NATIONAL TRANSPORTATION SAFETY BOARD

Vehicle Recorder Division Washington, D.C. 20594

September 3, 2013

GPS Factual Report

Specialist's Factual Report by Bill Tuccio

A. <u>EVENT</u>

Location:	Burnham, Maine
Date:	July 3, 2013
Aircraft:	Sikorsky 269C
Registration:	N888ZW
Operator:	Point of View Helicopter Services LLC
NTSB Number:	ERA13LA314

B. <u>GROUP</u> - No Group

C. <u>SUMMARY</u>

On July 3, 2013, about 1648 eastern daylight time (EDT), a Sikorsky Aircraft Corporation (formerly Schweizer Aircraft Corporation) 269C, N888ZW, registered to and operated by Point of View Helicopter Services, LLC, collided with terrain near Burnham, Maine. Visual meteorological conditions prevailed at the time for the 14 *Code of Federal Regulation* (CFR) Part 91 aerial observation bear spotting flight that originated from the Waterville Robert LaFleur Airport, Waterville, Maine. The helicopter sustained substantial damage and the commercial pilot sustained serious injuries, while the passenger sustained minor injuries.

D. DETAILS OF INVESTIGATION

The NTSB Vehicle Recorder Laboratory received a GPS data file in GPX format¹. The file was reported to originate from one of the passengers on the flight.

GPS Data File Description

Metadata in the GPX file suggested the file was recorded by a Garmin GPSMAP 62 device. However, the actual device was not available for this report.

¹ GPX is an XML-based format used to exchange GPS data.

GPS Data Description

The track data extracted from the GPX file spanned the time period from July 3, 2013 at 1953:31 UTC² through July 5, 2013 at 1519:53 UTC. The July 3, 2013 period from 1953:31 UTC until 2047:53 UTC, was determined to be consistent with the accident flight and is included in this report.

GPS Parameters Provided

Table 1 describes data parameters provided by the GPS device. Date, Time, Latitude, Longitude, and GPS Altitude are recorded by the device. Groundspeed and Track are derived from the recorded parameters.

Parameter Name	Parameter Description
Date	Date for recorded data point (MM/DD/YYYY)
Time	Time (UTC) for recorded data point (HH:MM:SS)
Latitude	Recorded Latitude (degrees)
Longitude	Recorded Longitude (degrees)
GPS Alt	Recorded Altitude (above mean sea level (MSL)) (feet)
Groundspeed	Average groundspeed between current and previous data point (knots)
Track	Average true course between current and previous data point (degrees)

Table 1: GPS Data Parameters

OVERLAYS AND TABULAR DATA

All overlays were produced using Google Earth. All times are expressed as UTC, and altitudes are GPS recorded altitude.

Figure 1 shows an overview of the recorded data between 1953:31 and 2047:53 UTC. The recording began about 9 miles northeast of the Robert LaFleur Airport. Figure 2 shows the accident flight path in greater detail.

Figures 3 and 4 show the end of the accident flight recording, with overlapping tracks from prior passes omitted for clarity. At 2046:13 UTC, the helicopter was heading northeasterly at a groundspeed of about 20 knots and an altitude of 320 feet MSL. By about 2047:08 UTC, the helicopter began to slow and track towards the south.

Figure 5 shows a plot of the last 4.5 minutes of the accident flight. After about 2046:45 UTC, the helicopter began to slow from 20 knots groundspeed to about 10 knots groundspeed, while tracking northeast-east. At about 2047:28 UTC, the altitude lowered and the groundspeed reduced to 0 knots by 2047:53 UTC.

Tabular data used to generate figures 1 through 5 are included as Attachment 1. This attachment is provided in electronic comma-delimited value (.CSV) format.

² All dates and times are referenced to Coordinated Universal Time (UTC).

