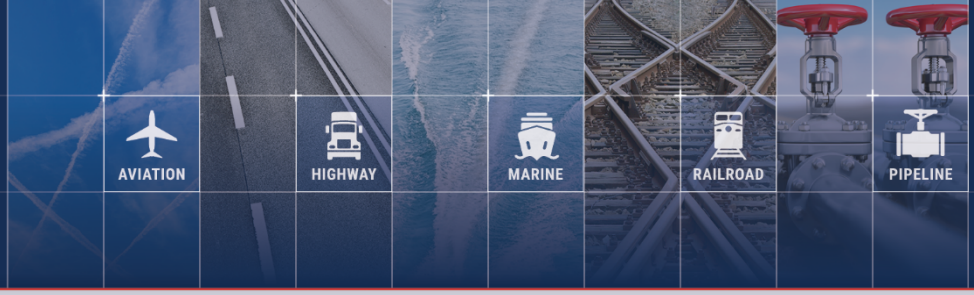

Aviation Investigation Final Report

Location:	MONROE, Louisiana	**Accident Number:**	FTW99LA029
Date & Time:	November 17, 1998, 18:55 Local	**Registration:**	N30ML
Aircraft:	Cessna 414	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	2 Serious
Flight Conducted Under:	Part 91: General aviation		

Analysis

The airplane impacted terrain during takeoff initial climb in dark night conditions with a 100 ft ceiling and 1/4 mile visibility in fog. The instrument rated private pilot sustained serious injuries and does not recall the flight. No discrepancies were found with the aircraft, flight instruments, or engines that would have contributed to the accident. A weather briefing was obtained and an IFR flight plan was filed. The pilot had 312.8 hrs total time (54.2 hrs in this aircraft), 61 hrs night flight time (36.9 hrs in this aircraft) and 26.8 hrs actual instrument time (19.6 hrs in this aircraft). Toxicological findings were positive for benzoylecgonine (metabolite of cocaine), ethanol, and cocaethylene (substance formed when cocaine and alcohol are simultaneously ingested) in a urine sample subpoenaed by the NTSB from the hospital that treated the pilot. Benzoylecgonine can be found in urine for 3 to 5 days after cocaine use. Since blood was not available for analysis, it could not be determined how much of each substance was ingested and when they were ingested. The pilot stated that he was not under the influence of cocaine or alcohol on the day of the crash.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's spatial disorientation which resulted in a loss of aircraft control. Factors were fog, low ceilings, and dark night conditions.

Findings

Occurrence #1: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: TAKEOFF - INITIAL CLIMB

Findings
1. (F) LIGHT CONDITION - DARK NIGHT
2. (F) WEATHER CONDITION - LOW CEILING
3. (F) WEATHER CONDITION - FOG
4. (C) AIRCRAFT CONTROL - NOT MAINTAINED - PILOT IN COMMAND
5. (C) SPATIAL DISORIENTATION - PILOT IN COMMAND
6. USE OF INAPPROPRIATE MEDICATION/DRUG - PILOT IN COMMAND

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

Factual Information

HISTORY OF FLIGHT:

On November 17, 1998, at 1855 central standard time, a Cessna 414, twin engine airplane, N30ML, impacted terrain about 500 feet north of the Monroe VORTAC during takeoff/initial climb on runway 04 at the Monroe Regional Airport (MLU), Monroe, Louisiana. The airplane, owned by Sequel Group, Inc., Dallas, Texas, was operated by Just Technical Associates, Dallas, Texas, under 14 Code of Federal Regulations (CFR) Part 91. The instrument rated private pilot and the passenger received serious injuries, and the airplane sustained substantial damage. At 1853, dark night instrument meteorological conditions (IMC) with 1/4-mile visibility restricted by fog, vertical visibility of 100 feet, and a temperature and dewpoint of 13 degrees Celcius (55.4 degrees Fahrenheit) prevailed at the airport. An instrument flight rules (IFR) flight plan had been filed for the business cross country flight with a planned destination of the Love Field Airport (DAL) at Dallas, Texas.

