

National Transportation Safety Board

Office of Aviation Safety
Central Region



CEN24FA188

FLIGHT TRACK DATA SUMMARY

ACCIDENT

Date: May 15, 2024
Time: 2039 central daylight time (0139 UTC)
Location: Godley, Texas
Airplane: Cessna 150L
Registration: N1701Q

ACCIDENT SYNOPSIS

On May 15, 2024, about 2039 central daylight time, a Cessna 150L airplane, N1701Q, was destroyed during an accident near Godley, Texas. The student pilot was fatally injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 instructional flight.

FLIGHT SUMMARY

According to available ADS-B track data, at 1948:44, the airplane was in a climb after takeoff from runway 15 at Cleburne Regional Airport (CPT), Cleburne, Texas. The airplane entered a right traffic pattern for runway 15, completed one landing, and then flew south-southeast of CPT, as shown in figure 1.

At 1959:10, the airplane turned west and flew over Lake Pat Cleburne before it turned south-southwest.

Between 2001:55 and 2004:40, about 5 nautical miles (nm) south-southwest of CPT, the airplane completed a series of left-and-right 360° turns between 3,200-3,300 ft mean sea level (msl) before it continued south-southwest.

At 2007:30, the airplane turned west-northwest and continued climbing to a maximum altitude of about 4,100 ft msl. At 2011:40, the airplane entered a descent from 4,100 ft msl while it continued west-northwest. At 2014:04, the airplane leveled off at 3,300 ft msl.

At 2015:01, the airplane entered a climb while it continued west-northwest. At 2017:00, the airplane turned west as it continued to climb to about 4,000 ft msl.

Between 2018:25 and 2022:15, about 4 nm south-southeast of Granbury, Texas, the airplane completed a series of descending left-and-right turns. After the turns, the airplane continued to descend as it flew east-northeast toward the Brazos River near DeCordova, Texas.

