



# National Transportation Safety Board Aviation Accident Final Report

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<b>Location:</b>	Batesville, AR	<b>Accident Number:</b>	DFW07FA051
<b>Date &amp; Time:</b>	01/04/2007, 1235 CST	<b>Registration:</b>	N2658
<b>Aircraft:</b>	Cessna 182R	<b>Aircraft Damage:</b>	Destroyed
<b>Defining Event:</b>		<b>Injuries:</b>	2 Fatal

**Flight Conducted Under:** Part 91: General Aviation - Aerial Observation

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## Analysis

While on a company visual flight rules flight plan, the instrument-rated commercial pilot and observer were returning from a three day pipeline patrol trip. On the morning of the accident they had "picked up" the pipeline and were following it on a 693-nautical mile cross-country flight to their home base. Standard procedure was to fly above the pipeline at an altitude of approximately 500-feet while the observer examined the pipeline. As they approached an airport for a planned fuel stop, the single-engine airplane impacted trees near the top of a hill that was located approximately 1.45 miles northeast from the approach end, and near the extended center line of the runway. The airplane came to rest in an inverted position about 275-feet beyond the initial tree impact. At the time of their arrival, the automated weather observation facility at the airport was reporting a visibility of 5 statute miles with 300-foot overcast. The wreckage was not located until about 1230 the following day. The airplane was equipped with an emergency locating transmitter; however, the transmitter was found in the "OFF" position. All major components of the airplane were accounted for at the site and there was no evidence of fire. An examination of the airframe and engine did not reveal any pre impact anomalies that would have prevented normal operation.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's failure to maintain clearance from trees. A contributing factor to the accident was the prevailing low ceilings.

## Findings

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Occurrence #1: IN FLIGHT COLLISION WITH OBJECT  
Phase of Operation: APPROACH

### Findings

1. (C) CLEARANCE - NOT MAINTAINED - PILOT IN COMMAND
2. (F) WEATHER CONDITION - LOW CEILING
3. OBJECT - TREE(S)

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Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER  
Phase of Operation: DESCENT - UNCONTROLLED

### Findings

4. TERRAIN CONDITION - GROUND

## Factual Information

### HISTORY OF FLIGHT

On January 4, 2007, about 1235 central standard time, a single-engine Cessna 182R airplane, N2658, was destroyed upon collision with terrain while on final approach to Batesville Regional Airport (BVX), near Batesville, Arkansas. The commercial pilot and his passenger/observer sustained fatal injuries. The airplane was registered to and operated by Barr Air Patrol LLC, of Mesquite, Texas. Instrument visual meteorological conditions prevailed and a company visual flight rules flight plan was filed for the 14 Code of Federal Regulations Part 91 pipeline patrol flight. The 693-nautical mile cross-country flight originated from the Porter County Municipal Airport (VPZ), near Valparaiso, Indiana, approximately 0756 and was approaching BVX for a scheduled refueling stop. The flight's final destination was the Mesquite Metro Airport (HQZ), near Mesquite, Texas.

According to a representative of the operator, the pilot and the observer were returning from a three day pipeline patrol trip. The morning of the accident they had "picked up" the pipeline near Valparaiso, Indiana, and were following it back towards Mesquite, Texas. The last contact from the crew was about 1215 when the company received a garbled radio transmission for a "company check-in." That afternoon when the crew failed to check-in at a scheduled reporting point, a search was initiated. The wreckage was located about 1230 on January 5, 2006, one and a half miles northeast of Batesville Regional Airport. There was no report of an emergency locator transmitter (ELT) signal.

An eyewitness reported seeing the accident airplane between 1215 and 1230. The witness reported the airplane was flying "about tree top high" in a southwesterly direction. The witness further reported that the airplane sounded "real loud."

The operator's representative further reported that standard practice was for the pilot to fly above the pipeline at an altitude of approximately 500-feet while the observer examined the pipeline. When approaching an airport to land, their company policy was for the pilot to climb to pattern altitude and perform a standard entry into the traffic pattern before landing. The representative added that the pilot had been employed by their company for approximately five years and estimated that the pilot had flown this particular pipeline once a week for his first three years of employment and once-a-month for the last two years.

### PERSONNEL INFORMATION

The 39-year old pilot held a commercial pilot certificate with ratings for airplane single-engine land, multi-engine land, and instrument airplane. His last Federal Aviation Administration (FAA) second-class medical was issued on November 27, 2006, with the limitation of "MUST WEAR CORRECTIVE LENSES."

