

NATIONAL TRANSPORTATION SAFETY BOARD

Vehicle Recorder Division
Washington, D.C. 20594

November 4, 2013

Mobile Phone Factual Report

**Specialist's Factual Report
by Bill Tuccio, Ph.D.**

A. EVENT

Location: Minden, Nevada
Date: February 6, 2013
Aircraft: Cessna 172
Registration: N328SP
Operator: Flying Start Aero
NTSB Number: WPR13FA116

B. GROUP - No Group

C. SUMMARY

On February 6, 2013, about 1710 Pacific standard time, a Cessna 172S, N328SP, impacted mountainous terrain 14 miles east of Minden, Nevada. The airplane was operated by Flying Start Aero as a rental under the provisions of Title 14 *Code of Federal Regulations*, Part 91. The pilot was fatally injured and the airplane was destroyed. Visual meteorological conditions prevailed, and a visual flight plan had not been filed. The flight originated at Minden-Tahoe Airport, Minden, about 1645.

D. DETAILS OF INVESTIGATION

The NTSB Vehicle Recorder Laboratory received the following device:

GPS Manufacturer/Model: Apple iPhone 4
Serial Number: 6Q1103ZGA4S

Apple iPhone 4 Device Description

The Apple iPhone is a touch-screen operated smart-phone capable of voice calling, text messaging, email, photo/video recording, audio (music) playback, and numerous other specialized functions depending on configuration. The unit is capable of accessing wireless networks using the IEEE 801.11n protocol (wifi) and other wireless

devices supporting Bluetooth¹. Specialized functions are supported by additional user-installed program applications (Apps). Application data is stored in non-volatile memory and may include call logs, text messaging logs, image, video, and position location information. In addition, specialized application data may be stored in a proprietary file structure using numerous file formats including: binary, ASCII, HTML, SQL, etc. The amount and type of data stored varies based on the software version and configuration of the specific device.

Apple iPhone 4 Data Recovery

Upon arrival at the Vehicle Recorder Laboratory, an exterior examination revealed the iPhone was in a protective case that sustained minimal damage, as shown on the left side of figure 1. The case was removed and an examination of the iPhone, shown on the right side of figure 1, revealed no damage. The iPhone started normally and was examined by browsing the user interface and through a forensic download of content.

Figure 1. Photo of iPhone in case and removed from case.



¹ A short-range, low bandwidth wireless protocol used in consumer electronics used mostly for low-overhead functions.

Apple iPhone 5 Data Description

None of the data retrieved from the iPhone contained coordinate, flight plan, or other recorded information from the accident flight. However, the emails, text messages, and phone call log were used to produce a history of the pilot's activities prior to the accident.

The pilot had been working in Afghanistan, and had last travelled to the United States in late November, 2012. Email correspondence on January 23, 2013, indicated the pilot planned on remaining in Afghanistan into the summer of 2013, cancelling February leave, with leave planned for two weeks in May, 2013 for a son's graduation.

On January 31, 2013, the pilot had email correspondence with his wife related to their marriage. The same day, the pilot requested and received emergency personal leave to return to Nevada. His initial travel itinerary received on January 31, 2013 had him leaving Herat, Afghanistan on February 2, 2013 and arriving Reno, Nevada on February 3, 2013 at 1630 PST. The flight was delayed and the itinerary was amended on February 2, 2013 to have the pilot leave Kabul, Afghanistan on February 3, 2013 and travel by way of Dubai, Paris, and Salt Lake City, to arrive in Reno on February 4, 2013 at 1743 PST.

On February 4, 2013 at 1500 PST, a text message history began on the pilot's iPhone. The text message advised his wife he was leaving Salt Lake City for the last leg of his return flight from Afghanistan and would be arriving Reno, Nevada as scheduled. The last text message on February 4, 2013 was at 1751 PST, when the pilot advised his wife he was curbside at the Reno airport.

On February 5, 2013, the iPhone recorded inbound and outbound phone calls between 1534 PST and 1620 PST to 3 different people. Text messages retrieved from the iPhone for February 5, 2013 were exchanged exclusively with the pilot's wife between 1436 PST and 2043 PST.

On February 6, 2013, the pilot sent an email to his Afghanistan work supervisor requesting return from emergency leave on or about February 10, 2013. The precise time of the email was uncertain, as the time zone may have been PST or Afghanistan time.

On February 6, 2013, there was only one, unanswered inbound phone call at 1422 PST. The call was from an 800 number.

On February 6, 2013, the pilot began text messages with his wife starting at 0958 PST, and continued exclusively with his wife until 1208 PST. At 1207 PST, the wife

said she was going to the airport to work². At 1208 PST, the wife sent a text message to the pilot further discussing their marriage.

At 1343 PST, the pilot began to text message one other friend, discussing his marriage. The text messages with the friend continued, mixed with text messages to and from the pilot's wife. The last outbound text message from the pilot to the friend was at 1412 PST, related to the pilot's wife and the pilot's marriage.

The text messages with the pilot's wife continued until the last outbound text message on the iPhone prior to the accident, at 1519 PST. Text messages related to the accident flight began at about 1129 PST, with the pilot inquiring of his wife about personnel at the airport. At 1131 PST, the pilot elaborated he wanted to go to the airport when no one was around. At about 1415 PST, the pilot and wife exchanged texts about keys and building access at the airport. At 1518 PST, the pilot and wife exchanged short text message greetings.

An inbound text message to the pilot's iPhone from a friend at 1641 PST was not returned. The pilot's wife began inbound text messages at 1908 PST.

On February 7, 2013 at 0958 PST, Air Force Search and Rescue began sending inbound text messages.

² Other emails indicated the pilot and his wife were co-owners of a fixed base operator operation at the Minden, Nevada airport.