

District Court  County Court  Other \_\_\_\_\_

Arapahoe County, Colorado  
Court Address: 15400 E. 14<sup>th</sup> Place  
Division B-3  
Aurora, Colorado 80011

The People of the State of Colorado

v.

Danyale Martinez

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JAN 14 2008

DISTRICT ATTORNEY'S OFFICE

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COURT USE ONLY

Case Number:  
06T7647

Division: B-3 Courtroom: B-3

**Order**

This matter comes before the court for ruling on the defendant's *Request For Schreck Hearing Regarding Aurora Police Department's Use Of The Computer Programs "Pocket Zone" and "Crash Zone" In Their Attempted Accident Reconstruction*. The matter was heard on December 14, 2007 and on January 4, 2008. Mr. David Jones represented the District Attorney's Office and Mr. Justin Bogan and Ms. Ashley Ratliff of the Colorado State Public Defender's Office represented the defendant. In ruling upon this motion the court considers all motions filed by both sides, the testimony heard, all exhibits admitted into evidence and the arguments of counsel for both sides.

The court makes the following findings of fact and conclusions of law. The court finds that Danyale Martinez is charged with three counts of careless driving resulting in death and one count of careless driving resulting in injury stemming from a motor vehicle accident that occurred on August 5, 2006 in Arapahoe County, Colorado. Subsequent to the accident, the Aurora Police Department responded to the scene. Data measurements were collected at the accident scene using a laser device developed by Laser Technology Incorporated (LTI) called the UltraLyte. The laser measurements were fed into an attached "pocket computer" which operated with a software program called Pocket Zone.

Pocket Zone is a Computer Aided Design (CAD) program. The data collected at the scene using Pocket Zone was later transferred to another software program in a larger computer at the Aurora Police Department. This software program is called Crash Zone. Crash Zone is also a CAD program. The data collected from UltraLyte as translated or transferred into Pocket Zone and ultimately into Crash Zone was used by Officer Collom of the Aurora Police Department to produce an accident reconstruction design and theory in this case.

Eric Miller, President and Chief Operating Officer of LTI testified. He was qualified as an expert in the area of laser technology and its application to speed and distance measurements. Mr. Miller had previously been qualified as an expert in numerous states and several counties within Colorado. He was responsible for the design, development and production release of all LTI manufactured products, including the UltraLyte Laser Speed Detection System. The UltraLyte is used by law enforcement agencies throughout the United States for speed and distance measurements. Mr. Miller testified that the UltraLyte uses a semi conductor laser diode. The device sends out a coherent wave front of focused light. The wave front can be focused to a fine point. The UltraLyte is a long range instrument that can cover distances up to 3000 feet. From 1000 feet the UltraLyte wave front spreads out and covers approximately 3.5 feet. The instrument has an optical filter that allows it to focus on its own refracted energy and filters out other optical noise (inconsistent optical waves). This filter detects returning optical waves by wave length and pulse rate. The wave length and pulse rate sent out by UltraLyte creates a unique signature recognized upon return by the instrument. A prism pole used in conjunction with the UltraLyte provides a definite and highly reflective target to reflect the unique signature of laser light emitted by the device. Should inconsistent optical noise return to the device an error message would display on the UltraLyte monitor.

Distances are measured based on the time of flight of the wave front from point to return using an internal clock contained within the device. This is then calculated by the instrument against the speed of light. This principle for distance measurement is generally accepted in the scientific community. According to Mr. Miller the State of Colorado conducts timing reference checks once per year. Further, the device has been reviewed for accuracy by numerous agencies throughout the world including the Department of Weights and Measures. The device itself has never been determined unreliable. Error, if any, would only occur through user misuse.

The device is calibrated during the manufacturing process and is accurate within 5-15 centimeters if used properly. The UltraLyte contains a self-test procedure consisting of numerous checks when put to use. These check read out on an LED display. If not used properly the monitor will reflect an error message.

Carl Ransdelle testified. Mr. Ransdelle is co-founder of Ransdelle and Brown, a Seattle, Washington based software development company. Mr. Ransdelle has a Bachelors degree in Computer and Information Science with a minor in mathematics. Mr. Ransdelle has been involved with the implementation and design of CAD programs since 1985. He has worked for numerous software developers including Triad, Walker and Associates, and Generic Software. He developed a CAD program called Visual CAD which was sold to Correl Design and marketed nationally. Mr. Ransdelle was qualified as an expert in CAD development and their real world applications. According to Mr. Ransdelle, CAD is a program that allows precision drawings. The lines in a CAD drawing refer back to

a data base that stores the exact measurements that the lines are based upon. CAD programs are used by numerous groups for multiple purposes including architects, engineers, contractors, apparel design experts, and law enforcement for accident reconstruction.

