



AVIATION



HIGHWAY



MARINE



RAILROAD



PIPELINE

Aviation Investigation Final Report

Location:	HANKSVILLE, Utah	Accident Number:	DEN01FA013
Date & Time:	November 12, 2000, 09:30 Local	Registration:	N7360M
Aircraft:	Cessna 175	Aircraft Damage:	Destroyed
Defining Event:		Injuries:	1 Fatal, 2 Serious
Flight Conducted Under:	Part 91: General aviation - Other work use		

Analysis

Several friends volunteered to help the pilot locate stray cattle. According to a surviving passenger, the pilot flew the airplane toward some cowboys on horseback waiting on a bluff with the intention of dropping a message containing directions to some strays. As the airplane approached the bluff approximately 100 feet above the terrain, it suddenly sank 'like we hit a downdraft,' and the pilot banked hard to the right to avoid the bluff. The airplane encountered another downdraft, dropped 30 to 40 feet, and struck a rocky slope. The airplane had not received an annual inspection since May 1, 1995, the ELT batteries expired on March 31, 1995, and the pilot's last medical certificate was issued February 27, 1995. According to the toxicology reports, the pilot tested positive for alcohol, barbiturates, and quinine.

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 control of the airplane while maneuvering at low altitude, and his physical impairment due to alcohol and drugs. A contributing factor was the downdraft.

Findings

Occurrence #1: IN FLIGHT ENCOUNTER WITH WEATHER
Phase of Operation: MANEUVERING

Findings

1. LOW ALTITUDE FLIGHT/MANEUVER - PERFORMED - PILOT IN COMMAND

2. (F) WEATHER CONDITION - DOWNDRAFT
 3. (C) AIRCRAFT CONTROL - NOT MAINTAINED - PILOT IN COMMAND
 4. (C) IMPAIRMENT(ALCOHOL) - PILOT IN COMMAND
 5. (C) IMPAIRMENT(DRUGS) - PILOT IN COMMAND
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Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT - UNCONTROLLED

Findings

6. TERRAIN CONDITION - ROCK(S)/BOULDER(S)

Factual Information

HISTORY OF FLIGHT

On November 12, 2000, approximately 0930 mountain standard time, a Cessna 175, N7360M, registered to Cross S Cattle Co., was destroyed when it impacted terrain while maneuvering near Twin Corral Flats, about 17 miles east of Hanksville, Utah. The commercial pilot was fatally injured and the two passengers were seriously injured. Visual meteorological conditions prevailed, and no flight plan had been filed for the local flight being conducted under Title 14 CFR Part 91. The flight originated from a private airstrip approximately 0900.

The survivors were interviewed at St. Mary's Hospital in Grand Junction, Colorado, on November 14, 2000. The 26-year-old male passenger in the right front seat said he "remembered the whole... [accident]." They were friends of the pilot and had volunteered to help him locate stray cattle. The roundup was an annual event and looked upon with anticipation by many. This was his second flight with the pilot. They took off from a dirt road on the pilot's ranch approximately 0900. About 30 minutes later, after locating several strays, the pilot made an approach towards some cowboys on horseback waiting on a bluff. It was his intention to drop a message containing directions to the stray cattle. The engine was "running fine" as the airplane approached the bluff approximately 100 feet above the terrain. The airplane suddenly sank, "like we hit a downdraft," and the pilot banked hard to the right to avoid the bluff. The airplane encountered another downdraft, dropped 30 to 40 feet, and struck a rocky slope.

The 70-year-old female passenger in the left rear seat could not recall details of the accident. She said this was the first time she had ever flown with the pilot.

The cowboys rode to the accident site, extricated the occupants, and gave first aid. Another rode away to summon help. The cowboys said all the victims were conscious, including the pilot, and could sit up and talk. A medical helicopter was dispatched from St. Mary's Hospital in Grand Junction, Colorado, at 1015, and arrived at the scene at 1125. It departed with the injured at 1216, and arrived back at the hospital at 1308. En route, the pilot expired.

The accident occurred during the hours of daylight on the 105 degree radial and 21 n.m. (nautical miles) from the Hanksville (Utah) VORTAC, and on the 220 degree radial and 87 n.m. from the Grand Junction (Colorado) VORTAC.

INJURIES TO PERSONS

The male passenger fractured his left femur and foot, and sustained facial lacerations. The female passenger fractured her right wrist and sustained facial lacerations and contusions.

PERSONNEL (CREW) INFORMATION

The pilot, age 55, held a commercial pilot certificate with airplane single engine land and instrument ratings, issued June 30, 1989. His last class 2-airman medical certificate was issued on February 27, 1995. At that time, the pilot estimated he had 5,000 total flight hours, of which 150 hours were accrued in the last six months. His personal logbook was never located.

