

**NATIONAL TRANSPORTATION SAFETY BOARD**

Office of Aviation Safety  
Washington, D.C. 20594

**UAS Aerial Imagery Field Notes**

9/6/2018

**A. ACCIDENT                      WPR -TBD**

Location:                      Jean, NV  
Date:                              September 5, 2018  
Time:                              2145 Local Time (PDT)  
Event:                              N6064C Commander 114-TC accident

**B. PERSONNEL**

UAS RPIC:                      Cathy Gagne  
National Transportation Safety Board  
Washington, D.C.

UAS VO:                         Bill English  
National Transportation Safety Board  
Washington DC

**C. ACCIDENT SUMMARY**

TBD.

**D. DETAILS OF IMAGERY**

**1.0      Equipment and Procedures**

**Equipment**

Mapping and viewpoint flights of the accident area were conducted on September 6, 2018, using the NTSB DJI Phantom 4 Professional. The drone is equipped with a dual GPS/GLONASS receiver which provides georeferenced information on all still photos. The drone is equipped with an FC6310 camera using the Sony Exmor 1” CMOS sensor, with a focal length of 8.8 mm. Still photo resolution is 20 megapixels in JPG or RAW format. Videos were taken in MP4 format with 4K resolution at 60 frames per second.

Ground control points (GCP) were taken with a Trimble GEO7X differential GPS receiver in the accident area and will be processed used the Continuously Operating Reference Station (CORS) network and incorporated in final products.

## Procedures

The accident site was in open desert terrain. The site was adjacent to the Jean Flight Sports Center Airport (0L7) in Class G airspace, the flights remained clear of the airport traffic pattern, and the VO advised the airport management of the flights. Flights were conducted under the provisions of 14 CFR Part 107. No significant hazards to flight were in the area. The team arrived about 0800 on September 6, at the time, the type and identification of the airplane was unknown. The team located the aircraft data plate, and determined it was a Commander 114-TC, serial number 20024.

The sUAS was flown in an overlapping double grid over the wreckage area to create the orthomosaic map. Additional sets of still images and videos were taken for oblique viewpoints. Total flight time was approximately 30 minutes.

## Processing

Geo-referenced still imagery was processed using Pix4D photogrammetry software to provide a low-res 3D orthomosaic map. Further processing of full resolution orthomosaic and edited videos is planned.

### **2.0 Imagery products**

Approximately 300 high resolution photos and videos were gathered. Select source photos, orthomosaic, and video snapshots are included below. The orthomosaic was exported in Google Earth tiles kmz format and provided to the IIC along with the source photos and videos.



Figure 1 – Overview of wreckage area with Jean airport in background



Figure 2 – Initial impact



Figure 3 – Main wreckage looking back along impact path



Figure 4 – Overhead of impact area and main wreckage



Figure 5 – Excerpt from Google Earth orthomosaic



Figure 6 – Excerpt from Google Earth orthomosaic from initial impact to left cabin door.



Figure 7 – Aircraft data plate (cleaned)

**Attachment 1** – Google Earth kmz

**Attachment 2** – Source photos

**Attachment 3** – Source videos