

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

May 3, 2012

**ATC RADAR STUDY
CEN12FA199AB**

A. AIRCRAFT ACCIDENT

Location: Longmont, Colorado
Date: March 23, 2012
Time: 1142 mountain daylight time
Aircraft: N10468, Cessna 172S, and N9325C, Cessna 180

B. AIR TRAFFIC CONTROL INVESTIGATOR

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C. SUMMARY

On March 23, 2012, about 1142 mountain daylight time, a Cessna 172S, N10468, and a Cessna 180, N9325C, were substantially damaged during a mid-air collision near Longmont, Colorado. The Cessna 172 impacted an embankment adjacent to two-lane roadway, about 5 miles east of the Vance Brand Airport (LMO). The Cessna 180 impacted power lines and a fence during a forced landing within 1 mile of LMO. The flight instructor and private pilot receiving instruction of the Cessna 172 were fatally injured. The pilot of the Cessna 180 sustained minor injuries. The Cessna 172 was registered to MountainAir Aviation Services LLC and operated by McAir Aviation LLC under the provisions of 14 Code of Federal Regulations Part 91 as an instructional flight. The Cessna 180 was registered to and operated by the pilot under the provisions of 14 Code of Federal Regulations Part 91 as a personal flight. Visual meteorological conditions prevailed for the flights, which were both operated without flight plans. The Cessna 172 departed Rocky Mountain Metropolitan Airport (BJC) at 1132. The Cessna 180 departed Erie Municipal Airport (EIK) at 1136.

D. RADAR DATA

The radar data used for this study was obtained from recordings made at the Federal Aviation Administration's Denver Terminal Radar Approach Control (TRACON) containing targets

detected by ASR-9 radar sites located in Irondale, CO. and Platteville, CO. Figures 1 and 2 show targets as seen by the Platteville site, which was located about 16 nautical miles northeast of the estimated collision point. Radar data for both the Platteville and Irondale sites has been entered in the docket.

As neither aircraft was receiving air traffic control services at the time of the collision, they were both operating on transponder code 1200 (the standard code for VFR operations.) Review of the recorded radar data showed an aircraft on code 1200 departing from the Rocky Mountain Metropolitan Airport at 1132 local time (1732 universal coordinated time) and proceeding generally northbound toward the collision point. Another aircraft, also on code 1200, departed the Erie Municipal Airport at 1136 (1736 universal coordinated time) and also tracked northbound toward the collision point. The flight paths of the two aircraft slowly converged. Just before the apparent impact, the targets presumed to be N10468 indicated altitude 7,200 feet. The targets presumed to be N9325C were indicating a slow climb from 6,800 feet through 7,000 feet. There are two missing targets between 1742:29 and 1742:41, which may be the result of transponder code garbling because of the close proximity of the two aircraft. The first target presumed to be N9325C appearing after the collision indicates altitude 7,400 feet, which was the highest altitude observed at any point in the flight.

The aircraft targets presumed to be N10468 continue northbound toward the ground impact point. The targets presumed to be N9325C track through a 270 degree turn and then proceed toward the Longmont airport.

