Aviation Investigation Final Report

Location:	Santa Ynez, California	**Accident Number:**	WPR19FA146
Date & Time:	May 15, 2019, 13:39 Local	**Registration:**	N236AM
Aircraft:	Aviat A1	**Aircraft Damage:**	Destroyed
Defining Event:	Controlled flight into terr/obj (CFIT)	**Injuries:**	1 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

Before the accident flight, the private pilot had flown to a ranch. The ranch owner reported that, after the pilot decided to return home and once, they had walked about halfway back (about 100 yards) to the airplane, the pilot sat down and told him that he was “kind of tired today.” A few minutes later, they continued walking to the airplane. Subsequently, the ranch owner watched the pilot board the airplane, taxi out, and take off. According to local law enforcement personnel, concerned friends and family notified them that the pilot had not returned. Shortly after, the Federal Aviation Administration issued an alert notice. A law enforcement air unit found the airplane wreckage the following morning on steep, rising, mountainous terrain about 8.8 miles northeast of the intended destination.

Recorded radar data showed a radar target consistent with the accident airplane about 6 miles west of the ranch on a west-northwesterly heading for about 6 minutes. The airplane then turned right to a northwesterly heading and began descending. The airplane continued along this heading for about 2 minutes until the last recorded radar target, which showed the airplane was about 0.2 mile south of the accident site at 2,725 ft mean sea level.

Satellite imagery around the time of the accident showed an extensive cloud layer that obscured the departure and intended destination areas. The imagery also showed that a broken layer of low stratiform-type clouds obscured the accident site and the lower terrain west of the site around the time of the accident. A TAF issued 4 minutes before the accident forecast scattered clouds at 2,500 ft above ground level at the destination airport. At the time of the accident, AIRMET Sierra was valid for mountain obscuration near the accident site.

Examination of the airplane and engine revealed no preaccident mechanical malfunctions or failures that would have precluded normal operation. Therefore, based on the evidence, it’s likely that the pilot encountered reduced visibility and mountain obscuration conditions, which likely led him to turn the airplane away from his intended destination and subsequently collide with mountainous terrain.

Toxicology tests detected zolpidem, which is used for the short-term treatment of insomnia and is impairing, in the pilot's specimens. The pilot's wife reported that her husband was taking blood pressure medication and that he suffered from insomnia. However, despite the ranch owner's statement that the pilot felt tired and the pilot's history of insomnia and use of zolpidem, the available medical evidence was insufficient to determine whether he was impaired by inadequate sleep, an acute medical condition, or his use of zolpidem.

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 mountainous terrain during cruise flight in low visibility and mountainous obscuration conditions.

Findings

Personnel issues	Decision making/judgment - Pilot
Aircraft	Altitude - Not attained/maintained
Environmental issues	Obscuration - Contributed to outcome
Environmental issues	Mountainous/hilly terrain - Effect on operation

Factual Information

History of Flight

Enroute-cruise	Controlled flight into terr/obj (CFIT) (Defining event)

On May 15, 2019, about 1339 Pacific daylight time, an Aviat Aircraft Inc., A1-B airplane, N236AM, was destroyed when it was involved in an accident near Santa Ynez, California. The pilot was fatally injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

A ranch owner reported that the pilot had landed the airplane at his ranch the morning of the accident. The ranch owner stated that, while walking with the pilot from the airplane to the club house, the wind began picking up, and the pilot decided to return home. After walking about halfway back to the airplane (about 100 yards), the pilot sat down on a bench and told the ranch owner that he was "kind of tired today." A few minutes later, they continued walking to the airplane. The ranch owner then watched the pilot board the airplane, taxi out, and take off. The pilot was destined for Santa Ynez Airport (IZA), Santa Ynez, California, located about 23 miles east of the ranch.

According to local law enforcement personnel, about 2000, concerned friends and family members notified them that the pilot had not returned, and shortly after, the Federal Aviation Administration issued an alert notice. A law enforcement air unit found the airplane wreckage the following morning on steep, rising, mountainous terrain about 8.8 miles northeast of IZA.

