Aviation Investigation Final Report

Location:	ANGEL FIRE, New Mexico	**Accident Number:**	FTW98FA121
Date & Time:	February 5, 1998, 16:29 Local	**Registration:**	N9213M
Aircraft:	Mooney M20E	**Aircraft Damage:**	Destroyed
Defining Event:		**Injuries:**	1 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The airplane disappeared on a flight from Santa Fe to Angel Fire, New Mexico. The pilot did not obtain a weather briefing nor file a flight plan. The wreckage was located three days later in mountainous terrain at the 10,700 foot level. A witness told SAR personnel he had seen a low wing airplane 'flying in and out of the cloud bottoms' in the vicinity and at about the time of the accident. A meteorological study indicated moderate to severe turbulence associated with mountain wave activity, and marginal VFR conditions in the mountains. Radar data indicated that minutes before the accident, the airplane's altitude varied between 11,700 and 13,100 feet, ground speed reached a low of 64 knots and a high of 270 knots, and vertical speed varied between +4,800 and -6,000 feet per minute (+80 and -100 feet per second). At one point, the airplane made a complete 360 degree circle.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot attempting VFR flight into instrument meteorological conditions and his lack of an instrument rating. Factors were weather conditions that included mountain wave activity conducive to turbulence, and clouds obscuring the mountainous terrain.

Findings

Occurrence #1: IN FLIGHT ENCOUNTER WITH WEATHER
Phase of Operation: CRUISE - NORMAL

Findings
1. (F) WEATHER CONDITION - MOUNTAIN WAVE
2. (F) WEATHER CONDITION - TURBULENCE
3. (F) WEATHER CONDITION - CLOUDS
4. (F) WEATHER CONDITION - OBSCURATION
5. (C) VFR FLIGHT INTO IMC - ATTEMPTED - PILOT IN COMMAND
6. (F) LACK OF CERTIFICATION - PILOT IN COMMAND
7. PHYSIOLOGICAL CONDITION - PILOT IN COMMAND

Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: MANEUVERING

Findings
8. TERRAIN CONDITION - MOUNTAINOUS/HILLY
9. OBJECT - TREE(S)

Factual Information

HISTORY OF FLIGHT

On February 5, 1998, at 1629 mountain standard time, a Mooney M20E, N9213M, owned and operated by the pilot, was destroyed when it impacted mountainous terrain while in cruise flight 10 miles south-southeast of Taos, New Mexico. The private pilot and one of his two dogs, Duke, was fatally injured. The other dog, Jake, was seriously injured and had to be destroyed. Instrument meteorological conditions reportedly were forecast in the area, and no flight plan was filed for the personal flight being conducted under Title 14 CFR Part 91. The flight originated at Santa Fe, New Mexico, at 1558.

According to family members, the pilot, Gordon VeneKlasen, was traveling to Angel Fire to pick up his son, Garrett. From there they planned to fly to Texas to go quail hunting. Accompanying Mr. VeneKlasen were his two dogs, Jake and Duke. There is no record of him obtaining a weather briefing or filing a flight plan for the 60-mile flight to Angel Fire. When the airplane failed to arrive, an ALNOT (alert notice) was issued at 2126. The wreckage was located by a New Mexico State Police helicopter pilot at 1020 on February 8, 1998, at the 10,700 foot level of Rito Quioen Saba, part of the Sangre de Cristo Mountain Range, at 36 degrees, 15.81 minutes north latitude and 105 degrees, 24.866 minutes west longitude. Search and rescue personnel reported that a witness, Fred Fair, had seen a low wing airplane "flying in and out of the cloud bottoms" shortly before the estimated time of the accident.

PERSONNEL INFORMATION

The pilot, Gordon O. VeneKlasen, age 73, was born on October 30, 1924. He held Private Pilot Certificate No. 1963718, dated August 31, 1969, with an airplane single engine land rating. He was not instrument rated. He also held a third class airman medical certificate, dated May 1, 1997, with the restriction, "Valid for 12 months following the month examined." According to this application for medical certification, he estimated he had accumulated 1,245 total flight hours, 15 hours within the preceding 6 months.

