

In The Matter Of:
Kline v.
Morgan-Alcala, et al

Donald R. Phillips, P.E.
July 24, 2012

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Page 1

1 SUPERIOR COURT OF NEW JERSEY
2 LAW DIVISION - MORRIS COUNTY
3 DOCKET NUMBER MRS-L-3575-08

4 ----- :
5 THOMAS KLINE, as :
6 Administrator Ad :
7 Prosequendum of the : DEPOSITION UPON
8 heirs at law of : ORAL EXAMINATION
9 SUSAN MORRIS KLINE, : OF
10 (deceased), as :
11 Administrator of the : DONALD R. PHILLIPS, P.E.
12 Estate of SUSAN :
13 MORRIS KLINE, and :
14 THOMAS KLINE, and :
15 individually, :
16 Plaintiffs, :
17 v. :
18 ----- :
19 VICTORIA :
20 MORGAN-ALCALA, :
21 CARLOS ALCALA, :
22 NATALIE RAWLS, :
23 DAIMLER CHRYSLER :
24 CORPORATION a/k/a :
25 CHRYSLER :
CORPORATION, LOMAN :
AUTO GROUP, BUTLER :
CHRYSLER JEEP, INC., :
JOHN DOES A through :
Z, (names being :
fictitious), ABC :
CORPORATIONS, 1 :
through 100, (names :
being fictitious), :
Defendants. :
----- :

Page 2

1 T R A N S C R I P T of the deposition of
2 DONALD R. PHILLIPS, P.E., taken by and before
3 REGINA A. CRITCHLEY, a Certified Court Reporter
4 and Notary Public of the State of New Jersey,
5 at the offices of GRIECO, OATES & DeFILIPPO,
6 LLC, 414 Eagle Rock Avenue, West Orange, New
7 Jersey, on Tuesday, July 24, 2012, commencing
8 at 10:20 a.m.
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Page 3

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Page 4

1 INDEX
2 WITNESS DIRECT CROSS REDIRECT RECROSS
3 DONALD R. PHILLIPS, P.E.
4 BY MR. STOCKWELL 6
5 BY MS. DeFILIPPO 141
6 BY MR. STOCKWELL 146
7 BY MS. DeFILIPPO 152

8 EXHIBITS
9 NO. DESCRIPTION PAGE
10 D-1 April 22, 2009 Report of
11 Donald R. Phillips, P.E. 8
12 D-2 Curriculum Vitae of Donald R.
Phillips, P.E. 8
D-3 July 25, 2011 Supplemental
Report of Donald R. Phillips,
P.E. 9
D-4 Photograph 21
D-5 Photograph 21
D-2A Trials & Depositions List 52
D-6 Handwritten Notes taken May 9,
2007 62
D-7 Photograph 64
D-8 Motor Vehicle Data, 2004
Toyota Sienna MPV 86
D-9 Motor Vehicle Data, 1996 Jeep
Grand Cherokee 86
D-10 July 2nd, 2007, notes from
inspection of the 2004 Alcala
Sienna 93
D-11 Handwritten Notes and
Calculations 100

<p style="text-align: right;">Page 5</p> <p>1 EXHIBITS</p> <p>2 NO. DESCRIPTION PAGE</p> <p>3</p> <p>4 D-12 Photograph 110</p> <p>5 D-13 Photograph 110</p> <p>6 D-14 Photograph 110</p> <p>7 D-15 Photograph 110</p> <p>8 D-16 Photograph 122</p> <p>9 D-17 Photograph 122</p> <p>10 D-18 Photograph 122</p> <p>11 D-19 Photograph 126</p> <p>12</p> <p>13</p> <p>14</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p>	<p style="text-align: right;">Page 7</p> <p>Phillips - Direct</p> <p>1 easy for the court reporter. She can't take</p> <p>2 down shrugs of the shoulder, nods of the head,</p> <p>3 gestures, sounds, things that won't appear in</p> <p>4 the booklet. And that's it.</p> <p>5 Do you have a current C.V. with</p> <p>6 you?</p> <p>7 A Yes, I do. It was e-mailed last</p> <p>8 week.</p> <p>9 Q Okay.</p> <p>10 A And I believe a copy was printed</p> <p>11 out.</p> <p>12 (Discussion held off the record.)</p> <p>13 Q Before we get there, I can go on a</p> <p>14 little bit.</p> <p>15 Mr. Phillips, at least from my</p> <p>16 file, you've prepared two reports, one dated</p> <p>17 April 22nd, 2009, and one dated July 25th,</p> <p>18 2011; is that correct?</p> <p>19 A Yes, sir. I believe that is</p> <p>20 correct.</p> <p>21 Q Have you prepared any additional</p> <p>22 reports in this case?</p> <p>23 A No, sir.</p> <p>24 Q Okay. And was the July 25th, 2011</p> <p>25 report intended to supplement the first report</p>
<p style="text-align: right;">Page 6</p> <p>1 DONALD R. PHILLIPS, P.E.,</p> <p>2 With Offices at 1758 Allentown Road,</p> <p>3 #150, Lansdale, Pennsylvania,</p> <p>4 19446-4053, having been first duly</p> <p>5 sworn, testified as follows:</p> <p>6 DIRECT-EXAMINATION</p> <p>7 BY MR. STOCKWELL:</p> <p>8 Q Good morning, Mr. Hannemann --</p> <p>9 Mr. Phillips, sorry. My name is Matthew</p> <p>10 Stockwell, I'm an attorney with Callahan &</p> <p>11 Fusco. We represent Loman Auto Group in this</p> <p>12 litigation. We're going to be taking your</p> <p>13 deposition today.</p> <p>14 Just a few instructions, because I</p> <p>15 know you've been deposed before. If you don't</p> <p>16 understand a question I ask you, and that will</p> <p>17 probably happen quite a bit, just let me know</p> <p>18 that you don't understand it or ask me to</p> <p>19 rephrase it. The reason for that is any</p> <p>20 question that's answered here today, everybody</p> <p>21 at the table is going to assume you heard the</p> <p>22 question, understood it and answered to the</p> <p>23 best of your ability.</p> <p>24 Please try not to talk over me and</p> <p>25 I'll try not to talk over you, so we'll make it</p>	<p style="text-align: right;">Page 8</p> <p>Phillips - Direct</p> <p>1 or replace it?</p> <p>2 A Supplement it.</p> <p>3 Q Okay. Do you have a copy of the</p> <p>4 April 22nd report with you?</p> <p>5 A Yes, sir.</p> <p>6 Q Is that an extra copy or do you</p> <p>7 need that?</p> <p>8 A This is a copy that I keep in my</p> <p>9 file.</p> <p>10 Q Okay.</p> <p>11 A If you want, we can mark it.</p> <p>12 Q We can mark it? Okay.</p> <p>13 A That's fine.</p> <p>14 Q Great. Let's mark that one as D-1.</p> <p>15 MS. DeFILIPPO: What are you</p> <p>16 marking?</p> <p>17 A This is April 22nd, 2009.</p> <p>18 (Exhibit D-1, April 22, 2009 Report</p> <p>19 of Donald R. Phillips, PE, is marked for</p> <p>20 identification.)</p> <p>21 MS. DeFILIPPO: Is D-1?</p> <p>22 MR. STOCKWELL: Yeah. We'll just</p> <p>23 mark the C.V. as D-2.</p> <p>24 (Exhibit D-2, Curriculum Vitae of</p> <p>25 Donald R. Phillips, PE, is marked for</p>

