Case No. _____

In the Supreme Court of Nevada

FELICE J. FIORE and SPEEDVEGAS, LLC,

Petitioners,

vs.

THE EIGHTH JUDICIAL DISTRICT COURT of the State of Nevada, in and for the County of Clark; and THE HONORABLE NANCY L. ALLF, District Judge,

Respondents,

and

ESTATE OF GIL BEN-KELY by ANTONELLA BEN-KELY, the duly appointed representative of the Estate and as the widow and heir of Decedent GIL BEN-KELY; SHON BEN-KELY, son and heir of decedent GIL BEN-KELY; NATHALIE BEN-KELY-SCOTT, daughter and heir of the decedent GIL BEN-KELY, GWENDOLYN WARD, as Personal Representative of the ESTATE OF CRAIG SHERWOOD, deceased; GWENDOLYN WARD, Individually, and as surviving spouse of CRAIG SHERWOOD, deceased; GWENDOLYN WARD, as Mother and Natural Guardian of ZANE SHERWOOD, surviving minor child of CRAIG SHERWOOD, decease,

Real Parties in Interest.

PETITIONERS' APPENDIX
VOLUME 5
PAGES 1001-1250

DANIEL F. POLSENBERG (SBN 2376)
ABRAHAM G. SMITH (SBN 13,250)
LEWIS ROCA ROTHGERBER CHRISTIE LLP
3993 Howard Hughes Pkwy., Suite 600
Las Vegas, Nevada 89169

BRENT D. ANDERSON (SBN 7977)
JAMES D. MURDOCK, II (*pro hac vice*)
TAYLOR ANDERSON, LLP
1670 Broadway, Suite 900
Denver, Colorado 80202

Attorneys for Petitioners

CHRONOLOGICAL TABLE OF CONTENTS TO APPENDIX

Tab	Document	Date	Vol.	Pages
	Case No. A-17-757614-C			
1	Complaint	06/2817	1	1–37
2	Amended Complaint	07/26/17	1	38–75
3	Second Amended Complaint	02/20/18	1	76–130
4	Third Amended Complaint	01/15/19	1	131–184
5	Defendant SpeedVegas, LLC's Answer and Affirmative Defenses to Plaintiffs' Third Amended Complaint	03/22/19	1	185–239
6	Ben Kely Plaintiffs' Fourth Amended Complaint	07/13/20	1 2	240–250 251–269
7	Ben Kely Plaintiffs' Fifth Amended Complaint	11/05/20	2	270–302
8	Motion for Summary Judgment, or, in the Alternative Partial Summary Judgment, as to Defendant Felice J. Fiore, Jr., Against Plaintiffs Estate of Gil Ben-Kely, and Nathalie Ben-Kely Scott; Affidavit of Felice J. Fiore, Jr.; Declaration of Regina Zernay	05/14/21	2 3	303–500 501–530
9	Motion for Summary Judgment, or, in the Alternative Partial Summary Judgment, as to Defendant Felice J. Fiore, Jr., Against Plaintiffs Estate of Craig Sherwood, Gwendolyn Ward, and Zane Sherwood; Affidavit of Felice J. Fiore, Jr.; Declaration of Regina Zernay	05/14/21	3	531–747
10	Motion for Summary Judgment, or, in the Alternative Partial Summary Judgment, as to Defendant SpeedVegas, LLC; Against Plaintiffs Estate of Craig Sherwood, Gwendolyn Ward, and Zane Sherwood;	05/14/21	3 4	748–750 751–909

	Declaration of Regina Zernay			
11	Plaintiffs Opposition to Defendant Felice Fiore's Motion for Summary Judgment	05/28/21	4	910–922
12	Plaintiffs' Opposition to Defendant SpeedVegas's Motion for Summary Judgment	05/28/21	4 5	923–1000 1001–1240
13	The Ben-Kely Plaintiffs' Opposition to the Motion for Summary Judgment, or, in the Alternative Partial Summary Judgment, as to Defendant Felice J. Fiore, Jr., Against Plaintiffs Estate of Gil Ben-Kely, Antonella Ben-Kely, Shon Ben-Kely, and Nathalie Ben-Kely Scott	06/03/21	5 6	1241–1250 1251–1389
14	Reply in Support of Motion for Summary Judgment as to Defendant Felice J. Fiore, Jr., Against Plaintiffs Estate of Gil Ben-Kely, and Nathalie Ben-Kely Scott	06/28/21	6	1390–1401
15	Reply in Support of Motion for Summary Judgment, or, in the Alternative Partial Summary Judgment, as to Defendant Felice J. Fiore, Jr., Against Plaintiffs Estate of Craig Sherwood, Gwendolyn Ward, and Zane Sherwood	06/28/21	6	1402–1413
16	Reply in Support of Motion for Summary Judgment, or, in the Alternative Partial Summary Judgment, as to Defendant SpeedVegas, LLC; Against Plaintiffs Estate of Craig Sherwood, Gwendolyn Ward, and Zane Sherwood	06/28/21	6	1414–1437
17	The Ben-Kely Plaintiffs' Supplemental Opposition to the Motion for Summary Judgment, or, in the Alternative Partial Summary Judgment, as to Defendant Felice J. Fiore, Jr., Against Plaintiffs Estate of Gil Ben-Kely, Antonella Ben-Kely, Shon Ben-Kely, and Nathalie Ben-Kely Scott	07/01/21	6	1438–1442

18	Objection and Motion to Strike Ben-Kely Plaintiffs' Supplemental Opposition to the Motion for Summary Judgment, or, in the Alternative Partial Summary Judgment, as to Defendant Felice J. Fiore, Jr., Against Plaintiffs Estate of Gil Ben-Kely, Antonella Ben-Kely, Shon Ben-Kely, and Nathalie Ben-Kely Scott	07/06/21	6	1443–1446
19	Recorder's Transcript of Proceedings Re: Motions	07/06/21	6 7	1447–1500 1501–1527
20	Notice of Entry of Order (Order Denying Motion for Summary Judgment or, in the Alternative, Partial Summary Judgment as to Defendant Felice J. Fiore, Against Plaintiffs Estate of Craig Sherwood, Gwendolyn Ward, and Zane Sherwood	07/21/21	7	1528–1542
21	Notice of Entry of Order (Order Denying Motion for Summary Judgment or, in the Alternative, Partial Summary Judgment as to Defendant SpeedVegas LLC, Against Plaintiffs Estate of Craig Sherwood, Gwendolyn Ward, and Zane Sherwood	07/21/21	7	1543–1557
22	Notice of Entry of Order (Order Denying Motion for Summary Judgment or, in the Alternative, Partial Summary Judgment as to Defendant Felice J. Fiore, Against Plaintiffs Estate of Gil Ben-Kely by Antonella Ben-Kely, the duly appointed representative of the Estate and as the widow and heir of decedent gil Ben-Kely; Shon Benkely, son and heir of decedent Gil Benkely; Nathalie Ben-Kely-Scott, daughter and heir of the decedent Gil Ben-Kely)	10/01/21	7	1558–1570
	Case No. A-18-779648-C			
23	Complaint	08/17/18	7	1571–1590

24	Defendant SpeedVegas, LLC d/b/a SpeedVegas' Answer and Affirmative Defenses to Plaintiffs' Complaint and Jury Demand; Counterclaim by Counterclaimant SpeedVegas, LLC Against Robert Barnard and Motorsport Services International, LLC and ROE Entities I-XX	12/20/18	7	1591–1627
25	Defendant Felice J. Fiore, Jr.'s Answer and Affirmative Defenses to Plaintiffs' Complaint	02/21/19	7	1628–1656

ALPHABETICAL TABLE OF CONTENTS TO APPENDIX

Tab	Document	Date	Vol.	Pages
2	Amended Complaint	07/26/17	1	38–75
7	Ben Kely Plaintiffs' Fifth Amended Complaint	11/05/20	2	270–302
6	Ben Kely Plaintiffs' Fourth Amended Complaint	07/13/20	1 2	240–250 251–269
1	Complaint	06/2817	1	1–37
23	Complaint	08/17/18	7	1571–1590
25	Defendant Felice J. Fiore, Jr.'s Answer and Affirmative Defenses to Plaintiffs' Complaint	02/21/19	7	1628–1656
24	Defendant SpeedVegas, LLC d/b/a SpeedVegas' Answer and Affirmative Defenses to Plaintiffs' Complaint and Jury Demand; Counterclaim by Counterclaimant SpeedVegas, LLC Against Robert Barnard and Motorsport Services International, LLC and ROE Entities I-XX	12/20/18	7	1591–1627
5	Defendant SpeedVegas, LLC's Answer and Affirmative Defenses to Plaintiffs' Third Amended Complaint	03/22/19	1	185–239

8	Motion for Summary Judgment, or, in the Alternative Partial Summary Judgment, as to Defendant Felice J. Fiore, Jr., Against Plaintiffs Estate of Gil Ben-Kely, and Nathalie Ben-Kely Scott; Affidavit of Felice J. Fiore, Jr.; Declaration of Regina Zernay	05/14/21	2 3	303–500 501–530
9	Motion for Summary Judgment, or, in the Alternative Partial Summary Judgment, as to Defendant Felice J. Fiore, Jr., Against Plaintiffs Estate of Craig Sherwood, Gwendolyn Ward, and Zane Sherwood; Affidavit of Felice J. Fiore, Jr.; Declaration of Regina Zernay	05/14/21	3	531–747
10	Motion for Summary Judgment, or, in the Alternative Partial Summary Judgment, as to Defendant SpeedVegas, LLC; Against Plaintiffs Estate of Craig Sherwood, Gwendolyn Ward, and Zane Sherwood; Declaration of Regina Zernay	05/14/21	3 4	748–750 751–909
22	Notice of Entry of Order (Order Denying Motion for Summary Judgment or, in the Alternative, Partial Summary Judgment as to Defendant Felice J. Fiore, Against Plaintiffs Estate of Gil Ben-Kely by Antonella Ben-Kely, the duly appointed representative of the Estate and as the widow and heir of decedent gil Ben-Kely; Shon Benkely, son and heir of decedent Gil Benkely; Nathalie Ben-Kely-Scott, daughter and heir of the decedent Gil Ben-Kely)	10/01/21	7	1558–1570
20	Notice of Entry of Order (Order Denying Motion for Summary Judgment or, in the Alternative, Partial Summary Judgment as to Defendant Felice J. Fiore, Against Plaintiffs Estate of Craig Sherwood, Gwendolyn Ward, and Zane Sherwood	07/21/21	7	1528–1542

21	Notice of Entry of Order (Order Denying Motion for Summary Judgment or, in the Alternative, Partial Summary Judgment as to Defendant SpeedVegas LLC, Against Plaintiffs Estate of Craig Sherwood, Gwendolyn Ward, and Zane Sherwood	07/21/21	7	1543–1557
18	Objection and Motion to Strike Ben-Kely Plaintiffs' Supplemental Opposition to the Motion for Summary Judgment, or, in the Alternative Partial Summary Judgment, as to Defendant Felice J. Fiore, Jr., Against Plaintiffs Estate of Gil Ben-Kely, Antonella Ben-Kely, Shon Ben-Kely, and Nathalie Ben-Kely Scott	07/06/21	6	1443–1446
11	Plaintiffs Opposition to Defendant Felice Fiore's Motion for Summary Judgment	05/28/21	4	910–922
12	Plaintiffs' Opposition to Defendant SpeedVegas's Motion for Summary Judgment	05/28/21	4 5	923–1000 1001–1240
19	Recorder's Transcript of Proceedings Re: Motions	07/06/21	6 7	1447–1500 1501–1527
14	Reply in Support of Motion for Summary Judgment as to Defendant Felice J. Fiore, Jr., Against Plaintiffs Estate of Gil Ben-Kely, and Nathalie Ben-Kely Scott	06/28/21	6	1390–1401
15	Reply in Support of Motion for Summary Judgment, or, in the Alternative Partial Summary Judgment, as to Defendant Felice J. Fiore, Jr., Against Plaintiffs Estate of Craig Sherwood, Gwendolyn Ward, and Zane Sherwood	06/28/21	6	1402–1413
16	Reply in Support of Motion for Summary Judgment, or, in the Alternative Partial Summary Judgment, as to Defendant SpeedVegas, LLC; Against Plaintiffs Estate of Craig Sherwood, Gwendolyn Ward, and Zane	06/28/21	6	1414–1437

	Sherwood			
3	Second Amended Complaint	02/20/18	1	76–130
13	The Ben-Kely Plaintiffs' Opposition to the Motion for Summary Judgment, or, in the Alternative Partial Summary Judgment, as to Defendant Felice J. Fiore, Jr., Against Plaintiffs Estate of Gil Ben-Kely, Antonella Ben-Kely, Shon Ben-Kely, and Nathalie Ben-Kely Scott	06/03/21	5 6	1241–1250 1251–1389
17	The Ben-Kely Plaintiffs' Supplemental Opposition to the Motion for Summary Judgment, or, in the Alternative Partial Summary Judgment, as to Defendant Felice J. Fiore, Jr., Against Plaintiffs Estate of Gil Ben-Kely, Antonella Ben-Kely, Shon Ben-Kely, and Nathalie Ben-Kely Scott	07/01/21	6	1438–1442
4	Third Amended Complaint	01/15/19	1	131–184

CERTIFICATE OF SERVICE

I certify that on October 7, 2021, I submitted the foregoing "Petitioners' Appendix" for filing *via* the Court's eFlex electronic filing system. Electronic notification will be sent to the following:

William R. Brenske
Jennifer R. Andreevski
Ryan D. Krametbauer
BRENSKE ANDREEVSKI & KRAMETBBAUER
3800 Howard Hughes Parkway
Suite 500
Las Vegas, Nevada 89169

Attorneys for Real Parties in Interest Estate of Gil Ben-Kely by Antonella Ben-Kely, the duly appointed representative of the Estate and as the widow and heir of Decedent Gil Ben-Kely; Shon Ben-Kely, son and heir of decedent Gil Ben-Kely; Nathalie Ben-Kely-Scott, daughter and heir of the decedent Gil Ben-Kely

Corey M. Eschweiler
ER INJURY ATTORNEYS
4795 South Durango
Las Vegas, Nevada 89147

Rahul Ravipudi
Paul A. Traina
Ian P. Samson
PANISH SHEA & BOYLE, LLP
8816 Spanish Ridge Avenue
Las Vegas, Nevada 89148

Attorneys for Real Parties in Interest Gwendolyn Ward, as Personal Representative of the Estate of Craig Sherwood, deceased; Gwendolyn Ward, individually, and as surviving spouse of Craig Sherwood, deceased; Gwendolyn Ward, as Mother and Natural Guardian of Zane Sherwood, surviving minor child of Craig Sherwood, deceased

I further certify that I served a copy of this document by mailing a true and correct copy thereof, postage prepaid, at Las Vegas, Nevada, addressed as follows:

The Honorable Nancy L. Allf
DISTRICT COURT JUDGE – DEPT. 27
200 Lewis Avenue
Las Vegas, Nevada 89155

Respondent

/s/ Jessie M. Helm
An Employee of Lewis Roca Rothgerber Christie LLP

Brandon Dudley

2/24/2017 SPEEDVEGAS Mail - Brandon statement

Liza Jascolt <liza@speedvegas.com>

Brandon statement
1 message

Brandon Dudley <brandondudley87@gmail.com> Fri, Feb 24, 2017 at 4:13 PM
To: liza@speedvegas.com

Brandon Dudley
9337 Wild Lariat Ave.
Las Vegas, NV 89178

I was standing at the podium in pit lane when I recieved a call on my radio 2 guys had arrived at SpeedVegas to drive the Mercedez AMG & Lamborghini Aventador. I walked into the helmet room. Standing before me were two men in their mid 30s. (White and African-American) I had a brief discussion with Matt Denning. I was informed that the gentalman had been through the class/driver briefing the prior afternoon and it began to rain so they had returned. As a result I assigned them both a helmet. During process they were both very difficult and destracted because of their excitement. They both were taking pictures and steaming live video via FB live or Instagram, almost ignoring me. At the time Big Bird (Franco) was standing close so I asked him to to begin their experiences in the Mercedez. We collectively walked outside and the careless behavior ensured. It was decided by the customers that the White male would go on track first. As we approached the vehicle the African-American male continuously held up the phone filming his friends vehicle entry. The white guy gets in the into the car and starts the engine. Immediately reving it up. I asked him to stop and he did it again, in what appeared a spiteful manner. I then shut the door knowing Big Bird was in the passenger seat. The African American guy walks off. Moments later the white guy drives out of the pits flooring the gas peddle. I begin to walk back to the podium, and I see the African American guy against the wall parrall to the race track. I then tell him that he can not be that close to wall and the best place to see everything on track is on the 2nd floor balcony. I return to the helmet room and see Gil putting his helmet on to get the Lamborghini ready for the 2. A few moments later Gil gets in the Lamborghini Aventador and goes on track to warm up the tires. The Mecedez AMG returns to the pits and the African-American guy comes running down the stairs toward the photo area, phone still in hand for pictures. The white guy exits the car and both customers are consumed in excitement and very negligent. It was hard to get them to stand still long enough to take a picture. Next up was the African-American guy in the Mercedez. So I asked Big Bird to move the car forward enough he was out of the picture area. The African-American guy goes with Big Bird, gets in the vehicle and begins his experience. I escort the white guy to the stairs. Few minutes later Gil returns to the pits in the Lamborghini fallowed by the Mercedez driven by the African-American. The car pulls into the photo area and the two immediately continue the picture/video frenzy. I take a few pictures and send them to the Lamborghini with Gil. They continue to video live stream. I needed to return to the podium because their were alot of people in the pit. However I watched them carefully from my position becuase of the nature of their attitudes and body language they appeared incautious and irresponsible. The lack of attention to detail doing something this dangerous shocked me. The white guy entered the Lamborghini with Gil and it proceeded to enter the track. The African-American went back upstairs. When the white guy returned and I took a few pictures and they asked if they could get 1 together. Without hesitation I said no problem. Then Gil moved the car around to under the awning. The African American American guy then got into the seat. His driver becon wasnt responding to the system so Gil called me over to have it changed. I swapped his becon and shut the door. The gentalman drove straight out onto the track ans I never had a clear vantage point on. I was standing at the podium when the call went out on the radio the vehicle had impacted the wall. I immediately turned around and saw the smoke from the fire. I was then instructed by management to open the fire gate and assist EMS by directing them to the scence of the accident.

2-24-2017

SpeedVegas 00309

https://mail.google.com/mail/u/0/?ui=2&ik=cec2f41602&view=pt&search=inbox&th=15a729d5a4284349&siml=15a729d5a4284349 1/1

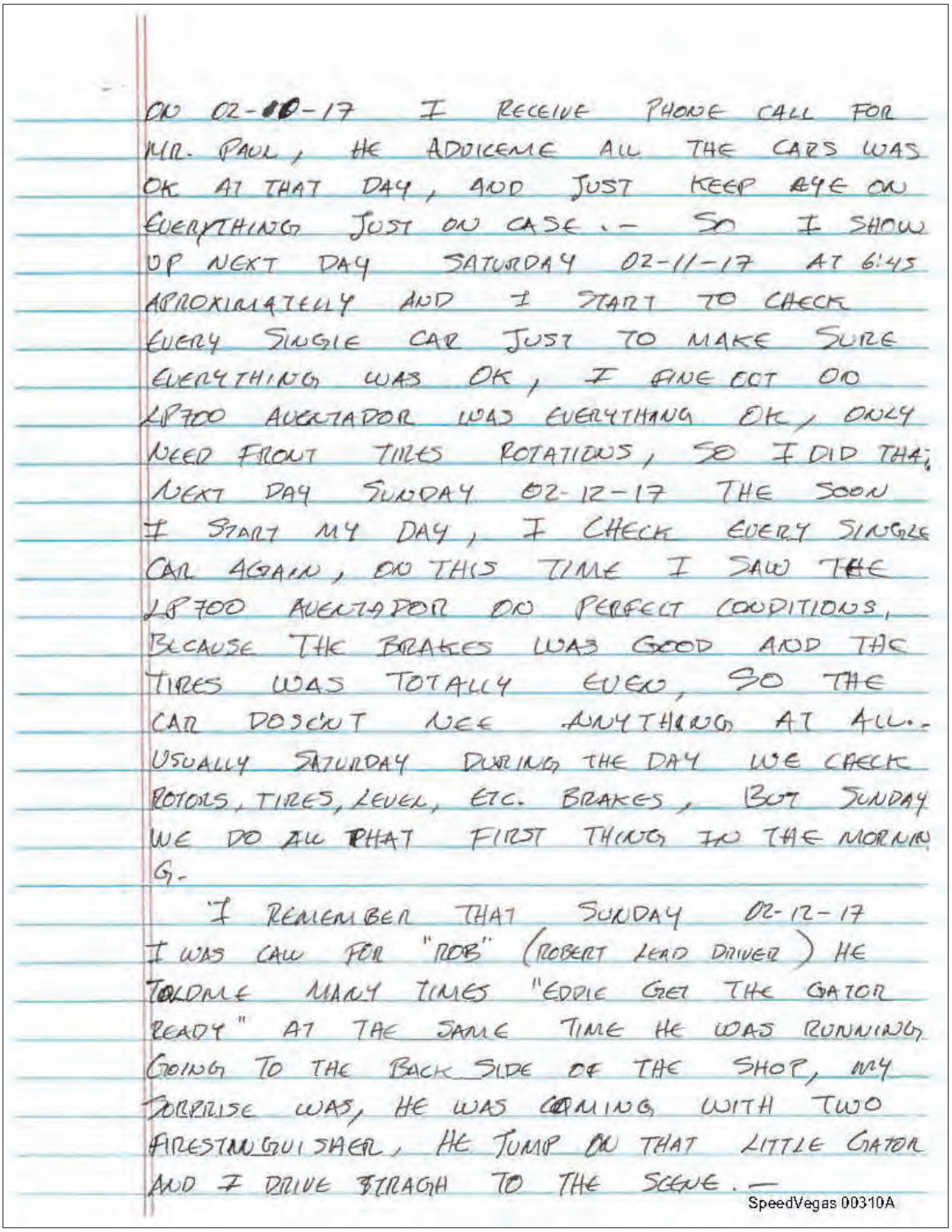
001001

001001

001001

Eduardo Lima

SpeedVegas 00310A & B



ON 02-10-17 I RECEIVE PHONE CALL FOR MR. PAUL, HE ADVICEME ALL THE CARS WAS OK AT THAT DAY, AND JUST KEEP AYE ON EVERYTHING JUST ON CASE.- SO I SHOW UP NEXT DAY SATURDAY 02-11-17 AT 6:45 APROXIMATELLY AND I START TO CHECK EVERY SINGLE CAR JUST TO MAKE SURE EVERYTHING WAS OK, I FINE OUT ON LP700 AVENTADOR WAS EVERYTHANG OK, ONLY NEED FRONT TIRES ROTATIONS, SO I DID THAT NEXT DAY SUNDAY 02-12-17 THE SOON I START MY DAY, I CHECK EVERY SINGLE CAR AGAIN, ON THIS TIME I SAW THE LP700 AVENTADOR ON PERFECT CONDITIONS, BECAUSE THE BRAKES WAS GOOD AND THE TIRES WAS TOTALLY EVEN, SO THE CAR DOSENT NEE ANYTHING AT ALL.- USUALLY SATURDAY DURING THE DAY WE CHECK ROTORS, TIRES, LEVEL, ETC. BRAKES, BUT SUNDAY WE DO ALL THAT FIRST THING IN THE MORNING.

I REMEMBER THAT SUNDAY 02-12-17 I WAS CALL FOR "ROB" (ROBERT LEAD DRIVER) HE TOLDME MANY TIMES "EDDIE GET THE GATOR READY" AT THE SAME TIME HE WAS RUNNING GOING TO THE BACK SIDE OF THE SHOP, MY SORPRISE WAS, HE WAS COMING WITH TWO FIRESTINGUISHER, HE JUMP ON THAT LITTLE GATOR AND I DRIVE STRAGH TO THE SCENE.—

SpeedVegas 00310A

001002

USUALLY MY WORKS DAY IS ON WEKENDS, SATURDAY DAY I START ABOUT 6:45 AM AND SUNDAY DAY AROUND 7:45 AM.

I REMEMBER SATURDAY 02-04-17 I CAME EARLY IN THE MORNING WHEN ABOUT 1/2 hour LATER MR. PAUL SHOW UP TO OUR SHOP AND LET ME KNOW WE HAVE TO DO SOME CHANGES ON THE LP700 (AVENTADOR) LIKE WE USUALLY DO ON EVERY CAR, WE REPLACE THE FACTORY BRAKES FOR RACING BRAKE, WE BOTH TOGETHER REMOVE FRONT & REAR BRAKE MOTORS AND FRONT & REAR BRAKE PADS, TO TRY GET THIS CAR READY FOR THE RACE TRACK. -

EDUARDO J. LIMA
(725) 500-8807
02-23-2017

SpeedVegas 00310B

001003

001003

///

///

SpeedVegas 00310C

I SAW A CAR COMPLETELY ON FIRE AND MY SORPRISE WAS WHEN I SAW THE BACK PART WAS THE 2P 700-AVENTADOR. WE TRY TO SHUT OFF THE FIRE BUT WAS IMPOSSIBLE. — WHEN THOSE FLAMES START TO COMING DOWN I START TO NOTICE WAS PEOPLE INSIDE OF THE SOME, SO I ASK TO THE FIRE FIRES WHO WAS THEM, AND THEY TOLD ME WAS MR. GIL AND A CUSTOMER, SO I GRAVE THE FIRESTINGULSHER AGAIN TO TRY SHUTT-THE FIRE OFF BUT I COT. . —

EDUARDO J. LIMA
(725) 500-8807
02-23-2017

SpeedVegas 00310C

001004

001004

001004

Deposition Testimony

Paul Crifasi – Head Mechanic

The following are highlights from reading of Paul Crifasi's deposition dated December 16, 2019:

1. Concerning work at Exotics Racing: *"I was a mechanic there. I worked on all their Ferarris, Lamborghinis, Porsches, Audis, maintaining the cars, all the brakes, tires. Anything and everything they needed done."* (27:9-14)
2. Concerning how he got the job at SpeedVegas: *"I heard from some friends that they were putting a deal together about putting a track in. I researched some of my friends and tried to figure out who. Nobody would really say anything, because it was kind of hush-hush. And so I found out who was doing it, and I went to him, and I said, Hey, my name is so and so, I want to come to work for you guys."* (30:16-25)
3. Was hired as the "head mechanic" (33:5-9, 41:2-7)
4. Duties as a mechanic at SpeedVegas: *"Basically making sure all the cars were running, tires were good, brakes were good."* (34:3-6)
5. Prior to SpeedVegas opening, all the cars were modified to include a passenger side brake pedal (34:7-11)
6. Performed the passenger side brake pedal installation (34:12-16, 39:19-22)
7. Passenger side brake pedal used: *"Basically the brake pedal itself is what they use on a training car in the industry for student drivers."* (34:18-23)
8. Has used the same supplier for the passenger side brake pedal (36:9-25)
9. Concerning how he installed the passenger side brake pedal: *"For SpeedVegas, I made all the plates that the pedal sits on on the passenger side with a cable that runs to the brake side on a pulley system, so when you push the brake, it pulls the brake lever down."* (37:1-9)
10. Concerning the pulley system: *"The pulley system itself comes from the brake pedal company."* (37:10-25)
11. Concerning the cable used: *"The cable is a -- like a clutch cable style motorcycle cable. It comes in lengths with a little ball at the end, so it hooks to the pedal, goes through the cable, comes up, wraps around with a double U-bolt system that holds it to the brake pedal itself."* (38:1-7)
12. Methodology of installation did not change between the time SpeedVegas opened and closed in July of 2017 (39:25, 40:1-6)

001005
001005

001005

13. Used the same methodology of passenger side brake pedal installation at Exotics Racing and for Rusty Wallace (40:7-25, 41:1)
14. Did not receive any training from SpeedVegas (43:3-15)
15. When SpeedVegas opened, there were policy and procedure as to how the shop was supposed to be run (43:16-19)
16. Policies and Procedures: *"Basically when we get a car in, before it even touched the track, it had a third-party inspection when we bought a new car, either a dealer or somebody like that. Next, what it does, it comes back in to me. I had a list that I go through and checklist everything off as we're doing it to the car. For instance, stickers go on the car, floor mats come out of the car, oil change, check all fluids, install right-hand brake pedal, track tested. Then the head instructor would take it out and make sure it was okay with another instructor, test the brakes. If needed, change -- I mean, all the brakes are good, everything else, and go off from there."*

    "If they had -- the tires that we used were whatever factory requires. If it had aftermarket tires on it, they would come off. We would put whatever factory came with that car, which my mind, I didn't understand why, but -- to pay all that money, but now I see. We had to have each car the way it came off from the dealer assembly line, or however you want to call it, factory, to be on the track. Not like putting slicks on it to make them whatever, nothing like that. They had to be OEM tires for each car." (43:16-25, 44:1-23)
17. Concerning brakes: *"Usually if the car came in with carbon ceramics, we would change those to the steel racing pads and rotors, and they'd get track tested before and after. And usually after the steels are on, it brakes better, it runs -- you know, it has more braking power, because the carbons take longer to warm up to get sticky to stop the car basically."* (45:3-24)
18. Matt Denning installed the SpeedVegas stickers and the video system (47:7-23)
19. Vehicle fluids were what ever the factory recommended (49:11-25, 50:1-2)
20. Concerning brake fluid: *"Brake fluid we would change out because it did get hot, and they would -- you know, we had a little checker to check it to see what the density, how much moisture, because the brakes always from getting hot-cold-hot-cold, they get a moisture built up and they usually get like an air bubble so they have to be changed out and bled."* (50:8-16)
21. The brake fluid would be changed – *"When the instructor said the pedal is getting soft."* (50:17-20)
22. Brake fluid used: *"Those we used one brake fluid, a Castrol high temp brake fluid."* (51:8-12)
23. "Track testing" after the car was deemed track ready was conducted by Jimmy Parker (54:6-125)

001006
001006

001006

24. Track testing consisted of: *"Basically, they go out, they make sure the right-hand pedal is working; if there's any feeling that it's too soft, you know, too much play, whatever, it would come in back in and I'd adjust it, get it right to where they said it was perfect. They would run the track low speed to get everything broken in. High speed run, braking, corner, seeing if there's any shutter, any movement, anything else like that. Once they get it, it comes in, they say it's okay, they sign off on the paper, it goes."* (55:10-21)
25. Concerning other instructors driving a particular car: *"Nobody drove the car until they were certified to drive that car. We have steps to go up at that time of who you are driving a Cayman or you are going to drive the Mustang. You are not going to drive the Ferrari or Lamborghini until you are trained in that car to drive that car."* (55:22-25, 56:1-9)
26. When a car was purchased used, there was no procedure to check the car for after-market parts installed on the car (59:3-12)
27. Everyday check conducted: *"Basically checking tires, air pressure, checking the brakes, making sure that it's just ready for track."* (59:16-25)
28. How the everyday brake check was conducted: *"Visually, flashlight, looking at them. Making sure they had enough pad, making sure there's no cracks in the rotors."* (60:1-4)
29. No disassembly of brakes was done during the everyday check (60:5-7)
30. Fluid checks: *"After warmups we check the oil. Everything gets checked. At night, they check when it comes in usually the fluid, the radiator fluid, the antifreeze, brake fluid, all that gets checked at night. Frankie used to do all that."* (60:10-18)
31. Had nothing to do with fueling the cars (60:19-21)
32. Instructors were responsible for fueling the cars (60:25, 61:1-3)
33. Concerning specific fuel level target: *"Usually three-quarters of a tank."* (61:4-10, 63:9-12)
34. Why that target fuel level was used: *"Because a lot of the cars -- two of the cars had issues with not -- on our side, in the past that I've known, had issues of the filter cannister would get saturated and it could catch -- it could burst the car into -- you know, it could catch the car on fire."* (61:11-18)
35. Specific make and model susceptible to the fire hazard: *"Well, one was the Lamborghini."* (60:19-20)
36. *"Over at Exotics, since it has nothing to do with us, they were fueling one of the McLarens up and it caught on fire at the pump, because the fuel filler neck was so close to the turbo and the exhaust side, the hot side of the turbo.*

    And back to the Aventador has basically the same issue." (61:25, 62:1-7)

001007
001007

001007

37. Paul from Speedway Sports Cars: *"He was one of the guys out at the speedway, had nothing to do with Exotics, but he had his own shop that he would work on Lamborghinis and Ferraris and all that kind of stuff there at his place. He came out with his computer, I remember that. The computer that he has, it's called a Leonardo. Scanned the car.* (65:9-25)
38. Fault code found by Paul: *"The one that brings up, they had an air bag issue with the passenger side air bag. A fault came on, but there was no light that came on. It came up. It might have been something that was glitched before or whatnot, but it stores all its information in the computer. So it could be a year ago that it was in there or it could have been a day ago, we don't know."* (66:10-19, 68:8-18)
39. The air bag code did not show up on the dash (68:19-25, 69:1-9)
40. Brake check before a track run with a customer: *"Well, before they even go out of pit lane, they go out of pit lane, the instructor will say, Try your brake pedal on the driver's side. They try to stop. And okay, get off and get some gas and they apply theirs to stop."* (72:8-22)
41. Passenger side braking test was conducted with an instructor in the driver seat and one in the passenger seat. The driver would accelerate and apply the brake. Then the driver would accelerate a second time and the passenger instructor would apply the passenger side brake. (73: 4-12)
42. *"Right. If it's spongy or not, has any different feel. Because some cars do have a different feel, just the way the braking system is. Then they go out, test it, they feel if there's any vibration, tires are out of balance, you know, on and on and on, and until they say it's cleared after they do it, they have the video system on. They take the video thing in, test it, make sure the cameras are working, sign it off until the last person signs it, and then it goes out."* (73:13-24)
43. Exhibit 1 are photographs Paul Crifasi took of the Lamborghini after it was delivered to SpeedVegas and before it was wrapped in orange (74:21-25, 75:1-23)
44. Concerning aftermarket parts on the Lamborghini when it was delivered to SpeedVegas: *"The exhaust, the back part of the exhaust was aftermarket."* (75:24-25, 76:1-25, 77:1-10)
45. In photo #3 of Exhibit 1 there is a bumper sticker that said, "Caution Flame Thrower" (77:20-25)
46. *"We never put aftermarket exhaust that we buy and bolt onto the car. It was always stock, what came with the car."* (78:21-25, 79:1-12)
47. Does not know if the spoiler on the back of the Lamborghini depicted in exhibit one was original equipment (81:17-25. 82:1-14)
48. Exhibit 2 is a drawing of how the passenger side brake pedal was installed. "DS" stands for driver side and "PS" stands for passenger side (84:4-17)

001008
001008

001008

49. Explanation of Exhibit 2: *"Okay. So brake pedal, platform, bolts to the car, wherever the bolt points are. Pedal. Has three bolts in it, with a right arm that comes out, with a lever, has a pulley system, comes across, has an outlet where the cable goes into, comes out of that cable in a sheath. So if you look at it sideways, it's like this [indicating] with a cable, pulley, it goes around, up, to another pulley, goes back around. So, when it pulls, it pulls the cable, so through a pulley system there on that side. Goes from there on the passenger side, which is another plate, which is so big [indicating], with an inlet and a pulley, so -- I kind of drew it off, but the cable goes in through there, goes around that pulley, that's behind -- so if you are looking at it sideways, brake pedal comes off, goes like this [indicating] to your normal brake pedal on the car. So this [indicating] would come in on the side, which this one here would go in [indicating], come through to a pulley, go up, attach to the brake pedal here [indicating]. So when this is applied, this cable will stretch -- I mean, kind of moves so it doesn't get in the way. When this is applied [indicating], pushed this way, this pulls this cable that way [indicating].* (84:18-25, 85:1-19)

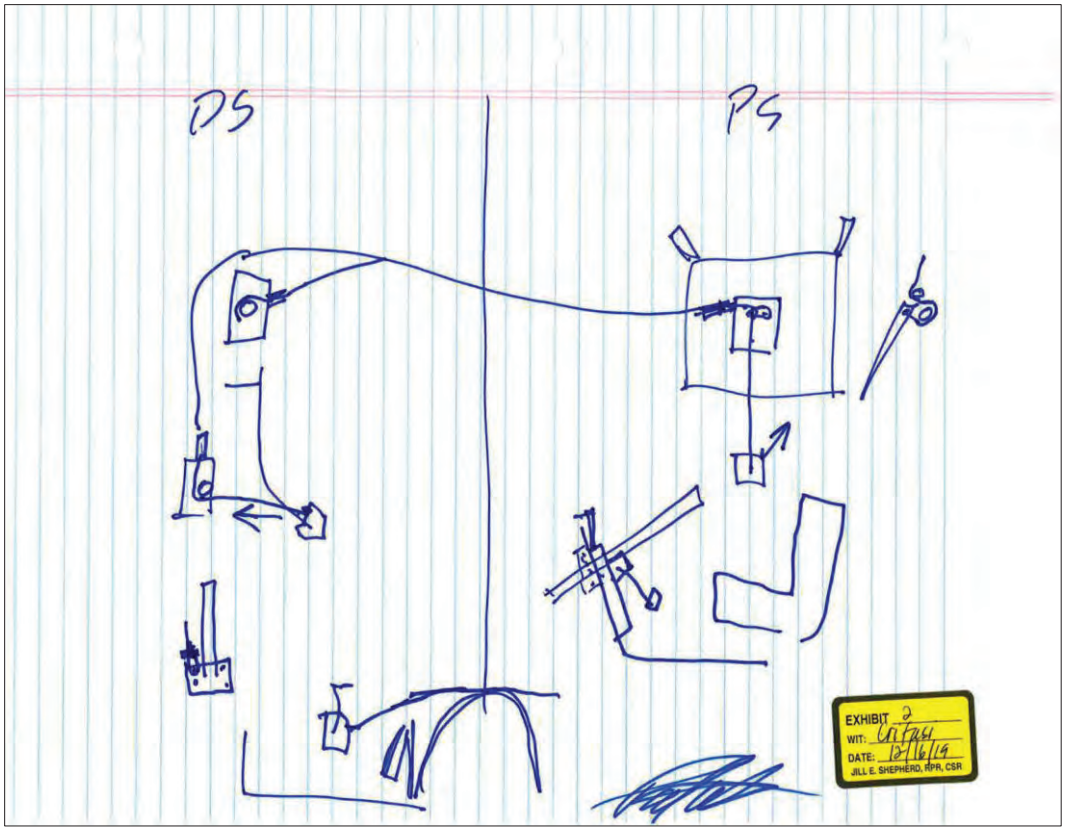


Figure 15. Exhibit 2 from Paul Crifasi's deposition dated December 16, 2019.

50. Further detailed explanation of Exhibit 2 – 85:20-25, 86:1-25, 87:1-25, 88:1-25, 89:1-25, 90:1-25, 91:1-25, 92:1-19

001009

51. Concerning testing of the passenger brake system: *"No. All I know is all the instructors loved it, because on all the cars that I've done, it's saved them from potential accidents happening."* (92:20-25, 93:1-14)
52. The above described methodology was used in the subject Lamborghini (93:15-18)
53. Did not have any problems or installation issues with the passenger side brake in the subject Lamborghini (93:19-22)
54. Exhibit 3 - The rotors and pad were changed out on the subject Lamborghini on February 4, 2017 with a mileage of 9,680 (101:9-13, 102:19-22, 125:22-25, 126:1-2)
55. New rotors were Girodisc slotted two-piece floating rotors: *"The two-piece rotor is where you have a hat, which is the part that bolts to the hub, and you have the rotor itself that the hat bolts to. That's why they call it floating. It's not a permanent fixture. It's bolted together."* (102:23-25, 103:1-12)
56. The original carbon ceramic brakes on the subject Lamborghini were also two-piece floating rotors (103:13-23)
57. Did not make any changes to the calipers on the subject Lamborghini (104:24-25, 105:1-3)
58. Advantage of carbon ceramic braking system – *"The only advantage that I know is just, I have carbon ceramics on my car. To stop, I feel that the steel stop a lot better. They will stop faster. Carbons don't really wear out as fast, but they go way faster. It takes longer for them to stop with the carbon. They have to get really hot, red hot, to really get in a situation where you have to really try to stop."* (113:10-19)
59. From the time the passenger side brake was installed, up to the crash, there had not been any complaints about problems with the passenger side brake (123:1-11)
60. *"Correct. So that's what I was getting at. So the car was on -- we got the car, so it's only been ten days, give or take. So, yeah. There's no way that when you were asking me the question about checking the brakes, that the brakes wear out in ten days. So, yeah, I mean, we keep an eye on everything even though it's on track, but they last a lot longer than ten days."* (126:10-20)
61. *"What I saw was skid marks. What I heard from the guy that was in the car with him had a series of seizures. I've just put two and two together myself. I mean, when you're having a seizure, you are locked up. And in my opinion, and my opinion only, when a car is going that fast, there is no brakes in the world that will stop that car. A freight train could have been in front of that car, it wouldn't have stopped. Brakes – even in my world of racing, we have parachutes on the back of the car because brakes will not stop the car. I've had parachutes come off my car and try to stop and I end up in the sand trap passed the second net, and it does not stop the car.*

001010
001010

001010

-- and that is a straight line, right, and then trying to stop. And basically we had a straight line of a car that was running trying to stop. I don't care what you do to that car, once it's locked and loaded and wide open, there is nothing that anybody in that car other than the driver getting his foot off gas pedal could have done." (132:15-25, 133:1-24)

62. No changes were made to the way the cars were equipped after the subject Lamborghini crash (138:5-8)
63. Concerning video cameras – *"I know there's a camera on the outside of pit lane pointing that way, but I don't know – I know they said it could focus in. I don't know if it was focused at that or another part of the track or not."* (156:9-18)
64. *"The fuel exhaust, yes, but it's not from them filling the car up. There is what they call -- it's a canister, a charcoal canister, that is from the tank, goes into the charcoal canister so you don't have a smell of gas. It takes the gas smell away and tries to reburn whatever's left over.*
    When a tank on an Aventador is filled to the top, gas will escape, go into that cannister, and in normal conditions it will dissipate. Most conditions, it will just stay in there, and then what happens is it will spill out. So when you have an exhaust pipe that's glowing red, and you are going around a corner, it sloshes, it comes out, hits the pipe, and instantly catches on fire." (161:22-25, 162:1-22)
65. Instructor cell phones were used for: *"To communicate with the system that we had to give you the mile per hour on the track and the destination of your course, a GPS of your course -- of the course of the track and your speeds in different areas."* (164:9-18)
66. The SpeedVegas cars did not have five-point restraints (207:10-14)
67. The customers were not required to wear fire retardant suits (20715-18)
68. The concrete barrier was broken and displaced (235:15-23)

001011

001011

Aaron Fessler

The following is highlights from my reading of Aaron Fessler's deposition dated December 10, 2019 (Volume 1) and December 11, 2019 (Volume 2):

Volume 1 -

1. Believes Craig Sherwood was "untruthful" about preexisting medical conditions (87:20-25, 88:1-25, 89:1-25, 90:1-25, 91:1-25, 92:1)
2. *"Had we discovered that he had a history of medical seizures, as an example, or that his license had been revoked, perhaps that would have changed things.· But our insurance carrier did not*

001011

require us to perform DMV background checks on Canada drivers, so we didn't do that." (96:15-25, 97:1-8)

3. Can reach speeds between 140 and 150 mph on the straightaways (114:13-18)
4. Drivers are not encouraged to go those speeds (140 – 150 mph) in the straightaways (114:19-25, 115:1-3)
5. The straightaway before turn 1 & 2 is about ½ mile long (119:17-24)
6. Regarding safety equipment for the customer drivers: *"The drivers are required to wear a helmet. They are not permitted to wear – they were not permitted to wear open-toed shoes. If they had open-toed shoes, they were offered closed-toe shoes.*

   They were not permitted to wear loose-fitting articles or scarfs or those sorts of things that could become entangled.

   They were offered a fire-retardant suit, if they chose to wear one. (123:21-25, 124:1-8)
7. Helmets were required for the customer drivers (126:12-25)
8. Regarding discussion of the tire barriers with the track designer: *"·Yes, I do. Specifically, Bob had indicated that the inside of turn number 2 should be lined with tires between point A and point B. And I recall prior to the accident having a conversation with Bob, saying, "Bob, you know, I don't know appropriately how to design this, but I wonder if we would benefit from having additional tires."*

   And Bob said to me, "Look, Aaron. You can add as many additional tires on top of my specification as you like. If it makes you feel better and sleep at night, you're welcome to do so."

   And the tires, coincidently, that this accident occurred at happened in an area that was outside of what Bob had specified for protection from tires. (287:23-25, 288:1-19)
9. Additional tires were added before the Lamborghini crash (289:1-25, 290:1-12)
10. Concerning equipment installed on the Lamborghini after it arrived at SpeedVegas: *"We installed a video tracking system. We installed a telemetry tracking system. We installed a passenger-side safety brake pedal. We installed a clear bra on the vehicle. We installed some stickers and graphics. We replaced the carbon-ceramic brake rotor system with cast iron brake rotor systems."* (297:6-18)
11. Purpose of the passenger side brake pedal: *"The purpose of the brake pedal is if we had a participant who perhaps was overly enthusiastic or unaware of his environment or, in the coach's opinion, unable to safely complete the experience, the coach could rein in that experience."* (298:15-23)

001012

001012

001012

Volume 2

1. When SpeedVegas took possession of the Lamborghini, there are no "aftermarket add-ones" (377:18-25, 278:1-2)
2. Became aware after the crash the Lamborghini spoiler had been replaced with an aftermarket spoiler (378:3-25, 379:1-3)
3. Not aware of an aftermarket exhaust system being on the Lamborghini (379:9-12)
4. Saw the NHTSA recall notice *"Sometime in late February 2017 after the accident."* (382:17-20, 383:1-4)
5. *"Correct. I recall specifically looking at this document and noting the dealer notification date was after the accident. We had not been notified at the time of the accident. And the owner notification date was also after the accident.*

   I had a conversation with Phil Fiore, and he informed me that he had not been notified by his dealer nor had he received notice in the mail.

   Phil subsequently told me when he had received a copy of this was sometime in March of 2017." (384:9-25, 385:1-2)
6. Did not see the crash occur (388:6-25, 389:1-3)
7. *"My opinion is that the accident was caused by a medical episode caused by Craig Sherwood."* (390:3-7)
8. *"My understanding was at the time of the accident the car had approximately one half of a tank of gas in it. I'm not certain what Robert's intentions would have been. I'm not aware of an email."* (418:22-25, 419:1-13)
9. *"No. To my knowledge, the car was never involved in any prior accidents."* (429:12-16)
10. If presented with evidence, would have no reason to dispute the Lamborghini had an aftermarket exhaust system (435:6-10)
11. *"It was a general matter of policy that no vehicle was qualified to be used in the driving experience in the absence of a passenger-side brake."* (438:14-25, 439:1-2)
12. *"I'm not certain how to answer that question. The requirement for a passenger-side brake was a requirement that came from Bob Barnard and enthusiastically championed by our driving coaches, and as a matter of policy, no vehicle was permitted to be used on the track experience without a passenger-side brake."* (439:7-16)
13. *"Our standard policy before each driving experience started involved placing the participant in the driver's seat and a coach in the passenger seat, exiting the parking area, and applying the brake*

001013
001013

001013

at full force from a speed of approximately 55 miles per hour at the beginning of each brake -- at the beginning of each driving experience." (443:11-23)

14. *"The recommendations are that carbon ceramic pads are suitable for experienced drivers who are comfortable with the performance levels of the braking system at different temperatures and they are inappropriate for use in our application."* (450:7-25)
15. *"Yes, that's correct. We were advised by Mr. Barnard that a cast-iron system is used commonly in NASCAR and other significant racing environments. They're commonly used in our industry as a standard procedure and offer a more consistent performance level for novices, regardless of whether the braking system is hot or cold."* (451:1-11)
16. The Lamborghini had done a total 117 laps around the SpeedVegas track before subject crash occurred (461:23-25, 462:1-7)
17. Street radial tires were used in the construction of the tire barriers (474:7-11)
18. *"Mr. Barnard, on one of his site visits, indicated that banding would be superior to bolting because bolting could create a hazard protruding through a vehicle passenger compartment if a vehicle contacted a tire wall."* (474:12-25, 475:1-2)
19. Telemetry data was collected by an application deployed on an iPhone traveling inside the vehicle (509:5-25, 510:1-8)
20. *"There was an application installed on an iPhone device positioned inside each vehicle. While a session was underway, at approximately once per second, it sent a ping to a server with the location of the phone and, therefore, the vehicle, and the current speed.*
    That information was then displayed on a webpage which you see in this screen capture. It was also stored, to some extent, in a database." (564:12-25, 565:1-12)

001014

001014

Greg Schroeder

The following are highlights from my reading of Greg Schroeder's deposition dated November 21, 2019:

1. Since July of 2018, he has worked at SpeedVegas as the Chief Operating Officer (11:6-14)
2. Use to be the Director of Sales (hired January 2017) for the original SpeedVegas (23:5-22)
3. Was not working on the February 12, 2017 when the crash occurred (45:12-25, 46:1)
4. The customer briefing covered: *"Covered the instructions that you'd be hearing from your coach. Your coach is going to instruct you when to brake, when to accelerate. There was some definitions of some terms, of apex, turning cones, braking cones, what to look for when you're out on the track, how to grip the wheel, where to keep your eyes, basically set up the dialog between the coach and the student."* (50:3-16)

001014

5. *"Not now, but there were. So at the time, there were multiple braking cones. They were labeled 4, 3, 2, 1. And they were a distance back, you know, from the end of the straightaway.*
   And I don't know the exact spacing, but, you know, the cones were 4, 3, 2, 1, and depending on -- at the time, depending on the student's ability, the coach's faith in the student, you know, the car, they would have braked at either 4 or 3 or 2 or 1. That was then.
   Now it's totally different." (54:19-25, 55:1-8)
6. *"Today, I have one braking cone. It's way far back. It substantially reduces the length of the straightaway, and that way there's no decision-making. It's just one cone, brake here. You must brake here. And if the customer did not brake, then the coach has ample time to intervene."* (56:3-9)
7. Was not involved in obtaining the Lamborghini or changing out the factory brakes (57:16-23)
8. Video System: *"Yeah. It's made by a company called Race-Keeper, and it's wired into the car with two cameras. They record -- they record the driver's face, and they record going outward. And then we present that -- it's recorded to a USB thumb drive. And at the end of the customer's experience, they have the ability to purchase the video. There's no video available for this –"* (60:25, 61:1-9)
9. Video from Lamborghini: *"It's internal, so it doesn't get beamed anywhere. It's just not available."* (61:10-12)
10. Passenger side brake testing: *"No. Whether -- it's a direct linkage. It's connected to the driver-side brake. And basically, the test is just to verify that both brakes are moving the same amount, one from one."* (66:13-19)
11. Believes the Lamborghini was *"all factory"* (66:25, 67:1-4)
12. Changes made after the crash: *"The wall -- the Turn 1, Turn 2 wall was removed. An expanded gravel run-out section was installed so that if a car were to go in the same direction, it would basically sink in the gravel, real loose gravel. There were -- so the wall was moved. The gravel pit was extended.*
    The cones -- the braking zone cones were removed, and a singular braking cone -- or a singular braking zone was put in its place. And the tire barriers were -- not all, but some of the tire barriers were swapped out from banded bundles to bolted bundles. Does that mean anything to anybody? (93:1-19)
13. Tire bundles: *"So a tire bundle, if you can picture five tires laid on their side and then four tires laid on their side, so you got your five and your four, and then stacked on top of that -- so two rows, a row of five and a row of four. And each row is four tires high.*

001015
001015

001015

If they're banded, each tire that – in the column is banded with a steel band to every other tire that's touching it. So that's what was there.

And those are replaced by bolted, which means instead of holding the bundle together with the bands, each tire is bolted to the tire above it, below it, to the side of it, to the right of it, to the left of it, 1,500 bolts per bundle as opposed to 16 bolts per bundle.

So it's a lot more labor intensive, but we've made the switch to that. And that was done after the accident." (93:20-25, 94:1-19)

14. Conveyor belt: *"Yeah. So after the tire bundle is put in place, it's covered with a three-quarter-inch-thick conveyor belt, the same type that would be used in a mining operation, and then the conveyor belt is bolted to the bundle as well."* (94:20-25, 95:1-2)
15. FIA racecourse certification: *"Barnard. Well, also, Mr. Barnard – you know, things you find out later. Used to be -- everybody in the industry used the belted instead of the bolted. In 2016, the FIA racecourse certification body, they recommended that all FIA Level 4 and above racetracks move to bolted barriers instead of bundled barriers.*

But they didn't say, "You got to shut down all belted tracks." They just said, "We make it our recommendation, so if we're going to do anything moving forward, do this instead."

So when Mr. Barnard constructed the track and placed the walls and the barriers, he did them to the industry standard at the time. That industry standard changes, and it changed. And Mr. Weiss's assessment was upgrade to the newer barriers." (97:1-18)

16. Procedural changes post-crash (105:4-25, 106:1-25, 107:1-25, 108:1-25, 109:1-25,110:1-3):
    a. Began selling a "driving experience"
    b. Every employee was given a radio
    c. Any employee could call the track "red"
    d. Commitment to being a "driving experience" instead of a "racing experience"
    e. Removed the telemetry
    f. Removed braking zones and replaced with a "singular braking cone"
    g. Changed the electronic waiver system – added a videotaped checklist
17. Telemetry board: *"Yeah. There were complaints that it wasn't accurate. It was done with a cell phone and an RFID beacon. And the technology -- it wasn't perfectly real time. There was a delay. So sometimes people would say, "Hey, I felt like it went faster than that."*

If the telemetry is catching itself every other second, a lot can happen when you hit the brake. You know, the difference between 120 and 125 is, you know, lickety-split. So some people would say, "Oh, I went faster." They very well may have gone faster." (111:8-20)

001016

18. Medical waiver: *"They were different. The old medical waiver was just, basically, are you in good enough health to drive a car?*

    The new medical waiver cites, you know, back problems, head/neck injuries, recent surgeries, recent traumas, drug use, alcohol use, seizures, heart conditions, brain injuries. It's a much more in-depth medical waiver after the accident than before the accident." (115:13-25)

19. Driving instruction change: *"So before and after the accident – before the accident, instructors would -- not all instructors, but some instructors would give instruction that would get people faster lap times, higher top speed, drive faster, more of a racing experience.*

    After the accident, it's a driving experience, not a racing experience. And the training that we give to the coaches is hospitality training, not race training. So they're still cognizant of everything that's going on in the vehicle, but their job is to make sure the person has fun, not give them a fast lap time. And the two are not connected." (117:3-22)

20. Bigger change: *"After the accident, it's a driving experience, not a racing experience. And the training that we give to the coaches is hospitality training, not race training. So they're still cognizant of everything that's going on in the vehicle, but their job is to make sure the person has fun, not give them a fast lap time. And the two are not connected.*

    And the bigger change was it's not a race. It's just for fun. We're not going to tell you the speed. So had the wall never been -- we never touched the wall. No one's come within 50 feet of it, ever. So, yeah, it's not there anymore, but no one's even remotely come anywhere near it, not because of the physical setup of the track but because of the procedural changes." (127:7-22)

21. Position of braking cones: *"It's not necessarily faster. I mean, I can -- 4, 3, 2, 1. I can hit Cone 1 at 20 miles an hour or 100 miles an hour or 120. So it's not where -- it's not how fast I'm going when I hit it; it's -- if I delay the braking until the last zone, I've taken my margin for error and shrunken it.*

    So by moving it back, one, as a driver, I have more margin for error, but as the coach, I have more margin for error as well. So it's not that the cones promoted higher speeds. It's just they shrunk the margin of error." (129:3-17)

22. Regulation: *"No one. And we're not -- we don't race. So FIA regulations, that's the umbrella you fall under if you're conducting race events. We're not conduct -- we were never conducting race events, so we didn't have to adhere to anything ever.*

    Even today, I don't have to. I do, but I don't have to. I'm not regulated by any outside organization. It's all self-regulation." (130:9-19)

001017

001017

001017

23. The wall in turn 2 was 4 feet high and 6 feet wide at the base and weighed hundreds of tons (131:8-15)
24. There was an expanded gravel runout installed around turn 1 & 2 post-crash (137:11-16)
25. *"Has anybody told me that? I had discussions with coaches. Again, it's all speculation. Everybody's got their own little theory about what happened, or multiple theories.*

    And, you know, some people have said, "Hey, it had so much power that if the guy in the driver seat was locked up or convulsing or having a seizure, if his foot was to the floor on the gas with 700 horsepower and the coach's foot was to the floor on the brake, that there wasn't enough time to, you know, have the brake overpower the 700 horsepower." (149:5-23)
26. Coach certification: *"It's a good question. There was no such thing as credentialing for that position. As an odd side note, Motorsport Safety Foundation was the first organization, company, to create credentials for motorsport coaching.*

    So it didn't exist at the time for – you know, when SpeedVegas opened in '16. Everybody here, how do you become an attorney? Well, you better go to law school. Then you better pass the bar. Well, what if you want to become a high-performance driving instructor? Where do you go? There was no place to go. Motorsport Safety Foundation invented the place to go." (165:23-25, 166:1-15)
27. No governing body for the driving experience business (167:18-20)
28. *"In the Aventador, the coach had access to a passenger-side brake. He could have theoretically also reached over and grabbed the wheel, but he didn't have -- he didn't have the ability to -- brake and wheel. That's all he had. He didn't have the ability to shift."* (168:6-14)
29. Sherwood had driven *"multiple cars before the Aventador"* (169:5-19)
30. Current SpeedVegas does not have a Lamborghini Aventador (171:9-12)
31. Putting pressure on the passenger side brake, put the same amount of pressure on the driver side brake (172:22-25)
32. *"No. There's a cable attached on the pedal on the passenger side, and the cable's attached to the pedal on the driver's side. And as you push on the pedal on the passenger side, you're pulling with equal force on the driver brake."* (173:1-12)
33. *"Yeah. Has anybody here seen a picture of the brake? Paul has. Anybody else?*

    When you push on the passenger brake, it pulls on the driver brake. When you push on the driver brake, it does nothing to the passenger brake." (173:13-22)
34. Never heard from the drivers or coaches the passenger side brake was not sufficient to stop the vehicle (175:14-18)
35. Gil Ben-Kely was a "top-tier coach" (180:14-15)

001018
001018

001018

36. Lap Sherwood was on when crash occurred: *"Sure. Okay. So Craig had -- Mr. Sherwood had just done the Mercedes AMG, and his coach was Francisco. That's coach Durban, and he had done one, two, three, four, five laps in that vehicle.*

    And then his next experience was with Gil in the Aventador, and he had done one, two, three, four -- he was on his fifth lap. So he was on his last lap of that experience, his last lap of that experience and his tenth lap within 30 minutes." (181:14-25, 182:1-2)
37. If SpeedVegas had gotten the recall notice before the crash, they would have parked the subject Lamborghini (183:6-25, 184:1-11, 185:2-7)
38. Does not think Kyle Weech mentioned to anyone before the crash about Sherwood's friend's statement concerning seizures (197:7-21)
39. Natalie Darrow (pit crew chief) would have been the last person to have had contact with Gil Ben-Kely 30 to 50 minutes before the crash (198:8-17)
40. The Lamborghini had to go through 2 layers of banded tires to get to the wall (207:24-25, 208:1-14)
41. Reference SpeedVegas 00176 - 00177: *"So what this shows is that he had three bookings with us. He was picked up at the Wynn Encore. And he did laps in the Aventador. He did laps in the AMG GTS. He had an experience the day before that he was a no-show because of rain. It was cancelled. One, two, three, four, five, six, seven. So he did seven laps with Francisco A. as the coach in the AMG GTS. And then after his seven laps, he did -- he did another seven laps in the Aventador, of which he -- he was on his last lap.*

    So -- yeah. Seven laps in the AMG followed by seven laps in the Aventador is what that shows, which is interesting. Again, because that was locked down back in old SpeedVegas days, I've never even seen that." (254:18-25, 255:1-12)

001019

001019

Mark Shuman, M.D.

The following are highlights from my reading of Dr. Shuman's deposition dated November 22, 2019:

1. Full-time associate medical examiner with Miami-Dade County in Florida; does locum tenens work for the Clark County Coroner/Medical Examiner (12:19-25, 13:1-6)
2. Been doing part-time work in Clark County for almost 6 years (15:18-20)
3. Purpose of postmortem examination and autopsy: *"To determine -- well, you know, mainly to determine the cause and manner of death. In a case like this, there is other ancillary issues that were going to arise that also I think it's important to document.*

001019

When bodies are burned as badly as these bodies were, one of the issues becomes, you know, did they die because of the fire, did they die because of injuries. So you want to be able to document all the injuries and also try to, if you can, distinguish between actual injuries caused by the fire and actual injuries caused by the crash." (36:20-25, 37:1-8)

4. Did not rely on the "Report of Investigation" face page in reaching his opinions or conclusions (41:20-25)
5. Did rely on the "Summary of Investigation in reaching his opinions or conclusion (42:1-7)
6. Cause of death for Gil Ben-Kely was *"blunt chest injury"* (43:12-15)
7. The observed thermal injuries did not cause or contribute to Gil Ben-Kely's death (43:16-20)
8. *"Mr. Ben-Kely had a large laceration of his aorta from the impact, and that resulted in hemothorax bleeding into the chest cavity, and those are very rapidly lethal."* (43:21-25, 44:1-4)
9. How quickly death occurred: *"Probably less than a minute."* (44:5-6)
10. Findings supportive of opinion and conclusion: *"I mean, the most significant finding is the aortic laceration and left hemothorax, but he also has posterior rib fractures, another indicator of blunt trauma to the chest."* (61:18-24)
11. Why the thermal injuries did not contribute to his death: *"Yeah. These type of lacerations, they -- the heart basically pumps the blood -- the total volume of your blood every minute. So once you lose about 30 percent of your blood volume, that's when you get into the final stages of shock and death.*

    So, you know, so if he's losing, you know, 30 -- you know -- if the heart's pumping out, you know, the whole volume of your blood in a minute, you say about 30 percent of a minute, potentially, 30 percent has gone out.

