

**NATIONAL TRANSPORTATION SAFETY BOARD**  
Vehicle Recorder Division  
Washington, DC 20594

September 5, 2014

## **On-Board Image Recorder**

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

### **1. EVENT**

Location: Ruther Glen, Virginia  
Date: May 9, 2014  
Aircraft: Eagle C-7  
Registration: N3016Z  
Operator: Private  
NTSB Number: ERA14FA231

### **2. GROUP**

A group was not convened.

### **3. SUMMARY**

On May 9, 2014, about 1940 eastern daylight time (EDT), an Eagle C-7 Balloon, N3016Z, was destroyed by fire after a landing attempt to a field and subsequent impact with powerlines near Ruther Glen, Virginia. The commercial pilot and two passengers were fatally injured. Visual meteorological conditions prevailed, and no flight plan was filed for the local personal flight that departed from Meadow Event Park, Doswell, Virginia, approximately 3.75 miles to the south of the accident location. The flight was conducted under the provisions of Title 14 *Code of Federal Regulations* Part 91.

### **4. DETAILS OF INVESTIGATION**

The NTSB Vehicle Recorder Division's Image Laboratory received the following iPhone:

Recorder Manufacturer/Model: **Apple iPhone 5C**  
Recorder Serial Number: **F73LR762FFHH**

#### **4.1. Apple iPhone 5C Recovery and MetaData Description**

The recovery process of the Apple iPhone 5C is detailed in the Electronic Devices Factual Report in the public docket for this accident. The Electronic Devices Factual Report also provides a detailed listing of photo/video metadata.

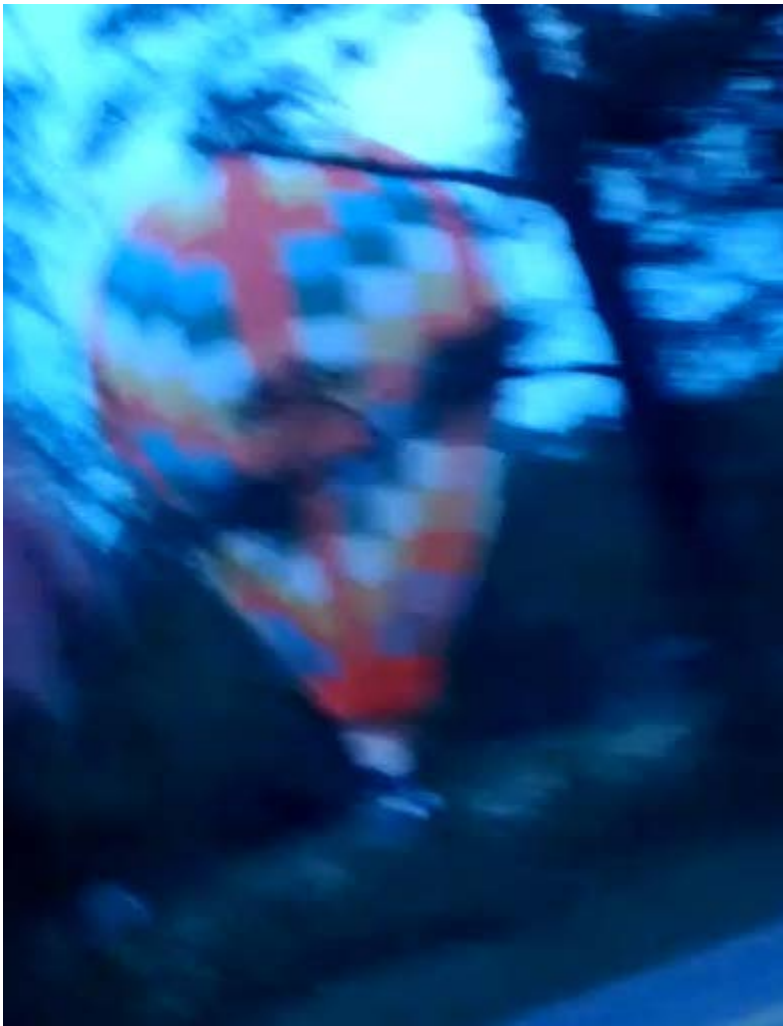
## **4.2. Apple iPhone 5C Photograph and Video Descriptions**

Table 1 provides a description of each photo or video on May 9, 2014 retrieved from the iPhone. In the descriptions “external only” means the photograph did not include any content of the accident balloon or its occupants. The occupants are referred to as occupant A, occupant B, and the accident pilot.