Phillips - Direct Page 9

1 identification.)
2 MS. DeFILIPPO: Are you going to
3 mark the other report? You might as well do it
4 now.
5 MR. STOCKWELL: Yeah I'll do that.
6 That I have, I think.
7 MS. DeFILIPPO: 7/25/11.
8 MR. STOCKWELL: All right. So the
9 7/25/11 report is D-3.
10 (Exhibit D-3, July 25, 2011
11 Supplemental Report of Donald R. Phillips,
12 P.E., is marked for identification.)
13 Q I see you graduated from Lehigh
14 with a bachelor in mechanical engineering in
15 1984?
16 A Yes, sir.
17 Q Okay. And I see under the
18 education section on the second page, "Graduate
19 specialty in computer data management, analysis
20 and analog/digital interfacing."
21 Could you tell me what that is?
22 A Yes, sir. While I was at Seton
23 Hall in my M.B.A. program, I specialized in
24 computer data based management, because when I
25 was at Breed Automotive doing the air bag

Phillips - Direct Page 10

1 design work, we were handling a lot of analog
2 computer files that had to be converted to a
3 digital format in order to run them in the air
4 bag modelling program.
5 They provided to us a lot of
6 accelerometer data channels, a lot of which
7 were pretty much extraneous to the analysis,
8 and we didn't need all of it. So I worked with
9 a couple of guys from the computer department
10 and we pared down the data set so that the
11 model could run more efficiently and we could
12 get more analysis done in the same time frame.
13 So we sped it up. And that's why, in my
14 M.B.A., I specialized in that type of
15 education, so I could more familiarize myself
16 with the handling of large databases and the
17 processing of those.
18 Q Okay. I see you have a -- are you
19 a licensed P.E. in the states that are listed
20 on this C.V.?
21 A Yes, sir.
22 Q You're a member of the Society of
23 Automotive Engineers?
24 A Yes, sir.
25 Q What are the requirements for

Phillips - Direct Page 11

1 keeping your membership?
2 A You have to, of course, pay your
3 annual dues, and you have to be a degreed,
4 mechanical engineer.
5 Q Okay. And the American Society of
6 Mechanical Engineers, what are the requirements
7 for keeping the membership in that
8 organization?
9 A I believe that's what I just
10 discussed, was the American Society of
11 Mechanical Engineers.
12 Q Oh, okay. Because I also see,
13 under "Professional," and if you need to look
14 at this, just let me know. It says, "Society
15 of Automotive Engineers" as a separate
16 organization, that's why I was --
17 A Right. That is separate.
18 Q Okay.
19 A The Society of Automotive
20 Engineers, almost anybody can join. But for
21 that organization, they have different
22 membership grades, and in order to be a full
23 member, you have to be an automotive engineer.
24 You can be an associate member, but that means
25 that you belong to the association, but you're

Phillips - Direct Page 12

1 not an engineer.
2 Q Okay.
3 A So you can be a business person,
4 advertising, doesn't matter.
5 I happen to be a full member of the
6 Society of Automotive Engineers, and I'm also a
7 full member of the American Society of
8 Mechanical Engineers.
9 Q Okay. It says the "American
10 Academy of Certified Consultants and Experts,"
11 2000 and 2002. Can you tell me what that
12 organization is?
13 A I can tell you what it was.
14 Q Okay.
15 A It was an organization that was
16 attempting to establish a reference for
17 consultants and experts and provide a
18 certification of their credentials. So if you
19 went and you looked at that and subscribed to
20 that database, you would find experts and they
21 would rate them based on their years of
22 experience and their areas of expertise.
23 So they approached me when they
24 first opened and they wanted me to join their
25 association and I had to fill out a

