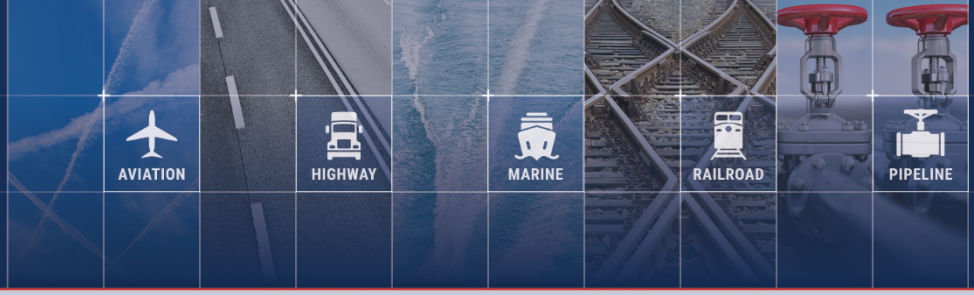

Aviation Investigation Final Report

Location:	SAREPTA, Louisiana	**Accident Number:**	FTW97FA269
Date & Time:	July 15, 1997, 10:33 Local	**Registration:**	N777TU
Aircraft:	Mooney M20C	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	1 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The VFR cross country flight was airborne for approximately 5 hours when the airplane impacted terrain in a hilly wooded area following a loss of engine power. The aircraft flight track was erratic with numerous heading and altitude changes and meandering in the vicinity of the Springhill NDB. The current Sectional Aeronautical Chart, found in the cockpit, showed the Springhill NDB at the airport. The NDB was found to be geographically located 3.8 miles south of the airport. Flight control and engine continuity were confirmed. Examination revealed that the integrity of the fuel system was not compromised. Twenty-three ounces of fuel were found in the left tank, zero ounces in the right tank, and 2 ounces in the fuel gascolator. An engine run did not produce any evidence that the engine was not capable of operating prior to the accident. The toxicology was positive for levels of 1.081 ug/ml methamphetamine detected in the blood and 6.293 ug/ml methamphetamine detected in the liver. At these levels, Dr. Canfield is of the 'opinion that the pilot would have been severely impaired.'

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's impairment (drugs) resulting in his becoming disoriented and the ensuing loss of engine power due to fuel exhaustion. Factors were the lack of suitable terrain for the forced landing and the inaccurate navigation chart.

Findings

Occurrence #1: LOSS OF ENGINE POWER(TOTAL) - NONMECHANICAL
Phase of Operation: CRUISE - NORMAL

Findings
1. (C) BECAME LOST/DISORIENTED - INADVERTENT - PILOT IN COMMAND
2. (C) IMPAIRMENT(DRUGS) - PILOT IN COMMAND
3. (C) FLUID,FUEL - EXHAUSTION
4. (F) CHARTS/OTHER MANUALS - INACCURATE
5. (F) PROCEDURES/DIRECTIVES - NOT FOLLOWED - FAA(AIRWAYS FACILITY PERSONNEL)

Occurrence #2: FORCED LANDING
Phase of Operation: DESCENT - EMERGENCY

Findings
6. (F) TERRAIN CONDITION - NONE SUITABLE
7. OBJECT - TREE(S)

Occurrence #3: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: DESCENT - UNCONTROLLED

Factual Information

HISTORY OF FLIGHT:

On July 15, 1997, at 1033 central daylight time, a Mooney M20C, N777TU, owned by a private individual dba Rio Vista Aviation, San Antonio, Texas, and operated under Title 14 CFR Part 91, impacted terrain following a loss of engine power near Sarepta, Louisiana. The private pilot, sole occupant, received fatal injuries, and the airplane sustained substantial damage. Visual meteorological conditions prevailed for the planned cross country flight to Clarksville, Tennessee. A flight plan was not filed. The flight departed New Braunfels, Texas, approximately 0536.

During personal interviews, conducted by the investigator-in-charge (IIC), the owner, witnesses, and local authorities reported the following information. The pilot rented the airplane for the planned round trip flight to Clarksville, Tennessee. The airplane was refueled (Hobbs 164.0). On the evening of July 14, 1997, the pilot flew the airplane from the San Antonio International Airport, San Antonio, Texas, to New Braunfels (near the pilot's residence) for an early departure the following morning for the round trip flight to Clarksville. Following the accident, personnel at Clarksville reported that the aircraft had not landed at that airport.