    Because most of the blood's going out of that laceration at the time it occurs. That's why I say he would be dead in less than a minute." (62:5-24)
12. Other fractures beside the rib fractures: *"Correct. There was actually some fractures caused by heat of the fingers and anterior aspects of rib, the front part of his ribs, some fractures caused by heat.*

    The fractures of his lower legs, both femurs and both tibias and fibulas, appear to be actual ante-mortem fractures caused by the crash.

    Some people like to lump things together and say that those would have contributed to his death as well. Of course, they're going to cause bleeding too.

    So, yes, they can, but I like to – when I can be, I like to be more specific since the aortic laceration is so much more critical. That's why I called it "blunt chest injury." (65:17-25, 66:1-13)

001020

001020

001020

13. The lower extremity fractures are indicative of the crash severity (66:14-18)
14. Cause of death is *"blunt chest injury"* (67:6-17)
15. The thermal injuries did not cause or contribute to death (67:18-25, 68:1-4)
16. *"At a minimum, yeah. He has significant lower extremity injuries, but they're not the kind of injuries I would expect him to die rapidly enough to not be affected by fire."* (78:13-24)
17. Never been sued for malpractice (82:22-23)
18. *"I'm not going -- I can't give you any specific amount of time. All I can tell you is that, you know, given that the heart pumps your total blood volume every minute, you know, you're going to leak out more than 30 percent sometime in less than a minute."* (84:20-25, 85:1-13)
19. How the crash occurred: *"I'm not the reconstruction crash expert. So, I mean, all I know is the crash -- that the car hit that wall. How, I don't know. I mean, it was actually at a turn, so I assume he didn't negotiate the turn properly and hit the wall."* (87:10-21)

Kyle Weech

The following are highlights from my reading of Kyle Weech's deposition dated December 17, 2019:

001021

1. Worked as a video technician and track supervisor at Exotics Racing in 2012 and 2013 (14:9-21, 15:16-25)
2. Began working at SpeedVegas in November 2016 (19:6-11)
3. Hired as a customer service representative (23:2-7)
4. Was working as a customer service representative when the crash occurred (24:4-12)
5. Worked the day before the crash occurred (25:5-9)
6. Interacted with Craig Sherwood on Saturday (25:10-12)
7. *"His friends -- himself and his friends came in with a reservation, and it was standard procedure. They had questions like everybody does. And just checked him in. There was nothing that I recall out of the ordinary, other than people being excited as they normally are."* (25:13-20)
8. Customer check-in process: *"We would ask them to see a driver's license, and while we looked at the driver's license, we would have them sign a safety and liability waiver. And then I would verify the details of the reservation. And once that was complete, we send them to the training class-room."* (26:10-19)
9. Requirements to drive a car: *"To be 18 with a valid driver's license and to wear closed-toed shoes."* (27:1-4)
10. Saturday rainout: *"We don't operate in weather like that, so we required the guests to come back to the registration area and offer refunds or rescheduling their experience."* (34:14-25)

001021

001021

11. Sherwood and friend reaction to rainout: *"They wanted to drive. I believe they were bummed out that they couldn't drive that day, but understood that the weather is not ideal for that type of activity and agreed to reschedule."* (35:1-10)
12. Friend's name was Andrew (36:1-13)
13. Was working in the "check-out area" on the day the crash occurred (38:19-25, 39:1-7)
14. Did not see Sherwood or Andrew enter the pit area (39:12-15)
15. Did not see who the instructors were who had contact with Sherwood or Andrew (39:16-19)
16. Was still working in the "check-out area when the crash occurred (39:20-24)
17. How he learned about the crash: *"There was a gentleman that had arrived to the property and he was trying to -- he was driving by to exchange a business card to see if he could possibly service our fire extinguishers. And I was interacting with him. I believe -- it's a sales call, so I brush him off, take the business card, give it to the higher-ups, and as he was walking out the front door, he had said, Oh, look, there's a fire right there."* (39:23-25, 40:1-10)
18. Had access to a SpeedVegas radio but was on a separate channel (40:11-21)
19. Has not driven or ridden in the subject Lamborghini (62:13-15)
20. Car Video: *"It's saved to a USB drive that would be inside of the vehicle."* (67:20-25)
21. In the straightway cars could reach a speed of *"About 140 miles per hour."* (76:4-7)

001022

001022

Leslie Williams

The following are highlights from my reading of Leslie Williams' deposition dated December 16, 2019:

1. Worked for the Pensacola FD from May 1992 to August 2015 (14:6-16)
2. FD Training: *"I went through to rookie school, which is firefighter academy. I mean, I was green. I tell you, I was green, didn't know nothing about the fire department. And they drilled us on every-thing from dragging hose, how to use a fire extinguisher. I mean everything, the air pack on your back, you have it on in a minute. I mean, the gloves, the hood, the hat, every single thing that would be done in the fire department. They drill you in that time while you are going through the fire academy."* (18:15-25, 19:1)
3. Responded to at least 500 car accidents in the 23 years he was with FD (24:23-25, 25:1-2)
4. Moved to Las Vegas in 2015 (27:9-11)
5. First job in Las Vegas was at SpeedVegas on the fire and safety team (27:12-25, 28:1-23)
6. Job at SpeedVegas was: *"It's basically you put the -- keep the track clean, no debris on the track in the mornings when we get there. And another thing, if anything happened to those cars, so far as*

001022

smoke, anything, so to be there to put them out and get the customer and the coaches out of that car." (30:16-24)

7. Specific training at SpeedVegas: *"So far as hands on, no. We sat on that truck all day long the whole time we worked. So me and Jodi did a lot of talking, and knowing my background, we did a lot of talking about, you know the fire department and what might be this and that, and Jodi being the safety lady that she is from working at the big track -- I mean, she's talking a lot of stuff about the track."* (33:17-25, 34:1)
8. Number of fire extinguishers on the safety truck: *"At that time -- it should be six, because we had a box made and each one of those boxes had a fire extinguisher on it. I want to say six, and two on the back, so should have been eight."* (37:4-9)
9. Contents of medical bag on safety truck: *"You have your typical, like, gauze, Band-Aids, blood pressure cuffs, stuff like that. Just your basic medical stuff."* (37:25, 38:1-4)
10. Typical day: *"When I showed up for work, first thing I do, I come in, I go straight to that truck. Coming from where I come from, from the fire service, that's one of the first things you do, make sure your truck is ready to go from the time you walk in the door. I will run that truck, test all that equipment. The Jaws of Life, I make sure everything is there and accounted for, because you can't do the job if your equipment ain't there. And that's what I do."* (38:20-25, 39:1-8)
11. Had no responsibility to look at or inspecting the cars to driven (40:20-6)
12. Safety truck position on the track (Exhibit 1): *"At that point, we was stationed – the truck station was down at the end of between turn 2 and 3."* (40:17-20)
13. Distance from the subject crash location and the safety truck on February 12, 2017: *"I want to say you are looking at probably about, maybe 50 yards."* (42:2-6)
14. What he remembers from February 12, 2017: *"Okay. That morning, walked into work, checked my truck as usual. I usually start on the driver's side and I go from compartment to compartment all the way around that truck making sure that everything is there and there's nothing missing. And then when the cars get ready to take the track, me and Jodi was working that day, we moved out to our spot, which is at the end of that turn, turn 2, between 2 and 3, we was parking there that day."* (42:7-22)
15. Nothing unusual about the track on February 12, 2017 (43:3-6)
16. The subject crash occurred a little at 1:00 (44:14-18)
17. Had no interaction with Craig Sherwood (45:11-15)
18. Craig Sherwood's friend's (Ipekian) track time: *"He didn't really do nothing that drew a red flag driving the Mercedes. He did the normal gas speed, wasn't nothing outrages that draw your*

001023
001023

001023

attention to, you know, draw -- make it, you know, where you really just, like, this guy don't know what he's doing." (46:13-25, 47:1-10)

19. Craig Sherwood's driving of the Lamborghini Aventador: (48:15-25, 49:1-25, 50:1-25, 51:1-25, 52:1-25, 53:1-2)
    a. *"That one I remember particular, because the moment he come out headed on that track, that engine raced."*
    b. *"It accelerated*."
    c. Heard the Lamborghini accelerate
    d. *"It perked me up. I told Jodi, I said, He's going off track."*
    e. *"Because he came out too hot*."
    f. *"He went around the track, turn 1, normal. I just know that he was -- he came out hot. And then by the time he got around turn 3, 4, 5, it was just normal, because those are some sharp turns back there, you can't really accelerate through there. And then he came down the straight, that was normal."*
    g. Other than the acceleration, nothing on lap one caught his attention
    h. Just prior to the crash: *"Yes. That's the beginning of the straightaway coming out of 12. That car came up that straight extremely fast. And I -- and I mean, that car was getting it pretty good, it was running pretty fast."*
    i. *Yeah. It was coming down the straightaway at a high rate of speed. And by the time he got to turn 1, there was no way that he was going to stop that car."*
    j. Speed estimate: *"All I've got to say is it was coming extremely fast."*
    k. Compared to previous laps: *"Yes. It was definitely faster than the previous."*
    l. Was faster than his friend drove the track
20. Seen previous cars going into turn 1 that fast: *"I want to say no. Because -- and I say that because you have to brake before you get there, and I didn't see that car slowing down."* (53:3-8)
21. There were 4 braking cones along the straightaway (53:9-24)
22. Saw Craig Sherwood braking before turn 1 on previous laps (54:10-25, 55:1-3)
23. Did not observe the Lamborghini braking before the crash (55:5-8)
24. Other than traveling fast, did not notice anything else unusual about the Lamborghini as it approached turn 1 (55:9-12)
25. Did not see any smoke or fire prior to turn 1 (55:13-15)

001024
001024

001024

26. *"Once I seen that car coming and it wasn't slowing down, I told Jodi, I said, That car ain't stopping. And it happened in the split of a second. I mean, it was -- I want to -- once it hit that wall..."* (55:16-25)
27. *"It just went straight -- from what I'm recollecting, it just went straight. And once it hit that wall, it had tires in front of the wall, once it hit that wall, it bounced just a few feet, and it was up in smoke, up in flames."* (56:7-15)
28. The impact broke the concrete wall (58:5-10)
29. The nose of the Lamborghini was up against the barrier at final rest (59:4-9)
30. Tires were between the car and the concrete wall (59:15-16)
31. The Lamborghini and the tire caught fire at the same time (60:8-10)
32. Could not see the occupants of the Lamborghini (64:6-8)
33. Did not hear any sounds coming from the Lamborghini (64:14-16)
34. At the time of the crash, there was no water tank on the safety truck (66:15-20)
35. Did not participate in the removal of the Lamborghini occupants after the fire was out (69:6-8)
36. It took FD 20 to 30 minutes to extinguish the fire (69:24-25, 70:1-4)
37. *"No, other than what I already spoke on. I just seen that car coming like at a high rate of speed, and I knew from being there from the time it opened to the time it was going to happen, and seeing cars coming in that track, there wasn't no way that car would make that turn at that speed. Once it hit that wall, it was just all in flames from there."* (73:22-25, 74:1-8)
38. Prior to February 12, 2017, there had been no other crashes while he was on-duty (94:12-16)
39. There had been two other crashes around turn 1 & 2 before February 12, 2017 (94:17-23)
40. The other crashes in turn 1 & 2 involved a Corvette (95:2-7)
41. Prior to February 12, 2027, he had heard concerns from Jodi about the concrete barrier wall and the tires in turn 1 & 2 (95:8-25, 96:1-15)
42. Does not know if the driver or passenger were incapacitated when the Lamborghini went off the track (108:12-16)
43. Would have noticed the Lamborghini braking (108:17-25, 109:1-3)
44. There were "skid marks" indicating braking (109:4-9)
45. Did not hear the Lamborghini brake at any time (110:1-4)
46. Concerning raising an issue of the Lamborghini Speed prior to the crash: *"I didn't. But in all of the cars, they have the brake pedals there, and you try to get the instructor a chance to do his job, which is brake, keeping the customer under control or the car on the track. So if he kept say -- since*

001025
001025

001025

I seen him go around extremely more than one time like that, because first time he passed me, man, it was, like I said, normal." (127:15-25, 128:1-3)

47. Has notified an instructor or other SpeedVegas personnel when he thought a vehicle was being driven unsafely (128:12-25)
48. Would dispute the evidence showing the crash occurred in Craig Sherwood's 7th lap (131:6-14)
49. Did not hear the Lamborghini downshift prior to turn 1 (132:4-10)

Jodi Zollin

The following are highlights from my reading of Jodi Zollin's deposition dated December 11, 2019:

1. Around 2002, began volunteering at the Las Vegas Motor Speedway as a pit firefighter (17:12-22)
2. Training: *"We had to go by a NASCAR training, which is extrication, fire suppression, recovery, and radio etiquette."* (17:23-25, 18:1-3)
3. Training consisted of on-line training and hands-on training conducted by NASCAR (18:4-25, 19:1-17)
4. The training was required every year (19:18-20)
5. Began working part-time at LVMS as a pit crew supervisor in 2007 (21:10-14)
6. Pit crew supervisor duties: *"For my guys, I would hire -- they would have to go through their training. They would have to have their certifications. I was in charge of housing gear, team rotations, crews arrivals and departings and meals."* (21:16-22)
7. Continued yearly training (21:23-25, 22:1-24)
8. Certifications: *"I have a certification in methanol suppression. I have certifications in extrication. And I have my CPR/AED certification."* (23:3-7)
9. Fire suppression training: *"They teach you how to put a fire out because most people grab an extinguisher and they shoot right into a fire. That's not how you put a fire out. So they teach you simple things, you know, pass, pull, aim, squeeze, sweep, you know.*
   "Go west" means you have to check the window net, electricals, the steering, and all the toggles. Then with recovery, it would depend on what we're doing a recovery on. Was it just a wreck? Then it can go on the roll-back. Does it need to be tarped? There are different – every scenario would be different." (23:17-25, 24:1-7)
10. Worked for the National Hot Rod Association in fire suppression (25:15-25, 26:1-2)
11. Began working at SpeedVegas in March 2016 (30:10-12)
12. SpeedVegas job responsibilities: *"I took care of payroll. I took care of the shifts, scheduling everyone. I made sure that the equipment was good. We made sure we made a checklist. We would*

001026
001026
001026

blow off the track in the morning to make sure there was no dirt. And then we go park in the corner." (31:10-17)

13. Safety vehicle equipment: (32:11-25, 33:1-25, 34:1-7)
    a. *"We had an EMT bag, all the medical."*
        i. *"Band-Aids, gauze, eye wash, a burn cream, Ace bandage wrap, stethoscope, blood pressure cuff, baby aspirin, and scissors."*
    b. *"An AED."*
    c. *"We had a backboard, brooms, shovels, Oil Dri, and eight fire extinguishers."*
        i. *I had four Cold Fire, which are water with the soap, and four Purple-K."*
    d. *"Safety lights? Did you need to know about the fire lights?"*
    e. No water tank
14. Did not receive any training at SpeedVegas regarding fire and safety or extractions (37:20-23)
15. No regular safety training (46:24-25, 47:1-2)
16. Worked the day before and the day of the subject crash (51:13-16)
17. Subject crash description: *"I had just looked down at my phone and my partner said, "Jodi, look." And when I looked up, the Aventador was at the end of the front stretch, and it did this little hop thing, went through the shutdown, and head on into the wall and burst into flames. Through the tires, into the wall, because there was a wall of tires."* (58:1-12)
18. Can not estimate the speed of the Lamborghini (59:19-22)
19. The Lamborghini did not look like it was slowing down (60:21-23)
20. *"As -- the only way I can describe it is if -- the car was upset. It kind of lifted a little bit to the left, lifted a little to the right. It shimmied, like if you were to hit the curb and it upset the car. It gave it a little -- I don't know how to describe it."* (61:1-12)
21. First thing contacted was the tire barrier (62:8-16)
22. Lamborghini crashed head-on into the concrete barrier wall (62:23-25, 63:1-6)
23. Lamborghini burst into flames immediately (63:7-18)
24. Did not observe any fire prior to hitting the concrete barrier wall (63:19-25, 64:1)
25. The crash broke the concrete barrier wall (64:14-16)
26. *"And there was nothing we could do. I couldn't get to them.*
    The fire department showed up, and they emptied 1700 gallons of water on that fire and then had to foam the tires to put it out." (68:2-19)

001027
001027

001027

27. *"And this is going to sound really weird when I say this. It was really, really, really hot. I've been on a lot of fires, and that was a really, really hot fire. And I know it's because of the tires and fuel and -- it was really hot."* (69:4-10)
28. Responded to over 200 fires in 15 years (69:11-15)
29. Same type of tire barricades is used at the Las Vegas Motor Speedway (70:3-12)
30. *"I told them that there needs to be a tire barrier instead of a solid poured concrete wall – going into turn 2."* (97:1-12)
31. Speed on straightaway: *"In my opinion, you can't say how fast anyone can go on this because I could go really, really slow. You can go really, really fast. You don't know how fast anybody can go in that. It's only half a mile. So it would depend on the driver and the instructor and their comfort-ability of having them go faster."* (123:23-25, 124:1-7)
32. SpeedVegas did not have 5-point restraints in the vehicle (127:22-25, 128:1-1-3)
33. No fire suppression system in the SpeedVegas cars (128:4-12)

Work Performed

The following work was performed by myself and/or my staff to assist in the analysis of this collision:

001028

1. Reviewed the material provided by the Law Offices of Agajanian, McFall, Weiss, Tetreault & Crist LLP
2. Weather data for February 12, 2017 was obtained from the National Weather Service and analyzed
3. Illumination data for February 12, 2017 was obtained from the National Oceanic and Atmospheric Administration was obtained and analyzed
4. A Google Earth Pro image of the collision site on November 4, 2016 was obtained and analyzed
5. The National Highway Traffic Safety Administration (NHTSA) website was searched for recalls, investigations, complaints, and manufacturer communications for the 2015 Lamborghini Aventador
6. Vehicle Specification for the 2015 Lamborghini Aventador were obtained and analyzed
7. The collision site was inspected on February 13, 2017 and June 12, 2019
8. The 2015 Lamborghini Aventador was inspected on February 13, 2017, January 23, 2019, June 11, 2019, June 13, 2019, and June 26, 2020
9. An exemplar Lamborghini Aventador was obtained and inspected on June 13, 2019
10. A scale diagram of the collision site was completed and analyzed
11. A scale diagram of an exemplar Lamborghini Aventador was completed and analyzed

001028

001028

12. The vehicle dynamics of the 2015 Lamborghini Aventador were calculated and analyzed

Discussion

Vehicle Dynamics Analysis

I approached the analysis of the Lamborghini Aventador's dynamics knowing there was going to be certain aspects of the collision I would not be able to quantify accurately without speculating. Any attempt at a crush analysis would require, in my opinion, too much speculation as to the A and B values. There is also no known data available for the energy absorption for the tire and concrete barrier. There is also not enough data currently available by which an accurate delta-V can be calculated. Therefore, my approach to calculating the speed of the Lamborghini Aventador was done from a conservative approach that minimized the need for estimations without supporting data. To ensure the accuracy of my analysis, multiple methodologies using the available physical evidence were employed.

Segmented Analysis

This part of my analysis began by creating a 2D scale diagram of the incident site using the 3D scan data and photographs from February 13, 2017. This 2D scale diagram was overlayed onto a scaled Google Earth Pro image dated November 4, 2016 (Attachment 1A). A 2D scale diagram of an exemplar Lamborghini Aventador was created using 3D scan data and photographs taken on June 13, 2019 (See Attachment 1B).

001029

001029

The scaled exemplar Lamborghini was placed on the documented tire marks in the scale diagram at various locations. This created a total of nine (9) segments for analysis (See Attachment 1D). The speed loss for each segment was calculated and placed into the combined speed formula to obtain a speed when first braking takes place. This resulted in a calculated speed of one hundred thirty-four (134) miles per hour. This calculation does not consider the energy loss when the Lamborghini collided with the tire barrier or account for the energy necessary to damage the Lamborghini. Therefore, this is a minimum speed. I conducted a weighted time analysis for the nine (9) segments which showed from loss of control till the Lamborghini came to a stop took approximately six (6) to seven (7) seconds. For further detail of the segmented analysis refer to Attachment 2B and 2C.

All measurements used the location of the Lamborghini's calculated longitudinal center of mass (COM) (See Attachment 2A) as a measuring point on the vehicle.

001029

Critical Speed Analysis

A second methodology employed to calculate the Lamborghini speed at loss of control entailed doing a critical speed analysis. I used the first three (3) Lamborghini locations from my segmented analysis (see Attachment 1E) to obtain a chord of 122.99 feet and a middle ordinate of 1.760 feet. This resulted in a radius of 1075.2 feet. This radius was placed into the critical speed formula where a speed of one hundred forty (140) mph at first braking was obtained (see Attachment 2D page 19 to 22).

Two additional calculations were completed (see Attachment 2D page 23 to 26) to see the sensitivity of this calculation by varying the middle ordinate by six (6) inches on either side of the above radius. This revealed the radius calculation was somewhat sensitive to the chord and middle ordinate measurements. The sensitivity analysis revealed a speed at first braking between one hundred twenty-two (122) and one hundred sixty-three (163) mph.

Velocity Estimate with Special Conditions

Two additional calculations were conducted using the beta angle of the Lamborghini as plotted in my segmented analysis. This analysis takes the sideslip angle of the Lamborghini and resulted in a speed at first braking of one hundred seven (107) to one hundred forty (140) mph. For further details, refer to Attachment 2D page 27 and 28.

001030

001030

Exemplar Lamborghini Brake Testing

An exemplar Lamborghini Aventador was obtained from Royalty Exotic Cars located at 4305 Dean Martin Drive, Suite 120, Las Vegas, Nevada on June 13, 2019 (see Figure 17). Using a V-Box sport with an external antenna, four (4) brake tests were conducted on Red Coach Avenue between Durango Drive and Cimarron Avenue in Las Vegas Nevada (see Attachment 2E page 29 and 30).

Straight-Line Braking Analysis

I conducted an analysis of the distance required to bring the Lamborghini to a complete stop using a speed range of forty (40) to one hundred sixty (160) mph in five (5) mph increments. I used this calculation to see where the Lamborghini Aventador would be at a certain speed if the braking had started at the same place as in this incident. I chose three trajectories for my analysis. The first, was the trajectory heading indicated by the tire marks when they first became visible on the road course (see Attachment 1G page 7). The second was the trajectory heading if the Lamborghini braked in line with the straight away (see Attachment 1H page 8). Neither of these calculations consider the various surfaces or terrain elevation changes. The sole purpose was to see what, if any, difference there might have been in obstacles

001030

encounter versus what occurred in this incident and how that may have changed the outcome. The last trajectory analysis used the apex driving line of turn 1 and 2 (see Attachment 1I page 9) and started at the apex of turn 2.

Figure 16. DSLLC photograph IMG_0625 of the exemplar Lamborghini Aventador taken on June 13, 2019.

Exhibit 8 from Greg Schroeder's Deposition

Exhibit 8 from Mr. Greg Schroeder's deposition dated November 21, 2019 is a printout of what appeared to be turn one (1) speed and lap time for Mr. Craig Sherwood in the Lamborghini Aventador on February 12, 2019. The same data is also contained as Exhibit 40 in Mr. Arron Fessler's deposition. While the accuracy of this data is unknown, it is still data that can be used for comparison purposes.

Using the exhibit data, I calculated the average turn one (1) speed for Mr. Sherwood was one hundred forty-five (145) mph for the seven laps before this incident occurred. The average lap time calculated as seventy-eight (78) seconds. For further information on my calculation, see Attachment G page 34 and 35.

Exhibit 30 from Mr. Fessler's deposition graphically shows Mr. Sherwood's lap speed in the Lamborghini Aventador to include when the data link was lost (see Figure 18). Looking at where the graph line goes flat, it appears there is only a slight loss of speed.

001031
001031
001031

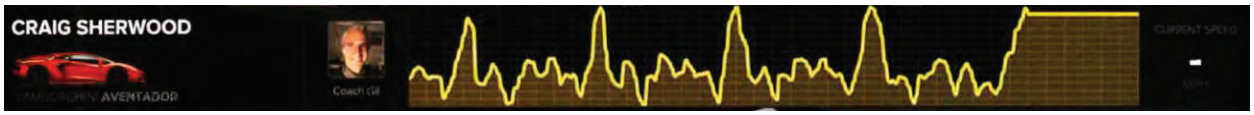


Figure 17. Screen capture of Exhibit 39 from Mr. Aaron Fessler's deposition.

Opinions and Conclusions

The following opinion(s) and conclusion(s) are based upon the totality of my analysis including my inspection of the collision site; my inspection of the vehicle involved; my review and analysis of the material provided; my review and analysis of information obtained by myself and/or my staff; as well as my education, training, and experience. These opinions are to a reasonable degree of collision reconstruction and scientific certainty. Any of my work product may be used as demonstrative exhibits at trial. I reserve the right to amend and/or supplement my opinions in the event of a mistake, oversight, or omission.

I understand discovery is ongoing and that pre-trial motions are being still being argued and decisions rendered even though the expert deadline per the court scheduling order is set for November 5, 2020. Therefore, I anticipate additional material to be provided after the November 5, 2020 deadline. I anticipate this additional material may provide additional facts which may lead to me conducting additional investigation and possible analysis after this report. This additional work has the potential to establish additional facts, add meaning, and potentially add new facts all of which may lead to substantial changes to my opinions and conclusions. As such, the following opinions are offered based on facts and information known to me as of the date of this report. Therefore, I reserve the right to amend and/or change my opinion(s) once this new or additional information becomes available to me.

001032

001032

1. Mr. Craig Sherwood was in the driver's seat of a 2015 Lamborghini Aventador on lap seven (7) of a paid driving experience on a closed road course operated by SpeedVegas, LLC. Mr. Gil Ben-Kely was the right front passenger/driving instructor in the 2015 Lamborghini Aventador. This was Mr. Sherwood's second vehicle driven on the road course on February 12, 2017,
2. As the Lamborghini Aventador approached turn one (1) at the end of a straight away, the vehicle began to brake leaving tire marks on the road course. The Lamborghini continued to brake and left the road course to the right before reentering near the exit of turn one (1). Still braking, the Lamborghini crossed the road course and entered a paved area to the left where it began to rotate clockwise. The Lamborghini continued across this paved portion until it reentered the road course near the end of turn two (2). The Lamborghini began to rotate in a counterclockwise direction, crossing the road course, entered a gravel area where it struck a tire barrier and a concrete barrier

001032

wall. The Lamborghini slide to the left following the concrete barrier wall before coming to rest and catching fire.

3. An analysis the tire marks, revealed the Lamborghini Aventador was traveling a minimum speed between one hundred thirty-four (134) and one hundred thirty-seven (137) mph at the beginning of the tire marks.
4. The time for the Lamborghini to travel from first braking to final rest was approximately between six (6) and seven (7) seconds. This would be a maximum time.
5. There is evidence Mr. Craig Sherwood had a history of seizures and the evidence indicates the seizures were controlled. However, the possibility of a medical episode on the part of Mr. Sherwood cannot be ruled in or out as a potential contributing factor.
6. The 2015 Lamborghini Aventador involved in this incident was equipped with a brake pedal for Mr. Sherwood and Mr. Ben-Kely to control the vehicle's braking. There is no definitive evidence that can point to which one or if both were operating the brakes in the vehicle when the tire marks were deposited. The location of the start of the braking action, i.e. one hundred sixty-three (163) feet beyond the last braking cone before turn one (1), indicates whoever applied the brakes did so well beyond the safe area given my calculated speed at first braking.
7. There is no evidence there was a mechanical failure that caused this collision.
8. The evidence suggests the Lamborghini was being operated outside of the normal driving line leading into turn one. If the Lamborghini is moved backwards on the same trajectory as when the vehicle began leaving tire marks, the vehicle was setup for the turn incorrectly and was outside of the normal driving line. Given Mr. Sherwood had previously negotiated turn one (1) and turn two (2) successfully in two (2) different sports cars and at speeds higher than my calculated minimum speed range, his sudden loss of control becomes even more unknown as to the reason why.
9. Three (3) different trajectories were analyzed keeping the Lamborghini Aventador on a straight-line braking trajectory with no steering input. The analysis resulted in the vehicle most likely having reduced its speed sufficiently to where any impact with an object would have resulted in less crash forces being applied to the occupants thereby reducing the injuries.

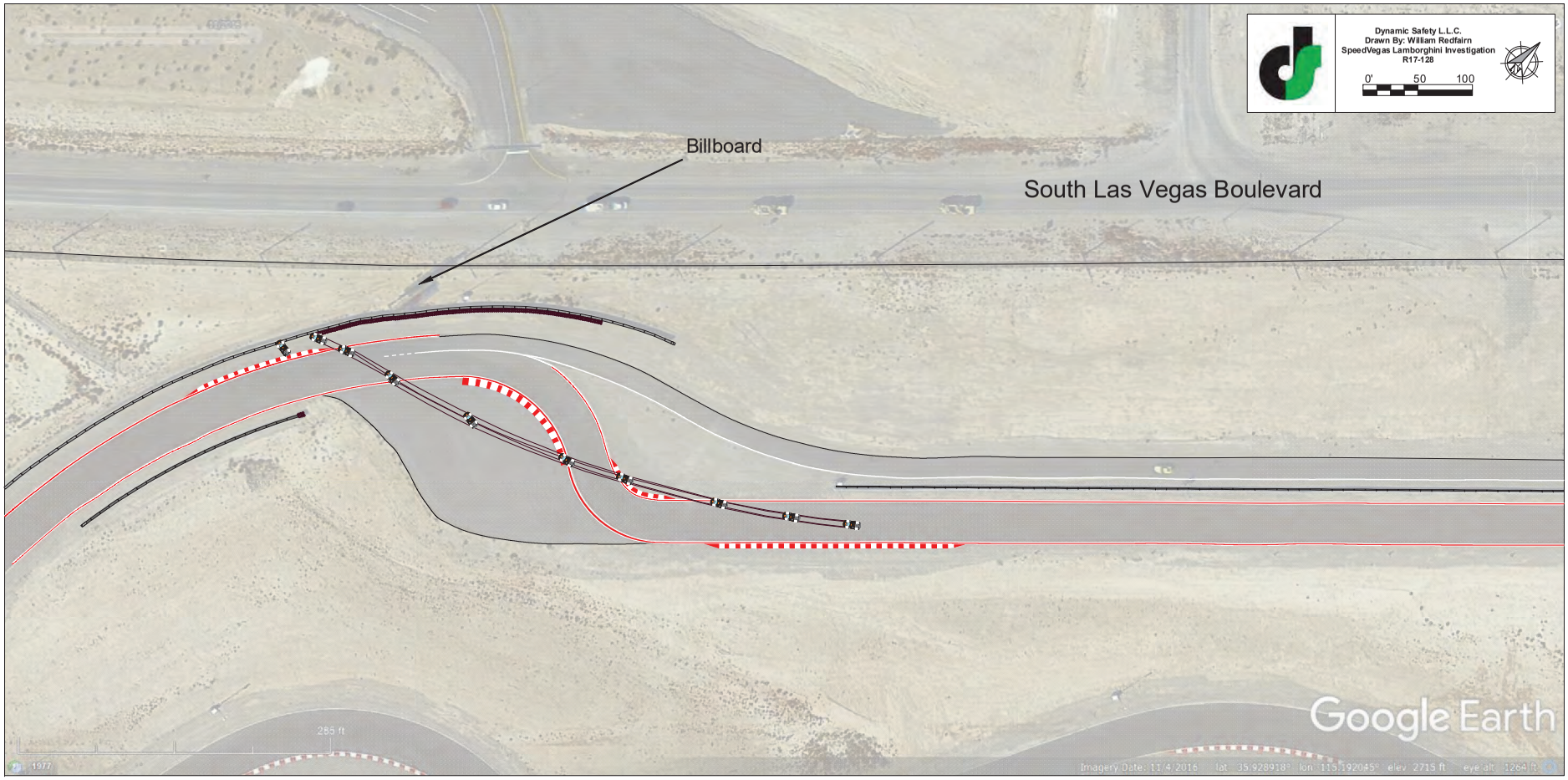
001033

001033

William Redfairn, Consultant
Dynamic Safety, L.L.C.

001033

Scale Diagram

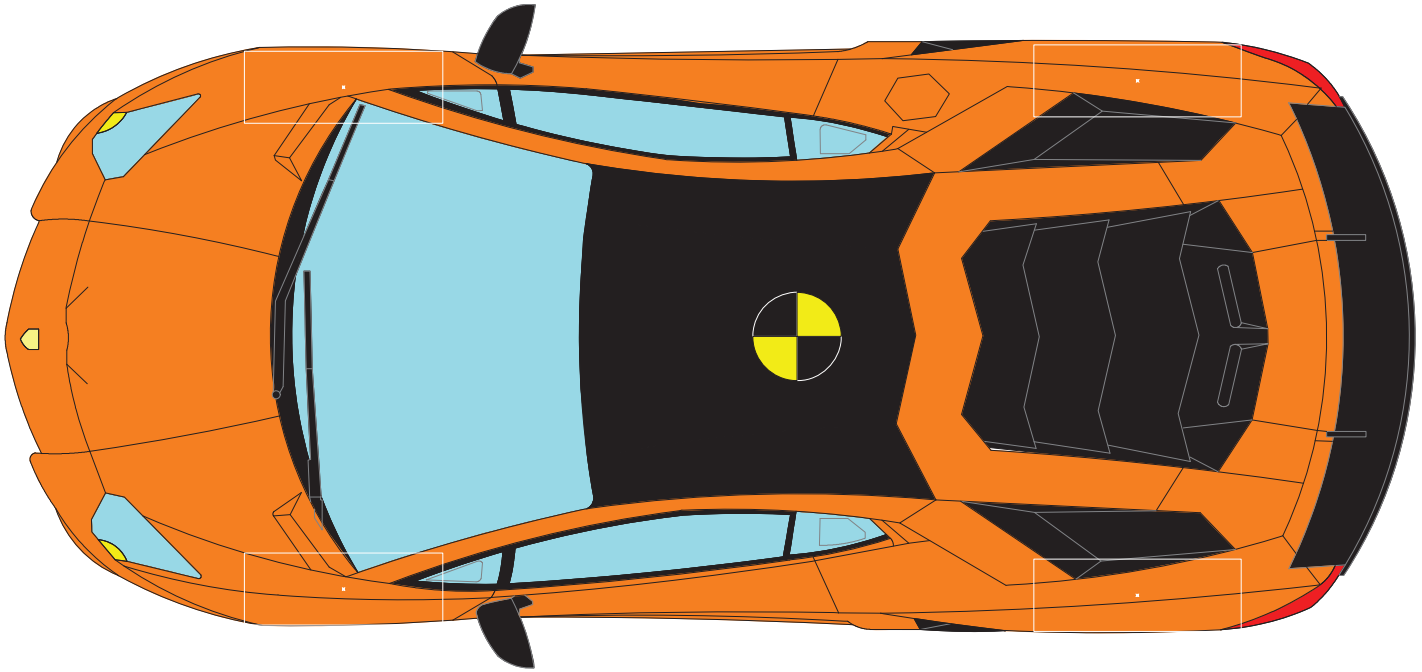


001034

001034

001034

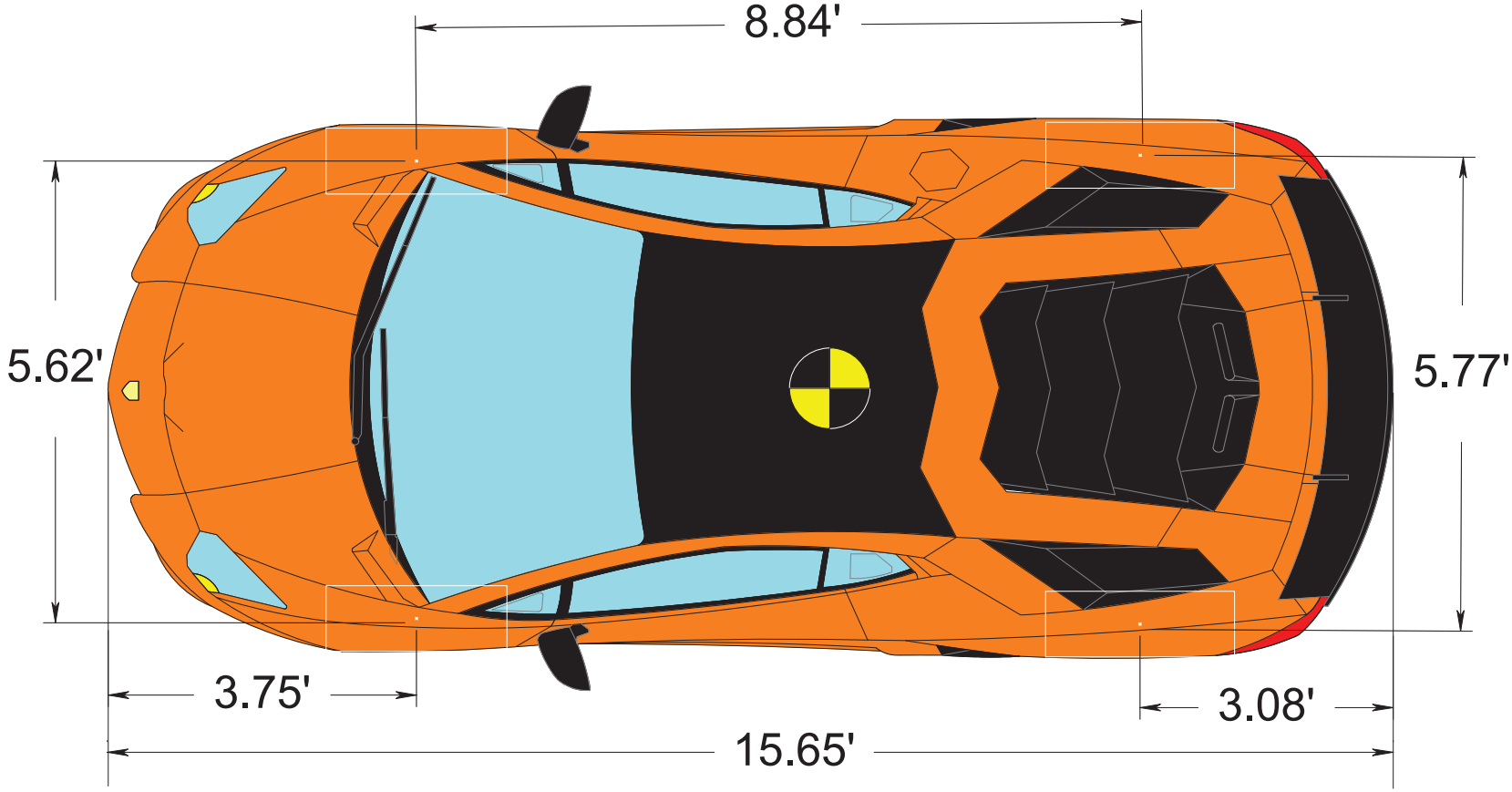
Exemplar Lamborghini



Dynamic Safety L.L.C.
Drawn By: William Redfairn
SpeedVegas Lamborghini Investigation
R17-128
Exemplar Lamborghini Aventador
0' 1 2

001035
001035
001035

Exemplar Lamborghini Measurements



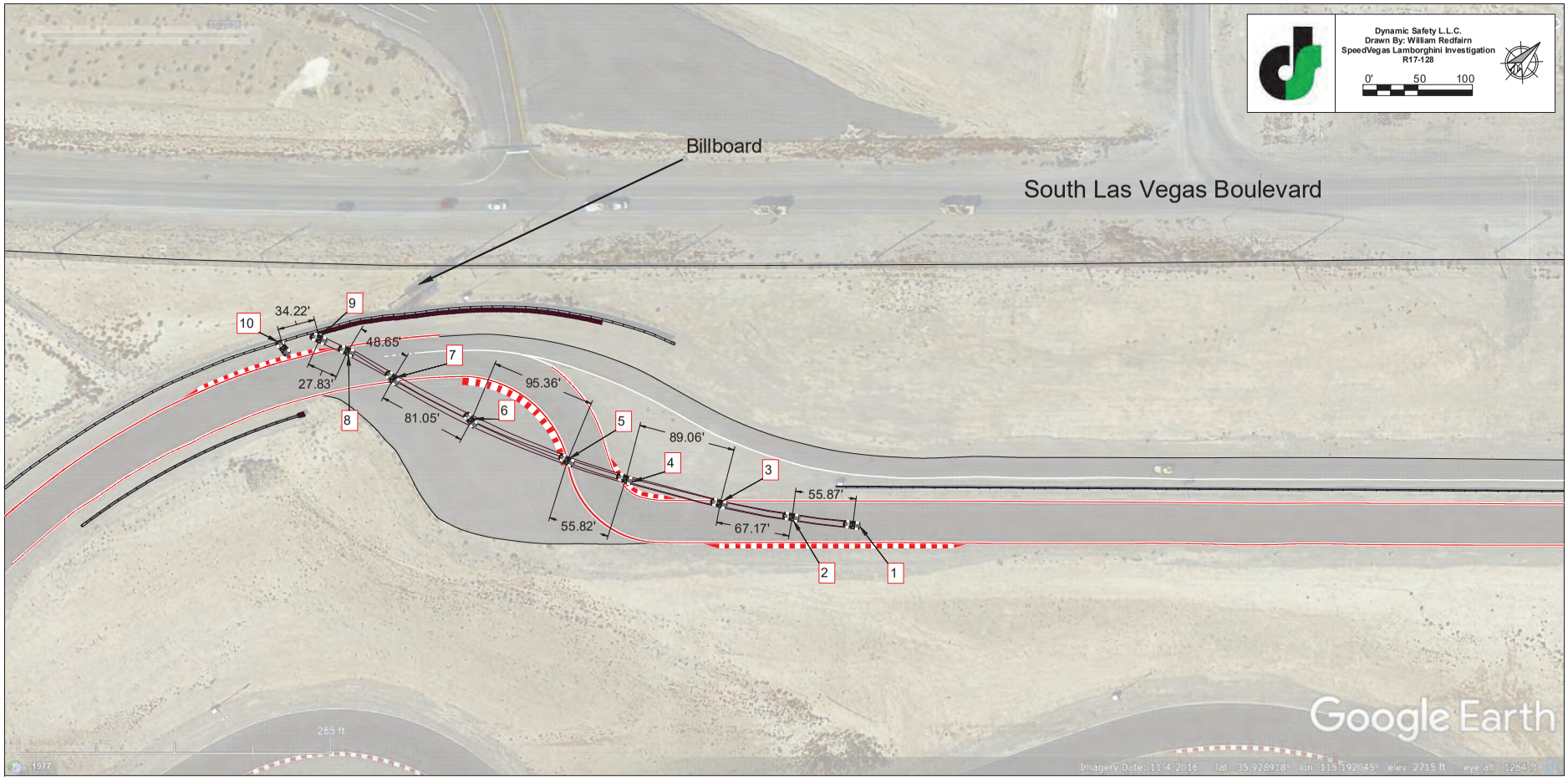
Dynamic Safety L.L.C.
Drawn By: William Redfairn
SpeedVegas Lamborghini Investigation
R17-128
Exemplar Lamborghini Aventador
0' 1 2

001036

001036

001036

Segment Analysis

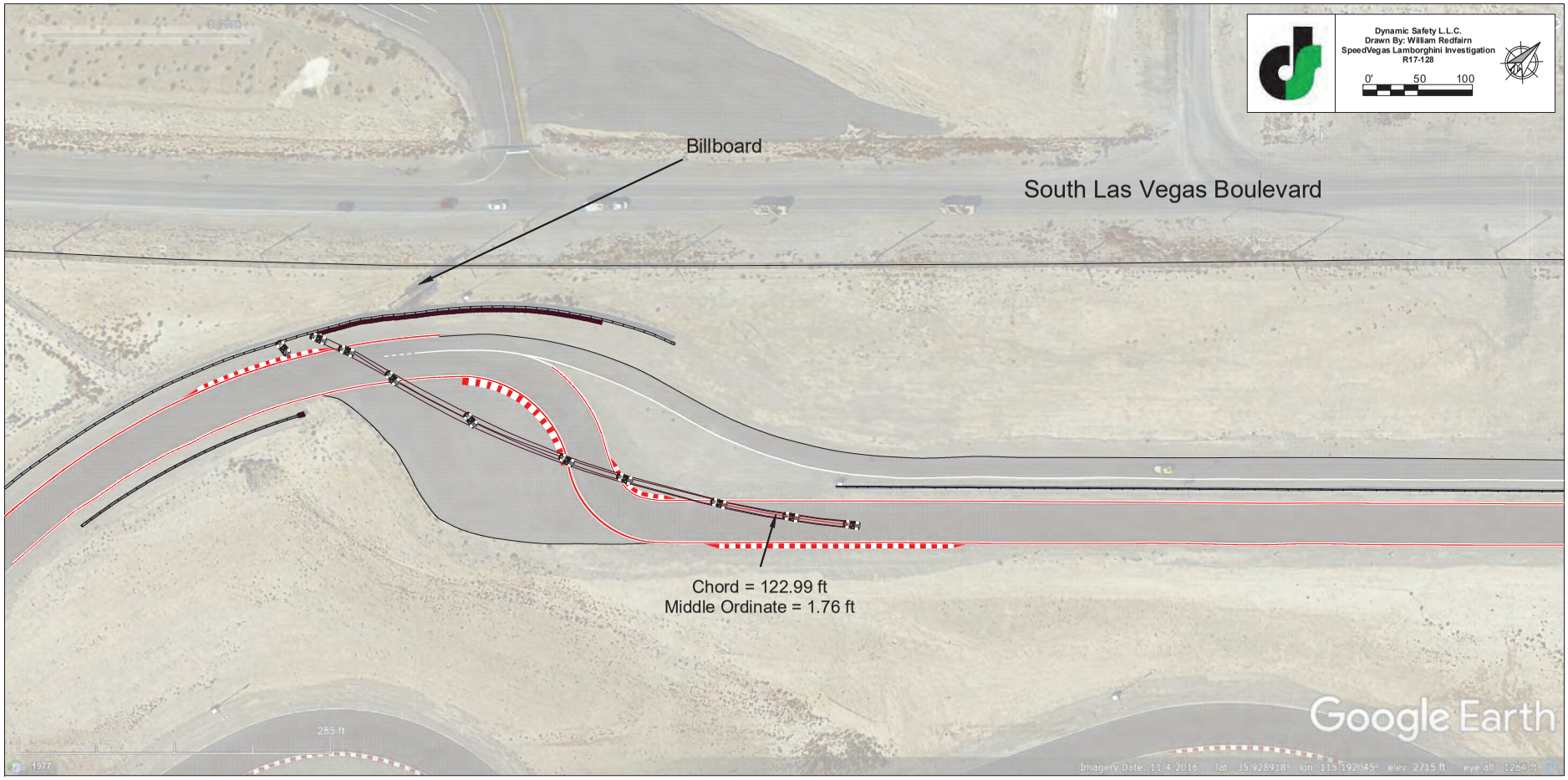


001037

001037

001037

Critical Speed Analysis

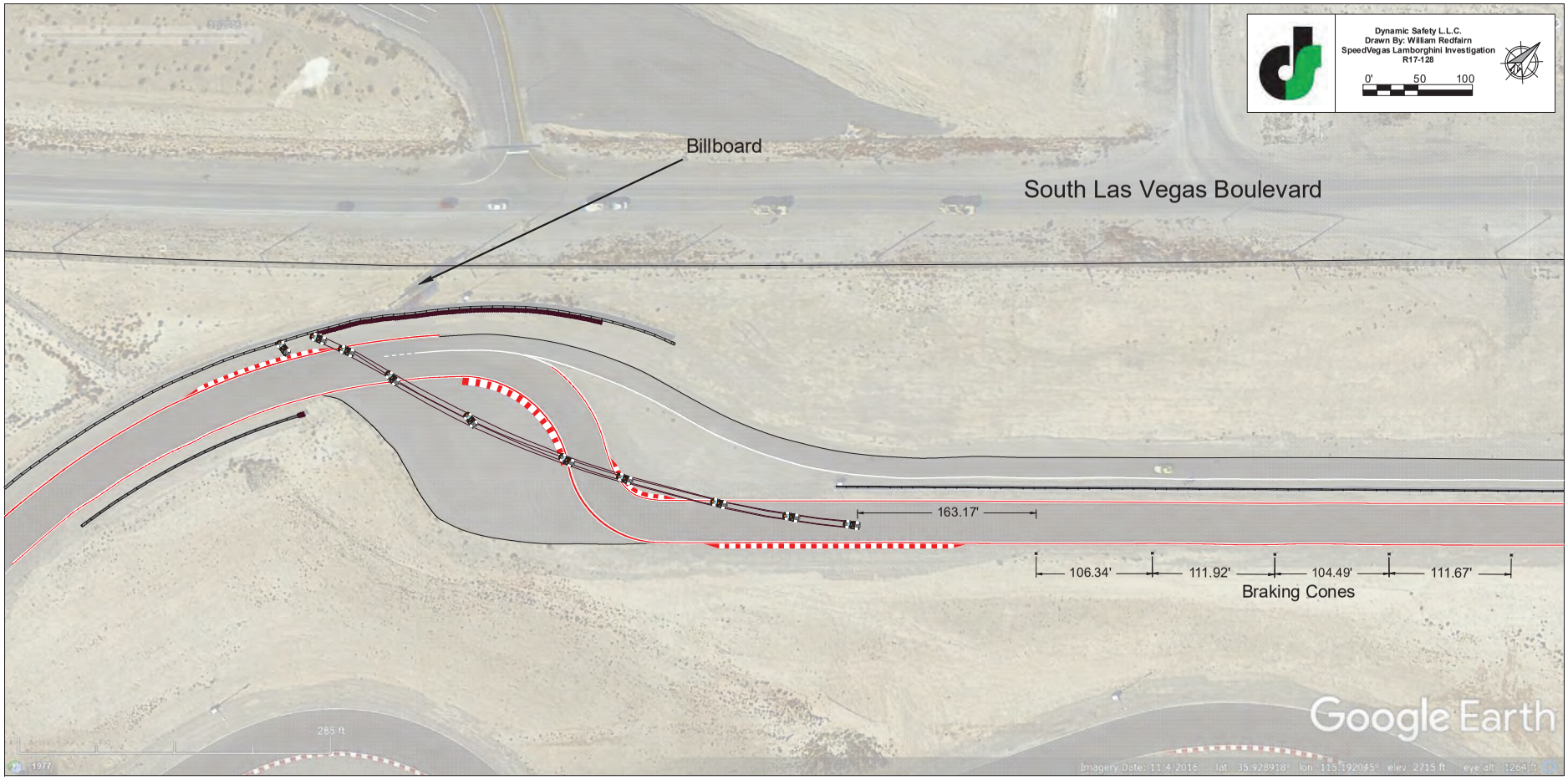


001038

001038

001038

Braking Cone Location

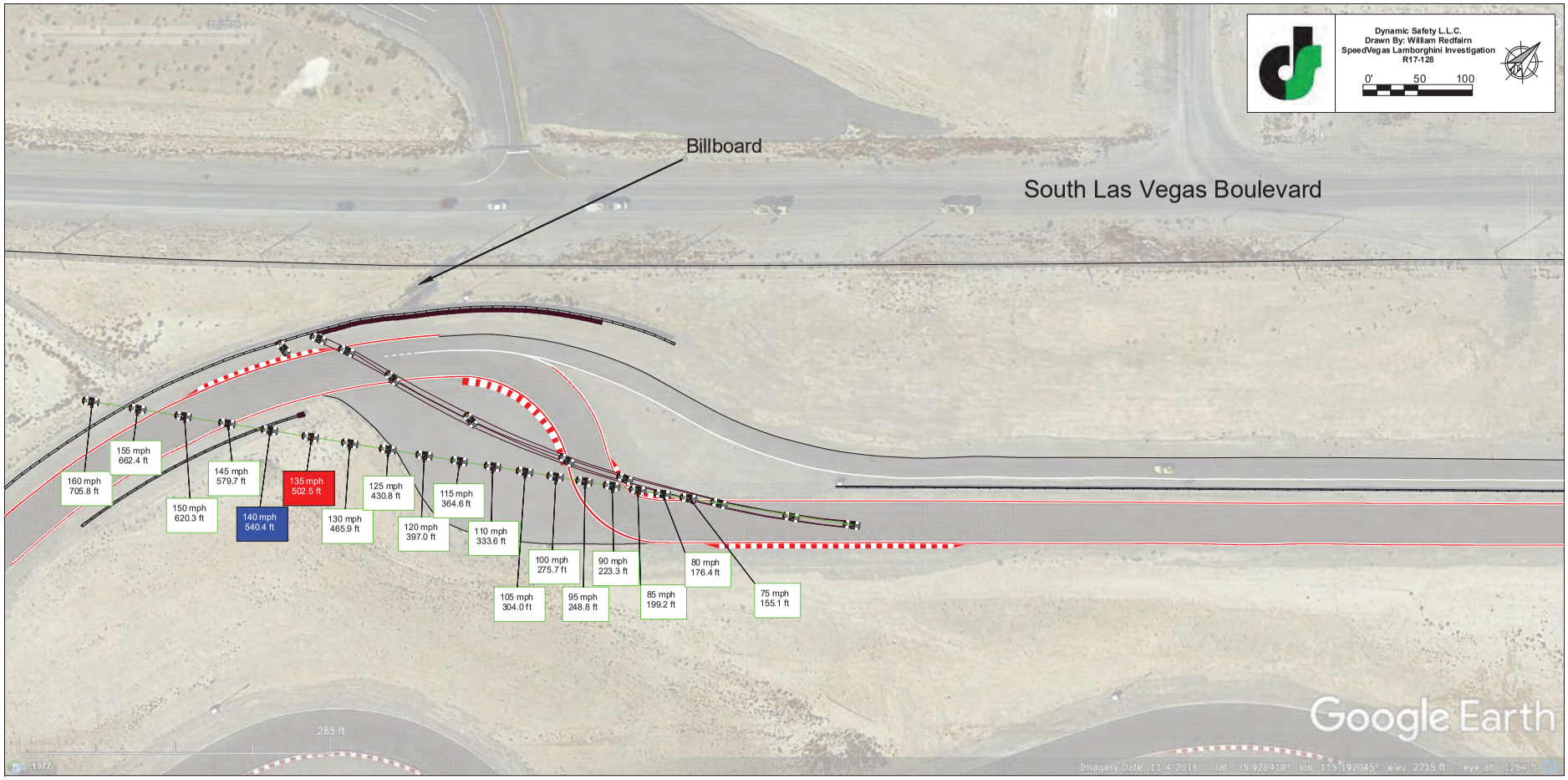


001039

001039

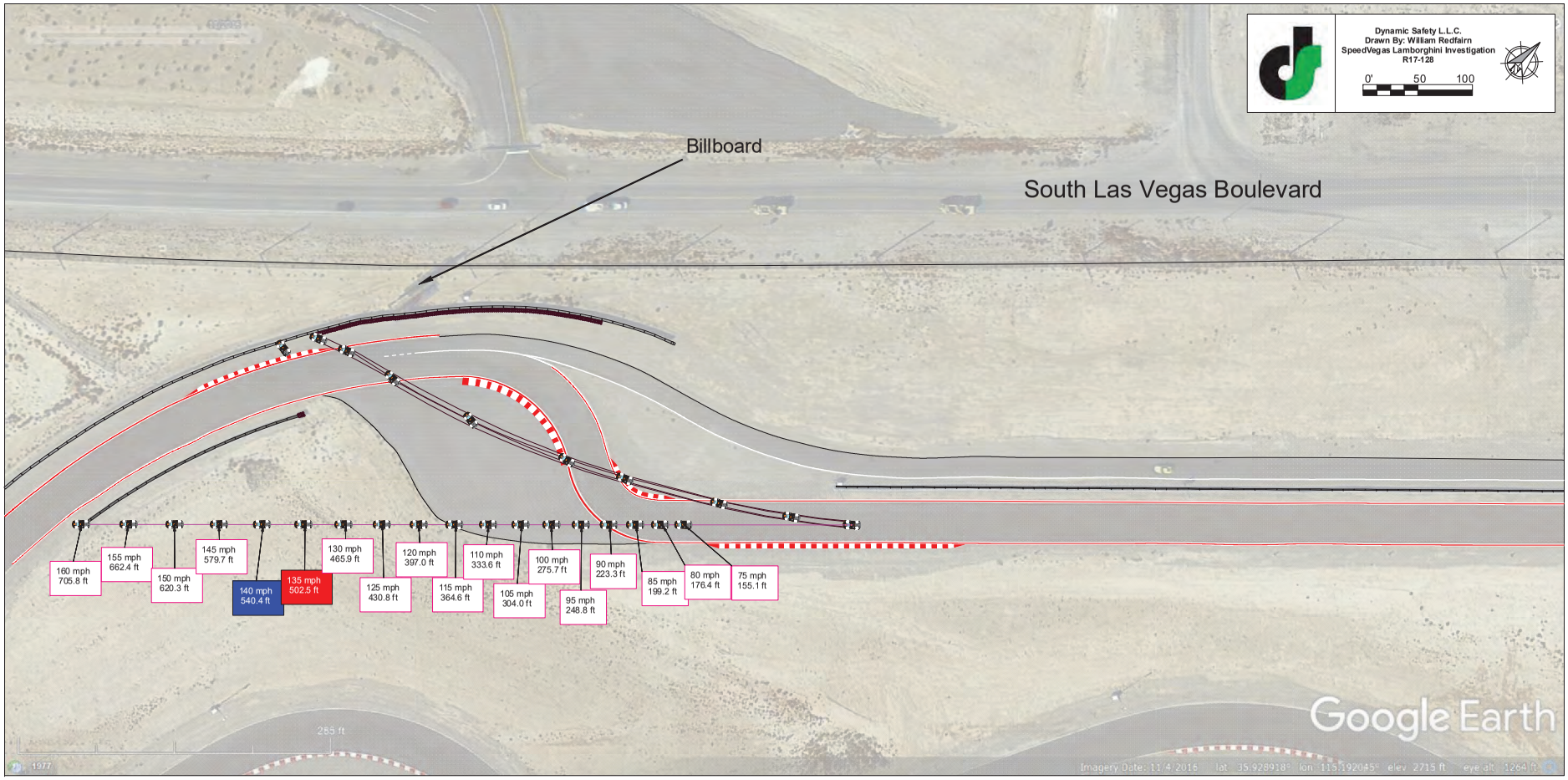
001039

Straight-Line Braking Using Loss of Control Trajectory



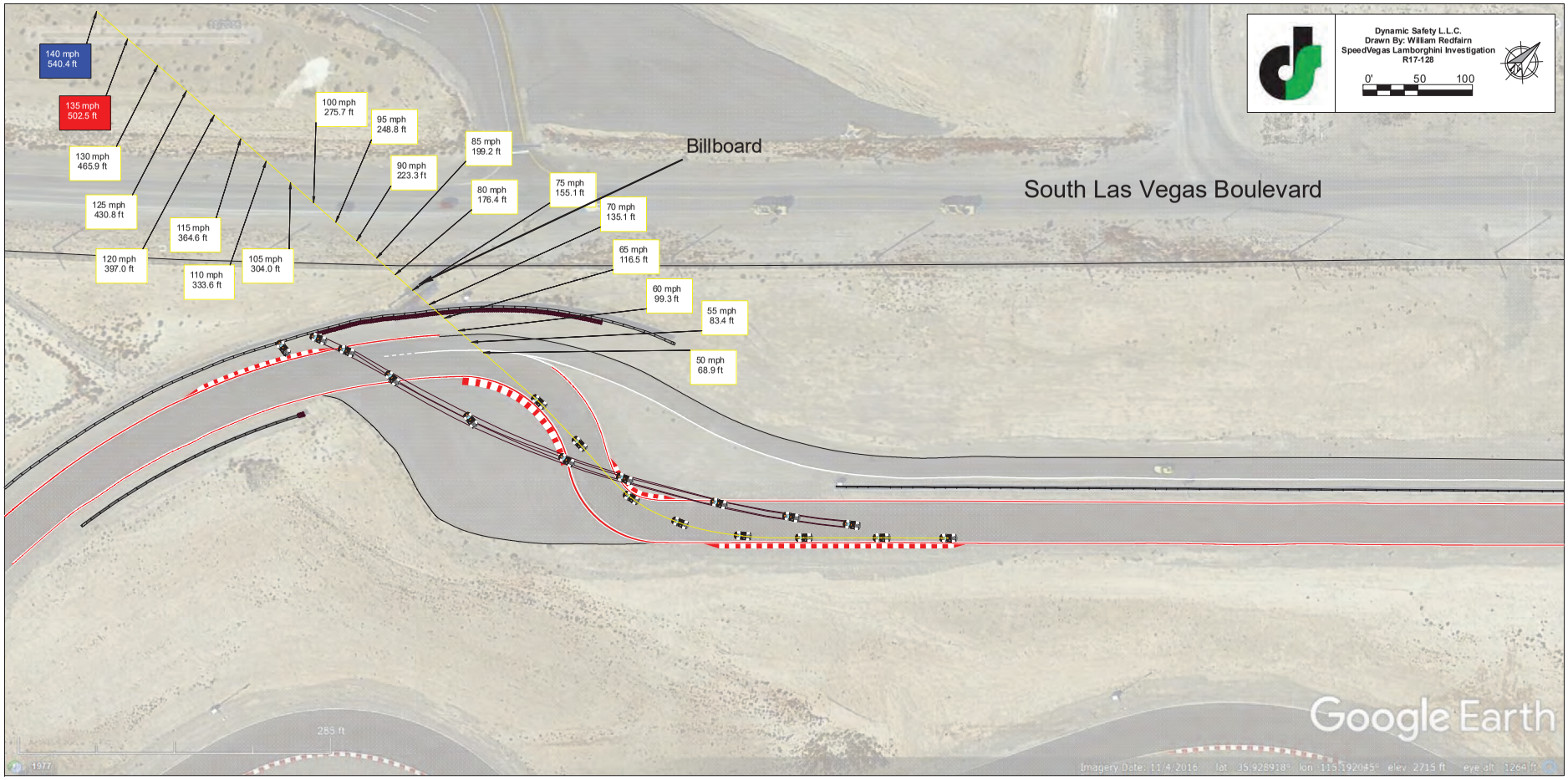
001040

Straight-Line Braking



001041
001041
001041

Straight-Line Braking Using Driving Line



Dynamic Safety L.L.C.

