

**NATIONAL TRANSPORTATION SAFETY BOARD
Office of Aviation Safety
Washington, DC 20594**

September 23, 2011

ATC RADAR STUDY

CEN11FA599

A. AIRCRAFT ACCIDENT

Location: Mosby, Missouri

Date: August 26, 2011

Time: 1841 Central daylight time / 2341 Coordinated Universal Time¹

Aircraft: N352LN, Eurocopter AS-350-B2

B. AIR TRAFFIC CONTROL INVESTIGATOR

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National Transportation Safety Board
Washington, D.C. 20594

C. SUMMARY

On August 26, 2011, at 1841 central daylight time (all times cdt), a Eurocopter AS-350-B2 helicopter, N352LN, sustained substantial damage when it impacted terrain during an autorotation following a loss of power near the Midwest National Air Center (KGPH), Mosby, Missouri. The pilot, flight nurse, flight paramedic, and patient received fatal injuries. The emergency medical services (EMS) equipped helicopter was registered to Key Equipment Finance, Inc., and operated by Air Methods Corporation, doing business as LifeNet in the Heartland. The 14 Code of Federal Regulations Part 135 medical flight departed from the Harrison County Community Hospital, Bethany, Missouri, about 1811, and was en route to KGPH to refuel. After refueling, the flight intended to depart and land at Liberty Hospital in Liberty, Missouri, which was located about 7 nautical miles (nm) from KGPH on a 235 degree heading. Visual meteorological conditions prevailed at the time of the accident, and a company visual flight rules (VFR) flight plan was filed.

¹All radar times are expressed in Coordinated Universal Time (UTC), 5 hours later than CDT, unless otherwise noted.

While the helicopter was shut down on the helipad, the pilot contacted the company's communication center by telephone and notified them that about half way through the flight from KSTJ, he realized that he did not have as much fuel onboard as he originally thought. After a discussion about possible fueling and re-routing options, the pilot elected to stop en route at KGPH for fuel, and then proceed to the Liberty Hospital helipad to drop off the patient. The person, who was providing flight following to N352LN at the company's communication center, informed the pilot that Liberty Hospital was 62 nm, and that KGPH was 58 nm distant, respectively.

About 1811, the flight departed from the Harrison County Community Hospital helipad. About a minute later, the pilot contacted the company's communication center and reported that he had 45 minutes of fuel and 4 persons onboard and was en route to KGPH. He asked the flight follower at the company's communication center to contact the fixed base operator at KGPH to let them know that the helicopter was inbound for fuel. At 1841, the helicopter impacted a farm field about 1.7 nm miles north-northeast of KGPH. There was no postimpact fire.

At 1754, the surface weather observation at the Charles B. Wheeler Downtown Airport (KMKC), Kansas City, Missouri, located about 21 nm southwest of the accident site, was: wind 110 degrees at 6 knots, 10 miles visibility, clear sky, temperature 31 degrees Celsius, dew point 13 degrees Celsius, altimeter 29.96 inches of Mercury.

D. RADAR DATA

The radar file used for this report was obtained from the Federal Aviation Administration's Kansas City Terminal Radar Approach Control. The file contained target data obtained from an ASR-9 radar system located at Kansas City International Airport (KCI) and tracking data produced by the Standard Terminal Automation Replacement System (STARS) radar data processing system at KCI. All radar data shown in this study was derived from the actual target reports. Analysis of the radar file showed an aircraft operating on transponder code 1200 and with performance characteristics consistent with the accident helicopter traveling south toward the accident site just before the reported time of occurrence. The 1200 code data also matched automated Global Positioning System(GPS) reports provided to Air Methods dispatchers as part of the company's flight following procedures. Figure 1 shows an overview of the FAA radar data and Air Methods GPS data from departure until the end of the flight. Figure 2 shows radar and Air Methods data from 2329Z until the end of the flight. Figure 3 is a closer view of the helicopter's approach to the accident area. Figure 4 shows radar and Air Methods data for the end of the flight. Figure 5 shows radar targets and GPS reports along with the destination airport. Terrain elevation along the last part of the helicopter's track varied from approximately 900 to 1000 feet above sea level.

The KCI radar data file and the Air Methods tracking data have been entered into the docket for this case.