For reference, figure 1 shows an image from a witness video showing another balloon on the ground in the vicinity of where the accident balloon struck the powerlines.

Figure 2 is a Google Earth overlay of select points from table 1 plotted with latitude, longitude, and select metadata. Figures 3 through 11 show Google Earth overlays of all points from table 1. Note the weather and features shown in Google Earth are from satellite imagery at an earlier date and may not reflect the weather and features at the time of the accident. The point at 19:30:37 EDT (5253612.jpg) is likely an anomaly in the position determined by the iPhone.

Figure 1. Witness video of another balloon on the ground in the vicinity of the accident balloon powerline strike.



**Table 1. Descriptions of photos/videos from iPhone 5C.**

Item	Date	Time	Inflight?	Filename	Description
Photo	5/9/2014	19:37:02	Y	5253630.jpg	External only, approaching accident site from the south. Balloon shown in figure 1 was on the ground (wide angle view).
Photo	5/9/2014	19:36:57	Y	5253629.jpg	External only, approaching accident site from the south. Balloon shown in figure 1 was on the ground (zoomed in view).
Photo	5/9/2014	19:36:46	Y	5253628.jpg	External only, of a house below balloon.
Photo	5/9/2014	19:36:43	Y	5253627.jpg	External only, of a yellow/red balloon partially inflated on ground.
Photo	5/9/2014	19:34:12	Y	5253626.jpg	External only, of a black/red/blue balloon on or near the ground in a field (wide angle).
Photo	5/9/2014	19:34:05	Y	5253625.jpg	External only, of a black/red/blue balloon on or near the ground in a field (zoomed in).
Photo	5/9/2014	19:34:00	Y	5253623.jpg	External only, directly over a rainbow colored balloon (different colors in chevron pattern)
Photo	5/9/2014	19:33:55	Y	5253620.jpg	External only, navy blue/light blue/gray balloon lateral to picture taker, slightly lower.
Photo	5/9/2014	19:33:50	Y	5253619.jpg	External only, navy blue/light blue/gray balloon lateral to picture taker, slightly lower.
Photo	5/9/2014	19:33:47	Y	5253618.jpg	External only, navy blue/light blue/gray balloon lateral to picture taker, slightly lower.
Photo	5/9/2014	19:33:02	Y	5253617.jpg	External only, landscape view, no other balloons
Photo	5/9/2014	19:32:04	Y	5253614.jpg	External only, balloon in 5253618.jpg, lateral to picture taker, about same altitude.
Photo	5/9/2014	19:30:43	Y	5253613.jpg	External only of two balloons (the ones in 5253618.jpg and 5253626.jpg); one balloon is lower than the other
Photo	5/9/2014	19:30:37	Y	5253612.jpg	External only of another balloon, higher up (the one in 5253623.jpg)

Item	Date	Time	Inflight?	Filename	Description
Photo	5/9/2014	19:29:34	Y	5253611.jpg	Picture of one of the occupants (A) in the accident balloon. Accident balloon is near tree level; balloon in 5253623.jpg is in background, higher.
Photo	5/9/2014	19:29:06	Y	5253610.jpg	External only, landscape view, no other balloons; near tree top level
Photo	5/9/2014	19:28:29	Y	5253607.jpg	External only of another balloon, at about same altitude near tree top level (the one in 5253623.jpg)
Photo	5/9/2014	19:28:16	Y	5253606.jpg	External only of another balloon, other balloon lower, near tree top level (the one in 5253623.jpg)
Photo	5/9/2014	19:26:10	Y	5253605.jpg	External only of two balloons (the ones in 5253618.jpg and 5253626.jpg); both balloons at about same altitude as accident balloon
Photo	5/9/2014	19:26:07	Y	5253604.jpg	External only of two balloons (the ones in 5253618.jpg and 5253626.jpg); both balloons at about same altitude as accident balloon
Photo	5/9/2014	19:25:56	Y	5253603.jpg	External only of three balloons (the ones in 5253618.jpg, 5253626.jpg, and 5253623.jpg); these three balloons of varying heights from tree top to a few hundred feet; accident balloon mid-range between the 3 other balloon altitudes.
Photo	5/9/2014	19:25:36	Y	5253602.jpg	Picture of one of the occupants (B) in the accident balloon. Balloons in 5253626.jpg and 5253618.jpg in background, one lower, one at about the same altitude.
Photo	5/9/2014	19:15:34	Y	5253601.jpg	External only, near ground of brownish field, balloons in 5253626.jpg and 5253623.jpg in distance, above tree line.
Photo	5/9/2014	19:14:56	Y	5253600.jpg	External only, near ground of brownish field, balloons in 5253626.jpg and 5253623.jpg in distance, above tree line.
Photo	5/9/2014	19:14:18	Y	5253599.jpg	Straight up view of interior of balloon envelope, inflated; also shows burner assembly.
Photo	5/9/2014	19:14:13	Y	5253598.jpg	Straight up view of interior of balloon envelope, inflated; also shows burner assembly.

