

NATIONAL TRANSPORTATION SAFETY BOARD

Vehicle Recorder Division
Washington, D.C. 20594

February 13, 2020

Portable Electronic Devices

Specialist's Factual Report By Sean Payne

1. EVENT SUMMARY

Location: Odanah, WI
Date: October 29, 2018
Aircraft: Eurocopter AS350
Registration: N910S
Operator: Enbridge Energy Co Inc
NTSB Number: CEN19FA018

On October 29, 2018, about 1345 central standard time, an Airbus (Eurocopter) AS350B3 helicopter, N910S, impacted terrain near Odanah, Wisconsin. The commercial rated pilot, the sole occupant, was fatally injured and the helicopter was destroyed. The helicopter was registered to and operated by Enbridge Energy Company, Inc, as a 14 *Code of Federal Regulations* Part 91 observation flight. The flight departed Gogebic-Iron County Airport (IWD), Ironwood, Michigan about 1300 for the pipeline patrol, en route to Superior, Wisconsin.

2. GROUP

A group was not convened.

3. DETAILS OF INVESTIGATION

The National Transportation Safety Board (NTSB) Vehicle Recorder Division received the following portable electronic devices (PEDs):

Device Manufacturer/Model:	Apple iPhone 6s
IMEI Number:	358567074152618

Device Manufacturer/Model:	Apple iPad Mini 4
Serial Number:	Unknown

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 memory¹ and can be accessed through manufacturer-provided interfaces.

3.2. Data Recovery

Apple iPhone 6s

The iPhone 6s showed signs of impact damage. The device was bent and the screen was cracked, however, the device powered normally. The device was managed by the pilot's employer and a remote unlock signal was sent to unlock the phone. The device functioned normally and a data extraction was performed using forensic software. Figure 1 is a photo of the device.



Figure 1. Photo of damaged iPhone 6s.

Apple iPad Mini 4

The iPad Mini 4 showed signs of impact damage. The device was non-functional. The arrival state of the device is shown in figure 2. The device was cleaned and the memory board was extracted. The memory board was placed in a surrogate device and the surrogate device was unable to power. Repairs were made to the main board, and the

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

device became functional in a surrogate. Upon powering, the device was locked with a passcode. The passcode was unable to be determined and no data was recovered.



Figure 2. Photo of damaged iPad Mini 4.

4. DEVICE INVESTIGATIONS

4.1. Apple iPhone 6s

Photos

Photos from the day of the accident flight were extracted from the phone. The metadata from the photos was used to construct the google earth plot in figure 3. Photos taken along the route to generate the track are denoted as yellow pins. The yellow pins are named to correspond with the file name of the photo that was taken. Note that the photo locations are connected by a straight line. This straight line does not necessarily reflect the route of flight of the helicopter. The straight line is connected between two geo-tagged locations from photo metadata. The photos are shown in figures 4 through 11. Note, some photos were not included, these photos were essentially duplicates of those presented in the report so filenames may not appear to be sequential. Additionally some of these duplicates were captured in a app that overlays geotags on the photos. When available, these geotagged photos were included in the figures.

Text Messages

On April 6, 2018, the accident pilot reported “Complete G500H failure with the smell of an electrical short.” The pilot then texted a photo of a blank G500H in the accident helicopter.

The accident pilot then stated that he should be able to finish the patrol using the rotorcraft's standby altimeter.

On October 27, 2018, the pilot stated to another company employee that he would be "checking the weather and new forecasts in the morning" for a flight to "the Duluth area."

In a conversation with another helicopter pilot from a different company on the day of the accident at 11:00 local time, the accident pilot stated the following: "Good morning [name redacted.] I hope it wasn't GEPR you saw, I'm just at the north end of Lake Michigan in N910S heading to Madison, Wisconsin tonight. Supposed to meet [Another company pilot, name redacted] who is flying GEPR there tonight." The pilot then sent photo IMG_7496.JPG via SMS.

In an conversation with an unknown individual on the day of the accident at 11:20 local time, the accident pilot sent IMG_7469.JPG. The individual responded, "Ahhh very nice" then stated that he missed a call from the accident pilot at 11:28 local time. The unknown individual said via text that he would call back the accident pilot.

After the time of the accident, there were numerous text messages from various individuals who were inquiring about the accident pilot's location.

Calls

There were what appeared to be multiple missed calls, both incoming and outgoing around 09:00 local time on the day of the accident.

There was an outgoing call on the day of the accident to what appeared to be a family member of the pilot at 11:06 local time. The duration of the call was 9 minutes.

There was an exchange of what appeared to be missed calls, both incoming and outgoing, between the accident pilot and another pilot between 11:25 and 11:53 local time on the day of the accident.