<p>Phillips - Direct Page 13</p> <p>1 questionnaire and provide my C.V. and 2 educational experience. And they listed me in 3 their database. 4 And after two years, I stopped 5 getting the dues requirements and then 6 everybody kept asking me, Well, what's this? 7 What's this? And when I did a little more 8 research, I realized they went under so... 9 Q Okay. 10 A That's what it was. 11 Q Okay. The Accident Reconstruction 12 Network. Can you tell me what that is or was? 13 A The Accident ReConstruction Network 14 is an organization where accident 15 reconstructionists can join that particular 16 organization and have access to a monthly 17 newsletter, crash test seminars, training 18 seminars. 19 And also, Scott Baker, who is one 20 of the organizers of the ARC Network is also 21 one of the primary dealers of the Bosch 22 Vetronix CDR unit that downloads the airbag 23 computers. So being a member of that allows me 24 to get access to the equipment, to the 25 training, and the crash testing and everything</p>	<p>Phillips - Direct Page 15</p> <p>1 the time. He was handling the black box side 2 of it and I was handling the physical side of 3 it. 4 Q Okay. Can you tell me a little bit 5 about the physical side of it? What are you 6 looking for? 7 A Certainly. When you're doing a 8 restraint analysis, I look at things like the 9 knee bolster, which is the panel below the 10 steering wheel where your knees would generally 11 be if you're a driver. 12 I look at the steering column to 13 see if the steering column was stroked or 14 collapsed into the dashboard. I look at the 15 D-ring, which is sometimes referred to as the 16 turning loop, which is the D-shaped ring at the 17 top where the seat belt comes up and out, 18 before it goes across your chest. 19 I also look at the pass through 20 slot on the latch plate where the belt goes 21 through the latch plate where you would buckle 22 it into the buckle. 23 On newer cars, I would also look at 24 what's call the seat belt pretensioner, if it's 25 got a buckle mounted pretensioner, if it fired,</p>
<p>Phillips - Direct Page 14</p> <p>1 else that they do. 2 Q Okay. There's a designation on 3 here, next to Accident ReConstruction Network, 4 of 2007. Is that -- does that mean you've been 5 a member since 2007? 6 A That is correct. 7 Q Okay. What does NESAs stand for? 8 A National Eagle Scout Association. 9 Q Okay. Did you give -- it says -- 10 it's right here. If you need to look at it 11 again, just let me know. I know you don't have 12 a copy in front of you. 13 "Seatbelt Defense, NYSBA," New York 14 State Bar Association, "Summer Seminar Speaker 15 2002." Did you give a lecture? 16 A Yes, sir. 17 Q Can you tell me what the sum and 18 substance of your lecture was? 19 A Basically it was comparing CDR data 20 or collision data from black boxes and 21 comparing that to physical evidence that's 22 observed on seat belts, steering wheels, knee 23 bolsters, and relating the physical evidence to 24 the electronic data. And I -- there was 25 another presenter, I don't remember his name at</p>	<p>Phillips - Direct Page 16</p> <p>1 whether or not it retracted, and if it's a 2 retractor mounted pretensioner, whether or not 3 it fired and it pulled back and it took the 4 tension up out of the belt. 5 So I look at these components and 6 determine whether or not there are wear marks 7 or friction marks that would be indicative of 8 occupant interaction during a crash. Because a 9 lot of times in crashes, there is a controversy 10 whether or not the occupant is belted or not. 11 They'll say, "I was wearing my seat belt," but 12 then I can look at other physical evidence to 13 determine is the evidence consistent or 14 inconsistent with belt use? 15 Q Okay. Were you able to look for 16 any such evidence in the Kline Jeep Grand 17 Cherokee? 18 A There was some evidence that I 19 could look at in that vehicle that would help 20 me determine whether or not seat belts were 21 used. 22 Q Okay. What evidence were you able 23 to look at? 24 A I was able to look at the steering 25 column, and based on my observations of the</p>

Phillips - Direct Page 17

1 steering column, it did not appear to be
2 stroked. In other words, it was not pushed
3 into the dash. And the location of the
4 mounting brackets for the steering column
5 appeared to be in the same location where the
6 shear capsules are.
7 If you need me to explain what a
8 shear capsule is, I'll be more than --
9 Q Please.
10 A -- happy to.
11 Okay. The shear capsule in a
12 steering column is a mount that has plastic
13 injected around it. And that capsule is placed
14 into the bracket where the steering column
15 bolts to either the cowl support or another
16 structure inside the dash.
17 And upon an impact, when the
18 steering column is pushed, that bracket will
19 actually shear the plastic and then it will
20 release, which will allow the steering column
21 to compress down into the dashboard so you
22 don't get impaled by the steering column into
23 your chest.
24 Even though this vehicle burned, so
25 all the plastic, all of the mounting hardware

Phillips - Direct Page 18

1 and aluminum components melted, that steering
2 column basically dropped straight down onto a
3 lower bar in the dash. And it was not pushed
4 down into -- towards the firewall.
5 So that told me that there was no
6 occupant interaction in a forward direction
7 where Mrs. Kline's body hit the steering
8 column, either unbelted or through the airbag,
9 so that the seat belt -- it's consistent with
10 the seat belt holding her upper body so she
11 didn't reach it to push it down.
12 Q Okay. Any other physical evidence
13 you were able to observe in the Kline Jeep
14 Grand Cherokee?
15 A That would be the most obvious.
16 Any of the other evidence that was in there was
17 severely compromised by the fire. So I
18 couldn't look for transfer marks on the D-ring,
19 I couldn't look for transfer marks on the latch
20 plate.
21 If I remember correctly, the seat
22 belt buckle, if I remember, it was standing
23 straight up, which would be consistent with her
24 body motion going initially rearward, so it
25 would have straightened it up instead of it

Phillips - Direct Page 19

1 leaning forward. That's not --
2 (Brief interruption.)
3 A I would not say that's not
4 dispositive evidence. In other words, that's
5 not absolute proof, but it's consistent with
6 belt use. The steering column is more positive
7 proof of seat belt use.
8 Q Okay. And is that what you just
9 talked about with the mounting brackets, is
10 that anywhere in either of the two reports that
11 you can point me to?
12 A I don't believe I mentioned seat
13 belt use for Mrs. Kline in the reports, I think
14 I just stuck with the reconstruction issues.
15 Q Okay. Why not? You weren't asked
16 to do that or something else?
17 A Yeah, I don't remember or I don't
18 recall being asked to comment about restraint
19 use in the reports.
20 Q Okay.
21 MS. DeFILIPPO: Well, there was no
22 issue of seat belt use at the initial -- when
23 these reports were written.
24 MR. STOCKWELL: Okay.
25 MS. DeFILIPPO: There was never an