SpeedVegas Lamborghini Investigation	R17-128
Project Name	File #

Center of Mass Calculation

2015	Lamborghini	Aventador	ZHWUR1ZD3FLA03687
Vehicle Year	Make	Model	Vehicle Identification Number

Input Data

Vehicle Weight (w) :	4,037 lbs				
Weight on Front (w_f) :	1,736 lbs		% Front Distribution:	43%	
Weight on Rear (w_r) :	2,301 lbs		% Rear Distribution:	57%	
Wheelbase (l) :	8.86 ft	106.32 in			
Front Track Width:	5.64 ft	67.68 in	Rear Track Width:	5.58 ft	66.96 in

Data Source: VIN Link

Logitudinal Location

FRONT

$$l_f = \frac{w_r l}{w}$$

l = 8.86 ft
w = 4,037 lbs
w_r = 2,301 lbs
l_f = **5.05 ft** **60.60 in**

REAR

$$l_r = \frac{w_f l}{w}$$

l = 8.86 ft
w = 4,037 lbs
w_f = 1,736 lbs
l_r = **3.81 ft** **45.72 in**

Math

FRONT

$l_f = (w_r * l) \div w$
$l_f = (2300.805 * 8.86) \div 4036.5$
$l_f = 20385.13 \div 4036.5$
$l_f = 5.05$ ft 60.60 in

REAR

$l_r = (w_f * l) \div w$
$l_r = (1735.695 * 8.86) \div 4036.5$
$l_r = 15378.26 \div 4036.5$
$l_r = 3.81$ ft 45.72 in

AutoStats Weight:	3,900 lbs	Vehicle Weight:	3,742 lbs
VIN Link Weight:	3,583 lbs	Ben-Kely Weight:	136 lbs
Average:	3,742 lbs	Sherwood Weight:	159 lbs
		Total Weight:	4,037 lbs

Passenger weight source: Clark County Coroner/Medical Examiner Reports

Dynamic Safety L.L.C.

SpeedVegas Lamborghini Investigation	R17-128
Project Name	**File #**

Speed Analysis Summary

Lamborghini Aventador Speed at First Braking:	133.8 mph	196.3 fps
Lamborghini Aventador PDOF:	45.0 °	

Note:
The speed numbers above are a minimum value and do not account for the energy necessary to damage the Lamborghini Aventador, the tire barrier, or the concrete barrier.

Median velocity of all calculated velocities:	201.6 fps	137.4 mph
Average velocity of all calculated velocities:	198.3 fps	135.2 mph

001044

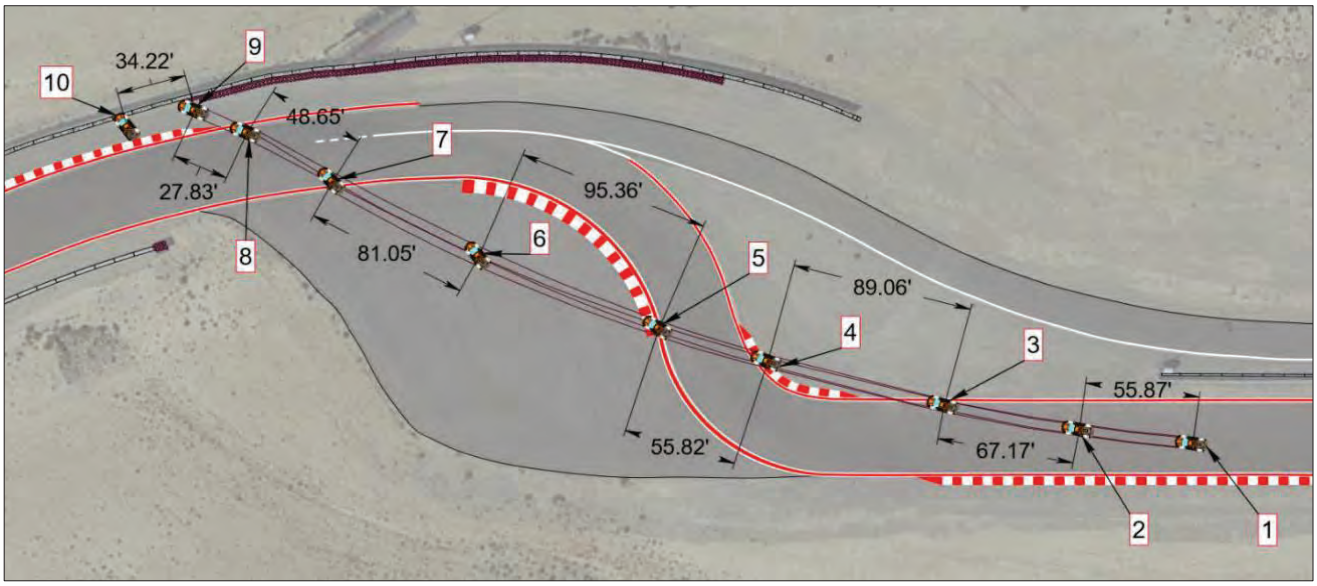
001044

001044

Dynamic Safety L.L.C.

SpeedVegas Lamborghini Investigation	R17-128
Project Name	**File #**

Speed Analysis Segment Layout



001045

001045

001045

Dynamic Safety L.L.C.

SpeedVegas Lamborghini Investigation	R17-128
Project Name	**File #**

Minimum Speed - Segments 1 to 3 (Speed #1)

Formula Used

$$S = \sqrt{30 \times D \times f}$$

Source:

C. Gregory Russell, Equations & Formulas for the Traffic Accident Investigator & Reconstructionist, (2007), Accident Analysis & Reconstruction, Inc., Gelen Burnie, Maryland, pp 19

Formula Inputs

Distance #1:	55.9 ft
Distance #2:	67.2 ft
Total Distance:	123.0 ft
Adjusted Drag Factor:	1.2121
Speed:	66.9 mph
Velocity:	98.1 fps

Math

$S = \sqrt{30 * D * f}$

$S = \sqrt{30 * 123.04 * 1.2121}$

$S = 66.8887\ mph$

$V = S * 1.467$

$V = 66.8887 * 1.467$

$V = 98.1258\ fps$

001046

Calculation Notes:

This calculation covers segment #1, #2, and #3. The Lamborghini is beginning to leave deceleration marks on the track indicating hard braking coming into turn #1, before leaving the track to the right. The total distance was obtained by combining the center of mass (COM) travel distance between segement #1 and #2 and #2 and #3 to arrive at a total distance of 121.74 feet. The adjusted drag factor was obtained from 100% braking efficiency.

001046

Coefficient of Friction Source:

https://www.motortrend.com/cars/lamborghini/aventador/2015/2015-lamborghini-aventador-sv-first-test-review

Dynamic Safety L.L.C.

SpeedVegas Lamborghini Investigation	R17-128
Project Name	**File #**

Minimum Speed - Segment 3 to 4 (Speed #2)

Formula Used

$$S = \sqrt{30 \times D \times f}$$

Source:

C. Gregory Russell, Equations & Formulas for the Traffic Accident Investigator & Reconstructionist, (2007), Accident Analysis & Reconstruction, Inc., Gelen Burnie, Maryland, pp 19

Formula Inputs

Total Distance:	89.1 ft
Adjusted Drag Factor:	0.70
Speed:	43.2 mph
Velocity:	63.4 fps

Math

$S = \sqrt{30 * D * f}$

$S = \sqrt{30 * 89.06 * 0.7}$

$S = 43.2465$ mph

$V = S * 1.467$

$V = 43.2465 * 1.467$

$V = 63.4426$ fps

Calculation Notes:

This calculation covers the Lamborghini traveling off the track into the loose gravel and the center of mass (COM) traveling the distance between segment #3 and #4. The adjusted drag factor is based on published data for loose gravel (0.40 to 0.70).

Loose Gravel Coefficient of Friction Source:

Fricke, L., Traffic Accident Reconstruction, (1990), 1st ed., Northwestern University Traffic Institute, Evanston, Illinois, pp 62-14

001047

001047

Dynamic Safety L.L.C.

SpeedVegas Lamborghini Investigation	R17-128
Project Name	**File #**

Minimum Speed - Segment 4 to 5 (Speed #3)

Formula Used

$$S = \sqrt{30 \times D \times f}$$

Source:

C. Gregory Russell, Equations & Formulas for the Traffic Accident Investigator & Reconstructionist, (2007), Accident Analysis & Reconstruction, Inc., Gelen Burnie, Maryland, pp 19

Formula Inputs

Total Distance:	55.8 ft
Adjusted Drag Factor:	1.2121
Speed:	45.1 mph
Velocity:	66.1 fps

Math

$S = \sqrt{30 * D * f}$

$S = \sqrt{30 * 55.82 * 1.2121}$

$S = 45.0531\ mph$

$V = S * 1.467$

$V = 45.0531 * 1.467$

$V = 66.0929\ fps$

001048

001048

Calculation Notes:

This calculation covers the Lamborghini center of mass (COM) traveling the distance between segment #4 and #5 back onto the track. The adjusted drag factor is based on 100% braking efficiency as the Lamborghini leaves the track and goes into it's rotation off the track.

Coefficient of Friction Source:

https://www.motortrend.com/cars/lamborghini/aventador/2015/2015-lamborghini-aventador-sv-first-test-review

Dynamic Safety L.L.C.

SpeedVegas Lamborghini Investigation	R17-128
Project Name	**File #**

Minimum Speed - Segment 5 to 6 (Speed #4)

Formula Used

$$S = \sqrt{30 \times D \times f}$$

Source:

C. Gregory Russell, Equations & Formulas for the Traffic Accident Investigator & Reconstructionist, (2007), Accident Analysis & Reconstruction, Inc., Gelen Burnie, Maryland, pp 19

Formula Inputs

Total Distance:	95.4 ft
Adjusted Drag Factor:	1.2121
Speed:	58.9 mph
Velocity:	86.4 fps

Math

$S = \sqrt{30 * D * f}$

$S = \sqrt{30 * 95.36 * 1.2121}$

$S = 58.8861$ mph

$V = S * 1.467$

$V = 58.8861 * 1.467$

$V = 86.3859$ fps

001049

Calculation Notes:

This calculation covers the Lamborghini center of mass (COM) traveling the distance between segment #5 and #6 as it is braking and rotating approximately 27 degrees clockwise.

When the coefficient of friction is adjusted for the 27 degree rotation, the adjusted drag factor becomes 1.1038 and the speed becomes 56.2 mph.

Coefficient of Friction Source:

https://www.motortrend.com/cars/lamborghini/aventador/2015/2015-lamborghini-aventador-sv-first-test-review

001049

001049

Dynamic Safety L.L.C.

SpeedVegas Lamborghini Investigation	R17-128
Project Name	**File #**

Minimum Speed - Segments 6 to 7 (Speed #5)

Formula Used

$$S = \sqrt{30 \times D \times f}$$

Source:

C. Gregory Russell, Equations & Formulas for the Traffic Accident Investigator & Reconstructionist, (2007), Accident Analysis & Reconstruction, Inc., Gelen Burnie, Maryland, pp 19

Formula Inputs

Total Distance:	81.1 ft
Adjusted Drag Factor:	1.2121
Speed:	54.3 mph
Velocity:	79.6 fps

Math

$S = \sqrt{30 * D * f}$

$S = \sqrt{30 * 81.05 * 1.2121}$

$S = 54.2883\ mph$

$V = S * 1.467$

$V = 54.2883 * 1.467$

$V = 79.641\ fps$

001050

001050

Calculation Notes:

This calculation covers the Lamborghini center of mass (COM) traveling the distance between segment #6 and #7 as it travels off-track to the left prior to reentering the track. The adjusted drag factor is based on 100% braking efficiency as the vehicle straightens out from it's rotation.

Coefficient of Friction Source:

https://www.motortrend.com/cars/lamborghini/aventador/2015/2015-lamborghini-aventador-sv-first-test-review

Dynamic Safety L.L.C.

SpeedVegas Lamborghini Investigation	R17-128
Project Name	**File #**

Minimum Speed - Segments 7 to 8 (Speed #6)

Formula Used

$$S = \sqrt{30 \times D \times f}$$

Source:

C. Gregory Russell, Equations & Formulas for the Traffic Accident Investigator & Reconstructionist, (2007), Accident Analysis & Reconstruction, Inc., Gelen Burnie, Maryland, pp 19

Formula Inputs

Total Distance:	48.7 ft
Adjusted Drag Factor:	1.2121
Speed:	42.1 mph
Velocity:	61.7 fps

Math

$S = \sqrt{30 * D * f}$

$S = \sqrt{30 * 48.65 * 1.2121}$

$S = 42.0602\ mph$

$V = S * 1.467$

$V = 42.0602 * 1.467$

$V = 61.7023\ fps$

001051

Calculation Notes:

This calculation covers the Lamborghini center of mass (COM) traveling the distance between segment #7 and #8 as it continues to straighten out from it's prior rotation. The adjusted drag factor is based on 100% braking efficiency as there is evidence of hard braking.

001051

Coefficient of Friction Source:

https://www.motortrend.com/cars/lamborghini/aventador/2015/2015-lamborghini-aventador-sv-first-test-review

Dynamic Safety L.L.C.

SpeedVegas Lamborghini Investigation	R17-128
Project Name	**File #**

Minimum Speed - Segments 8 to 9 (Speed #7)

Formula Used

$$S = \sqrt{30 \times D \times f}$$

Source:

C. Gregory Russell, Equations & Formulas for the Traffic Accident Investigator & Reconstructionist, (2007), Accident Analysis & Reconstruction, Inc., Gelen Burnie, Maryland, pp 19

Formula Inputs

Total Distance:	27.8 ft
Adjusted Drag Factor:	0.70
Speed:	24.2 mph
Velocity:	35.5 fps

Math

$S = \sqrt{30 * D * f}$

$S = \sqrt{30 * 27.83 * 0.7}$

$S = 24.175\ mph$

$V = S * 1.467$

$V = 24.175 * 1.467$

$V = 35.4647\ fps$

001052

Calculation Notes:

This calculation covers the Lamborghini center of mass (COM) traveling the distance between segment #8 and #9 as it enters the gravel section. The adjusted drag factor is based on published data for loose gravel (0.40 to 0.70).

001052

Loose Gravel Coefficient of Friction Source:

Fricke, L., Traffic Accident Reconstruction, (1990), 1st ed., Northwestern University Traffic Institute, Evanston, Illinois, pp 62-14

Dynamic Safety L.L.C.

SpeedVegas Lamborghini Investigation	R17-128
Project Name	**File #**

Sliding Work Energy - Concrete Barrier Movement

Formula Used

$$W_S = w \times f \times d$$

Source:

Fricke, L., Traffic Crash Reconstruction, (2010), 2nd ed., Northwestern University Center for Public Safety, Evanston, Illinois, pp. 285

Formula Inputs

Approx Barrier Weight:	4,000 lbs
Vehicle Weight:	3,742 lbs
Ben-Kely Weight:	136 lbs
Sherwood Weight:	159 lbs
Total Weight:	8,037 lbs
Drag Factor:	0.70
Distance:	1.0 ft
Sliding Work Energy:	5,626 ft lbs

Math

$$Ws = W * f * D$$
$$Ws = 8036.5 * 0.7 * 1$$
$$Ws = 5625.55\ ft\ lbs$$

001053

001053

Calculation Notes:

This calculation covers the Lamborghini's impact with the barrier wall. Estimated the barrier wall section weighed approximately 3,000 lbs. The vehicle weight was the average between the AutoStats reported weight (3900 lbs.) and the weight reported by VIN Link (3583 lbs.) - (3900+3583)/2 = 3741.5 lbs. The occupant weights were obtained from the Clark County Coroner/Medical Examiner Reports. The adjusted drag factor is based on published data for loose gravel (0.40 to 0.70). The distance is the estimated distance the barrier wall moved as a result of the collision. This calculation is the basis for the Lamborghini's speed for segment #8.

Loose Gravel Coefficient of Friction Source:

Fricke, L., Traffic Accident Reconstruction, (1990), 1st ed., Northwestern University Traffic Institute, Evanston, Illinois, pp 62-14

Dynamic Safety L.L.C.

SpeedVegas Lamborghini Investigation	R17-128
Project Name	**File #**

Speed from Kinetic Energy and Weight (Speed #8)

Formula Used

$$S = \sqrt{\frac{30 \times KE}{W}}$$

Source:

C. Gregory Russell, Equations & Formulas for the Traffic Accident Investigator & Reconstructionist, (2007), Accident Analysis & Reconstruction, Inc., Gelen Burnie, Maryland, pp 24

Formula Inputs

Vehicle Weight:	3,742 lbs
Ben-Kely Weight:	136 lbs
Sherwood Weight:	159 lbs
Total Weight:	4,037 lbs
Kinetic Energy:	5,626 ft lbs
Speed:	6.5 mph
Velocity:	9.5 fps

Math

$S = \sqrt{((30 * KE) \div W)}$

$S = \sqrt{((30 * 5625.55) \div 4036.5)}$

$S = 6.4661$ ft lbs

$V = S * 1.467$

$V = 6.4661 * 1.467$

$V = 9.4857$ fps

001054

001054

Calculation Notes:

This is a conservative speed calculation as it does not take into account the energy loss from the damage to the Lamborghini after it impacted the concrete barrier

Dynamic Safety L.L.C.

SpeedVegas Lamborghini Investigation	R17-128
Project Name	**File #**

Minimum Speed - Segments 9 to 10 (Speed #9)

Formula Used

$$S = \sqrt{30 \times D \times f}$$

Source:

C. Gregory Russell, Equations & Formulas for the Traffic Accident Investigator & Reconstructionist, (2007), Accident Analysis & Reconstruction, Inc., Gelen Burnie, Maryland, pp 19

Formula Inputs

Total Distance:	34.2 ft
Adjusted Drag Factor:	0.70
Speed:	26.8 mph
Velocity:	39.3 fps

Math

$S = \sqrt{30 * D * f}$

$S = \sqrt{30 * 34.22 * 0.7}$

$S = 26.8071$ mph

$V = S * 1.467$

$V = 26.8071 * 1.467$

$V = 39.326$ fps

001055

Calculation Notes:

This calculation covers the Lamborghini center of mass (COM) traveling from the final rest position to impact with the concrete barrier wall. The adjusted drag factor is based on published data for loose gravel (0.40 to 0.70).

001055

Loose Gravel Coefficient of Friction Source:

Fricke, L., Traffic Accident Reconstruction, (1990), 1st ed., Northwestern University Traffic Institute, Evanston, Illinois, pp 62-14

Dynamic Safety L.L.C.

SpeedVegas Lamborghini Investigation	R17-128
Project Name	**File #**

Combined Speed from Segment Calculations

Formula Used

$$S = \sqrt{S_1^2 + S_2^2 + \cdots S_n^2}$$

Source:

C. Gregory Russell, Equations & Formulas for the Traffic Accident Investigator & Reconstructionist, (2007), Accident Analysis & Reconstruction, Inc., Gelen Burnie, Maryland, pp 20

Formula Inputs

Speed #1:	66.9 mph
Speed #2:	43.2 mph
Speed #3:	45.1 mph
Speed #4:	58.9 mph
Speed #5:	54.3 mph
Speed #6:	42.1 mph
Speed #7:	24.2 mph
Speed #8:	6.5 mph
Speed #9:	26.8 mph
Combined Speed:	133.8 mph
Velocity:	196.3 fps

001056

Math

$$S = \sqrt{S1^2 + S2^2 + S3^2 + S4^2 + S5^2 + S6^2 + S7^2 + S8^2 + S9^2}$$

$$S = \sqrt{66.89^2 + 43.25^2 + 45.05^2 + 58.89^2 + 54.29^2 + 42.06^2 + 24.17^2 + 6.47^2 + 26.81^2}$$

$$S = \sqrt{4474.1 + 1870.26 + 2029.78 + 3467.58 + 2947.22 + 1769.06 + 584.43 + 41.81 + 718.62}$$

$$S = \sqrt{17902.86}$$

$$S = 133.8 \text{ mph}$$

$$V = S * 1.467$$

$$V = 133.8 * 1.467$$

$$V = 196.29 \text{ fps}$$

Calculation Notes:

This calculation combines the individual speeds from the various segment calculation to obtain a speed for the Lamborghini at first braking. This is a minimum speed and does not account for the energy necessary to damge the Lamborghini nor the energy to displace/damage the tire barrier or damage the concrete barrier.

Dynamic Safety L.L.C.

SpeedVegas Lamborghini Investigation	R17-128
Project Name	**File #**

2015 Lamborghini Aventador Deceleration Factor from Motortrend Testing

Formula Used

$$f = \frac{S_O^2 - S_f^2}{30 \times D}$$

Source:

C. Gregory Russell, Equations & Formulas for the Traffic Accident Investigator & Reconstructionist, (2007), Accident Analysis & Reconstruction, Inc., Gelen Burnie, Maryland, pp 9

Formula Inputs

Original Speed:	60.0 mph
Final Speed:	0.0 mph
Distance:	99.0 ft
Deceleration Factor:	1.2121

Math

$$f = (SO^2 - SF^2) \div (30 * D)$$
$$f = (60^2 - 0^2) \div (30 * 99)$$
$$f = (3600 - 0) \div (30 * 99)$$
$$f = 3600 \div 2970$$
$$f = 1.2121$$

001057

001057

Calculation Notes:

This calculation uses testing done by Motortrend Magazine (source below) to calculate a deceleration factor used in my calculations for the subject Lamborghini. This calculation was checked against deceleration testing done by Dynamic Safety on an exemplar Lamborghini on a residential surface street in Las Vegas in June of 2019. Dynamic Safety testing resulted in a decelration factor of 1.03 to 1.12 for the exemplar Lamborghini.

https://www.motortrend.com/cars/lamborghini/aventador/2015/2015-lamborghini-aventador-sv-first-test-review

Dynamic Safety L.L.C.

SpeedVegas Lamborghini Investigation	R17-128
Project Name	**File #**

Time to Slide Analysis - Using Calculated Speed

Formula Used

$$t = \frac{V_e - V_i}{a}$$

Source:
Fricke, L., Traffic Crash Reconstruction, (2010), 2nd ed., Northwestern University Center for Public Safety, Evanston, Illinois, pp. 81

Formula Inputs

Ending Velocity (V_e):	0.0 fps	
Initial Velocity (V_i):	196.3 fps	133.8 mph
Acceleration Rate (a):	-31.3 fps²	
Average Coefficient of Friction (μ):	0.97	
Time (t):	**6.3 sec**	

Math

$a = g * \mu$
$a = 32.2 * 0.971235287750316$
$a = -31.3\ fps^2$

$t = (V_e - V_i) \div a$
$t = (0 - 196.3) \div -31.3$
$t = -196.3 \div -31.3$
$t = 6.3\ sec$

001058

Calculation Notes:

The average coefficient of friction is based on the weighted average of the segments identified earlier.

001058

Dynamic Safety L.L.C.

SpeedVegas Lamborghini Investigation	R17-128
Project Name	**File #**

Time to Slide Analysis - Using Calculated Median Speed

Formula Used

$$t = \frac{V_e - V_i}{a}$$

Source:
Fricke, L., Traffic Crash Reconstruction, (2010), 2nd ed., Northwestern University Center for Public Safety, Evanston, Illinois, pp. 81

Formula Inputs

Ending Velocity (V_e):	0.0 fps	
Initial Velocity (V_i):	204.8 fps	139.6 mph
Acceleration Rate (a):	-31.2 fps²	
Coefficient of Friction (μ):	0.97	
Time (t):	**6.6 sec**	

Math

$a = g * \mu$
$a = 32.2 * 0.97$
$a = -31.2\ fps^2$

$t = (V_e - V_i) \div a$
$t = (0 - 204.8) \div -31.2$
$t = -204.8 \div -31.2$
$t = 6.6\ sec$

Calculation Notes:

The average coefficient of friction is based on the weighted average of the segments identified earlier.

001059
001059

001059

Dynamic Safety L.L.C.

SpeedVegas Lamborghini Investigation	R17-128
Project Name	**File #**

Time to Slide Analysis - Using Calculated Average Speed

Formula Used

$$t = \frac{V_e - V_i}{a}$$

Source:
Fricke, L., Traffic Crash Reconstruction, (2010), 2nd ed., Northwestern University Center for Public Safety, Evanston, Illinois, pp. 81

Formula Inputs

Ending Velocity (V_e):	0.0 fps	
Initial Velocity (V_i):	198.3 fps	135.2 mph
Acceleration Rate (a):	-31.2 fps²	
Coefficient of Friction (μ):	0.97	
Time (t):	**6.3 sec**	

Math

$a = g * \mu$
$a = 32.2 * 0.97$
$a = -31.2\ fps^2$

$t = (V_e - V_i) \div a$
$t = (0 - 198.3) \div -31.2$
$t = -198.3 \div -31.2$
$t = 6.3\ sec$

001060

001060

Calculation Notes:

The average coefficient of friction is based on the weighted average of the segments identified earlier.

001060

Dynamic Safety L.L.C.

SpeedVegas Lamborghini Investigation	R17-128
Project Name	**File #**

Critical Speed Analysis - Radius Calculation

Formula Used

$$R = \frac{C^2}{8M} + \frac{M}{2}$$

Source:

Fricke, L., Traffic Crash Reconstruction, (2010), 2nd ed., Northwestern University Center for Public Safety, Evanston, Illinois, pp. 346

Formula Inputs

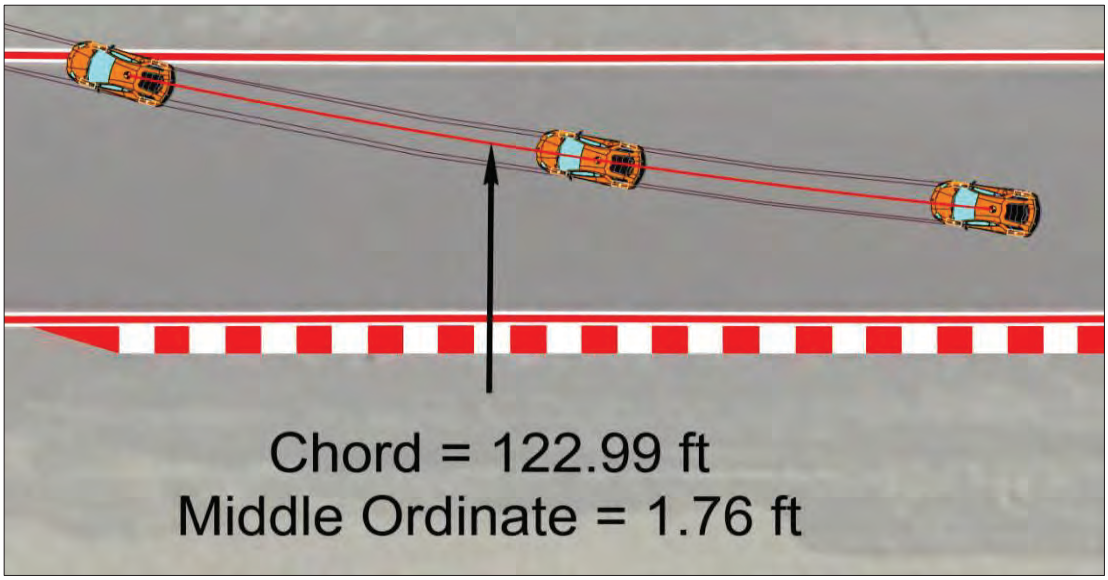
Chord: 122.990 ft

Middle Ordinate: 1.760 ft

Radius: 1075.2 ft

Math

$$R = (C^2 \div (8 * M)) + (M \div 2)$$
$$R = (122.99^2 \div (8 * 1.76)) + (1.76 \div 2)$$
$$R = (15126.5401 \div (14.08)) + (0.88)$$
$$R = 1074.32813210227 + (0.88)$$
$$R = 1075.2 \text{ ft}$$



001061 001061 001061

Dynamic Safety L.L.C.

SpeedVegas Lamborghini Investigation	R17-128
Project Name	**File #**

Critical Speed Velocity

Formula Used

$$V = \sqrt{gr\mu}$$

Source:

Fricke, L., Traffic Crash Reconstruction, (2010), 2nd ed., Northwestern University Center for Public Safety, Evanston, Illinois, pp. 351

Formula Inputs

Gravity:	32.2 fps²
Radius:	1075.2 ft
Coefficient of Friction:	1.2121
Velocity:	204.9 fps
Speed:	139.6 mph

Math

$V = \sqrt{g * r * \mu}$

$V = \sqrt{32.2 * 1075.20813210227 * 1.2121}$

$V = \sqrt{41964.9648168615}$

$V = 204.9\ fps$

$S = V \div 1.467$

$S = 204.8535 \div 1.467$

$S = 139.6\ mph$

001062

001062

001062

Dynamic Safety L.L.C.

SpeedVegas Lamborghini Investigation	R17-128
Project Name	**File #**

Critical Speed Velocity - Grade Adjustment

Formula Used

$$V = \sqrt{\frac{gr(\mu + G)}{(1 - (\mu * G)}}$$

Source:

Fricke, L., Traffic Crash Reconstruction, (2010), 2nd ed., Northwestern University Center for Public Safety, Evanston, Illinois, pp. 351

Formula Inputs

Gravity:	32.2 fps²
Radius:	1075.2 ft
Coefficient of Friction:	1.2121
Grade:	0.00821 ft
Velocity:	206.6 fps
Speed:	140.8 mph

Math

$$V = \sqrt{((g * r * (\mu + G)) \div (1 - (\mu * G)))}$$
$$V = \sqrt{((32.2 * 1075.2081 * (1.2121 + 0.00821)) \div (1 - (1.2121 * 0.00821)))}$$
$$V = \sqrt{((34621.7019 * (1.22031)) \div (1 - (0.01)))}$$
$$V = \sqrt{42249.209045589 \div 0.99}$$
$$V = \sqrt{42675.9687329182}$$
$$V = 206.6 \text{ fps}$$

$$S = V \div 1.467$$
$$S = 206.5766 \div 1.467$$
$$S = 140.8 \text{ mph}$$

001063
001063

001063

Dynamic Safety L.L.C.

SpeedVegas Lamborghini Investigation	R17-128
Project Name	**File #**

Critical Speed Velocity - Elevation Calculation

Elevation Change:	1.0 ft	Start Elevation:	2711.0 ft
Distance:	121.7 ft	End Elevation:	2712.0 ft
Grade:	**0.0082142** feet per foot		
Percentage:	0.8%		

Math

$$Elevation\ Change = End\ Elevation - Start\ Elevation$$

Elevation Change = 121.74 - 1

Elevation Change = 120.74 ft

$$Grade = \frac{Elevation\ Change}{Distance}$$

Grade = 1 ÷ 121.74

Grade = 0.00821 feet per foot

001064

001064

Note: Elevation measurement is feet above sea level.

Dynamic Safety L.L.C.

SpeedVegas Lamborghini Investigation	R17-128
Project Name	**File #**

Critical Speed Analysis - Radius Calculation (MO -0.5)

Formula Used

$$R = \frac{C^2}{8M} + \frac{M}{2}$$

Source:

Fricke, L., Traffic Crash Reconstruction, (2010), 2nd ed., Northwestern University Center for Public Safety, Evanston, Illinois, pp. 346

Formula Inputs

Chord: 121.683 ft

Middle Ordinate: 1.260 ft

Radius: 1469.6 ft

Math

$$R = (C^2 \div (8 * M)) + (M \div 2)$$
$$R = (121.683^2 \div (8 * 1.26)) + (1.26 \div 2)$$
$$R = (14806.752489 \div (10.08)) + (0.63)$$
$$R = 1468.92385803571 + (0.63)$$
$$R = 1469.6\ ft$$

Dynamic Safety L.L.C.

SpeedVegas Lamborghini Investigation	R17-128
Project Name	**File #**

Critical Speed Velocity (MO -0.5)

Formula Used

$$V = \sqrt{gr\mu}$$

Source:

Fricke, L., Traffic Crash Reconstruction, (2010), 2nd ed., Northwestern University Center for Public Safety, Evanston, Illinois, pp. 351

Formula Inputs

Gravity:	32.2 fps²
Radius:	1469.6 ft
Coefficient of Friction:	1.2121
Velocity:	239.5 fps
Speed:	163.3 mph

Math

$V = \sqrt{g * r * \mu}$

$V = \sqrt{32.2 * 1469.55385803571 * 1.2121}$

$V = \sqrt{57356.1286486679}$

$V = 239.5\ fps$

$S = V \div 1.467$

$S = 239.4914 \div 1.467$

$S = 163.3\ mph$

001066

001066

Dynamic Safety L.L.C.

SpeedVegas Lamborghini Investigation	R17-128
Project Name	**File #**

Critical Speed Analysis - Radius Calculation (MO +0.5)

Formula Used

$$R = \frac{C^2}{8M} + \frac{M}{2}$$

Source:

Fricke, L., Traffic Crash Reconstruction, (2010), 2nd ed., Northwestern University Center for Public Safety, Evanston, Illinois, pp. 346

Formula Inputs

Chord: 121.683 ft

Middle Ordinate: 2.260 ft

Radius: 820.1 ft

Math

$$R = (C^2 \div (8 * M)) + (M \div 2)$$
$$R = (121.683^2 \div (8 * 2.26)) + (2.26 \div 2)$$
$$R = (14806.752489 \div (18.08)) + (1.13)$$
$$R = 818.957549170354 + (1.13)$$
$$R = 820.1 \text{ ft}$$

001067

001067

001067

Dynamic Safety L.L.C.

SpeedVegas Lamborghini Investigation	R17-128
Project Name	**File #**

Critical Speed Velocity (MO +0.5)

Formula Used

$$V = \sqrt{gr\mu}$$

Source:

Fricke, L., Traffic Crash Reconstruction, (2010), 2nd ed., Northwestern University Center for Public Safety, Evanston, Illinois, pp. 351

Formula Inputs

Gravity:	32.2 fps²
Radius:	820.1 ft
Coefficient of Friction:	1.2121
Velocity:	178.9 fps
Speed:	122.0 mph

Math

$V = \sqrt{g * r * \mu}$

$V = \sqrt{32.2 * 820.087549170354 * 1.2121}$

$V = \sqrt{32007.7054108502}$

$V = 178.9\ fps$

$S = V \div 1.467$

$S = 178.907 \div 1.467$

$S = 122\ mph$

001068

001068

001068

Dynamic Safety L.L.C.

SpeedVegas Lamborghini Investigation	R17-128
Project Name	**File #**

Velocity Estimate with Special Conditions

Formula Used

$$V = \sqrt{\frac{gr(\mu \cos\theta \cos\beta + \sin\theta)}{\cos\theta - \mu \sin\theta \cos\beta}}$$

Source:

Fricke, L., Traffic Crash Reconstruction, (2010), 2nd ed., Northwestern University Center for Public Safety, Evanston, Illinois, pp. 356

Formula Inputs

Gravity (g):	32.2 fps²
Radius (r):	1075.2 ft
Coefficient of Friction (μ):	1.2121
Grade (Θ):	0.0 °
Sideslip Angle (β):	1.81 °
Velocity:	204.8 fps
Speed:	139.6 mph

Math

$$V = \sqrt{((g * r * (\mu * COS\,\theta * COS\,\beta * PI\,() / 180) + SIN\,\theta)) / COS\,\theta - \mu * SIN\,\theta * COS\,\beta))}$$

$$V = \sqrt{((32.2 * 1075.2 * (1.2121 * COS\,0 * COS\,1.81 * PI\,() / 180) + SIN\,0)) / COS\,0 - 1.2121 * SIN\,0 * COS\,1.81))}$$

$$V = \sqrt{((32.2 * 1075.2 * (1.2121 * 1 * -0.24 * PI\,() / 180) + 0)) / 1 - 1.2121 * 0 * -0.24))}$$

$$V = 204.8\ fps$$

$$S = V \div 1.467$$

$$S = V = 204.8\ fps \div 1.467$$

$$S = 139.6\ mph$$

This calculation estimates the velocity of the Lamborghini between segements 1 to 3 considering the calculated radius, the calculated coefficient of friction, calculated grade, and measured sideslip angle.

001069

001069

Dynamic Safety L.L.C.

SpeedVegas Lamborghini Investigation	R17-128
Project Name	**File #**

Velocity Estimate with Special Conditions

Formula Used

$$f_y = \sqrt{\mu^2 - f_x^2}$$

$$V = \sqrt{gr\left[f_y(COSS\beta - f_x\, SIN\beta)(SIN\theta\, TAN\theta + COS\theta) + TAN\theta\right]}$$

Source:

Fricke, L., Traffic Crash Reconstruction, (2010), 2nd ed., Northwestern University Center for Public Safety, Evanston, Illinois, pp. 363

Formula Inputs

Gravity (g):	32.2 fps²
Radius (r):	1075.2 ft
Coefficient of Friction (μ):	1.2121
Grade (Θ):	0.0 °
Sideslip Angle (β):	1.81 °
Longitudinal Acceleration (f_x):	-1
f_y:	0.68
Velocity:	157.5 fps
Speed:	107.3 mph

Math

$$f_Y = \sqrt{\mu^2 - f_x^2}$$
$$f_Y = \sqrt{1.2121^2 - -1^2}$$
$$f_Y = \sqrt{1.46918641 - 1}$$
$$f_Y = \sqrt{0.46918641}$$
$$f_Y = 0.68$$

$$V = \sqrt{g * r * [f_Y * (COS\,B - f_x * SIN\,\beta) * (SIN\,\theta * TAN\,\theta + COS\,\theta) + TAN\,\theta]}$$
$$V = \sqrt{32.2 * 1075.2 * [-1 * (COS\,1.81 - 0.68 * SIN\,1.81) * (SIN\,0 * TAN\,0 + COS\,0) + TAN\,0]}$$
$$V = \sqrt{32.2 * 1075.2 * [-1 * (-0.2369 - 0.68 * 0.9715) * (0 * 0 + 1) + 0]}$$
$$V = 157.5\ fps$$

$$S = V \div 1.467$$
$$S = 157.5 \div 1.467$$
$$S = 107.3\ mph$$

001070
001070

001070

Dynamic Safety L.L.C.

SpeedVegas Lamborghini Investigation	R17-128
Project Name	File #

Lamborghini Aventado Exemplar Brake Testing

Test 1

	At Start	At End	Difference	Maximum	Minimum	Average	Deceleration Rate
Speed	49.45 mph	1.07 mph	-48.39 mph	49.45 mph	1.07 mph	24.35 mph	33.508201 fps²
Elapsed Time	16.25 sec	18.45 sec	2.20 sec	---	---	---	1.041598 g
Distance	366.17 ft	444.67 ft	78.49 ft	---	---	---	

Test 2

	At Start	At End	Difference	Maximum	Minimum	Average	Deceleration Rate
Speed	52.77 mph	1.07 mph	-51.70 mph	52.77 mph	1.07 mph	25.14 mph	36.163613 fps²
Elapsed Time	35.25 sec	37.50 sec	2.25 sec	---	---	---	1.124141 g
Distance	790.92 ft	873.74 ft	82.82 ft	---	---	---	

Test 3

	At Start	At End	Difference	Maximum	Minimum	Average	Deceleration Rate
Speed	58.23 mph	0.78 mph	-57.45 mph	58.23 mph	0.078 mph	28.42 mph	34.336895 fps²
Elapsed Time	15.60 sec	18.15 sec	2.65 sec	---	---	---	1.067358 g
Distance	332.54 ft	438.75 ft	106.21 ft	---	---	---	

Test 4

	At Start	At End	Difference	Maximum	Minimum	Average	Deceleration Rate
Speed	42.91 mph	0.80 mph	-42.11 mph	42.91 mph	0.80 mph	20.75 mph	33.424239 fps²
Elapsed Time	31.25 sec	33.20 sec	1.95 sec	---	---	---	1.038988 g
Distance	974.33 ft	1033.59 ft	59.25 ft	---	---	---	

Mean Decel Rate	Average Decel Rate
34.340876 fps²	34.358237 fps²
1.067481 g	1.068021 g

Testing was accomplished using a V-box sport with external antenna mounted in an exemplar Lamborghini Aventador

001071
001071

001071

Dynamic Safety L.L.C.

SpeedVegas Lamborghini Investigation	R17-128
Project Name	File #

Exemplar Lamborghini Aventado Used for Brake Testing

001072

001072

001072

Dynamic Safety L.L.C.

SpeedVegas Lamborghini Investigation	R17-128
Project Name	**File #**

Braking Distance

Formula Used

$$a = 32.2 \times f$$

$$d = \frac{V_e^2 - V_i^2}{2a}$$

Source:

Fricke, L., Traffic Crash Reconstruction, (2010), 2nd ed., Northwestern University Center for Public Safety, Evanston, Illinois, pp. 74 & 80

Acceration Factor Math

$a = 32.2 * f$

$a = 32.2 * 1.2121$

$a = 39.0296\ fps^2$

Formula Results

Speed	Initial Velocity	Ending Velocity	Acceleration Factor	Distance
160.0 mph	234.7 fps	0.0 fps	-39.0 fps²	705.8 ft
155.0 mph	227.4 fps	0.0 fps	-39.0 fps²	662.4 ft
150.0 mph	220.1 fps	0.0 fps	-39.0 fps²	620.3 ft
145.0 mph	212.7 fps	0.0 fps	-39.0 fps²	579.7 ft
140.0 mph	205.4 fps	0.0 fps	-39.0 fps²	540.4 ft
135.0 mph	198.0 fps	0.0 fps	-39.0 fps²	502.5 ft
130.0 mph	190.7 fps	0.0 fps	-39.0 fps²	465.9 ft
125.0 mph	183.4 fps	0.0 fps	-39.0 fps²	430.8 ft
120.0 mph	176.0 fps	0.0 fps	-39.0 fps²	397.0 ft
115.0 mph	168.7 fps	0.0 fps	-39.0 fps²	364.6 ft
110.0 mph	161.4 fps	0.0 fps	-39.0 fps²	333.6 ft
105.0 mph	154.0 fps	0.0 fps	-39.0 fps²	304.0 ft
100.0 mph	146.7 fps	0.0 fps	-39.0 fps²	275.7 ft
95.0 mph	139.4 fps	0.0 fps	-39.0 fps²	248.8 ft
90.0 mph	132.0 fps	0.0 fps	-39.0 fps²	223.3 ft
85.0 mph	124.7 fps	0.0 fps	-39.0 fps²	199.2 ft
80.0 mph	117.4 fps	0.0 fps	-39.0 fps²	176.4 ft
75.0 mph	110.0 fps	0.0 fps	-39.0 fps²	155.1 ft
70.0 mph	102.7 fps	0.0 fps	-39.0 fps²	135.1 ft
65.0 mph	95.4 fps	0.0 fps	-39.0 fps²	116.5 ft
60.0 mph	88.0 fps	0.0 fps	-39.0 fps²	99.3 ft
55.0 mph	80.7 fps	0.0 fps	-39.0 fps²	83.4 ft
50.0 mph	73.4 fps	0.0 fps	-39.0 fps²	68.9 ft
45.0 mph	66.0 fps	0.0 fps	-39.0 fps²	55.8 ft
40.0 mph	58.7 fps	0.0 fps	-39.0 fps²	44.1 ft

Calculation Notes:

The coefficient of friction used to calculate the acceleration rate is 1.2121.

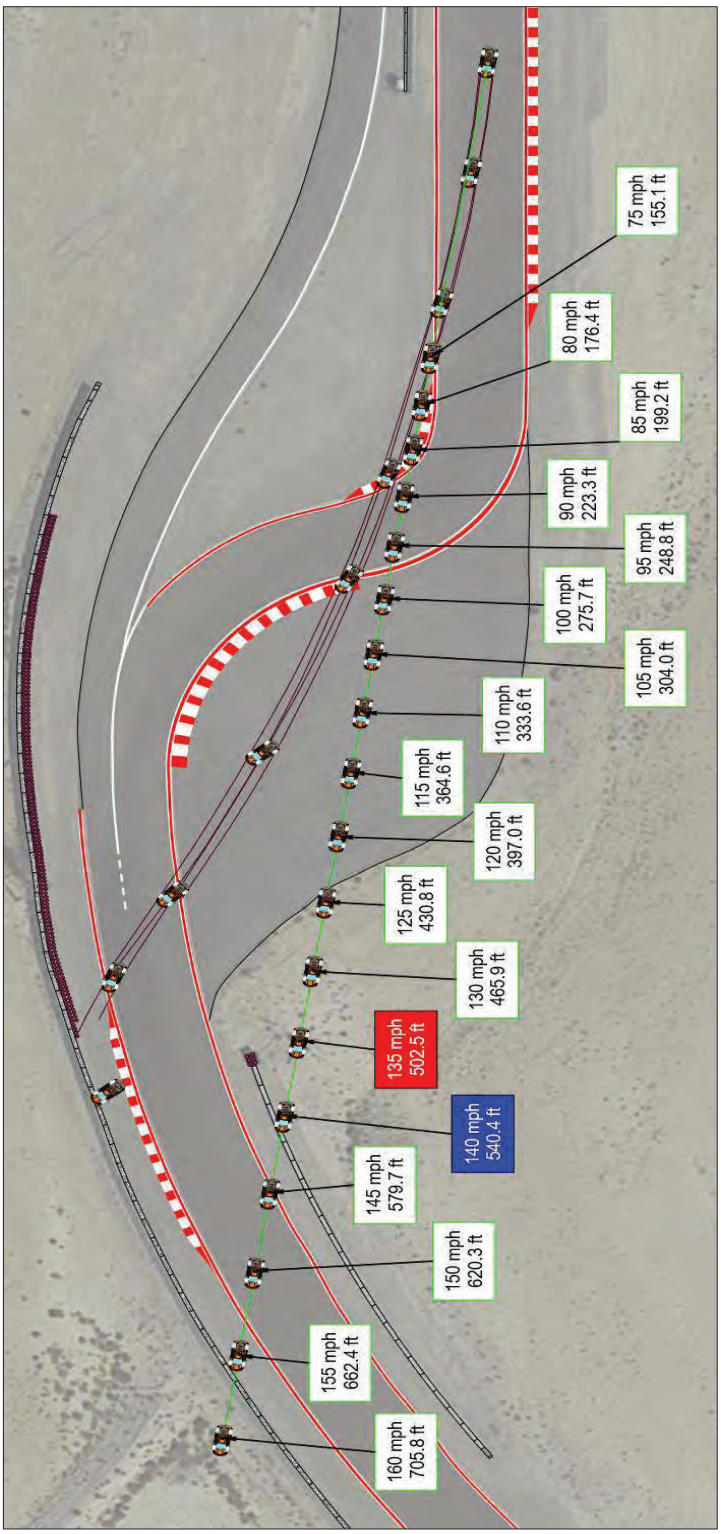
001073

001073

Dynamic Safety L.L.C.

SpeedVegas Lamborghini Investigation	R17-128
Project Name	File #

Straight-Line Braking Distance Following Initial Loss of Control Trajectory



001074

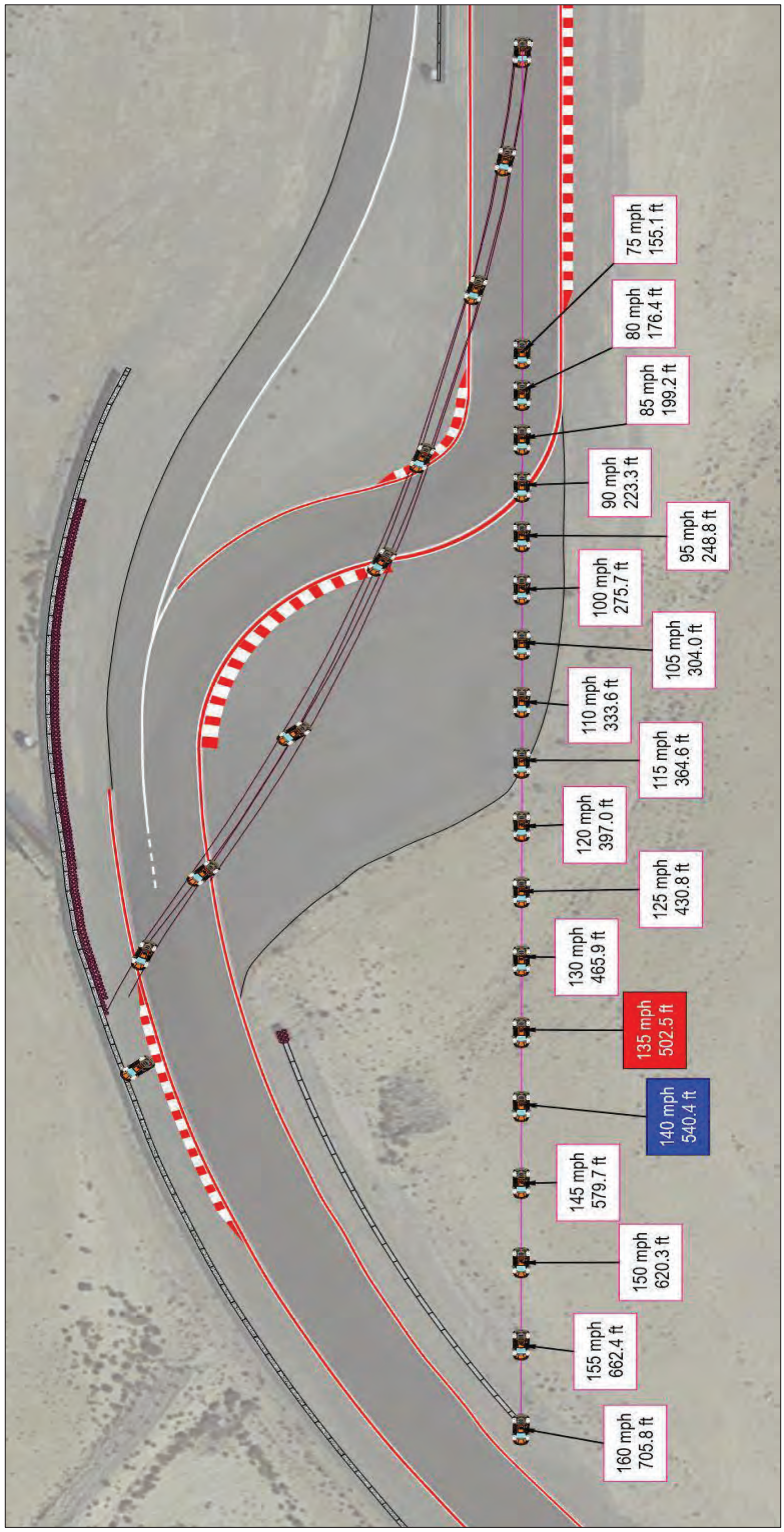
001074

001074

Dynamic Safety L.L.C.

SpeedVegas Lamborghini Investigation	R17-128
Project Name	File #

Straight-Line Braking Distance Following Straight Away Trajectory



001075

001075

001075

Dynamic Safety L.L.C.

SpeedVegas Lamborghini Investigation	R17-128
Project Name	File #

Analysis of Exhibit 8 from Greg Schroeder's Deposition

Lamborghini Aventador

Location	Speed	Velocity	Lap Time
Pit In	33.0 mph	48.4 fps	
Turn 1	43.0 mph	63.1 fps	
Pit Out	33.0 mph	48.4 fps	
Turn 1	146.0 mph	214.2 fps	90.0 sec
Turn 1	145.0 mph	212.7 fps	80.0 sec
Turn 1	133.0 mph	195.1 fps	73.0 sec
Turn 1	147.0 mph	215.6 fps	74.0 sec
Turn 1	149.0 mph	218.6 fps	73.0 sec
Turn 1	150.0 mph	220.1 fps	72.0 sec
Turn 1	145.0 mph	212.7 fps	84.0 sec

Median Value	146.0 mph	214.2 fps	74.0 sec
Average Value	145.0 mph	212.7 fps	78.0 sec

001076

001076

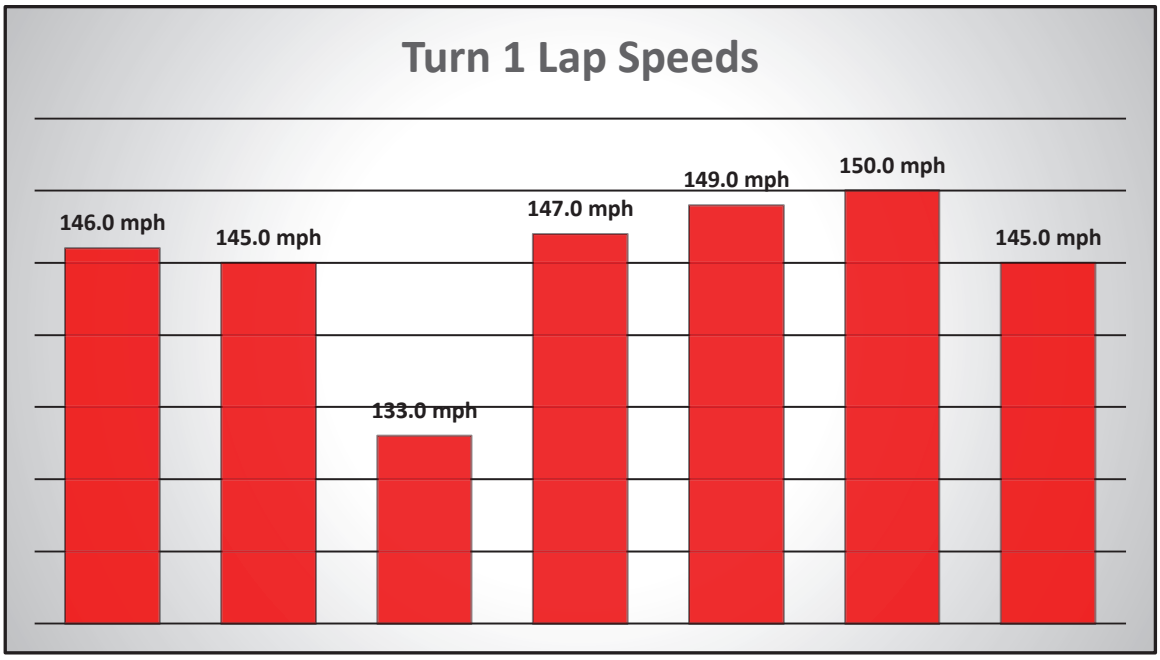
001076

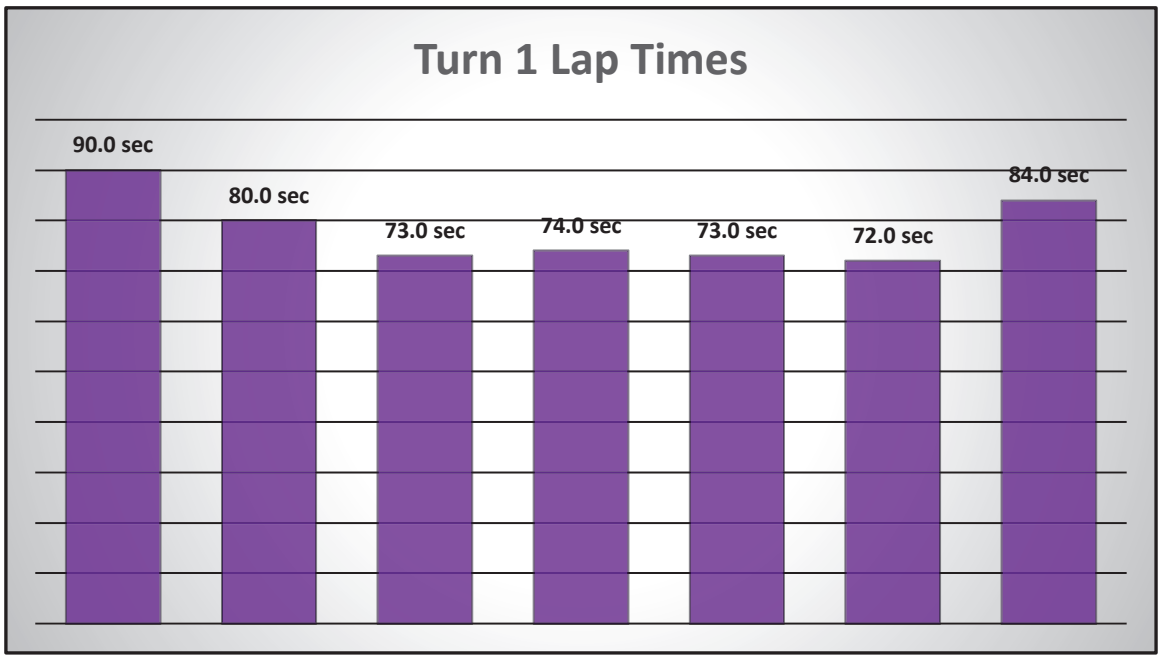
Dynamic Safety L.L.C.

SpeedVegas Lamborghini Investigation	R17-128
Project Name	File #

Analysis of Exhibit 8 from Greg Schroeder's Deposition

Lamborghini Aventador





001077

001077

001077

EXHIBIT 5

001078

001078

EXHIBIT 5

001079

Speed Vegas

Safety Inspection Report and Recommendations

February 2018

CONFIDENTIAL

Driven.

Prepared by Drivern International Ltd
Version 1, March 16th 2018

001079

001079

Safety Inspection Report

Project	Speed Vegas Safety Inspections	**Project Code**	L030
Client	SPEED Vegas	**Version**	1
Subject	26-27 Feb Inspection Report	**Date**	2018-03-16

Table of Contents

1.0 Introduction 3
2.0 Summary Findings 4
2.1 Place: The Circuit 4
2.2 Process 5
2.3 People 6
2.4 Plant / Vehicles 8
3.0 Track Map and Legend 9
4.0 Inspection Findings 10
4.1 Place: The Circuit 10
4.2 Process 18
4.3 People 20
4.4 Plant / Vehicles 24
APPENDIX 1 – Lighting Guidance 25
APPENDIX 2 – FIA Guidance for Tyre Barrier Construction 28
APPENDIX 3 – Pictures of Example Driving Line Markings 29
APPENDIX 4 – Excitement-Fear Curve 30
APPENDIX 5 - Penalty box policy glossary 31

Safety Inspection Report

Driven.

Project	Speed Vegas Safety Inspections	**Project Code**	L030
Client	SPEED Vegas	**Version**	1
Subject	26-27 Feb Inspection Report	**Date**	2018-03-16

1.0 Introduction

This report pertains to an independent safety inspection of Speed Vegas located at 14200 S LAS VEGAS BLVD. LAS VEGAS, NV.

The inspection team undertook an Operational Review ("Secret Shopper") of the experience, individual instructor interviews, an inspection of fleet and circuit maintenance procedures, and a cursory inspection of the track, garages, pit road and vehicle hand over area.

This inspection report is divided into four main areas – the "Four P's" – which provide a commentary of issues and risks identified as well as recommended actions to improve safety. The Four P's are:

- **Place** – in this case, the circuit and paddock area
- **Process** – procedures and systems currently being used to operate the facility
- **Personnel** – primarily the 'coaching' staff running the cars on track
- **Plant** / vehicles – namely the exotics car fleet and fire truck

The inspection team were also requested to look at the safe positioning of mobile lighting towers which Speed Vegas seek to deploy on a permanent basis in order to extend operating hours into the evening until 9pm.

The "Inspection" was carried out on February 26th and 27th between the hours of 06.30 and 18.30. The weather was generally dry and cool, but with rain showers on the second day between 10am and 2pm. The inspection did not see the track or facilities under operation in hours of darkness.

