

# NATIONAL TRANSPORTATION SAFETY BOARD

Vehicle Recorder Division  
Washington, D.C. 20594

January 17, 2018

## Personal Electronic Device

Specialist's Factual Report  
By Bill Tuccio, Ph.D.

### 1. EVENT SUMMARY

Location: Vienna, Illinois  
Date: December 31, 2016  
Aircraft: Piper PA-28R-200  
Registration: N2806R  
Operator: Private  
NTSB Number: CEN17FA064

On December 31, 2016, about 1745 central standard time (CST), a Piper PA 28R-200 airplane, N2806R, impacted trees and terrain near Vienna, Illinois. The pilot and three passengers were fatally injured. The airplane was destroyed during the impact. The airplane was registered to and operated by the pilot as a 14 *Code of Federal Regulations* Part 91 personal flight. Marginal visual meteorological conditions were reported near the accident site about the time of the accident, and the flight was not operated on a flight plan. The flight originated from the Pella Municipal Airport, near Pella, Iowa at unknown and was destined for Nashville, Tennessee.

### 2. GROUP

A group was not convened.

### 3. DETAILS OF INVESTIGATION

The National Transportation Safety Board (NTSB) Vehicle Recorder Division received the following personal electronic device (PED):

Device Manufacturer/Model: Samsung S7 Edge

#### 3.1. Device Description

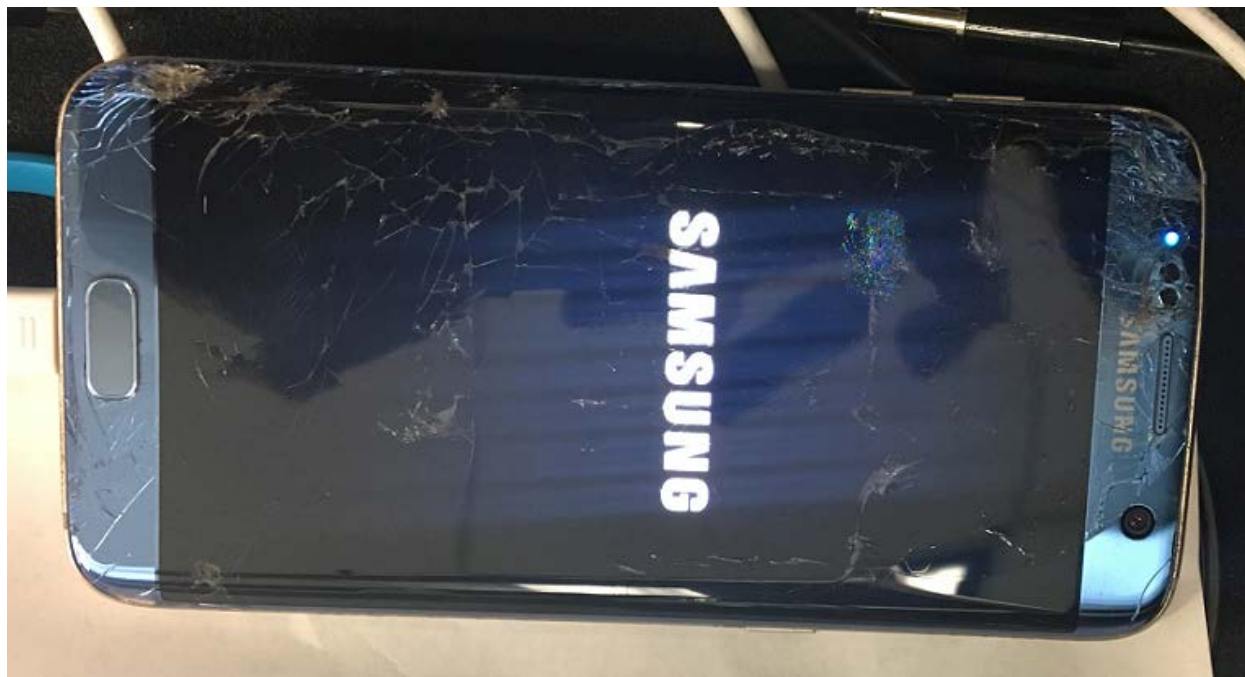
PEDs are a category of devices comprised primarily of portable computing devices and mobile phones. Portable computing devices are typically capable of internet access, email, messaging services, and can run user-installed applications to perform specific tasks. Depending on the model, mobile phones can perform many of the same tasks as portable computing devices, plus have voice call and text messaging capabilities. PED

user and system data is typically stored on non-volatile memory<sup>1</sup> and can be accessed through manufacturer-provided interfaces.

### 3.2. Data Recovery

The Samsung S7 had a cracked screen, but powered on normally, as shown in figure 1. The phone was protected by a passcode, which could not be determined. A partial download was accomplished.

Figure 1. Smartphone after power application during recovery.