Mr. Ransdelle helped develop and produce the Pocket Zone and Crash Zone software programs at issue in this case. He was initially hired to modify Visual CAD to Crash Zone and imported the code to Pocket Zone. Pocket Zone is a smaller version of Crash Zone on a hand held device. According to Mr. Ransdelle, a laser device such as UltraLyte measures distances and sends that information to a serial port on the hand held device. Pocket Zone then reads from the serial port measurements. Pocket Zone has an interpreter program known as a "driver" for LTI lasers. This allows Pocket Zone to gather angle and distance information from the laser device. According to Mr. Ransdelle, Pocket Zone accurately translates this information to within 16 decimal points of accuracy. This translates to well within 1/000 inch accuracy. His company has conducted numerous field tests of Pocket Zone corroborating distances with a tape measurer. This occurs every time a new driver is developed for a laser device. The software was tested as recently as three months ago upon development of a new driver. These tests have consistently confirmed the accuracy of the software. According to Mr. Ransdelle, there are no issues regarding the accuracy of the general software and he is not aware of any problems with the driver developed for the UltraLyte laser instrument. He further testified if there were any problem with the driver he would be aware of it. Further, the technology underlying Pocket Zone and Crash Zone is generally accepted within the software development scientific community.

Pocket Zone works by taking the laser information and creating an x y z coordinate. It then plots this information on a visual screen. Pocket Zone has very little editing ability. Pocket Zone data is then transferred to Crash Zone by a simple port to port procedure. Crash Zone is a more sophisticated version of Pocket Zone which allows greater editing functions including drawings that can be seen and manipulated. The two software programs are completely compatible. According to Mr. Ransdelle, if used correctly, the drawings produced by Crash Zone would be accurate representations of data collected at the scene of an accident.

Officer William Collom of the Aurora Police Department testified. He was qualified as an expert in accident reconstruction. He testified that he was called to the scene of the accident in this case in the early morning hours of August 5, 2006. He has been qualified as an expert in accident reconstruction 41 times. He testified that the scientific principles, as relied upon in this case, underlying accident reconstruction, are reliable and are generally accepted in the accident reconstruction community. Officer Collom has been trained to use and is certified in the use of the LTI laser mapping system including UltraLyte, Pocket Zone and Crash Zone. As in this case, Officer Collom uses a prism pole in conjunction with the UltraLyte device. He testified he generally conducts all required tests both prior to and after using the device. According to Officer Collom, based on his training and experience, the laser device and Pocket Zone program were functioning properly at the time of use in this case and that he followed proper operating procedures. He did testify that according to LTI training a person using the instrument should go through all self test procedures both before and after using the instrument. He testified that he used the device in an accident case the evening of August 4, 2006, and conducted the self test procedures before and after that event. Officer Collom testified that in this case he did not conduct the self test procedures before the measurements were taken because he had just

conducted the procedures hours before but that he did conduct all self testing procedures after taking the measurements in this case. The court does not consider this legally or factually significant in the context of this Shreck analysis. Again, the court would note Officer Collom testified based upon his training and experience, the device appeared to be operating properly and that he considered it reliable on the morning of the accident in this case.

Based upon the data collected at the scene of the accident, Officer Collom created, by the use of Crash Zone coordinates, accident reconstruction maps in this case. He testified that the raw data contained in the Pocket Zone software was not saved in its original format as a data table but that this same data was preserved and is readily available through simple calculations in the Crash Zone program. He further testified that it was possible to preserve this data as a raw data table but that he did not do so in this case. He testified, that to the best of his knowledge, he did not change or alter the raw data from Pocket Zone and that the information reflected in the Crash Zone diagrams or maps accurately reflect the raw Pocket Zone data. He also testified that only he has had access to the raw data underlying the accident reconstruction maps in this case and that his accident reconstruction conclusions were reviewed by his supervisor.

The Colorado Supreme Court changed the standard for determining the admissibility of scientific evidence in the case of People v. Shreck, 22 P. 3d 68 (Colo. 2001). The Court held that Federal Rule of Evidence 702, rather than the Frye test (Frye v. United States, 293 F. 2d 1013), represents the appropriate standard of admissibility. The Court found Frye too rigid in the determination of “scientific community” and too vague in its “general acceptance” language. It therefore concluded “that *Frye*’s general acceptance test, particularly when viewed rigidly, is unsuitable as the sole dispositive standard for determining the admissibility of scientific evidence in Colorado.”