DISCLAIMER

This inspection report is based on observations made during the Inspection only. Driven International Ltd is not a governing body or regulatory authority but are qualified experts in the race track industry, applying industry best practice and experience based on available data, references to international race circuit guidelines, international road safety guidelines and reasonable judgement from experienced professionals. There are many factors that may impact the safety of such a facility and the "Client" (Speed Vegas) is responsible for all facilities, equipment and operations. As such and as per the terms of our agreement, Driven International Ltd cannot accept liability in excess of our Fee for any damages, fees, legal expenses or other costs incurred by the Client. Driven International Ltd shall not be liable to the Client (even if advised of such possibility of damages), whether in contract, tort (including negligence), for breach of statutory duty, or otherwise, arising under or in connection with this Agreement for: loss of profits; loss of revenue, loss of sales or business; loss of agreements or contracts; loss of anticipated savings; loss of or damage to goodwill; loss of use or corruption of software, data or information; and any indirect or consequential loss. The Client is not committed to implement any advice from Driven International Ltd, and neither party shall have any liability to one another based on the actions taken resulting from this inspection or our Agreement. The Client shall be the sole arbiter as to the Clients best commercial interests.

Safety Inspection Report

Driven.

Project	Speed Vegas Safety Inspections	**Project Code**	L030
Client	SPEED Vegas	**Version**	1
Subject	26-27 Feb Inspection Report	**Date**	2018-03-16

2.0 Summary Findings

2.1 Place: The Circuit

During the circuit inspection, the inspection team found that the track came across as a very well presented and maintained facility. The track has good visual cues and track definition via the use of painted verges and kerbing as well as clear coloured cone markers to help guest with their driving line and the navigation of the track . There is minimal use of barriers to the infield of the circuit which helps with visibility of the track and reduces risk of impacts with physical structures.

The inspection highlighted a few issues that if resolved should help to increase the overall safety level of the track. There were a few basic items such as signage and line markings within the pit road and paddock area which we would recommend are completed in order to communicate hazards more clearly to participants and visitors. On the circuit itself, there were a few areas where the construction of tyre barriers should be upgraded to FIA bolted tyre construction, and only a handful of locations where we would suggest adding further tyres to provide an incremental increase in protection.

In one area, T10, there remains the most significant risk of impact with a fixed structure (albeit protected by a tyre barrier). Recommendations have been provided to mitigate this risk by removing the barrier in phases: The first phase being the removal of the concrete but retaining the tyre barrier which can be completed almost immediately. The second phase being the regrading of the terrain behind the existing barrier to create a smooth runoff area. Further design guidance can be provided on request.

Itemised recommendations for this area are shown in Section 4.

001082

Safety Inspection Report

Driven.

Project	Speed Vegas Safety Inspections	**Project Code**	L030
Client	SPEED Vegas	**Version**	1
Subject	26-27 Feb Inspection Report	**Date**	2018-03-16

2.2 Process

Upon inspection of the fire and safety procedures, track and vehicle maintenance and daily use checks, it was apparent that Speed Vegas had adopted an strong culture of pre-emptive and pro-active inspection and maintenance regimes, which was being accepted and promoted by staff at the facility as evidenced by conversations with maintenance and fire safety staff. The inspection team were shown copies of completed inspection records dating back 1 month (the oldest before being archived) and explained to in some detail the procedures that maintenance staff follow in the checking and maintenance of vehicles, fire safety equipment and track each day.

A significant area of liability for Speed Vegas exists in its current policies regarding international clients, specifically those who do not have command of the English language. At present Speed Vegas conducts driving experiences for clients who do not speak English. Speed Vegas has added sub titles to its briefing however this alone is inadequate. We believe and have found video evidence to support and confirmed with anecdotal examples that in-car communication between host and guest is a critical component to executing a safe experience. There are several solutions to ameliorate this issue the first being to simply stop serving clients who do not have command of the English language. Alternatively, Speed Vegas could recruit bi or multi-lingual hosts who can communicate with foreign guests. Based on staff feedback the most important would be Chinese and Portuguese speakers. We would assume next should be Spanish, French and German and Russian speakers.

Alternatively, Speed Vegas could undertake a series of modifications and changes to the plant and process in an attempt to minimize the need for verbal communication between host and guest. This would be achieved by a variety of actions including painting, or more specifically epoxying, a 'simulator style" driving line to the course itself. The epoxy provides no driving hazard and has proven to be durable. The line would be comprised of chevrons of varying color and intensity. Each color or intensity chevron would represent an action. For example, the areas safe to throttle would be green, the mid corner areas best to coast through would be white and the brake zones red. (example photos attached from iRacing in Appendix 3) Since this is a common training tool used by video games and simulators it has widespread universal understanding among your customer base.

We also suggest replacing the cone system with a network of large signs printed on foam core in same way as trackside advertising. These signs would be adorned with multi-lingual instructions expressed in layman's terms. For example, end of the straight where current dual brake cones are place a large red sign that says 'BRAKE HERE, FRENO, FRIEO, 制动". Similar signs should be placed at at turn-in saying 'BEGIN TURN HERE", at exits of corners saying 'BEGIN ACCELERATING", half way down the main straight saying 'PREPARE TO BRAKE". All these signs would include multiple languages. Combined with the guide lines on the track we believe experiences could be executed with very little need for in car communication.

Itemised recommendations for this area are shown in Section 4.

Safety Inspection Report

Driven.

Project	Speed Vegas Safety Inspections	**Project Code**	L030
Client	SPEED Vegas	**Version**	1
Subject	26-27 Feb Inspection Report	**Date**	2018-03-16

2.3 People

Upon review of provided in-car videos, publicly posted videos and subsequent interviews with SV lead coach and all active staff members it is apparent that Speed Vegas has a culture that inadvertently fosters conditions that have high potential to create incidents. The root of this issue is a basic lack of acknowledgment of the fundamental differences between a racing school and a motorsports experience provider. Many of the staff are recruited from traditional racing schools. The base skills required to be a Speed Vegas host are similar to those found at traditional schools however the end goals are completely different. The fundamental issue is staff putting too much pressure on guests to drive beyond their limits. Staff were often using "closed ended instructions" such as "go full throttle" instead of "open ended instructions" such as "accelerate now". Additionally, staff have a tendency to impose their own comfort level on guests who have a much lower threshold for excitement, consequently these guests are pushed beyond their comfort level and often to the point of fear instead of allowing them to experience excitement at their own threshold. Scared drivers are more hesitant, and hesitation can create dangerous situations. To resolve this issue the best solution is to initiate a cultural shift. To this end all staff have been briefed to understand the **Excitement-Fear Curve** (refer to Appendix 4), and briefed on how to detect and correct guest experience based on this theory. The Lead Host understands this method and is equipped to further disseminate and to propagate this change.

As a secondary means to enforce the culture change we suggest a simple change in terminology. Calling SV's in-car employees hosts instead of coaches or instructors will better align their titles with their roles. Our suggested cultural shift is based on the theory that we are guiding exciting experiences not teaching people to drive faster. The title Host better suits these employees while the titles of instructor or coach can be misleading.

001084

001084

Currently Speed Vegas trains hosts to "be prepared to grab the steering wheel with the left hand". We believe this is too vague and instruction and creates as much liability as safety. Firstly, we would like to point out that wheel grabs are a form of negative reinforcement and detract from the overall customer experience. Ideally we would suggest your staff avoid this technique whenever possible. That said we define three types of wheel grabs and seek to eliminate one while minimizing the other two.

- *Type 1: Wheel grabs to control vehicle placement while being overtaken*
  - These instances are covered in the briefing so are not a surprise to the guest. In cases where host is not confident in guest's situational awareness and/or vehicle placement these can be an effective safety net. We suggest these are used only if and when deemed necessary by the hosts.
- *Type 2: Wheel grabs for line correction;*
  - These wheel grabs are executed to aid guests in achieving the proper driving line. We suggest that these are eliminated altogether. Proper line corrections can be communicated verbally. More importantly, proper line is not critical to a positive experience. We are not teaching ideal techniques rather facilitating safe experiences. The negative connotation and additional liability of type 2 wheel grabs is not worth the perceived benefit.
- *Type 3: Wheel grabs as a means of last resort;*
  - These wheel grabs occur when the host judges that only their intervention can prevent an imminent or potential impact. Industry experts agree and precedent exits that if a host grabs a wheel and an impact still occurs the liability will be shared by guest and SV. Due to this reality we suggest that wheel grabs should only be attempted in situations that have a high probability of success versus those that carry low potential for accurate correction. As an example, if an instructor deems that the guest has not slowed enough when they approach turn-in point host has only moments to make a choice. Grabbing a wheel to hold it straight while applying host brake has a high probability of success in preventing an impact. If the host can make this assessment early enough then we suggest grabbing wheel to maintain trajectory into paved runoff area combined with applying brakes. If the host waits until the guest turns in and the car loses traction correcting this situation from the passenger seat has a low probability for success and consequently we assert that in this case the wheel grab should not be employed.

001084

Safety Inspection Report

Driven.

Project	Speed Vegas Safety Inspections	**Project Code**	L030
Client	SPEED Vegas	**Version**	1
Subject	26-27 Feb Inspection Report	**Date**	2018-03-16

The highest risk guests are those who are aggressive and fearless. There is an old saying that "10% of the customers cause 90% of the incidents". In an effort to increase overall safety we suggest implementing a policy designed to identify these "10%" of guests and provide instructors with a mechanism to react. In SV's business the 10% that are the issue are those who are both confident, fearless and aggressive. Ultimately the goal is to highlight these guests and end these experiences before incidents occur. The basis of this policy is that aggressive drivers will make small errors prior to having big incidents, often showing signs almost immediately, if left unaddressed these drivers put themselves and SV hosts at risk. The most common indicators of aggressive drivers is putting wheels off course. To clarify terminology please see Appendix 5.

We suggest that the briefing is enhanced with a warning to guests that if at any time they put one or more wheels off course they will forfeit the remainder of that lap and have to make a stop in the penalty box before returning to course, furthermore that once they've put a wheel off the host can use their discretion to end their experience at any time. If the host opts to allow them to continue and they put another wheel off then they forfeit the remainder of their experience no questions asked. Additionally it is their responsibility to listen to the host and follow all instructions. Failure to follow verbal instruction is also grounds to terminate an experience. Perhaps remind them they are on video.

In practice, on course, we suggest that if a guest has a 1-off the host should try to determine of the cause was a simple driving mistake such as the difficulty guests from right-hand drive countries have adapting to the change or as a result of aggressive driving. In the former a simple warning followed by advice to avoid mistake will suffice, in the later we suggest the host pulls into Penalty Box and follows the PB Procedure detailed below.

If a guest puts 4-off at any time we suggest that the Penalty Box be mandatory. The goal of the penalty box is to "cool off" the guest while also giving the host a chance to determine if the guest is an overly aggressive driver or simply a guest who has made a driving error. The suggested Pb Procedure is to park in the PB and simply ask the guest "how do you think we ended up with wheels off the course?". The goal of this exercise is threefold. First we want the guest to be introspective about the incident and focus on their actions. Those who are able to do this will respond with an attempted explanation that starts with them, for example "maybe I barked too late", "maybe I didn't turn enough", "I missed a cone", "I lost concentration." These are not our 10%. With these customer hosts should implement goal 2 which is to educate them to not make same error. Hosts will explain what went wrong and to offer corrective or pre-emptive tips to avoid another off. Once discussed these drivers should be released from the penalty box and allowed to finish their experiences.

When asked the same question in the same way some guests will respond very differently. The 10% problem drivers often have inflated impressions of their driving abilities, when asked to assess an error they will look for reasons considering any option but themselves. This quality makes them very difficult to control. Examples of responses you'll receive from "10%" drivers include. "The tires must be off", "the track was dirty", "the sun was in my eyes", "I thought YOU said turn". Regardless of the exact repose this is a sign to the host that this guest may be continued problem. The suggested course of action is to warn this driver that if he/she does not follow verbal instructions or puts another wheel off then their experience will be cut short. When you release them from the PB and return to track the host should "back up the brake zones" instructing the guest to brake slightly earlier then on previous laps or even where markers are placed. If they comply this will cut speed enough to minimize risk, if they do not comply and continue to drive aggressively then host should terminate experience based on lack of following verbal instructions.

It is critical that upper management support hosts who implement this policy despite the fact that it can create some un-happy customers. The empowerment of hosts to make these decisions is a key element in the overall "safety net". Experienced hosts can see the cues and highlight 10%ers often when they walk through the front door. If hosts are empowered to trust their instincts and take action to avoid incidents it will have an appreciably difference in safety.

Itemised recommendations for this area are shown in Section 4.

Safety Inspection Report

Driven.

Project	Speed Vegas Safety Inspections	**Project Code**	L030
Client	SPEED Vegas	**Version**	1
Subject	26-27 Feb Inspection Report	**Date**	2018-03-16

2.4 Plant / Vehicles

Upon review of the customer journey (secret shopper), investigations and conversations with SV staff, it is apparent that the facility operate under a rigorous system of vehicle checks and servicing in order to ensure that vehicles are kept in good condition both mechanically and aesthetically. Conversations with SV maintenance staff led us to believe that they were mechanically competent and diligent in their approach to vehicle maintenance, with proactive participation in a vehicle inspection and maintenance regime as well as the frequent recording of vehicle condition data.

It was noted that vehicle brakes were switched from carbon ceramic type to standard steel type on some vehicles where relevant in order to improve the performance and extend the longevity of the brakes under the driving conditions of the experiences (short runs, minimal time for warming of ceramic discs). Dual controls were also added to all vehicles to provide a facility for coaches to stop vehicles from the passenger seat.

To provide an additional degree of safety for guests and hosts, an emergency stop button could be fitted to all experience vehicles. This should be dash mounted and within easy reach of both the guest and host, providing both with the facility to neutralise the throttle or stop the engine if either party is incapacitated. This would provide the host with additional protection against an unintended or uncontrolled application of throttle leading to an inappropriate speed being reached. This might be caused by driver suffering from a medical condition (including seizures, depression, psychosis or other mental health conditions) or a mechanical failure (stuck throttle). Although unlikely, the result of such an incident can be a high energy crash resulting in serious or fatal injuries. If these are fitted, additional measures should be take such as changes to host training and drivers briefing to ensure they are operated safely and consistently.

Itemised recommendations for this area are shown in Section 4.

001086

001086

Safety Inspection Report

Driven.

Project	Speed Vegas Safety Inspections	**Project Code**	L030
Client	SPEED Vegas	**Version**	1
Subject	26-27 Feb Inspection Report	**Date**	2018-03-16

3.0 Track Map and Legend

In the remainder of this report, turn numbers and various features of the track are identified as follows:

001087

001087

001087

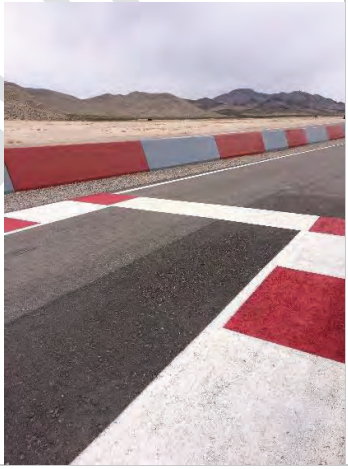
Safety Inspection Report

Driven.

Project	Speed Vegas Safety Inspections	**Project Code**	L030
Client	SPEED Vegas	**Version**	1
Subject	26-27 Feb Inspection Report	**Date**	2018-03-16

4.0 Inspection Findings

4.1 Place: The Circuit

Item	Area	Issue / Consequence	Resolution	Priority	Timescale
1.	Pit Road In	Risk of accident or impact with vehicles, building or pedestrians due to excessive speed within pitlane. 	Install pit road entry line with sign posted speed limit (20mph) (or painted on track) Ensure pit lane speed limit is clearly communicated in driver's briefing	Medium High	Short Short
2.	Pit Road In	Risk of vehicle impact with pedestrians in pitlane 	Install signs in seating area to prevent guests from climbing on the wall	High	Short
3.	Pit Box	Risk of vehicles driving over official speed limit in pit box area leading to injury of pedestrians. The "pit box" area being location of both vehicular and pedestrian traffic, where guests can walk to and from the building and look at the exotic cars. 	Install pit box speed limit sign (5mph) on the right hand side (not main track side) before entering pit box area at the existing white line. Ensure pit box speed limit is clearly communicated in drivers' briefing.	High	Short

001088

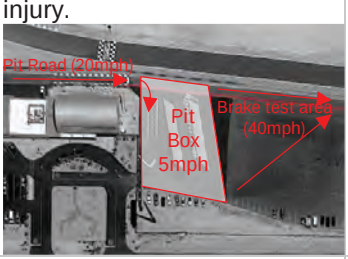
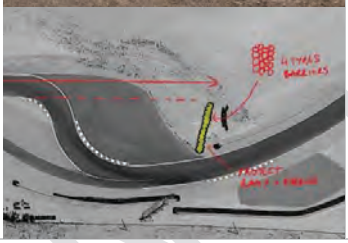
001088

001088

Safety Inspection Report

Driven.

Project	Speed Vegas Safety Inspections	**Project Code**	L030
Client	SPEED Vegas	**Version**	1
Subject	26-27 Feb Inspection Report	**Date**	2018-03-16

Item	Area	Issue / Consequence	Resolution	Priority	Timescale
4.	Pit box	Risk of pedestrians entering live driving area – i.e the pit lane, pit wall or brake test area. Potential for pedestrian injury. 	Segregate pit box from pit road and brake test area with painted lines with markings saying "DO NOT CROSS" to restrict pedestrian access onto pitlane and to parking / brake test / drift area.	Medium	Short
5.	T1	Risk of injury and damage to vehicles after impact with culvert, debris or small ramp on inside of T2 after high speed incident at T1.  	Relocate existing tyres to protect culvert and ramp in terrain Clear rocks and debris from dirt runoff area beyond asphalt runoff	Low-Medium	Short

001089

Safety Inspection Report

Driven.

Project	Speed Vegas Safety Inspections	**Project Code**	L030
Client	SPEED Vegas	**Version**	1
Subject	26-27 Feb Inspection Report	**Date**	2018-03-16

Item	Area	Issue / Consequence	Resolution	Priority	Timescale
6.	T2	Residual risk of impact with barrier on outside of T2. Modification already undertaken at T2 has provided some meaningful improvement where risk of higher speed impact is more likely. The barrier closest to the pit exit road, whilst still in its original position, is covered with 4 layers of tyres bolted together with a conveyor belt to the face. It appears likely that vehicles having a loss of control at high speed on the approach to T1 would not have a trajectory that enabled an impact with the barrier at T1 under normal circumstances, unless under situations such as stuck open throttles or other related externally influenced and unlikely malfunctions that contribute energy to the vehicle.  	To further improve safety and minimise risk of any impact with any barrier, relocate billboard to allow additional runoff area upstream of existing modification.	Low	Long

Safety Inspection Report

Driven.

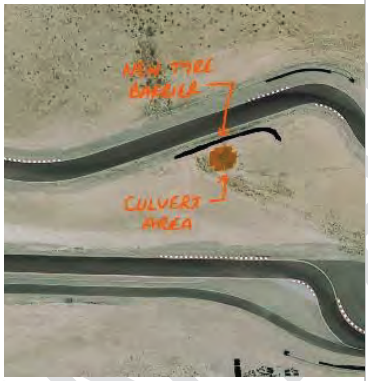
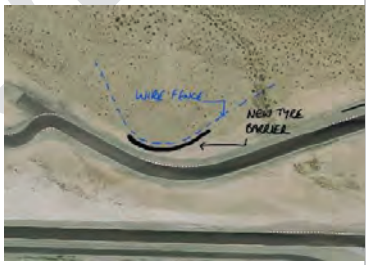
Project	Speed Vegas Safety Inspections	**Project Code**	L030
Client	SPEED Vegas	**Version**	1
Subject	26-27 Feb Inspection Report	**Date**	2018-03-16

Item	Area	Issue / Consequence	Resolution	Priority	Timescale
7.	T2	Minor risk of car debris entering public area as a result of accident at T2. If there is any risk of vehicle or track debris entering a public area (crossing the boundary fence), there is a risk of injury or damage to public persons or vehicles.	Install FIA standard debris fence to outside of T2.	Low	Long
8.	T3	Potential for vehicle to penetrate tyre barrier at boundary fence (banded tyre columns only, not bolted together, not concrete wall to contain vehicles) 	Replace tyre barrier with bolted type (at least 2 tyres thick) with conveyor belt face. Install concrete or other fixed barrier behind tyre barrier at T3 to provide vehicle restraint, increase tyres to 4 layers thick & conveyor belt. Ensure exposed all concrete is protected by tyres.	High Low	Short Long
9.	T4/T5	Minor risk of leaving track and going down slope behind runoff 	Extend tyres barrier to protect steeper slope area. All tyres to be bolted to form continuous barrier.	Medium	Medium

Safety Inspection Report

Driven.

Project	Speed Vegas Safety Inspections	**Project Code**	L030
Client	SPEED Vegas	**Version**	1
Subject	26-27 Feb Inspection Report	**Date**	2018-03-16

Item	Area	Issue / Consequence	Resolution	Priority	Timescale
10.	T5 exit	Risk of vehicles losing the track on oversteer (incident reported during track walk). Potential for vehicle to leave the track under excessive power/speed and going over culvert, ramp or rocky area, potentially leading to occupant injury and/or vehicle damage. 	Install 2 layer tyre bolted tyre barrier with conveyor belt face in inside of T5 exit to prevent vehicles from reaching culvert area 	Medium	Short
11.	T6	Risk of vehicle penetration through barbed wire fence on oversteer. Potential for vehicles to leave property under loose of control to uneven/rocky areas. 	Install 2 tyre barrier (bolted type) with conveyor belt face where barbed wire fence is within 60ft of track. 	Low	Medium

Safety Inspection Report

Driven.

Project	Speed Vegas Safety Inspections	**Project Code**	L030
Client	SPEED Vegas	**Version**	1
Subject	26-27 Feb Inspection Report	**Date**	2018-03-16

Item	Area	Issue / Consequence	Resolution	Priority	Timescale
12.	T10	Risk of impact with barrier after loss of control at medium/high speed. The area behind this barrier is sloped moderately away from the track and requires protection without further grading works. A number of solutions could applied here to improved safety, shown in order of cost / impact. 	Retain existing tyre barrier (or convert to bolted type (4 tyres deep). Remove concrete wall to allow energy from potential impact energy to be dissipated through tyres structure. Given there is only a mild slope behind the barrier, the overall risk is reduced reasonably by the removal of the concrete barrier whilst still retaining some vehicle restraint capability in the event of an incident. OR (in future): Remove existing concrete and tyre barrier, regrade terrain to provide a large runoff area (asphalt or gravel bed) at a similar slope to that of the track (+/- 3%). Ensure edge of runoff area is either graded smoothly to existing terrain or reinstate concrete wall and tyre barrier to prevent vehicles from jumping over a slope after an incident. Indicative sketch only, further design will be required: 	High Medium	Medium Long
13.	T12	Risk of penetrating existing barbed wire property fence at T12 entry 	Install barrier (minimum 2 layer bolted tyre barrier) with conveyor belt face in front of existing fence. AND Extend concrete wall behind tyre barrier as well to the same location	High Medium	Short Long

Safety Inspection Report

Driven.

Project	Speed Vegas Safety Inspections	**Project Code**	L030
Client	SPEED Vegas	**Version**	1
Subject	26-27 Feb Inspection Report	**Date**	2018-03-16

Item	Area	Issue / Consequence	Resolution	Priority	Timescale
14.	All areas	Risk of tyre barrier failure and flying debris during impact due to insufficient binding. 	Replace all tyre barriers to FIA guideline construction bolted construction, as provided in previous 2017 inspection. Refer to FIA Guidance provided in Appendix 2. 	High	Short
15.	At night	Risk of impact with mobile lighting columns generators (future consideration)	Lighting columns should be positioned behind existing concrete barriers where possible. If lighting columns are required in areas not protected by existing concrete barriers, additional protection should be added, comprising mobile concrete wall and 4 layer tyre barriers as a minimum. Refer to Appendix 1 for guidance on additional permanent protection systems.	High	When installed

001094

001094

001094

Safety Inspection Report

Driven.

Project	Speed Vegas Safety Inspections	**Project Code**	L030
Client	SPEED Vegas	**Version**	1
Subject	26-27 Feb Inspection Report	**Date**	2018-03-16

Item	Area	Issue / Consequence	Resolution	Priority	Timescale
16.	At night	Risk of insufficient lighting and dark spots leading to poor visibility from safety team.	Minimum recommended lighting level of 60 Lux should be maintained in all areas within the racing area including runoff area and barriers. Review and monitor lighting levels at all parts of the circuit and runoff areas to verify adequate lighting	High High	When installed Annually of after changing light positions

001095

001095

001095

Safety Inspection Report

Driven.

Project	Speed Vegas Safety Inspections	**Project Code**	L030
Client	SPEED Vegas	**Version**	1
Subject	26-27 Feb Inspection Report	**Date**	2018-03-16

4.2 Process

Item	Area	Issue / Consequence	Resolution	Priority	Timescale
17.	Drivers' briefing	Risk of key information being omitted or forgotten from driver's briefing leading to mis-use of speed or dangerous track manoeuvres by guests	Recommend a standard script detailed bullet subject list is available for all briefers and reviewed at least quarterly by all coaches and staff in order to capture any changes in vehicles or driver behaviours that emerge. Ensure the following items are covered in the drivers' briefing: • Pit box speed limit • Pit road speed limit • Overtaking procedure • Track limits sin bin policy*	High High	Short Short

Safety Inspection Report

Driven.

Project	Speed Vegas Safety Inspections	**Project Code**	L030
Client	SPEED Vegas	**Version**	1
Subject	26-27 Feb Inspection Report	**Date**	2018-03-16

Item	Area	Issue / Consequence	Resolution	Priority	Timescale
18.	Track observation	Risk of accident not being observed by track observers who are positioned in fire truck in paddock with view over a majority of the track, but with some blind spots to northern end of track.	Recommend either: Deploy a dedicated track observer to the control tower or similar position within the building to observe the northern end of the track and radio down to the fire truck in the event of an incident, i.e. to provide an additional pair of eyes but maintain the same fire-fighting equipment and position, and a dedicated radio channel for emergency response. OR Relocate fire truck personnel in the control tower with a view over the complete track. Position the fire truck within the pit road area with easy access from the control tower. This will increase the viewable coverage of the track but likely to reduce the overall reaction time. OR Deploy a second fire fighting vehicle equipped with the same firefighting capability positioned at the beginning of the pit lane next to workshop garages, to observe the northern end of the track and access the track from the northern pit road entrance.	High	Short
19.	Emergency drills	Good practice observed with detailed procedures in place for on-course incidents and quarterly drills to test response times	Continue to test using surprise drills to test procedures in an unplanned emergency simulation.	High	At least annually

001097

001097

001097

Safety Inspection Report

Driven.

Project	Speed Vegas Safety Inspections	**Project Code**	L030
Client	SPEED Vegas	**Version**	1
Subject	26-27 Feb Inspection Report	**Date**	2018-03-16

4.3 People

Item	Area	Issue / Consequence	Resolution	Priority	Timescale
20.	Coach behaviour	Risk of incidents and/or increased liability due to steering wheel holding	Implement a no wheel holding policy except for following scenarios • As a last resort, e.g. driver incapacitated • To keep wheels straight after running too fast into braking zone. • To guide drivers during an overtaking procedure, only if necessary It is recommended that coaches refrain from doing the following: • Try to correct the steering from the passenger seat to recover from an oversteer or loss of control spin caused by the driver. This is likely to cause greater injury and increased liability in the event of an impact. • Hold the wheel to perform minor driving line corrections during a lap. There is no need for this as it is not a racing school. The driver is free to listen to the verbal advice to take a better driving line. It is not necessary for them to drive a perfect line to enjoy the experience.	High	Short

001098

001098

001098

Safety Inspection Report

Driven.

Project	Speed Vegas Safety Inspections	**Project Code**	L030
Client	SPEED Vegas	**Version**	1
Subject	26-27 Feb Inspection Report	**Date**	2018-03-16

Item	Area	Issue / Consequence	Resolution	Priority	Timescale
21.	Track limits discipline	Risk of over confident drivers abusing track limits	Implement a strict "penalty box" policy: If a guest does not obey coach instructions and does not take all reasonable measures to keep the car from leaving the track, then as a first warning the coach shall be entitled to force the guest into a "penalty box" i.e. to pit in and park for a cooling off period and discussion regarding the track rules. Should this happen a 2nd time, the coach shall be entitled to terminate the session and blacklist the driver for a fixed time period. Refer to "Summary Findings" for further information. The "penalty box" should be located in front of the garages but out of sight of the pit lane.	High	Short

Safety Inspection Report

Driven.

Project	Speed Vegas Safety Inspections	**Project Code**	L030
Client	SPEED Vegas	**Version**	1
Subject	26-27 Feb Inspection Report	**Date**	2018-03-16

Item	Area	Issue / Consequence	Resolution	Priority	Timescale
22.	Coach behaviour	Risk of guest drivers pushing beyond their limits and having an accident. Research /observations from video recordings show there has been a culture of pushing customers unreasonably beyond their limited abilities, which could seriously increase the risk of a near miss incident, accident, injury or loss. As Speed Vegas is not a racing track nor selling a racing experience, there is no need to promote or encourage racing or aggressive driving beyond the limits of a customer.	A new briefing and coaching style should be implemented and monitored which will enable guest drivers to drive at their own limits under the guidance of coaches. Coaches should carefully observe and guide guest drivers to let them find their natural limit and help them if they want advice on a better driving style or driving line. Coaches should avoid using aggressive closed-instructions phrases, along the lines of: • "Full throttle!" • "You would've passed him if you'd gone faster through there!" • "Slam on the brakes!" • "Faster faster!" • "Let it rip!" • "Push push push!" Instead opt for open-instructions, something like: • "Accelerate now" • "Squeeze the throttle" • "Go as fast as you're comfortable" • "Turn a little tighter if you want" • "Roll to the right / left" • "Take your time" • "How are you doing?" Coaches should try to keep their tone of voice, calm but assertive, and communicate in advance to allow drivers to hear, think, process and act on their instructions.	High	Short

001100

001100

001100

Safety Inspection Report

Driven.

Project	Speed Vegas Safety Inspections	**Project Code**	L030
Client	SPEED Vegas	**Version**	1
Subject	26-27 Feb Inspection Report	**Date**	2018-03-16

Item	Area	Issue / Consequence	Resolution	Priority	Timescale
23.	Language Barrier	Currently Speed Vegas is entertaining guests without command of the English language. While there are subtitles optionally added to the briefing the lack of in-car communication between hosts and guests creates a significant hazard	Options to address. 1. Deny service to those who do not have command of English language. 2. Hire multi-lingual staff to host non-English speaking guests. Suggest Mandarin and Portuguese speakers. Spanish, German and French as longer term goals. 3. Create system to eliminate need for in-car communication "line aid concept". (Refer to Appendix 3)	High	Short
24.	Video recording	Risk of key instructions not being recorded on videos – potential risk of increased liability in the event of an incident.	Ensure video recordings have started prior to the session starting and before the coach gives the guest any meaningful coaching in the vehicle.	Medium	Short
25.	Personnel health	Risk of incident due to incapacitated coach / instructor. This could be either a physical or mental/psychological issue resulting in a lower standard of care and attention.	Recommend carrying out medical checks on all recruited instructors/hosts, including for physical / mental health issues that may impact on their ability to carry out their duties, adhere to safety policies and coach safely. Review every 12 months as a minimum.	Medium	Medium

Safety Inspection Report

Driven.

Project	Speed Vegas Safety Inspections	**Project Code**	L030
Client	SPEED Vegas	**Version**	1
Subject	26-27 Feb Inspection Report	**Date**	2018-03-16

4.4 Plant / Vehicles

Item	Area	Issue / Consequence	Resolution	Priority	Timescale
26.	Garage	Good practice observed pertaining to weekly and daily pre-use checks for fire and maintenance vehicles.	Continue to keep records of fire truck safety checks and maintenance records	Low	Daily / Weekly
27.	Garage	Good practice observed pertaining to daily checking of all exotic cars including tyre wear, brakes, and mileage.	Continue to keep records of vehicle maintenance checks safety checks and maintenance records: New vehicle checklist Vehicle inspections Vehicle service checklist End of week reports Daily checklists Vehicle condition check sheets	Low	Daily / Weekly
28.	Paddock / pit road	Good practice observed in the policy of brake testing prior to each guest running on track. However, there have been some instances of the procedure being forgotten.	Recommend installing white painted markings and signs in paddock before pit exit road to remind to brake test.	High	Short
29.	Garage	Risk of uncontrolled application of throttle – either through mechanical failure or incapacitated driver – leading to excessive and unexpected speed and potential for high speed impact with barriers. Whilst this is a very unlikely scenario, the results can be very serious. Guest drivers cannot be expected to have the competence to be able to manage a situation where a mechanical failure leads to a stuck open throttle. Drivers may also have undisclosed or unknown medical conditions that may result in uncontrolled application of throttle.	Install dash mounted emergency stop buttons / switches to all vehicles which cuts off the throttle or engine. They should be mounted in a position for either coach or guest to use in the event of an emergency or stuck throttle situation. It may take some time and investment to locate and install the necessary compatible parts to each vehicle, hence this is deemed as a longer-term recommendation for future safety enhancements Further guidance can be provided for such systems if needed.	Medium	Long

Safety Inspection Report

Driven.

Project	Speed Vegas Safety Inspections	**Project Code**	L030
Client	SPEED Vegas	**Version**	1
Subject	26-27 Feb Inspection Report	**Date**	2018-03-16

APPENDIX 1 – Lighting Guidance

Initial Lighting Plan Provided by Speed Vegas

Location plan is indicative only, markings show only approximate position based on Speed Vegas plan and indicative direction of illumination

001103

Safety Inspection Report

Driven.

Project	Speed Vegas Safety Inspections	**Project Code**	L030
Client	SPEED Vegas	**Version**	1
Subject	26-27 Feb Inspection Report	**Date**	2018-03-16

Guidance on light positions and protection

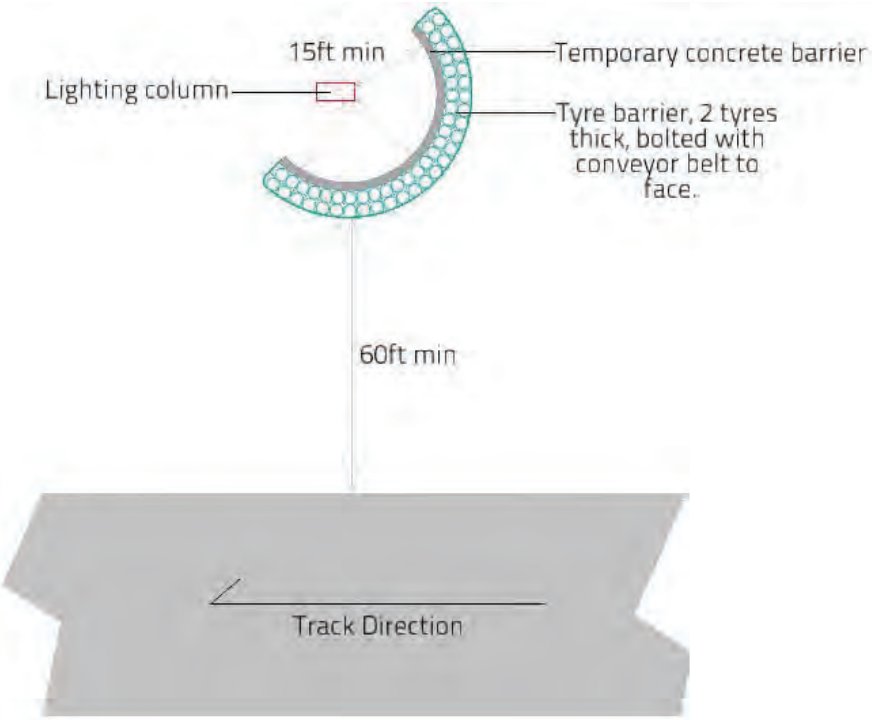
1. Move behind existing barrier
2. If possible relocate to dirt area outside track and pit road barriers. Ensure outriggers are highly visible
3. Same as 2.
4. Place 2 light towers at 4 to compensate for 5
5. Remove
6. Ok if behind existing barrier
7. Ok if behind existing barrier
8. Ok if behind existing barrier
9. Ok if behind existing barrier
10. OK if behind existing barrier
11. Protection system 1, tire barrier at least 60ft from track edge
12. Protection system 1, tire barrier at least 60ft from track edge
13. Removed under advice from Justin (light not needed)
14. Protection system 1, tire barrier at least 80ft from track edge
15. Protection system 1, tire barrier at least 60ft from track edge
16. Ok if behind existing barrier
17. Protection system 1, tire barrier at least 60ft from track edge
18. OK if behind new barrier specified (see main report under CIRCUIT, Item 10), protection system 1, tire barrier at least 50ft from track edge
19. To be moved to other side of track adjacent to boundary fence. Protection system 1.
20. Protection system 1, tire barrier at least 60ft from track edge
21. Protection system 1, tire barrier at least 60ft from track edge
22. To be removed under advice from Justin (light not needed)
23. Protection system 1, tire barrier at least 60ft from track edge
24. Protection system 1, tire barrier at least 60ft from track edge
25. Protection system 1, tire barrier at least 60ft from track edge
26. Move behind barrier at T10. If barrier removed (see main report under CIRCUIT item 12) revert to protection system 1, tire barrier at least 50ft from track edge on outside of T11 (outfield area)
27. Move behind existing barrier
28. Protection system 1, tire barrier at least 60ft from track edge
29. Protection system 1, tire barrier at least 60ft from track edge
30. OK if behind existing barrier
31. Relocate to behind pit wall barrier
32. Ok, outside racing area
33. Ok, outside racing area
34. Protection system 2, tire barrier at least 60ft from track edge
35. Ok, outside racing area
36. Ok, outside racing area
37. Ok, outside racing area
38. Move behind existing barrier

Safety Inspection Report

Driven.

Project	Speed Vegas Safety Inspections	**Project Code**	L030
Client	SPEED Vegas	**Version**	1
Subject	26-27 Feb Inspection Report	**Date**	2018-03-16

"Protection System 1"

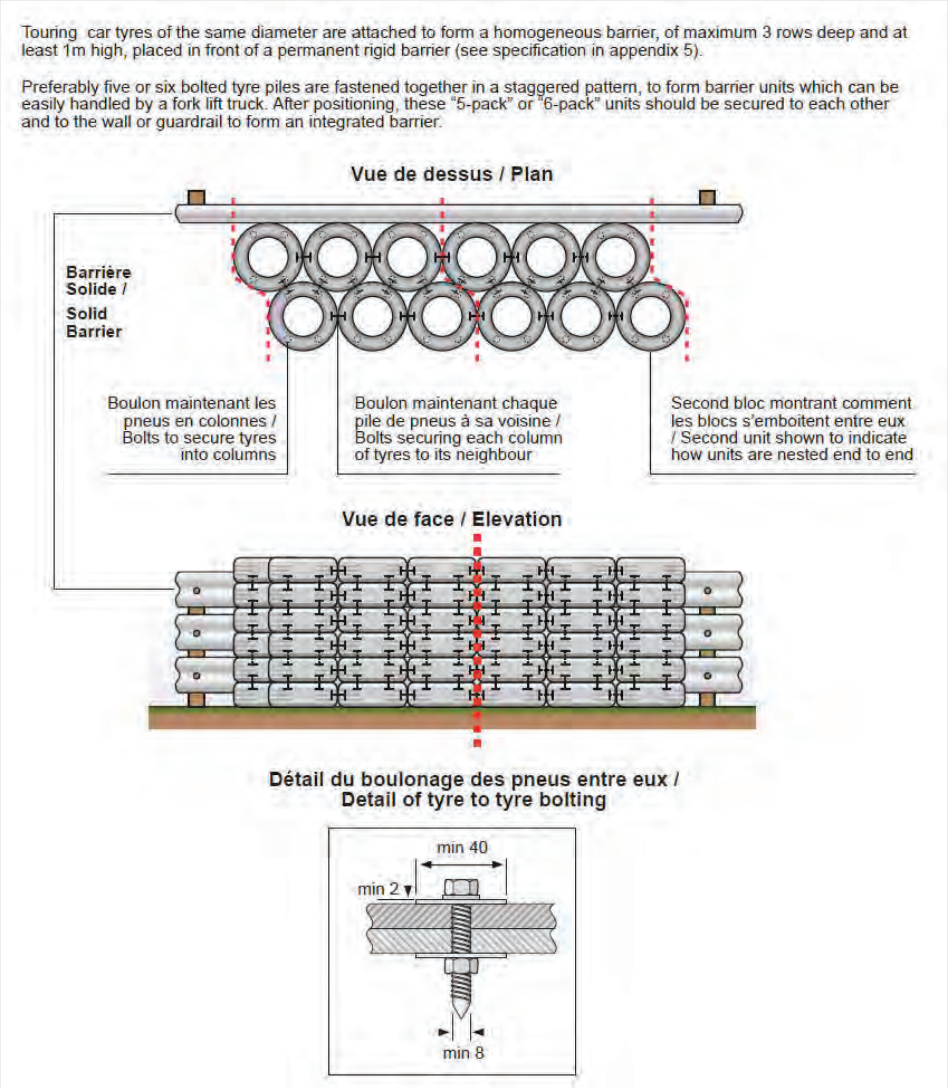


Safety Inspection Report

Driven.

Project	Speed Vegas Safety Inspections	**Project Code**	L030
Client	SPEED Vegas	**Version**	1
Subject	26-27 Feb Inspection Report	**Date**	2018-03-16

APPENDIX 2 – FIA Guidance for Tyre Barrier Construction



Tyres

Touring car tyres of same diameter (e.g. R18)
New (or reject) tyres only, no worn tyres

Assembly

Tyres stacked and bolted together to guardrail height (but not more than 1200mm)
Stacks of tyres bolted together, staggered, in bales of 5 or 6 stacks
Bales lifted into position and bolted together to form continuous barrier
All bolts minimum M8 with 40mm washers

Conveyor belt

Mimimum height 1000mm or at least equvalent to tyre barrier stack
Minimum 12mm thickness
Fixed to track facing side of continuous tyre barrier, fixed at 2 points to each tyre stack.
All bolts minimum M10 + domehead + 40mm washers

001106
001106
001106

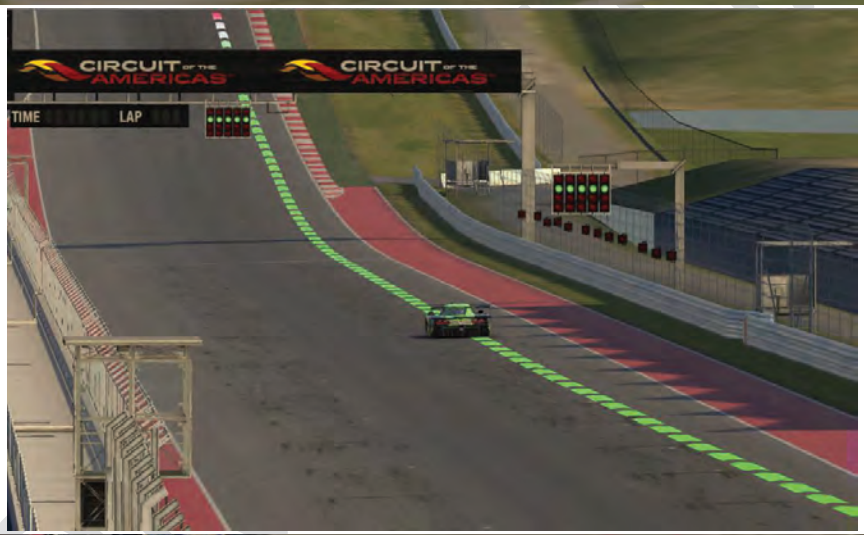
Safety Inspection Report

Driven.

Project	Speed Vegas Safety Inspections	**Project Code**	L030
Client	SPEED Vegas	**Version**	1
Subject	26-27 Feb Inspection Report	**Date**	2018-03-16

APPENDIX 3 – Pictures of Example Driving Line Markings

(refer to item 23)



Images courtesy of iRacing™

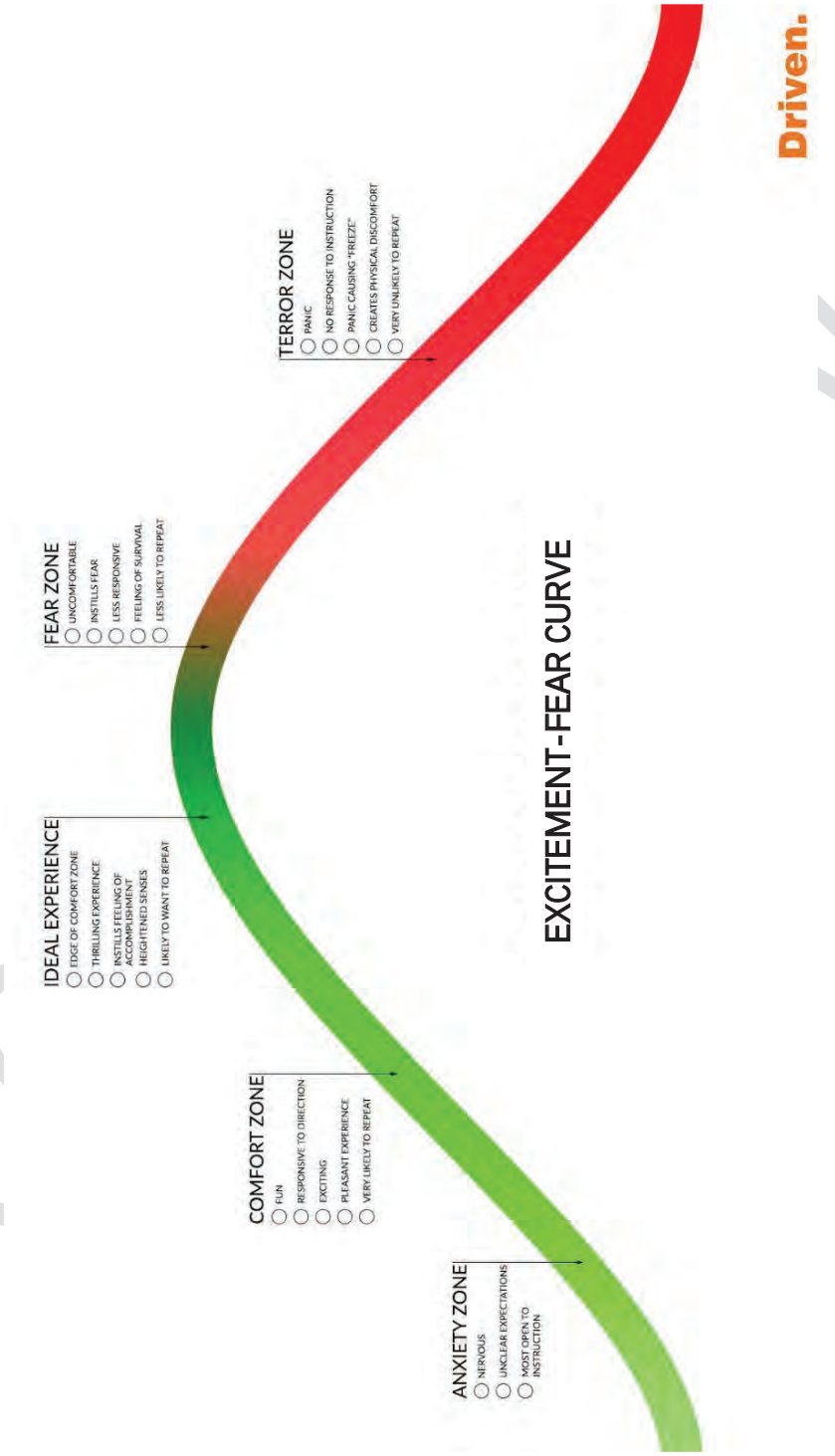
001107
001107
001107

Safety Inspection Report

Driven.

Project	Speed Vegas Safety Inspections	**Project Code**	L030
Client	SPEED Vegas	**Version**	1
Subject	26-27 Feb Inspection Report	**Date**	2018-03-16

APPENDIX 4 – Excitement-Fear Curve



001108

001108

001108

Safety Inspection Report

Driven.

Project	Speed Vegas Safety Inspections	**Project Code**	L030
Client	SPEED Vegas	**Version**	1
Subject	26-27 Feb Inspection Report	**Date**	2018-03-16

APPENDIX 5 - Penalty box policy glossary

"2-offs"	When 1 or 2 wheels leave the delineated boundaries of the circuit in any way
"4-offs"	When 3-4 wheels leave the delineated boundaries of the circuit in any way
"Light Impact"	When a SV vehicle has any contact with any other vehicle or object. Light impacts usually cause light body damage and usually don't deploy airbags. Rarely cause injury to occupants.
"Medium Impact"	When a SV vehicle has impact severe enough to render the car un-drivable, often includes both body and suspension or frame damage, often deploys airbags. Cause some injuries to occupants.
"Severe Impact"	Most catastrophic of impacts, these significantly deform vehicle, can result in fire, often damage or displace the retention systems. Cause serious injuries to occupants.

001109

001109

001109

EXHIBIT 6

001110

001110

EXHIBIT 6

In the Matter Of:

A-17-757614-C

ESTATE OF BEN-KELY, et al.

vs

SPEED VEGAS, LLC, et al.

Videotaped Deposition Of:

BEN WILLSHIRE

December 14, 2020

001111

001111

envision
legal solutions
702-805-4800
scheduling@envision.legal

hosts. So there is a whole raft of improvements that they can make operationally but I don't think that makes the track unsafe, the physical environment unsafe.

Q. Would you agree with me that the instruction or lack of instruction can make a track that is designed appropriately unsafe? Yes or no?

A. Yes.

Q. Let's pull up -- we'll make it Exhibit -- Monice, I think we're on Exhibit Number 4. Before you pull it up, let me --

THE COURT REPORTER: Yes, we're on 4.

MR. TRAINA: Here's what I want you to pull up if you could for me, the February 2018 safety inspection report and recommendations.

THE COURT REPORTER: Jared, it's 2.

EXHIBIT TECH: I've got it.

THE COURT REPORTER: Thank you.

MR. TRAINA: Sorry. Sometimes it takes me a little longer, Mr. Willshire.

THE WITNESS: No problem.

BY MR. TRAINA:

Q. I should be sharing my screen with you now so you can see what we've marked as Exhibit

001112

001112

EXHIBIT 7

001113

001113

EXHIBIT 7

DISTRICT COURT
CLARK COUNTY, NEVADA

ESTATE OF GIL BEN-KELY by ANTONELLA BEN-KELY, the duly Appointed representative of the ESTATE and as the widow and heir of Decedent GIL BEN-KELY; SHON BEN-KELY, son and heir of decedent GIL BEN-KELY; NATHALIE BEN-KELY SCOTT, daughter and heir of the decedent GIL BEN-KELY, GWENDOLYN WARD, as Personal Representative of the ESTATE OF CRAIG SHERWOOD, Deceased; GWENDOLYN WARD, Individually, and as surviving spouse of CRAIG SHERWOOD, Deceased; GWENDOLYN WARD, as mother and natural guardian of ZANE SHERWOOD, surviving minor child of CRAIG SHERWOOD, Deceased,	Case No.: A-17-757614-C Dept. No.: XXVII
Plaintiffs,	DEPOSITION OF PAUL CRIFASI
vs.	
SPEED VEGAS, LLC, a Delaware limited liability company; SCOTT GRAGSON, WORLD CLASS DRIVING, an unknown entity SLOAN VENTURES 90, LLC, A Nevada limited liability company, ROBERT BARNARD; MOTORSPORTS SERVICES INTERNATIONAL, LLC, a North Carolina limited liability company; the ESTATE OF CRAIG SHERWOOD; AUTOMOBILI LAMBORGHINI AMERICA, LLC, a foreign Limited liability company; FELICE J. FIORE, JR.; DOES I-X, inclusive; and ROE CORPORATIONS I-X, inclusive,	MONDAY DECEMBER 16, 2019 10:08 A.M. LAS VEGAS, NEVADA Reported by: Jill E. Shepherd, RPR, NV CCR 948 Job No. 3756
Defendants.	

001114

001114

001114

Q. That inner cable you use, do you get that from a motorcycle supply company? Where do you get that cable?

A. The cable comes from the same people we buy the --

Q. The brake pedals from?

A. -- brake pedal from.

Q. And how about the U-bolt system, does that come --

A. All that, yes.

Q. So all that comes as a packet?

A. Yeah. It's not considered a kit.

Q. I see.

But when you order a brake pedal, do you get all that with it?

A. No.

Q. You order that separately?

A. Yes.

Q. So the entire time that SpeedVegas operated up through July 2017, were you the person who installed all the passenger side brake pedals?

A. Yes.

Q. Anybody assist you with that?

A. Not really.

Q. And did your method for doing it change at

001115

001115

001115

feel it's the tightness?

A. Yes.

Q. Is that the right word, "tightness"? How would you describe it?

A. Yeah. That's fine.

Q. Okay.

A. That's fine.

Q. Okay.

And do you know if they did any sort of testing like trying to see if there was a difference from going to 60 to 0 using the regular brake pedal or the passenger side pedal?

A. No. No.

Q. They didn't do anything like that, to the best of your knowledge?

A. No. No.

Q. It was more of a kneel as to that?

A. Well, before they even go out of pit lane, they go out of pit lane, the instructor will say, Try your brake pedal on the driver's side. They try to stop. And okay, get off and get some gas and they apply theirs to stop.

Q. This is on every ride with a customer?

A. Every ride.

Q. I'm talking more now about just the track

001116

001116

001116

testing before the cars are cleared for use.

A. Basically it's the same way because they always have an instructor in both seats.

Q. Okay.

And so the way the testing would have been done on the passenger side pedal as you just described; the instructor in the driver's seat would first apply the regular brake pedal on the left side of the car, and then accelerate again and the instructor sitting in the passenger side seat applies the brake pedal on the passenger side?

A. Correct.

Q. And there's some joint decision between the two of them if it's working properly?

A. Right. If it's spongy or not, has any different feel. Because some cars do have a different feel, just the way the braking system is. Then they go out, test it, they feel if there's any vibration, tires are out of balance, you know, on and on and on, and until they say it's cleared after they do it, they have the video system on. They take the video thing in, test it, make sure the cameras are working, sign it off until the last person signs it, and then it goes out.

Q. And was that essentially the same way the

001117

001117

001117

passenger side brake pedal was tested when you were at Exotics?

A. Yeah. Then I used to go out with them and push the brake pedal.

Q. You would do that?

A. I would do it myself, yeah.

Q. Other than motion sickness, any reason you stopped doing that at SpeedVegas?

A. I just -- no. Just the motion sickness. No. I got really sick one year, had a really bad head cold, and it attacked my ears. Has nothing to do with this. I was going for my license to fly a helicopter, and I had to stop all that. That has nothing to do with what's going on here. I can go in a straight line, but when you do the curves, if I'm behind the wheel, I can do it. But I have -- I can't have a closed helmet. I have to have a half helmet on so I can kind of see my surroundings so I'm -- because my eyes move back and forth too much. It really bothers me.

MR. HOLLADAY: Let's mark this group of photos as Exhibit 1 if we could.

(Exhibit 1 marked.)

BY MR. HOLLADAY:

Q. Mr. Crifasi, I'm going to hand you a set of

001118

001118

001118

Q. In terms, of, again, how much longer it might take to stop the car from 60 miles an hour, 20 miles an hour, or 40 miles an hour?

A. Whatever the braking system on the car will do. It's doing the exact same thing as what this pedal does as this pedal does [indicating]. As you are pushing this [indicating], it's pulling that one down, too.

Q. I take it, based on what you told me, you've not been a part of any specific testing to evaluate that?

A. No. All I know is all the instructors loved it, because on all the cars that I've done, it's saved them from potential accidents happening.

Q. And the method you employ installing it on the subject Lamborghini is the same as you just outlined for us?

A. Yes.

Q. And did you have any particular problems or issues installing the passenger side brake pedal on this car?

A. No.

Q. And do you recall whether or not you made any adjustments to the passenger side brake pedal on this car after the instructors took it out for the

001119

001119

EXHIBIT 8

001120

001120

EXHIBIT 8

SpeedVegas

Risk Asssment – Turn 1 & Turn 2

November 2020

CONFIDENTIAL

001121

001121

Driven.

Prepared by: Driven International Ltd

For: Paul L. Tetreault
Of: Agajanian, McFall, Weiss, Tetreault & Crist LLP

Version 1, 5th November 2020

Author:	Ben Willshire BSc (Hons)
Peer Review:	Ramzi Darghouth MEng

SpeedVegas T1-T2 Review

Driven.

Project	Speed Vegas Expert Witness	**Project Code**	L030
Client	Agajanian, McFall, Weiss, Tetreault & Crist LLP	**Version**	1
Subject	Speed Vegas, Turn 1-2 Risk Assessment	**Date**	2020-11-05

Table of Contents

1.0 Background and Introduction 4
2.0 The Venue 5
2.1 Site Map 5
2.2 Description of the track 6
2.3 Turn 1 to 3 Layout 8
3.0 Venue Design Benchmarking 10
4.0 Basic principles of vehicle restraint system selection and location 13
4.1 Selection method process 13
4.2 Reference guidelines 14
5.0 Risk Assessment Analysis 15
5.1 Method 15
5.2 Simulation Verification 16
5.3 Simulation Findings 19
6.0 Summary Notes 20

001122

001122

001122

SpeedVegas T1-T2 Review

Driven.

Project	Speed Vegas Expert Witness	**Project Code**	L030
Client	Agajanian, McFall, Weiss, Tetreault & Crist LLP	**Version**	1
Subject	Speed Vegas, Turn 1-2 Risk Assessment	**Date**	2020-11-05

Glossary of Terms

'The Author'	Mr Ben Willshire BSc, of Driven International Ltd
'The Driver'	Refers to the driver of a performance sports car at the Venue
Driven International	An internationally recognised race track design firm based in the United Kingdom
'FIA'	Fédération Internationale de l'Automobile
'IOPD'	International Organisation of Professional Drivers
'MASH'	Manual of Assessing Safety Hardware, an international standard for the performance criteria of road safety barriers
'OSHA'	United States Department of Labor, Occupational Safety and Health Administration.
'The Venue'	Refers to Speed Vegas, a driving track located at 14200 S Las Vegas Blvd, Las Vegas, NV 89054, U.S

SpeedVegas T1-T2 Review

Driven.

Project	Speed Vegas Expert Witness	**Project Code**	L030
Client	Agajanian, McFall, Weiss, Tetreault & Crist LLP	**Version**	1
Subject	Speed Vegas, Turn 1-2 Risk Assessment	**Date**	2020-11-05

1.0 Background and Introduction

This report pertains to a risk assessment of the SpeedVegas driving circuit, in particular focusing on the area of Turns 1-3 following a fatal incident that occurred in February 2017 involving Mr Craig Sherwood (driver) and Mr Gil Ben-Kely (passenger) in a Lamborghini Aventador vehicle.

The incident itself took place at the exit of Turn 2 of the SpeedVegas circuit.

This report **does not aim** to analyse the root cause of or reconstruct the incident but **does aim** to provide an independent review of the physical surroundings at the time of the incident, and a risk assessment of the Turn 1-3 area based on international track design guidelines.

This report is divided into the following main chapters;

- **The venue** – Overview of Speed Vegas venue
- **Venue Design Benchmarking** – a comparison of other similar corner sequences
- **Principles of barrier selection** – Generic principles of driving venue design
- **Risk Assessment** – risk assessment on safety zones and barrier placement using simulation methods
- **Summary findings** – Key statements

This incident report is based on a desktop review of the incident, using the following inputs.

- 15400 GP2.dwg – AutoCAD Layout of SpeedVegas venue provided to Driven International February 2017
- A site visit and photographs taken at the Venue by the author in March 2017
- Lap data generated using real world vehicle data and ChassisSim software
- Reference to international guidelines from the FIA & IOPD

Driven International Ltd is not a governing body or sanctioning body but are qualified and recognised experts in the race track industry, applying industry best practice and experience based on available data, references to international race circuit guidelines, international road safety guidelines and reasonable judgement from experienced professionals. There are many factors that may impact the safety of such a facility.

SpeedVegas T1-T2 Review

Driven.

Project	Speed Vegas Expert Witness	**Project Code**	L030
Client	Agajanian, McFall, Weiss, Tetreault & Crist LLP	**Version**	1
Subject	Speed Vegas, Turn 1-2 Risk Assessment	**Date**	2020-11-05

2.0 The Venue

2.1 Site Map

The Venue is SpeedVegas consisting of a 1.5 mile driving experience track designed to operate in an Anticlockwise direction, as annotated below.

Figure 1 - Aerial Map of Venue as of 2020

001125
001125
001125

2.2 Description of the track

This report does not intend to focus on Venue process or operations however a brief description of the Venue offering is included here for context.

The Venue is located south of Las Vegas city, and offers experiential driving packages targeted at the Las Vegas tourism market. The main offering at the Venue is for customers to drive a selection of sports or supercars around a purpose built 1.5 mile track. Packages include a 7 lap driving experience, whereby the customer can drive the circuit, hosted by a SpeedVegas driving consultant in the passenger seat. More recently the Venue offering has been expanded to offer off road driving experiences on a 1.4mile track.