At 1813:25, the pilot telephoned De Ridder Automated Flight Service Station (AFSS). He requested and received a preflight weather briefing for an IFR flight from Monroe to Dallas, and filed the IFR flight plan. The pilot was issued a flight precaution "over [the] route for possible IFR due to stratus and fog." The weather at MLU was reported as "one mile and mist with overcast at one hundred feet." The weather at DAL was reported as "six miles and mist with overcast at nine hundred feet." The telephone briefing was concluded about 1820.

At 1853:04, the MLU Air Traffic Control Tower (ATCT) Local Controller issued N30ML the following clearance: "runway four [04] turn left heading three two zero [320 degrees] cleared for takeoff runway four r v v [runway visibility value] three eighths [3/8] of a mile." After acknowledgment of the takeoff clearance, there were no further communications with the aircraft. During the takeoff roll, the controller lost sight of the aircraft in the fog. The controller heard a "loud noise" and was alerted by an Emergency Locator Transmitter (ELT) alarm about 1855 over emergency frequency 121.5 MHZ.

Witnesses heard the airplane crash and saw a flash fire which extinguished before rescuers were notified. At 1900, notification was made to the local authorities. Local authorities reported that the fog reduced visibility in the area and hampered the search for the aircraft. The airplane was located at 1945.

During interviews and on the Pilot/Operator Aircraft Accident Report (NTSB Form 6120.1/2), the pilot stated "I was seriously injured in the accident and I don't recall any of the details."

During telephone interviews, the passenger reported that on previous business trips, he had flown with another pilot. This was the passenger's first business flight with this pilot; however,

the passenger stated that this pilot "usually flew several times per month." On this flight they departed Dallas between noon and 1400. The weather at Dallas [DAL] was "very cloudy" and there were delays leaving Dallas. Upon arrival at Monroe, they obtained a rental car, went to lunch, and attended meetings for a few hours before returning to the airport for departure. The weather at the airport [MLU] was "foggy and cloudy." The passenger recalled "going down the runway, leaving the ground, and waking up days later in the hospital."

In a letter dated November 23, 1999, the pilot stated that he flew the airplane with the passenger aboard from Dallas to Monroe on the morning of the accident. According to the pilot, this flight, which departed Dallas at approximately 1100, was conducted in instrument meteorological conditions and terminated with an ILS approach to runway 04 at the Monroe airport. The pilot reported that upon arrival in Monroe at approximately 1230, he and the passenger rented a car, had lunch at a restaurant, and then attended meetings.

PERSONNEL INFORMATION:

A review of the pilot's logbook and FAA records by the NTSB investigator-in-charge (IIC) revealed that the pilot began flight training in May 1979, and obtained his private pilot certificate in May 1980. On April 14, 1997, the pilot failed the practical examination for the addition of the multiengine rating to his private pilot certificate due to an unsatisfactory short field takeoff. The practical examination was satisfactory on April 16, 1997, and the multiengine land rating (limited to VFR only) was added to the private pilot certificate. The pilot initially flew N30ML on cross country flights under visual flight rules (VFR). The pilot added the instrument rating, airplane single engine land, on June 20, 1998, in the Cessna 172 airplane. On June 24, 1998, he added the instrument rating, airplane multiengine land, to the private certificate. The pilot's most recent third class medical certificate was issued on April 4, 1997, with a limitation to wear corrective lenses.

As of November 11, 1998, the pilot's logbook records showed that he had a total of 312.8 hours flying time. The logbook indicated 61.0 hours of total night time, of which 36.9 hours were in N30ML. The pilot's actual instrument time logged was 26.8 hours, of which 19.6 hours were in N30ML. Also indicated in the logbook were 41.3 hours of time under simulated instrument conditions. The pilot's total multiengine flight time logged was 118.8 hours, of which 54.2 hours were in N30ML. The pilot had logged 1 hour of actual instrument flight time and 6.9 hours of night flight time in the 30 days before the day of the accident.