An examination of the pilot's logbook revealed an estimated total flight time of 7,563-hours; of which 3,546-hours were in this make and model of airplane. The flight records revealed that he logged 151-hours in the last 90 days and 59-hours in the last 30 days. The pilot had also logged 10.7-hours in actual instrument conditions and 77.8-hours in simulated instrument conditions. His last noted flight review was completed August 15, 2005.

### AIRPLANE INFORMATION

The 1985-model Cessna 182R, serial number 18268491, was a high wing, semi-monocoque

airplane, with a fixed landing gear, and was configured for four occupants. The airplane was powered by a direct drive, air-cooled, carbureted, normally aspirated, horizontally opposed, six-cylinder engine. The engine was a Teledyne Continental O-470-U (25), serial number 827702R, rated at 230-horsepower at 2,400 rpm, and was driving a two-bladed constant speed McCauley propeller.

According to the airframe and engine logbooks, the airplane's most recent 50-hour inspection was completed on December 29, 2006. At the time of the accident, the airframe had accumulated approximately 18,765-hours total time and the engine had accumulated approximately 1,787-hours since new. The airplane had accumulated about 18-hours since the last inspection.

Fueling records at Porter County Municipal Airport established that the airplane was last fueled on January 4, 2007, with the addition of 57.8 gallons of 100 low lead aviation fuel.

#### METEOROLOGICAL INFORMATION

At 1235, the weather observation facility at BVX, located about one and a half miles southwest from the site of the accident, was reporting the wind from 110 degrees at 6 knots, visibility 5 miles, overcast at 300-feet, temperature 46 degrees Fahrenheit, dew point 45 degrees Fahrenheit, and barometric pressure setting of 29.84 inches of Mercury.

About 20 minutes before the accident the weather observation facility at BVX, was reporting a visibility of 3 miles with 300-foot overcast

About 20 minutes after the accident the weather observation facility at BVX, was reporting a visibility of 2 miles with 200-foot overcast.

A carburetor icing probability chart obtained from a DOT/FAA/CT-82/44 publication predicted serious carburetor icing at cruise power with the weather conditions existing at the time of the accident; however, propeller and tree impact signatures were consistent with engine power at the time of impact.

#### AIRPORT INFORMATION

Batesville Regional Airport (BVX), was a non-controlled public airport operating under class E classification airspace. The field elevation was 464-feet mean sea level (msl). Runway 25 was a 6,002-foot-long by 150-foot-wide asphalt runway and was not equipped with an instrument approach.

#### WRECKAGE AND IMPACT INFORMATION

On site documentation of the wreckage was conducted by investigators from the National Transportation Safety Board, Federal Aviation Administration, Cessna Aircraft Company, Teledyne Continental Motors, and a representative from Barr Air Patrol.

The wreckage was located in a wooded area near the top of a hill approximately 1.45 miles from the approach end, and near the extended center line, for Runway 25. The Global Positioning System (GPS) coordinates recorded at the accident site were 35 degrees 43.938 minutes North latitude and 091 degrees 36.999 minutes West longitude, at a field elevation of approximately 541-feet mean sea level (msl). The debris field encompassed an area approximately 275-feet long and approximately 20-feet wide, on a magnetic heading of 241 degrees. All major components of the airplane were accounted for at the site and there was no evidence of fire.

The initial impact point was the top of a tall tree that was located on the edge of a bluff overlooking a valley. Around the base of the tree were pieces of the left main wheel pant. The tips of tree limbs and several tree trunks were severed at points progressively closer to the ground along the wreckage path prior to the airplane's first contact with the ground. Several tree limbs were found severed on an approximate angle of 45 degrees and exhibited black paint transfer consistent with paint from the propeller.

The main wreckage came to rest in the inverted position approximately 275-feet from the initial tree impact. The main wreckage consisted of the engine, propeller, cabin area, and aft fuselage including the horizontal and vertical stabilizers. The left elevator remained attached to the horizontal stabilizer and the rudder remained attached to the vertical stabilizer. The left and right wing with associated controls and right elevator were located along the wreckage path.

An examination of the airframe was conducted. The fuel cells were breached and did not contain fuel. The cockpit fuel selector was found in the "BOTH" position. Rudder and elevator control cable continuity was established from the compressed area behind the firewall to the flight control surfaces. Aileron control cable continuity was established from the area behind the firewall to the bellcrank attach points, and on the carry-thru cable from the bellcrank attach points to a separation approximately mid-way between the bellcranks. All cable separations exhibited a "broom strawed" appearance. The flap actuator was measured and equated to the flaps being in the retracted position. The ELT was found in the "OFF" position.

The engine was separated from the airframe, suspended from a lift, and the upper spark plugs and valve covers were removed. Investigators manually rotated the engine via the propeller hub. Valve train continuity was established to each cylinder and to the oil pump. Thumb compression was developed in each cylinder. The cylinders were examined via a borescope and all of cylinder domes and piston heads exhibited "normal" carbon deposits. Each intake and exhaust valve was found in their respective positions.