It is important to note that the track was not designed as a competition racing track, and is designed and operated as a driving experience track open to members of the paying public. This is important to note as the design approach and licensing/approval requirements for a competition track vs an experience track typically differs, as discussed in more detail later in this report.

The track itself consists of a smooth paved asphalt surface, with some gentle changes in elevation. It is generally bordered by a painted red/white markings to delineate the edge of the track. The surrounding surface on the infield and outfield of the track is generally a fine desert gravel material, typical of the surrounding landscape. However the areas around the track have been graded to be free of debris and free of sudden changes in gradient – intended to act as run off safety zones in the event that a car loses control and leaves the track.

001126

On the inside and outside of most corners, concrete kerbs have been installed and painted red and white. This is typical of a driving track, as these kerbs help drivers to identify the clipping and exit points of the corners, helping them to navigate the correct driving line around the track as well as avoiding vehicles cutting corners as they driver closer to the edge of the track.

001126

Generally, the track has been designed with wide and open run off areas. This is complimentary to an experience driving track, where plenty of open space helps to maximise sight lines for drivers and minimise risk of impacts into barriers. In some key locations around the track, there are barriers (consisting of concrete walls faced with tyre protection) placed to restrain the vehicle in the event of an incident. Generally, these barriers have been installed in locations where there is a significant hazard behind the barrier that requires protection, such as sudden changes in gradient, a physical object, or a risk to the public. This is discussed in more detail later in the report.

Following a visit by the Author to the venue on 4th and 5th March 2017, the following general statements were made regarding the track facility.

- *Generally, a well presented track*
- *Open plan layout, providing open lines of sight for easy driver navigation and operation with minimal hazards around the track*
- *A good blend of technical and high speed track sections*
- *Run off areas generally suggest compliance with best practice*
- *Where impacts are likely, the location of barriers installed seem acceptable*
- *Some potential for improvement with regard to installation specification of fencing, barriers and trackside grading.*

Following a visit by Ramzi Darghouth (Projects Director at Driven International) to the venue on February 26th & 27th 2018, the following general statements were made regarding the physical track facility.

"During the circuit inspection, the inspection team found that the track came across as a very well presented and maintained facility. The track has good visual cues and track definition via the use of painted verges and kerbing as well as clear coloured cone markers to help guest with their driving line and the navigation of the track . There is

minimal use of barriers to the infield of the circuit which helps with visibility of the track and reduces risk of impacts with physical structures.

The inspection highlighted a few issues that if resolved should help to increase the overall safety level of the track. There were a few basic items such as signage and line markings within the pit road and paddock area which we would recommend are completed in order to communicate hazards more clearly to participants and visitors. On the circuit itself, there were a few areas where the construction of tyre barriers should be upgraded to FIA bolted tyre construction, and only a handful of locations where we would suggest adding further tyres to provide an incremental increase in protection".

Figure 2 - General Track condition photos from 04 March 2017 Track Visit

2.3 Turn 1 to 3 Layout

The Speed Vegas track operates in an anticlockwise direction. The start of the track consists of an approximately 780m straight (assuming full acceleration out of the final bend).

The first turns are designed to slow drivers at the end of the straight before entering a more technical sequence of the track. Turn 1 – 2 consists of a Right and Left hand "chicane" before accelerating into a long and tightening radius left handed bend into Turn 3.

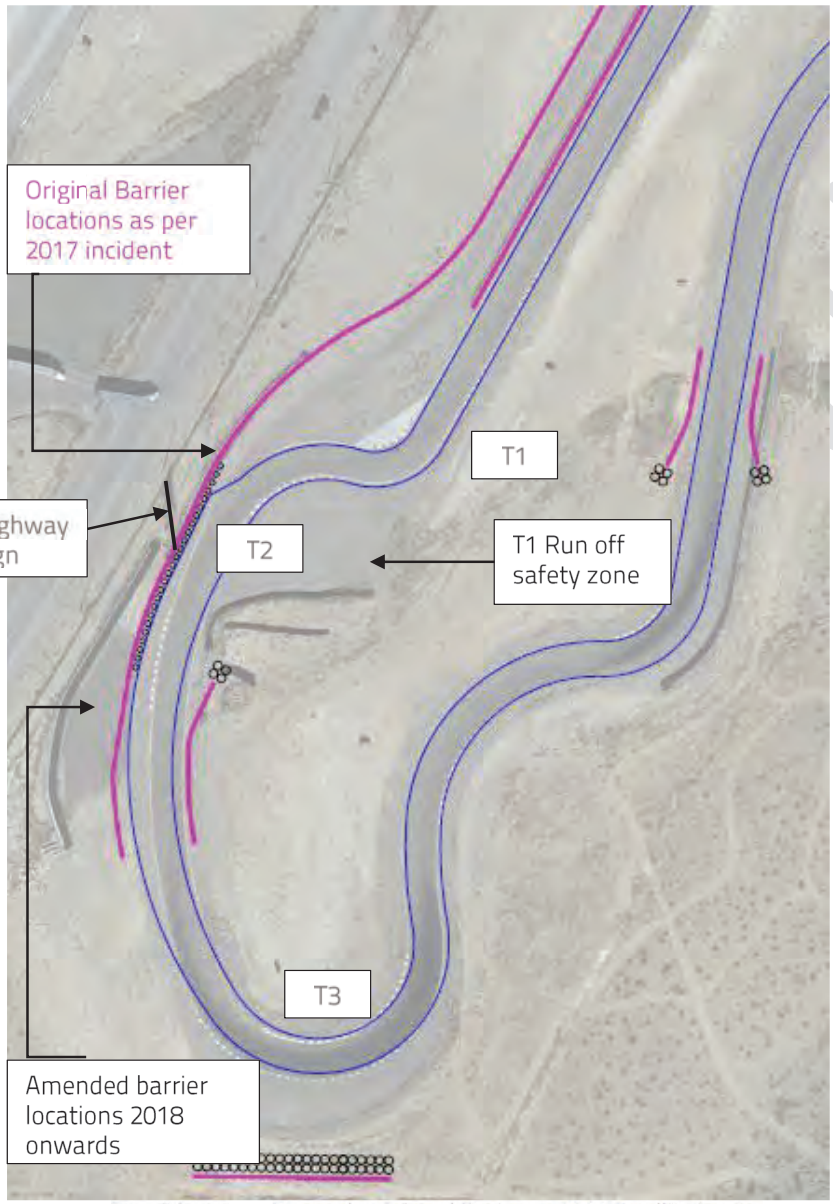


Figure 3 - SpeedVegas T1-T3 complex Original Design vs 2020 Satellite image

*the track edges are denoted by the blue line, obtained from the original AutoCAD design drawings of the Venue.

It is noted that the exit of Turn 2 was designed as a wider corner, but in reality, has been constructed tighter than shown on the original design. The impact would be a reduction in vehicle speed through the apex of turn 2 and a separation space of run off being provided between track edge and the original barrier design.

Following the aforementioned incident in February 2017, amendments to part of the barrier were made to provide additional run off space on the outside of Turn2 shown. It is noted that the section of barrier closest to Turn 2 was not able to be moved due to the fixed location of a highway sign behind the barrier.

SpeedVegas T1-T2 Review

Driven.

Project	Speed Vegas Expert Witness	**Project Code**	L030
Client	Agajanian, McFall, Weiss, Tetreault & Crist LLP	**Version**	1
Subject	Speed Vegas, Turn 1-2 Risk Assessment	**Date**	2020-11-05

Figure 4 - Entry to Turn 1 (top) and Exit of Turn 2 (bottom)

3.0 Venue Design Benchmarking

The Author has referred to geometry and barrier placement and satellite imagery of other well reputed tracks that have implemented similar design principles to those seen at the SpeedVegas venue.

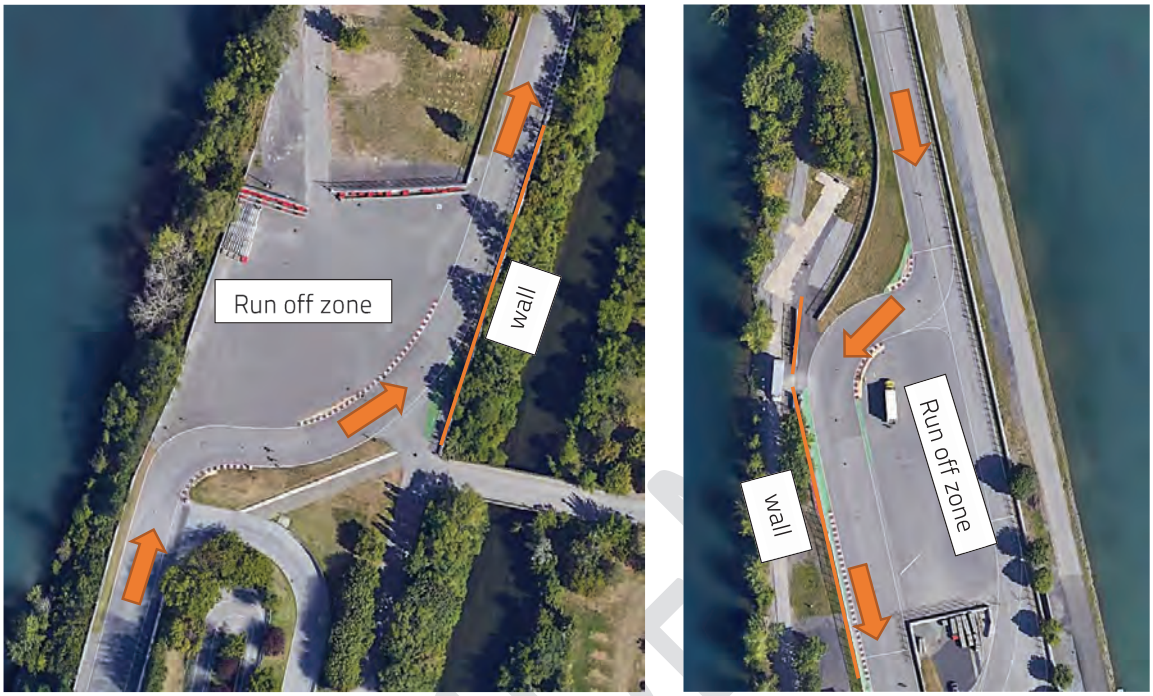


Figure 5 - Gilles Villeneuve Circuit Chicanes

The **Circuit Gilles Villeneuve** is used for the Formula 1 Canadian Grand Prix, and has previously hosted other international races. It holds an FIA Grade 1 circuit license, the premium accreditation for a race track.

Although it is deemed a temporary circuit, as some sections of the track make use of park roads, the principles applied to corner safety and barrier placement are reflective of those seen at Turn 1-2 at SpeedVegas.

The principle being that enough straight ahead safety area is provided at the end of a high speed straight. On the second section of the chicane, a wall is placed close to the exit of the left hand turn, providing restraint in the event of an incident. In both cases, the wall is not designed to accommodate high speed impacts in this part of the track since the majority of incidents would likely involve either a) Overshooting turn 1 into the straight ahead safety zone or b) a low speed impact to the wall having navigated the chicane on the typical driving line.

The same theory has been applied at several other circuits in a similar guise, as seen herein.

SpeedVegas T1-T2 Review

Driven.

Project	Speed Vegas Expert Witness	**Project Code**	L030
Client	Agajanian, McFall, Weiss, Tetreault & Crist LLP	**Version**	1
Subject	Speed Vegas, Turn 1-2 Risk Assessment	**Date**	2020-11-05

Figure 6 - Spa Francorchamps circuit

Circuit de Spa-Francorchamps is located in Belgium and is also an FIA Grade 1 licensed track venue. Unlike the Gilles Villeneuve circuit, it is a permanent motorsport venue and host a range of international motorsport competitions and public track days.

The final sequence of the track is a sharp right/left chicane, approached at high speed (one of the fastest parts of the track)

As seen in Figure 6, there is a paved run off zone located in the straight ahead position, allowing vehicles to overshoot the entry to the chicane if they brake too late or loose control of the vehicle.

On the exit of the left hand corner, there is barrier located relatively close to the track, albeit with some paved run off separation. This is a typical set up, with the barrier being located with an appropriate set back from the track for the estimated vehicles speeds at this point on the track. The barrier is not located or designed to accommodate a high speed impact from loss of control on the straight preceding the chicane.

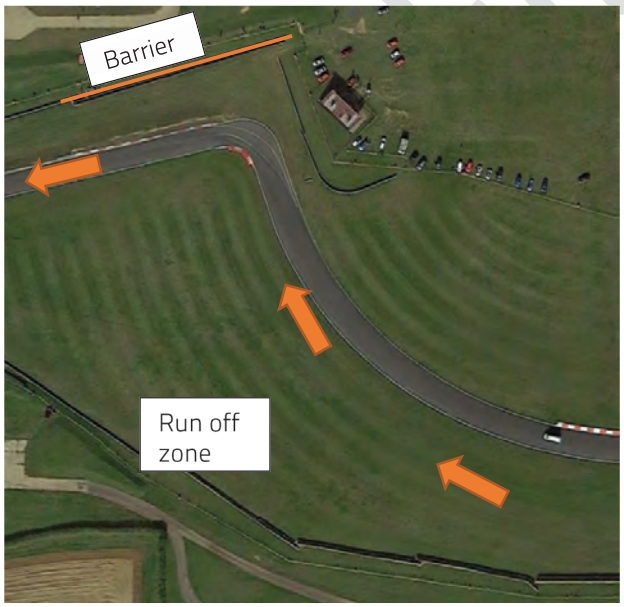


Figure 7 - Snetterton Circuit, UK

Snetterton circuit in the UK is a long established motorsport venue. The section of track shown opposite is the final turn on the circuit, which was re-designed by its long term operators, Motorsport Vision, in 2011. It is licensed by Motorsport UK and the FIA with a Grade 2 license. MSV host a number of public track days and corporate experiences using this configuration of track.

The approach to the final turn is a long fast right handed corner, driven at high speed.

Although in this example the entry is a long fast corner, the same principles apply as the two previous examples whereby a larger run off zone is provided in relation to the high speed section of track, with a smaller run off zone and closer barrier proximity provided on the exit of the corner, reflective of the likely vehicles speeds at this point on the track.

001131
001131
001131

SpeedVegas T1-T2 Review

Driven.

Project	Speed Vegas Expert Witness	**Project Code**	L030
Client	Agajanian, McFall, Weiss, Tetreault & Crist LLP	**Version**	1
Subject	Speed Vegas, Turn 1-2 Risk Assessment	**Date**	2020-11-05

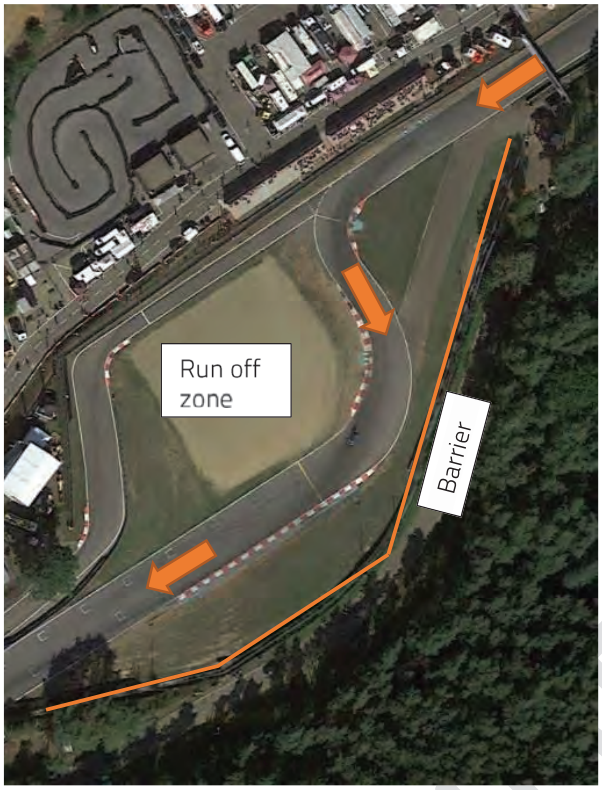


Figure 8 - Circuit Zolder Final Chicane

Circuit Zolder was originally built in 1963 but has been extensively remodelled during its original construction.

It is a permanent motorsport venue, holding an FIA Grade 2 license, enabling it to host international level motorsport events.

The final sequence to the track is a left-right chicane. Although the direction is reversed when compared to the SpeedVegas layout, the same principles of chicane design apply, with a larger run off area located at the end of the high speed straight and a smaller run off zone located on the outside of the exit of the chicane sequence

4.0 Basic principles of vehicle restraint system selection and location

4.1 Selection method process

The principle of the vehicle restraint system selection and design are based on the basic premise of risk assessment and risk mitigation.

The use of motorsport or experiential driving circuits involves the driving of vehicles at reasonably high speed around dedicated, closed (not public), on typically purpose built roads designed for high performance vehicles and driving in one direction (clockwise or counter clockwise) around a predetermined layout. Because of the elevated speed of the participants involved, one of the main risks associated with the activity is contact with other hazards outside of the track, as a result of a loss of control on the track, but also risk to non-users outside of the track area.

As with any road, nearby objects, obstacles, gradients, water features or other items can pose a risk to users of the track. The public may also have access to areas in close proximity to the track. Where possible, if a vehicle were to lose control on the track, the risk of injury or damage to persons or property resulting from vehicle contact with these hazards or persons should be minimized as far as is reasonably practical.

This is typically achieved by clearing and levelling the areas close to the track and installing "runoff areas" or space to dissipate energy (allow vehicles to naturally slow down to a static condition). However, typically, most motorsport venues will not have the luxury of vast areas to use as runoff that could dissipate all energy in all possible incident scenarios, so it is typically achieved by localised safety areas (relative to vehicle speeds and the likely direction of travel), complimented in some cases with safety barriers and fences used to contain the vehicles with a lower impact speed or lower impact angle in order to minimise the overall risk of injury or damage.

The location and size of the runoff areas as well as the type and position of barriers should be determined by considering the likely trajectory (speed and direction) of vehicles driving a conventional driving line. With higher speeds expected on straights and lower speeds around tighter corners, it is normally possible to predict where the most space will be needed, and where the highest risk of impact will be. Where space is limited, additional measures such as walls, tire barriers or other energy dissipation devices can also be use to supplement the barriers where space is limited to minimise the consequences of impact.

The consequence of an impact with a barrier should also be considered in terms of the deceleration exerted on the vehicle and occupants. A lower speed impact is generally always preferred all other things being equal. However the angle of impact is also an important factor to consider. A low angle of impact with a barrier (glancing blow <25 degrees) is generally preferred to a high angle (head-on >25degrees) impact if possible as it can help to dissipate energy and avoid high deceleration values. As such, in some circumstances a glancing impact at a moderate to high speed may be preferred to a low to moderate speed high angle impact, subject to the individual circumstances and context of each circuit.

Importantly, fences should also be used to provide a layer of security and safety non-participants (e.g. public / spectators etc), to help prevent unauthorised access by non-users to dangerous areas and also to prevent debris or vehicles from leaving the track area. Additionally, in areas where public access is already prohibited, sometimes it may be appropriate to not have any barrier at all in a particular location if the area behind that barrier poses less risk than the risk of the impact with barrier itself.

To summarise, generally in order of preference the following measures are typically considered in the selection and location of vehicle restraint systems:

1. Unobstructed, debris-free, level graded areas are the optimal solution, where practicable, to dissipate energy prior to any impact. This is often unpractical at most sites but can be achieved on localised sections of track.

2. Safety Barriers. Only consider installing a barrier if the hazard behind is greater than the barrier itself i.e ditches, fencing, trees, public spaces, or other hazardous objects.

3. If a barrier is needed, the potential impact angle and speed should be assessed. Where possible, a low as is reasonably practicable. Its position should be determined when considering the likely trajectory of vehicles using the track (driving line), and its construction should consider the potential speed and angle of impact

    a. At non race tracks, it is logical to refer to road safety standards for barriers. Highway barriers are generally tested at low impact angles and at 100 km/hr impacts to varying standards;

        i. If < 25 degrees and < 100km/hr = Highway Specification (MASH)

        ii. If > 25 degrees or +100 km/hr = refer to Motorsport FIA guidelines.

    b. If hosting competition race events then refer to FIA guidelines.

    c. Additional energy dissipation such as tire barriers should be added where needed in accordance with FIA guidelines.

4. Debris security fencing should be added where needed to prevent vehicles or large debris from leaving the track area.

5. Security fencing should be added to prevent unauthorised access to dangerous areas of the track.

4.2 Reference guidelines

There are several governing bodies across the various disciplines of motorsport. Each governing body sets the vehicle technical regulations and guidelines on venue safety, relevant to their discipline of the sport.

In the case of the Venue in question, it is operating as a driving experience course. This means it is not designed as a race track or sanctioned by a track governing body. As such there is no category in which to refer to a definitive set of track design guidelines.

However, as a means of establishing best practice for an automobile driving course, it would be reasonable to refer to international guidance for race track safety as published by the world governing body, the FIA.

It is important to note that the Venue is not a racing circuit, which would be designed to accommodate higher speeds of vehicles and require additional safety and operational installations for hosting competition racing events.

An experience track may not typically require all related installations as outlined by the FIA, and should be designed to meet the requirements of the vehicles anticipated to use the course, but could refer to FIA guidelines as a principle of best practice.

The I.O.P.D provide permits and authorisation for off highway driver training and recreational experiences. Although a UK based entity, they are an international organisation and are recognised as an authorised body specifically for driving venues unlike other health and safety administrators who work across several industries.

OSHA provice guidance and assessment of the workplace under Description 7948 of the OSHA SIC manual. However, the OSHA guidance is provided as general workplace guidance for sports venues, including racing tracks but is focused on operations and processes as opposed to specific technical specifications of a race track.

With the above in mind, despite the venue not being a competition track, the Author has referred to the FIA guidelines as the recognised international body for track licensing in order to undertake a risk evaluation of the Venue.

5.0 Risk Assessment Analysis

5.1 Method

To apply a more data led approach to assessing the design and risks associated with the Turn 1-2 complex, Driven International has undertaken a risk assessment through the use of vehicle simulation software as outlined below.

The use of simulation allows an analysis of the run off zones and barrier placement to be undertaken, and can be verified against a variety of real world data.

Using the AutoCAD design files as a datum, a typical driving line was overlaid around the track and simulated using ChassisSim software. The Driving line is representative of a common driving line around the track based on experience from our track design team and through replaying on board video footage of track users.

As noted earlier in the report, the Author observers that the exit of Turn 2 looks to have been originally designed as a wider corner, but, has been constructed slightly tighter than shown on the original design. The impact on the real world speed would be a small reduction in vehicle speed on the exit of Turn 1 and entry to Turn 2 compared to our simulation , however we have modelled the original design on the basis of the digital data available and as a worst case scenario (high speeds)

001135

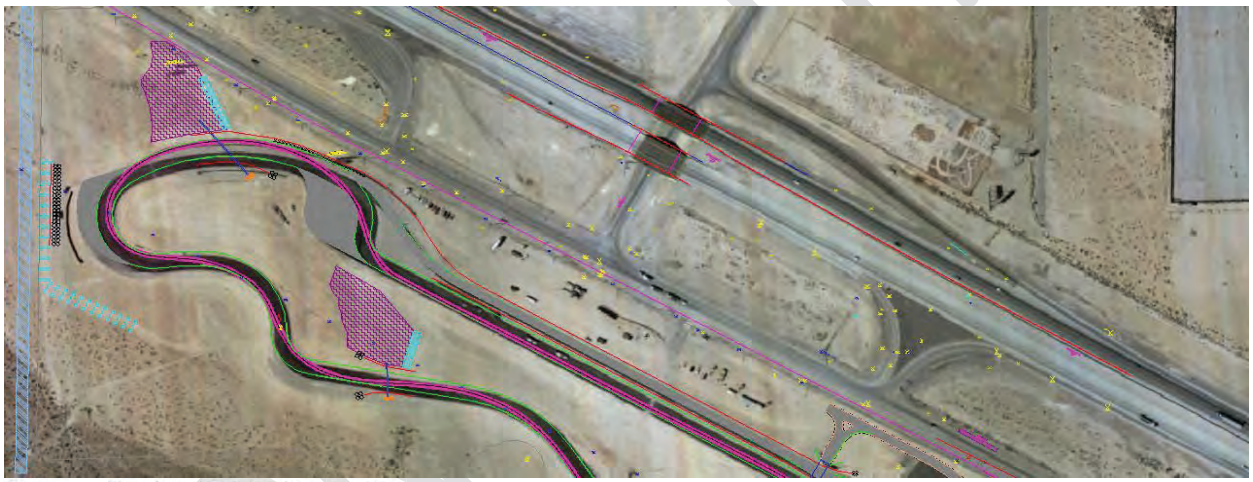


Figure 9 - Simulated Driving Line overlay

001135

The simulation uses data gathered from real world track data to interpret the maximum cornering, braking and acceleration performance of a given vehicle which then applies the same performance assumptions to the design to establish an estimate of the vehicle behaviour at any point around the track.

The simulation assumes ideal driving conditions and a predetermined driving line and as such does not account of variable conditions, human error or variations in the track surface, amongst other environmental variables that might otherwise affect performance in real life.

The driving line and simulation output therefore provide a theoretical optimum lap time and speeds around the track - thereby providing a high end limit to the speed envelope for the purposes of risk assessment.

This enables the appropriate size of safety zones and type of safety features to be identified around the design.
This evaluation process has been completed in accordance with published guidelines set by the FIA.
To assess the risk of each section of circuit, the speed of the vehicle should be known at any point around the circuit.

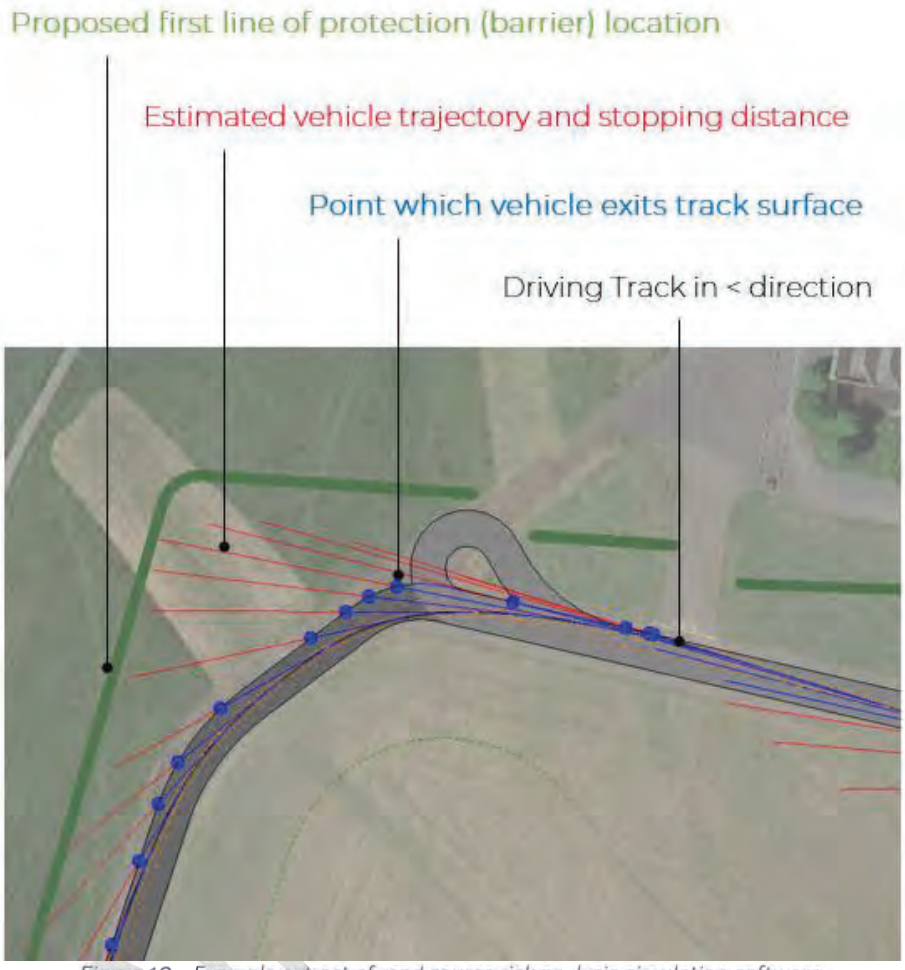


Figure 10 – Example extract of road course risk analysis simulation software

5.2 Simulation Verification

As the Venue is an existing operation, there is public access to video footage which contains cell phone application based GPS data, providing an approximation of speed around each part of the track is known.

It should be noted that the accuracy of GPS data cannot be verified. The Official U.S. government information website about the Global Positioning System (GPS) states an average user range rate error (URRE) of ≤0.006 m/sec over any 3-second interval, with a 95% probability.

A variety of peak speeds are recorded at the end of the main straight and prior to the entry to the Turn 1 and Turn 2 sequence using this GPS application. Based on online videos and onboard GPS data, the speeds achieved generally vary between 133 mph and 150 mph depending on the vehicle and capability of the driver. This is evidenced in the video captures contained in Figure 11 and data records from the data recordings set by the Driver, Mr Craig Sherwood.

SpeedVegas T1-T2 Review

Driven.

Project	Speed Vegas Expert Witness	**Project Code**	L030
Client	Agajanian, McFall, Weiss, Tetreault & Crist LLP	**Version**	1
Subject	Speed Vegas, Turn 1-2 Risk Assessment	**Date**	2020-11-05

Figure 11 - On board GPS speed captures along main straight by prior Venue customers

Turn 1	2017-02-12 21:00:34	146 mph	90 seconds
Turn 1	2017-02-12 21:01:54	145 mph	80 seconds
Turn 1	2017-02-12 21:03:08	133 mph	73 seconds
Turn 1	2017-02-12 21:04:23	147 mph	74 seconds
Turn 1	2017-02-12 21:05:35	149 mph	73 seconds
Turn 1	2017-02-12 21:06:49	150 mph	72 seconds
Turn 1	2017-02-12 21:08:13	145 mph	84 seconds

Figure 12 - Speed records set by Mr Craig Sherwood at the Venue

001137
001137
001137

SpeedVegas T1-T2 Review

Driven.

Project	Speed Vegas Expert Witness	**Project Code**	L030
Client	Agajanian, McFall, Weiss, Tetreault & Crist LLP	**Version**	1
Subject	Speed Vegas, Turn 1-2 Risk Assessment	**Date**	2020-11-05

When applying a Lamborghini vehicle model to the driving line of the track using the simulation method described earlier, we are able to generate speed data around the track, which appears to be representative of the higher envelope of speeds seen around the course when benchmarking against the real world GPS data.

Our estimated maximum vehicle speed along the main straight is 248kph (154mph) compared to the 150mph recorded by Mr Sherwood. Entry and apex speeds at Turn 1 are recorded as 97kph (60mph) and 122kph (75mph), with an apex speed of 113kph (70mph) at Turn 2. These speeds appear to be in the region of +6mph when compared to the GPS data available from online video footage.

As described earlier, the simulation assumes ideal driving conditions along a predetermined driving line. As such the driving line and simulation output therefore provide a theoretical optimum lap time and speeds around the track - thereby providing a higher end limit to the speed envelope for the purposes of risk assessment.

Using a higher speed as an input is prudent when performing a risk assessment of the Venue design.

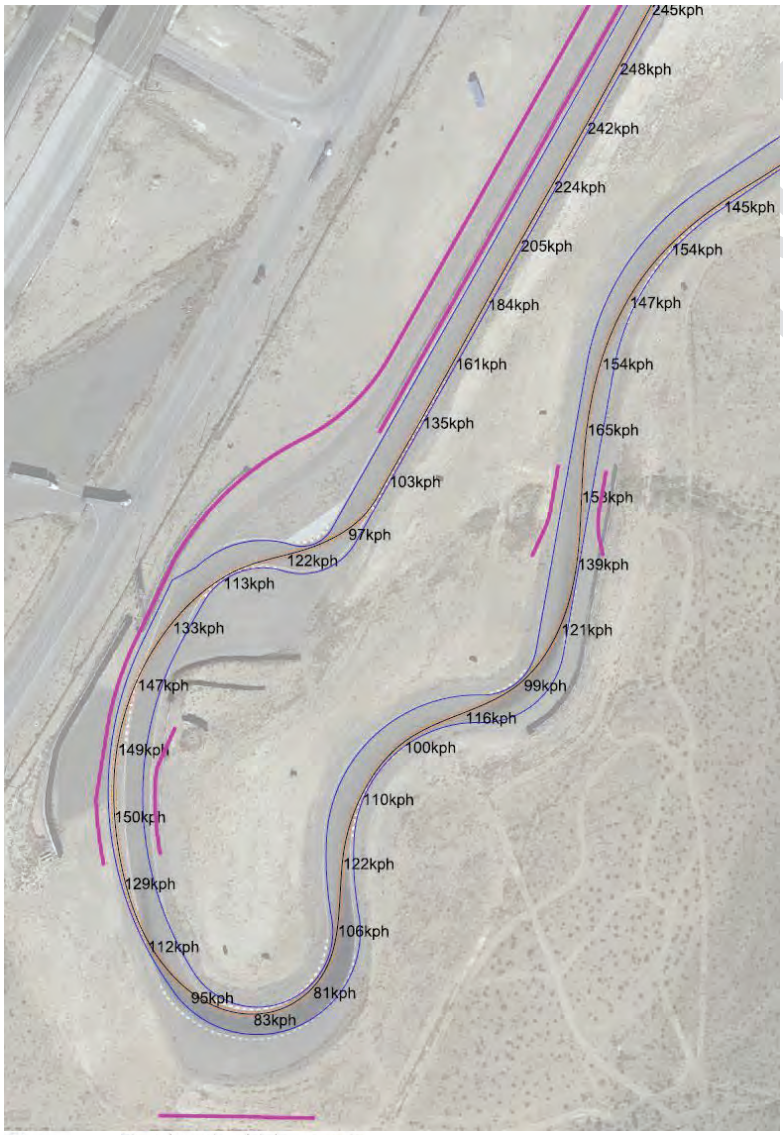


Figure 13 - Simulated vehicle speeds

5.3 Simulation Findings

Using the estimated vehicles speeds arcund the typical driving line, the same equations as used by the FIA to calculate projected vehicle trajectories have been applied to evaluate the run off sizes and barrier locations. Based on the simulated vehicle speeds and expected driving line, the likely vehicle trajectories at Turn 1 through turn 5 are indicated below.

Blue lines = estimated vehicle trajectory based on paved safety zones
Red lines = based on paved grass or gravel zones

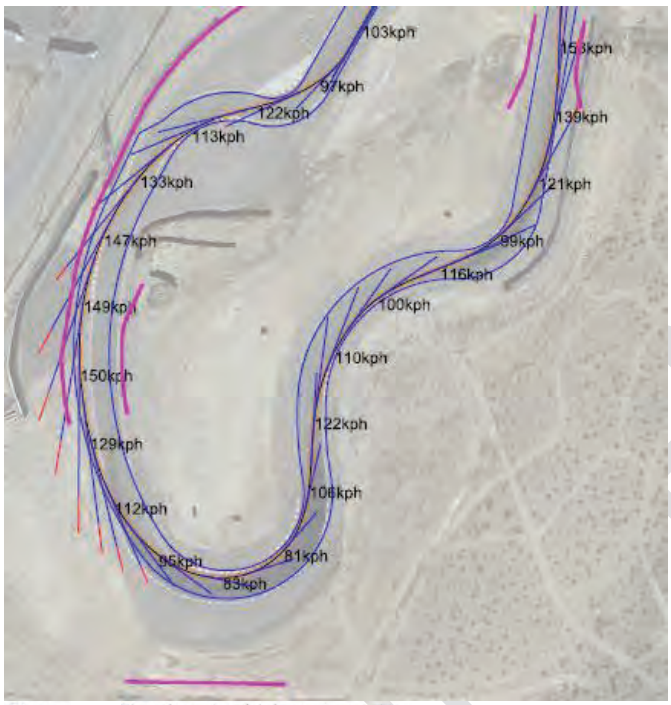


Figure 14 - Simulated vehicle trajectories

Our risk analysis concluded that in the event of loss of control between the entry of turn 1 and the apex of turn 2, at the simulated vehicle speeds of 97kph, 122kph and 113kph, the vehicle would likely stop at or prior to the barrier. This indicates either no, or minimal, impact with the barrier on the exit of turn 2.

In the event of loss of control occurred on the latter part of turn 2 at speeds between 133kph-150kph, there could be an impact with the wall however our trajectories demonstrate this would be a low angle impact due to both the track and vehicle beginning to straighten and run more parallel to one another upon corner exit.

Although there is an identified risk of impact with the wall, the speeds and angle are both minimised at this point in the layout, meaning the selection of an exposed concrete wall would be sufficient as a means of restraint. In regard to the immediate exit of Turn 2, the wall has been located accordingly given the estimated vehicle speeds and reasonable judgement of error that may be expected in this part of the course. It has also been located to protect from a bill board installation and the highway, which pose a greater risk.

Following a visit by the Author in 2017, it was observed that the latter segment of the safety barrier could be moved further away from the track, with the objective of reducing risk of impact – this was based on a similar risk assessment exercise to that shown above and assumes the vehicle has successfully navigated turn 1 and 2. It is not believed that the location of the barrier could have been designed to reasonably mitigate against a driver completely disregarding the Turn 1 & 2 complex.

SpeedVegas T1-T2 Review

Driven.

Project	Speed Vegas Expert Witness	**Project Code**	L030
Client	Agajanian, McFall, Weiss, Tetreault & Crist LLP	**Version**	1
Subject	Speed Vegas, Turn 1-2 Risk Assessment	**Date**	2020-11-05

6.0 Summary Notes

- This report does not aim to analyse the root cause of or reconstruct the incident but does aim to provide an independent review of the physical surroundings at the time of the incident, and a risk assessment of the Turn 1-3 area based on international track design guidelines.

- Several other recognised track venues have adopted the same design approach. The principle being that enough straight ahead safety area is provided at the end of a high speed straight. On the second section of the chicane, a wall is placed close to the exit of the turn, providing a restraint in the event of an incident. In all cases, the wall is not designed to accommodate high speed impacts in this part of the track since the majority of incidents would likely involve either a) Overshooting turn 1 into the straight ahead safety zone or b) a low speed impact to the wall having navigated the chicane on the typical driving line.

- In the case of the Venue in question, it is operating as a driving experience course. This means it is not designed as a race track or sanctioned by a track governing body. As such there is no category in which to refer to a definitive set of track design guidelines.

- The location and size of the runoff areas as well as the type and position of barriers should be determined by considering the likely trajectory (speed and direction) of vehicles driving a conventional driving line. With higher speeds expected on straights and lower speeds around tighter corners, it is normally possible to predict where the most space will be needed, and where the highest risk of impact will be. Where space is limited, additional measures such as walls, tire barriers or other energy dissipation devices can also be used to supplement the barriers where space is limited to minimise the consequences of impact.

- When applying a simulation model to the track layout, Driven were are able to generate speed data around the track, which appears to be representative of the actual speeds seen around the course when benchmarking against the real world data. The simulation assumes ideal driving conditions and as such simulation output provides a theoretically optimised lap time and speeds around the track - thereby providing a higher end limit to the speed envelope for the purposes of risk assessment.

- Using the estimated vehicles speeds around the typical driving line, and applying the same equations as used by the FIA to calculate projected vehicle trajectories, the Author has been able to evaluate the run off sizes and barrier locations.

- Our risk analysis concluded that in the event of loss of control between the entry of turn 1 and the apex of turn 2, at the simulated vehicle speeds of 97kph, 122kph and 113kph, the vehicle would likely stop at or prior to the barrier. This indicates either no, or minimal, impact with the barrier on the exit of turn 2.

- In the event of loss of control occurred on the latter part of turn 2 at speeds between 133kph-150kph, there could be an impact with the wall however our trajectories demonstrate this would be a low angle impact due to both the track and vehicle beginning to straighten and run more parallel to one another upon corner exit.

- Although there is an identified risk of impact with the wall, the speeds and angle are both minimised at this point in the layout. In regard to the immediate exit of Turn 2, the wall has been located accordingly given the estimated vehicle speeds and reasonable judgement of error that may be expected in this part of the course. It has also been located to protect from a bill board installation and the highway, which pose a greater risk.

- The design of the run off area and placement of barrier locations appear to be adequate for the layout of the driving course.

001140

001140

001140

EXHIBIT 9

001141

001141

EXHIBIT 9

MOTORSPORT SERVICES INTERNATIONAL

February 17th 2017

OSHA

To Whom It May Concern

SpeedVegas is a unique facility. It was constructed from a greenfield and designed to meet FIA Level 2 international standards for safety and operation for race facilities, with consideration for its intended use.

I undertook the design and supervised the construction, provided input into the overall site layout, and operations. Emergency planning was developed based upon the NFPA 610 "Guidelines for Emergency and Safety Operations at Motorsport Venues" coupled with over thirty years' of experience of building and operating motorsport facilities up to World Championship standard on two and four wheels.

The facility has operated successfully for nearly twelve months. Improvements have been ongoing since opening and will continue to be made based upon feedback from industry experts like myself and our experienced instructors who have collectively driven thousands of laps of the circuit.

During the brief SpeedVegas closure I have taken the opportunity to review both the physical and operational aspects, and conclude that the facility continues to meet the safety standards above.

I have attached my current CV for your information as to my qualifications.

Robert D. Barnard
Motorsport Consultant

314 King George Loop, Cary, North Carolina 27511
Phone: 912-245-5543
Email: motorsportservicesintl@gmail.com
Skype: robert.barnard9

SpeedVegas 00235

001142

001142

001142

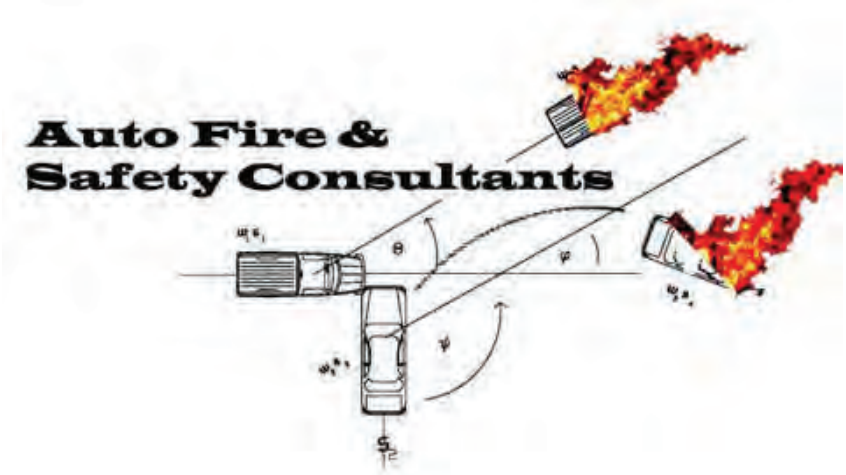
EXHIBIT 10

001143

001143

EXHIBIT 10

Auto Fire & Safety Consultants



Expert Report
Relative to the Matter of

Craig Sherwood vs. SpeedVegas, LLC

001144

Nov. 5, 2020

AFSC File: 17114

001144

Prepared for:
Corey M. Eschweiler
ER Injury Attorneys
4795 S. Durango Dr.
Las Vegas, NV 89147
702-877-1500 l F 702-933-7043
corey@erinjuryattorneys.com

Date of Loss:
February 12, 2017

Location of Loss:
SpeedVegas Racetrack, 14200 S Las Vegas Blvd, Las Vegas, NV 89054

Report Contents

1.0 Introduction and Review of the Clark County Fire Department Fire Incident Report

2.0 Unit 1/Lamborghini

3.0 SpeedVegas Track

4.0 Findings and Opinions
- 4.1 Accident Reconstruction
- 4.2 Fire Origin and Cause
- 4.3 Progression of the Fire
- 4.4 Fire Suppression Systems
- 4.5 Aventador Performance
- 4.6 SpeedVegas Operations

5.0 Materials Reviewed

Applicable Codes, Standards and Reference Materials

001145

001145

Corey M. Eschweiler of ER Injury Attorneys contacted the undersigned to evaluate and determine the origin and cause of the fire involving a 2015 Lamborghini Aventador driven by Craig Sherwood on February 12, 2017. An analysis of the origin and cause of the fire and the associated facts are present in this report based on the information and facts at the time of this report. A site inspection of the SpeedVegas Track was held on June 12, 2019, and two inspections of the subject Aventador were held on January 23, 2019, June 11-12, 2019, and January 6, 2020. An inspection of the Lamborghini fuel tank was held on February 3, 2020. The opinions in this report are supported by photographs, materials provided and my background, education, training and experience and are made to a reasonable degree of scientific probability. I reserve the right to amend, add or otherwise modify my opinions, as additional evidence and testimony is provided.

Attached to this document is the Curriculum Vitae of Mr. Cam Cope. Cam Cope is being compensated for services on this matter at the rate of $225.00 per hour for fire investigation, deposition and trial.

1.0 Introduction and Review of the Clark County Fire Department Fire Incident Report

On February 12, 2017 a 2015 Lamborghini Aventador driven by Craig Sherwood of Canada was involved in a single vehicle accident at SpeedVegas, a race track located at 14200 S Las Vegas Blvd, Las Vegas, NV 89054. Gil Ben-Kely, a SpeedVegas professional driving Instructor (employee), was occupying the right front passenger seat. The following information was provided within the Clark County Fire Department Fire Incident Report.

Ignition

Area of fire origin: 83 - Engine area, running gear, wheel area **Heat source origin:** UU - Undetermined
Item first ignited origin: UU - Undetermined **Was fire spread confined to object of origin?:** No

Factors Contributing to Ignition

Cause: 2 - Unintentional
Is this an exposure report?: No
No Factors Contributing to Ignition
Human Factors: None

Fire Ignition and contributing factors provided within the Clark County Fire Department Fire Incident Report.

2.0 Unit 1/ Lamborghini

Unit 1 is a 2015 Lamborghini Aventador with VIN ZHWUR1ZD3FLA03687. The operator of Unit 1 was Craig Sherwood, an amateur driver. Mr. Sherwood was a paying customer to SpeedVegas for a 7 lap "driving experience," during which Mr. Sherwood was urged to drive the car as fast as he could around the track. Gil Ben-Kely, a SpeedVegas professional driving instructor (employee), was occupying the right front passenger seat.

Neither the driver nor instructor was equipped with a 5 point harness restraint system, a fire suit, gloves or a special racing helmet at the time of the event. This vehicle was equipped with an aftermarket braking system/pedal for the right front passenger/Instructor, but was not equipped with a passenger seat steering control system. This vehicle was equipped with front drive and passenger airbags, knee air bags, as well as dual stage driver and passenger seat mounted side airbags, (Height adjusters and pretensioners). Engine was 6.5 liter. V-12/ 730 hp, electronic stability control, all-wheel drive, scissor doors (swing up and open), ABS with traction control. 19 x 9 aluminum wheels in the front and 20 x 12 in the rear, width of 82.6. Interior seating was leather, with leatherette head liner. This vehicle will herein be referred to as "Unit 1/Lamborghini".

Photograph # 1
Exemplar Lamborghini Aventador

According to the owner's manual for the 2015 Aventador (applicable to Unit 1/Lamborghini), its dry weight is 3,575 pounds, its maximum weight is 4,730 pounds, its total length is 187.85 inches, and its wheelbase is 106.11 inches. It has a dual aluminum alloy fuel tank with a capacity of 23.77 gallons.

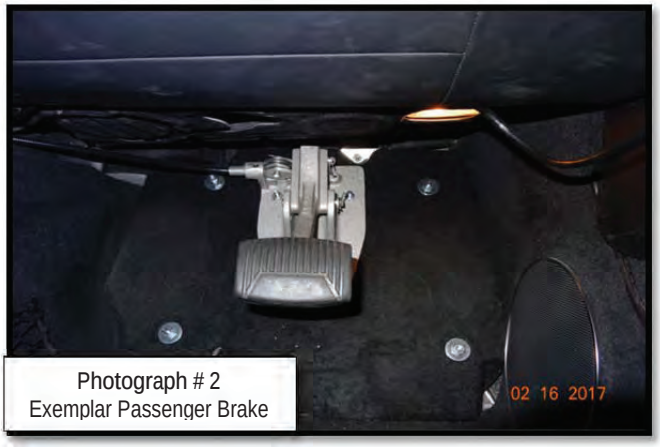
The Aventador is a powerful, heavy car capable of reaching speeds in excess of 200 miles per hour. It is designed to be operated at such speeds and marketed as a sports car available to provide a "thrill" to drivers.

At the time of the crash, the anti-lock brake system of Unit 1/Lamborghini was active. (SpeedVegas Responses to Second Interrogatories.) As a result, other systems dependent on the ABS system were active, too, including the "Power Brake," which "assists the driver with braking" and "multiplies the pressure" applied to the brake pedal when the engine is running. (Aventador Owner's Manual, p. 272, ALA_WARD_000306.) Unit 1/Lamborghini was also equipped with a "braking assistance system" which "improves brake effectiveness by distributing braking power between the front and rear wheels in the best way possible." (Aventador Owner's Manual, p. 273, ALA_WARD_000307.)

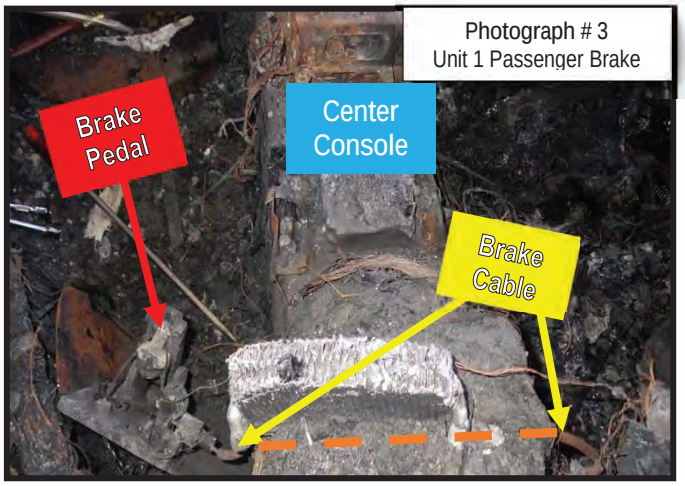
001147

001147

Unit 1/Lamborghini was also equipped with a passenger side brake pedal for use by the driving coach/instructor, as shown in Photographs 2 and 3. That pedal connected to the driver's side pedal to allow full operation of the brake pedal by an instructor seated in the passenger seat. Paul Crifasi, who installed the pedal in the same manner he had for all of SpeedVegas vehicles and vehicles for other tracks and professional racing teams, testified the passenger's side pedal allowed for the same braking as the driver's side pedal. When asked if it would "take longer" to slow the car using that pedal, Mr. Crifasi testified it would allow the passenger side occupant to do "whatever the braking system on the car will do. It's doing the exact same thing as what this pedal (the driver's pedal) does." There is no evidence indicating the passenger brake pedal did not function as Mr. Crifasi stated on Unit 1/Lamborghini.



Photograph # 2
Exemplar Passenger Brake

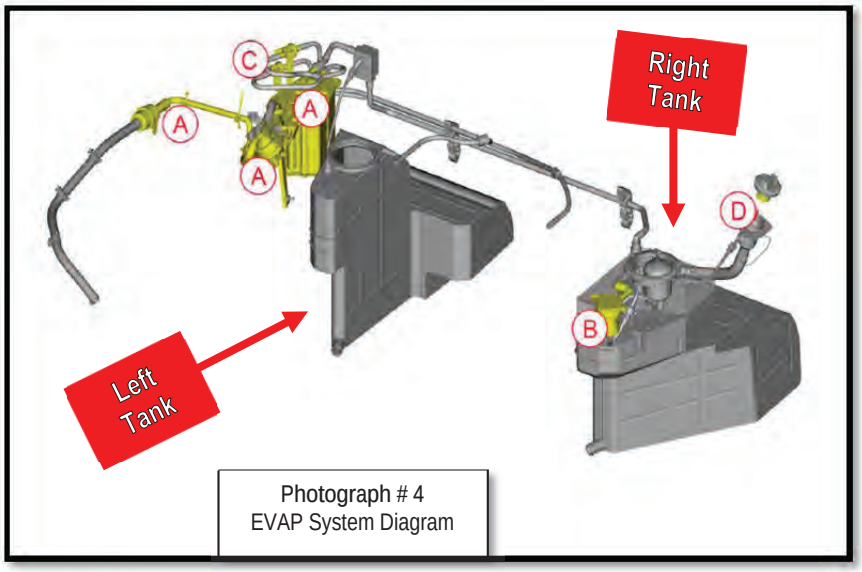


Photograph # 3
Unit 1 Passenger Brake

Unit 1/Lamborghini was sold with carbon ceramic pads and rotors. (Aventador Owner's Manual, p. 381, ALA_WARD_000415.) SpeedVegas changed those parts for steel "racing pads and rotors" after they obtained Unit 1/Lamborghini in early 2017. Mr. Crifasi testified he installed the steel pads and rotors because "usually after the steels are on it brakes better, it runs – you know, it has more braking power, because the carbons take longer to warm up to get sticky to stop the car basically." After installing the steel pads and rotors, SpeedVegas "track tested" the car to ensure the brakes were properly functioning.

Unit 1/Lamborghini had three other modifications from the original manufacturer equipment: an aftermarket spoiler; an aftermarket exhaust system; and a wrap with the SpeedVegas logo. As explained below, none of these components appear to have changed the collision dynamics or cause and origin of the fire.

In early February 2017, Lamborghini issued a recall notice for the 2015 Lamborghini Aventador, including Unit 1/Lamborghini. That recall warned of a risk of fire stemming from the Aventador's fuel system. SpeedVegas employees became aware of the recall on February 11, 2017, the day before the crash. (Deposition of Darren Strahl.) Mr. Strahl, Matt Denning, and Robert Strohmeyer had a meeting concerning the recall prior to Mr. Sherwood's death. They did not pull the Aventador from service nor inform customers of the recall.



Photograph # 4
EVAP System Diagram

Unit 1/Lamborghini was equipped with a dual-tank "EVAP" fuel system. The tanks were made from aluminum alloy. (Expert Report of Dr. Arun Kumar.) They were placed immediately adjacent to engine components in the rear of the vehicle behind the firewall. The tanks carried nearly 23 gallons of fuel between them, which was "premium," high octane gasoline.

Unit 1/Lamborghini was not equipped with a fire suppression system. A "fire suppression" or "extinguishment" system is a system onboard the vehicle designed to put out or limit a fire's spread at its origin. Extinguishment systems have been produced and determined to be economically and technologically feasible for the reduction and or elimination of fires in the engine and fuel tank systems.

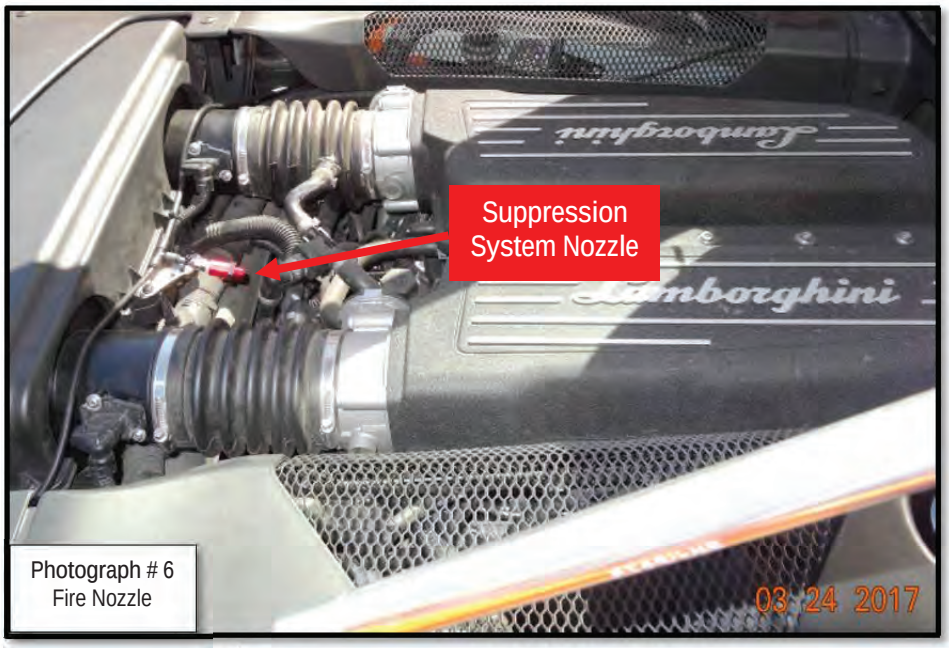
Firetrace manufactures reliable, cost effective, automatic fire detection and suppression systems that can be installed in virtually any "micro-environment" or small enclosed space where critical assets are located or where an increased risk of fire could be mitigated by an automatic fire suppression system. Firetrace systems are completely self-contained, require no electrical power, and are easy to install and maintain – think of them as automatic fire extinguishers. Using detection tubes, the system will automatically activiate in the crucial early moments of a fire. Firetrace advanced fire protection systems are compatible with most commercially available fire-suppressing clean agents, foams, and dry chemicals and are the only systems of their type to carry major listings and approvals from UL, ULC, CE, FM, and more than 20 other international agencies.

Auto Fire & Safety Consultants, Inc.
7398 Teaswood Drive, Conroe, TX 77304
281.362.0930 I 281.362.1329 Fax

Photograph # 5
FireTrace System

Firetrace pre-engineered parts list prices are shown at www.firetrace.com, effective February 1, 2017, include, but not limited to, Medium system FM-200 extinguishment unit with agent for 6 pounds at $1990.00, one of many extinguishment systems. These listed extinguishment systems include foam as well as others, that are designed to be attached to motor vehicles, including race cars, to extinguish fuel fed fires.

SpeedVegas installed a similar system on another Lamborghini in its fleet just weeks after the crash.



Photograph # 6
Fire Nozzle

The "FireSense" system installed by SpeedVegas is similar to the FireTrace system. FireSense is made by SPA Technique and functions in a similar way. It uses automatic detection to activate a foam-based system directly into the engine compartment and passenger compartment. There is also a manual activation level inside the passenger compartment.

Photograph # 7
System Information

Photograph # 8
Fire Panel in a
Crown Victoria
Police Interceptor

An additional alternative to Fire Trace is Fire Panel protection. In order to reach the fuel tank with some object that would puncture or ignite the fuel, that object must first pass through a breakable, protective wrap containing fire suppressing powder, which is installed around the exterior of the fuel tank. As the protective wrap is shattered by the puncturing object, a "cloud" of fire suppressing powder is released, which "inerts" the space around the fuel tank, thereby preventing the ignition of the fuel or quickly suppressing the fire. (www.firepanelllc.com)

The FIRE Panels, which are patented technology, have been effective in military use for decades, and have been tested in motor sports including, but not limited to, professional racing vehicles. These FIRE Panels have been used for years on police vehicles, including the Ford Crown Victoria, proven to be cost effective and durable. FIRE Panels are designed to make it easy to customize and fit any fuel cell. Oklahoma Highway Patrol has used them at a cost of $395 per car and spokesperson Betsy Randolph stated, “We have not had any cars burst into flames as we have in the past.”

3.0 SPEEDVEGAS TRACK

Photograph # 9
SpeedVegas Track

The SpeedVegas track is a track located south of Las Vegas, Nevada. In 2017, SpeedVegas offered “driving experiences” to customers. In such experiences, customers would pay to drive an exotic car for a set number of laps around the track with the assistance of a “coach.” Customers required no special qualifications or experience. A driver’s license, being over the age of 18, and close-toed shoes were enough (although SpeedVegas would also provide shoes to those who did not have them). Several cars were available, including the Aventador for a brief period in 2017 (until it was destroyed in the fire).

Customers would be provided with a short “track briefing” and assigned to a coach. They would not receive a fire suit, which is clothing designed to protect an occupant from fire. They were provided with a helmet.

The February 12, 2017 incident occurred in an area of the track known as “Turn 1” and “Turn 2.” That area is an S-shaped turn or chicane following a long straightaway. The straightaway was one of SpeedVegas’s major selling points. In advertisements, SpeedVegas said it was "the longest and fastest racetrack in Las Vegas,” with its “monster 1.5 mile track with a half mile straight.”

001150

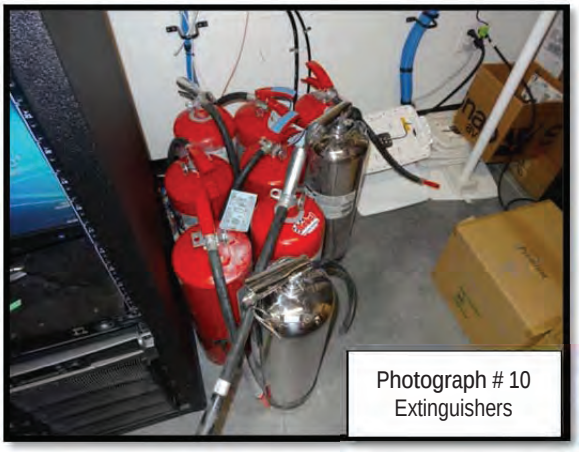
001150

SpeedVegas urged its customers to "surrender to speed on the endless 2,650' monster front straight and 1,000' back straight" and to "get hard on the accelerator, reaching your maximum possible speed near the end of the 2,650' straight."