AIRCRAFT INFORMATION:

The aircraft (S/N 414-0005) was issued the FAA airworthiness certificate on November 26, 1969, and the aircraft was registered to the current owner on November 13, 1996. The airplane configuration included the pilot's seat, the right cockpit passenger seat, and four passenger seats in the cabin. A review of the maintenance records, by the IIC, revealed that the last annual inspection was completed on March 2, 1998, at a total aircraft time of 6,323.5 hours, and an hour meter reading of 2,304.5 hours. On October 7, 1998, the transponder and pitot

static system was tested and found to comply with CFR Appendix F and E of Part 43. The hour meter reading at the accident site was 2,395.7 hours (91.2 hours since the last annual inspection). The two Teledyne Continental model TSIO-520-NCNB engines (left S/N 228405-R, right S/N 500993) were remanufactured to "Factory New Tolerances," in January 1998. The two McCauley Model 3AF32C93-JNR propellers (left S/N 682869, right S/N 745742) were overhauled in July 1998. The review of the maintenance records did not reveal any open discrepancies.

METEOROLOGICAL INFORMATION:

Weather reports were reviewed by the IIC. From 1235 on the day of the accident though 0900 on the following day, the National Weather Service at Monroe reported an airport visibility of 3/4 statute mile or less due to mist and/or fog. Ceilings were reported at 100 feet agl with a temperature/dewpoint spread of 1 degree or less. Both the Area Forecast for the state of Louisiana and the Terminal Forecast for Monroe, Louisiana, predicted continued instrument meteorological conditions due to mist and fog. Airmet Sierra was valid until 2100 on the day of the accident for low ceilings and visibility due to mist.

AERODROME INFORMATION:

The Monroe Regional Airport field elevation is 79 feet msl. The airport has 3 runways: 04/22, 18/36, and 14/32. Runway 04/22 is 7,507 feet long and 150 feet wide with an asphalt/concrete/gravel surface, with the first 6,000 feet of Runway 22 being grooved asphalt. It is equipped with high-intensity runway edge lights. The MLU VORTAC is located on the airport to the northwest side of runway 04/22.

WRECKAGE AND IMPACT INFORMATION:

The manufacturer representative reported that the terrain at the accident site was level and consisted of soft, wet dirt. The aircraft came to rest on a measured magnetic heading of 040 degrees, about 6,500 feet from the threshold of runway 04 at GPS coordinates: 32 degrees 31.166 minutes North; 092 degrees 02.152 degrees West. Elevation of the site, per the topographic chart, is 75 feet msl. An initial ground scar was found about 500 feet (020 degree magnetic heading) from the Monroe VORTAC. From this ground scar, the debris path extended 434 feet on a measured magnetic heading of 340 degrees. Physical evidence of fire on the terrain was seen along the debris path. Portions of the fuel tip tanks were found along the debris path. See the enclosed manufacturer report and wreckage distribution diagram for additional details.

The front cabin and the nose area were deformed by crushing up and aft from the left side. The front seat belts were installed; however, there were no shoulder harnesses installed. The right wing remained attached to the airframe. The left wing separated and came to rest inverted adjacent to the left side of the fuselage. Rudder, elevator, and aileron control continuity was confirmed from the flight control surfaces to the main spar in the cabin. All

three landing gear and the actuator were in the retracted position. The flap actuator was in the retracted position. There were no signs of in-flight sooting, melted splatters or other in-flight fire evidence. All aircraft and system components were accounted for in the wreckage debris.

The engines were found structurally disconnected from the support beams. The aircraft was equipped with two wing tip tanks and two auxiliary wing fuel tanks. The integrity of the fuel system was compromised except for the right auxiliary fuel tank, which was full of fuel at the site. The fuel was blue in color and no water was visually observed in the fuel. Residual fuel was found at the manifold screen for each engine.