The pilot made an outgoing call to another contact, different than that of above, at 13:24 local. The duration of the call was 1 minute.

Emails

On October 26, 2018 at 09:28 local time, the another company pilot sent the following email to Aviation@enbridge.com:

Subject: N910S

[Company Pilot's Last Name] + 3 Off CPF6 local. Multiple maintenance flights for Main rotor track and balance. EBCAU tests etc.

On the day prior to the accident (October 28, 2018) at 15:04 local time, the accident pilot sent the following email to [Another Pilot]@enbridge.com:

“Tried to make Duluth today with N910S, however the weather wasn’t cooperating. Hopefully be passing through tomorrow.”

On the day prior to the accident (October 28, 2018) at 15:08 local time, the accident pilot sent the following email to Aviation@enbridge.com:

“Departing CYZR for KPHN / KMBS solo. ETA KMBS 22:10 Z.”

On the morning of the accident (October 29, 2018) at 06:05 local time, the accident pilot sent the following email to [Another Pilot]@enbridge.com]:

“Top of the morning to you Captain [Redacted]! Not sure what you’re planning today, but I’m heading up to Duluth and then down to Delevan, overnighting in Madison. As they say, forewarned is forearmed. Staying at the: [Accident pilot then inserted a photo of a booking at the Residence Inn Madison EAST – 4862 Hayes Road Madison, Wisconsin.]”

On the morning of the accident (October 29, 2018) at 08:37 local time, the accident pilot sent the following email to Aviation@enbridge.com:

“Departing KMBS for KMSN solo. ETA KMSN 21:30 Z.”

No other emails were sent by the accident pilot.

4.2. Apple iPad Mini 4

No data was recovered from the device.

