



Aviation Investigation Final Report

Location:	Spring City, Pennsylvania	Accident Number:	ERA14LA290
Date & Time:	June 15, 2014, 07:16 Local	Registration:	N65625
Aircraft:	CAMERON BALLOONS US Z-225	Aircraft Damage:	None
Defining Event:	Miscellaneous/other	Injuries:	1 Fatal, 10 None
Flight Conducted Under:	Part 91: General aviation		

Analysis

The commercial pilot was conducting a local balloon flight with 10 passengers on board. A ground crewmember reported that he talked with the pilot before takeoff, and he indicated that the pilot did not appear to be unhealthy and that he did not mention feeling ill or that he was having any health-related issues. The passengers reported that, after takeoff, the flight proceeded uneventfully, with the pilot talking to them during the entire flight. The pilot chose to perform a landing in a field and informed the passengers to brace for landing; several of the passengers noted that the wind speed was increasing. Several of the passengers also noted that the descent was steep and that the landing was "hard" or "really hard." The pilot then appeared to lose his balance, and he fell out of the basket and sustained fatal injuries.

Although the pilot had several medical conditions and used several medications that could have affected his balance or reaction time and, thus, could have contributed to his fall from the basket, witnesses reported that the pilot appeared healthy and behaved normally before and during the flight. Further, even a fully alert, athletic person could have fallen in the manner described by the passengers. Based on the available evidence, it could not be determined if impairment from any of his medical conditions or the medications he was using to treat them caused the pilot to fall from the basket.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The pilot's fall from the balloon's basket during touchdown in a field for reasons that could not be determined based on the available evidence, which resulted in his fatal injury.

Findings

Personnel issues	(general) - Pilot
Personnel issues	Use of medication/drugs - Pilot
Personnel issues	Predisposing condition - Pilot

Factual Information

History of Flight

Enroute	Miscellaneous/other
Landing-flare/touchdown	Hard landing
Landing-flare/touchdown	Miscellaneous/other (Defining event)
Landing-flare/touchdown	Nose over/nose down

On June 15, 2014, about 0716 eastern daylight time (EDT), a Cameron Balloons US Z-225 balloon, N65625, had the commercial-rated pilot receive fatal injuries when he fell from the basket during landing in a field near Spring City, Pennsylvania. The 10 passengers were not injured. There was no damage to the basket or envelope. The balloon was registered to Morning Star Visions, and operated by The United States Hot Air Balloon Team under the provisions of 14 Code of Federal Regulations (CFR) Part 91 as a local revenue sightseeing flight. Visual meteorological conditions prevailed at the time and no flight plan was filed for the flight that originated about 0636 EDT from Pottstown Municipal Airport, Pottstown, Pennsylvania.

A crew member of the operator reported talking with the pilot before the flight, and during that conversation he indicated the pilot was in good spirits and, "appeared to be healthy and his normal self. There was no mention of feeling ill or that he was having any health issues."

The passengers consistently reported that they were given a safety briefing before becoming airborne which included instructions for landing including to hold onto the ropes for landing, keep arms and hands inside the basket, and to squat or brace. Several passengers reported that to them the instructions were too brief, and did not include instructions pertaining to operation of the balloon itself. One passenger reported the landing procedure was practiced before the flight departed.

The pilot was alert and talkative throughout the flight up to preparing them for landing in the field, but at some point during the flight the name of a landmark unknown to the pilot was given by a passenger, which in turn was provided to the ground crew. Several passengers indicated he advised the basket may contact trees in order to slow the forward speed. In anticipation for landing in the field, he informed them to bend their knees and hold onto the ropes in the basket; several passengers reported the wind was increasing. The descent approaching the field was reported to be steep, and the touchdown was reported to be hard, or very hard. One passenger who expressed an interest in the balloon before departure and during the flight including talking with the pilot and observing his actions reported watching the pilot pulling ropes that deflated the envelope, and at touchdown, the pilot was noted to reach for a control rope but lost his balance and was ejected from the basket. The passenger who was interested and was crouched down stood up, and pulled the ropes to deflate the envelope. After touchdown, the basket tilted forward and came to rest. The pilot was attended to by several passengers and 911 was called to summon first responders. Several of the passengers reported the pilot appeared to be anxious and sweating during the flight, but none of the passengers reported he expressed aloud any health issues during the flight. Copies of the Passenger Questionnaires are contained in the NTSB public docket.

The crewmember further reported that once the balloon launched, there were several communications between the pilot and the ground crew, but at no time during any of the conversations did the pilot mention he was having health issues. The last communication from the pilot was that he was currently near a Veterans of Foreign Wars (VFW) building.