SpeedVegas employees knew prior to the crash that a crash at Turn 1 and Turn 2 was the most likely place for an incident to occur. In a safety meeting, Darren Strahl told that to an assembled crowd of employees.

SpeedVegas also advertised the track as being built to FIA 2 standards, writing in one advertisement that the track was "created by an international team of racetrack design experts" and was "the only driving experience in Vegas purpose built to exceed the FIA Level 2 standard." FIA is a world governing body for motorsports. FIA standards encourage and implement common regulations for all forms of motorsports for the safety of drivers and occupants. It requires certified safety equipment for the driver, such as safety harnesses and fire suits/clothing. It also requires safety equipment for cars, such as plumbed in fire extinguishers and fuel bladders. It also requires safety equipment for the race track, such as emergency service trucks with foam extinguishment systems and certified safety barriers. As explained below, SpeedVegas did not meet these standards.

SpeedVegas's Fire and Safety Team was not adequately equipped to fight a vehicle fire, or even was instructed to do so. At the time of the crash, the Fire and Safety team had a truck with some basic lifesaving equipment and several portable, hand-held chemical fire extinguishers. Although these ABC handheld extinguishers are appropriate for some fuel fire suppression, they are not sufficient for large releases of gasoline from fuel tanks such as the Unit 1/Lamborghini fire, and are not certified for race track fuel fed fires. Beside the extinguishers, SpeedVegas had no other fire suppression equipment on the truck or elsewhere to fight a fuel fed vehicle fire.



Photograph # 10
Extinguishers

001151

001151

Photograph # 11
Exemplar Foam

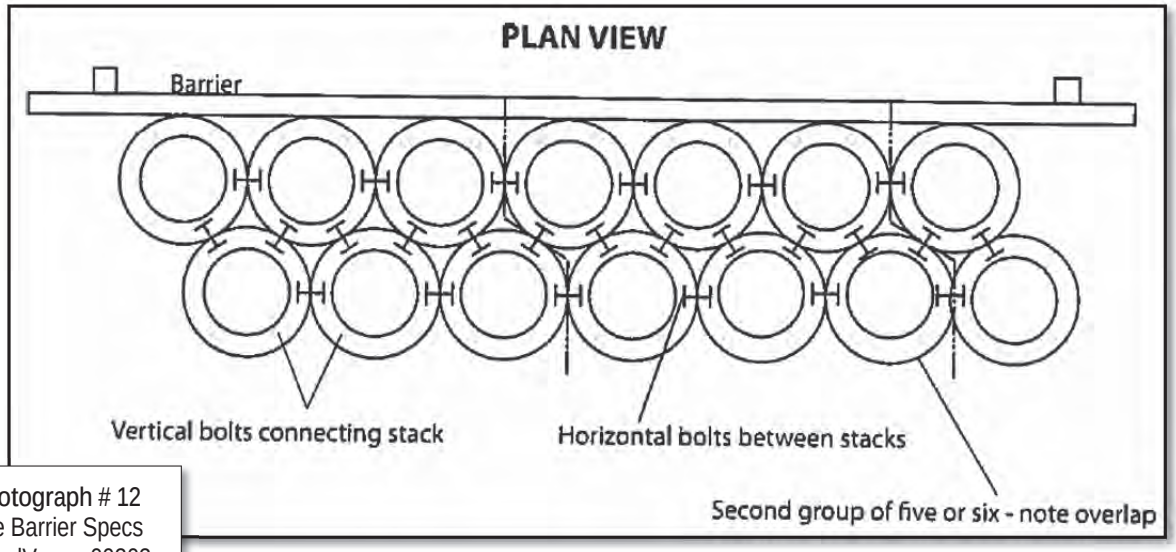
Gasoline fed fires like the February 12, 2017 fire are most quickly and safely extinguished with foam suppressants. Gasoline vapors are combustible. If fuel is released on the ground (such as it was here when the fuel tank failed), gasoline vapors continue to feed the fire. Water may temporarily extinguish the fire, but it will not suppress the vapors. Foam will. By suppressing the vapors and extinguishing existing fire, foam quickly puts out vehicle fires. For occupants, seconds can make the difference between life and death.

The lack of proper equipment for the Fire and Safety Team was a choice SpeedVegas made. Aaron Fessler, SpeedVegas's CEO, told OSHA in July 2017 that the fire team was not designated to fight vehicle fires, but smaller "waist level" fires. SpeedVegas instead relied on the Clark County Fire Department to extinguish a vehicle fire. The nearest Clark County Fire Department station (Station 65, located at 3825

West Starr Avenue, Las Vegas, Nevada 89141) is approximately 5 miles away. Notably, guests at the track were not told there was nothing SpeedVegas could do for a vehicle fire except call 911.

The equipment SpeedVegas had was not just inadequate to extinguish a fuel-fed vehicle fire, but it also did not allow for any temporary abatement of the fire to extract vehicle occupants. Prior to the fire, the leader of SpeedVegas's Fire and Safety Team, Jodi Zollin, requested modification to her team's equipment in June 2016. She recommended a hose and tank system at an overall cost of approximately $1,700. SpeedVegas management ignored those requests. (Deposition of Jodi Zollin.)

The tire barriers used at the track were likewise not up to FIA standards. Tire barriers are used to absorb force, cushion impact, and deflect vehicles away from fixed points. To do so, FIA standards require tires to be bolted horizontally and vertically. SpeedVegas's tire barrier specifications said the same thing.



Photograph # 12
Tire Barrier Specs
SpeedVegas 00303

001152

001152

The tires at Turn 1 and Turn 2 were not bolted, but instead were banded together vertically. The tires still provided energy absorption and deflection from the concrete barrier as discussed below. They did not meet FIA standards for the tires.

4.0 FINDINGS AND OPINIONS

The following findings and opinions offered with regard to this fire origin and cause determination are from the information available to me at the time this report is written. My methodology consisted of the following: I reviewed documentation from the scene and the vehicle, I inspected Unit 1/Lamborghini following the Guidelines listed in NFPA 921, I inspected the scene (SpeedVegas Track), reviewed the facts of the case, which included scene photographs and documents provided by the attorney. I make the opinions below to a reasonable degree of scientific probability.

4.1 ACCIDENT RECONSTRUCTION OPINIONS

1. Unit 1/Lamborghini, driven by Craig Sherwood, was driving on the SpeedVegas Racetrack located at 14200 S Las Vegas Blvd, Las Vegas, NV 89054 on February 12, 2017, the day this incident occurred. The right front passenger was professional race car driver Gil Ben-Kely.

2. I used the following methods to complete the reconstruction of the crash in this matter. I have reconstructed hundreds of crashes and have been qualified as an accident reconstruction expert to do so. In particular, my reconstruction permits me to assess the fire cause and origin, and is performed using standard and accepted methodology.

3. I used computer program PC crash, a vehicle dynamics simulation software to assist in momentum analysis for vehicles in conjunction with the FARO scans.

4. In this case, I reviewed extensive information, including my personal inspection of Unit 1/Lamborghini and the exemplar Lamborghini, the scan data I obtained from the track, the scans of the exemplar Lamborghini and Unit 1/Lamborghini, the tire markings left by Unit 1/Lamborghini, and extensive photographs of the crash scene. I also referenced the "telemetry data" produced by SpeedVegas, subject to the caveat below, as well as the testimony of Jodi Zollin and Leslie Williams, two members of the SpeedVegas Fire and Safety team seated in the SpeedVegas "fire truck" near Turn 2.

5. The scan data permitted me to recreate an accurate, 3D model of the scene and the involved vehicle. This allowed me to reconstruct this incident using the physical evidence gathered from the scans in this case.

6. Using my methodology, I have been able to scientifically determine Unit 1/Lamborghini's starting position, its speeds at various relevant times (including pre-braking and impact), the angle of the collision with the tire barrier, and the length of time of contact.

7. While the inspection of Unit 1/Lamborghini was important to my opinions, there was no crush damage to be gained from the inspection. The Aventador is made with a "monocoque" body from a synthetic, carbon-fiber material similar to fiberglass. As shown in the above photographs, the fire incinerated the impacting portions of Unit 1/Lamborghini. As a result, crush analysis of the exterior could not be used in this reconstruction.

8. Unit 1/Lamborghini approached Turn 1 after coming off an approximate quarter-mile straightaway, traveling at approximately 110-117 miles per hour at the beginning of the skid marks as it approached the S curve at Turn 1 and Turn 2 as shown in photograph 13 below. The skid marks leading to this initial movement indicate Unit 1/Lamborghini had been braking before the first cones shown in the photographs, slowing itself from its top speed between 130-140 mph on the straightaway. Skid marks may be left even by a turning, non-braking vehicle, but, in my opinion, the striations in the skids indicate them to be the result of braking. A turn at high speed, by contrast, would not leave the same striations as a braking wheel.

001153

001153

Photograph # 13. Cones placed immediately following crash to track the skids. Tire marks can be visualized on the straightaway leaded to Turn 1. Unit 1/Lamborghini is traveling approximately 110-117 mph at the beginning of the skid.

001154

001154

AFSC Scene Diagram # 1

9. The initial brake marks are approximately 565 feet from the area of impact with the tire barrier.

10. Telemetry lap data for Speed Vegas and the day of the accident was reviewed and studied in preparing our reconstruction of the accident, to include latitude, longitude, and speed. Although this date is helpful in providing a general picture of speed, it is not forensic both for location and recorded speeds. As described by SpeedVegas in interrogatory responses, the data "was not designed as a precise measurement of speed." SpeedVegas never "calibrated the system with any known reliable

radar or other speed measurement tool." It believed (but did not know) the speeds to be "plus or minus three percent of actual." SpeedVegas did not know how the data was captured other than the program used Apple's iPhone and "the information was subject to iPhone capture speed and location information from however the GPS system worked within that system."

11. I have reviewed the plotted GPS coordinates on which the telemetry data is based. I draw two conclusions from those coordinates: (1) a general, non-forensic assessment of the data shows Unit 1/Lamborghini was travelling normally around the track until the final lap; and (2) attempting to use the telemetry data as forensic has no basis. The plotted GPS coordinates include "speed data" for Unit 1/Lamborghini at points off the track when it is known the car did not leave the track prior to the crash. Although these locations off the track are close to the track, the difference in location would make any speed calculation premised on the data unreliable. I am unaware of any accident reconstruction method that would use non-forensic, non-calibrated data as a forensic, reliable measure of speed. I therefore did not use the data in this way, but instead referenced it generally as a ballpark range of speed for the vehicle.

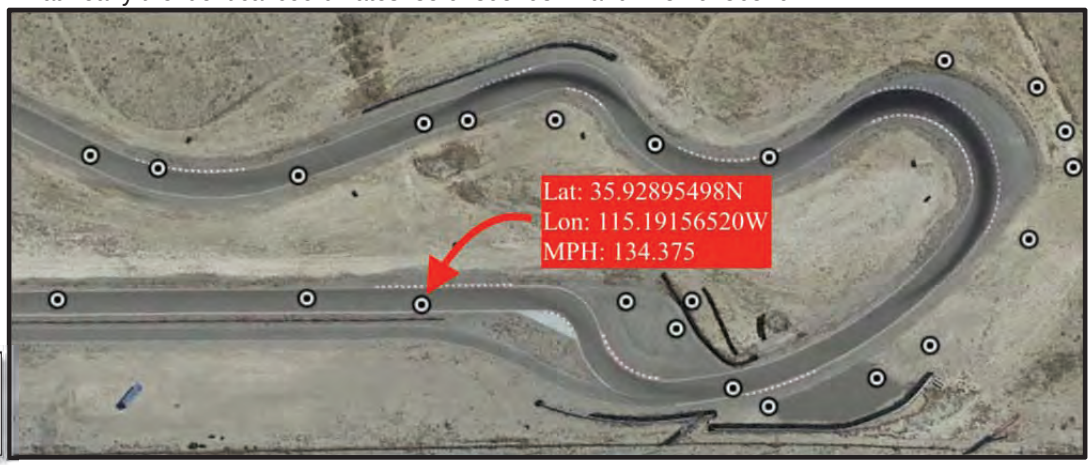
12. The final recorded telemetry point for this collision is a 138.75 mph reading at 35.92893901°N and 115.19153700°W, a location shown on the track below:

001155

001155

Photograph # 14
Lap 7 Telemetry

However, I note the telemetry data for Lap 6 (one lap before the crash) shows a speed of 134.37 mph at nearly the identical coordinates: 35.92895498°N and 115.19156520°W.



Photograph # 15
Lap 6 Telemetry

The similar speed recordings but vastly different outcomes show why the telemetry data cannot be used as a forensic measure of speed. Lap 7 is not an outlier for the data. It is highly unlikely Mr.

Sherwood would have been able to corner Turn 1 had Unit 1/Lamborghini been traveling at those speeds at that location. But he completed Turn 1 without incident on Lap 6, indicating his speed at that point was less than 134 mph. Although the telemetry data does not accurately report the actual speed and location (as points far off the track and in the desert confirm), it should be consistent between laps. It is therefore improbable Mr. Sherwood's speed at the recorded point was 138 mph for Lap 7. Instead, given the similarity between Lap 6 and Lap 7 at the same point, it is likely those measurements overstate the speed and/or place the coordinate further down the straightaway than the actual measurement point.

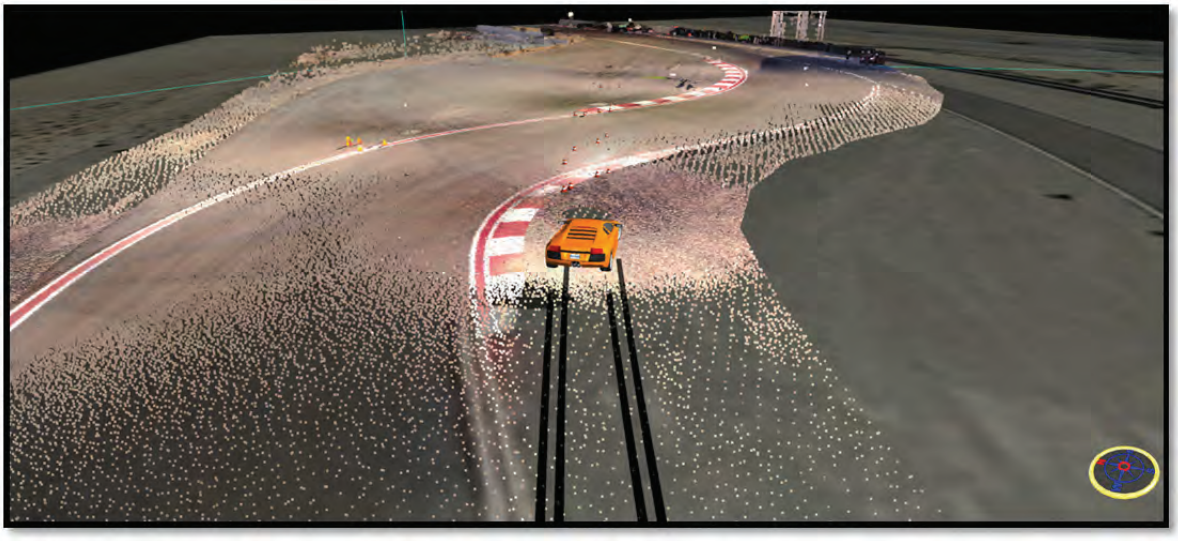
13. In addition to the forensic evidence, this speed is consistent with the manner in which the Aventador was intended to navigate the track. Coming out of the straightaway, drivers were instructed to apply the brakes hard to slow the vehicle and turn it right in the direction of Turn 1. Drivers would then turn the vehicle left and accelerate into Turn 2, completing the chicane. Mr. Sherwood had done that multiple times before in the Aventador on prior laps. Ms. Zollin and Mr. Williams said there was nothing out of the ordinary about the prior laps. Attempting the corner of Turn 1 without braking is unlikely for any driver, let alone one with a professional "coach" in the passenger seat. The far more likely explanation for the deviation from the track is that Mr. Sherwood attempted to brake to corner Turn 1, but did so too late to slow his speed, leading to loss of vehicle control when he made the turn.

14. After braking from the straightaway and steering right, Unit 1/Lamborghini entered a driver side leading yaw. It continued the driver side leading yaw, exiting the track and entering the gravel area just inside of Turn 1. In that area, its tires began to slip on the lower coefficient of friction surface. It continued a driver's side leading yaw as shown in AFSC scene diagram # 2. During this time, Unit 1/Lamborghini would have continued to brake and slow from its initial speed.

001156

Photograph # 16. Cones placed immediately following crash to track the skids. Tire marks can be visualized through the gravel area. Areas of displaced gravel visible.

001156



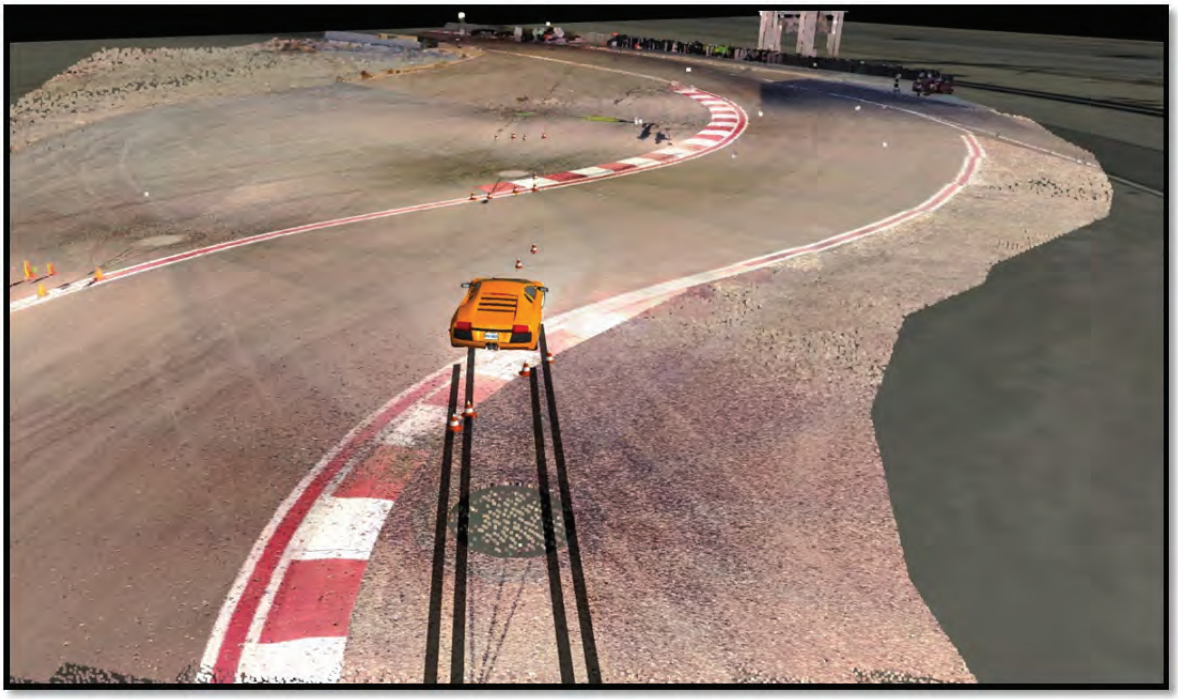
AFSC Scene Diagram # 2

15. Unit 1/Lamborghini then re-entered the track, crossing the track while continuing in the driver's side yaw. It travelled over the raised concrete area marked in red and white as shown in photographs # 4 and 5 and AFSC scene diagram # 3. This area of the racetrack resulted in Unit 1/ Lamborghini becoming partially airborne, landing approximately 25-30 feet in the median of the turn 1 and turn 2 asphalt, also shown in photograph # 17. This movement of Unit 1/Lamborghini resulted from a right steering input, which was most likely applied by Mr. Sherwood.

001157

001157

Photograph # 17. Tire marks visible, as well as displaced gravel. Unit 1/Lamborghini continues to brake. Right steering input can be visualized.



AFSC Scene Diagram # 3

001158

16. After traversing the track surface again in the driver's side yaw, Unit 1/Lamborghini left the track again while continuing to brake. It entered a paved "run off" area continuing in the driver's side yaw as shown in Photograph # 18 and AFSC Scene Diagram #4. During that time in the "run off" area Unit 1/Lamborghini continued to brake and slow from its initial speed.

001158

Photograph # 18. Tire marks visible across the asphalt area. Unit 1/Lamborghini continues to brake, and the vehicle is slightly airborne. The driver's side yaw is visible.

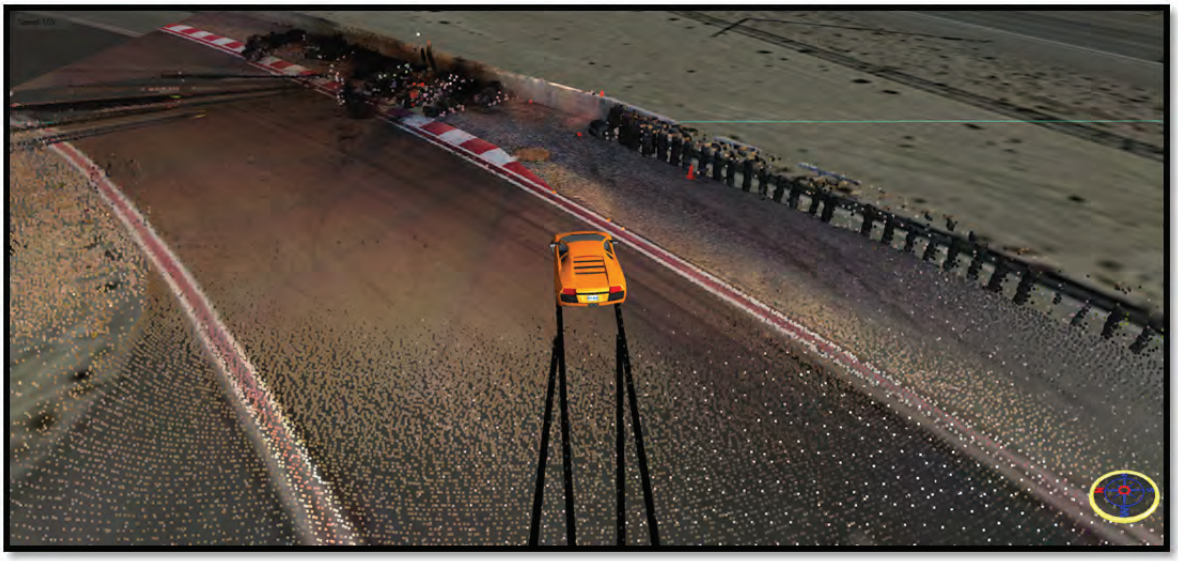
AFSC Scene Diagram # 4

17. Unit 1/Lamborghini again reentered the track, beginning a counter-clockwise, passenger-side yaw due to a left steering input initiated in the “run-off” area. This movement can be seen in Photograph # 19 and AFSC Scene Diagram # 5. Although the car continued braking and lowering its overall speed, this steering input placed it on a collision course with the tire barriers.

001159

Photograph # 19. Tire marks again visible as Unit 1/Lamborghini leaves the asphalt area and reenters the track. The tire marks now shifting to passenger side yaw. Tire barriers visible in the background.

001159



AFSC Scene Diagram # 5

18. After Unit 1/Lamborghini entered the passenger side yaw, it left the track again and entered a gravel area before impacting the tire barrier. The tire barriers at the time of the crash were banded together "five or six tires" high. (SpeedVegas Supplemental Interrogatory Response.) There were "several rows" of tires in front of the concrete barrier adjacent to Turn 1 and Turn 2. (SpeedVegas Interrogatory Response.) At the time of the crash, the tires were banded together but not bolted, permitting Unit 1/Lamborghini to push and separate the tires in the direction of travel to the point of final rest. As shown in Photographs # 20 and 21, the tires in the area of impact have been moved from an area of the wall, with some displaced and others destroyed in the fire. The distance of travel from initial impact to final rest was in the range of 28-30 feet, along the tire barrier. AFSC Scene Diagram # 6 depicts this portion of the crash.

001160

001160

Photograph # 20. The red arrow indicates the vehicle at final rest. The orange arrow shows impact point with tire barrier. Displaced tires visible. Clear, striated skids visible, indicating continued braking from the initial braking to impact.

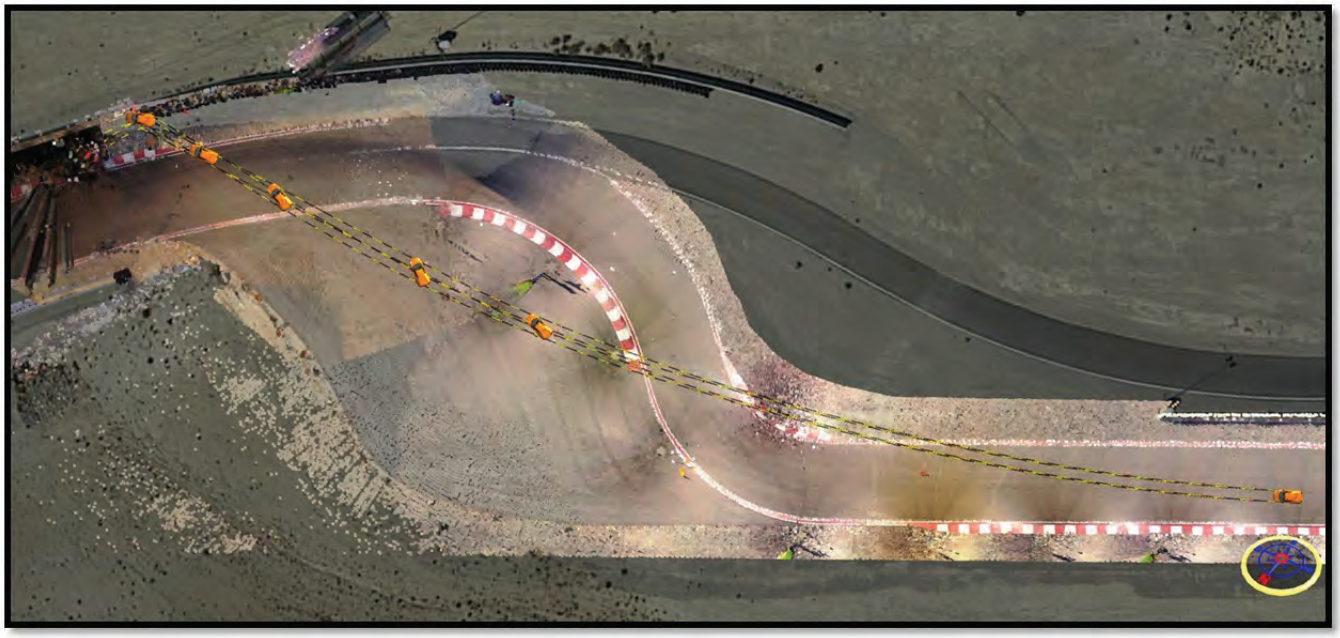
Photograph # 21. Opposite angle view of final rest. Burned tires are visible surrounding Unit 1/Lamborghini.

001161

AFSC Scene Diagram # 6

001161

19. AFSC Scene Diagram # 7 below shows the overall path of travel of Unit 1/Lamborghini:



AFSC Scene Diagram # 7

20. Ms. Zollin testified Unit 1/Lamborghini struck the tires, sending them "everywhere," and headed "almost perpendicular into the wall." She also said that, before impact, Unit 1/Lamborghini was travelling "very fast" and she thought it was "unusual." Unit 1/Lamborghini was "surrounded" by tires, many of which were engulfed in flames. Mr. Williams testified Unit 1/Lamborghini struck the tires and the concrete barrier, "bounced" as it displaced many of the tires, and came to rest a short distance from the initial impact point. It was "surrounded" by tires, many of which were engulfed in flames, when he arrived at the scene.

21. There is no evidence Unit 1/Lamborghini struck the concrete wall itself. I did not observe any evidence of paint transfer, scrapes, or other indications Unit 1/Lamborghini made contact with the concrete barrier. I note Ms. Zollin and Mr. Williams's testimony about striking the wall. There is no doubt Unit 1/Lamborghini struck the tire barriers adjacent to the concrete barrier. However, I would not rely on their testimony for impact with the concrete barrier in the absence of physical evidence of contact between the wall and Unit 1/Lamborghini. To be clear, I am not assessing the credibility or truthfulness of these witnesses. It would appear to an outside observer the car struck the "wall," as the tires are immediately adjacent to it. However, without physical evidence of contact, I cannot conclude Unit 1/Lamborghini impacted the concrete barrier itself.

22. I also note Unit 1/Lamborghini did not impact the tires "head on" or "perpendicular." Again, it could appear this way to an observer, but the angle was not a true head-on orientation, as can be discerned from the tire marks and other physical evidence.

23. Unit 1/Lamborghini impacted the tires while traveling at approximately 45-50 miles per hour at an approximate angle of 25 to 30 degrees off of the center line of the vehicle. After impact Unit 1/Lamborghini entered a driver's side yaw once more, skidding to a stop less than 30 feet from the impact point.

24. My basis for the angle of impact is as follows: the skid marks from the tires indicate a left steering input prior to collision with the barrier, re-orienting the car from the driver's side yaw. There was not

sufficient space on the course for the left steering input to steer Unit 1/Lamborghini clear of the barrier before impact with the tires.

25. Unit 1/Lamborghini experienced an overall delta-v, or change in velocity, in the approximate range of 20-30 mph.

26. The initial impact and separation from the tires were occurring in the range of 150-200 milliseconds.

27. The angle of impact and the presence of the tires affected the delta-v and the time Unit 1/Lamborghini was in contact with the tire barrier. The tires would absorb some of the force of impact, allowing some "give" a concrete barrier would not. However, since the tires were not banded together at the time of impact, and they did not hold together. Some were pushed aside by Unit 1/Lamborghini as it impacted the barrier. Some remained in between the wall and Unit 1/Lamborghini, where they were destroyed in the subsequent fire. Some were ejected onto the track. As Ms. Zollin and Mr. Williams said, the tires "surrounded" the burning Unit 1/Lamborghini following the collision.

28. Because they were unsecured and subject to random movement and displacement, it is not possible to model the exact manner in which the tires interacted with Unit 1/Lamborghini following impact. That challenge does not result in the delta-v simply

29. I also have reviewed the opinions of Dr. Ziejewski, a biomechanical engineer, and Dr. Melinek, a forensic pathologist, as well as the report of the Clark County Coroner. Mr. Sherwood's blunt injuries were a single fractured rib; he had no other fractures any expert has concluded were non-heat related. Mr. Sherwood's relative lack of injury further support my conclusions concerning delta-v in this crash

001163

001163

4.2 Fire Origin and Cause Opinions

30. The passenger side impact to Unit 1/Lamborghini was such that the aluminum tank/fuel system was compromised during the impact resulting in the release of gasoline and fuel vapors. This vehicle was built and designed to perform with premium unleaded gasoline carried in a dual-tank system. Those tanks are aluminum alloy welded through a process of machine welding with hand-welded finish. (See Reports of Dr. Arun Kumar, Ph.D., and Mark Arndt.) The impact led to a failure of welds on the inboard portion of the right passenger fuel tank, releasing fuel and fuel vapors into the engine compartment.

31. To a reasonable degree of scientific probability, the area of origin for this fire was within the engine compartment, more specifically in the area of the engine compartment where the right passenger side fuel tank/system is located. The cause of the fire was determined to be the ignition of released fuel vapors from the right passenger side fuel tank/system located in the engine compartment just aft of the passenger occupant's seat. This is supported by the fact that the fuel tank on the passenger side was compromised, burn patterns, thermal damage and size of the fire and instantaneous ignition. The origin is determined following fire science and the guidelines of NFPA 921, to include but not limited to chapter 4 and chapter 18.

32. The engine compartment contains several potential ignition sources. Although some are more likely than others, to a reasonable degree of scientific probability, the ignition source for the fire was one or more of the components of Unit 1/Lamborghini. The most likely cause is mechanical sparks that resulted from the impact and damaged metal component parts. Hot surfaces and electrical sources cannot be eliminated since both of these are competent sources and located in the area of origin for the gasoline vapors. The manifold for this vehicle during operation has been shown to exceed the ignition temperature for gasoline/fuel vapors. Electrical components/sources were still energized at the time of

impact, electrical arcing and or mechanical sparks could not be eliminated as a potential ignition source of the gasoline/fuel vapors.

33. The first fuel ignited in this fire was determined to be the gasoline vapors released from the right passenger side fuel tank/system. The secondary fuels were the plastic/polymers and combustible within the vehicle.

34. In sum, to a reasonable degree of scientific probability, the fire in Unit 1/Lamborghini began due to the failure of the right passenger fuel tank inboard welds, which allowed fuel and fuel vapors to escape the tank and enter the engine compartment. Components of Unit 1/Lamborghini ignited the vapors, leading to the fire.

4.3 PROGRESSION OF THE FIRE OPINIONS

35. Once the aluminum fuel tank failed, most of the liquid gasoline was released from the area of impact to final rest position. As the tire barrier and Unit 1/Lamborghini moved after impact, some liquid fuel was atomized, creating a large vapor cloud. Ignition of that vapor resulted in a large fireball. This large fireball burned until it consumed the large vapor cloud surrounding the vehicle. The gasoline fuel system would most likely be the initial fuel with the secondary fuel loads consisting of, but not be limited to, the plastic components, wiring insulation and other combustible components located within the area of origin/engine compartment. As the gasoline vapors entered the occupant compartment and ignited, this resulted in the burning of the occupants and interior combustible materials.

001164

36. The rapid "whoosh" or fireball would have ignited the many combustible plastic/polymers which are easily ignited by the hot burning gasoline vapors and burn at similar heat release rates as those of the ignitable liquids. These combustibles commonly found in vehicles are listed in Table 27.3.3.1. Approximately 10% of the vehicle weight was plastic and combustible components, with an additional 5% being rubber materials and components. Plastics by definition are "synthetic materials that are capable of being formed into usable products by heating, milling, molding and similar processes." This also expands to "resins in their molded form. They can be cast or converted to coatings, self-supporting films and fibers." Basically, plastics are made up of long chain hydrocarbons linked in various ways. The self-ignition temperatures of plastics are generally in the range of 840 degrees Fahrenheit to 1100 degrees Fahrenheit.

001164

37. In this vehicle fire, the interior plastics, fabrics and materials were not the primary cause of the fire, but added considerably to the fire load. The estimate of plastics in production vehicles is approximately 10% or 400 lbs. by weight for vehicles; of this, approximately 160 lbs. would be in the interior of the vehicle, not including the occupants. This would include such items as the headliner (styrene/PVC), upholstery (PVC, Nylon, and Polyester) and dash materials (urethane, ABS, polypropylene, etc.). Some of these plastics give off toxic fumes during the burning process and increase the hazards during the fire. The amount of plastics used in the interior of vehicles has continued to increase. Insulation is listed in NFPA 921 as PVC or Polyethylene. Below is a chart of the common materials used in vehicles:

		Ignition Temp.	Melting Temp.	
➢	Poly-propylene (PP)	(482-829 F)	(320-350 F)	HVAC, air ducts, instrument Panel
➢	Polyvinylchloride (PVC)	(482-806 F)	(167-221 F)	Interior /wiring, flooring, trim

➢	Poly-ethylene (PE)	(518-830 F)	(240-280 F)	Engine /wiring, fuel tank, fuel Reservoirs
➢	(Window washer container for example)			Melt (167F) +
➢	Acrylonitrile butadiene styrene (ABS)			Headliners, bumpers, some duct work
➢	Poly-urethane (PU)			Body panels, also headliners, fender liners (may be a rigid or foam)
➢	Nylon	(775-932 F)	(428-509 F)	Fuel lines, grill, carpets
➢	Fiberglass	(1040 F)	(802-932 F)	Trim, gears, some body parts
➢	Polystyrene (PS)			Insulation, padding

1. PE, PP, Nylon, and Acrylonitrile-butadiene-styrene (ABS) were melting type polymers;
2. While PC polycarbonate, PS polystyrene, PET polyethylene terephthalate and PU were softening type polymers;
3. And polyvinylchloride PVC, ethylene-propylene-diene monomer EPDM, and ABS/PVC were charring type polymers.

The melting type polymer parts burned as pool fires with high heat release rates. In the burn tests for both the parts and the whole vehicles the melting polymers were the major contributing factor to the intensity of the burning and contributed to the penetration of the fire into the occupant compartment space. (SAE 2005-01-1555)

001165

001165

38. Ignition temperatures are generally low enough to auto ignite on hot surfaces such as a hot exhaust system including the electrical wiring insulation. Flammability of material standards set in FMVSS 302 has not changed since their introduction. FMVSS 302 testing on interior products of vehicles could help to explain the rapid rate of fire within the interior. The vertical, horizontal and cone calorimeter testing of interior products are generally used to illustrate material flammability. This vehicle also contained leather or leather products, in the seating and interior. (Solid Fuels is discussed in chapter 27, section 27.3.3 of NFPA 921.)

39. Prior to the crash, the detachable roof of Unit 1/Lamborghini was dislodged, and during the crash, the passenger side window was most likely broken. The opening of the roof and the passenger window provided additional oxygen in the passenger compartment. This extra oxygen would have fed the fire in the passenger compartment, allow for noxious gases (like carbon monoxide) to be vented (lessening the occupants' exposure to these noxious fumes), and provide breathable air for the occupants in the fire.

40. Along with the car components being burned, the two occupants were severely burned as well. Both suffered thermal injuries from initial impact to final rest position. First and second-degree burns occurred during the flash fire that resulted from the ignition of the gasoline vapor cloud that engulfed the vehicle. Third degree burns were occurring to the occupants as the high temperatures of the burning plastics within the interior began to burn, following the ignition of the material from the gasoline vapor flash fire. Third and fourth degree burns were eventually fatal for Mr. Sherwood, as the combustibles continued to burn, while waiting for professional fire personnel and equipment, to extinguish the fire.

Auto Fire & Safety Consultants, Inc.
7398 Teaswood Drive, Conroe, TX 77304
281.362.0930 l 281.362.1329 Fax

41. Burning patterns for human beings are studied as part of fire science and contained within NFPA 921. Clothing is the first layer to burn. Synthetic-fabric clothing generally melts from the heat, while the cotton materials scorch and burn slower. The human body then begins to burn. The four major combustible components of the human body are skin, fat, muscle, and bone. Generally the hair, ears, hands and face burn first, with other parts of the body to follow.

42. Fire destroys or greatly alters human bodies. Skin, fat, and muscle may be incinerated, charred, or exposed. Bones shrink, fracture and change color due to fire and heat exposure, as such exposure makes them fragile. Bones may also be fractured during removal of bodies from a fire, especially when the fire melts synthetic components.

43. The interior components of the car can additionally harm the occupants by melting, dripping in molten form on the occupants, and reigniting. For instance, as shown below, hot molten polymer/plastic components within the interior of a burning vehicle will dropdown onto the seats and or the occupants within that burning vehicle. The headliner, wiring harnesses, visors, plastic interior lighting covers and or a rearview mirror can fall and ignite other components or clothing of an occupant within that vehicle:

Photograph # 22
Test Burn of Passenger Compartment

Photograph # 23
Test Burn Results

001166

001166

44. Assuming 10 gallons of gasoline is released on impact from the passenger side fuel tank, that would compute to a range of 256 cubic feet of 100% vapor/air ratio, and 18,286.08 cubic feet at 1.4% vapor/air ratio. If the release of gasoline is only 5 ounces during the initial impact, that would be in the range of 1.0 cubic feet of 100% vapor/air ratio, but with 1.4 % vapor/air ratio the cubic feet of vapor/air ratio it would increase to a range of 71.43 cu/ft, this would fill the entire vehicle, and create a whoosh and giant fire ball, igniting the combustibles in the vehicle. Since gasoline vapors are heavier than air, much of the vapor would be mixed with the liquid gasoline that is spread on the ground under and surrounding the vehicle from impact to final rest. The vapor tends to flow with the liquid gasoline and burn till foam extinguishment is applied to eliminate oxygen from the fire. The burn patterns on the wall, tires and paved surface are consistent with the flow of liquid and vapor gasoline in the area of this crash scene. This data is an aid in explaining the progression of the fire from impact to final rest.

45. Death and injuries addressed in this report are addressed in Chapter25 of NFPA 921: Fire and Explosion Deaths and Injuries.

4.4. FIRE SUPPRESSION SYSTEM OPINIONS

46. No fire suppression systems were identified in the engine compartment or the hood of the engine that are available or were documented on Unit 1/Lamborghini or the exemplar Lamborghini. This fire safety equipment has been proven and tested by companies such as Firetrace International and found to be effective in reducing or eliminating fire as a result of frontal/side impacts, such as this particular crash. Firetrace is a world leader in fire suppression systems. The fire suppression systems designed and manufactured by Firetrace International or SPA Technique would have eliminated or reduced the fuel fed fire. FIRE Panel protection was also not installed on Unit 1 Lamborghini. FIRE Panels have been used in the racing profession for many years, and proven to reduce and or eliminate vehicle fires, saving lives and reducing burn injuries.

47. The fire panel technology as shown above or a bladder design similar would have eliminated or reduced this fuel fed fire in Unit 1/Lamborghini. Ford Crown Victoria's having this Fire Panel retrofitted fuel tank fire protection installed, have been shown to sustain no fire and or fire damage during 70 mile per hour rear-end impacts. The same testing done to a Ford Crown Victoria without this technology installed resulted an immediate fire upon the rear-end impact.

48. FIA specifies that the fuel bladder if installed on the race car must be filled with fuel resistant polyurethane foam balling to act as an explosive suppressant and conform to MIL spec. MIL -B-83054. No evidence of a bladder was identified in the crash fuel tank of Unit 1/ Lamborghini, as suggested in the FIA standard.

001167

001167

49. A fire suppression system would have greatly reduced or eliminated Mr. Sherwood's exposure to the deadly fire, either by extinguishing the fire or abating it for sufficient time to permit extraction. Given the use of the car, such a system should have been installed.

4.5. AVENTADOR PERFORMANCE OPINIONS

50. The 2015 Lamborghini Aventador is a car designed and marketed to travel at high speeds, including on driving tracks and race tracks like SpeedVegas. A crash like the one in this case is a foreseeable result of the normal operation of the vehicle.

51. In such a crash, it is expected for the fuel tank to not rupture and create a fire. Rupturing of a vehicle's fuel tank can change a survivable crash like this one was for Mr. Sherwood into a fatal crash with a gruesome manner of death. It is not expected for a fuel tank to rupture simply because the vehicle crashed, including a crash on a race track at comparable speeds to this one.

52. Crashes and fuel systems for race tracks and manufacturers of race cars, such as Unit 1/Lamborghini, should consider vehicle fire safety as a priority to reduce and or eliminate crashes and fires that may result in injury and death

4.6. SPEEDVEGAS OPERATIONS OPINIONS

53. SpeedVegas fire safety personnel witnessed the incident and called 911 immediately. Mr. Williams and Ms. Zollin attempted to fight the fire and had no success. They had to wait for the Clark County Fire Department to get there with adequate fire suppression systems to extinguish the fire according to the OSHA report.

54. Clark County Fire Department Fire Incident Report indicates the first arrival (or first response time) took a little over 8 minutes based on their fire incident report. This time is based on when the alarm was sounded to the time of first arrival. Based on photos, witness accounts and belief an approximate time of 15 minutes elapsed from the initial fire of Unit 1/Lamborghini to the first arrival of the fire department.

55. SpeedVegas knew the distances/timeframes of the Fire Departments in their area at the time the track was constructed. SpeedVegas knew that Clark County fire could not respond for several minutes. Aaron Fessler, SpeedVegas's CEO, knew the track's fire and safety personnel could not fight vehicle fires (as he admitted to OSHA). In gasoline fuel-fed vehicle fires, extinguishment time is critical to the reduction or elimination of fires that may result in serious burns or death. Waiting for the fire department is a death sentence, and SpeedVegas knew that.

56. SpeedVegas knew the most dangerous part of the track was the area between Turn 1 and Turn 2. During a 2016 safety briefing, Darren Strahl told assembled employees a crash was most likely to happen in that area. This concern about the danger was not shared with customers.

57. SpeedVegas knew the barriers it had in the area of the collision were not to FIA standards. They should have been bolted, not banded together, and there should have been more of them. This knowledge further showed SpeedVegas needed adequate firefighting equipment.

58. SpeedVegas should have been aware that chemical foam extinguishers are required to extinguish gasoline fuel-fed/vehicle fires. The portable A, B & C rated handheld extinguishers used by SpeedVegas employees on Unit 1/Lamborghini were ineffective and not adequate to extinguish fuel fed fires like this fire based on scene photos and witness statements. Although the ABC handheld extinguishers may work on some fires as listed, they are not sufficient for large releases of gasoline from fuel tanks such as the Unit 1/Lamborghini fire, and are not certified for race track fuel fed fires. Moreover, the extinguishers had an inadequate amount of extinguishment. No extraction equipment was noted or documented by OSHA investigators.

001168

001168

59. The Fire Safety service trucks stationed on the racetrack should be equipped with foam systems capable of extinguishing gasoline fuel fed fires such as Unit 1/Lamborghini fire. According to FIA guidelines, emergency vehicles should not be more than 500 m apart, with 2-way communication, and a minimum of 3 portable fire extinguishers suitable for extinguishing vehicle fires. (as listed in 2.6 and 7.2.3 of FIA Rescue Services) Reserve extinguishers should be available to replace those used, and should be equipped to extinguish completely a running petrol fire of at least 40 gallons; not only extinguish, but seal against flash back ignitions with foams that remove the oxygen source from the fire triangle. These guidelines were not met. As discussed above, the portable extinguishers used by SpeedVegas were completely ineffective in extinguishing this fire and Speed Vegas had no foam extinguishment methodology or systems in place at the time of this crash.

60. As noted, Ms. Zollin requested approximately $1,700 in equipment for the fire truck. SpeedVegas did not provide it.

61. The OSHA report stated, "During interviews with Jodi Zollin, the Fire and Safety director of SpeedVegas on 02/16/17, & 05/30/17, she stated she came with 15 plus years of experience when she started working for SpeedVegas. Mrs. Zollin also said that no one from SpeedVegas provided her with any training on Fire & Safety procedures to follow or trained her on procedures to fight a fire at SpeedVegas. She also said that she did not provide training to the members of the Fire & Safety Team."

62. SpeedVegas knew prior to Mr. Sherwood's death that Unit 1/Lamborghini had a fire safety issue. Senior executives at the track learned of a recall for that issue, but nevertheless kept in the car in service. It was also public knowledge that the Aventador could spontaneously burst into flames.

63. SpeedVegas failed to follow the guidelines specified in NFPA 610 the "Guide for Emergency and Safety Operations at Motorsports Venues". SpeedVegas did not have an adequate Incident Action Plan listed in Chapter 4 of NFPA 610 at the time of this fire. Since they did not have an adequate Incident Action Plan they could not follow the guidelines set forth in Chapter 8 "Operations", which entails reviewing of the Incident Action Plan and providing the information to assist their employees in understanding, preparing for, and executing their role during an emergency. This is also contrary to the direct assertions made by Mr. Barnard, claiming SpeedVegas was built and designed within these guidelines.

64. OSHA listed 7 issues they found with SpeedVegas during their investigation in reference to fire safety, training, and the procedures that should have been in place at their facility.

    - SpeedVegas did not provide training and education for all fire brigade members. Such training is necessary before they perform fire brigade emergency activities.

    - SpeedVegas was required to have a workplace hazard assessment with written certification. On the date of the accident, there was no certification that fire and safety team's members had the assessment.

    - SpeedVegas provided portable fire extinguishers for employee use in the workplace and but did not provide an educational program on their use.

    - On the date of the accident, SpeedVegas had not prepared a required organizational statement establishing the existence of a fire brigade.

    - At the time of the accident, SpeedVegas did not have a safety committee, a requirement of an employer with more than 25 employees.

    - At the time of the accident, SpeedVegas did not have a written safety program that includes an explanation of the methods used to identify, analyze and control new and existing hazardous conditions.

    - At the time of the accident, SpeedVegas did not have a written safety program that listed procedures that must be followed to investigate an accident which has occurred and the corrective actions that would be initiated.

65. Mr. Sherwood died from the burns he received in the interior occupant compartment, as a result of the gasoline fuel fed fire and rapidly burning interior components based on the autopsy report and the report of Dr. Judy Melinek and Dr. Mariusz Ziejewski. As previously explained, the fire began just moments after impact, and would have consumed the passenger compartment in a matter of seconds. Mr. Sherwood's burns are consistent with the hot molten polymer/plastic components of the interior materials burning, which include but not limited to the dash/instrument panel, seat, center console and other combustibles within the occupant compartment of the vehicle. The hot molten polymer/plastic components within the interior of Unit 1/Lamborghini made contact with Mr. Sherwood, causing reignition and resulting in burns to body and civilian clothes he was wearing. Mr. Sherwood was not protected by fire retardant clothing as often required by race track drivers. The smoke from this fire produced toxic burning hydrocarbons, but the absence of the car's roof permitted oxygenation and

ventiliation, prolonging Mr. Sherwood's survivability and suffering in the fire. Mr. Sherwood continued to suffer after the initial impact, during the fire progression while he was alive and within the occupant compartment of Unit 1/Lamborghini. These opinions are based on chapter 25 of NFPA 921. Fire and Explosion deaths and Injuries are addressed in Chapter 25 of NFPA 921, which includes, but is not limited to skin burns 25.2.5, and Thermal Injuries 25.2.10.3.

66. It is my opinion that the failure of the fuel tank of Unit 1/Lamborghini was a direct and proximate cause of the rapid release and ignition of the fire, resulting in the burning and death of Mr. Sherwood. Had the fuel tank not failed, Mr. Sherwood would have survived this incident. Had SpeedVegas followed the firefighting guidelines and provided adequate equipment, it is my opinion Mr. Sherwood could have been saved from the resulting fire.

The opinions listed above are supported by the evidence in this case, which provides the factual and scientific basis for these opinions. They are made to a reasonable degree of scientific probability. I reserve the right to amend, add to or otherwise modify my conclusions, as additional evidence and testimony is made available.

My curriculum vitae is attached.

Sincerely yours,

AUTO FIRE & SAFETY CONSULTANTS, INC.

Cam Cope, CFEI, CFII, CVFI
President

001170

001170

5.0 MATERIALS REVIEWED

The materials relied upon in reviewing this case is listed in this section. In addition, my education, training and experience in vehicle fire origin and cause and accident reconstruction, the following sources of information and activities were utilized to form my observations and findings. Additional materials forming the basis of the undersigned opinions include many documents reviewed and general literature, knowledge of fire origin and cause and products associated with vehicles.

1. Unit 1/Lamborghini Inspection 01.23.19;
2. Exemplar 2015 Lamborghini Aventador documented 01.24.19;
3. SpeedVegas Site Inspection 06.12.19;
4. Unit 1/Lamborghini Inspections 06.11-12.19;
5. Scene photographs provided by Attorney, "Accident Scene 2-13-17 NRCP 16 (a)(1) Disclosure";
6. Unit 1/Lamborghini removal photos from SpeedVegas track provided by attorney;
7. Exemplar Lamborghini Aventador right passenger side fuel tank documented on 08.15.19;
8. FARO scene scans of SpeedVegas provided by attorney;
9. Metal vs. Plastic tank research;
10. Clark County Fire Department Fire Incident Report;
11. Complaint – Durban vs SpeedVegas;
12. Docket – Durban vs SpeedVegas;
13. Media Request and Order – Durban vs SpeedVegas;
14. MTRO and PI – Durban vs SpeedVegas;
15. Opposition to TRO – Durban vs SpeedVegas;
16. Complaint – Gil Ben-Kely vs SpeedVegas;
17. Amended Complaint – Gil Ben-Kely vs SpeedVegas;
18. Lamborghini's Answer to Plaintiff's Amended Complaint;
19. Defendant SpeedVegas, LLC.'s Motion to Dismiss;
20. Las Vegas Review-Journal article By Richard N. Velotta;
21. Photographs of Unit 1/Lamborghini;
22. Photographs of the Scene;
23. Vinlink of Unit 1/Lamborghini;
24. AutoStats of Unit 1/Lamborghini;
25. Photographs of an Exemplar Lamborghini;
26. Firetrace Fire Suppression Systems;
27. FirePanel Vehicle Fire Protection Systems;
28. Fire Panel rear-end impact testing videos;
29. Steel vs. Plastics_ The Competition for Light-Vehicle Fuel Tanks by Peter J. Alvarado;
30. Internet videos of Lamborghinis;
31. https://www.youtube.com/watch?v=FTjGArdI9ho;
32. Videos of SpeedVegas track runs from the interior of the vehicles;
33. SpeedVegas Website;
34. Google Earth Aerials of SpeedVegas Raceway;
35. OSHA Inspection Report and Photos;
36. Deposition of Paul Crifasi;
37. Deposition for Leslie Williams;
38. Deposition of Jodi Zollin;
39. Lamborghini Owner's Manual;
40. SpeedVegas Temporary Business License;
41. National Fire Code NFPA 921, "Guide for Fire and Explosion Investigations," 2017 Edition (921 is a recommended procedure for the examination of the fire scene evidence.);
42. Live and Post Fire Burn Testing of Vehicles showing Interior Fire and Gasoline Fuel-fed Fires;

001171

001171

43. Rudolf Limpert Accident Reconstruction books as well as other published materials;

APPLICABLE CODES, STANDARDS, AND REFERENCE MATERIALS

During my career and as a part of my Education, Training and Experience, I have reviewed an extensive number of publications, journals, manufacturer documents, depositions, test results, SAE publications and various other documents and literature related to the Origin and Cause of Fires. The list below is a small sample of the materials that have been a part of my career in the area of fires and accidents.

1. National Fire Code NFPA 921, "Guide for Fire and Explosion Investigations," 2017 Edition (921 is a recommended procedure for the examination of the fire scene evidence.);
2. Materials used, discussed or relied upon in the National Seminars on Fire Analysis Litigation;
3. Explosion Investigation Analysis – Kennedy *on Explosions* by Patrick M. Kennedy;
4. Kirk's Fire Investigation – Fifth Edition by John D. DeHaan;
5. Field Guide for Fire Investigators, by Richard Custer, MFPA No. FGF103;
6. User's Manual for NFPA 921, Guide for Fire and Explosion Investigations;
7. Fire Protection Handbook, 19th Edition, Vol. 1 and 2 NFPA;
8. Practical Fire and Arson Investigation, 2nd Edition, by David R. Redsicker and John J. O'Conner
9. Motor Vehicle Accident Reconstruction and Cause Analysis by Rudolf Limpert;
10. Investigation of Motor Vehicle Fires by Lee S. Cole, 4th Edition;
11. NFPA 1033 Standard for Professional Qualifications for Fire Investigator, 2003 Edition;
12. Fire and Arson Investigator publications, by International Association of Arson Investigators (IAAI);
13. Scientific Protocols for Fire Investigation, by John J. Lentini, CRC Taylor and Francis 2006;
14. Ignition Handbook, by V. Babrauskas, SFPE, 2003;
15. An Introduction to Fire Dynamics, by D. Drysdale, Wiley, Interscience, New York, 1985;
16. Fire Litigation Handbook, by Dennis Berry, NFPA SPP-79;
17. Engineering Analysis of Fires and Explosions, by Randall Noon, CRC Press;
18. The SFPE Handbook of Fire Protection Engineering, 3rd Edition, NFPA;
19. Federal Motor Vehicle Safety Standard (FMVSS) 301 – Fuel System Integrity; (compendium)
20. Federal Motor Vehicle Safety Standard (FMVSS) 302 – Flammability; (compendium)
21. National Highway Transportation Safety Association (NHTSA) Center for Auto Safety Consumer Complaints;
22. USFA Fire Burn Pattern Tests, July 1997;

001173

001173

23. Society of Automotive Engineers publications, training and education; Including but not limited to vehicle fires;
24. Under Hood Temperature Measurements, by E. Fournier and Tim Bayne SAE 2007-01-1393
25. Under Hood Temperature Measurements of four Vehicles, by Ed Fournier for Dr. Ken Digges, Report No. RO4-13 Vol. 1, September 7, 2004
26. Hot Surface Ignition of Automotive and Aviation Fluids, by Jeff Colwell and Ali Reza Exponent Fire Technology 41. 105-123, 2005
27. The Motor Vehicle in the Post-Crash Environment, An Understanding of Ignition Properties of Spilled Fuels, by Stephen Arndt, Don Stevens and Mark Arndt SAE 1999-01-0086
28. Evaluation of Automobile Fluid Ignition on Hot Surfaces by Ken Byers SAE 2007-01-1394
29. Vehicle Design for Fire Safety and Evaluation of Design Trade-Offs, by Leland E. Shields and Robert R. Scheibe and Terry Thomas. SAE 2007-01-0879
30. Design Fire Development for Automotive Vehicle Applications: An Overview by James A. Lerardi and Paul Sullivan. SAE 2005-01--1424
31. Fire and Materials Conferences and peer reviewed publications;
32. ANSI standards;
33. National Highway Transportation Safety Association (NHTSA) Technical Service Bulletins;
34. National Fire Protection Association (NFPA) Handbook, 19th Edition;
35. "Advances in Fire Protection for Critical Vehicle Components", by William Eckholm and J. Michael Bennett, SAE 2002;
36. "Recent Analyses of Toxicity and Environmental Impacts of In-Car Motorsports Fire Extinguishing Systems", SAE 04MSEC-40;
37. "An Assessment of Automotive Fuel System Fire Hazards", *DOT HS 800 624;*
38. "Fabric Seal Technical Data, Flame Seal Products, Inc.;
39. "NHTSA Project" and associated documents
40. "MVFRI Project" and associated documents
41. Under-hood Foam Fire Suppression System, MVFRI;
42. "GM Project," as well as GM research on toxicity and flammability;
43. "An Investigation of Fuel, Exhaust and Electrical Systems as Related to Post Crash Fire Safety," Contract No. FH-11-6919, by Fairchild Hiller for DOT, June 30, 1969;
44. "Development of a New Procedure to Assess the Fire Hazard of Materials Used in Motor Vehicles," SwRI Project No. 18.03614, 2003;
45. "Demonstration of Enhanced Fire Safety Technology-Fire Retardant Materials- Part 1, Part 2, Part 3 and Part 4 of General Motors Research", by J. Santrock, 2002. (All research regarding flammability, engine fires and use of fire retardant materials in vehicles);
46. Computer Model of Fire Spread from the Engine to Passenger Compartment in Vehicle Fires, by James A. Lerardi and Dr. Jonathan R. Barnett ; NHTSA 98-3588-207
47. Evaluation of Motor Vehicle Fire Initiation and Propagation, Vehicle Crash and Fire Propagation Test Program, by Jack L. Jensen and Jeffrey Santrock ; NHTSA 98-3588-38 films dated April 1, 1999.
48. Reference Materials listed in SwRI Project No. 01.05804;

001174

001174

49. U.S. Vehicle Fire Trends and Patterns, NFPA August, 2005; and An Overview of the U.S. Highway Vehicle Fire Problem, SAE 2005-01-1420, both by Marty Ahrens;
50. Under Hood Extinguishments Systems and Firewalls;
51. Emergency Response Time in Motor Vehicle Crashes: Literature and Resource Review, MVFRI (2004) L.E. Shields
52. Evaluation of Motor Vehicle Fire Initiation and Propagation Parts 1-13, Santrock, J., NHTSA 1998-3588-119-203
53. Publications and Research by Southwest Research Institute;
54. Publications and research by Motor Vehicle Fire Research Institute;
55. Comparison of fire properties of automotive materials and evaluation of performance levels, MVRFI; and,
56. International Fire Code 2000.
57. Crash tests, barrier and offset related to the above referenced vehicles; and,
58. Fatalities Associated with Crash Induced Fuel Leakage and Fires, by Ernest Grush
59. Thermophysical and Fire Properties of Engine Compartment Fluids, Archibald Tewarson, SAE 2005-01-1560

Additional materials forming the basis of the undersigned opinions include materials on Fundamentals of Vehicle Dynamics, knowledge and references in the field of accident reconstruction and research associated with Other Similar Incidents (OSI's). These various materials have been incorporated into my research and experience regarding this accident.

001175

001175

CAM COPE
Curriculum Vitae

www.firesafetyconsultant.com camcope@me.com

001176

AREAS OF SPECIALIZED EXPERTISE

Fire Origin and Cause (NFPA 921)
Structure & Vehicle Fires & Explosions
Fuel Systems Integrity, FMVSS 301
Flammability of Interior Materials FMVSS 302
Crash Data Retrieval of Vehicles (CDR/Black Box)
Case Evaluation of Accidents

Accident Reconstruction
Analysis of Vehicle Products
Occupant Restraint Systems / Airbags
Commercial Trucking Accidents
FARO Laser Scanning
(Focus 3D-X-330)

001176

Mr. Cope received a Bachelor of Science degree in 1971 and has been investigating and reconstructing fires and accidents for the past thirty (30) years. He continues his education and training through various organizations such as the NFPA, NAFI, Society of Automotive Engineers (SAE), and the many other organizations that provide the training required for fire and accident investigation, analysis and documentation. These organizations provide the most peer reviewed literature and training with regards to fires and accident reconstruction. Engineering programs taught through the various Universities generally provide no courses in investigation, fire origin and cause or accident reconstruction, which means we must pursue the training and technology from the organizations I belong to that do provide the necessary training. Both the Texas Association of Accident Reconstruction Specialists and the National Association of Professional Accident Reconstruction Specialists provide training and literature for the Accident Reconstructionist. The National Fire Protection Association, International Association of Arson Investigators, National Association of Fire Investigators and various Chapters of Accident Reconstruction and Fire Investigation also provide training and technology in the field of fire origin and cause investigation. In addition to these organizations, Mr. Cope received training through the Texas A&M Extension Service such as the 80-hour Advanced Accident Reconstruction course. Mr. Cope helped to establish and teaches at the only Vehicle Fire Certification Program which is available through training conducted at Eastern Kentucky University and/or Scott County Fire Service. Cam Cope currently works on the SAE Accident Reconstruction Committee, as well as the Vehicle Fire Task Force Committee, which is a part of the revisions committee for the vehicle section of NFPA 921. Please refer to the attached Curriculum Vitae for Cam Cope for his complete educational background and list of seminars attended. Mr. Cope also has experience and training from law enforcement and military.