Witnesses observed the airplane in the vicinity of the accident site flying in an easterly direction at an estimated altitude from 300 to 100 agl. The engine was not running and the propeller was turning. The witnesses did not hear or observe the impact and thought that the pilot had gotten the engine started and continued on his flight.

When the airplane did not return to San Antonio, the operator reported the over due flight to the DeRidder Flight Service Station (FSS). The supervisor at the FSS advised that an emergency locator transmitter (ELT) signal was received on the morning of July 15, 1997, from the area northeast (46 DME 038 degree radial) of the Elm Grove VOR.

The Air Force Rescue Coordination Center (RCC), Langley AFB, Virginia, initiated search and rescue at 1730 on July 15, 1997, with the Fort Worth Air Route Traffic Control Center (ARTCC), DeRidder FSS, Civil Air Patrol (CAP), and local authorities. Intermittent ELT signals, terrain conditions, and fog hampered the search during the late night and the following early morning hours. The airborne aircraft (CAP) located the accident aircraft (North 32 degrees 54.56 minutes; West 093 degrees 24.24 minutes) at 1605 on July 16, 1997. The local authorities ground search team responded to the site.

PERSONNEL INFORMATION:

The pilot logbook and the FAA records, reviewed by the IIC, showed that the pilot satisfactorily

completed a re-examination for the private pilot certificate (total flight time of 69.7 hours) on September 17, 1964. From March 1992 through February 1997, there were no entries in the pilot's logbook. After February 1997, the pilot received rental flight checks in the Cessna 172RG, Cessna 210, and Mooney M20C aircraft. The pilot had logged 797.0 hours total time of which 37.8 hours (35.6 solo; 2.2 dual) was in the Mooney M20C airplane.

During interviews, conducted by the IIC, and on the Pilot/Operator Aircraft Accident Report (NTSB Form 6120.1/2), the operator reported that the pilot received a renter's ground and flight check (1.4 hours) in the airplane on July 14, 1997. During the ground portion of the check, the owner explained that the fuel burn was approximately 10 gph at altitudes above 10,000 feet msl and power settings of less than 23 inches of manifold pressure and 2,400 rpm. The flight check, conducted in the area of the San Antonio International Airport, San Antonio, Texas, and the New Braunfels Municipal Airport, New Braunfels, Texas, included steep turns, slow flight, configuration changes, and takeoffs, and landings.

AIRCRAFT INFORMATION:

The aircraft was manufactured in 1965 and a standard airworthiness certificate was issued on July 20, 1965, for N5838Q. FAA records revealed that the registration number was changed to N777TU in March 1992. The aircraft was registered to the current owner on February 3, 1994. A review of the maintenance records, by the IIC and the FAA inspector, revealed that the last annual inspection was performed and the airplane returned to service on January 1, 1997. Following a propeller strike, the engine was removed, overhauled, and re-installed on the aircraft. The Hartzell Propeller (Model HC-C3YR-1RF) was installed and the aircraft test flight was satisfactory on July 2, 1997.

METEOROLOGICAL INFORMATION:

The National Weather Service (NWS) for New Braunfels (K3R5) throughout the morning was reporting calm winds, visibility 9 to 10 statute miles, with clear sky conditions. Surface observations for Shreveport (34 miles southwest of the accident site) from midmorning until noon, were reporting the visibility from 7 to 10 statute miles with clear sky conditions.

AIDS TO NAVIGATION:

The 58th edition (April 24, 1997, through October 9, 1997) of the Memphis Sectional Aeronautical Chart published by the National Oceanic and Atmospheric Administration for use in navigation was found in the aircraft cockpit. On this current sectional chart, the location of the Springhill NDB frequency 375, was shown to be located at the Springhill Airport.

Examination of the area near the accident site revealed that the Springhill NDB geographic location (North 32 degrees 55.22 minutes; 093 degrees 24.56 minutes) was approximately 4 miles south of the airport. The accident site (North 32 degrees 54.5 minutes; West 093 degrees 24.8 minutes) was less than one mile from the off airport Springhill NDB. The Airport

Facility Directory, current on date of accident, listed the Springhill Airport (North 32 degrees 58.99 minutes; West 093 degrees 24.65 minutes) location as 3.8 nautical miles from the Springhill NDB. The NDB instrument approach procedure, current on date of accident, showed the Final Approach Fix (FAF) at 354 degrees 3.5 nautical miles from the Springhill NDB. The Low Altitude En Route Chart, current on date of accident, showed the Springhill Airport north of the Springhill NDB. See the wreckage and impact section and aerodrome information for additional details.