According to the Utah Driver License Division, the pilot was arrested on November 14, 1995, in Provo, Utah, for driving a motor vehicle while under the influence of alcohol. His blood alcohol concentration (by breath analyzer) was 0.13. His license was suspended from December 13, 1995, to March 12, 1996. When he failed to report this violation to FAA, his pilot's certificate was suspended for 30 days for violation of FAR 61.15(e), i.e. failure to "provide a report of each vehicle action to FAA within 60 days of vehicle action." The pilot was also cited for falsifying FAA Form 8500-8, Application for Airman Medical Certification. The pilot was arrested a second time, on April 3, 1999, in Grand County, Utah, again for driving a motor vehicle while under the influence of alcohol. His blood alcohol concentration (by breath analyzer) was 0.24. This time, his license was suspended from April 3, 1999, to May 3, 2000. According to Utah statutes, if a driver receives two DUI arrests within a six-year period, his license is suspended for one year. At the time of his death, his conviction was under appeal.

Also found in the wreckage was an application for vehicle insurance filed with Farm Bureau Insurance Company, dated May 3, 1995. According to the application, the company cancelled the pilot's vehicle insurance because he had filed vehicle collision claims in 1990 and in 1992.

AIRCRAFT INFORMATION

N7360M, a model 175 (s/n 17555660), was manufactured in 1958 by the Cessna Airplane Company. It was equipped under Supplemental Type Certificate (STC) SA777CE with a Textron Lycoming O-360-A1A engine (s/n L-21149-36A), rated at 180 horsepower, and a Hartzell 2-blade, all metal, constant speed propeller (m/n HC-C2YK-1B7).

The maintenance records were found in the wreckage. According to the bill of sale, Cross S Cattle Company purchased the airplane on January 10, 1989, and it was registered with FAA on February 23, 1989. The first airframe annual inspection recorded after that date was March 1, 1993, at a tachometer time of 1,487.69 hours and a total airframe time of 4,329.64 hours. The next annual inspection was dated May 1, 1995, at a tachometer time of 1,783.37 hours. This was the last recorded annual inspection. The last entry was made on May 27, 1997, when an inspection was made and the airplane was considered "airworthy for a one time ferry flight from Green River, UT, to Hurricane, Utah,... for the purpose of maintenance."

According to the engine logbook, the engine was installed on February 27, 1976, at a tachometer time of 0000.0. The first 100-hour inspection was performed on March 1, 1993, at a tachometer time of 1,487.69. On September 30, 1993, at a tachometer time of 1,569.08

hours, the cylinders were overhauled and reinstalled with new pistons, piston pins, rings, seals, and gaskets. The engine received a 100-hour inspection on May 1, 1995, at a tachometer time of 1,783.37 hours, and then underwent a major overhaul on May 27, 1997, after it had accrued 1,882.9 hours. This was the last maintenance entry in the engine logbook.

The first entry in the propeller logbook was March 25, 1982, when it was overhauled. It was installed in N7360M five days later at a tachometer time of 801.44 hours. It was inspected on January 15, 1989, at a tachometer time of 1,012.7 hours. On September 20, 1990, the propeller was removed for compliance with Airworthiness Directive 77-12-06, and reinstalled at a tachometer time of 1,188.45 hours. It was inspected again on March 1, 1993 (no tachometer time given). This was the last recorded maintenance entry.

METEOROLOGICAL INFORMATION

Visual meteorological conditions were reported at the accident site.

WRECKAGE AND IMPACT INFORMATION

The on scene investigation commenced and terminated on November 13, 2000.

The wreckage was located on the slope of a bluff at a location of 38 degrees, 13.533' north latitude, and 110 degrees, 18.714' west longitude. It was about 100 feet below the top of a bluff at a GPS (Global Positioning System) altitude of 6,140 feet msl. The top of the bluff was at a GPS elevation of 6,234 feet msl. The hill was inclined about 30 degrees.

The airplane was aligned on a magnetic heading of 055 degrees and rested in a nose down, right wing low attitude. The nose crush line was approximately 30 degrees. Both wings were equipped with stall fences and flap gap seals. Both flaps were down 10 degrees. The left wing was broken at the root and was bent slightly forward about 30 degrees. The right wing was broken at the root and was bent aft 45 degrees. The right fuel tank contained an unmeasured amount of fuel, and the tank had been breached. A fuel sample taken from the left wing revealed a tan or gold colored liquid visually similar to, and that smelled like, automotive fuel. Control continuity was established from all flight control surfaces to the rear cabin area. The elevator trim was near neutral. The tail section was undamaged.

The cabin had been compromised. The left front seatbelt was buckled and had been cut. The right front seatbelt was found unbuckled. The left rear seatbelt was buckled and had been cut. The airplane was not equipped with shoulder harnesses. The fuel selector was in the BOTH position, and the flap handle had been pulled up to the first notch (10 degrees).