Phillips - Direct Page 20

1 issue.
2 Q Have you been asked to undertake an
3 analysis as to whether or not Mrs. Kline had
4 her seat belt on since issuing your reports?
5 A Not as of yet.
6 Q Okay. So --
7 MS. DeFILIPPO: Well, Matt --
8 MR. STOCKWELL: Are there any --
9 MS. DeFILIPPO: For the record,
10 just so that we're clear, until your experts
11 Fenton and Funk, there was never a seat belt
12 issue. So, you know, there's rebuttal to that.
13 We haven't taken their depositions.
14 MR. STOCKWELL: That's why I was
15 just asking him if --
16 MS. DeFILIPPO: Yeah, but I mean he
17 basically stated on the record what we would
18 basically be asking.
19 Q I want to know, do any of the
20 photographs you took of the Kline Jeep, would
21 that shows us what you're talking about here
22 with the mounting bracket?
23 A Yes, sir.
24 Q Are you able to pull out the
25 photographs you have and show me which ones?

<p>Phillips - Direct Page 21</p> <p>1 (Witness complies.) 2 MR. STOCKWELL: Is it okay if we 3 mark the back of the photographs? 4 THE WITNESS: Sure. 5 (Discussion held off the record.) 6 MR. STOCKWELL: Let's mark this as 7 D-4. 8 (Exhibit D-4, Photograph, is marked 9 for identification.) 10 A And here's a second photograph, if 11 you'd like. 12 MR. STOCKWELL: And we'll mark this 13 as D-5. 14 MS. DeFILIPPO: What's D-5? 15 MR. STOCKWELL: D-5 is a second 16 photograph. 17 (Exhibit D-5, Photograph, is marked 18 for identification.) 19 Q All right. Mr. Phillips, I'm 20 showing you what has been marked as Exhibit D-4 21 and D-5, which are two photographs we pulled 22 from your photographs, and I think you were 23 going to go through your photographs and show 24 me what you were talking about with the 25 steering column.</p>	<p>Phillips - Direct Page 23</p> <p>1 in the dash that actually holds the steering 2 column. 3 Q Okay. 4 A And then there is a mirror 5 structure on the steering column itself, and if 6 you see, it looks like two little wings that 7 almost have a rectangular shape on each side of 8 the steering column. 9 Q Right. 10 A They fit up into that inverted W in 11 the dash. 12 Q Okay. 13 A That's where the shear capsules 14 would be. And if that steering column had been 15 loaded by the occupant from an unrestrained 16 occupant standpoint -- 17 Q Right? 18 A -- that -- those two structures 19 wouldn't line up. 20 Q Okay. 21 A The steering column would be 22 depressed into the dashboard and you would not 23 be able to see those wings on each side of the 24 column. 25 Q Okay.</p>
<p>Phillips - Direct Page 22</p> <p>1 A Yes, sir. 2 In photograph D-5, I'm pointing to 3 an area that's just slightly above the center 4 of the picture, and you can see what's left of 5 the steering column. There's an aluminum 6 casting with a stub of where the steering wheel 7 would have been mounted, which is almost dead 8 center of the picture. 9 And then the steel structure of the 10 column extends forward into the dashboard, and 11 you can see the brackets, they're like a 12 rectangular, hollowed shape that's on each side 13 or straddles the side of the steering column. 14 Q Okay. It's not going to show up on 15 the record, but are these what you're referring 16 to? 17 A Well, that's where those two 18 rectangular structures meet up to it, it's 19 directly above it, that -- what you're pointing 20 to. 21 Q Oh, okay. 22 A It kind of looks like an inverted 23 W, almost. 24 Q Okay. 25 A Okay? That's the support structure</p>	<p>Phillips - Direct Page 24</p> <p>1 A So that tells me that basically 2 once the fire involved the steering column and 3 the dashboard, those shear capsules melted and 4 the steering column just dropped. 5 Q Okay. And is that the case 6 irrespective of whether there is airbag 7 deployment or not? 8 A Correct. 9 Q Okay. 10 A Correct. 11 Q Okay. How many impacts were there 12 in this accident all together? 13 A Two. 14 Q And it was a rear impact into the 15 Kline Jeep Grand Cherokee? 16 A By the Alcala-Morgan minivan, 17 correct. That's the first. 18 Q What was the second impact? 19 A The second impact was a frontal of 20 the Kline Jeep Grand Cherokee into the rear of 21 the Rawls Subaru. 22 Q Have you done any analysis or 23 calculation to determine how long after the 24 first impact that the second impact occurred? 25 A I did not do a time distance</p>

