Canyon, AZ (KGCN)	<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	10:30 Local	<b>Type of Airspace:</b>	Class D

## Airport Information

<b>Airport:</b>	Grand Canyon National Park Apt KGCN	<b>Runway Surface Type:</b>	Asphalt
<b>Airport Elevation:</b>	6609 ft msl	<b>Runway Surface Condition:</b>	Dry
<b>Runway Used:</b>	21	<b>IFR Approach:</b>	None
<b>Runway Length/Width:</b>	8999 ft / 150 ft	<b>VFR Approach/Landing:</b>	Traffic pattern

## 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>	35.936111,-112.13138(est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Little, Thomas
<b>Additional Participating Persons:</b>	Richard Ramirez; Federal Aviation Administration; Las Vegas, NV
<b>Original Publish Date:</b>	July 19, 2022
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class 3</a>
<b>Note:</b>	The NTSB did not travel to the scene of this accident.
<b>Investigation Docket:</b>	<a href="https://data.ntsb.gov/Docket?ProjectID=101887">https://data.ntsb.gov/Docket?ProjectID=101887</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](#).