Scott Dunham
NTSB AS-30

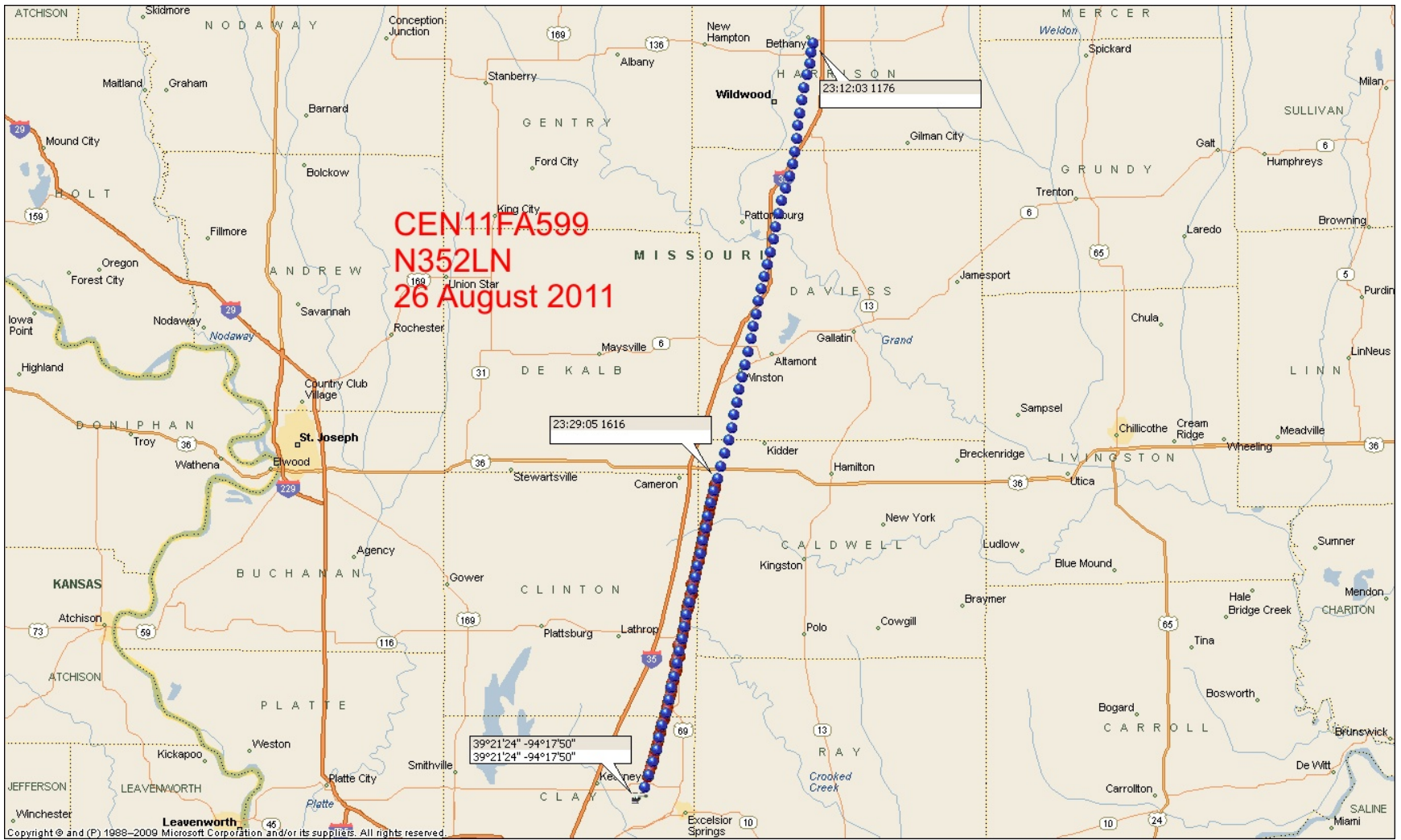


Figure 1 – Overview of flight showing MCI radar data (red dots) and Air Methods tracking data (blue dots.)



Figure 2 – KCI radar data (red dots) and Air Methods tracking data (blue dots) from 2329Z until the end of the flight.