Item	Date	Time	Inflight?	Filename	Description
Photo	5/9/2014	19:13:57	Unsure	5253597.jpg	External only, near (or on) ground of brownish field, 5 other balloons in picture at varying altitudes. Brown field has straight irrigation assembly going across it.
Photo	5/9/2014	19:13:53	Unsure	5253596.jpg	External only, near (or on) ground of brownish field, 4 other balloons in picture at varying altitudes. Brown field has straight irrigation assembly going across it.
Photo	5/9/2014	19:13:38	Y	5253595.jpg	External only, near (or on) ground of brownish field, 4 other balloons in picture at varying altitudes. Brown field has straight irrigation assembly going across it.
Video	5/9/2014	19:12:58	Y	5253592.mov	24 second video; airborne. Sound of burners cycled on and off. Video pans from left to right, showing occupant A and accident pilot. Balloon is near tree top level. About 7 other balloons in background of video.
Photo	5/9/2014	19:10:21	Y	5253591.jpg	Picture of occupants A and B in balloon; occupant A is holding a blue vertical rope in balloon. Other balloons in background.
Photo	5/9/2014	19:09:39	Y	5253590.jpg	Picture of occupant A, in balloon. Brown field in background.
Photo	5/9/2014	19:09:07	Y	5253589.jpg	External only, airborne, passing brown field, 5 other balloons of varying altitudes in distance.
Photo	5/9/2014	19:09:03	Y	5253588.jpg	External only, airborne, passing brown field, 5 other balloons of varying altitudes in distance.
Photo	5/9/2014	19:07:01	Y	5253586.jpg	External only, airborne, passing brown field, 5 other balloons of varying altitudes in distance.
Photo	5/9/2014	19:06:35	Y	5253585.jpg	External only, airborne, passing brown field, 5 other balloons of varying altitudes in distance. Passing over multilane road with fence abeam road.
Photo	5/9/2014	19:05:59	Y	5253584.jpg	External only, airborne; balloons in 5253618.jpg, 5253626.jpg, and 5253623.jpg are on ground, partially inflated.
Photo	5/9/2014	19:05:23	Y	5253581.jpg	External only, airborne, numerous people on ground below (just after take-off)

<b>Item</b>	<b>Date</b>	<b>Time</b>	<b>Inflight?</b>	<b>Filename</b>	<b>Description</b>
Photo	5/9/2014	18:49:48	Unsure	5253580.jpg	Checked colored balloon partially inflated.
Photo	5/9/2014	18:48:19	N	5253579.jpg	On ground, two balloons deflated.
Photo	5/9/2014	18:44:32	N	5253578.jpg	On ground, a balloon rolled out, but still packed.
Photo	5/9/2014	18:44:28	N	5253577.jpg	On ground, a balloon laid out, but deflated.
Photo	5/9/2014	18:38:24	N	5253576.jpg	On ground, picture of basket in front of silver truck (appears to be accident basket).
Photo	5/9/2014	18:07:29	N	5253574.jpg	On ground, occupant A standing in front of basket (does not appear to be accident basket).
Photo	5/9/2014	18:07:11	N	5253572.jpg	On ground, picture inside basket (does not appear to be accident basket).