<p>Phillips - Direct Page 25</p> <p>1 analysis. I have the speed, so I could do it, 2 but I just haven't memorialized those yet into 3 time periods. 4 Q Okay. So that's something you 5 could do with the information that you already 6 have? 7 A That is correct. 8 Q All right. Do you know whether or 9 not there was another impact after that between 10 the Alcala Sienna and the Kline Jeep, a third 11 impact? 12 A No, there wasn't. 13 Q Okay. Did the Alcala Sienna and 14 the Kline Jeep remain engaged into the second 15 impact with the Subaru or did they become 16 separated after impact? 17 A It's my opinion that they became 18 separated. 19 Q Okay. And they never made contact 20 again after the first impact? 21 A That is correct. 22 Q Okay. It says you gave a product 23 liability seminar, you spoke at a products 24 liability seminar in Birmingham, Alabama in 25 2004. Do you remember doing that?</p>	<p>Phillips - Direct Page 27</p> <p>1 and it improved the crashworthiness of those 2 vehicles. 3 Q Okay. Do you keep copies of any 4 written material for any of these seminars that 5 you give speeches in? 6 A No, sir. 7 Q American Society of Mechanical 8 Engineers has the acronym, S-E-R-A-D; Reviewer 9 and then Presenter. What does the S-E-R-A-D 10 stand for? 11 A Safety Engineering Research and 12 Design. That's what, I believe, SERAD stands 13 for. 14 Q Okay. 15 A It's a subsection of the 16 International Congress and Exposition. 17 Q Can you tell me what you did as a 18 reviewer in 2008? 19 A I reviewed papers that were going 20 to be presented, so I evaluated the papers for 21 their accuracy, for their references and their 22 subject material. 23 Q And what did you do as a presenter? 24 A I presented a paper of my own. 25 Q What was that paper about?</p>
<p>Phillips - Direct Page 26</p> <p>1 A Yes, sir. 2 Q What was the subject of your 3 speech? And if you remember. It's not a test 4 of your memory. 5 A If I remember correctly, it was 6 on -- if I remember correctly, I think it was 7 on offset vehicle crashworthiness, I think. 8 Q Okay. Crashworthiness in what 9 respect? If you remember? 10 A If it's the seminar that I'm 11 thinking it was, I was discussing how certain 12 vehicles, because of a lack of structure in the 13 rocker panels, which would extend after the 14 A-Pillar, in other words, from where the front 15 door hinge and windshield is, back towards the 16 B-Pillar, which is where the front door would 17 close against, that how a lack of structure in 18 that rocker panel, between the A and the 19 B-Pillar, can adversely affect the 20 crashworthiness of the vehicles. 21 Because I had a couple of cases 22 where I was able to prove that subsequent 23 design changes had altered the crashworthiness 24 of vehicles by the addition of structure in the 25 rockers that wasn't there on an earlier model,</p>	<p>Phillips - Direct Page 28</p> <p>1 A That paper was on a one-quarter 2 roll simulation and glazing demonstration of 3 laminated side glazing versus tempered side 4 glazing. 5 Q Okay. And again, American Society 6 of Mechanical Engineers, it says, "IMECE 7 Reviewer." Could you tell me what IMECE is? 8 A International Congress Exposition 9 and annual meeting. [Sic] 10 Q Okay. Have you ever given a speech 11 or any presentation to the American Society of 12 Mechanical Engineers or any other organization 13 concerning the design of a fuel system? 14 A No, sir. 15 Q Have you been asked in this case to 16 assess the design and location of the fuel 17 system in the Kline Jeep Grand Cherokee? 18 MS. DeFILIPPO: Object to the form. 19 That's a compound question. You're talking 20 about design? Location? Location has to do 21 with -- 22 MR. STOCKWELL: Location is 23 encompassed in design but -- 24 Q Do you understand the question? 25 MS. DeFILIPPO: But no, my</p>

<p>Phillips - Direct Page 29</p> <p>1 objection is location has to do with 2 reconstruction, from that point of view. He's 3 not here as a fuel systems design expert. 4 MR. STOCKWELL: Okay. So what I 5 want to know, though, maybe we could save a lot 6 of time, is he going to be asked at trial 7 whether the fuel system in the Kline Jeep was 8 defective? 9 MS. DeFILIPPO: Well, he -- from a 10 reconstruction point of view, yes. 11 MR. STOCKWELL: Okay. 12 MS. DeFILIPPO: Not from a design 13 point of view. 14 MR. STOCKWELL: Okay. 15 MS. DeFILIPPO: Not information 16 regarding manufacturing and design of the fuel 17 system. 18 MR. STOCKWELL: Okay. 19 MS. DeFILIPPO: But obviously, in 20 reconstruction, location has a lot to do with 21 it, so in that way it's an overlap. 22 MR. STOCKWELL: I understand. 23 Q So I'm looking at your C.V., the 24 experience section. And it looks like from 25 1978 to 1984 you had -- I'm assuming it's your</p>	<p>Phillips - Direct Page 31</p> <p>1 Q All right. And then -- all right. 2 So you left Breed Automotive Corp. in 1990? 3 A Yes, sir. 4 Q What was the reason for leaving 5 Breed? 6 A At the time I was attending Seton 7 Hall for my M.B.A., and Breed wanted me to 8 relocate to Dearborn, Michigan to interact with 9 the Ford engineers because of my success with 10 the '92 Ford Aerostar platform. They wanted me 11 to be the liaison engineer to actually work 12 hand in hand with the Ford restraint engineers 13 for the placement and modelling of the airbag 14 sensors to make it a more efficient process. 15 So I then applied to the University 16 of Dearborn to transfer my M.B.A. program over 17 the winter break so I could finish in Michigan. 18 Well, right before the Christmas, New Years 19 winter break, Breed told me that they didn't 20 want me to move, they wanted me to hold off, 21 but I had already put everything in process, 22 transferring schools, transferring transcripts, 23 making arrangements for living. And that, 24 needless to say, made me very upset. And I 25 realized that I probably needed to start</p>
<p>Phillips - Direct Page 30</p> <p>1 company, John Phillips Construction? 2 A That was actually my father's 3 company. 4 Q What did you do for your dad's 5 company? 6 A I assisted as a laborer. I also 7 did vehicle maintenance and equipment 8 maintenance, but primarily aided in 9 construction, roofing, interior, tiling -- 10 Q Okay. 11 A -- sheetrock. Building and 12 altering houses. 13 Q Okay. And I see you first began 14 working in the automotive industry in 1986 for 15 Breed Automotive Corp.? 16 A Yes, sir, that is correct. 17 Q All right. And it says here you 18 worked with air bag -- assisted in the air bag 19 design of a '92 Ford platforms 1988 to 1989 GM 20 airbag programs and the '92 Aerostar, correct? 21 A Yes, sir. 22 Q Did any of your work involve the 23 fuel system in any vehicles at Breed Automotive 24 Corp.? 25 A Not that I can recall.</p>	<p>Phillips - Direct Page 32</p> <p>1 looking for employment elsewhere. 2 So by April I started working for 3 Kent, Vadnais, spelled V-a-d-n-a-i-s, & Wood in 4 Atlanta, Georgia. 5 Q Okay. What brought you to Atlanta, 6 Georgia? 7 A They made me a job offer I couldn't 8 refuse. 9 Q Okay. And what did you do at Kent, 10 Vadnais & Wood? 11 A I learned accident reconstruction. 12 I taught them about air bags and crash testing, 13 because that's the experience that I brought 14 out of Breed. And I learned about the 15 engineering/consulting business. 16 Q Okay. What kind of consultant were 17 you? 18 A I was an automotive consultant, and 19 I started doing accident reconstruction, but I 20 also did what's called guarding work. In other 21 words, interlocked guards, screens, barriers to 22 help prevent injury in the event of flying 23 objects or machine interactions, so you can't 24 get your hands into certain places when a 25 machine cycles.</p>