Pilot Information

Certificate:	Commercial; Private	Age:	47
Airplane Rating(s):	Single-engine land	Seat Occupied:	Center
Other Aircraft Rating(s):	Balloon	Restraint Used:	Unknown
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	Yes
Medical Certification:	Class 3 None	Last FAA Medical Exam:	March 16, 2009
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	May 25, 2014
Flight Time:	(Estimated)		

The pilot, age 47, held a commercial pilot with lighter-than-air free balloon limited to hot air balloons with airborne heater issued July 25, 2006. He also held a private pilot certificate with airplane single engine land rating issued November 26, 2004. His last third class medical certificate was issued on March 16, 2009, and was not valid for any class after March 31, 2010. His last flight review in accordance with 14 CFR Part 61.56 occurred in the accident balloon on May 25, 2014; the flight duration was reported to be 1.0 hour.

A review of the pilot's blue ribbon airman file revealed his commercial pilot certificate was suspended 75 days for operating an unairworthy balloon during revenue flights. The suspension began on November 30, 2007, and ended on February 12, 2008. Subsequently on November 5, 2009, he underwent a re-examination flight with FAA, and was approved to exercise the privileges of his commercial pilot certificate.

According to the National Transportation Safety Board (NTSB) Pilot/Operator Aircraft Accident/Incident Report submitted by the operator, the pilot's total lighter than air time was 570 hours. A review of the pilot's pilot logbook that contain entries from December 29, 2013, to the last entry dated June 4, 2014, revealed he logged a total time of approximately 44 hours (excluding record keeping errors), of which approximately 10 hours were in the accident balloon. He logged 28 and 19 hours in the last 90 and 30 days, respectively.

The pilot's father provided NTSB the results of blood testing that was performed on April 5, 2014. The results were forwarded to the NTSB's Medical Officer for Review.

Aircraft and Owner/Operator Information

Aircraft Make:	CAMERON BALLOONS US	Registration:	N65625
Model/Series:	Z-225	Aircraft Category:	Balloon
Year of Manufacture:	2011	Amateur Built:	
Airworthiness Certificate:	Balloon	Serial Number:	6630
Landing Gear Type:	None	Seats:	
Date/Type of Last Inspection:	August 15, 2013 Annual	Certified Max Gross Wt.:	4500 lbs
Time Since Last Inspection:	94 Hrs	Engines:	
Airframe Total Time:	338 Hrs at time of accident	Engine Manufacturer:	
ELT:	Not installed	Engine Model/Series:	
Registered Owner:	MORNING STAR VISIONS	Rated Power:	
Operator:	The United States Hot Air Balloon Team	Operating Certificate(s) Held:	None

The balloon was manufactured in 2011 by Cameron Balloons US, as model Z-225, and was designated serial number 6630. It was equipped with a "Delta II" basket, which had 5 burner tanks and pilot compartment in the middle; the maximum occupant capacity is 12.

Review of the maintenance records revealed the balloon was last inspected in accordance with an annual inspection on August 15, 2013; the total time at that time was recorded to be 244 hours. The balloon had accumulated 94 hours since the inspection at the time of the accident.

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	PTW,308 ft msl	Distance from Accident Site:	5 Nautical Miles
Observation Time:	06:54 Local	Direction from Accident Site:	350°
Lowest Cloud Condition:	Clear	Visibility	9 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	8 knots /	Turbulence Type Forecast/Actual:	/ None
Wind Direction:	310°	Turbulence Severity Forecast/Actual:	/ N/A
Altimeter Setting:	30.13 inches Hg	Temperature/Dew Point:	14°C / 10°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Pottstown, PA (N47)	Type of Flight Plan Filed:	None
Destination:	Spring City, PA	Type of Clearance:	None
Departure Time:	06:36 Local	Type of Airspace:	

A surface observation weather report taken at Heritage Field Airport (PTW), at 0654, or

approximately 22 minutes before the accident indicates the wind was from 310 degrees at 8 knots, the visibility was 9 statute miles, and clear skies existed. The temperature and dewpoint were 14 and 10 degrees Celsius, respectively, and the altimeter setting was 30.14 inches of Mercury. The accident site was located about 170 degrees and 4.5 nautical miles from PTW. A copy of the weather report and record from PTW is contained in the NTSB public docket.

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	None
Passenger Injuries:	10 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Fatal, 10 None	Latitude, Longitude:	40.163887,-75.539443

According to the Federal Aviation Administration inspector-in-charge (FAA-IIC), the basket came to rest upright in a field located at 40 degrees 09 minutes 50.40 seconds North latitude and 075 degrees 32 minutes, 22.14 seconds West longitude. That location consisted of an open field of newly planted corn field.