## 4. DEVICE INVESTIGATION

The only pertinent information from the partial recovery were five photos with timestamps and geographical information. Metadata in the report suggests the time zone of the photos was CST, though the time zone and accuracy of the timestamps was not confirmed in this report. Further, the accuracy of the GPS information could not be confirmed for this report.

Table 1 summarizes the metadata for the five photos from December 31, 2016. The photos are included in this report as figures 4 through 8.

Filename	Timestamp	Latitude/Longitude
20161231_114107.jpg	11:41:07	41.408891 / -92.950848
20161231_161940.jpg	16:19:40	37.498787 / -88.564571
20161231_162116.jpg	16:21:16	37.529102 / -88.613704
20161231_162821.jpg	16:28:21	37.728453 / -88.764282
20161231_162828.jpg	16:28:28	37.733985 / -88.767742

<sup>1</sup> Non-volatile memory is semiconductor memory that does not require external power for data retention.

Figures 2 and 3 show the position of the photos on a Google Earth overlay, with a reference line between Pella, Iowa and Nashville, Tennessee.<sup>2</sup>

The first photo was of the accident aircraft, taken on the ground at Pella, Iowa, from outside the aircraft.

The next photo, at 16:19:40, was taken from the southeastern-most location of all photos, followed by photos between 16:21:16 and 16:28:28, which are farther northwest, towards Pella.

All inflight photos show the aircraft flying above an undercast; some with a higher layer of clouds above. The vantage point of the inflight photos was consistent with photos being taken from the rear, left seat.

---

<sup>2</sup> The reference line is only for reference and is not based on any known actual flight path.

Figure 2. Overlay of recovered photos on December 31, 2016.

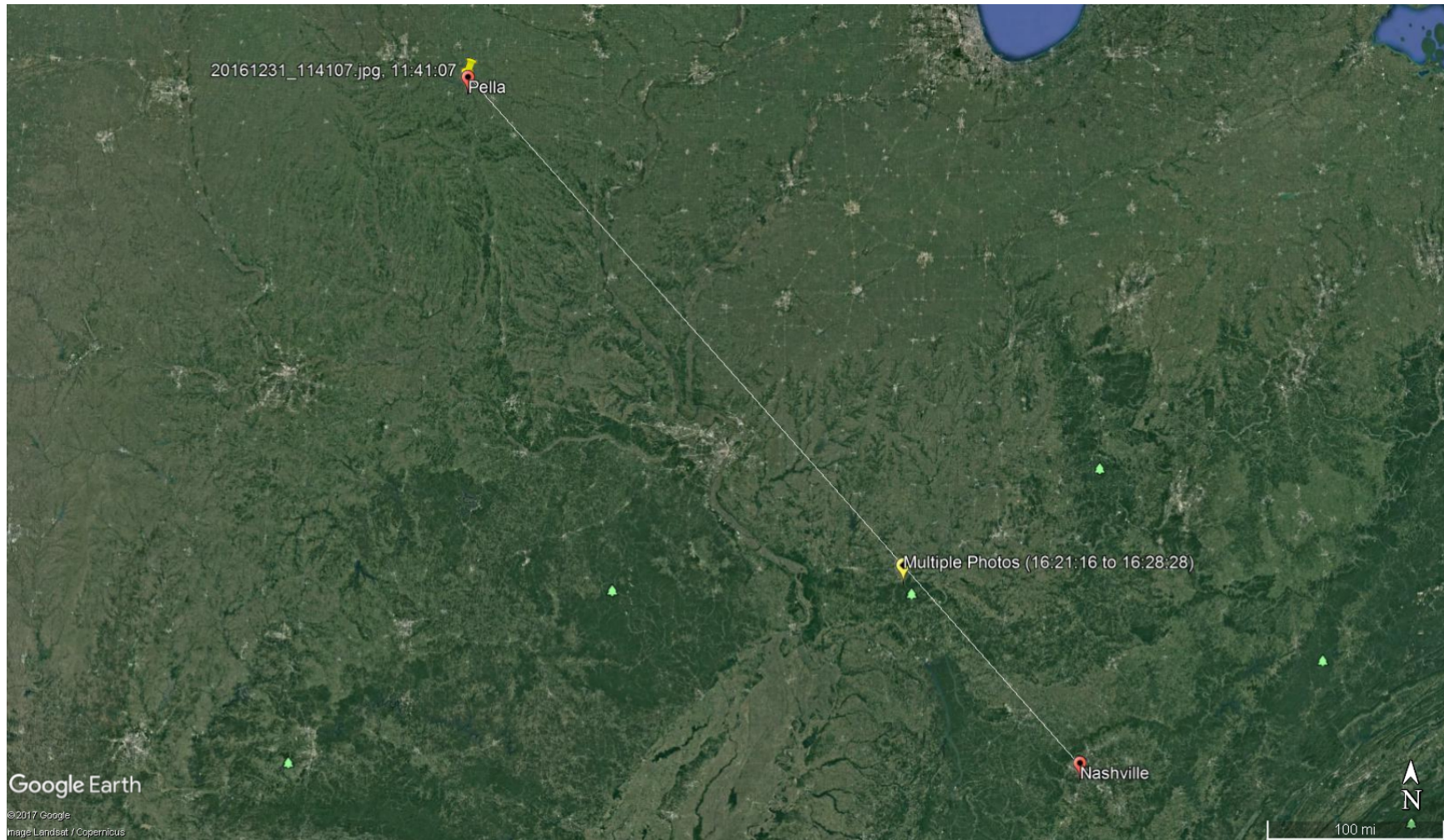


Figure 3. Overlay of recovered photos between 16:19:40 and 16:28:28.