In determining the standard for admissibility of scientific evidence, including expert testimony, the Court focused on reliability and relevancy tests. For both tests of admissibility, the Court pointed to (but did not limit to) Daubert (Daubert v. Merrell Dow Pharms., Inc., 509 U.S. 579, 1993), as an appropriate source of applicable factors to be considered in determining reliability and relevancy. The Court determined “that a trial court may, but need not consider the factors in Daubert consistent with the United States Supreme Court’s reasoning in Kuhmo Tire Co. v. Cramichael. Shreck, 22 P. 3d at 78.

Under this new standard, the Court held that “the focus of the court’s inquiry should be on whether the scientific evidence is reasonably reliable and whether it will assist the trier of fact, and that such an inquiry requires a determination as to (1) the reliability of the scientific principle, (2) the qualifications of the witness, and (3) the usefulness of the testimony to the jury. Shreck, 22 P. 3d at 82.

In addition to outlining the responsibilities in applying Rule 702’s reliability and relevancy tests in conjunction with Daubert factors, the Court added that when making a Rule 702 determination, a trial court must apply its discretionary authority under Evidence Rule 403 to determine whether the probative value of the evidence is substantially outweighed by its prejudicial effect. Shreck, 22 P. 3d at 78. Under Rule 702, the Court held “a trial court must issue specific findings as it applies the CRE 702 and 403 analyses. Shreck, 22 P. 3d at 79.

Applying the above stated legal standards to the admissibility of the evidence collected in this case using the UltraLyte laser instrument as well as the Pocket Zone and Crash Zone software CAD programs, the court incorporates all findings of fact as set forth in detail above. The court also finds all witnesses who testified in this case credible. Therefore, based upon those findings of fact, the court finds that the UltraLyte laser instrument and the Pocket Zone and Crash Zone software programs are all based upon and utilize scientifically reliable principles and are generally accepted in the relevant scientific community. The court further finds that Officer Collom is qualified as an accident reconstruction witness using the above stated instrument and programs. The court finds that the principles underlying accident reconstruction, as applied in this case, are scientifically reliable and are generally accepted in the accident reconstruction community. Finally, the court finds based upon the above stated detailed findings of fact, that the testimony is useful to the jury, as this testimony would provide the jury with a reconstruction of the accident circumstances using scientifically reliable principles that would otherwise not be available.

Applying the Rule 403 analysis to the findings of fact set forth above, the court finds that the probative value of the evidence is not substantially outweighed by the danger of unfair prejudice. As stated, the scientific principles are reliable, the witness is qualified, and the evidence is useful to the jury. The court also finds although the raw data from Pocket Zone was not preserved in a data table format that this same data is inherently available to the defendant in the x y coordinates of the Crash Zone diagrams. Based upon the totality of circumstances, the court finds this raw data has not been altered.

The court has also been called upon to apply a Crawford (Crawford v. Washington, 541 U.S. 354, (2004) analysis to the missing raw data. The defense argues that the raw data is testimonial and is the equivalent of laboratory reports found to be testimonial in Hinojos-Mendoza v. People, 169 P. 3d 662 (Colo. 2007).

The court agrees that this evidence is testimonial in nature as defined by Crawford. However, the court finds that this evidence, unlike the evidence in the Hinojos case, will be presented to the jury through the testimony of a qualified witness, Officer Collom. Therefore, the confrontation issue presented in Crawford and Hinojos is not present in this case.

As previously stated, the court finds, although the raw data in a data table format was not preserved, this same data exists inherent in the Crash Zone diagrams and is available through simple calculation. The court has also found the raw data was not altered.

Finally, the defense continues to raise a number of discovery issues. The defense admits it has received all of the data discs upon which the accident reconstruction theory is based. However, the discs were only received in late compliance with the court's original discovery orders. While the court would agree with this contention, the court finds that the defense has now had all of the discs for at least several months and therefore no prejudice to the defense has ensued. The court would note the case is set for trial on February 25, 2008. Under these circumstances, to deny the prosecution the use of this evidence would not be reasonable or legally appropriate. The defense as an alternative sanction to prohibiting the prosecution from using the evidence requests the court to order the prosecution to conduct the simple calculations for the defense from the Crash Zone diagrams or to pay for the defense

expert's efforts in this endeavor. The court finds this also legally unreasonable. The evidence the court has heard clearly indicates the simplicity of said calculations. There has been no showing by the defense of an inability of their expert to conduct said calculations or an inability of the Colorado State Public Defender's Office to pay for this effort. Therefore, the court denies the motion for sanctions in this case.

So Ordered this 14 day of JANUARY 2008.

  
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Judge Alex Bencze

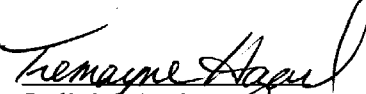
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Certificate of Mailing

I certify that on 11/4/08 (date), I served a copy of the order by mail, postage prepaid to the parties listed below:

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