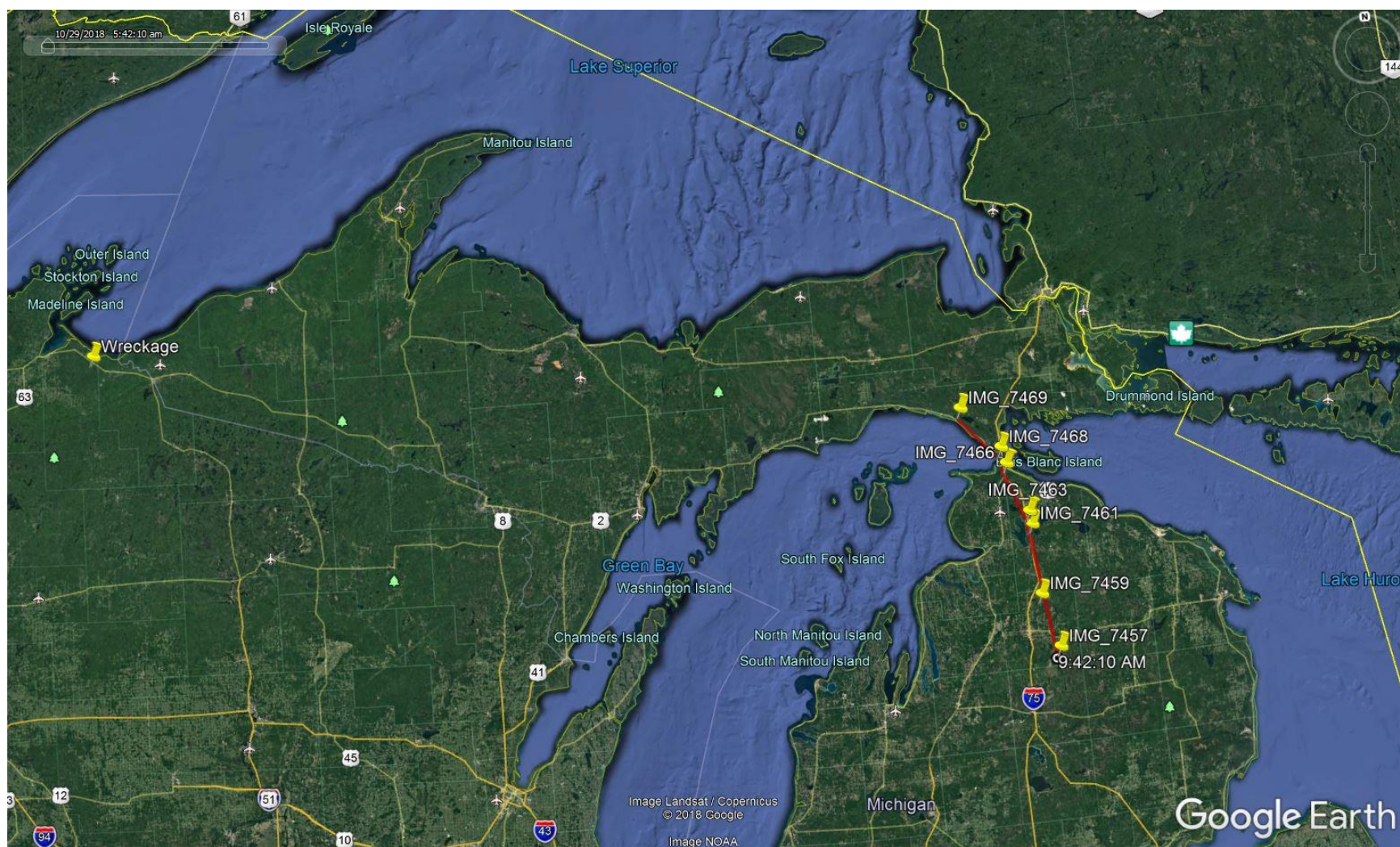


Figure 3. A plot of the geographic locations of photos taken on the iPhone while the helicopter was in flight. The red line shown connects the points provided by the GPS metadata but does not necessarily reflect the route of the accident flight.