Phillips - Direct Page 33

1 Q Okay. Was your time at Kent,
2 Vadnais & Wood, was that all litigation? Some
3 litigation?
4 A There was some litigation, but a
5 lot of it was purely consultation work where I
6 assisted some of the other engineers during my
7 training program and I wasn't privy as to how
8 many cases I was working on were actual
9 litigation cases.
10 Q Okay.
11 A Because we did some work at Kent,
12 Vadnais & Wood for Crawford & Company and for
13 other adjustment firms, so we were never told
14 whether or not the cases were actually in
15 litigation or not.
16 Q Okay. Did you ever work on any
17 fuel system cases at Kent, Vadnais & Wood?
18 A Yes, sir.
19 Q Can you tell me a little bit about
20 any of the cases that you remember?
21 A Some of the cases were whether or
22 not a fire was caused by a leak in a fuel line
23 or whether or not it was arson, because a lot
24 of the times when we were asked to investigate
25 vehicle fires, sometimes there were issues

Phillips - Direct Page 34

1 whether or not people that owned the vehicles
2 wanted to get rid of them because they were
3 upside down in payments or they couldn't afford
4 them. Some of which were determining what
5 started the fire, whether it was engine oil,
6 gasoline, electrical, and trying to determine
7 what those were.
8 One that kind of sticks out in my
9 mind was a Toyota MR2. I did -- it was my
10 determination that it was an oil fire because
11 the oil cooler was in the front of the car, and
12 on impact that's what leaked and eventually
13 started the fire. It wasn't a fuel fire,
14 gasoline.
15 Q And when you made that
16 determination, was that determination final as
17 it went to the company you were working for or
18 was there an engineer, for lack of a better
19 phrase, above you that would have to review
20 your determination?
21 A To my recollection, I believe that
22 was my final opinion in that case. I don't
23 believe it went through anybody else.
24 Q Okay. And why did you leave Kent,
25 Vadnais & Wood?

Phillips - Direct Page 35

1 A At Kent Vadnais & Wood, it was a
2 partnership between Joe Kent, Tom Vadnais and
3 Blake Wood. And upon my initial hiring, I was
4 told that eventually I could become partner in
5 the firm. And they laid out certain criteria
6 as to what it would take for me to be a
7 partner. And I felt like I had attained those
8 levels based on what they initially told me,
9 and then when they said no, we don't feel
10 you're ready, you need to obtain this level, I
11 started scratching my head going, Okay, how
12 many times is the bar going to be moved?
13 And I explained, Well, one of the
14 ways that I could create more income for the
15 firm is to increase my territory, to actually
16 work outside of the Atlanta area and actually
17 bring in some business from the northeast.
18 Well, they didn't like that idea.
19 And we started a split of our ways
20 and eventually then, at that point, I parted
21 ways with them and then they split up. So now
22 Kent, Vadnais & Wood is just Vadnais & Wood.
23 So they kind of disbanded after I left.
24 Q Okay. And then you began, in 1993,
25 with National Forensic Engineers, Inc.?

Phillips - Direct Page 36

1 A Yes. At the time it was called
2 Smith & Robson. But because the same tax I.D.
3 number carried over from the Smith & Robson
4 days to National Forensic Engineers, I just
5 call it National Forensic Engineers because
6 it's the same tax I.D.
7 Q Okay. Are you a member of the
8 company?
9 A Currently I own it.
10 Q 100%?
11 A Yes, sir.
12 Q How many employees do you have?
13 A Six.
14 Q How many employees act also as an
15 expert consultant?
16 A Five.
17 Q As I'm looking through the
18 specialities, and one of the specialities that
19 you include is vehicle fires. Are there any
20 particular consultants at your company that you
21 would say specialize in vehicle fires or is
22 everyone capable of handling such cases?
23 A The only -- there's only two that I
24 can think of that could possibly also handle
25 vehicle fires besides myself.