ACADEMIC EDUCATION

Bachelor of Science, New Mexico Highlands University, 1971
Undergraduate and Graduate Courses (60 hours including but not limited to Biology, Chemistry, Photography), Texas A & M University, beginning in 1974 upon completion of Military obligation
Advanced Accident Reconstruction, Texas A & M (80 Hour Course), 1993

CERTIFICATIONS

CFEI, Certified Fire Explosion Investigator
CFII, Certified Fire Investigator Instructor
CVFI, Certified Vehicle Fire Investigator

MILITARY

U.S. Army 1971-1974
Surgical Research, Walter Reed Army Medical Center
Medical and Veterinary Team, Fort Benning, GA
Veterinary Team, K-9 unit, Viet Nam
Surgical Research, William Beaumont Army Medical Center

LAW ENFORCEMENT

College Station Police Department, Reserve Officer, 1985 to 1990
Police Academy Training-Accident Investigation, Routine Patrol

PRIVATE INVESTIGATOR LICENSE FOR STATE OF TEXAS

Texas Board of Private Investigators and Private Security Agencies
Licensed Private Investigator, License A09524

001177

001177

PROFESSIONAL EXPERIENCE

Since 1998 — Auto Fire & Safety Consultants, Inc.

- Vehicle and structural fire investigation (origin and cause)
- Vehicle Fire Testing
- Review and analysis of governmental and industry crash testing
- Accident Reconstruction (SEE LIST OF COURSES TAUGHT AND ATTENDED)
- ARC crash testing in Las Vegas, NV
- Animations & Simulations
- Expert Auto Stats
- Case evaluation and rapid response in the documentation of vehicular accidents
- Inspection of structures, vehicles and research
- FARO 3-D Digital Scanning for structure, scene and vehicle documentation
- Products liability and identification of defective products, testing and research
- Identification of occupant restraint system usage, including airbags and seatbelts
- Crash Data Retrieval (CDR) Retrieval of data as provided by Bosch
- CDR training through SAE, ARC, Vetronix and GM, beginning in the early 1990's
- Rollovers, trucking accidents, industrial and construction accidents
- Professional experience also includes Plaintiffs, Defense and Criminal Defense cases
- Investigator and Licensed Private Investigator for State of Texas

January 1991 to 1998 — Engineering Reconstruction Associates

- Accident reconstruction, case evaluation and model building

January 1992 to September 1996 — Crowley, Marks, and Douglas

- Accident reconstruction, evaluation, analysis and research
- Vehicular and structure fires (cause and origin) determination and documentation (following NFPA 921)
- Evaluation and investigation of vehicle products
- Analysis of Vehicle Products Liability, to include Rollovers, tire failures, restraint systems, etc.

January 1985 to January 1992 — Crowley and Waltman

- Investigation and reconstruction of accidents including vehicles (private and commercial), products and structures
- Fire Origin and Cause, per NFPA 921
- Occupant restraint systems

PROFESSIONAL AFFILIATIONS — Current & Past

NFPA National Fire Protection Association, (Technical Committee), (FSTE Executive Board Member)
Attending NFPA 921 committee meetings
NAFI National Association of Fire Investigators (Board Member)
CFEI Certified Fire and Explosion Investigator
CFII Certified Fire Investigation Instructor
CVFI Certified Vehicle Fire Investigator
FIVE Fires in Vehicles - Reference Group for the International Standard on Fire Suppression Systems for use in Bus and Coach Engine Compartments
NSTI National Safety and Transportation Institute (Board Member)
NAPARS National Association of Professional Accident Reconstruction Specialists
TAARS Texas Association of Accident Reconstruction Specialists
SAE Society of Automotive Engineers
Committee Accident Investigation Practices Standards
Vehicle Fires Committee
Auto/Pedestrian Standards
Sectional Leader, Gulf Coast Chapter
NSC National Safety Council
IAAI International Association of Fire and Arson Investigators
NFPA National Fire Protection Association
ACFE American College of Forensic Examiners
Engineering and Technology Board
Diplomat, Chairman of Engineering and Technology 2000
Continuing Education Committee and Editorial Review Board
Texas Board of Private Investigators and Private Security Agencies
Licensed Private Investigator, License A09524
TALI Texas Association of Licensed Investigators
FIAA Fire Investigation Association of Alberta (Chapter 38 IAAI)
CTFIA Central Texas Fire Investigators Association
ASCE American Society of Civil Engineers (Affiliate Member)
ASME American Society of Mechanical Engineers
NFPA Latin American Section of the National Fire Protection Association
SP Technical Research Institute of Sweden
Reference Group for the International standard on fire suppression systems for use in bus and coach engine compartments
VFW Lifetime Membership

PUBLICATIONS AND PRESENTATIONS

- Cope, Cam, “Black Box Data Crash Retrieval” & “Post Collision Fuel Fed Fire”, 2017 National Vehicle Fire, Arson and Explosion Investigation Science and Technology Seminar, Lexington, KY, September 18-21, 2017. (Instructor)

001178
001178
001178
001178

- Cope, Cam, "Black Box Data Crash Retrieval", "Post Collision Fuel Fed Fire" and "Sources of Information/Recalls/Service Bulletins", 2015 National Vehicle Fire, Arson and Explosion Investigation Science and Technology Seminar, Lexington, KY, September 21-24, 2015. (Instructor)

- Cope, Cam, "Sources of Information/Recalls/Service Bulletins", 2013 National Vehicle Fire, Arson and Explosion Investigation Science and Technology Seminar, Lexington, KY, September 30 – October 3, 2013. (Instructor)

- Cope, Cam, "'Black Box' Data Crash Retrieval" and "Sources of Information/Recalls/Service Bulletins ", 2011 National Vehicle Fire, Arson and Explosion Investigation Science and Technology Seminar, Lexington, KY; September 12-16, 2011.

- Cope, Cam, "Effectiveness of Shielding Vehicle Hot Surfaces", Fire and Materials 2011, 12th International Conference and Exhibition, Interscience Communications Limited, San Francisco, CA; January 31 – February 2, 2011.

- Cope, Cam, "Shielding Vehicle Hot Surfaces ", 2010 International Symposium on Fire Investigation Science and Technology, Baltimore, MD; September 29, 2010.

- Cope, Cam and John M. Stilson, "Effectiveness of Shielding Vehicle Hot Surfaces", 2009 ASME International Mechanical Engineering Congress & Exposition, Lake Buena Vista, FL; November 18, 2009.

- Cope, Cam, "Black Box' Data Crash Retrieval" and "Sources of Information/Recalls/Service Bulletins", 2009 Vehicle Fire, Arson & Explosion Investigation Science & Technology Seminar, NAFI and Eastern Kentucky University, Lexington, KY; Sept. 24, 2009. (Instructor).

- Cope, Cam, "Vehicle Engine Compartment Fires," Fire and Materials 2009, 11th International Conference and Exhibition, Interscience Communications Limited, San Francisco, CA; January 26-28, 2009 (Instructor).

- Cope, Cam, "Battery Disconnect Devices," 2008 ASME International Mechanical Engineering Congress and Exposition, Boston, MA; November 4, 2008.

- Cope, Cam, "Testifying and Preparing for Courts and Depositions," American College of Forensic Examiners 2008 National Conference, San Diego, CA; September 4-6, 2008.

- International Symposium on Fire Investigation Science and Technology (ISFI), Cincinnati, OH; May 19-21, 2008.

- Engineering Institute Kick-Off, Magazine Mountain, AR; January 17-18, 2008 (Instructor).

- Cope, Cam, 2007 Vehicle Fire, Arson & Explosion Investigation Science and Technology Seminar, NAFI and Eastern Kentucky University, Lexington, KY; Sept. 24-27, 2007. (Instructor).

- National Fire Protection Association (NFPA), Hazard and Risk of Contents and Furnishings; July 26, 2007.

- Cope, Cam, "The Investigation of Vehicle Fires," TALI Super Conference, Las Colinas, TX; July 26 – 28, 2007. (Instructor)

- Cope, Cam, "The Investigation of Electrical Fires in Vehicles," Fire Explosions, and Electricity: Intensive Instruction, Irmo, SC; April 20 – 21, 2007. (Instructor).

- Cope, Cam, ISFI 2006 – International Symposium on Fire Investigation Science and Technology, Fire Technology Involving Vehicles & Structures, Faro Scene 3D Laser Scanner, Cincinnati, OH; June 26 – 29, 2006. (Instructor).

- Cope, Cam, Inner Circle of Investigators 2005 Annual Conference, "Heavy Truck Fires," Williamsburg, VA; October 14-15, 2005. (Instructor).

- Cope, Cam, 2005 Vehicle Fire, Arson & Explosion Investigation Science and Technology Seminar, NAFI and Eastern Kentucky University, Richmond, KY; Sept. 26-29, 2005. (Instructor).

- Cope, Cam. "Crash Data Retrieval", 2004 Vehicle Fire, Arson & Explosion Investigation Science and Technology

Seminar, NAFI and Eastern Kentucky University, Richmond, KY; Sept. 27-30, 2004. (Instructor).

- Cope, Cam. “Sources of Information”, 2004 Vehicle Fire, Arson & Explosion Investigation Science and Technology Seminar, NAFI and Eastern Kentucky University, Richmond, KY; Sept. 27-30, 2004. (Instructor).
- Cope, Cam. “Vehicle Systems Design, Form, & Function,” “Crash Data Retrieval;” Test Burns. 2004 Vehicle Fire, Arson, & Explosion Investigation Training Program, NAFI, Eastern Kentucky University, Richmond, KY; September 27-30, 2004. Live burns- Vehicle Fire Testing.
- Cope, Cam. “Vehicle Fire Investigation”, International Symposium on Fire Investigation, NFPA, Fire Service College, Moreton-in-Marsh, Gloucestershire, UK; June 27-30, 2004. (Instructor).
- Cope, Cam. “Vehicle Systems Design, Form, & Function,” “Crash Data Retrieval;” Test Burns. 2003 Vehicle Fire, Arson, & Explosion Investigation Training Program, NAFI, Eastern Kentucky University, Richmond, KY; October 1-4, 2003. Live burns- Vehicle Testing.
- Cope, Cam. “Vehicle Investigation Issues.” 2003 National Fire, Arson & Explosion Investigation Training Program, NAFI, Sarasota, FL; August 13, 2003. Vehicle testing and live burns.
- “2002 Vehicle Fire, Arson & Explosion Investigation & Technology Seminar,” National Association of Fire Investigators and Fire and Safety Engineering Technology; Eastern Kentucky University, Richmond, KY; September 30 -October 2, 2002. (Instructor).
- Cope, Cam and Bill Camp. "Use of Digital Photography in Investigation.” American Trial Lawyers Association Presentation: Chicago, IL; July 31, 2000.
- Cope, Cam. “Airbag Investigation.” The Legal Investigator – All CLI Issue. National Association of Legal Investigators; May 2001.
- Cope, Cam. “Motor Vehicle Fires and NFPA 921.” Test Burning of Vehicles 2001: National Advanced Fire, Arson, and Explosion Investigation Science and Technology: Eastern Kentucky University, Richmond, KY; March 13-17, 2001.
- Cope, Cam and Bob Swint. "Airbag Safety & Investigation." The Forensic Examiner. May/June 2000.
- Cope, Cam and Dennis Andrews. "Low-Speed Rear-End Impact Analysis / Seat Belts / Airbags." ACFE Workshop Presentation: New York City, NY; October 29 - November 1, 1999.
- Cope, Cam. "History of Occupant Restraint Systems." ACFE 6th National Scientific Academy: Naples, FL; October 12-14, 1998.
- Cope, Cam and Bob Swint. “The Documentation of Vehicles Involved in Accidents.” Engineering and Technology, The Forensic Examiner. Vol. 7: Sept/Oct 1998.
- Cope, Cam. "Investigation of Vehicle Rollover.” Advanced Forensic Civil Investigations. Lawyers & Judges Publishing Co., 1997.
- Cope, Cam. “Restraint System Documentation and Investigation.” Presentation at 5th National Scientific Academy & Retreat of the American College of Forensic Examiners: San Diego, CA; December 11-13, 1997.
- Cope, Cam. "Investigation of an Automobile Accident." Presentation at the National Association of Legal Investigator Mid-Winter Conference: Chicago, IL; March 1995.
- Cope, Cam. "Investigation of a Products Liability Case." Presentation at the National Association of Legal Investigator Silver Anniversary Conference: St. Louis, MO; 1992.
- Cope, Cam. "Vehicle Documentation." Presentation at N.A.L.I. National Convention: Houston, TX; 1991.
- Cope, Cam. "Accident Investigation Forms," A series of data forms to be used by Accident Investigators.

001180

001180

CONTINUING EDUCATION

- 2017 Vehicle Fire, Arson & Explosion Investigation Science & Technology Seminar, (Total Burns – Testing), NAFI, Fire and Safety Engineering Technology, Eastern Kentucky University, September 18-21, 2017.
- 2015 Vehicle Fire, Arson & Explosion Investigation Science & Technology Seminar, (Total Burns – Testing), NAFI, Fire and Safety Engineering Technology, Eastern Kentucky University, September 21-24, 2015.
- 2014 ARC-CSI Crash Conference. Crash Testing, Las Vegas, NV, June 2-5, 2014.
- 2013 Vehicle Fire, Arson & Explosion Investigation Science & Technology Seminar, (Total Burns-Testing), NAFI, Fire and Safety Engineering Technology, Eastern Kentucky University, September 30 – October 3, 2013.
- SAE ABA Fire Safety Committee Meeting (teleconference), April 26, 2012
- Inner Circle of Investigators, 2011 Annual Conference, Investigative Professional Development Conference, Conroe, TX; October 21-22, 2011.
- 2011 National Vehicle Fire, Arson and Explosion Investigation Science and Technology Seminar, Lexington, KY; September 12-16, 2011.
- 2011 ARC-CSI Crash Conference, Crash Testing, Las Vegas, NV; May 23-24, 2011.
- "Fire and Materials 2011", 12th International Conference and Exhibition, Interscience Communications Limited, San Francisco, CA; January 31-February 2, 2011.
- NFPA Committee on 921, Baltimore, MD; September 30, 2010.
- 2010 International Symposium on Fire Investigation Science and Technology, Baltimore, MD; September 27-29, 2010.
- Inner Circle of Investigators, 2010 Annual Conference, Investigative Professional Development Conference, St Louis, MO; September 17, 2010.
- Technical Committee on Hazard and Risk of Contents and Furnishings; NFPA 557 HAR-AAA ROP Meeting; Quincy, MA; August 4-5, 2010
- 2010 NFPA Conference & Expo, Las Vegas, NV; June 7-10, 2010; Technical Committee, Fire Science & Tech Section, Latin American Section.
- 2010 SAE New Era – New Solutions New Congress, SAE ABA Fire Safety Committee; Motor Vehicle Fire Investigation Task Force Committee; Accident Reconstruction Committee; Sessions: Electronics, Emissions / Environment / Sustainability; Integrated Design & Manufacturing; Management / Marketplace; Materials; Powertrain / Propulsion; Safety / Testing; Detroit, MI; April 13-14, 2010
- 2009 ASME International Mechanical Engineering Congress & Exposition, Lake Buena Vista, FL; November 13-19, 2009.
- 2009 ACFE National Conference, Las Vegas, NV; October 14-16, 2009.
- 2009 Vehicle Fire, Arson & Explosion Investigation Science & Technology Seminar, (Total Burns – Testing), NAFI, Fire and Safety Engineering Technology, Eastern Kentucky University; September 19-24, 2009.
- 2009 SAE World Congress, SAE Motor Vehicle Fire Investigation Task Force, Detroit, MI; April 20-22, 2009.
- NFPA 556 Committee Meeting and Rule-Making, San Antonio, TX; February 5-6, 2009.
- Fire and Materials 2009, 11th International Conference and Exhibition, Interscience Communications Limited, San

Francisco, CA; January 26-28, 2009.

- 2009 CDR User's Conference, Houston, TX; January 26-28, 2009. (Attended by Joe Partain, Auto Fire & Safety Consultants)
- 2008 Trucking Litigation and D.O.T. Regulations, Houston, TX; November 13, 2008. (Attended by Joe Partain, Auto Fire & Safety Consultants)
- 2008 Texas Association of Accident Reconstructionists, Annual Meeting, Houston, TX; November 13-15, 2008. (Attended by Aaron Zeamer, Auto Fire & Safety Consultants)
- NFPA Technical Committee Board Meeting regarding NFPA 921, Orlando, FL; October 8-10, 2008.
- Inner Circle of Investigators, 2008 Annual Conference, Investigative Professional Development Conference, Jackson Hole, WY; August 15-16, 2008.
- 2008 ARC-CSI Crash Conference, Crash Testing, New Vehicle Technologies, Reconstruction Techniques, Momentum and Energy, Airborne Analysis and Rotational Mechanics, Pedestrian Crash Analysis, Reconstruction of PIT crashes, Rollovers, Las Vegas, NV; June 2-4, 2008.
- 2008 NFPA World Safety Conference & Exposition; Executive Board Member FSTE, Campus Fire Safety, Air Force Application of Arc Flash Protection, Pitfalls, Perils and Reasoning Fallacies of Determining Fire Cause in the Absence of Proof, Las Vegas, NV; June 2-5, 2008.
- 2008 SAE World Congress, SAE ABA Fire Safety Committee, SAE Motor Vehicle Fire Investigation Task Force, and AIRP Committee Meeting, Detroit, MI; April 13-17, 2008.
- 2007 SAE Highway Vehicle Event Data Recorder Symposium, NTSB Training Center, Ashburn, VA; September 5-6, 2007.
- 2007 National Fire, Arson & Explosion Investigation Training Program; National Association of Fire Investigators (NAFI) and National Fire Protection Association (NFPA), Sarasota, FL; August 6-8, 2007.
- "Background Investigations," "Digital/Computer Investigations," 2007 TALI Super Conference, Las Colinas, TX; July 26 - 28, 2007.
- People Safe in Rollovers Foundation; Emergency World Summit, Washington, D.C.; July 18-20, 2007.
- 2007 ARC-CSI Crash Conference, Las Vegas, NV; June 4-7, 2007. (Attended by Aaron Zeamer, Auto Fire & Safety Consultants)
- Technical Committee on Hazard and Risk of Contents & Furnishings; National Fire Protection Association (NFPA); May 1 – 2, 2007.
- Inner Circle of Investigators, 2007 Annual Conference, The Warren Group, Forensic Engineers & Consultants, Fires Explosions and Electricity, Irmo, SC; April 20 – 21, 2007.
- 2007 SAE World Congress, SAE ABA Fire Safety Committee, SAE Motor Vehicle Fire Investigation Task Force, and AIRP Committee Meeting, Detroit, MI; April 16-19, 2007.
- "Fire and Materials 2007", Interscience Communications Limited, Fire School, San Francisco, CA; January 29-31, 2007.
- Central Texas Fire Investigators Associations Annual Meeting & Conference, Electrical Fires 102 Training Program, Austin, TX; December 12 - 13, 2006.
- 2006 ISFI – International Symposium on Fire Investigation Science and Technology, Fire Technology Involving Vehicles & Structures, Cincinnati, OH; June 26 – 29, 2006.

- 2006 ARC-CSI Crash Conference, Crash Testing – Rollover, Motorcycle and Bus, Las Vegas, NV; June 5-8, 2006.
- 2006 SAE World Congress, SAE AIRP Committee Meeting, SAE ABA Fire Safety Committee, Hydrogen Vehicle Safety (Parts 1 & 2), Fire Statistics and Analysis (Parts 1 & 2), Material Flammability and Fire Experiments (Parts 1 & 2), Detroit, MI; April 3-7, 2006.
- Live Burn Testing of Five (5) Ford Vehicles Related to Cruise Control Deactivation Switches conducted by Nationwide Insurance, Houston, TX; December 5, 2005.
- Inner Circle of Investigators, 2005 Annual Conference, Investigative Professional Development Conference, Williamsburg, VA; October 14-15, 2005. (10 hrs)
- "Vehicle Fire, Arson & Explosion Investigation", (Total Burns - Testing) Science & Technology Seminar, NAFI, Fire and Safety Engineering Technology, Eastern Kentucky University; September 26-29, 2005.
- NFPA 921 – Task Force Committee Meetings Relative Changes to NFPA 921, Minneapolis, MN; September 14 – 16, 2005.
- 2005 NAFI - National Seminar on Fire Analysis Litigation, Sarasota, FL; August 11-12, 2005.
- 2005 NAFI - National Fire, Arson & Explosion Investigation Training Program, Computer Fire Modeling, Sarasota, FL; August 8-10, 2005.
- 2005 SAE World Congress, "Fire Safety" "Accident Reconstruction", "Side Impact & Rollovers", "Restraints Systems", (AIRP Standards Committee & VFI Advisory Group), Detroit, MI; April 12-15, 2005.
- "Fire and Materials 2005", Interscience Communications Limited, Fire School, San Francisco, CA; January 31-February 1, 2005.
- "Fire Hazard to Occupants of Road Vehicles", Interscience Communications Limited, Fire School, San Francisco, CA; January 31-February 1, 2005.
- "Cone Calorimeter Predictions of FMVSS 302 Performance", Interscience Communications Limited, Fire School, San Francisco, California; January 31-February 1, 2005.
- "Vehicle Fire, Arson & Explosion Investigation", (Vehicle Burns – Testing) Science & Technology Seminar, NAFI, Fire and Safety Engineering Technology, Eastern Kentucky University; September 27-30, 2004.
- "Electrical Faults as Fire Causes" (The Investigator's Perspective), NFPA, International Symposium on Fire Investigation, Fire Service College, Moreton-in-Marsh, Gloucestershire, UK; June 29, 2004.
- "Forensic Pathology", NFPA, International Symposium on Fire Investigation, Fire Service College, Moreton-in-Marsh, Gloucestershire, UK; June 29, 2004.
- "Scene Management", NFPA, International Symposium on Fire Investigation, Fire Service College, Moreton-in-Marsh, Gloucestershire, UK; June 29, 2004.
- "Scene Examination (Case Study Based)", NFPA, International Symposium on Fire Investigation, Fire Service College, Moreton-in-Marsh, Gloucestershire, UK; June 28, 2004.
- "Fire Dynamics and Fire Science", NFPA, International Symposium on Fire Investigation, Fire Service College, Moreton-in Marsh, Gloucestershire UK; June 28, 2004.
- "Highway Vehicle Event Data Record Symposium: State-of-the-Art of Passenger Vehicle Accident Recorder Technology; EDR Device Research and Validation; and EDR End-User and Accident Reconstruction," National Transportation Safety Board; George Washington University, Virginia Campus; June 3-4, 2004.
- "2004 SAE World Congress", "Force Response during Tire Tread Detachment Event.", Detroit, MI; March 8-11, 2004

- "2003 NFPA Fall Education Conference," Reno, NV; November 16-19, 2003; Pre-Conference Seminars, November 14-15, 2003.
- "2003 Vehicle Fire, Arson & Explosion Investigation Training Program," (Live Burns – Testing) National Association of Fire Investigators; Eastern Kentucky University, Richmond, KY; October 1-4, 2003.
- "2003 National Fire, Arson & Explosion Investigation Training Program," National Association of Fire Investigators; Sarasota, FL; August 11-15, 2003.
- "Vehicle Dynamics & Simulation," Society of Automotive Engineers 2003 World Congress; Detroit, MI; March 5, 2003.
- "Vehicle Agressivity & Compatibility in Automotive Crashes," Society of Automotive Engineers 2003 World Congress; Detroit, MI; March 5, 2003.
- "Engineering Safety Specifications: Designing for Safety," Society of Automotive Engineers 2003 World Congress, Detroit, MI, March 3-4, 2003. (16 hours)
- "Accident Reconstruction," Society of Automotive Engineers 2003 World Congress; Detroit, MI; March 4-5, 2003.
- "Side Impact, Rear Impact & Rollover," Society of Automotive Engineers 2003 World Congress; Detroit, MI; March 3, 2003.
- "2002 Vehicle Fire, Arson & Explosion Investigation & Technology Seminar," National Association of Fire Investigators and Fire and Safety Engineering Technology; Eastern Kentucky University, Lexington, KY; September 30 – October 2, 2002.
- "2002 National Seminar on Fire Analysis Litigation," National Association of Fire Investigators and National Fire Protection Agency; Sarasota, FL; August 15-16, 2002. (16 hrs)
- "2002 National Fire, Arson & Explosion Investigation Training Program," National Association of Fire Investigators and National Fire Protection Agency; Sarasota, FL; August 12-14, 2002. (32 hrs)
- "A Fire Scene Analysis," 2001 National Advanced Fire; Eastern Kentucky University, Richmond, KY; March 2002. (16 hrs)
- "Engineering Dynamics Corporation-HVE-2D-EDCRASH Reconstruction Course," Terry Day –PDOF and Damage Profile of Vehicle, Collision Deformation Classification, EDCRASH Input Data; CA State University Northridge; Burbank, CA; January 21-25, 2002. (40 hrs)
- "Investigation of Motor Vehicle Fires," Lee S. Cole. Peter Klaput Investigation of motor vehicle fires; Where and how did it start; Hands-on investigation of burned vehicles; Elements Necessary for a Fire; Loyola University, New Orleans, LA; December 5-7, 2001.
- "Hot Wheels 2001," Investigating Vehicle Fires; 15 vehicles burned, investigation, methodology, ignition sources, fuel loads, electrical failures, presentations for vehicles burned; Fire Investigation Association of Alberta; Calgary, Alberta, Canada; September 20-22, 2001.
- "NFPA 921 Structural and Vehicles," Live Vehicle Burn IAAI-Louisville Fire Department.
- "Post Impact Fuel Fed Fires," Tom DeSantis and Lou Molnar (Design Analysis Engineers at Ford Motor Company); "Origin and Cause on Vehicles Fires Utilizing NFPA 921," Ralph Newell (Newell Investigation); "Electrical Fires in Components-Vehicles," Chuck Adams (Design Analysis Engineer at Ford Motor Company); "Mechanical Fires – Fuel-Fed Fires - Vehicles," John Washington and Sunil Sharma (Design Analysis Engineers at Ford Motor Company); "Electrical System," Mark Hoffman (Ford Motor Company); "NFPA 921," David Smith; Live Vehicle Burn, Electrical Short in dash, Flammability of Vehicle Fuels tested, Testing of Interior Temperatures, Roof, Engine, Occupant and Truck in Vehicle Fires; Louisville, KY; August 22-24, 2001.
- "Fire and Pattern Analysis," Patrick Kennedy; "Processing the Fire Scene - Diagramming Evidence and Note Taking,"

001184

001184

Auto Fire & Safety Consultants, Inc.
7398 Teaswood Drive, Conroe, TX 77304
Off: 281.362.0930 • Fax: 281.362.1329

Dennis Smith; “Determining Origin-Heat and Flame Vector Analysis” and “Fire Scene Photography,” Michael Schulz; “Philosophy of Fire Analysis,” Patrick Kennedy; “Electrical,” Daniel Churchward; 2001 National Fire, Arson and Explosion Investigation Training Program; Sarasota, FL; July 22-27, 2001.

- "Texas Association of Legal Investigators, 2001 Convention and Seminar,” San Antonio, TX; June 15-17, 2001. (10 hrs Continuing Education Credit).
- “Introduction to Explosives Theory and Explosion Devices,” Tom Thurman, 2001 National Advanced Fire, Arson, and Explosion Investigation Science and Technology Program; Eastern Kentucky University, Richmond, KY; March 13-17, 2001. (8 hrs on-site explosion and fire investigation of burning vehicles).
- “Fire Scene Analysis,” 2001 National Advanced Fire; Eastern Kentucky University, Richmond, KY; March 16, 2001. (8 hrs)
- “Analysis of Electrical Fires Causes,” 2001 National Advanced Fire; Eastern Kentucky University, Richmond, KY; March 15, 2001. (8 hrs)
- “PC-Crash Program, 3D Accident Simulation and Reconstruction,” William Cliff and Hermann Steffan, Detroit, MI; March 8-9, 2001. (16 hrs)
- "Society of Automotive Engineers (SAE) Accident Reconstruction Conference,” Detroit, MI; March 5-8, 2001.
- “Certified Fire Investigator Instructor Program,” Ron Hopkins, Fire and Safety Engineering Technology; Eastern Kentucky University; March 2001. (8 hrs and examination)
- "Crash Data Retrieval Systems," Don Gilman, Vetronix Corporation, WREX2000; College Station, TX; September 24-29, 2000.
- "Lamp Examination for ON or OFF in Traffic Accidents," Gary Stephens, WREX 2000l; College Station, TX; September 24-29, 2000.
- "Full Force / Weight Tests of Air-Braked Trucks, Truck Tractor & Semi Trailer Compared to Automobiles," Dave Stopper, WREX 2000; College Station, TX; September 24-29, 2000.
- "Trailer Underride; Conspicuity, Human Factors and Rear Bumpers," Joseph E. Badger, WREX 2000; College Station, TX; September 24-29, 2000.
- "WREX 2000 World Reconstruction Exposition," Accident Reconstruction and Crash Testing; College Station, TX; September 24-29, 2000. (36 credit hrs)
- "Demonstration of Crush Deformation Measurement System and Current Validation of the EDCRASH Computer Program,” Tom Curtis, WREX 2000; College Station, TX; September 24-29, 2000.
- "Airbags and Restraint Systems," ATLA Convention, Product Liability A.I.E.G.; Chicago, IL; July 31, 2000.
- "The Dynamics of Fire Investigation” and "Fire Pattern Development and Fire Analysis," Patrick Kennedy / National Fire, Arson, and Explosion Investigation Training Program; Chicago, IL; July 24-28, 2000.
- "Chemistry of Fire-Properties of Materials" and "Fire Dynamics for Fire Investigation,” Ron Hopkins / National Fire, Arson, and Explosion Investigation and Training Program; Chicago, IL; July 24-28, 2000.
- “Basic Electricity and the Investigation of Electrical Fires” and “Cause Determination NFPA,” Daniel Churchward and Dennis Smith / National Fire, Arson, and Explosion Investigation and Training Program; Chicago, IL; July 24-28, 2000.
- "Fire Cause and Origin," National Association of Fire Investigators; Chicago, IL; July 24-28, 2000.
- Society of Automotive Engineers 21st Annual Section Officers Leadership Seminar, Pittsburgh, PA, May 20-23, 2000.
- "Accident Reconstruction – State-of-the-Art," SAE-TOPTEC; "Frontal Collision Performance," Dagmar Jewkes, Ph.D.;

"Side-Collision Performance," Greg D. Stephens; "Rear-Collision Performance & Rollover Reconstruction," Stein E. Husher; Costa Mesa, CA; December 9-10, 1999.

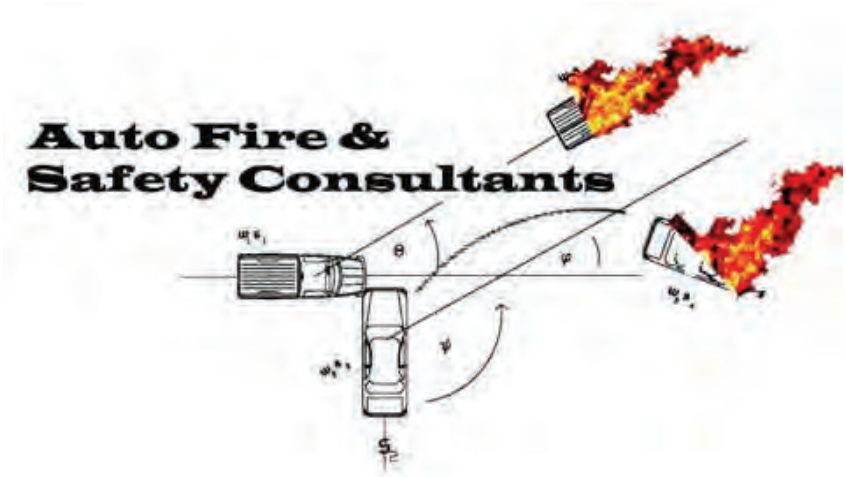
- "A.C.F.E. National Convention," Engineering and Technology Accident Reconstruction; New York City, NY; October 28-31, 1999.
- "Low Speed Accident Reconstruction and Litigation," Lawyers & Judges Convention; Scottsdale, AZ; October 21-23, 1999.
- "Issues in Automotive Crashworthiness Litigation, Trial Evidentiary," A.I.E.G.; Scottsdale, AZ; September 23-25, 1999.
- "Liability Issues," National N.A.L.I. Convention, New Orleans, LA; June 3-5, 1999.
- "TTLA's On-Line, Hands-on Investigation Research Workshop," Houston, TX; April 29, 1999.
- "GM Fuel System Integrity," A.I.E.G., Atlanta, GA; April 15-17, 1999.
- "Airbag Field Performance: An Engineer's Perspective," Jerome M. Kossar, A.I.E.G., Atlanta, GA; April 15-17, 1999.
- "Analysis and Investigation of Post-Accident Air Bag Systems," Bill Rosenbluth ASA, A.I.E.G., Atlanta, GA; April 15-17, 1999.
- "Evolution of the Lock-for-the-Latch," Kendall Few; "Forensic Analysis of Skip Lock," Alan Cantor; "Biomechanics and Injury Criteria of Child and Adult Dummies," Dr. Tony Sances; "Motor Vehicle Glass," Patrick M. Ardis, A.I.E.G., Atlanta, GA; April 15-17, 1999.
- "Vehicle Fires and Restraint Systems," Atlanta, GA; April 15-17, 1999.
- "Auto Focus AIEG Airbags, Rollovers, Auto Fires, Inertia Release (Seat Belt Buckles)," San Francisco, CA; October 24-26, 1998.
- "A.C.F.E. National Convention," Engineering and Technology Accident Reconstruction, Naples, FL; October 12-14, l998.
- "Facts & Mechanics for Injury Analysis – Pathologists," Patrick E. Besant-Matthews, M.D., TAARS Annual Meeting, Lago Vista, TX; June 25-27, 1998.
- "Mechanics of Vehicle Rollover," Richard J. Schleuter, P.E., TAARS Annual Meeting, Lago Vista, TX; June 25-27, 1998.
- "Texas Association of Accident Reconstruction Specialists—Accident Reconstruction," Austin, TX; June 25-27, 1998 (additional seminars not listed since 93).
- "Occupant Protection," Society of Automotive Engineers – TOPTEC, Tempe, AZ; May 20-21, 1998.
- "Side Impact," Society of Automotive Engineers – TOPTEC, Tempe, AZ; May 18-19, 1998.
- "Inertially Unlatching Seat Belt Buckles-Proving the Defect," Ben Hogan, Kendall Few and Dr. Tony Sances, A.I.E.G., San Antonio, TX; May 14-16, 1998.
- "Car Crashes and Occupant Injuries – Frontal Impact – Side Impact – Rollovers," Greg Stephens, Stein Husher and Ed Moffatt, Association for the Advancement for Automotive Medicine, Tempe, AZ; April 16-17, 1998.
- "Car Crash and Occupant Injuries: A Team Approach to Crash Investigation," AAAM, Tempe, AZ; April 16-17, 1998.
- "GM Technical on Airbags," SDM System Operation-Component Locations, Glenn C. Libby, Milford Training Center, Houston, TX; March 5, 1998.
- "A.C.F.E. National Convention," American Board of Forensic Engineering and Technology, San Diego, CA; December

11-13, 1997.

- "Technology and Performance of Airbags," David Biss, A.I.E.G., Scottsdale, AZ; September 25-27, 1997.
- "Airbag Litigation," Larry Coben and Don Slavik, A.I.E.G., Scottsdale, AZ; September 25-27, 1997.
- "Airbag Design and Performance," Society of Automotive Engineers – TOPTEC, Costa Mesa, CA; August 14-15, 1997.
- "Evaluating and Preparing Vehicle Rollovers," Michael Kerensky, Texas Trial Lawyers Association, Houston, TX; February 1-2, 1996
- "Vehicle Restraint Systems and Airbags," Brent Carpenter, Texas Trial Lawyers Association, Houston, TX; Feb. 1-2, 1996.
- "Vehicle Fuel Tank Integrity," Mick McBee, Texas Trial Lawyers Association, Houston, TX; February 1-2, 1996.
- "Liftgates and Seatbacks," Todd Tracy, Texas Trial Lawyers Association, Houston, TX; February 1-2, 1996.
- "Motor Vehicle Crashworthiness Frontal Collisions: Safety Issues" and "Rollover Crashworthiness," Engineering Demonstrations / Arndt and Associates / A.I.E.G., Phoenix, AZ; October 29-30, 1993.
- National Association of Fire Investigation Schools (NAFI), Certification Program, Chicago, IL; 1990, 1991, 1992.
- "Advanced Theories in Automotive Restraint Crashworthiness Cases," Donald H. Slavik, A.I.E.G., Sonoma County, CA; September 26-27, 1992.
- "Fire and Explosion Investigation," John A. Kennedy, National Fire, Arson, and Explosion Investigation, Chicago, IL; August 18-21, 1992.
- "Forensic Fire Science and Technology Laboratory Training," NAFI, Kennedy and Associates, Chicago, IL; August 17, 1992.
- "Rear Seat Lap-Only Belt Litigation," Jeffery Burke, Ralph Hoar, Ben Kelly, A.I.E.G., Dallas, TX; April 25-26, 1992.
- "Hands-on Reconstruction Techniques," Fred E. Arndt and Mark Arndt, A.I.E.G., Phoenix, AZ; October 11-12, 1991.
- "Computerized Reconstruction," Fred E. Arndt, A.I.E.G., Phoenix, AZ; October 11-12, 1991.
- "A Brief Review of Motor Vehicle Accident Reconstruction," Robert J. Caldwell, P.E., A.I.E.G., Phoenix, AZ; October 11-12, 1991.
- "Occupant Restraint and Protection," Don Slavik, A.I.E.G., Denver, CO; April 19-20, 1991.
- "Advance Fire Pattern Analysis," Ron Hopkins, NAFI, Chicago, IL; August 8-10, 1990.
- "Human Factors and Safety Evaluation," Edward W. Karnes, Ph.D., ATV Adult Toys, A.I.E.G., Phoenix, AZ; April 6-7, 1990.
- "Chemistry and Incendiary Devices," Rolfe Scofield PhD.; "Searching Diagramming and Evidence Collection at the Fire Scene," Sgt. Gene Deck; "Fire Pattern Analysis," Patrick Kennedy, Ph.D., NAFI Seminar, Chicago, IL; September 9-11, 1987.
- "Photography in Fire, Arson and Explosion Investigation," Patrick Kennedy, PhD., NAFI Fire School, Chicago, IL; September 11, 1987.
- "Fire and Safety Engineering Technology," Ron Hopkins, Eastern Kentucky University, Richmond, KY; September 1987.
- "Fire, Arson and Explosion Training," A.J. Scardino, Ph.D., and John Odom, P.E., NAFI, Chicago, IL; September 17-19, 1986.

001187

001187



CAM COPE EXPERT TESTIMONY

001188

- Cause NO. E-202285; *Kelvin Bourque vs. Stanley Black & Decker, Inc. D/B/A DeWalt*; In the District Court of Jefferson County, Texas 172nd Judicial District; August 20, 2020; Deposition

001188

- Cause No. 2018-78626; *Alex Felan and David Salinas v. Intertek Asset Integrity Management, Inc. d/b/a Testing Holdings USA, Inc.; Intertek USA Inc. d/b/a Testing Holding USA, Inc.; Ronald Villafuerte*; In the District Court of Harris County, Texas 215th Judicial Court; March 10, 2020; Deposition

- Cause NO. D-1-GN-18-003717; *Beatrice Rodriguez v. Donavan Leroy Payten and Capitol Concrete Contractors, INC;* In the District Court 459th Judicial District Travis County, Texas; October 17, 2019; Deposition

- Cause NO. D-1-GN-17-006093; *John David Donahey III vs Progressive County Mutual Insurance Company and Federal Insurance Company;* In the District Court 459th Judicial District Travis County, Texas; September 17, 2019; Deposition

- Civil Action NO. 2:18-CV-60; *Erik A. Schramm Sr., as Administrator and Personal representative of the Estate of Christopher White, Deceased, and Cynthia White Plaintiffs, v. FCA US LLC and Chrysler Group LLC, Defendants;* In the United States District Court For the Northern District of West Virginia Elkins Division; July 24, 2019; Deposition

- Cause NO. 17-04-24, 142; *Atreyu Muniz, Christian McGee, Jeffery Anderson, Trevor Moczygemba Plaintiffs vs. Stallion Oilfield Services, LTD.; Stallion Production Services; Stallion Oilfield Holdings, INC.; and Rodney Simmons Defendants*; In the District Court of Dewitt County, Texas 24th Judicial Court; July 11, 2019; Trial

Cam Cope Expert Testimony

- Case NO. A-17-757335-C, DEPT. NO.;XXVII; *James Edwin Fenner, M.D.; and Charlotte Jeanne Fenner, Plaintiffs, vs. Toyota Corporation; Toyota Motor Sales, U.S.A., INC., AAG-Las Vegas, L.L.C. d/b/a Lexus of Las Vegas; and Doe I through X, Inclusive, Defendants.;* In the District Court Clark County, Nevada; May 21, 2019; Deposition

- Cause NO. 17-04-24, 142; *Atreyu Muniz, Christian McGee, Jeffery Anderson, Trevor Moczygemba Plaintiffs vs. Stallion Oilfield Services, LTD.; Stallion Production Services; Stallion Oilfield Holdings, INC.; and Rodney Simmons Defendants*; In the District Court of Dewitt County, Texas 24th Judicial Court; March 7, 2019; Deposition

- Cause NO. D-1-GN-17-004456; *Christi Bowmer Plaintiff v. GTT Parking, L.P., Sheldon David Kahn, Premier Parking of Tennessee, LLC and Weitzman Management Corporation Defendants;* In the District Court of Travis County, Texas 353rd Judicial Court; February 26, 2019; Deposition

- Cause NO. C-5443-16-C; *Clarissa Mendoza, Individually and as Next Friend of Unborn Child, and as Heirs as Law to Hector Ivan Lujan under the Wrongful Death and Survival Statutes, Nydia Palmira Lujan Hernandez, Individually, Gavisela Anchondo Lopez, Individually and as Next Friend of Keyla Dahena Mendoza Anchondo, and as Heirs as Law to Isaac Mendoza under the Texas Wrongful Death and Survival Statutes, Luis Mendoza, Individually, Hilda Torres, Individually, Plaintiffs, v. W&W Energy Services, INC., Raymundo L. Butler and Ramiro Quintanilla, Defendants. – Moyra Quintanilla, Individually and on Behalf of Ramiro Quintanilla, Leonardo Quintanilla, Mauricio Quintanilla and Ramiro Quintanilla, Intervenor-Plaintiffs, v. W&W Energy Services, INC> and Raymundo Butler, Defendants.;* In the District Court 139th Judicial District Hidalgo County, Texas; January 9, 2019; Deposition

001189

001189

- Cause NO. DC-16-01615; *James Stacey Taylor, Individually, Plaintiff, VS. Oncor Electric Delivery Company, INC., Defendant.*; In the District Court Dallas County, Texas 191st Judicial District; November 28, 2018; Deposition

- Cause NO. 2017-37066; *Lizzi Cherian, Cherian M. Cherian and Susan Cherian Thomas Independent Administrator of the Estate of Shirley Sara Cherian, Deceased, Plaintiffs, vs. Briarwick Condominium Owners Association, INC. and Simple Management Solutions, Defendants.*; In the District of Harris County, Texas 152nd Judicial District; October 18, 2018; Deposition

- Cause NO. C-1-PB-17-000895; *Holly Sudduth, Individually, and as Dependent Administrator of The Estate of Brian Tobias Sudduth, and as next friend of Z.S., a minor, Plaintiffs, and Lauren Whelan and Matt Whelan, Individually and as next friends of J.W., a minor; Kristi Moriarty and David Moriarty, Individually and as next friends of H.M., a minor; and William McClean and Carlotta McClean, individually and as next friends of J.M., a minor, Plaintiffs/Intervenors, vs. Randall Lee Sluder as Representative of the Estate of Robbi Lynn Sluder and Lamar South Sportsbar Incorporated dba The Park on South Lamar, Defendants;* In the Probate Court No. 1 Travis County, Texas; September 25, 2018; Deposition

- Cause NO. CV1206048; *Tara Hoke vs. The Campbell Group, LLC, Crown Pine Timbers 3, L.P., Delbert Croft, Croft Logging, and Harold Watson*; In the District Court of Liberty County, Texas 75th Judicial District; August 29, 2018; Deposition

Cam Cope Expert Testimony

- Cause NO. CV17-06-840; *Steven Padron, Individually and as next friend of Steven Padron Jr. and London Padron, Minors, Plaintiff, VS. L.H. Chaney Materials, INC., and Rodney Ray Jackson, Jr., Defendants*; In the District Court 271st Judicial District Wise County, Texas; July 23, 2018; Deposition

- Cause NO. 1:15-CV-186; *City of Port Arthur Plaintiffs, VS. Daimler Buses North Carolina, INC., Defendants*; In the District Court of Jefferson County, Texas Eastern District of Texas Beaumont Division; July 10, 2018; Deposition

- Cause No. 2017CI18041; *Joe Silgero and Thomas W. Keller, Sr. Plaintiffs, vs Kubota Corporation, Kubota Tractor Corporation, Valero Energy Corporation, Diamond Shamrock Refining Company, L.P., d/b/a Valero Three Rivers Refinery, and Dynasty Enterprises, LLC, Defendants*; In the District Court 73rd Judicial District of Bexar County, Texas; June 27, 2018; Deposition

- Cause No. 16-03296-442; *Allstate Vehicle and Property Insurance Company, as Subrogee of Corey McCarty and Judith Johnston, Plaintiff, vs. Kenny Waters dba Realty Remodeling, Defendant*; In the District Court of Denton County, Texas 442nd Judicial District; May 23, 2018; Trial

- Cause No. 3:16-CV-00052; *Tonya Bailey, In Her Capacity as Personal Representative of the Estate of David Marcellus Bailey, Deceased, Plaintiffs, v. General Motors LLC; General Motors Corporation, a/k/a Motors Liquidation Company, Defendants.*; United States District Court Eastern District of Kentucky Central Division at Frankfort; May 1, 2018; Deposition

- Cause No. CV17-01-092; *Jeffrey Rowden; Tracy Rowden, Individually and as Next Friend of Elizabeth Rowden and Millicent Rowden; and Katey Rowden, Plaintiffs, vs. General Motors, LLC, Bonham C-P-D-J-E, Inc.; Jagoe Public Company; and Texas Department of Transportation, Defendants.;* In the District Court of Wise County, Texas 271st Judicial District; April 10, 2018; Deposition

- Cause No. D-1-GN-17-000726; *William Wesley Monroe and Melissa Salomon Monroe, Individually and as Representatives of the Estate of Spencer Monroe, Deceased, Plaintiffs, vs. Central Texas Refuse, INC., and Arnold Falcon Galindo, Defendants*.; In the District Court of Travis County, Texas 353rd Judicial District; April 4-5, 2018; Trial

- Cause No. 2016-84699; *Marla Repka, Plaintiff, Ted Ross and Todd Sluder, Plaintiffs/Intervenors, vs. Prestige Gunite of South Texas, Ltd. And Alberto Martinez, Defendants.; In the District Court of Harris County, Texas 133rd Judicial District;* March 21, 2018; Deposition

- Cause No. D-1-GN-17-000726; *William Wesley Monroe and Melissa Salomon Monroe, Individually and as Representatives of the Estate of Spencer Monroe, Deceased, Plaintiffs, vs. Central Texas Refuse, INC., and Arnold Falcon Galindo, Defendants.*; In the District Court of Travis County, Texas 353rd Judicial District; February 8, 2018; Deposition.

001190

001190

001190

Cam Cope Expert Testimony

- Cause No. D-1-GN-16-003247; *Brandon Gardner, Individually, Leah Kaye Bullock, Individually and as representative of the estate of B.B.G. and as next friend of B.T.G. and K.I., Minors vs. Texas Disposal Systems, INC., and Carl Weige*; In the District Court 419th Judicial District of Travis County, Texas; December 20, 2017; Deposition

- Cause No. 16-03296-442; *Allstate Vehicle and Property Insurance Company, as Subrogee of Corey McCarty and Judith Johnston, Plaintiff, vs. Kenny Waters dba Realty Remodeling, Defendant*; In the District Court of Denton County, Texas 442nd Judicial District; November 27, 2017; Deposition

- Cause No. D-1-GN-17-000726; *William Wesley Monroe and Melisssa Salomon Monroe, Individually and as Representatives of the Estate of Spencer Monroe, Deceased, Plaintiffs, vs. Central Texas Refuse, INC., and Arnold Falcon Galindo, Defendants.;* In the District Court of Travis County, Texas 353rd Judicial District; November 8, 2017; Deposition

- Cause No. CV16-09-782; *Lindsey Hoyt, at el., vs. Lane Construction Corporation, et al.;* In the District Court of Wise County, Texas 271st Judicial District; August 24, 2017; Deposition

- Cause No. CAL15-38293; *Erie Insurance Exchange, et al., Plaintiffs, v. Steamfitters Local Union No. 602, Defendant;* In the Circuit Court for Prince George's County, Maryland; April 18, 2017; Deposition

001191

- Cause No. 2015-67221; *Merry Lynn Stephens vs. S&B Engineers and Constructors, LTD., and Judy W. Nugent;* In the District Court of Harris County, Texas 234th Judicial Court; November 30, 2016; Deposition

001191

- Cause NO 3:15-CV-411; *Clifford White, Jr., Administrator of the Estate of Betty Jean White, Deceased and Margurite White and Clifford White, Jr. individually, Plaintiffs, vs. Suarez Corporation Industries, SCI Direct LLC, Suarez Manufacturing Industries, Edenpure, Biotech Research Patriot Enterprises of Ohio LLC, and LT enterprises, LLC Defendants;* United States District Court Eastern District of Tennessee Northern Division at Knoxville; September 21st, 2016; Deposition

- Cause No. DC-13-05900; *Lisa Marie Antonicelli, Plaintiff, vs. Infrastructure Corporation of America; ICA Maintenance, INC.; Trinity Industries, INC., Trinity Highway Products, LLC; And Marcom's Mowing Services, LLC, Defendants;* In the District Court of Dallas County, Texas 298th Judicial Court; July 22nd, 2016; Deposition

- Cause No. 14-02-01841; *Marion Ezra Powell, Individually and as Personal Representative of the Estate of Sue Powell, Ezra Powell and Natasha Karstens, Plaintiffs, v. Gabriel De Jesus Gomez and Cesar Marroquin d/b/a Cesar Auto Repair & Auto Sales, Defendants;* In the District Court of Montgomery County, Texas 284th Judicial District; June 7th, 2016; Trial

- Cause No. 13-03-02906-CV; *Richard Ervin Seidel, Jr. and Holly Seidel, Individually and a/n/f of Cody Lee Seidel vs. Ronald Lee Manning, Western Express, INC. and Farmers Texas County*

Cam Cope Expert Testimony

Mutual Insurance Company; In the District Court of Montgomery County, TX 410th Judicial District; May 27th, 2016; Deposition

- Cause No. 2014-15987; *Amalia Rodriguez, Jesse Armando Gallegos, Jr. and Belen Baltazar-Estrada vs. Salma Butt*; In the District Court of Harris County, Texas 333rd Judicial District; April 27th, 2016; Deposition

- Cause NO. 2014-42239; *Jaclyn Harwood vs. Centerpoint Energy Houston Electric, LLC*; In the District Court of Harris County, Texas 127th Judicial District; March 9, 2016; Deposition

- Cause NO. 2014-25199; *Joseph Bates vs. Debrien Howard; Texas Truck Houston; and Bison Global Logistics, INC.*; In the District Court of Harris County, Texas 61st Judicial District; February 9, 2016; Deposition

- Cause No. 2014-50521; *Morris Bryant, Linda Bryant and Michael Bryant, Plaintiffs vs. Centerpoint Energy Houston Electric, LLC, and Benito and Stella Gonzalez, Defendants;* In the District Court of Harris County, Texas 334th Judicial District Court; February 3, 2016; Deposition

- Cause NO. 2014-26179; *Angelique Johnston v. Monica Dorcz;* In the District Court of Harris County, Texas 334th Judicial Court; December 3, 2015; Deposition

- Cause NO. 2014-08991; *James Michael Kiger, Joel Lopez, Jason Baggerley and Donovan Calvin, Plaintiffs vs. Centerpoint Energy, INC., Centerpoint Energy Service, INC., Centerpoint Energy Service, LLC and Southwestern Bell Telephone Company, Defandants;* In the District Court of Harris County, Texas 127th Judicial District; November 13, 2015; Deposition

- Cause NO. A0195993; *Michael James Demayo vs. Penske Truck Leasing Company, LP, Getinge, AB, Gentinge, INC., Arjohuntleigh, INC., and Frederick Williams;* In the District Court of Jefferson County, Texas 58th Judicial District; November 5, 2015; Deposition

- Cause NO. 2012-68041; *John Albert Craig vs. Maria Rincon;* In the District Court of Harris County, Texas 113th Judicial District; October 27, 2015; Deposition

- Cause NO. A0195993; *Michael James Demayo vs. Penske Truck Leasing Company, LP, Getinge, AB, Gentinge, INC., Arjohuntleigh, INC., and Frederick Williams;* In the District Court of Jefferson County, Texas 58th Judicial District; September 8, 2015; Deposition

- C.A. NO. 6:13-CV-78; *Adriana Furtado Gonzalez vs. Ricketts Trucking, LLC, Et al.;* In the United States District Court for the Southern District of Texas Victoria Division; August 6, 2015; Deposition

- Cause No. CV-2011-901557; *Hartung Commercial Properties, INC., a domestic corporation, Plaintiff vs. Har-Mar Collision, INC., et al., Defendants, Buffi's Automotive Equipment and Supply Company, INC., Crossclaim Defendant;* In the Circuit Court of Mobile County, Alabama; May 5, 2015; Trial

001192

001192

001192

Cam Cope Expert Testimony

- Cause No. 2013-56614; *Eugene Atherton, Jr. vs. LJT Transportation, LLC, and Antonio Morales;* In the District Court of Harris County, 215th Judicial District; February 24, 2014; Deposition

- Cause No. 2013-CI-13011; *Trinette L. Washington, Sophia Renee Lenzy, Thomas Charles Lenzy, Individually, and as Representatives of the Estate of Mary L. Turner, Deceased vs. JBS Carriers, Inc. and James Lundry;* In the 37th District Court of Bexar County, Texas; February 10, 2014; Trial

- Docket No. 2008-6506; *Christine Morvant, individually and on behalf of the estate of William Morvant, and Byron M. Morvant, Lori M. Savoie, and Brent M. Morvant, individually vs. Ford Motor Company, Mark Dodge, Chrysler, Jeep, L.L.C., Calcasieu Parish Police Jury, and State of Louisiana, Department of Transportation and Development;* In the 14th Judicial District Court for the Parish of Calcasieu, Louisiana; January 26 - February 6, 2015; Trial

- Cause No. 2013-DCV3851; *Flor A. Aguero-Fraire individually and as Next Friend of Alberto Ontiveros, Jr., Alicia Gomez, individually and as Next Friend of Albert Gomez and Humberto Gomez, and Robert Gomez, Jr., Individually, Plaintiffs, vs. SPS Employer Risk Management, LLC f/k/a SPS Employer Risk Management, INC., Defendant;* In the County Court at Law Number Five El Paso County, Texas; January 9, 2015; Deposition

- Docket No. 2008-6506; *Christine Morvant, individually and on behalf of the estate of William Morvant, and Byron M. Morvant, Lori M. Savoie, and Brent M. Morvant, individually vs. Ford Motor Company, Mark Dodge, Chrysler, Jeep, L.L.C., Calcasieu Parish Police Jury, and State of Louisiana, Department of Transportation and Development;* In the 14th Judicial District Court for the Parish of Calcasieu, Louisiana; December 23, 2014; Deposition

001193

001193

- Cause No. D-412-CV-2012-00055; *Lloyld Tafoya, as Personal Representative of the Wrongful Death of the Estate of Clifford R. Baumeister, deceased, and Linda Baumeister, individually, Plaintiffs, vs. Reginald P. Lemoine, et al., Defendants;* In the Fourth Judicial District Court of the State of New Mexico in and for the County of San Miguel; December 3, 2014; Deposition

- Cause No. 2013-CI-13011; *Trinette L. Washington, Sophia Renee Lenzy, Thomas Charles Lenzy, Individually, and as Representatives of the Estate of Mary L. Turner, Deceased vs. JBS Carriers, Inc. and James Lundry;* In the 37th District Court of Bexar County, Texas; October 21, 2014; Deposition

- Cause NO. 13-CV-0841; *J. William Soderman v. Toyota, et al.,* in the 212th Judicial District Court of Galveston County, Texas; August 20, 2014; Deposition

- Cause No. 2012-24284; *Marla Medina v. Alonso Chapa, Allstate Wrecker & Storage, and Alexander Leland Kohl;* In District Court; 61st Judicial District; Harris County, Texas; August 13, 2014; Deposition

- Cause No. 13CV1174; *Bryce G. Burton plaintiff, Major Thomas Burton Intervenor, Tana H. Burton Intervenor v. Jusden A. Kukowski, Jesse David Hartung D/B/A H&H Hauling, INC. Defendants, And H&H Hauling, INC.*; In The District Court of Galveston County, Texas 56th Judicial District; July 31, 2014; Deposition

001193

Cam Cope Expert Testimony

- Cause No. 2009CR4541; *State of Texas v. Eugene Malloy;* In the 379th Judicial District Court of Bexar County, Texas; May 28 & 29, 2014; Trial

- Cause No. 1:13-cv-00704-RM-KMT; *Leslie McDonald, individually and as a parent guardian of Kellen McDonald; and Kellen McDonald. A minor, by and through his parent and guardian Leslie McDonald v. Toyota Motor Corporation, a Japanese Corporation; Toyota Motor Sales U.S.A., INC., a California Corporation; and DOES 1-30, inclusive;* In The United States District Court For The District of Colorado; April 22, 2014; 2nd Deposition

- Civil Action NO. 2:12-CV-331; *Michael T. Rupert and Jacqueline C. Rupert, Husband and Wife, Plaintiffs, v. Ford Motor Company, Defendant, v. Steven B. Macon and Brayman Construction Corporation, Third Party Defendants.;* In The United States District Court For The Western District of Pennsylvania; April 9, 2014; Deposition

- Cause NO. D-1-GN-12-003587; *Travis Borthwick v. Central Texas Highway Constructors, L.L.C. and AECOM Technical Services, INC. F/K/A Earth Tech, INC*.; In the District Court of Travis County, Texas 419th Judicial District; February 26, 2014; Deposition

- Cause No. 1:13-cv-00704-RM-KMT; *Leslie McDonald, individually and as a parent guardian of Kellen McDonald; and Kellen McDonald. A minor, by and through his parent and guardian Leslie McDonald v. Toyota Motor Corporation, a Japanese Corporation; Toyota Motor Sales U.S.A., INC., a California Corporation; and DOES 1-30, inclusive;* In The United States District Court For The District of Colorado; February 3 & 4, 2014; Deposition

- Cause No. CV2012-005214; *Colin MacDiarmid II; Ian MacDiarmid; The Estate of Colin C. MacDiarmid v. Polaris Industries, INC. d/b/a Victory Motorcycles; Prescott Valley Motorcycles, L.L.C.; Arielle Miller; John Does I-V; Black Corporations I-V;* In the Superior Court of the State of Arizona In and For The County of Maricopa; January 13, 2014; Deposition

- Cause No. CV13-03-212; Carla Carter, *Individually and as Next Friend of Lillian Carter and Jerry Carter and as Administrator of the Estate of Mark Carter; Jackie Carter; and Tammie Carter v. Aubrey Dewayne Morris and Byrd Oilfield Service, LLC*; In the District Court, 271st Judicial District, Wise County, Texas; September 26, 2013; Deposition

- Cause No. 39699; *George Michael Reagor, George Markus Reagor, Marla Suzzane Reagor Flores and Amy Denece Reagor Turner Individually and as Independent Executer of The Estate of Brenda Sue Strickland Reagor v. Lone Star Transportation, LLC, G&S Escort/Pilot Car Service, Watson Pilot Car and Ricardo Nava Martinez*; In The District Court of Burnet County, Texas, 33rd District; September 18, 2013; Deposition

- Cause No. C-12-5260; *Stacey Lynn Fuller, et al. v. Ford Motor Company, et al.;* In the Circuit Court for Baltimore County, Maryland; June 19, 2013; Deposition