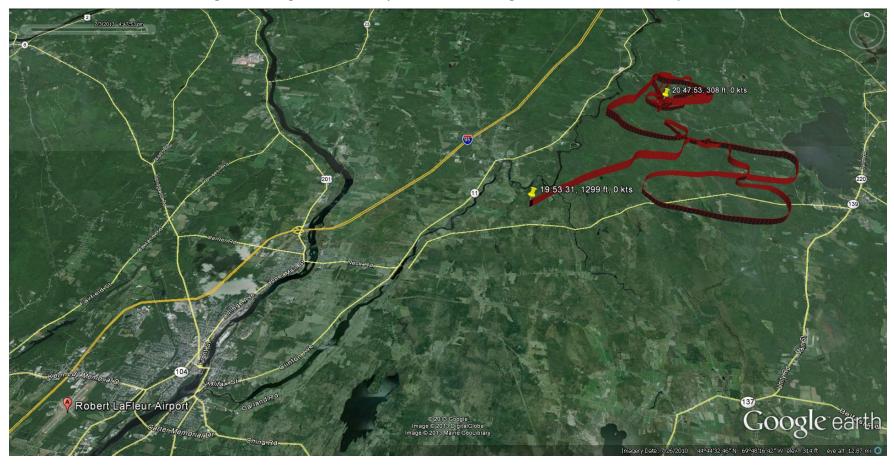


Figure 1. Google Earth overlay of the accident flight and Robert LaFleur Airport.

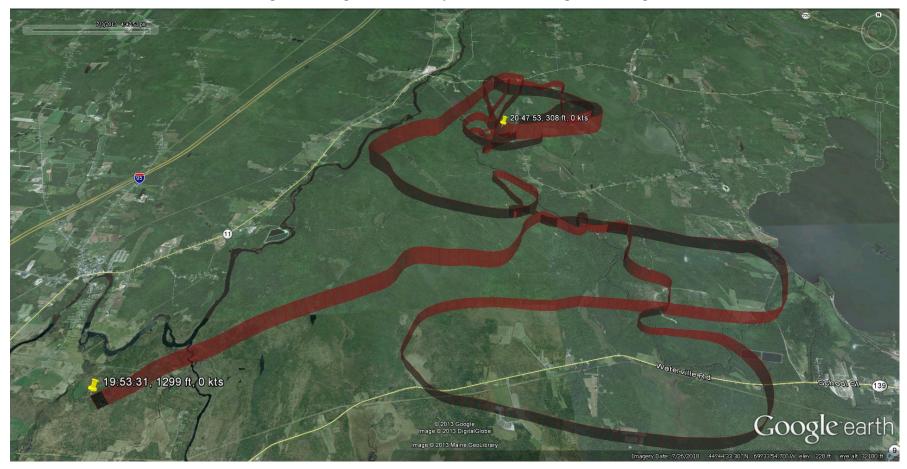


Figure 2. Google Earth overlay of the accident flight recording.



Figure 3. Google Earth overlay of end of accident flight recording (select points).



Figure 4. Google Earth overlay of end of accident flight recording (all points after 2046:53).

Figure 5. Plot of parameters at end of flight.

Point of View Helicopter Services LLC, Sikorsky 269C, N888ZW

NTSB No. ERA13LA314 350 345 340 · **—** _0+ ____ 335 ------n----n Altitude-GPS (ft) 320 p-0------ì 315 **GPS** Altitude 310 · -0--0 305 300 0 True Track Track (deg) 180 -40 360 -30 S. Ground Speed -20 Spd (kts) - 10 -20:45:50 UTC (HH:MM:SS) -20:43:40 -20:44:00 -20:44:10 -20:44:30 -20:44:40 -20:44:50 -20:45:00 -20:45:10 -20:45:20 -20:45:30 -20:46:00 -20:46:10 -20:46:20 -20:46:30 -20:47:00 -20:47:20 -20:47:30 -20:47:50 -20:48:00 -20:43:30 -20:43:50 -20:44:20 -20:46:40 -20:46:50 -20:47:10 -20:47:40

End of Accident Flight

Location, Date: Burnham, Maine, 07/03/13

Revised: 21 August 2013

National Transportation Safety Board