The propellers were separated from the engines at the crankshaft flanges. All three blades for each propeller were present in their respective hubs. All blades were bent and twisted.

MEDICAL AND PATHOLOGICAL INFORMATION:

The pilot was transported from the accident site to the St. Francis Medical Center Hospital at Monroe, Louisiana. Local authorities were informed by a news reporter that the "two on the plane tested positive for cocaine." The local agency and the FAA inspector coordinated for a drug dog to search the airplane for possible drugs; however, the search was negative. On February 3, 1999, the NTSB issued a subpoena for the pilot's medical records from St. Francis Medical Center Hospital. According to a laboratory report in the hospital records, a urine sample was obtained from the pilot at 2100 on November 17, 1998, approximately 2 hours following the accident. The St. Francis Medical Center Laboratory non-quantified toxicological findings were positive for cocaine detected in the urine. This urine sample was subpoenaed by the NTSB and sent to the FAA Civil Aeromedical Institute (CAMI) at Oklahoma City, Oklahoma. The sample was received at CAMI on March 25, 1999.

Aviation toxicological testing of the urine was performed by the FAA Civil Aeromedical Institute (CAMI) at Oklahoma City, Oklahoma. The CAMI toxicological findings were positive for 19.974 (ug/ml, ug/g) benzoylecgoine and 12 (mg/dl, mg/hg) ethanol detected in the urine. The CAMI toxicological non-quantified findings were positive for cocaethylene detected in the urine.

According to the FAA Regional Flight Surgeon, benzoylecgonine is a metabolite of cocaine and "reflects the use of the parent substance cocaine. Benzoylecgonine may be present in the urine for a variable amount of time directly related to the degree of usage by the individual. A widely accepted estimate is that it can be found in urine for 3 to 5 days after cocaine use." The FAA Regional Flight Surgeon further stated that "cocaethylene is a psychoactive homologue of cocaine, formed exclusively when cocaine and alcohol are ingested together. Cocaethylene produces effects similar to cocaine." See the enclosed toxicological report for additional details.

In his letter dated November 23, 1999, the pilot stated, in part: ...the urine sample analyzed by CAMI did not belong to me. I was not under the influence of cocaine or alcohol on the day of the crash. Therefore, no urine sample from me which had been properly

taken, labeled, not contaminated, handled, tested and stored would have tested positive for cocaine and alcohol.

SURVIVAL ASPECTS:

Local authorities reported that due to the foggy and muddy conditions, the search for the aircraft had to be made on foot. Forty-five minutes after the initial notification and response, the aircraft was found with the two survivors inside. Forcible entry was made and medical care began. The pilot, who was thrown to the rear of the airplane, was extricated and transported to the hospital. The passenger was extricated from the right front seat and transported to the hospital.

TEST AND RESEARCH:

On January 20, 1999, the airplane was examined, under the surveillance of the IIC, at Lancaster, Texas. Flight control continuity was confirmed. The operational integrity of the vacuum system was confirmed. The vacuum pumps were removed from their respective engines, and functional testing of the pumps was satisfactory. When electrical power was applied to the panel light circuits, internal lighting was observed at the instrument panel. The HSI (horizontal situation indicator), gyro horizon, and the turn coordinator were removed for further examination.

The HSI was examined at Olathe, Kansas, under the surveillance of an FAA inspector from the FAA FSDO Kansas City, Missouri. The FAA inspector reported that the "unit operated within manufacturer specifications." The gyro horizon was examined at Austin, Texas, under the surveillance of an FAA inspector with the FAA FSDO San Antonio, Texas. No discrepancies were found that would prevent instrument operation prior to impact. The turn coordinator was examined at Wichita, Kansas, under the surveillance of an FAA inspector from the FAA FSDO Wichita, Kansas. The FAA inspector stated "physical evidence inside Turn Coordinator Model 1394T100-Z7, S/N 9712-26, indicates the Turn Coordinator was functioning on impact."