<p>Phillips - Direct Page 37</p> <p>1 Q Who are they? 2 A Rich Peterson and -- his first name 3 is escaping me, but his last name is Mendez. 4 We just hired him. He, I believe, has vehicle 5 fire experience as well. 6 Q Did either of those gentlemen help 7 you in this case? 8 A No, sir. 9 Q Did anybody assist you in this 10 case? 11 A No, sir. 12 Q Do you hold any certifications in 13 investigating vehicle fires? 14 A No, sir, I don't. 15 Q Are you a member of ACTAR? 16 A No, I am not. 17 Q Any reason why you're not? 18 A I'm a licensed professional 19 engineer and I don't believe I need to have 20 ACTAR certification for accident 21 reconstruction, if I'm a licensed professional 22 engineer and I've had accident reconstruction 23 training. 24 Q Okay. And this is the most current 25 version of your C.V.?</p>	<p>Phillips - Direct Page 39</p> <p>1 A Yes. 2 Q What automobile manufacturers? 3 A Well, technically it was a supplier 4 for one case, and that was Akida, which was a 5 seat supplier for a Nissan based minivan which 6 was sold by Mercury as the Mercury Villager. 7 And National Forensic Engineers was 8 also retained by Fiat to defend a design -- and 9 you're going to scratch your head when I say 10 this -- of the Yugo GV. 11 Q Okay. 12 A The reason for that is, is that the 13 Fiat 128, the plans were actually sold to Yugo 14 and that's where Yugo got the design plans to 15 build the Yugo GV. 16 If my memory serves me correct, 17 there was a lawsuit where the crashworthiness 18 of a Yugo GV was questioned, and it was found 19 that the design of the GV was defective in the 20 way they built the rear quarter panel section 21 and rear suspension section of the car. 22 The Yugo factory got bombed during 23 the revolution that took place, Yugo went belly 24 up. It became an insolvent defendant. The 25 plaintiffs then went after Fiat because the</p>
<p>Phillips - Direct Page 38</p> <p>1 A Yes, sir. 2 MR. STOCKWELL: I'm done with the 3 C.V., so it's a good time to take a quick 4 break. 5 (Recess taken.) 6 BY MR. STOCKWELL: 7 Q All right. Can you tell me what 8 percentage of your current practice at National 9 Forensic Engineers is devoted to litigation? 10 A That's tough to answer because a 11 lot of times when I'm asked to consult on a 12 case, I'm not sure if it's gonna be litigated 13 or not. 14 Q Sure. 15 A And for my employees, I couldn't 16 even tell you. 17 Q Okay. 18 A Because a lot of them do work that 19 some of it is housing related, some of it is 20 architectural related, so I couldn't tell you. 21 I mean, it would be unfair to say exactly how 22 much it is. 23 Q Okay. Has National Forensic 24 Engineers ever been retained by an automobile 25 manufacturer?</p>	<p>Phillips - Direct Page 40</p> <p>1 plans for the Yugo GV came from Fiat. 2 I was retained by Fiat to evaluate 3 the original design, determine what changes 4 were made from the original Fiat plans to the 5 design that Yugo ultimately produced and see 6 how -- what impact that would have on the 7 crashworthiness issue that the jury found to be 8 at issue. 9 And it was my determination that 10 the alterations that Yugo had made altered the 11 structure of the vehicle in the area in 12 question, and that the original Fiat design was 13 not what was actually produced. And therefore, 14 I believe Fiat got out on summary judgment 15 based on my evaluation. 16 Q Okay. Did you issue a report in 17 that case? 18 A I think my initial findings were 19 only verbal, because I had the plans and I had 20 the vehicle and I was showing my client exactly 21 what had changed and how it took place and then 22 they had oral arguments and... 23 Q Okay. 24 A They were -- I believe the case was 25 dropped.</p>

<p>Phillips - Direct Page 41</p> <p>1 Q Okay. You didn't give any 2 deposition or trial testimony? 3 A No, sir, I did not. 4 Q How long ago was that? 5 A That was at least ten years ago. 6 Q All right. And what was the issue 7 with the Mercury Villager? 8 A That was a seat back case where a 9 driver was rear ended, I believe it was on the 10 Garden State Parkway, and the seat back yielded 11 and the driver, post accident, if I remember 12 correctly, his injuries were TMJ and carpal 13 tunnel. 14 And I evaluated the design of the 15 seat and how the seat would have deformed in 16 the accident and determined that basically the 17 occupant kinematics, in the way the seat 18 deformed, would not have been related to a 19 carpal tunnel type injury and TMJ, because I 20 could not find how his hands and/or his jaw 21 could have been affected if the seat reclined 22 and yielded straight backwards. 23 And I presented my findings to 24 Martin -- I can't remember his last name, but 25 it will hit me, he's a good friend of Jim</p>	<p>Phillips - Direct Page 43</p> <p>1 I -- that's what I learned about biomechanics, 2 with the kinematics part, you know, how 3 occupants move in relationship to crash forces. 4 I'm not here to say, Oh, it takes how many 5 pounds of force to break somebody's arm. 6 Q Okay. 7 A I don't do that. I can just say 8 the force was present here, and would have been 9 acting in this direction. As a result, this 10 movement occurs. 11 Q Okay. Has National Forensic 12 Engineers ever addressed the issue as to 13 whether or not a fuel system was defectively 14 designed? 15 A Yes. 16 Q How many occasions, roughly, if you 17 can tell me? 18 A At least a dozen. 19 Q Okay. What was the most recent 20 one? 21 A Well, the most recent one that 22 involved a fuel system design, even though I 23 wasn't -- no, I'm sorry. I should take that 24 back. It wasn't the most recent one. 25 But one of the ones that I can</p>
<p>Phillips - Direct Page 42</p> <p>1 Dobus's -- and I presented my findings to him. 2 He told me, Sit tight, don't do anything, and 3 then I never heard from him again. 4 Q Okay. Do you have any training or 5 education in biomechanical engineering? 6 A Only as it relates to occupant 7 kinematics. And that comes from my airbag 8 experience. In order to design airbags, you 9 have to understand how occupants move in 10 crashes, and the timing of that movement. 11 Because the original design 12 criteria for the air bags was that you have to 13 deploy an air bag within what we call the 5/30 14 rule. So you have to have airbag deployment 15 initiated before the occupant moves five 16 inches, or before 30 milliseconds elapses from 17 initial contact. 18 If you don't get airbag initiation 19 in that time frame, you're never going to stop 20 the occupant. They're just going to blow right 21 through the airbag and it's not going to do 22 them any good. They're going to be moving too 23 fast. 24 Q Okay. 25 A So from that standpoint, that's how</p>	<p>Phillips - Direct Page 44</p> <p>1 recall in New Jersey was the Cannon case. I 2 was doing accident reconstruction, 3 crashworthiness, cause and origin of a 4 post-collision fuel fed fire, and I was not 5 technically giving opinions on fuel system 6 design, but for some reason, the judge ruled 7 that I was giving opinions on fuel system 8 design, but that's a whole issue unto itself. 9 That's one of the more recent ones, 10 but I've done that on -- I've done fuel system 11 design on Chevrolet S10s, on Saturn Views. I 12 had a New York, Long Island case on a '97 Jeep 13 Grand Cherokee with a post-collision fuel fed 14 fire. 15 There are others, but those are the 16 ones that -- oh, and I did a Chrysler 300. 17 That case, I think, was in Florida. 18 Those are just some of the cases 19 that I can remember off the top of my head that 20 are fuel system design issue cases. 21 Q Okay. Cannon. Who was the 22 defendant in Cannon? 23 A The defendants were Ford, and a 24 towing company which I can't remember, and AAA, 25 the Mid-Atlantic division. And I was retained</p>

