Aviation Investigation Final Report

Location:	Pasadena, Texas	**Accident Number:**	DFW06CA013
Date & Time:	October 22, 2005, 19:00 Local	**Registration:**	N909BC
Aircraft:	Hiller UH-12E	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	1 Serious, 1 None
Flight Conducted Under:	Part 91: General aviation - Air race/show		

Analysis

The 2,358-hour commercial pilot and his passenger were in cruise flight approximately seven nautical miles north of the airport when the engine lost power. The pilot reported that he entered an autorotation and the helicopter impacted a petroleum coke mound. The helicopter subsequently tumbled down the face of the mound and came to rest on its left side. An FAA inspector performed an on-scene examination of the helicopter. According to the inspector, the helicopter's 46-gallon fuel tank was found to be empty at the accident site. Following the recovery of the wreckage, the inspector tested the fuel tank for leaks and none were found. The inspector stated that the last entry in the maintenance logbooks revealed the Hobbs meter was reading 366.1 hours, and the Hobbs meter at the accident site was reading 369.1 hours. During an interview conducted by the FAA inspector, the mechanic, who performed the last maintenance action prior to the accident flight, revealed that he had removed 44 gallons of fuel from the fuel tank and then placed the same fuel back into the tank after the required maintenance was accomplished. On the day before the accident, the pilot flew to an air show at another nearby airport, from where he flew an unknown number of short flights. Prior to departing the airshow for his home base, the pilot purchased an additional 15 gallons of fuel. On the day of the accident, the pilot flew from DWH to IWS, and then towards his final destination of EFD, when the helicopter lost power. Numerous attempts, albeit unsuccessful, were made by the investigator-in-charge to obtain a completed Pilot/Operator Aircraft Accident Report (NTSB Form 6120.1/2) from the pilot.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's inadequate fuel management, which resulted in fuel exhaustion and a loss of engine power. A contributing factor was the lack of suitable terrain for the forced landing.

Findings

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

Findings
1. (C) FUEL SYSTEM - EXHAUSTION
2. (C) FUEL MANAGEMENT - INADEQUATE - PILOT IN COMMAND

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

Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: EMERGENCY LANDING

Findings
3. TERRAIN CONDITION - DIRT BANK/RISING EMBANKMENT
4. (F) TERRAIN CONDITION - NONE SUITABLE

Factual Information

The 2,358-hour commercial pilot and his passenger were in cruise flight approximately seven nautical miles north of the airport when the engine of their helicopter lost power. The pilot reported that he entered an autorotation and the helicopter impacted a petroleum coke mound. The helicopter subsequently tumbled down the face of the mound and came to rest on its left side. An FAA inspector performed an on-scene examination of the helicopter. According to the inspector, the helicopter's 46-gallon fuel tank was found to be empty at the accident site. Following the recovery of the wreckage, the inspector tested the fuel tank for leaks and none were found. The inspector stated that the last entry in the maintenance logbooks revealed the Hobbs meter was reading 366.1 hours, and the Hobbs meter at the accident site was reading 369.1 hours. During an interview conducted by the FAA inspector, the mechanic, who performed the last maintenance action prior to the accident flight, revealed that he had removed 44 gallons of fuel from the fuel tank and then placed the same fuel back into the tank after the required maintenance was accomplished. On the day before the accident, the pilot flew to an air show at another nearby airport, from where he flew an unknown number of short flights. Prior to departing the air show for his home base, the pilot purchased an additional 15 gallons of fuel. On the day of the accident, the pilot flew from DWH to IWS, and then towards his final destination of EFD, when the helicopter lost power. Numerous attempts, albeit unsuccessful, were made by the investigator-in-charge to obtain a completed Pilot/Operator Aircraft Accident Report (NTSB Form 6120.1/2) from the pilot.

Pilot Information

Certificate:	Commercial	**Age:**	62,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Center
Other Aircraft Rating(s):	Helicopter	**Restraint Used:**	
Instrument Rating(s):	Airplane; Helicopter	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 2 Without waivers/limitations	**Last FAA Medical Exam:**	July 1, 2005
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	September 1, 2005
Flight Time:	2358 hours (Total, all aircraft), 260 hours (Total, this make and model), 37 hours (Last 90 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Hiller	**Registration:**	N909BC
Model/Series:	UH-12E	**Aircraft Category:**	Helicopter
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	1626
Landing Gear Type:	Skid	**Seats:**	3
Date/Type of Last Inspection:		**Certified Max Gross Wt.:**	
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	2005 Hrs at time of accident	**Engine Manufacturer:**	Lycoming
ELT:	Not installed	**Engine Model/Series:**	VO-540
Registered Owner:	BUZAIR Inc.	**Rated Power:**	305 Horsepower
Operator:	James Hudson Paulin Jr.	**Operating Certificate(s) Held:**	None
Operator Does Business As:	BUZAIR Inc.	**Operator Designator Code:**	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	KEFD,32 ft msl	**Distance from Accident Site:**	7 Nautical Miles
Observation Time:	18:50 Local	**Direction from Accident Site:**	180°
Lowest Cloud Condition:	Few / 700 ft AGL	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	6 knots / 0 knots	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	100°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.76 inches Hg	**Temperature/Dew Point:**	32°C / 22°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Houston, TX (KIWS)	**Type of Flight Plan Filed:**	None
Destination:	Houston , TX (KEFD)	**Type of Clearance:**	None
Departure Time:		**Type of Airspace:**	

Airport Information

Airport:	Ellington Field Airport KEFD	**Runway Surface Type:**	
Airport Elevation:	32 ft msl	**Runway Surface Condition:**	
Runway Used:		**IFR Approach:**	None
Runway Length/Width:		**VFR Approach/Landing:**	Forced landing

Wreckage and Impact Information

Crew Injuries:	1 Serious	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 None	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Serious, 1 None	**Latitude, Longitude:**	29.604444,-95.155281

Administrative Information

Investigator In Charge (IIC):	McGill, C Frank
Additional Participating Persons:	Mitchell Frye; Houston, Texas
Original Publish Date:	February 28, 2006
Last Revision Date:	
Investigation Class:	Class
Note:	This accident report documents the factual circumstances of this accident as described to the NTSB.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=62711