AIRCRAFT INFORMATION

N9213M (s/n 1176), a model M20E, was manufactured by the Mooney Aircraft Corporation in 1966. It was equipped with a Textron Lycoming IO-360 engine, rated at 200 horsepower. The Maintenance records were reportedly aboard the airplane. They were not recovered.

METEOROLOGICAL INFORMATION

NTSB's Operational Factors Division made a weather study in support of this accident

investigation. According to the Meteorology Factual Report, the Surface Analysis Chart showed two high pressure systems over the Rocky Mountains and an area of low pressure to the lee of the mountains. The Surface Analysis Chart showed "an area of lower sea level pressures over south central New Mexico" that were "located to the lee of the Rocky Mountains. The station plots also indicated an extensive area of cloud cover associated with this area." The Weather Depiction Chart "indicated a large area of IFR and marginal VFR (MVFR) conditions over the southwest influencing eastern New Mexico. . .Northern New Mexico close to the Sangre De Cristo mountains reported VFR conditions with broken to overcast ceilings at 4,000 to 6,000 feet..." Stations reporting VFR conditions included Santa Fe (3,200 feet broken, 4,200 feet overcast, 6 degrees C.); Taos (3,800 feet scattered, 4,700 feet overcast, 3 degrees C.), and Las Vegas (2,500 feet broken, 6,500 feet overcast, 9 degrees C.).

The Meteorology Report noted that the "terrain northwest of the accident site. . .would have an influence on wind currents downstream and in the production of turbulence in the area of the accident site." Winds Aloft data indicated "an unsaturated environment up to approximately 10,000 feet msl, [becoming] saturated to approximately 12,500 feet msl." At that altitude, "a marked stable layer was noted where the temperature remained constant with altitude (isothermal) up to 15,000 feet and the layer became unsaturated. The freezing level was approximately 8,000 feet msl, the saturated cloud layer indicated would have ranged from -7 to -11 degrees C. The temperature in the inversion remained below freezing."

Although no low altitude pilot reports (PIREPs) were filed, three high altitude reports were made, reporting "moderate to severe turbulence associated with mountain wave activity. . ." Weather radar and satellite photographs were also examined, the latter with N9213M's ground track overlaid on the image.

The Area Forecast for New Mexico called for "scattered to broken clouds at 9,000 feet msl, with tops to 11,000 feet. Winds westerly at 14 gusting to 30 knots." AIRMET SIERRA 4, current for the route of flight for N9213M, called for mountains to be "obscured in clouds and precipitation." AIRMET TANGO 3, bordering the accident area, called for "moderate turbulence between 15,000 and 37,000 feet msl," and spreading eastward.

A Meteorological Impact Statement (MIS) was also issued, advising of an area of IFR conditions with scattered light snow showers, mountain obscurement, occasional moderate to locally severe rime to mixed icing in clouds and precipitation from the surface to 18,000 feet, occasional light to locally moderate rime icing below 12,000 feet, widely scattered cumulus buildups, possible isolated thunderstorms, and occasional moderate turbulence below 15,000 feet.

WRECKAGE AND IMPACT INFORMATION

At the time of the accident, search and rescue personnel discouraged travel to the scene due to waist-deep snow and avalanche hazards. The decision was made to travel to the accident site in June.

On June 22, 1998, a family member reported traveling to the accident site and finding the radios, instruments, and engine missing from the airplane. Because the sterility of the accident site had been breached, the decision was made not to conduct an on-scene examination of the wreckage.