On July 14, 1992, the Springhill Airport on-airport NDB was NOTAMed out of service (OTS) indefinitely. On April 27, 1994, the City of Springhill submitted a request to the State of Louisiana for the relocation of the Non-directional Radio Beacon (SPH) to 3.3 nautical miles south of the Springhill Airport. On June 20, 1994, the City of Springhill submitted a request to the State of Louisiana for the deletion of the existing Springhill Airport on-airport NDB Runway 17 approach. There were no plans to reactivate the existing NDB prior to commissioning of the off-airport Runway 35 NDB approach. On January 13, 1995, in reference to the relocation of the NDB to the off airport site, the FAA accepted the request for cancellation of the NDB runway 17 instrument approach procedure, and initiated the development of the NDB runway 35 instrument approach procedure for publication.

The NDB runway 35 instrument approach, the Low Altitude En Route Chart, and the Airport Facility Directory were issued in October 1996. Each reflected the off airport location of the Springhill NDB. On August 1, 1996, the NDB runway 35 instrument approach was flight checked, and on October 10, 1996, the off-airport Springhill NDB was returned to service. On October 25, the original OTS NOTAM for the Springhill NDB was deleted.

COMMUNICATIONS:

A review of air traffic control data identified no preflight or en route communication with the pilot. However, the air traffic control (HOU ARTCC and FTW ARTCC) quality assurance staff through the National Track Analysis Program (NTAP) identified a 1200 transponder code track (North 29 degrees 41.14 minutes; West 098 degrees 00.06 minutes) at 0539:55, altitude 1,600 feet msl, located near the New Braunfels Municipal Airport (North 32 degrees 58.99 minutes; West 093 degrees 24.65 minutes). The track proceeded along the route of flight and terminated (North 34 degrees 54.2 minutes; West 093 degrees 25.98 minutes) at 1033:02 near the accident site (North 32 degrees 54.5 minutes; West 093 degrees 24.8 minutes). See the enclosed data for additional details.

Total track time was 4 hours 53 minutes and 7 seconds. During this time, the aircraft tracking path was erratic with numerous heading and altitude changes with a maximum altitude of 14,400 feet msl. The aircraft track meandered in the vicinity of the Springhill NDB from 0959:38 until radar contact was lost at 1033:02.

AERODROME INFORMATION:

The non towered Springhill Airport (SPH) at an elevation of 218 feet currently has an asphalt runway (18/36) that is 4,002 feet long and 75 feet wide. The Springhill Airport is surrounded by trees that are 60 feet tall. Remote communications facilities include De Ridder Flight Service station (FSS) and Shreveport Approach/Departure Control. Radio aids to navigation include the non directional beacon (SPH), frequency 375, located at North 32 degrees 55.22 minutes; West 093 degrees 24.56 minutes. The NDB magnetic bearing to the airport is 354 degrees for 3.8 nautical miles.

Local authorities reported that the Springhill Airport is surrounded by trees that are 60 feet high. Pilots in the area reported to the local authorities that the airport could not easily be seen from over the Springhill NDB at an altitude below 1,200 feet msl unless the airplane's flight path was aligned with the runway.

WRECKAGE AND IMPACT INFORMATION:

The airplane came to rest on a measured magnetic heading of 284 degrees in a nose low attitude in hilly wooded terrain less that a mile from the Springhill NDB and approximately 5 miles south of runway 36 at the Springhill Airport. The left wing leading edge and the outboard right wing was crushed aft with the wings buckled and wrinkled. A tree trunk extended from the ground scar area to the left wing leading edge with a portion of the red navigation lens found near the base of the tree trunk and the ground scar. See the enclosed wreckage diagram for additional details.

The aircraft was intact with the landing gear and flaps retracted. Flight control continuity was confirmed. The transponder code was 1200 and the ADF receiver was tuned to the Springhill NDB frequency 375. The integrity of the fuel system was not compromised. Twenty-three ounces of fuel were found in the left fuel tank, zero ounces in the right fuel tank, and 2 ounces in the fuel gascolator. The fuel selector was on the left tank.