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ATC Investigator
AS-30

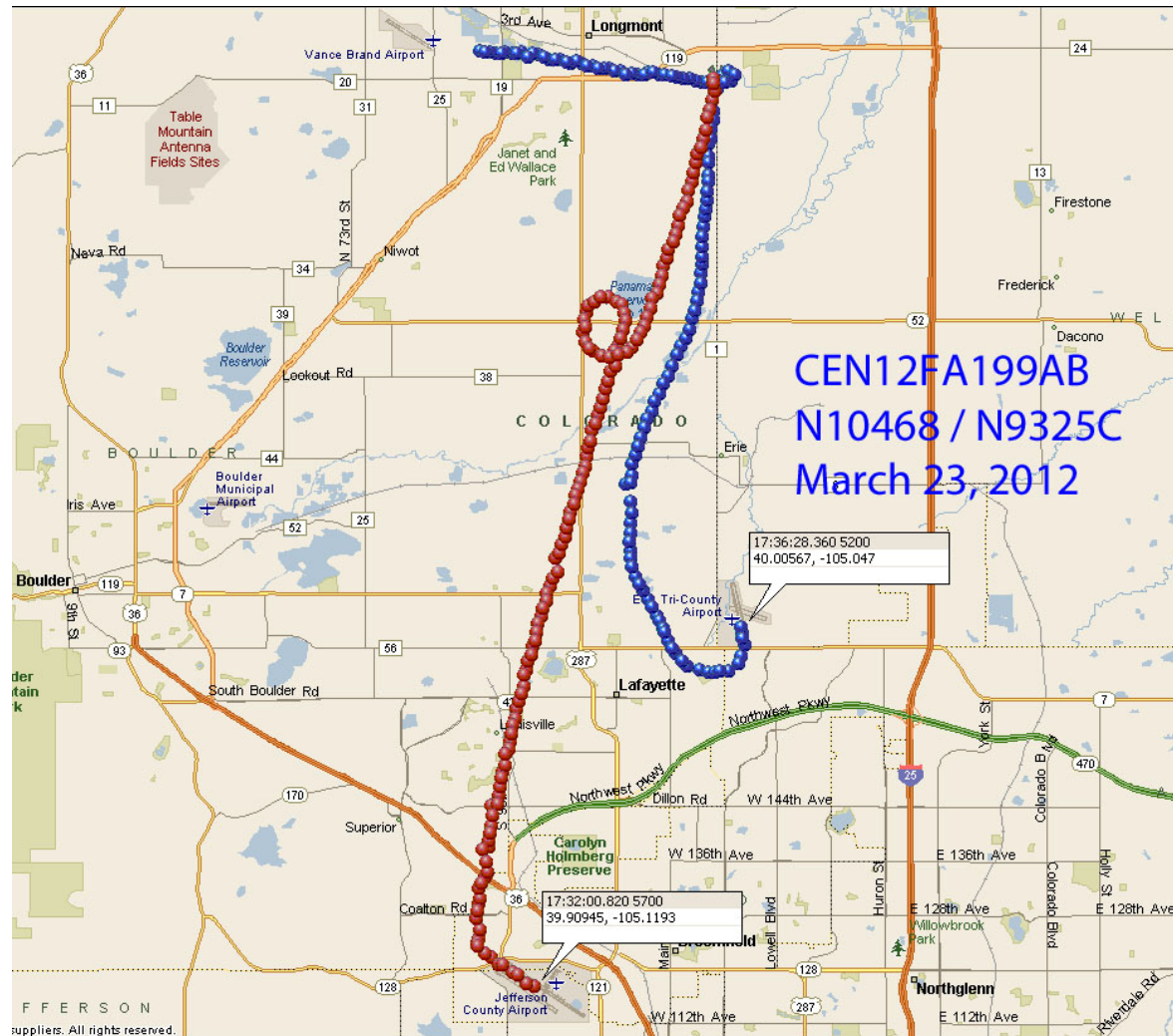


Figure 1 – Overview of pertinent Platteville ASR 1200 codes. Red dots presumed to be N10468, blue dots presumed to be N9325C. Data tags contain universal coordinated time (local time +6 hours), altitude, and target decimal latitude/longitude.

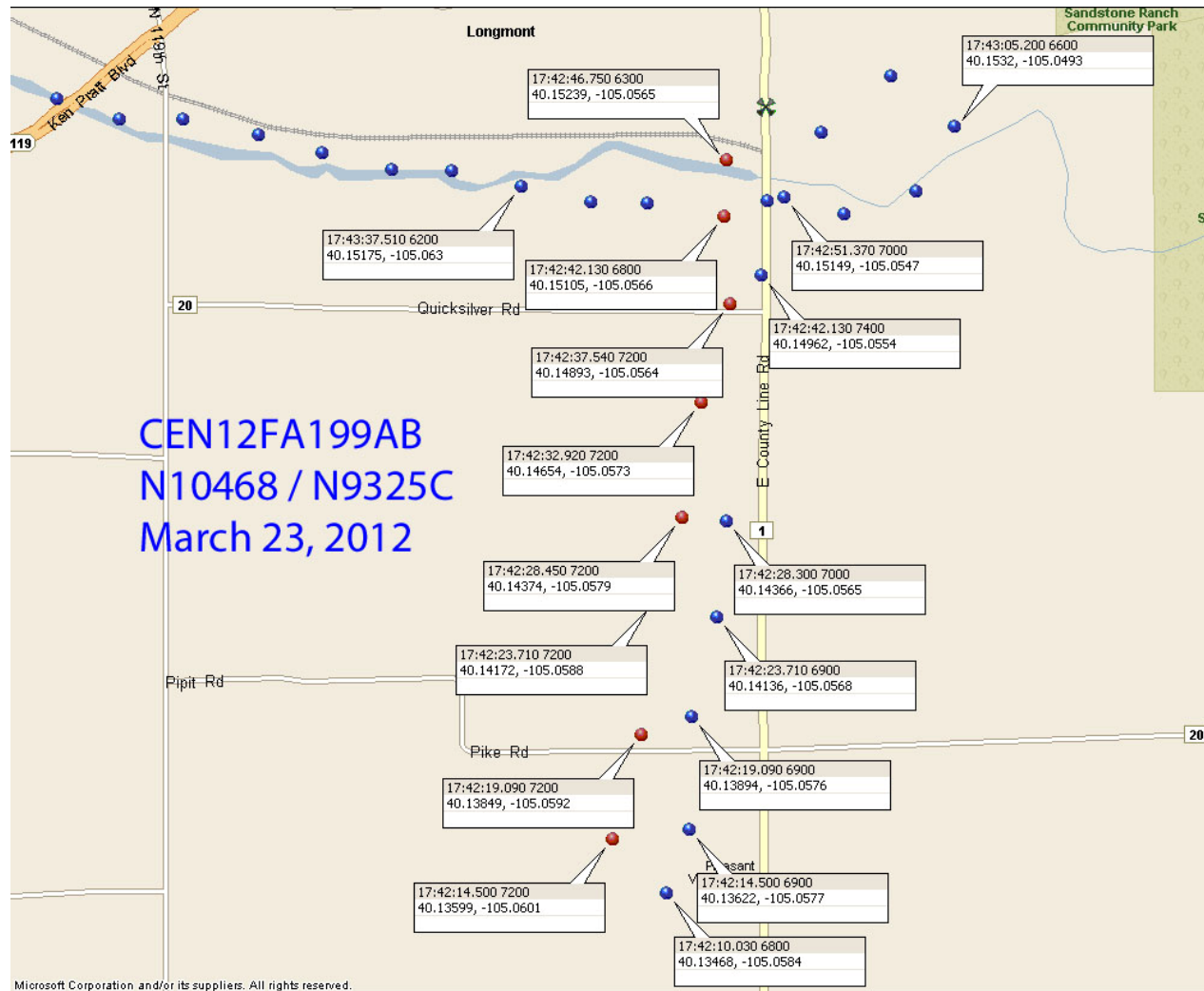


Figure 2 – Platteville ASR 1200 codes approaching the collision point. Red dots presumed to be N10468, blue dots presumed to be N9325C. Data tags contain universal coordinated time (local time +6 hours), altitude, and target decimal latitude/longitude.