001194

001194

001194

Cam Cope Expert Testimony

- Cause No. N11C-09-170 JRJ; *Leo Caballero, ET AL v. Ford Motor Company, Michelin Americas Research & Development, Michelin NA, INC. and Michelin France*; In The Superior Court of The State of Delaware In and For New Castle County; March 27, 2013; Deposition

- Cause No. 2011-34582; *Isabel Benitez, Individually and as Representative of the Estate of Santos Armando Herrera vs. Noor Ali, ConocoPhillips Company, Fahad Corporation d/b/a Texaco Food Mart, Fahad Corporation, Aena Enterprises, Inc. d/b/a Texaco Food Mart, Aena Enterprises, Inc., Pak American Inc. d/b/a Best Food Market #5 and Rajwani Enterprises Inc. d/b/a Best Food Market #5*; In the 269th Judicial District Court of Harris County, TX; March 12, 2013; Deposition

- Cause No. 2012-12325; *Pei An Wu v. Jose Felix Santiago, Noubani Bo's Inc., Roadmaster Collision, Roadmaster Paint and Body, Roadmaster Towing SHML, Inc. and King Towing*; In the District Court of Harris County, Texas; February 5, 2013; Deposition

- Cause No. 09AO-CC00428 and 09AO-CC00429; *Julia Price-Allison, Ricky Allison and Lisa Campbell vs Christopher J. Beisley, et al*; In the Circuit Court for Jasper County, State of Missouri; January 22-23, 2013; Deposition

- 12185 Fugler Cause No. 2012-9116-CCL; *Kayla Fugler vs Christina Rice Sorenson*; In the District Court at Law in and for Harrison County, Texas; January 17, 2013; Deposition

- Cause No. CV-2011-900110; *Mickel D. Stange, Cindy Stange, Jonathan Goggins, Darlenna Goggins v. Ford Motor Company, McKinnon Motors, et al*; In the Circuit Court of Autauga County, AL; October 17-22, 2012; Trial

- Cause No. 11-03-02677-CR; *State of Texas vs Colt Jennings Gregg*; In the 435th District Court for Montgomery County, Texas; August 30, 2012; Trial

- Cause No. 6-1 6-11-cv-02063; *Charles Francis Kayser and Terri Kayser v Daniel Sullivan Elam Miller, and Motors Liquidation Company GUC Trust, f/k/a General Motors Corporation*; In the United States District Court for the Northern District of Iowa Eastern Division; July 13, 2012; Deposition

- Cause No. 2008 L 007574; *Martin Sostenes and Maria Antonia Lima Esteban, Individually and as Next Friends of Elehu Sostenes, minor child vs. Garcia's Car Repair, Inc*.; In the Circuit Court of Cook County, Illinois, County Department, Law Division; July 11, 2012; Deposition

- Cause No. 10-14240; *Carmen Casimiro, Individually, and as Legal Representative of, for and on behalf of the Estate of Alex Casimiro, Ashley Casimiro, and Alex Casimiro II v. Texas Instruments, Inc., Double Diamond, Inc., Nissan North America, Inc*.; In the District Court of Dallas County, TX, 101st Judicial District; June 19, 2012; Deposition

- Cause No. 2010-CF-4534; *State of Florida vs. Lawrence William Patterson III*; In the Circuit Court in and for Escambia County, Florida; May 10, 2012; Trial

001195

001195

001195

Cam Cope Expert Testimony

- Cause No. 10-CV-00373-MJP; *Pacific Sheet Metal, Inc., v. Ford Motor Company, a foreign corporation*; In the United States District Court Western District of Washington at Seattle; May 7, 2012; Trial

- Cause No. 09-07-19879; *Donna Jackson v. Quality Turf Farms, L.C.*; In the 506th Judicial District Court of Waller County, Texas; April 18, 2012; Deposition

- Cause No. 08-A-560422; *Jeffrey I. Pitegoff, as an individual; and as Special Administrator of the Estate of Dona R. Pitegoff, Deceased; and as Guardian ad Litem of Kianna Jordan Pitegoff, a minor, and Jaron Imrie Pitegoff, a minor vs. County of Clark, a political subdivision of the State of Nevada; G.C. Wallace, Inc., a Nevada Corporation; Does 1 through 30, inclusive*; In the District Court of Clark County, NV; January 30, 2012; Deposition

- Cause No. CV-2011-900110; *Mickel D. Stange, Cindy Stange, Jonathan Goggins, Darlenna Goggins v. Ford Motor Company, McKinnon Motors, et al*; In the Circuit Court of Autauga County, AL; January 5, 2012; Deposition

- Cause No. 022455; *Michelle Moreno v. John Hagler and Tamara Hagler, as parents and next friends of John Wesley Hagler, and Benjamin Moreno*; In the 259th Judicial District Court of Jones County, TX; December 20, 2011; Deposition

- Cause No. 2009-38356; *Forrest J. Vollentine and Virginia Jeanne Vollentine vs. Strong Industries, Inc., et al*; In the District Court of Harris County, Texas, 333rd Judicial District; December 13, 2011; Deposition (continued from November 11, 2011)

- Cause No. 2010-58480; *Sylvia Villareal, Individually and on behalf of the Estate of Isareal Villareal, Isareal Villareal, Jr., Lucy Navarro, as next friend for Evelyn A. Villareal, Tracy Espinoza as an interested third party and Brandon Briones vs. Ivonne N. Reyes*; In the District Court of Harris County, Texas, 129th Judicial District; December 5, 2011; Deposition

- Cause No. 2009-38356; *Forrest J. Vollentine and Virginia Jeanne Vollentine vs. Strong Industries, Inc., et al*; In the District Court of Harris County, Texas, 333rd Judicial District; November 11, 2011; Deposition

- Cause No. 2010-1199-3; *Christina Juhl vs Melvin Carraway and Wal-Mart Transportation, LLC*; In the District Court, 74th Judicial District, McLennan County, Texas; October 24, 2011; Deposition

- Cause No. CV47372; *James R. Black and Patricia Black, Individually and as Next Friend of Amber M. Black, Joshua D. Black and Caleb N. Black vs. Jack D. Kelley, Inc.; Specialty Trailer Leasing, Inc.; and City Machine & Welding, Inc.*; In the 238th Judicial District Court of Midland County, Texas; October 19, 2011; Deposition

- Cause No. 2:11-CR-26; *United States of America v Dane Taylor Clark*; In the United States District Court for the Northern District of Texas, Amarillo Division; September 2, 2011; Federal testimony

- Cause No. 2010-CF-4534; *State of Florida vs. Lawrence William Patterson III*; In the Circuit Court in and for Escambia County, Florida; August 16, 2011; Deposition

001196

001196

001196

Cam Cope Expert Testimony

- Cause No. 10-CV-00373-MJP; *Scottsdale Insurance Company as subrogee for Pacific Sheet Metal, Inc., v. Ford Motor Company, a foreign corporation*; In the United States District Court Western District of Washington at Seattle; July 11, 2011; Trial

- Cause No. A-09-CA-696SS; *Debbie Goodwill, Individually and on Behalf of the Estate of Larry Goodwill, Cody Goodwill, and Wendy Christian Plaintiffs, vs. United Parcel Service, Inc., Tire Centers, LLC d/b/a TCI, and The Goodyear Tire & Rubber Company*; In the United States District Court for the Western District of Texas, Austin Division; June 20, 2011; Trial

- *Robin Jantzen v Pizza Hut*; Harris County, TX; June 7, 2011; Trial

- *State of Texas vs. John Matthew Cone*; Harris County, TX; May 31-June 2, 2011; Trial

- Cause No. 2010-05456; *Virginia DeBoest as the Representative of the Estate of Arthur Williams, Jr., Deceased vs. Jorge Fonesca and AYG Construction, LTD*; in the 189th District County Court of Harris County, TX; April 28, 2011; Deposition

- Cause No. CV-2007-1263-JHE; *Patricia McDaniel Harkey, as personal representative of Margaret Gail Patrick, deceased vs. Ford Motor Company*; In the Circuit Court of Tuscaloosa County, Alabama; April 20-21, 2011; Trial

- Cause No. A-09-CA-696SS; *Debbie Goodwill, Individually and on Behalf of the Estate of Larry Goodwill, Cody Goodwill, and Wendy Christian Plaintiffs, vs. United Parcel Service, Inc., Tire Centers, LLC d/b/a TCI, and The Goodyear Tire & Rubber Company*; In the United States District Court for the Western District of Texas, Austin Division; April 7, 2011; Deposition

- Cause No. 10-CV-00373-MJP; *Scottsdale Insurance Company as subrogee for Pacific Sheet Metal, Inc., v. Ford Motor Company, a foreign corporation*; In the United States District Court Western District of Washington at Seattle; April 1, 2011; Deposition

- Cause No. 09-02-18315-CV; *Carolyn Mei Alwell and Wallace Alwell Jr., as Temporary Managing Conservators and Next Friends of Brent Haskell Doss, a Minor vs. Joe Tex, Inc., Joe Tex Express, Inc., and the Estate of Jimmy Carol Nichols, Deceased*; In the 82nd Judicial District Court of Brazos County, Texas; March 8, 2011; Deposition

- Cause No. 07C-06-105; *Azucena Gomez Ortega, et al; vs Yokohama Corporation of North America, Yokohama Tire Corporation, and Ford Motor Company*; In the Superior Court of the State of Delaware, In and For New Castle County; March 1, 2011; Deposition

- Cause No. CV-2007-24-I; *Michael Gartman, et al v. Ford Motor Company, et al*; In the Circuit Court of Hot Spring County, AR; January 5, 2011; Trial

- *Lozano vs. Progressive Insurance*; 157th Judicial District Court of Harris County, Texas; November 22, 2010; Trial

- Cause No. 07-C-2571-A; *James Richardson et al v. Ford Motor Company and Bordelon Motors, Inc.*; Fourth Judicial District Court for the Parish of Saint Landry, State of Louisiana; November 17-18, 2010; Trial

001197

001197

001197

AFSC Fee Schedule

Professional Services Hourly Rates

Initial Retainer Fees	
In-State	$3,000
Out of State	$5,000
Expert Witness Consultant Fees	$225
Deposition or Courtroom Testimony	$275
* Testimony fees are billed in eight hour increments	
Sr. Forensic and Sr. Technology Consultants	$175
Administrative Support Services	$75
Fire & Materials Research/Testing Laboratory	Upon Request
(includes thermal imaging, scanning electron microscope (SEM)	

001198

Equipment & Facility Charges

Internal Costs (fax, copying, telephone, office expenses) are billed at 5% of our Professional Services

Drone Aerial Photography Equipment Charge	$250
Crash Data Retrieval Analysis Equipment (Per Download)	$350
FARO 3D Digital Scanner Equipment Charge Per Location	$750
10G Tri-Axis Accelerometer Equipment (Per Inspection)	$350

001198

NOTES:

1. Cases with large cost projections may require additional retainer payments in addition to the initial retainer fee.
2. Expected costs associated with any testimony or reporting event may be pre-billed.
3. All invoices, including pre-billed costs, must be paid in full prior to any scheduled testimony event.
4. All invoices must be paid in full prior to shipping of any reports, exhibits, computer simulation files and/or computer animation products.
5. Travel Expenses, testing supplies and equipment billed 10% above costs.
6. Interest will be assessed at 18% annually on balances after 30 days from date of invoice.

We agree to the above Fee Schedule.

_____
Please Initial Above

7398 Teaswood Drive, Conroe, TX 77304
www.firesafetyconsultant.com
281.362.0930 l 281.362.1329 Fax

AFSC File: 2020

SHERWOOD EXPERTS 316

EXHIBIT 11

001199

001199

EXHIBIT 11

In the Matter Of:

A-17-757614-C

ESTATE OF BEN-KELY

vs

SPEED VEGAS, LLC, et al.

Deposition Of:

CAM COPE, B.S., CFII, CFEI, CVFR, CLI

March 17, 2021

001200

001200

envision
legal solutions
702-805-4800
scheduling@envision.legal

respect to how they initiated the fire -- the firefighting efforts?

A. Those I do because, number one, they didn't have fire-retardant suits on, which handicaps them from being able to get into the vehicle or closer to the vehicle to extract people from it, and they didn't have the proper firefighting equipment for a gasoline fuel-fed fire.

Q. Did you perform any analysis to compare the firefighting equipment available at SpeedVegas on the date of incident to other driving experience tracks throughout the country?

MR. SAMSON: Objection to form.

THE WITNESS: Just the common knowledge that I have had with regards to the fire industry for the past 30 years. In my fire school, when testing, we have to have trucks that have foam on them because the foam is the one agent that will reduce the fires or extinguish gasoline fuel-fed fires.

The basic fire extinguishers that you have that are either water or the small five-pounders are not adequate to extinguish

001201
001201

you've called him an experienced driver; is that --

MR. GUELKER: Object as to form. This is Gary Guelker.

MS. ANDREEVSKI: Join.

THE WITNESS: No. I don't know what his criteria is as far as his training or his ability to drive cars. I don't know.

BY MR. MURDOCK:

Q. Do you have any -- any criticisms of any efforts that he may have made to try and avoid this accident?

MR. GUELKER: Form.

MS. ANDREEVSKI: Join.

THE WITNESS: No.

BY MR. MURDOCK:

Q. Do you think that he should have provided Mr. Sherwood any different instructions through the straightaway leading into turn 1?

MR. GUELKER: Form.

MS. ANDREEVSKI: Join.

THE WITNESS: Yes. I think that he should have instructed Mr. Sherwood to a greater extent than what he did.

/ / /

001202
001202

001202

equipment in June 2016, where she recommended a hose and tank system at an overall cost of approximately $1,700.

Do you know what was included in that recommendation?

A. From what she said, I think, at her depo was that it included a possible different truck, a hose, and a tank to contain the water that they wanted to put onto the truck. So she had a list of what she was asking for in the deposition.

Q. And with respect to those items that she requested, would any of those -- had those features been purchased by SpeedVegas, would that have provided any firefighting -- strike that.

Would those -- had those modifications been made, would that have altered the outcome, in your opinion, in this case?

MR. SAMSON: Objection to form.

THE WITNESS: I think that it has the possibility of doing that. If you have the hose and you pull up there right beside it with the truck and now you're spraying water onto Mr. Sherwood as he's attempting to get out, and you have the fire suit on where you can go in and help

001203
001203

001203

him get out of that particular vehicle while somebody's spraying it down with water, I think that's a big benefit.

BY MR. MURDOCK:

Q. How long would an 80-gallon tank -- how much water -- duration-wise, how much time would that provide in fire suppression in a fire like this?

MR. SAMSON: Objection to form.

THE WITNESS: I don't know what that time frame would be. It's documented, I'm sure, with regards to fire trucks, so you'd have to pull that information up.

People water trees on the side of the road in Vegas and carry 80-gallon tanks on it. So I don't know how long. Sometimes it lasts a while. Sometimes it doesn't.

BY MR. MURDOCK:

Q. In your initial report from -- the same report you were just looking at, under Section 2.0, which is on page 3, you have a paragraph at the bottom there, the last full paragraph. You state that:

"Neither the driver nor instructor was equipped with a five-point harness

001204

001204

EXHIBIT 12

001205

001205

EXHIBIT 12

In the Matter Of:

A-17-757614-C

ESTATE OF BEN-KELY, et al.

vs

SPEED VEGAS, LLC, et al.

Transcript Of The Videotaped 30(b)(6) For:

SPEEDVEGAS

and

AARON FESSLER, INDIVIDUALLY

Volume I

December 10, 2019

001206

001206

envision
legal solutions
702-805-4800
scheduling@envision.legal

A. It was moved -- I don't know which compass direction, but it was moved.
Q. How far was it moved?
A. I don't know how to answer that question because it's not a straight line, nor was it moved a straight line. It's a curve that was moved further at some points than others.
Q. How far was the concrete wall to the racetrack prior to the time of the incident?
A. It was a varying distance away, but I would estimate approximately 60 feet.
Q. And how far was it moved away after the incident?
MR. SHUMACHER: Object to form.
Go ahead.
THE WITNESS: Again, I didn't get an A in Trigonometry, but it was a radius, and the far end of the radius was moved but some portions of the radius remained fixed. It's a contiguous wall.
BY MR. TRAINA:
Q. Why was it moved?
A. It was moved to make our coaches feel more comfortable about the environment.
Q. And what were they telling you that made them feel uncomfortable?

001207
001207

understand that that water pump that he recommended was different from the water pump that you eventually put in?

A. No, that's not correct.

Q. They were the same? He recommended to put a water pump in and you put that water pump in?

A. What I'm struggling with is your characterization of the sentence.

Q. What is wrong with my characterization of the sentence?

A. Well, one of the things that I learned from the OSHA reports is that there is a difficulty describing something in a relative size, like larger or smaller. So to OSHA, larger and smaller could mean something very specific.

And so I think it's very difficult for us to conclude from this sentence what Bob specifically meant by "larger fire." I don't know if this means a trash can or a vent storm fire.

Q. Wasn't SpeedVegas equipped to put out all kinds of fires?

A. No, of course not.

MR. HOLLADAY: Object to form.

THE WITNESS: Absolutely not.

/ / /

001208
001208

BY MR. TRAINA:

Q. There was never a representation that was made in any of the papers by SpeedVegas that they could put out all fires? You don't remember that?

A. Not to my knowledge at all.

In fact, my understanding working with Bob was that the fire and safety team was not qualified to put fires out. Their primary role was to secure the scene and to call for help.

Now, we equipped them with fire-extinguishing materials and trained them appropriately, but they are predominantly not a fire-fighting force. It was not a fire brigade. They're not firefighters.

Q. And who were they -- who taught them? Who trained them? Fire and safety, who trained them?

A. Who trained them on what?

Q. Who trained them on how to use any of the fire apparatuses, the extinguishers?

A. It generally would have been the lead fire and safety individual in this case, Jodi Zollin.

Q. So she was the one that trained everybody on her team?

A. Yes, they did.
Q. And they were unsuccessful; is that right?
A. Yes, that's correct.
Q. And do you know why they were unsuccessful?
A. I assume they were overwhelmed by the scale of the fire with the equipment they had on hand.
Q. You assume that or were you told that?
A. Well, perhaps both, but I think it's rather obvious.
Q. Well, what I want, whether it's obvious or not, I just want things that you were either told, things that you know. So if you're assuming, I don't want your assumption unless it has a basis.
You said they were overwhelmed by the fire; is that right?
A. That's my personal observation, yes.
Q. And how long was the fire -- after the fire started, did it take the fire department to get to the scene?
A. I believe it was about 11 minutes.
Q. And do you know what time the first call was made to the fire department?

001210
001210

EXHIBIT 13

001211

001211

EXHIBIT 13

From: Matt Denning <matt@speedvegas.com>
Sent: Saturday, February 11, 2017 6:56 PM
To: Darren Strahl
Subject: Fwd: CarAdvice: Lamborghini Aventador fuel tank recall: This could get expensive

Sent from my iPhone

Begin forwarded message:

From: Jim Miller <quais64@me.com>
Date: February 11, 2017 at 9:47:49 AM PST
To: matt@speedvegas.com
Subject: CarAdvice: Lamborghini Aventador fuel tank recall: This could get expensive

Lamborghini Aventador fuel tank recall: This could get expensive
CarAdvice

A significant and hugely expensive assortment of Lamborghini Aventador models have been recalled, due to a potential fire risk stemming from the exotic cars' fuel tank. Affecting 2012 to 2017 model year Lamborghini Aventador Coupes and Roadsters, the recall relates to fuel possibly reaching the vehicle's carbon canister, if the fuel tank is overfilled and "particular handling conditions" occur. According to the official recall notice on the Australian Competition and Consumer Commission's (ACCC) Read the full story

Shared from Apple News

Jim
Sent from my iPad

001212

001212

EXHIBIT
5 - Denning - 10.21.2020
exhibitsticker.com

Exhibit 2

001212

EXHIBIT 14

001213

001213

EXHIBIT 14

DISTRICT COURT
CLARK COUNTY, NEVADA

ESTATE OF GIL BEN-KELY by ANTONELLA BEN-KELY, the duly appointed representative of the ESTATE and as the widow and heir of Decedent GIL BEN-KELY; SHON BEN-KELY, son and heir of decedent GIL BEN-KELY; NATHALIE BEN-KELY SCOTT, daughter and heir of the decedent GIL BEN-KELY, GWENDOLYN WARD, as Personal Representative of the ESTATE OF CRAIG SHERWOOD, Deceased; GWENDOLYN WARD, Individually, and as surviving spouse of CRAIG SHERWOOD, Deceased; GWENDOLYN WARD, as mother and natural guardian of ZANE SHERWOOD, surviving minor child of CRAIG SHERWOOD, Deceased,

Plaintiffs,

vs.

SPEEDVEGAS, LLC, a Delaware limited liability company; SCOTT GRAGSON, WORLD CLASS DRIVING, an unknown entity SLOAN VENTURES 90, LLC, a Nevada limited liability company, ROBERT BARNARD; MOTORSPORTS SERVICES INTERNATIONAL, LLC, a North Carolina limited liability company; AARON FESSLER; the ESTATE OF CRAIG SHERWOOD; AUTOMOBILI LAMBORGHINI AMERICA, LLC, a foreign limited liability company; FELICE J. FIORE, JR.; DOES I-X, inclusive; and ROE CORPORATIONS I-X, inclusive,

Defendants.

Case No.: A-17-757614-C
Dept. No.: XXVII

VIDEOTAPED DEPOSITION
OF

DARREN STRAHL

TAKEN ON:

FEBRUARY 18, 2020

JOB #4004

001214

001214

GWENDOLYN WARD, as Personal Representative of the ESTATE OF CRAIG SHERWOOD, Deceased; GWENDOLYN WARD, Individually, and as surviving spouse of CRAIG SHERWOOD; Deceased; GWENDOLYN WARD, as Mother and Natural Guardian of ZANE SHERWOOD, surviving minor child of CRAIG SHERWOOD, Deceased,

Crossclaim Plaintiffs,

vs.

ESTATE OF GIL BEN-KELY by ANTONELLA BEN-KELY, the duly appointed representative of the ESTATE; DOES I-X, inclusive; and ROE CORPORATIONS I-X, inclusive,

Crossclaim Defendants.

ESTATE OF GIL BEN-KELY by ANTONELLA BEN-KELY, duly appointed representative of the ESTATE and widow and heir of decedent GIL BEN-KELY; SHON BEN-KELY, son and heir of decedent GIL BEN-KELY; NATHALIE BEN-KELY SCOTT, daughter and heir of decedent GIL BEN-KELY,

Crossclaim Plaintiffs,

vs.

ESTATE OF CRAIG SHERWOOD; DOES I-X, inclusive; and ROE CORPORATIONS I-X, inclusive,

Crossclaim Defendants.

001215

001215

001215

them from the bottom up, right?
Do you see that?
A. Yes.
Q. So the first email is from Jim Miller.
Do you know who Jim Miller was?
A. Yes. He was a coach with us.
Q. He was a coach that worked at SpeedVegas?
A. Yes.
Q. And you were in charge of him?
A. Yes, I oversaw coaches.
Q. And this is dated February 11th, 2017.
Do you see that?
A. Mm-hmm.
Q. You understand that I believe at this point in time that the reason that we're here is the result of a February 12th, 2017, incident in which Craig Sherwood lost his life?
A. Yes.
Q. That would be the next day; isn't that right?
A. That would be correct.
Q. And there's an email and it goes to matt@speedvegas.com.
Do you know who Matt is?
A. Yes.

001216

001216

Q. Who is Matt?
A. Matt was our general manager.
Q. So we have an email that is coming from an instructor that is now going to the general manager at SpeedVegas, Matt; is that true?
A. Mm-hmm.
Q. And you'll see it's at 9:47 and looks like 49 seconds a.m.
Do you see that?
A. Yes.
Q. That would be in the morning, wouldn't it?
A. Yes.
Q. And it says here, "Subject: Car advice. Lamborghini Aventador fuel tank recall. This could get expensive."
Do you see that?
A. Yes.
Q. It goes on to say, "Lamborghini Aventador fuel tank credit. This could get expensive. Car advice on this."
Now, you would agree with me that this is an email and it's an email that actually was produced to us in this litigation.
A. Mm-hmm.

001217

001217

Q. You understand that, right?
A. Yes.
Q. You also understand as you're sitting here that this is an email that deals with knowledge and events that took place on the day before my clients' husband and father was killed.
You understand that, right?
A. Yes.
Q. And you understand that it is dealing with the subject of a recall of the Lamborghini Aventador; isn't that true?
A. That's correct.
Q. And you sat here and told me an hour, hour and a half ago, that if you had known about this issue, you would have yanked this car off the track for safety reasons; isn't that true?
A. Yes.
Q. And you also would have done it because your fire and safety were ill-equipped to handle a vehicle fire; isn't that true?
A. Yes.
Q. And you feel strongly about that because you're concerned with safety; isn't that true?
A. Yes.
Q. And do you also believe that Jim Miller,

001218

001218

CERTIFICATE OF REPORTER

STATE OF NEVADA)
) SS:
COUNTY OF CLARK)

I, Monice K. Campbell, a duly commissioned and licensed court reporter, Clark County, State of Nevada, do hereby certify: That I reported the taking of the deposition of the witness, Darren Strahl, commencing on Tuesday, February 18, 2020, at 10:10 a.m.;

That prior to being examined, the witness was, by me, duly sworn to testify to the truth. That I thereafter transcribed my said shorthand notes into typewriting and that the typewritten transcript of said deposition is a complete, true, and accurate transcription of said shorthand notes.

I further certify that I am not a relative or employee of an attorney or counsel or any of the parties, nor a relative or employee of an attorney or counsel involved in said action, nor a person financially interested in the action; that a request ([X] has not) been made to review the transcript.

001219

001219

IN WITNESS THEREOF, I have hereunto set my hand in my office in the County of Clark, State of Nevada, this 25th day of February, 2020.

Monice K. Campbell, CCR No. 312

001220

001220

EXHIBIT 15

001221

001221

EXHIBIT 15

EIGHTH JUDICIAL DISTRICT COURT

CLARK COUNTY, NEVADA

ESTATE OF GIL BEN-KELY by ANTONELLA BEN-KELY as the duly appointed representative of the Estate and as the widow and heir of Decedent GIL BEN-KELY; SHON BEN-KELY, son and heir of Decedent GIL BEN-KELY; NATHALIE BEN-KELY SCOTT, daughter and heir of the Decedent GIL BEN-KELY, GWENDOLYN WARD, as Personal Representative of the ESTATE OF CRAIG SHERWOOD, deceased; GWENDOLYN WARD, individually and as surviving spouse of CRAIG SHERWOOD; GWENDOLYN WARD, as mother and natural guardian of ZANE SHERWOOD, surviving minor child of CRAIG SHERWOOD,	Case No.: A-17-757614-C
Plaintiffs,	Dept. No.: XXVII

VIDEOCONFERENCE VIDEOTAPED DEPOSITION OF

CHARLES MATTHEW DENNING

LAS VEGAS, NEVADA

WEDNESDAY, OCTOBER 21, 2020

Reported by: Monice K. Campbell, NV CCR No. 312

Job No.: 4874

001222

001222

vs.)
)
SPEEDVEGAS, LLC, a foreign-)
limited liability company;)
VULCAN MOTOR CLUB, LLC dba)
WORLD CLASS DRIVING, a New)
Jersey limited liability)
company; SLOAN VENTURES 90,)
LLC, a Nevada limited)
liability company; MOTORSPORT)
SERVICES INTERNATIONAL, LLC,)
a North Carolina limited)
liability company; AARON)
FESSLER, an individual; the)
ESTATE OF CRAIG SHERWOOD and)
AUTOMOBILI LAMBORGHINI)
AMERICA, LLC, a foreign)
limited liability company;)
TOM MIZZONE, an individual)
SCOTT GRAGSON, an)
individual; PHIL FIORE aka)
FELICE FIORE, an individual;)
DOES I-X; and ROE ENTITIES)
I-X, inclusive,)
)
)
Defendants.)
_____)
)
AND ALL RELATED CLAIMS)
_____)

A. He was employed. I don't know if he was working that day.

Q. I'm sorry. Thank you. That's -- I meant was he employed by SpeedVegas at that time.

A. Yes.

MR. HOLLADAY: And would you pull what we uploaded as document 4, and let's mark that as Exhibit 5 to Mr. Denning's deposition.

(Exhibit Number 5 was marked.)

BY MR. HOLLADAY:

Q. Mr. Denning, do you know how long Mr. Miller worked at SpeedVegas?

A. No, I don't know.

Q. And did you have any relationship with Mr. Miller outside SpeedVegas? Were you guys friends who saw each outside the office, or was it just a professional relationship there at SpeedVegas?

A. Oh, no. I saw him a couple of times outside of work.

Q. Okay. So you guys -- you didn't just -- did you consider yourself just colleagues or colleagues and friends?

A. I would say friends, yeah, absolutely.

Q. So taking a look at Exhibit 5, do you

001224

001224

remember receiving an email -- this email from Mr. Miller?

A. Yes. Because I remember talking about it with Darren.

Q. Okay. So it indicates, looking on the lower half of Exhibit 5, that Mr. Miller sent you this email Saturday morning, February 11th, 2017, at 9:47 a.m.; is that right?

A. Yeah, that sounds right.

Q. Okay. And I know there is no way you could remember how quickly you looked at it or saw it, but do you believe you were regularly checking your emails during the day while you were at work on February 11th?

A. Regularly? That's a little vague. What's "regularly"?

Q. Well, you told me you were anal. You described to me how often you would check your emails on a typical day.

A. Yeah. Usually if it looked like it was important -- see, this looks like a personal email to me, so I probably would have just touched it to open it, just because I recognize his email. That just looks personal to me.

So I can't imagine I would have read it

001225

001225

remember calling him.

Q. It looks like now, looking at the top of the Exhibit 5, that at 6:56 that night, Saturday night, February 11, 2017, you forwarded Mr. Miller's email attaching the CarAdvice story to Mr. Strahl.

Do you see that?

A. Oh, yeah. Yes. That -- I mean, as I'm looking at it, that's certainly something that I would do. Any recalls involving our cars that we have on the track, we -- yeah, I would certainly send it to Darren.

Q. Okay. And it looks like you sent it to him on Saturday the 11th; is that right?

A. Yeah. See, that would be my guess, is that I was able to read it in the evening after work. Because I know at this time in February, it's dark already. I'm probably home. I definitely would have sent this to him for sure.

Q. And did you talk to him that night?

A. I can't remember.

Q. Well, tell me what you do remember about whatever conversation you did have with Mr. Strahl about this. Because it looks like you must have brought it to his attention, given this email.

001226

001226

CERTIFICATE OF REPORTER

STATE OF NEVADA)
) SS:
COUNTY OF CLARK)

I, Monice K. Campbell, a duly commissioned and licensed court reporter, Clark County, State of Nevada, do hereby certify: That I reported the taking of the deposition of the witness, CHARLES MATTHEW DENNING, commencing on WEDNESDAY, October 21, 2020, at 10:00 o'clock a.m.;

That prior to being examined, the witness was, by me, duly sworn to testify to the truth. That I thereafter transcribed my said shorthand notes into typewriting and that the typewritten transcript of said deposition is a complete, true, and accurate transcription of said shorthand notes.

I further certify that I am not a relative or employee of an attorney or counsel or any of the parties, nor a relative or employee of an attorney or counsel involved in said action, nor a person financially interested in the action; that a request ([X] has not) been made to review the transcript.

001227

001227

IN WITNESS THEREOF, I have hereunto set my hand in my office in the County of Clark, State of Nevada, this 24th day of October, 2020.

Monice K. Campbell, CCR No. 312

001228

001228

EXHIBIT 16

001229

001229

EXHIBIT 16

EIGHTH JUDICIAL DISTRICT COURT
CLARK COUNTY, NEVADA

ESTATE OF GIL BEN-KELY by ANTONELLA BEN-KELY as the duly appointed representative of the Estate and as the widow and heir of Decedent GIL BEN-KELY; SHON BEN-KELY, son and heir of Decedent GIL BEN-KELY; NATHALIE BEN-KELY SCOTT, daughter and heir of the Decedent GIL BEN-KELY; GWENDOLYN WARD, as Personal Representative of the ESTATE OF CRAIG SHERWOOD, deceased; GWENDOLYN WARD, individually and as surviving spouse of CRAIG SHERWOOD; GWENDOLYN WARD, as mother and natural guardian of ZANE SHERWOOD, surviving minor child of CRAIG SHERWOOD, Plaintiffs,	Case No. A-17-757614-C Dept. No. XXVII

REMOTE VIDEOTAPED ZOOM DEPOSITION OF: MARTYN THAKE

APRIL 7, 2021

9:09 A.M.

Reporter: Vickie Larsen, CCR/RMR
Utah License No. 109887-7801
Nevada License No. 966
Notary Public in and for the State of Utah

001230
001230

001230

vs.)
)
SPEEDVEGAS, LLC, a foreign-)
limited liability company;)
VULCAN MOTOR CLUB, LLC, dba)
WORLD CLASS DRIVING, a New)
Jersey limited liability)
company; SLOAN VENTURES 90,)
LLC, a Nevada limited)
liability company; MOTORSPORT)
SERVICES INTERNATIONAL, LLC,)
a North Carolina limited)
liability company; AARON)
FESSLER, an individual; the)
ESTATE OF CRAIG SHERWOOD and)
AUTOMOBILI LAMBORGHINI)
AMERICA, LLC, a foreign)
limited liability company;)
TOM MIZZONE, an individual;)
SCOTT CRAGSON, an individual;)
PHIL FIORE aka FELICE FIORE,)
an individual; DOES I-X; and)
ROE ENTITIES I-X, inclusive,)
)
)
Defendants.)
)
)
AND ALL RELATED CLAIMS)
)

001231

001231

A. No. If it's not in the notes you have, then it didn't happen.

Q. In your opinion, what would be the appropriate distance the concrete barrier wall should have been from turn two?

A. Well, that depends upon the speed, but, again, we're going back to the basic start of the design process is what shape is it of the real estate.

I can tell you that there's an advertising billboard that's right behind that wall, between the wall and the property line, and I would have ensured -- or I would have expected and told and instructed the client to remove the billboard and put the barrier wall further away.

The basic tenet is the wall needs to be -- not the wall -- the barrier needs to be as far away from a track surface as you can possibly get it, and it was not in this case.

Q. Your design would be based on simulations you would typically run to see how the track performs; right?

A. If I was designing it, yes.

MR. MURDOCK: Let's take a quick break here, another five minutes. And I know it seems like I'm moving on, I know, Bill, you're wanting us to

001232
001232

A. Let me just clarify something for you. When we're talking about turns on a track, it's turn two, driver's right and driver's left, because there's walls on both sides.

Q. Okay.

A. So if you want to get specific, it's driver's right wall or driver's left wall.

Q. Gotcha. The driver's right wall past turn two. You with me there?

A. I am.

Q. So the location -- I'm going to say the general location of this accident. If we use that, is that --

A. Okay.

Q. Okay. So you have a criticism with respect to that wall in that you say it's too close to the track; right?

A. Yes.

Q. How -- and, again, do you know the distance that wall was located from track center? From lane center?

A. No, I do not.

Q. Do you know the distance -- what's your opinion on what the appropriate distance that wall should be placed from line at track center?

001233
001233

The barrier needs to be as far away from the track as physically possible, and if you can't get it that far away because of restrictions on property line or drainage ditches or anything else, then you need to modify the design of the corner to accept the restrictions that you're limited by.

Q. But as you sit here, you do not have a -- a numerical distance. You're just going to say as far as possible; is that correct?

A. That's correct.

Q. Do you have any other criticisms of the barrier wall driver right past turn two -- at turn two?

A. The concrete? No.

Q. So the design, the height of it, the construction of it, you have no --

A. I don't know what the construction of it was. Obviously it cracked when it got hit, so it probably wasn't done right.

But I don't know what the spec was. I mean, there's a spec that I use on concrete, but I don't know what the spec was for that wall. However, it did crack all the way through. But obviously there's rebar inside it because it didn't break, so it did its job, but -- but I don't know what their spec

was, so...

Q. Right. So absent having the spec, you may not like the idea that the wall cracked, but you would have to have the spec in order to determine if the wall was improperly built; true?

A. Correct.

Q. So I think you said it before, you have a -- you have a criticism of the location of the wall, but not the construction of it; is that correct?

A. Yes.

Q. How about with respect to the tire barrier? What's your -- what's your opinion on the tire barrier along the wall driver right past turn two?

A. It was -- it was inefficient and ineffective. It appeared to be made from used tires, probably from the track cars, and -- and wasn't -- didn't -- in the photographs that I saw of the incident and when I drove past it, did not appear to be connected in the correct manner to prevent penetration.

Q. Okay. Hold on one second. I don't know if you guys --

A. Also from my -- from reading the police report and looking at the photographs.

Q. Do you know as you sit here the tire diameter, the -- what the range might have been of the tires that were stacked along turn two driver right?
A. No, but they were varied. I mean, you can see from the photographs that there were various sizes being used.
Q. Is it your opinion industry standard would be all the same size or varied sizes okay?
A. You can vary sizes. Industry standard, you can vary sizes, but you don't vary the size in the same stack.
Q. Okay. Do you know if the sizes were varied amongst -- in each stack? Do you know?
A. I don't, but I mean, if you -- if you examine the photographs, you can see that they were tires of various different sizes, they had different tread patterns. Some -- they were all highway patterns. They were mainly low profile.
Some were worn down to slicks. Some were more noticeable than others. There were some slicks in the mix. When I say "slick," that's no tread pattern. And they were not bolted, they were banded.
Q. Now, when you say "industry standard," what are you referring to?
A. I'm referring to the standard within the

001236
001236

industry for tire pallets -- tire barriers at tracks.
Q. What type of tracks?
A. Any track.
Q. Any track?
A. Any track.
Q. Okay. Is there -- is there somewhere you can point me to where there's a publication that says experience tracks must comply with whatever standard you're referring to? Is there any --
A. No.
Q. -- any publication?
A. Not that I'm aware of.
Q. When you say "industry standard," are you referring to FIA standards?
A. The FI- -- the FIA has a standard. It's really only -- the FIA standard is really only there for Formula One races. That's what they -- they put their standards out for.
But industry standard as far as -- as far as whether it's tracks that are not Formula One -- your designer should have known what industry standard was for tire barriers, and that was not it what they had.
Q. Who did you say? I'm sorry.
A. The track designer should have known what

001237
001237

stacked in each bundle?

A. Between four and six tires high, no, I have no issue with that.

Q. You also take issue with the fact that they're strapped together as opposed to bolted; correct?

A. I do.

Q. You agree with me that there's no studies you're aware of that have evaluated the performance of tires that are bolted versus strapped together; is that correct?

A. Official funded studies, none that I'm aware of. But anyone that's been around this business for any period of time will tell you what will happen when a -- when tire barriers made like this are hit. So it's not -- it's not like we refer to the book.

Q. Now, sir, I -- and I know you're critical of the tire stacking, tire usage placement of the wall. We've talked about that, and I'm going to touch on it a little bit more.

But you've also testified you're not offering opinions in accident reconstruction; correct?

A. Correct.

Q. And so while you're critical of the types of tires and the stacking and the configuration,

001238
001238

and bolted versus strapped; correct?

A. I would say that any competent racetrack designer would know that.

Q. I understand that. But what I'm trying to get at is you have no opinion that that would have impacted the result of this accident at all?

A. Oh, most definitely would have done, yeah.

Q. I'm sorry?

A. Most definitely it would have changed the result.

Q. Okay. And what's your opinion of how it would have changed the result?

A. If the tires had been properly constructed then the -- then the car may, A, may not have reached the wall, or B, may have reached it slower.

It's a -- it's an initial energy absorbing system. And there are -- there are several very, very expensive alternates to tires that are out there on the market that are used in -- by different racing series.

To my knowledge, the -- all the engineering that's been done on -- on the effectiveness of -- effectiveness of tire barriers

001239
001239

Reporter's Certificate

State of Nevada)
County of Clark)

I, Vickie Larsen, Certified Shorthand Reporter and Registered Merit Reporter, in the State of Nevada, do hereby certify:

THAT the foregoing proceedings were taken before me at the time and place set forth herein; that the witness was duly sworn to tell the truth, the whole truth, and nothing but the truth; and that the proceedings were taken down by me in shorthand and thereafter transcribed into typewriting under my direction and supervision;

THAT the foregoing pages contain a true and correct transcription of my said shorthand notes so taken.

IN WITNESS WHEREOF, I have subscribed my name this 19th day of April, 2021.

Vickie Larsen, CCR/RMR
Utah License No. 109887-7801
Nevada License No. 966

001240

001240

13

WILLIAM R. BRENSKE, ESQ.
Nevada Bar No. 1806
JENNIFER R. ANDREEVSKI, ESQ.
Nevada Bar No. 9095
RYAN D. KRAMETBAUER, ESQ.
Nevada Bar No. 12800
BRENSKE ANDREEVSKI & KRAMETBAUER
3800 Howard Hughes Parkway, Suite 500
Las Vegas, NV 89169
Telephone: (702) 385-3300, Facsimile: (702) 385-3823
Email: bak@baklawlv.com
Attorneys for Ben-Kely Plaintiffs,
Ben-Kely Cross-Claimants, and
Ben-Kely Counterclaimants

EIGHTH JUDICIAL DISTRICT COURT
CLARK COUNTY, NEVADA

ESTATE OF GIL BEN-KELY by ANTONELLA BEN-KELY as the duly appointed representative of the Estate and as the widow and heir of Decedent GIL BEN-KELY; SHON BEN-KELY, son and heir of decedent GIL BEN-KELY; NATHALIE BEN-KELY-SCOTT, daughter and heir of the decedent GIL BEN-KELY,

Plaintiffs,

v.

SPEEDVEGAS, LLC, a foreign-limited liability company; VULCAN MOTOR CLUB, LLC d/b/a WORLD CLASS DRIVING, a New Jersey Limited Liability Company; SLOAN VENTURES 90, LLC, a Nevada limited liability company; MOTORSPORT SERVICES INTERNATIONAL, LLC, a North Carolina limited liability company; AARON FESSLER, an individual; the ESTATE OF CRAIG SHERWOOD; AUTOMOBILI LAMBORGHINI AMERICA, LLC, a foreign-limited liability company; TOM MIZZONE, an individual; SCOTT GRAGSON, an individual; PHIL FIORE aka FELICE FIORE, an individual; DOES I-X; and ROE ENTITIES XI-XX, inclusive,

Defendants.

AND ALL RELATED CLAIMS HERE AND IN THE CONSOLIDATED ACTION.

Case No.: A-17-757614-C
Dept. No.: XXVII

Consolidated with:
Case No.: A-18-779648-C

THE BEN-KELY PLAINITFFS' OPPOSITION TO THE MOTION FOR SUMMARY JUDGMENT, OR, IN THE ALTERNATIVE PARTIAL SUMMARY JUDGMENT, AS TO DEFENDANT FELICE J. FIORE, JR., AGAINST PLAINTIFFS ESTATE OF GIL BEN-KELY, ANTONELLA BEN-KELY, SHON BEN-KELY, and NATHALIE BEN-KELY SCOTT

001241

001241

The Ben-Kely Plaintiffs, by and through their attorneys of record, Brenske Andreevski & Krametbauer, hereby oppose the Motion for Summary Judgment, or, in the alternative, Motion for Partial Summary Judgment, as to Defendant Felice J. Fiore, Jr., against Plaintiffs Estate of Gil Ben-Kely, Antonella Ben-Kely, Shon Ben-Kely, and Nathalie Ben-Kely Scott. This Opposition is based on the pleadings and papers on file herein, the attached Memorandum of Points and Authorities, and any oral argument this Court may wish to entertain.

DATED this 3rd day of June 2021.

WILLIAM R. BRENSKE, ESQ.
Nevada Bar No. 1806
JENNIFER R. ANDREEVSKI, ESQ.
Nevada Bar No. 9095
RYAN D. KRAMETBAUER, ESQ.
Nevada Bar No. 12800
BRENSKE ANDREEVSKI & KRAMETBAUER
3800 Howard Hughes Parkway, Suite 500
Las Vegas, NV 89169
Telephone: (702) 385-3300
Facsimile: (702) 385-3823
Email: bak@baklawlv.com
Attorneys for Plaintiffs

Brenske Andreevski & Krametbauer
3800 Howard Hughes Parkway, Suite 500
Las Vegas, Nevada 89169
(702) 385-3300 · Fax (702) 385-3823

001242

001242

DECLARATION OF WILLIAM R. BRENSKE

I, William R. Brenske, declare as follows:

1. I am an attorney of record for the Ben-Kely Plaintiffs. Unless otherwise stated, I have personal knowledge of the facts set forth in this declaration.

001242

2. Attached to this pleading as Exhibit "1" is a true and correct copy of the Commercial Lease Agreement between Phil Fiore and Speed Vegas.

3. Further this affiant saith naught.

DATED this 3rd day of June, 2021.

WILLIAM R. BRENSKE, ESQ.

Subscribe and sworn to before me this 3rd day of June, 2021.

NOTARY PUBLIC in and for County of Clark, State of Nevada.

AMANDA M. DOUGHTY
Notary Public State of Nevada
No. 17-2794-1
My Appt. Exp. June 20, 2021

Brenske Andreevski & Krametbauer
3800 Howard Hughes Parkway, Suite 500
Las Vegas, Nevada 89169
(702) 385-3300 · Fax (702) 385-3823

MEMORANDUM OF POINTS AND AUTHORITIES

I. INTRODUCTION

As a preliminary matter, it must be noted Mr. Fiore filed a Motion for Summary Judgment against the Sherwood Plaintiffs that was substantially similar to the motion he filed against the Ben-Kely Plaintiffs. The Ben-Kely Plaintiffs hereby adopt by reference the Sherwood Plaintiff's opposition to that motion and incorporate the Sherwood arguments as though fully set forth herein.

That said, on January 15, 2017, Defendant Felice J. Fiore, Jr., entered into a fifteen (15) month Commercial Lease Agreement with Speed Vegas in Las Vegas, Nevada for his 2015 Lamborghini Aventador. (Commercial Lease Agreement, Exhibit "1"). Mr. Fiore had purchased the vehicle on November 1, 2015, and he upgraded the steering wheel, put in carbon paddle shifts, and had it wrapped in vinyl before he leased it to Speed Vegas. (Deposition of Phil Fiore at 58:19-61:15, Exhibit "2"). It was his dream car. Id. Unfortunately, Mr. Fiore lost his job, so he attempted to turn his loss into a financial gain by leasing out his Lamborghini Aventador.

Significantly, the lease was not an ordinary lease. Mr. Fiore did not just lease his Lamborghini to Speed Vegas for a sum-certain each month. Instead, under the lease, Mr. Fiore was entitled to $3,000.00 per month *plus* fifty percent (50%) of the total sales earned by Speed Vegas each month (after deducting the cost of tires, repairs, and maintenance expenses). (*See*, Exhibit "1"). The lease further guaranteed Mr. Fiore would receive at least $6,000.00 per month when combining the sums noted above. (Exhibit "1"). Mr. Fiore was entitled to a monthly statement reflecting the revenue activity on the vehicle and the expenses paid by Speed Vegas to maintain it. (Exhibit "1"). Although the lease had a purchase option and continued month-to-month after the initial fifteen-month period expired, Speed Vegas was required to return the vehicle in good condition at the termination of the lease. (Exhibit "1").

If Speed Vegas wanted to make any alterations to the vehicle, or install any additional equipment, it was required to obtain Mr. Fiore's prior written consent. (Exhibit "1"). Mr. Fiore also explicitly retained titled to the vehicle during the period of the lease. (Exhibit "1").

Unfortunately, approximately one month after Mr. Fiore and Speed Vegas entered into the lease, it was involved in a fatal one-car automobile collision on the Speed Vegas racetrack. Specifically, as Craig Sherwood was driving around the track with Mr. Ben-Kely as his passenger/coach on February 12, 2017, the Lamborghini crashed into the wall and burst into flames. Both men were killed and the Lamborghini was totaled.

II. LEGAL ARGUMENT

A party moving for summary judgment has the initial burden to demonstrate no genuine issue of material fact exists and they are entitled to judgment as a matter of law. Cuzze v. University and Community College System of Nevada, 123 Nev. 598, 602 (2007). If such a showing is made, the party opposing summary judgment must show a genuine issue of material fact exists. Id. A factual dispute is genuine when a rational trier of fact could return a verdict in

Brenske Andreevski & Krametbauer
3800 Howard Hughes Parkway, Suite 500
Las Vegas, Nevada 89169
(702) 385-3300 · Fax (702) 385-3823

001244

001244

favor of the nonmoving party and all facts must be construed in a light most favorable to the non-moving party. Wood v. Safeway, 121 Nev. 724, 732 (2005). Here, genuine issues of material fact exist that would preclude granting summary judgment in favor of Felice J. Fiore, Jr.. Specifically, there is a genuine issue of material fact as to whether Mr. Fiore put the vehicle into the stream of commerce such that he can be classified as a "seller." As such, Mr. Fiore's motion should be denied.

As a preliminary matter, it must be noted the Ben-Kely Plaintiffs intend to abandon their negligence claims against Mr. Fiore. That said, they do not abandon their product liability claims and fully expect to obtain a judgment against Mr. Fiore for their product liability claim.

In Nevada, "a seller or manufacturer of the faulty product" may be held liable for a product liability claim. *See*, Schueler v. Ad Art, Inc., 136 Nev. Adv. Op. 52, 472 P.3d 686, 695 (2020). In addition, Nevada follows the Restatement, section 402A, which provides: "One who sells any product in a defective condition unreasonably dangerous to the user … is subject to liability for physical harm caused to the ultimate user … if the seller is engaged in the business of selling such a product and it is expected to … reach the user … without substantial changes. Id. at f.n. 5.

Although there is no case on point in Nevada, the Supreme Court of Wisconsin considered a similar issue in Kemp v. Miller. There, the plaintiffs were driving a Budget Rent-a-Car when they heard a loud noise. The driver applied the brakes and the car fishtailed before hitting a bridge abutment and spinning around to face east in the westbound lane. After the occupants exited the vehicle, the rental car was struck by a semitruck. Kemp v. Miller, 154 Wis. 2d 538, 546 (1990). As the car was being towed from the scene, the tow truck operator told the occupants the right front tie rod on the car was broken. Id. The occupants sued Budget Rent-a-Car for product liability. Budget filed a motion for summary judgment arguing it was not a manufacturer or seller of the car. The Supreme Court of Wisconsin analyzed the public policy behind the Restatement 2d

Brenske Andreevski & Krametbauer
3800 Howard Hughes Parkway, Suite 500
Las Vegas, Nevada 89169
(702) 385-3300 · Fax (702) 385-3823

001245

001245

of Torts, sec. 402A, and product liability law, and determined the "policy considerations which justify the imposition of strict liability on sellers and manufacturers apply to those who are engaged in the business of leasing products to the consuming public." Id. at 554. This is because "persons in the business of leasing continually introduce potentially dangerous instrumentalities into the stream of commerce." Id. at 555. The same rationale should be applied in this case.

Defendant, Felice J. Fiore, Jr. (aka Phil Fiore), attached numerous irrelevant cases to his motion with the argument that he was a one-time lessor of a vehicle who cannot be held responsible for Mr. Ben-Kely's death under the theory of product liability. He alleges he is not a "seller." Mr. Fiore is mistaken. As noted above, Mr. Fiore entered into a commercial lease with Speed Vegas and was entitled to a percentage of the proceeds every time a Speed Vegas patron paid to drive his vehicle around the Speed Vegas racetrack. The commercial lease creates a question of fact as to whether Fiore effectively engaged in the business (together with Speed Vegas) of selling his Lamborghini for use by consumers on the Speed Vegas track.

In this case, Mr. Fiore put a defective product into the stream of commerce and expected to make money every single time his car was driven around the Speed Vegas track. He did not simply transfer the vehicle to Speed Vegas in a one-time transaction; he expected revenue and retained the right to approve or deny any changes Speed Vegas may have wanted to make to the vehicle. (Exhibit '1").

Defendant has cited numerous examples of "sellers" who cannot be held liable under the theory of strict product liability – such as a person who sold their prefabricated home which was subsequently sold to somebody else who got injured or a housewife selling a jar of jam. Neither example is similar. Here, Mr. Fiore not only leased his vehicle to Speed Vegas, but he entered into a profit-sharing agreement whereby the more his car was used, the more money he would make.

Brenske Andreevski & Krametbauer
3800 Howard Hughes Parkway, Suite 500
Las Vegas, Nevada 89169
(702) 385-3300 · Fax (702) 385-3823

001246

001246

The fact that Mr. Fiore's regular occupation was to be a financial advisor has no relevance to the question before the court. Mr. Fiore forged ahead with a new "business" venture when he leased his Lamborghini Aventador to Speed Vegas with the expectation that he would share in a considerable portion of all profits made by the car.

Mr. Fiore testified he had been let go from his previous job and went from having a considerable income to zero. (Exhibit "2" at 62:7-16). He received no severance and had to make significant cuts to his monthly expenses. (Exhibit "2" at 62:13-23). One major expense in Mr. Fiore's portfolio was the subject Lamborghini Aventador. After his broker told Mr. Fiore he would "get killed" financially if he was to try to return the Lamborghini in winter, Mr. Fiore looked for other ways to manage the expense. (Exhibit "2" at 62:24-63:7). As such, he called Aaron Fessler from Speed Vegas and proposed a deal to have Speed Vegas rent out his vehicle on the track as a marquee car. (Exhibit "2" at 63:8-64:8). These are not the actions of somebody who wants to offload their car. If that had been Mr. Fiore's goal, he could have sold it at a loss and washed his hands of the vehicle. Instead, Mr. Fiore elected to retain ownership and enter into a profit-sharing agreement with Speed Vegas.

In this respect, it is curious that Mr. Fiore repeatedly referred to himself as a financial advisor in his motion. As his deposition testimony reveals, at the time the transaction and all relevant events occurred, Mr. Fiore was not a financial advisor. He was not employed and was making no money. (Exhibit "2" at 62:24-63:7). Mr. Fiore's solution to losing his income, yet still having bills to pay (including his Lamborghini bill), was to enter a commercial lease with Speed Vegas whereby he would get paid every single time Speed Vegas got paid for the use of his vehicle on the track.

/ / /

/ / /

Brenske Andreevski & Krametbauer
3800 Howard Hughes Parkway, Suite 500
Las Vegas, Nevada 89169
(702) 385-3300 · Fax (702) 385-3823

001247

001247

001247

III. CONCLUSION

Mr. Fiore may have been a financial advisor before he lost his job, but the relevant inquiry in this case is his relationship to the subject Aventador. As the lease agreement clearly states, Mr. Fiore retained power over the vehicle, in that his written approval was required for any changes made to it. In addition, he not only leased the vehicle for a sum-certain, but instead engaged in a profit-sharing agreement whereby Mr. Fiore made more money every single time a different consumer used his car. Overall, a question of fact remains on the issue of whether Mr. Fiore constitutes a "seller" or a "commercial lessor" by virtual of the commercial lease and summary judgment should be denied.

DATED this 3rd day of June 2021.

WILLIAM R. BRENSKE, ESQ.
Nevada Bar No. 1806
JENNIFER R. ANDREEVSKI, ESQ.
Nevada Bar No. 9095
RYAN D. KRAMETBAUER, ESQ.
Nevada Bar No. 12800
BRENSKE ANDREEVSKI & KRAMETBAUER
3800 Howard Hughes Parkway, Suite 500
Las Vegas, NV 89169
Telephone: (702) 385-3300
Email: bak@baklawlv.com

Brenske Andreevski & Krametbauer
3800 Howard Hughes Parkway, Suite 500
Las Vegas, Nevada 89169
(702) 385-3300 · Fax (702) 385-3823

001248

CERTIFICATE OF SERVICE

I am employed with Brenske Andreevski & Krametbauer. I am over the age of 18 and not a party to the within action; my business address is 3800 Howard Hughes Pkwy., Ste. 500, Las Vegas, Nevada 89169. I am "readily familiar" with the firm's practice of collection and processing correspondence for mailing. Under its practice mail is to be deposited with the U. S. Postal Service on that same day as stated below, with postage thereon fully prepaid.

001248

I served the foregoing document described as "**THE BEN-KELY PLAINITFFS' OPPOSITION TO THE MOTION FOR SUMMARY JUDGMENT, OR, IN THE ALTERNATIVE PARTIAL SUMMARY JUDGMENT, AS TO DEFENDANT FELICE J. FIORE, JR., AGAINST PLAINTIFFS ESTATE OF GIL BEN-KELY, ANTONELLA BEN-KELY, SHON BEN-KELY, and NATHALIE BEN-KELY SCOTT**" on this 3rd day of June 2021 to all interested parties as follows:

☐ BY MAIL: Pursuant to N.R.C.P. 5(b), I placed a true copy thereof enclosed in a sealed envelope addressed as follows:

☐ BY FACSIMILE: Pursuant to EDCR 7.26, I transmitted a copy of the foregoing document this date via telecopier to the facsimile number shown below:

■ BY ELECTRONIC SERVICE: by electronically filing and serving the foregoing document with the Eighth Judicial District Court's electronic filing system:

WILSON, ELSER, MOSKOWITZ, EDELMAN & DICKER LLP Jorge A. Ramirez, Esq. Christopher D. Phipps, Esq. 6689 Las Vegas Blvd. South, Ste. 200 Las Vegas, NV 89119 *Counsel for Estate of Craig Sherwood and Defendant/Cross-Claimant/Personal Representative Gwendolyn Ward*	ER INJURY ATTORNEYS Corey M. Eschweiler, Esq. Gregory F. Gordon, Esq. Craig A. Henderson, Esq. Joseph F. Schmitt, Esq. Miriam Alvarez, Esq. 4795 South Durango Las Vegas, Nevada 89147 *Attorneys for Plaintiffs' Gwendolyn Ward, Zane Ward and Estate of Craig Sherwood*
PANISH SHEA & BOYLE LLP Rahul Ravipudi, Esq. Grigorio Silva, Esq. Ian P. Samon, Esq. Claudia Lomeli, Esq. Paul Traina, Esq. Isolde Parr, Esq. Jacqueline 8816 Spanish Ridge Avenue Las Vegas, Nevada 89148 *Attorneys for Plaintiffs', Estate of Craig Sherwood*	MCCORMICK BARSTOW SHEPPARD WAYTE & CARRUTH, LLP Michael R. Merritt, Esq. Meredith Holmes, Esq. Laura Lybarger, Esq. Allison Rothgeb, Esq. 8337 W. Sunset Rd., Ste. 350 Las Vegas, NV 89113 *Attorneys for Defendants Sloan Ventures 90, LLC and Scott Gragson*
WILEY PETERSEN Ryan S. Peterson, Esq. Robert Caldwell, Esq. 1050 Indigo Drive, Suite 200B Las Vegas, Nevada 89145	PERRY & WESTBROOK Alan Westbrook, Esq. 1701 W. Charleston Boulevard # 200 Las Vegas, Nevada 89102

Brenske Andreevski & Krametbauer
3800 Howard Hughes Parkway, Suite 500
Las Vegas, Nevada 89169
(702) 385-3300 · Fax (702) 385-3823

001249

001249

KING & SPALDING, LLP Philip E. Holladay, Jr., Esq. 1180 Peachtree St., NE Suite 1600 Atlanta, GA 30309 KING & SPALDING, LLP Susan V. Vargas, Esq.(Pro Hac Vice) Alexander G. Calfo (Pro Hac Vice) 633 West Fifth Street, Suite 1600 Los Angeles, California 90071 MUSICK PEELER & GARRETT LLP Harry Franklin Hostetler, III, Esq 650 Town Center Drive, Suite 1200 *Attorneys for Defendant/Crossclaimant Automobili Lamborghini America, LLC*	AGAJANIAN, McFALL, WEISS, TETREAULT & CHRIST LLP Paul L. Tetreault, Esq. *Pro Hac Vice* Paul Lydon Tetreault, Esq. *Pro Hac Vice* Regina S. Zernay, Esq. *Pro Hac Vice* 346 N. Larchmont Boulevard Los Angeles, California 90004 TAYLOR ANDERSON, LLP Brent D. Anderson, Esq. James D. Murdock, II, Esq. 1670 Broadway Suite 900 Denver, CO 80202 *Attorney for Defendant SpeedVegas, LLC Tom Mizzone & Felice J. Fiore, Jr.*
RESNICK & LOUIS, P.C. *Gary R. Ruelker, Esq.* 8925 W. Russell Road., Suite 220 Las Vegas, Nevada 89148 *Attorneys for Crossclaim Defendant, Estate of Gil Ben-Kely*	GORDON REES SCULLY MANSUKHANI, LLP Robert E. Schumacher, Esq. Dylan Houston, Esq. Bradley G. Taylor, Esq. Dylan E. Houston, Esq. Deborah Kingham, Esq. Andrea C. Montero, Esq. Sean Owens, Esq. Cristina Pagaduan, Esq. 300 S. 4th Street, Suite 1550 Las Vegas, Nevada 89101 *Attorneys for Defendant Aaron Fessler*

/S/ Amy Doughty

_____

An employee of the Brenske Andreevski & Krametbauer

Brenske Andreevski & Krametbauer
3800 Howard Hughes Parkway, Suite 500
Las Vegas, Nevada 89169
(702) 385-3300 · Fax (702) 385-3823

001250

001250