Figure 2. Select points from iPhone 5C photo/video metadata on May 9, 2014.

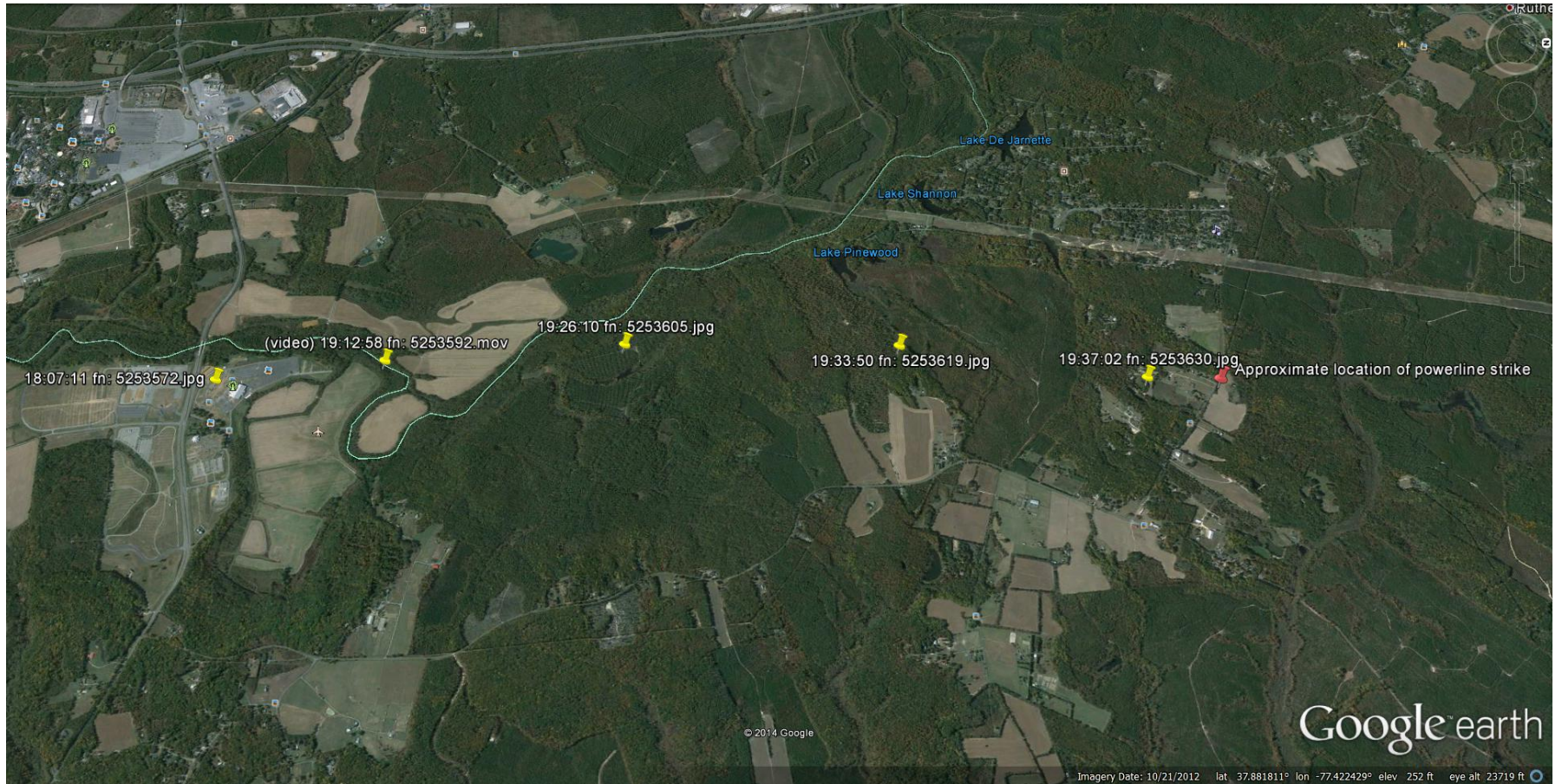




Figure 3. Points from 18:07:11 through 18:48:19 EDT.



Figure 4. Points from 18:49:48 through 19:07:01 EDT.