Recorded radar data showed a radar target consistent with the accident airplane about 6 miles west of the ranch on a west-northwesterly heading at 4,675 ft mean sea level (msl). The data showed the airplane continue a west-northwesterly heading for about 6 minutes varying between 4,375 and 4,775 ft msl. Subsequently, the airplane turned right to a northwesterly heading. About 20 seconds later, the airplane started descending. The airplane continued a northwesterly heading while descending for about 2 minutes until radar contact was lost. The last recorded radar target was about 0.2 mile south of the accident site at 2,725 ft msl. Figure 1 shows the airplane's radar track laid over an aerial view of the mountainous terrain and the departure, destination, and accident site locations.

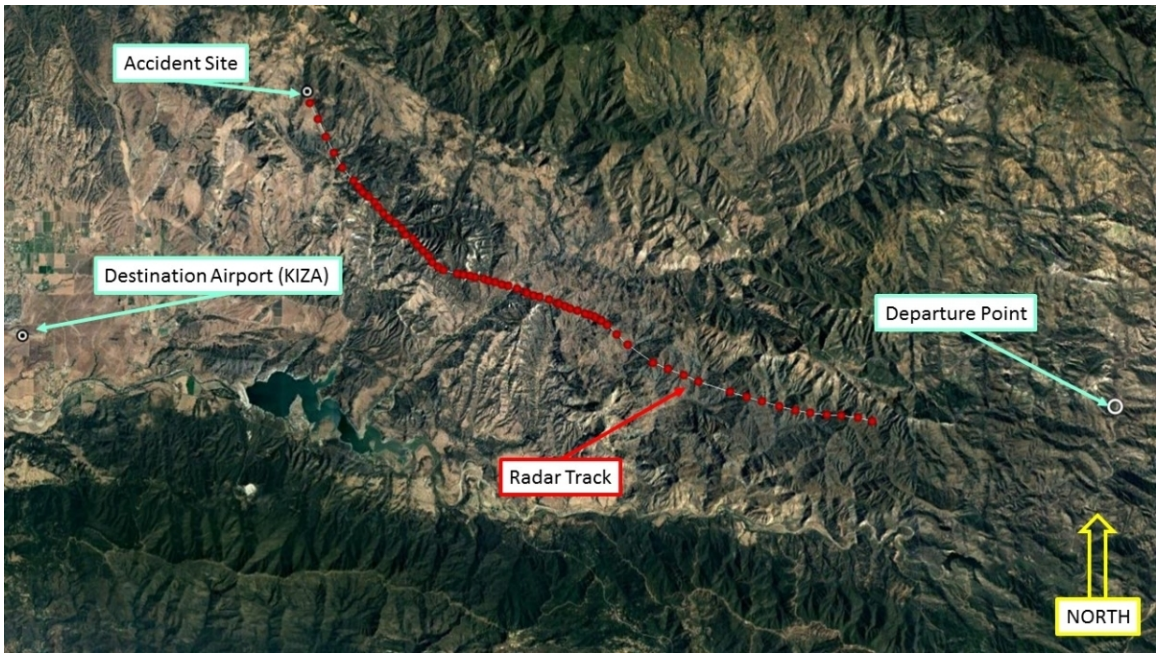

Figure 1. The airplane's radar track laid over an aerial photograph of the mountainous terrain and the departure, destination, and accident site locations.

Pilot Information

Certificate:	Private	**Age:**	68,Male
Airplane Rating(s):	Single-engine land; Single-engine sea; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	Unknown
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 3 With waivers/limitations	**Last FAA Medical Exam:**	June 4, 2018
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	4033 hours (Total, all aircraft)		

The pilot's logbooks were not found during the investigation.

Aircraft and Owner/Operator Information

Aircraft Make:	Aviat	**Registration:**	N236AM
Model/Series:	A1 B	**Aircraft Category:**	Airplane
Year of Manufacture:	2006	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	2360
Landing Gear Type:	Tailwheel	**Seats:**	2
Date/Type of Last Inspection:	Unknown	**Certified Max Gross Wt.:**	2200 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:		**Engine Manufacturer:**	Lycoming
ELT:	Installed, not activated	**Engine Model/Series:**	O-360-A1P
Registered Owner:	On file	**Rated Power:**	180 Horsepower
Operator:	On file	**Operating Certificate(s) Held:**	None

The airframe, engine, and propeller logbooks were not found during the investigation.