The propeller remained attached to the engine. One propeller blade had an S-bend. The tip was missing from the other blade. There was some forward bending. Both blades had polished leading edges that bore scratches and gouges. The engine crankshaft was cracked and bent 10 degrees at the propeller flange. The flange was broken in three places. The top and lower

left engine mounts were broken, and the engine was canted 30 degrees to the right. The oil sump and intake manifold were crushed. The gascolator was shattered. The oil dipstick was removed from the engine. The oil was thick and black, consistent with contaminants and extremely long service.

There were no reports of an ELT (emergency locator transmitter) signal being received. Examination of the ELT (Pointer 3000, s/n 303025) revealed batteries with an expiration date of March 31, 1995. The ELT was tested on site using a tape recorder. No spurious signals were emitted.

MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy was performed on the pilot by Dr. Robert Kurtzman, Mesa County Medical Examiner. According to the report, the pilot's death was attributed to "multiple injuries." Fragments of two pills, which were not identified, were found in the stomach. Community Hospital's toxicology report indicated the urine tested positive for alcohol and barbiturates.

A second set of toxicological specimens was sent to FAA's Civil Aeromedical Institute (CAMI) in Oklahoma City for analysis. According to CAMI's report (#200000323001), the pilot tested positive for ethanol [61 (mg/dL, mg/hg) in blood; 130 (mg/dL, mg/hg) in urine; 83 mg/dL, mg/hg) in vitreous], acetaldehyde [2 (mg/dL, mg/hg) in blood; 1 (mg/dL, mg/hg) in urine], butalbital [2.506 (mg/dL, mg/hg) in blood; 3.795 (mg/dL, mg/hg) in urine], chlorpheniramine [0.018 (mg/dL, mg/hg) in blood; unknown quantity in urine], phenylpropanolamine (unknown quantities in blood and urine), and acetaminophen [3.792 (ug/ml, ug/g) in blood; 21.264 (ug/ml, ug/g) in urine]. CAMI also verbally reported detecting an unknown quantity of quinine in the blood.

ADDITIONAL INFORMATION

No documentation was located to indicate the airplane had a Supplemental Type Certificate (STC) for the use of autogas. According to the Textron Lycoming representative, an STC would not have been issued because the O-360-A1A is a high compression engine.

The airport manager at Hanksville was contacted. He stated he had been the previous owner of N7360M. He said the pilot was using automotive fuel in his airplane that was kept in a storage tank at his ranch. He had never purchased fuel at the airport. He also stated that the pilot treated his airplane "like it was one his tractors."

In addition to the Federal Aviation Administration, parties to the investigation included the Cessna Aircraft Company and Textron Lycoming.

There was no insurance on the airplane. Since the accident occurred on the pilot's property, the wreckage was verbally released to the Cross S Cattle Company via the Wayne County Sheriff's Office.

Pilot Information

Certificate:	Commercial	Age:	55, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	Yes
Medical Certification:	Class 2 Expired	Last FAA Medical Exam:	February 27, 1995
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	5000 hours (Total, all aircraft), 75 hours (Last 90 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N7360M
Model/Series:	175 175	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	55660
Landing Gear Type:	Tricycle	Seats:	4
Date/Type of Last Inspection:	May 1, 1995 Annual	Certified Max Gross Wt.:	2350 lbs
Time Since Last Inspection:	303 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	4929 Hrs	Engine Manufacturer:	Lycoming
ELT:	Installed, not activated	Engine Model/Series:	O-360-A1A
Registered Owner:	ARTHUR C. EKKER	Rated Power:	180 Horsepower
Operator:		Operating Certificate(s) Held:	None
Operator Does Business As:	CROSS S CATTLE CO.	Operator Designator Code:	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:		Distance from Accident Site:	
Observation Time:		Direction from Accident Site:	
Lowest Cloud Condition:	Unknown	Visibility	
Lowest Ceiling:	Unknown	Visibility (RVR):	
Wind Speed/Gusts:	/ None	Turbulence Type Forecast/Actual:	/
Wind Direction:	0°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:		Temperature/Dew Point:	
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	(NONE)	Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	None
Departure Time:	09:00 Local	Type of Airspace:	Class G

Airport Information

Airport:		Runway Surface Type:	
Airport Elevation:		Runway Surface Condition:	
Runway Used:	0	IFR Approach:	
Runway Length/Width:		VFR Approach/Landing:	

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:	2 Serious	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Fatal, 2 Serious	Latitude, Longitude:	38.270973,-110.74987(est)

Administrative Information

Investigator In Charge (IIC):	Scott, Arnold
Additional Participating Persons:	RICHARD C STEDNITZ; SALT LAKE CITY , UT
Original Publish Date:	May 18, 2001
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=50623

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