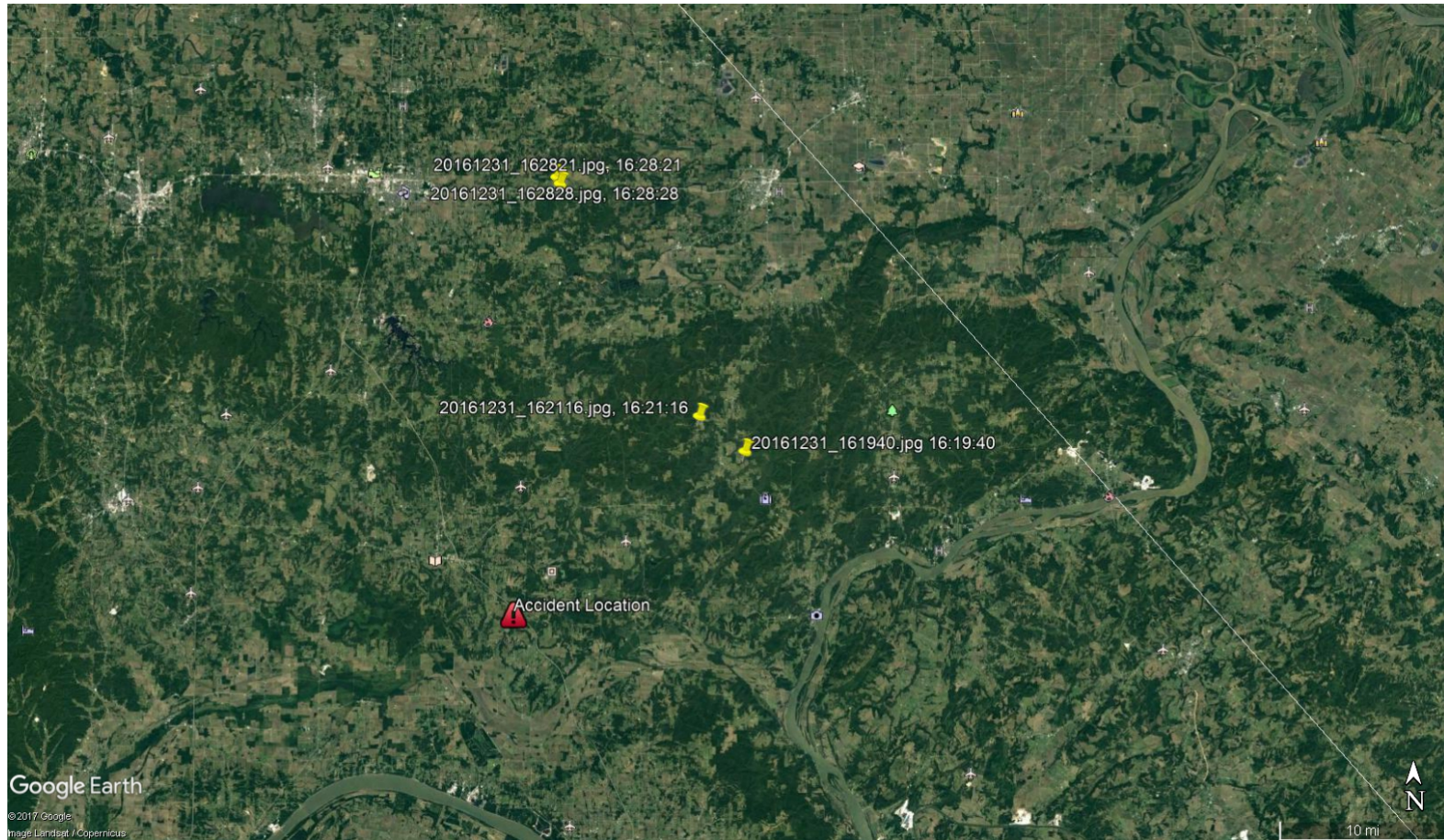


Figure 4. Photo 20161231\_114107.jpg.



Figure 5. Photo 20161231\_161940.jpg.



Figure 6. Photo 20161231\_162116.jpg.





Figure 7. Photo 20161231\_162821.jpg.



Figure 8. Photo 20161231\_162828.jpg.