Figure 5. Points from 19:09:03 through 19:13:38 EDT.



Figure 6. Points from 19:13:53 through 19:14:56 EDT.



Figure 7. Points from 19:15:34 through 19:25:56 EDT.



Figure 8. Points from 19:26:07 through 19:29:06 EDT.



Figure 9. Points from 19:29:34 through 19:33:47 EDT.

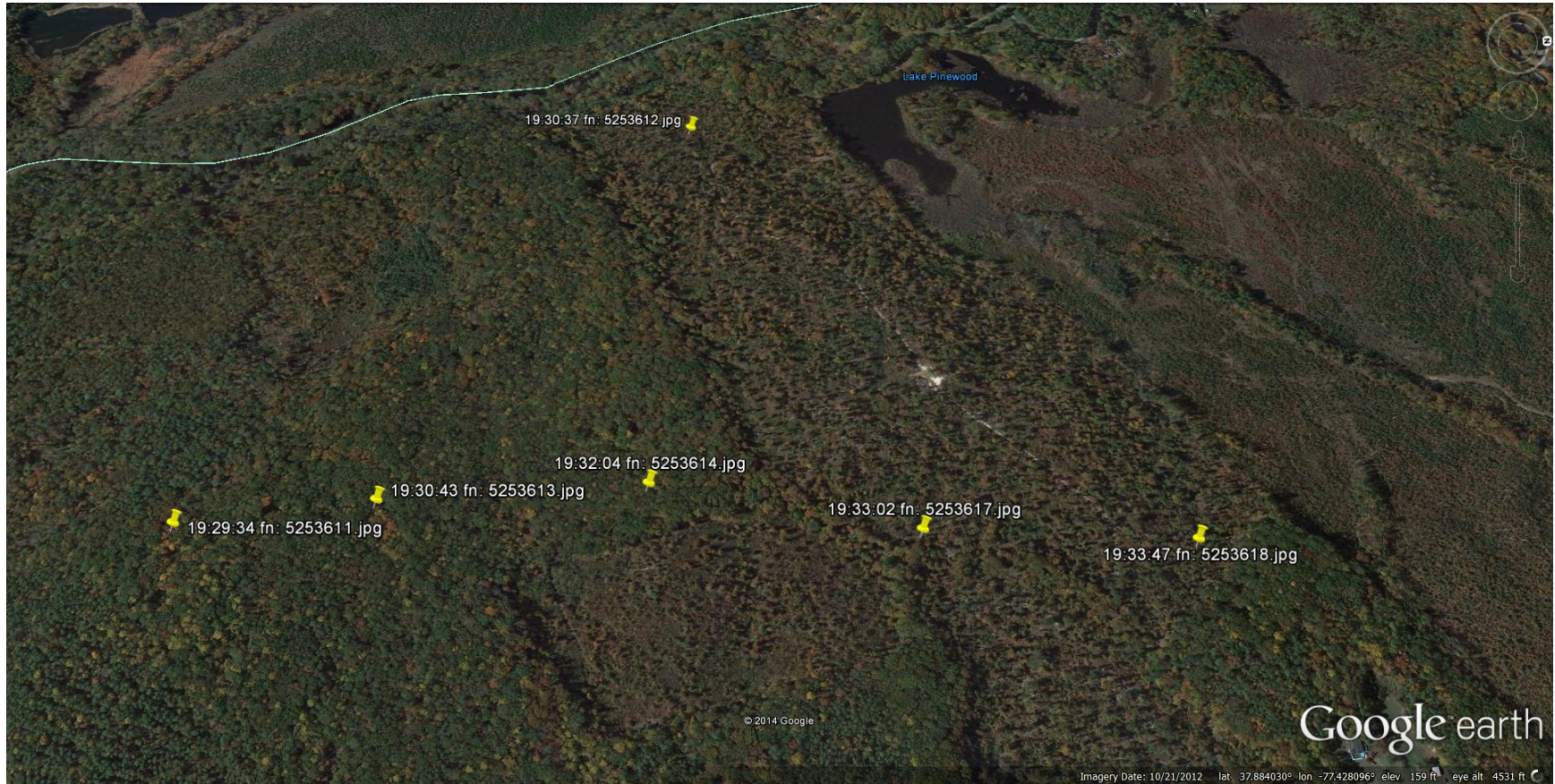


Figure 10. Points from 19:33:50 through 19:34:12 EDT.