Further inspection of the accident site revealed the basket came to rest about 96 feet after the first observed ground contact location. There was no reported damage to the basket or envelope; the top rail of the basket and a side of the basket was noted to have dirt adhering to it. The FAA-IIC reported there was no restraining belt/harness installed in the pilot's compartment.

According to the operator, the balloon's fuel supply had 50 percent remaining.

Communications

The pilot was in two-way communication with members of his ground crew; several passengers reported communication difficulties prior to landing in the field.

Flight recorders

The balloon was equipped with a portable Garmin GPSMap 62s, that records and retains a detailed tracklog consisting of latitude, longitude, date, time, altitude, and derived groundspeed information. The tracklog was downloaded normally and without difficulty via the built-in USB port. The accident flight was recorded, and contained 847 data points which begins with the balloon lifting off the ramp at N47 about 0637, and continue to the balloon coming to rest about 0717:09. A review of the data revealed that with respect to the final portion of the flight, the balloon crossed a road at 282 feet GPS altitude and 11 knots groundspeed. Data showed the balloon steadily descending towards a field with a forward groundspeed of about 10 knots. A copy of the report and downloaded track log as Attachment 1 are contained in the NTSB public docket.

Medical and Pathological Information

According to the FAA inspector-in-charge, he did not find a glucose meter or glucose tracking log in the balloon basket, on his person, or in the pilot's car. The inspector did report finding glucose tablets, a package of syringes, Viagra 100MG and Claritin tablets for allergy relief. Further inspection of the pilot's car revealed evidence of contents from a fast food chain restaurant.

A postmortem examination of the pilot was performed at the request of the Chester County Coroner's Office. The cause of death was listed as "neck injuries."

Forensic toxicology was performed on specimens of the pilot by the FAA Bioaeronautical Sciences Research Laboratory, Oklahoma City, Oklahoma. The toxicology report stated the results were negative for carbon monoxide and volatiles, and testing for cyanide was not performed. Unquantified amounts of Bupropion, Cetirizine, Desmethylsildenafil, and Sildenafil were detected in the femoral blood and urine specimens, while Rosuvastatin was detected in the liver and urine specimens. An unquantified amount of Bupropion Metabolite was detected in the submitted urine specimen, but it and 7-Amino-clonazepam were not detected the femoral blood specimen. 0.051 ug/mL was detected in the urine specimen, while 51 mg/dl and 248 mg/dl Glucose was detected in the vitreous and urine specimens, respectively. The femoral blood specimen was not suitable for Hemoglobin A1C analysis. A copy of the toxicology report is contained in the NTSB public docket.

According to the NTSB Medical Officer's factual report, the 47 year old male pilot in this balloon accident had diagnoses of type 1 diabetes, depression, and high cholesterol. His blood and tissue toxicology tests showed evidence of use of bupropion, cetirizine, sildenafil, and rosuvastatin. In addition, his urine tested positive for a metabolite of clonazepam. Bupropion is an antidepressant used to treat depression and help patients quit smoking, often marketed with the names Wellbutrin and Zyban. It carries two warnings: 1) a dose dependent risk of seizures; and 2) may impair mental and/or physical ability required for the performance of potentially hazardous tasks (e.g., driving, operating heavy machinery). Cetirizine is a sedating antihistamine used to treat allergy symptoms and is available over the counter, also commonly named Zyrtec. It carries a warning that it may cause drowsiness. Sildenafil

is a prescription drug used to treat erectile dysfunction, commonly known as Viagra. Rosuvastatin is a cholesterol lowering agent available by prescription and commonly marketed as Crestor, and 7-amino-clonazepam is a metabolite of clonazepam, which is described above. The pilot's aviation medical certificate had expired in 2010 and he was not required to have a valid medical certificate to pilot a balloon on a commercial flight with 10 passengers. A copy of the NTSB Medical Officer Factual Report is contained in the NTSB public docket.

Additional Information

Pilot Medical Screening/Questionnaire

Since operation of a commercial balloon flight does not require a pilot to have a medical certificate, but in light of the facts concerning the accident, the operator was asked postaccident if they would consider medical screening for pilot's used in their operation. Although they indicated they would not perform medical screening, they did include additional information of the pilot application form inquiring about previously diagnosed medical condition and prescribed medication.

Administrative Information

Investigator In Charge (IIC):	Monville, Timothy
Additional Participating Persons:	Ernie Scardecchio; FAA/FSDO; Philadelphia, PA
Original Publish Date:	June 29, 2016
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=89441

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).