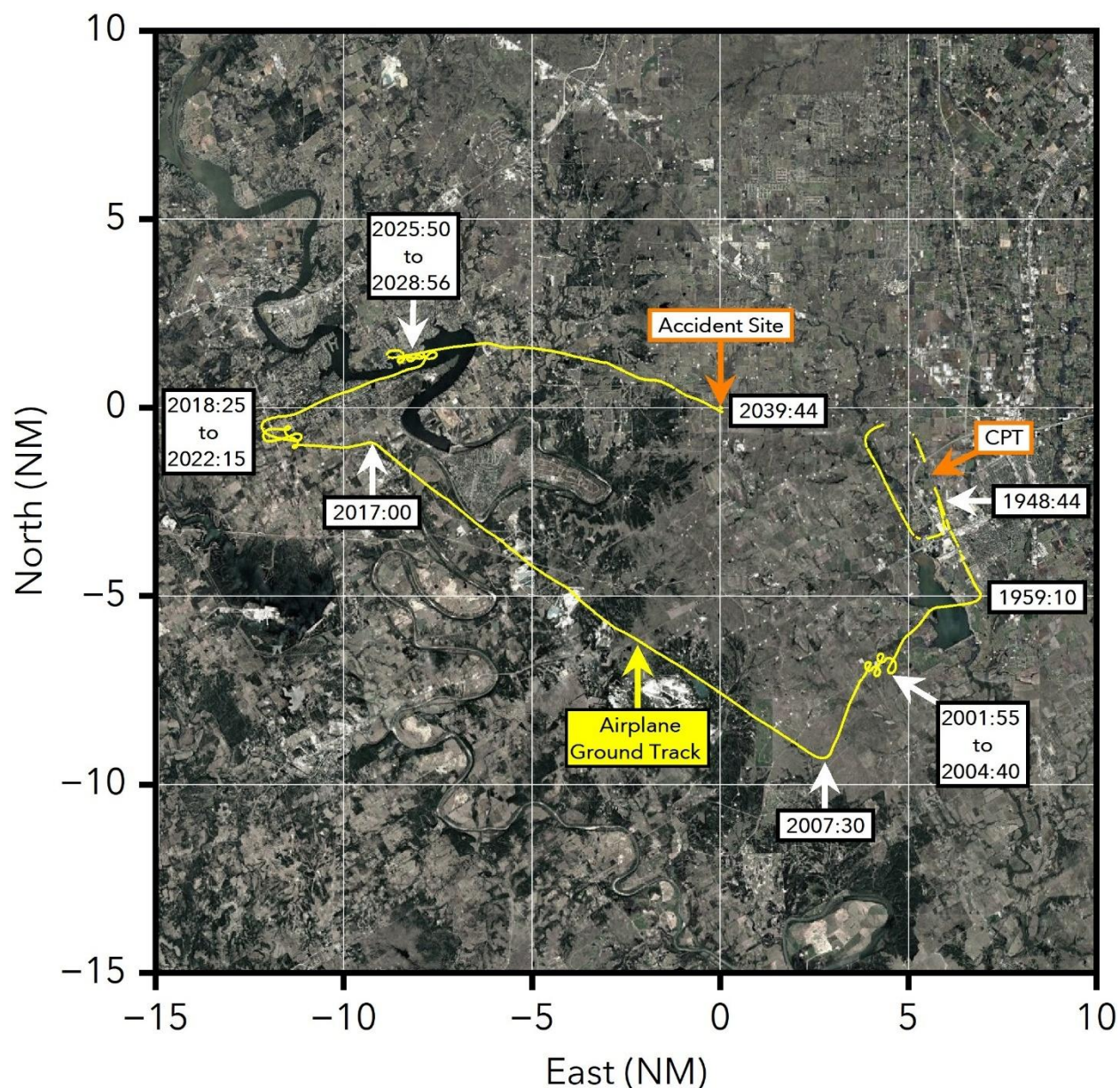


Figure 1. Plot of airplane flight track data.

Between 2025:50 and 2028:56, about 1.25 nm south-southwest of DeCordova, Texas, the airplane completed a series of descending left-and-right turns over the Brazos River near the west side of Lake Granbury. During the turns, the airplane descended to about 2,300 ft msl before it entered a climb. After the turns, the airplane continued east over Lake Granbury and climbed to about 2,600 ft msl. After it flew over the eastern side of Lake Granbury, the airplane continued east-southeast toward CPT.

During the final 10 minutes of the flight, there were two prolonged periods without recorded FAA ADS-B track data. However, an internet-based flight tracking website,

FlightAware.com, continued to track the airplane without similar data dropouts and was used as the primary source of track information for the remainder of the flight.

Airplane performance calculations, based on the available track data and an atmospheric model, revealed that between 2033:15 and 2038:00 the airplane completed four large deceleration-and-acceleration cycles, as shown in figure 2. During each of these four cycles, the airplane's calibrated airspeed (CAS) decreased below the airplane's aerodynamic stall speed before it increased again. The airspeed and altitude profiles during these maneuvers were consistent with the pilot practicing aerodynamic stalls.

At 2037:30, during the fourth deceleration-and-acceleration cycle, the airplane decelerated to about 31 mph CAS before it began accelerating. Over the next 10 seconds, the airplane briefly leveled off at 1,865 ft msl before it entered a climb. At 2038:25, the airplane had accelerated to 91 mph CAS and was climbing through 1,940 ft msl at a vertical speed about 100 fpm.

Between 2038:25 and 2039:20, the airplane began decelerating as the vertical speed increased from 100 fpm to 800 fpm before returning to near zero. Between 2039:21 and 2039:26, the airplane's vertical speed increased from near zero to about 1,085 fpm. Between 2039:26 and 2039:30, the airplane transitioned from a climb to a descent as it decelerated to about 33 mph CAS. At 2039:30, the FlightAware track data coverage ended with the airplane descending through 2,400 ft msl at a vertical speed about -600 fpm.

Between 2039:31 and 2039:37, there was no ADS-B track data available. At 2039:37, FAA ADS-B track data coverage resumed with the airplane descending through 1,700 ft msl at a vertical speed about -10,000 feet per minute (fpm). At 2039:44, the FAA ADS-B track data ended with the airplane descending through 1,140 ft msl (about 216 ft above ground level) at a vertical speed about -7,200 fpm.

A witness and her daughter were driving in their truck, about 0.5 mile north-northwest of the accident site, when they saw the airplane flying lower than what the witness thought was normal. They could not hear the airplane because they were inside their truck at the time, but they saw the airplane flying at slow speed, almost "hovering" in the air, before it suddenly entered a spiraling nosedive. The airplane completed at least 6-8 rotations in the descending spiral before it descended out of sight behind a hill. They subsequently called 911 to report the accident to local law enforcement after they saw smoke and fire ascending from the accident site.