Examination of the engine accessories revealed that the left magneto (Bendix part number 10-349220-5, serial number A1299312FR), left engine, was timed to 18 degrees BTC (before top center) and the right magneto, left engine, was timed to 20 degrees BTC. Both magnetos for the right engine were timed at 20 degrees BTC. According to the manufacturer, the recommended timing for the magneto is 20 degrees BTC. After removal from their respective engines, all magnetos were bench checked under the surveillance of an FAA inspector from the FAA FSDO Dallas, Texas. No discrepancies were noted on either magneto for the right engine. The right magneto for the left engine operated "normally"; however, the engine representative reported that the "left magneto [left engine] did not fire normally." The left magneto was opened and it was found that the "condensor lead was installed backward. The lead had rubbed against the cam." On February 3, 1999, the left magneto from the left engine was examined by an NTSB investigator. There were no signs of arcing on the ignition harness side of the distributor.

During a telephone conversation with the Bendix (Teledyne Continental) magneto representative, he expressed the opinion that the "18 degree BTC timing on the magneto would have negligible effect on engine performance." He further stated that the "maximum RPM drop from a grounded magneto would be 3%."

ADDITIONAL INFORMATION:

The airplane was released to the owner's representative on September 23, 1999.

Pilot Information

Certificate:	Private	**Age:**	41,Male
Airplane Rating(s):	Single-engine land; Multi-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 3 Valid Medical--w/ waivers/lim	**Last FAA Medical Exam:**	April 4, 1997
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	313 hours (Total, all aircraft), 54 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	**Registration:**	N30ML
Model/Series:	414 414	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	4140005
Landing Gear Type:	Retractable - Tricycle	**Seats:**	6
Date/Type of Last Inspection:	March 2, 1998 Annual	**Certified Max Gross Wt.:**	6350 lbs
Time Since Last Inspection:	91 Hrs	**Engines:**	2 Reciprocating
Airframe Total Time:	6415 Hrs	**Engine Manufacturer:**	Continental
ELT:	Installed, activated, aided in locating accident	**Engine Model/Series:**	TSIO-520-NCNB
Registered Owner:	SEQUEL GROUP, INC.	**Rated Power:**	310 Horsepower
Operator:	JUST TECHNICAL ASSOCIATES	**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:**	Night/dark
Observation Facility, Elevation:	MLU ,79 ft msl	**Distance from Accident Site:**	
Observation Time:	18:53 Local	**Direction from Accident Site:**	
Lowest Cloud Condition:	Unknown	**Visibility**	0.25 miles
Lowest Ceiling:	100 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	/	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	0°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30 inches Hg	**Temperature/Dew Point:**	13°C / 13°C
Precipitation and Obscuration:	N/A - None - Fog		
Departure Point:	(MLU)	**Type of Flight Plan Filed:**	IFR
Destination:	DALLAS , TX (DAL)	**Type of Clearance:**	IFR
Departure Time:	18:53 Local	**Type of Airspace:**	Class D

Airport Information

Airport:	MONROE REGIONAL AIRPORT MLU	**Runway Surface Type:**	Asphalt
Airport Elevation:	79 ft msl	**Runway Surface Condition:**	Wet
Runway Used:	4	**IFR Approach:**	
Runway Length/Width:	7507 ft / 150 ft	**VFR Approach/Landing:**	

Wreckage and Impact Information

Crew Injuries:	1 Serious	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 Serious	**Aircraft Fire:**	On-ground
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 Serious	**Latitude, Longitude:**	32.530284,-92.109138(est)

Administrative Information

Investigator In Charge (IIC):	Roach, Joyce
Additional Participating Persons:	KEITH PATTERSON; BATON ROUGE , LA JOSEPH A HUTTERER; WICHITA , KS JOHN KENT; MOBILE , AL
Original Publish Date:	September 12, 2000
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=45330