Figure 4. IMG_7457.JPG

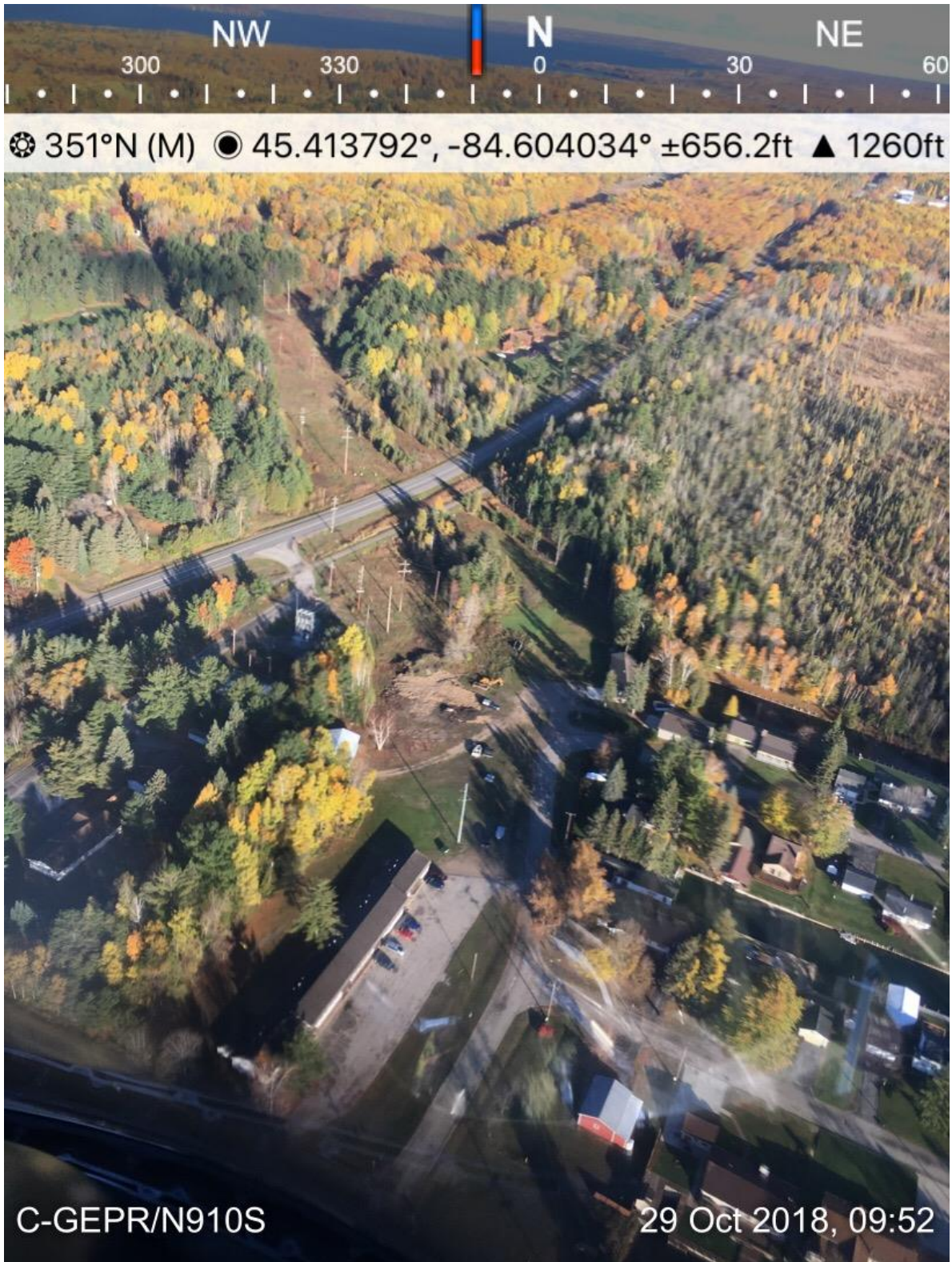


Figure 5. IMG_7459.JPG

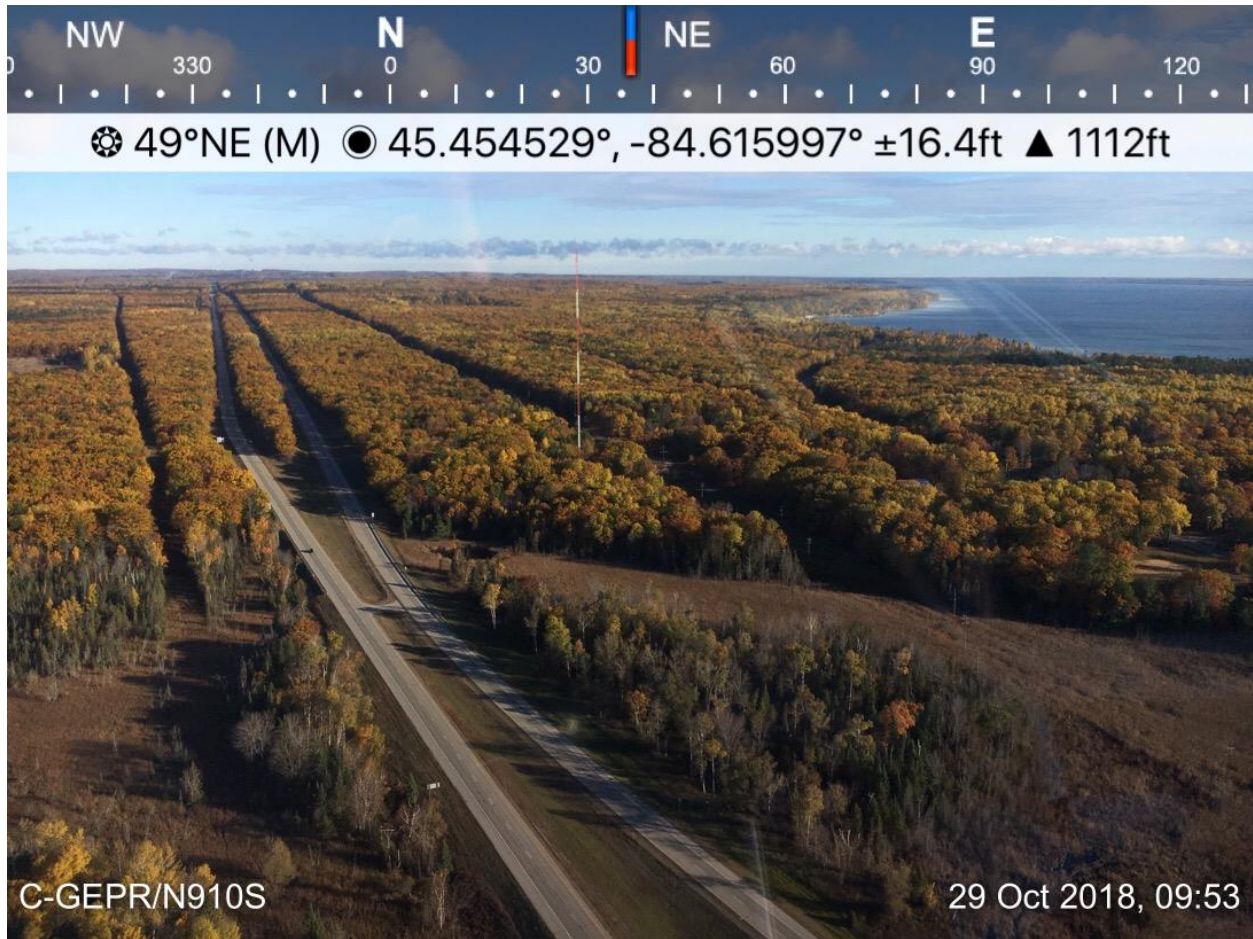


Figure 6. IMG_7461.JPG



Figure 7. IMG_7466.JPG



Figure 8. IMG_7468.JPG



Figure 9. IMG_7463.JPG



Figure 10. IMG_7464.JPG



Figure 11. IMG_7469.JPG