The left and right magnetos were removed by the investigators. Both magnetos sparked at all terminals when rotated by hand. The oil filter was removed and cut open. An examination of the oil filter element revealed no visible metal contaminants. The top spark plugs exhibited "normal" wear when compared to the Champion Check-A-Plug comparison card, and contained light gray deposits in the electrode areas.

The carburetor was removed and disassembled. The carburetor bowl contained a blue liquid consistent with 100 low lead aviation fuel. The needle, seat, and float appeared unremarkable. The fuel screen was removed and found to be clean and unobstructed.

The propeller remained attached to the engine. Both propeller blades were curled aft and exhibited leading edge gouging and chordwise scoring. The propeller spinner exhibited torsional crushing.

The examination of the airframe and engine did not reveal any pre-impact anomalies that would have prevented normal operation.

#### MEDICAL AND PATHOLOGICAL INFORMATION

The Office of the Medical Examiner of Pulaski County, located in Little Rock, Arkansas, performed an autopsy on the pilot on January 9, 2007.

The FAA Toxicology Accident Research Laboratory, located in Oklahoma City, Oklahoma,

reported that they did not receive toxicological specimens for testing.

## Pilot Information

<b>Certificate:</b>	Commercial	<b>Age:</b>	39, Male
<b>Airplane Rating(s):</b>	Single-engine Land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	Seatbelt
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 2 With Waivers/Limitations	<b>Last FAA Medical Exam:</b>	11/01/2006
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	08/01/2005
<b>Flight Time:</b>	7563 hours (Total, all aircraft), 3546 hours (Total, this make and model), 7300 hours (Pilot In Command, all aircraft), 151 hours (Last 90 days, all aircraft), 59 hours (Last 30 days, all aircraft), 11 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Cessna	<b>Registration:</b>	N2658
<b>Model/Series:</b>	182R	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	No
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	18265491
<b>Landing Gear Type:</b>	Tricycle	<b>Seats:</b>	4
<b>Date/Type of Last Inspection:</b>	12/01/2006, 100 Hour	<b>Certified Max Gross Wt.:</b>	3100 lbs
<b>Time Since Last Inspection:</b>	18 Hours	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	18764 Hours at time of accident	<b>Engine Manufacturer:</b>	Continental
<b>ELT:</b>	Installed, not activated	<b>Engine Model/Series:</b>	O-470
<b>Registered Owner:</b>	Barr Air Patrol LLC	<b>Rated Power:</b>	230 hp
<b>Operator:</b>	Barr Air Patrol LLC	<b>Operating Certificate(s) Held:</b>	None

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument Conditions	Condition of Light:	Day
Observation Facility, Elevation:	BVX, 464 ft msl	Distance from Accident Site:	1 Nautical Miles
Observation Time:	1235 CST	Direction from Accident Site:	252°
Lowest Cloud Condition:	Clear	Visibility	5 Miles
Lowest Ceiling:	Overcast / 300 ft agl	Visibility (RVR):	
Wind Speed/Gusts:	6 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	110°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.84 inches Hg	Temperature/Dew Point:	8° C / 7° C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	VALPARAISO, IN (VPZ)	Type of Flight Plan Filed:	Company VFR
Destination:	BATESVILLE, AR (BVX)	Type of Clearance:	None
Departure Time:	0756 CST	Type of Airspace:	

## Airport Information

Airport:	BATESVILLE REGIONAL (BVX)	Runway Surface Type:	Asphalt
Airport Elevation:	464 ft	Runway Surface Condition:	Unknown
Runway Used:	25	IFR Approach:	Unknown
Runway Length/Width:	6002 ft / 150 ft	VFR Approach/Landing:	Unknown

## Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:	1 Fatal	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 Fatal	Latitude, Longitude:	35.732222, -91.615000

## Administrative Information

Investigator In Charge (IIC):	Timothy J LeBaron	Report Date:	01/31/2008
Additional Participating Persons:	Mike Williams; Federal Aviation Administration; Little Rock, AR John Kent; Teledyne Continental Motors, Inc; Mobile, AL Jan R Smith; Cessna Aircraft Company; Wichita, KS Darrin Edwards; Barr Air Patrol; Mesquite, TX		
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 <a href="mailto:pubinquiry@ntsb.gov">pubinquiry@ntsb.gov</a> , or at 800-877-6799. Dockets released after this date are available at <a href="http://dms.nts.gov/pubdms/">http://dms.nts.gov/pubdms/</a> .		

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