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	KIZA,671 ft msl	**Distance from Accident Site:**	8 Nautical Miles
Observation Time:	20:35 Local	**Direction from Accident Site:**	230°
Lowest Cloud Condition:	Scattered / 2500 ft AGL	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	6 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	230°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.92 inches Hg	**Temperature/Dew Point:**	20°C / 12°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Montecito, CA	**Type of Flight Plan Filed:**	None
Destination:	Santa Ynez, CA (KIZA)	**Type of Clearance:**	None
Departure Time:	13:22 Local	**Type of Airspace:**	Class G

The Geostationary Operational Environmental Satellite-17 visible imagery at 1331, 1336, and 1341 showed an extensive layer of clouds spanning east-to-west along the coast obscuring Santa Barbara,

California and the departure ranch area, which extended immediately south of IZA, with a broken layer of low stratiform-type clouds that obscured the accident site and the lower terrain west of the site.

A TAF valid from 1100 to 1400 forecast wind from 210° at 8 knots, visibility 6 miles or more, ceiling broken at 800 ft above ground level (agl), and ceiling overcast at 1,500 ft. From 1400 to 2000, the forecast was wind from 240° at 12 knots, visibility 6 miles or more, scattered clouds at 2,500 ft agl, and ceiling overcast at 8,000 ft agl. The TAF was amended at 1102 to a scattered layer of clouds at 800 ft agl and ceiling overcast at 1,500 ft agl. At the time of the accident, AIRMET Sierra was valid for mountain obscuration near the accident site.

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Destroyed
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:		**Aircraft Explosion:**	None
Total Injuries:	1 Fatal	**Latitude, Longitude:**	34.691112,-119.95333

Examination of the accident site revealed that the airplane had impacted mountainous terrain at an elevation of about 2,700 ft msl and an approximate magnetic heading of 284° (see figure 2 for a photograph showing an aerial view of the accident site). The main wreckage came to rest upright about 30 ft below the initial impact point and was mostly consumed by fire. All the airplane's major structural components were present at the accident site.

Figure 2. Aerial view of the accident site.

The wreckage exhibited severe thermal fire damage (see figure 3 for a photograph of the wreckage). All the fabric covering was burned and/or melted away from the wing and fuselage structure, except for the outboard left horizontal stabilizer. The right wing remained attached to the airframe, but the left wing was separated from the airframe. Both the left and right wings were severely fire damaged and bent and buckled throughout their spans.

Figure 3. Photograph of the recovered wreckage.

The cockpit instrumentation was separated from the airframe. One gyro was separated from the instrument housing. The gimble exhibited rotational scoring. Flight control continuity was established to all primary flight control surfaces. The control cables were separated in multiple places, consistent with tension overload or being cut by wreckage recovery personnel. The forward and rear control column interconnect was intact and fire damaged. The torque tube remained attached to the elevator control surfaces and extended forward to the cockpit's rear area.

The engine was separated from the airframe; however, it remained attached to the engine mount structure and exhibited thermal and fire damage. The crankshaft could not be rotated. Borescopic examination of the internal areas of the crankcase and cylinders revealed evidence of heavy corrosion throughout them. All connecting rods, pistons, and valves were intact. The intake and exhaust valves exhibited normal operational signatures. No evidence of preaccident mechanical failures or malfunctions were revealed with the airframe or engine that would have precluded normal operation.

Medical and Pathological Information

The Santa Barbara County Sheriff-Coroner, Santa Barbara, California, performed an autopsy of the pilot. The pilot's cause of death was multiple traumatic injuries.

The FAA's Forensic Sciences Laboratory performed toxicology testing of specimens from the pilot, which detected 267 (ng/mL, ng/g) zolpidem in the liver, 64 (ng/mL, ng/g) zolpidem in muscle, and atorvastatin in the liver. Zolpidem, is a prescription central nervous system depressant used for the short-term treatment of insomnia. It typically carries a warning to drivers and machinery operators that it may cause drowsiness, prolonged reaction time, dizziness, sleepiness, blurred vision, and reduced alertness, it also may cause next-day psychomotor impairment, including impaired driving. Atorvastatin is a prescription medication used to control cholesterol and is not considered impairing. The pilot's wife reported that the pilot was taking blood pressure medication and suffered from insomnia.

Administrative Information

Investigator In Charge (IIC):	Cawthra, Joshua
Additional Participating Persons:	Frank Motter; Federal Aviation Administration; Van Nuys, CA Mark Platt; Lycoming
Original Publish Date:	October 20, 2021
Last Revision Date:	
Investigation Class:	Class 3
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=99435