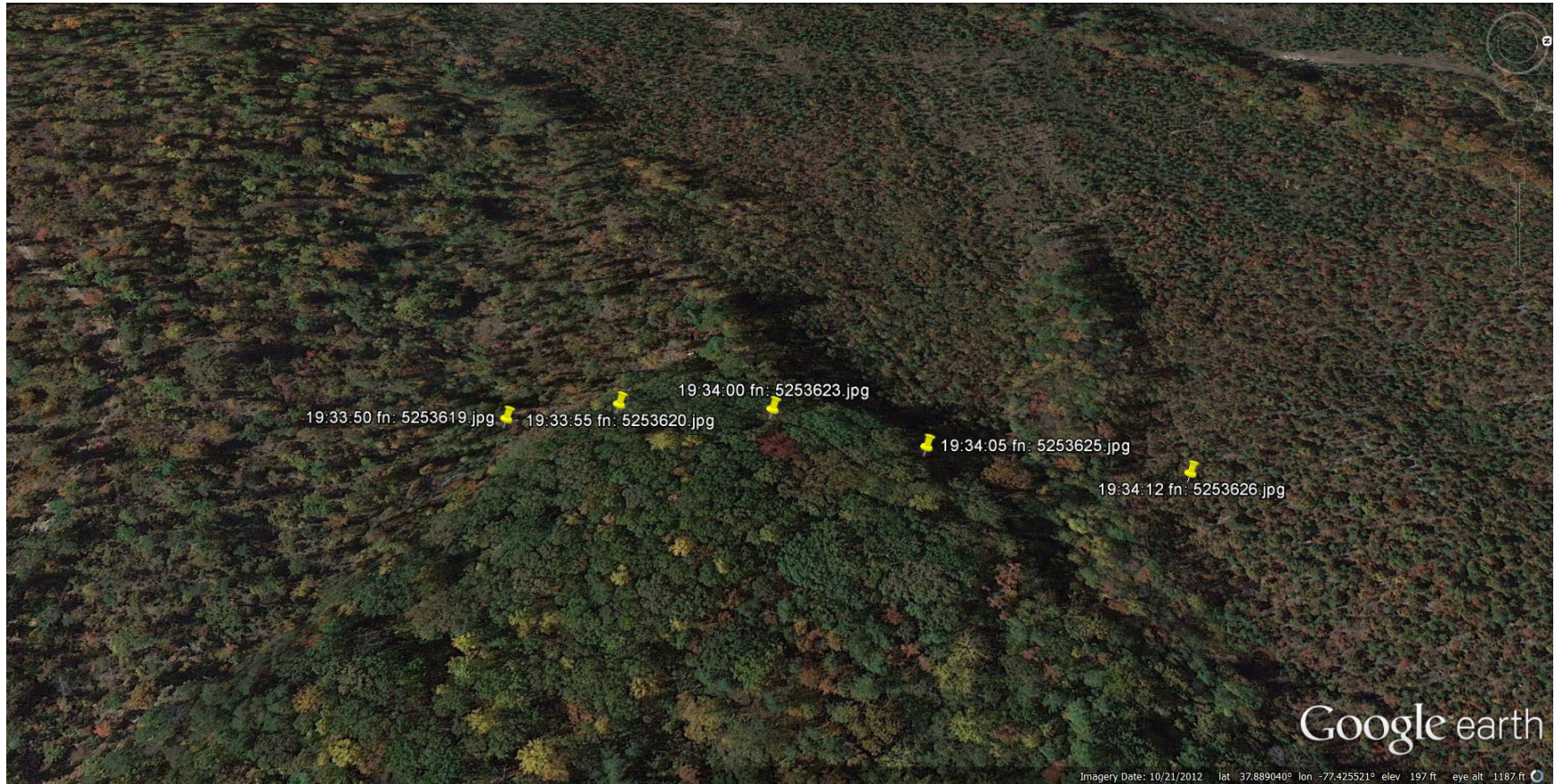




Figure 11. Points from 19:36:43 through 19:37:02 EDT (last picture).