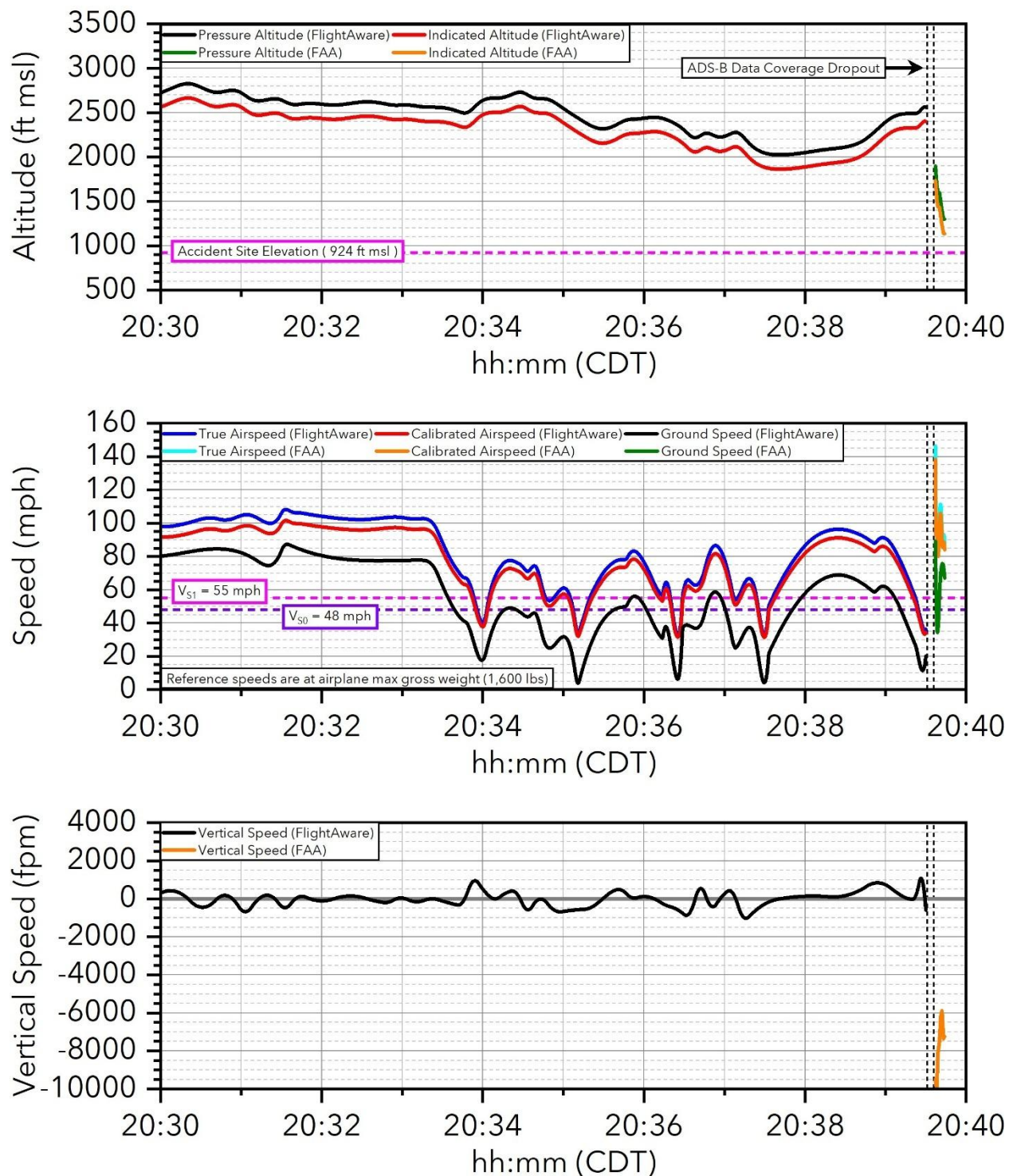


Figure 2. Plots of airplane pressure altitude, indicated altitude, ground speed, true airspeed, calibrated airspeed, and vertical speed.