The engine was intact and attached to the airframe. When the crankshaft was rotated, continuity was confirmed to all the cylinders and the accessory gears, and hand compression was noted at all the cylinders. The tachometer reading was 719.30 hours and the Hobbs reading was 169.9 hours. The propeller remained attached to the engine with two propeller blades bent aft at the hub and the third propeller blade straight.

An engine run was conducted, under the surveillance of the IIC, at Lancaster, Texas. The engine operated throughout its power range without producing any evidence that the engine was not capable of operating prior to the accident.

MEDICAL AND PATHOLOGICAL INFORMATION:

The autopsy was performed by the Mississippi State Medical Examiner's Office, at Pearl, Mississippi. Aviation toxicological testing was performed by the FAA Civil Aeromedical Institute (CAMI) at Oklahoma City, Oklahoma. The CAMI toxicological quantified findings were

positive for levels of 1.081 (ug/ml; ug/g) methamphetamine detected in the blood and 6.293 (ug/ml; ug/g) methamphetamine detected in liver. At these levels, Dr. Canfield, CAMI, is of the "opinion that the pilot would have been severely impaired." See the toxicological report for additional details.

TEST AND RESEARCH:

The King Loran unit (KLN 88 P/N 066-4026-06; S/N 4028) was examined, under the surveillance of the IIC and the FAA inspector, at Olathe, Kansas. The unit contained database P/N 071-01469-03 North American Document 723-08095-0011. The unit indicated that the distance from 3R5 to SPH is 309 nautical miles on a magnetic heading of 043 degrees; however, it appeared that the unit was not used (not powered) for the accident flight. The last active position (North 29 degrees 32.3 minutes; West 098 degrees; 02.5 minutes) was near San Antonio, Texas. See the enclosed report for additional details.

ADDITIONAL INFORMATION:

The airplane was released to the registered owner.

Pilot Information

Certificate:	Private	**Age:**	48,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	None	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 3 Valid Medical--no waivers/lim.	**Last FAA Medical Exam:**	March 22, 1997
Occupational Pilot:	UNK	**Last Flight Review or Equivalent:**	
Flight Time:	797 hours (Total, all aircraft), 38 hours (Total, this make and model), 692 hours (Pilot In Command, all aircraft), 259 hours (Last 90 days, all aircraft), 160 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Mooney	**Registration:**	N777TU
Model/Series:	M20C M20C	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	3128
Landing Gear Type:	Retractable - Tricycle	**Seats:**	4
Date/Type of Last Inspection:	January 1, 1997 Annual	**Certified Max Gross Wt.:**	2575 lbs
Time Since Last Inspection:	30 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	3176 Hrs	**Engine Manufacturer:**	Lycoming
ELT:	Installed, activated, aided in locating accident	**Engine Model/Series:**	O-360-A1D
Registered Owner:	THOMAS W. WHITE	**Rated Power:**	180 Horsepower
Operator:		**Operating Certificate(s) Held:**	None
Operator Does Business As:	RIO VISTA AVIATION	**Operator Designator Code:**	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	SHV ,258 ft msl	**Distance from Accident Site:**	34 Nautical Miles
Observation Time:	09:56 Local	**Direction from Accident Site:**	210°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	6 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	100°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30 inches Hg	**Temperature/Dew Point:**	28°C / 24°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	NEW BRAUNFELS , TX (3R5)	**Type of Flight Plan Filed:**	None
Destination:	CLARKSVILLE , TN (CKV)	**Type of Clearance:**	
Departure Time:	05:36 Local	**Type of Airspace:**	Class G

Airport Information

Airport:	SPRINGHILL SPH	**Runway Surface Type:**	Asphalt
Airport Elevation:	218 ft msl	**Runway Surface Condition:**	
Runway Used:	36	**IFR Approach:**	
Runway Length/Width:	4002 ft / 75 ft	**VFR Approach/Landing:**	Forced landing

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Fatal	**Latitude, Longitude:**	32.889938,-93.449356(est)

Administrative Information

Investigator In Charge (IIC):	Roach, Joyce
Additional Participating Persons:	JIM COPPITT; BATON ROUGE , LA GERALD JAMES; WILLIAMSPORT , PA
Original Publish Date:	April 15, 1999
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=20044