



Case Study

Comanche Creek – Vehicle Roll Over

Case Details

Date	5/17/2017
Equipment	DJI Phantom 4
PIC	Lieutenant Patrick Cillo
Image Count	261
Area Size	11.9 Acres
Pixel Resolution	Native 2.6cm/Pixel

Accident Abstract

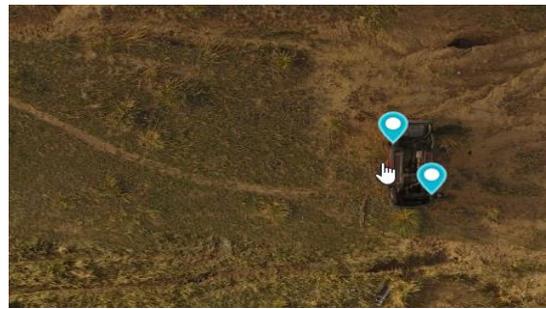
On Wednesday May 17th at approximately 3:45pm the operator of a motor vehicle heading east bound was involved in a high speed roll over collision near Kiowa, Colorado. Elbert County Sheriff's deputies and EMS staff arrived on scene to find the individual involved in the roll over suffering with significant injuries and was immediately transported to a local hospital. An accident reconstruction yielded an initial speed of the vehicle at 70-74 mph. Posted speed of 40 mph. Total out of control sideslip marks on the road surface were 424 feet in length, measured with an LTI laser and confirmed later with drone software containing dimensional properties.



Data Acquisition

A DJI Phantom 4 was deployed with a preprogrammed autonomous flight pattern to collect evidence at the scene. The flight elevation was set at 150 ft and the collection time was 18 min. The high-resolution photographs and 3D model displayed the complete skid pattern, debris field, vaulting location and final resting location of the vehicle. This information was used in the accident reconstruction models to determine the speed of the vehicle at the onset of becoming out of control.

The 3D model also provided the benefit of context displaying the effect of the slope and 45 degree right hand roadway turn the operator encountered.



Conclusion

After an incident, the goal and responsibility of law enforcement is to document in extensive detail all potentially critically valuable information on site. The CIRRUAS program provides all the Hardware, Software and Training to accomplish this goal. The time savings are a significant benefit to the field personnel at the scene. The rapid deployment and collection of geo referenced images ensure that all critical data is collected and is easily accessed by law enforcement, judicial and additional entities.