Examination of photographs taken by rescuers revealed the airplane impacted a deep snow bank in a heavily timbered area. It sat upright and level. The engine was twisted 45 degrees to the left. The propeller remained attached to the engine. Both blades were bent aft, and the tip of the ascending blade was twisted in an "S" fashion. The spinner had a large dent at the 6 o'clock position, and bore circumferential crushing. The cabin area and baggage compartment were compromised. The empennage was twisted 45 degrees to the right. The main spar was torn out from the vertical stabilizer, but both remained attached to the airplane. The horizontal stabilizers were not clearly discernible, but the spars were identified. Both wings were sheared off.

MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy (#1589-298-8T) was performed by Dr. Ross E. Zumwalt, chief medical investigator for the New Mexico Medical Examiner's Office. Although the cause of death was listed as "multiple injuries," the pathologist noted the pilot had seven preexisting physiological conditions (for details, contact the New Mexico Medical Examiner's Office for the autopsy report).

Toxicological testing was performed by both the New Mexico Medical Examiner's Office (#216) and by FAA's Civil Aeromedical Institute (#9800031001). Both reports indicated no evidence of carboxyhemoglobin, cyanide, drugs, or ethanol in the specimens submitted.

TESTS AND RESEARCH

NTAP (National Track Analysis Program) data was retrieved from the Albuquerque Air Route Traffic Control Center (ARTCC) and modem directly into a Radar ViewPoint computer program. The results were instrumental in locating the missing airplane.

The radar data began at 1600:53 and ended at 2329:14. According to this data, a VFR target (transponder code 1200) was detected just north of the Santa Fe Airport. It proceeded north, climbing to 10,000 feet and leveling off at 1610:30. At 1613:42, the target descended to 9,500 feet, at which time radar contact was lost about 5 miles west of Las Trampas. A VFR target reappeared at 1623:07 about 1 miles east of Talpa. Based on a projected heading and ground speed, it was determined that the two targets were one of the same.

The radar data indicated that during the last five minutes of flight, beginning at 1624:41, altitude varied between 11,700 and 13,100 feet, ground speed reached a low of 64 knots and a high of 270 knots, and vertical speed varied between +4,800 and -6,000 feet per minute (+80

and -100 feet per second. At one point, between 1625:42 and 1626:12, the airplane made a complete 360 degree circle. The last radar contact with the target was at 1629:14, when it was at 12,500 feet and about 2 miles north of Cerro Vista Peak (elevation 11,939 feet).

ADDITIONAL INFORMATION

The Federal Aviation Administration was the only party to the investigation.

The wreckage was released to the owners' insurance company on June 26, 1998.

Pilot Information

Certificate:	Private	**Age:**	73,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:**	May 1, 1996
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:			

Aircraft and Owner/Operator Information

Aircraft Make:	Mooney	**Registration:**	N9213M
Model/Series:	M20E M20E	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	1176
Landing Gear Type:	Retractable - Tricycle	**Seats:**	4
Date/Type of Last Inspection:	April 11, 1997 Annual	**Certified Max Gross Wt.:**	2575 lbs
Time Since Last Inspection:	60 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	2730 Hrs	**Engine Manufacturer:**	Lycoming
ELT:	Installed, not activated	**Engine Model/Series:**	10-360-A1A
Registered Owner:	GORDON O. VENEKLASEN	**Rated Power:**	200 Horsepower
Operator:		**Operating Certificate(s) Held:**	None
Operator Does Business As:		**Operator Designator Code:**	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument (IMC)	**Condition of Light:**	Dusk
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:	/	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	0°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:		**Temperature/Dew Point:**	
Precipitation and Obscuration:			
Departure Point:	SANTA FE , NM (SAF)	**Type of Flight Plan Filed:**	None
Destination:	ANGEL FIRE , NM (AXX)	**Type of Clearance:**	
Departure Time:	15:58 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:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Fatal	**Latitude, Longitude:**	36.390113,-105.270606(est)

Administrative Information

Investigator In Charge (IIC):	Scott, Arnold
Additional Participating Persons:	KERRY D RAY; ALBUQUERQUE , NM
Original Publish Date:	February 15, 2001
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=20403