Figure 3 – KCI radar data (red dots) and Air Methods tracking data (blue dots) for approximately the last two minutes of the flight. Tags show mode C altitude reports from KCI and GPS-derived altitude from Air Methods.

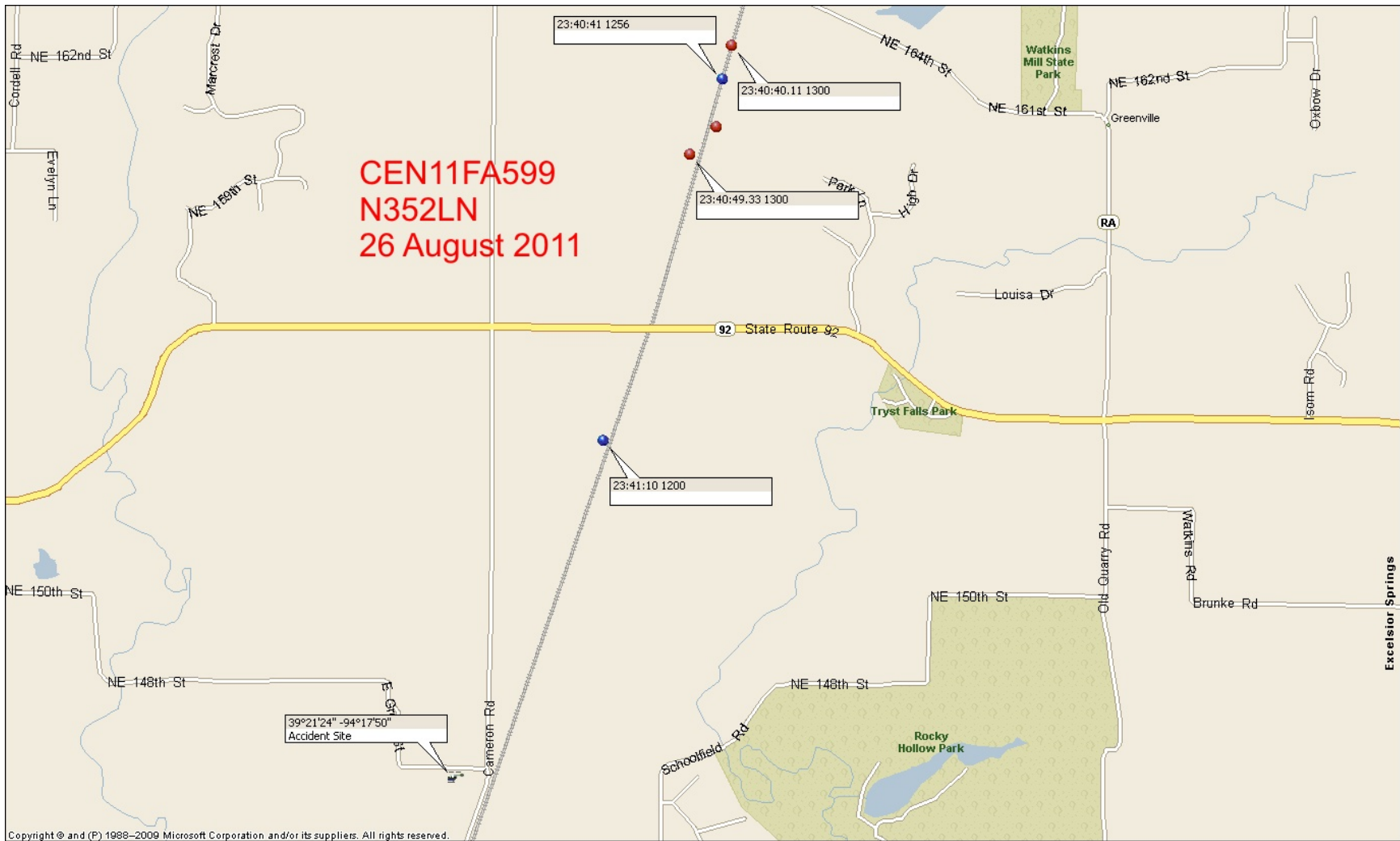


Figure 4 – End of flight showing last radar targets (red dots) and last Air Methods position reports received (blue dots.)
Tags show time and altitude information.



Figure 5 – Last radar targets and GPS position reports, along with the location of the destination airport.