<p>Phillips - Direct Page 45</p> <p>1 by AAA to defend AAA in that case, so I was 2 actually a defense expert. 3 Q Okay. What was the vehicle? 4 A A 1984 Ford Mustang. 5 Q Okay. Do you know where the fuel 6 tank was located in that vehicle? 7 A Behind the rear axle, between the 8 rear axle and the rear bumper. 9 Q Do you recall the sum and substance 10 of your opinions in that case? 11 A Yes. 12 Q What were they? 13 A That the fuel tank was compromised 14 during an impact with a UD cab over flat bed 15 tow truck, and the rear structure collapse 16 placed the fuel tank into contact with the rear 17 axle. As a result, the lower shock mounts 18 pierced the tank in two different locations, 19 and the sending unit actually started to tear 20 out of the top of the tank, so there was 21 actually at least three holes in the tank at 22 that point. 23 Once the vehicles started moving 24 together, the -- well, I should back up. The 25 driver of the Mustang was then ejected through</p>	<p>Phillips - Direct Page 47</p> <p>1 designed the fuel tank differently? 2 A My opinions were that Ford should 3 have placed the fuel tank in a different 4 location, not so much that they would have 5 designed it differently. See, that's where the 6 issue comes in. 7 Q Right. 8 A I was just saying the fuel tank 9 didn't have to be behind the rear axle and in 10 front of the rear bumper, it could have been 11 somewhere else. 12 Q Okay. 13 A I didn't really get into the design 14 of the tank. I just said it should have been 15 in a different location. 16 Q Okay. Did you issue a report in 17 that case? 18 A Yes, I did. 19 Q Do you keep copies of old records 20 for cases that are closed? 21 A Some I do, but if the age of the 22 report -- I'm sorry, the age of the case is too 23 old, then they get disposed of. So I'd have to 24 check to see if that case is still recent 25 enough. Because if my memory serves me</p>
<p>Phillips - Direct Page 46</p> <p>1 the back window and was pinned between the 2 windshield of the tow truck and the back of the 3 Mustang. 4 So now the fuel is coming out, 5 sparks from the vehicle ignite the fuel, the 6 Mustang separates from the tow truck and slides 7 off to rest down the road. 8 The driver of the Mustang then 9 falls onto the roadway, into the gasoline, 10 rolls in it, catches on fire, so now he's 11 deposited in the left lane of southbound 12 Route 9 on fire, his vehicle is further down 13 the road against the shoulder, burning, and the 14 tow truck is stopped short of both of them. 15 Q Okay. 16 A And that's the sum and substance of 17 the case. I believe when I reconstructed the 18 accident, I believe I think the delta-v was 19 somewhere around 41 or 42 miles an hour, if I 20 remember my numbers correctly. 21 Q Who was the attorney that hired 22 you? 23 A Judith Hime of Hime & McEnroe. 24 Q Okay. Did you offer an opinion in 25 that case as to whether Ford should have</p>	<p>Phillips - Direct Page 48</p> <p>1 correct, I think that's a 2005 case, so now 2 that's seven years old. It might be gone. 3 Q Okay. Do you recall if you gave 4 trial or deposition testimony in that case? 5 A Deposition testimony, I did. I was 6 voir dired on the stand and then that's as far 7 as my trial testimony went. I did not actually 8 present opinion testimony to the jury. 9 Q Okay. Why not? 10 A Because the judge ruled, based on a 11 motion from Ford's attorney, that I was not 12 qualified to give opinions on fuel system 13 design. 14 Q Okay. 15 A Even though I was never offered on 16 fuel system design. 17 Q Right. 18 A And the judge, for some reason, 19 agreed with Ford's counsel and said: Well, 20 you're right, there's no mention of fuel system 21 design in his reports. He can't testify. 22 So I'm as confused as anybody else 23 is on that one. 24 Q Do you recall who Ford's attorneys 25 were?</p>

<p>Phillips - Direct Page 49</p> <p>1 A Paul Cereghini of Bowman & Brooke. 2 Q And the '97 Jeep Grand Cherokee, is 3 that a pending case still? 4 A No, sir. 5 Q Do you recall the names of any of 6 the parties in that case? 7 A I've heard it referred to as the 8 Austin case. 9 Q Oh, okay. 10 A But I don't remember it as the 11 Austin case, because I think Austin was the 12 driver of the MR2 that burned to death in the 13 MR2. 14 I was retained by the family of the 15 girls in the back seat of the Cherokee, so 16 that's why I don't remember it as Austin. But 17 I remember that case, the grand jury Cherokee 18 was stopped waiting to make a left turn into -- 19 I believe it was a restaurant or a nightclub -- 20 and the MR2 hit it from behind, and in the 21 under-ride collision, the headlights were on in 22 the MR2, and the driver's front headlight of 23 the MR2 literally just sliced that tank clean 24 open and the arcing and sparking from the 25 headlight lit the Cherokee's gas tank</p>	<p>Phillips - Direct Page 51</p> <p>1 inspection, once I pointed out my findings and 2 discussed it with my clients, I mean, it 3 settled really fast. 4 Q Did you have to prepare or did 5 counsel prepare what they call a 30-101(d) 6 document that you had to sign at the bottom? 7 A I don't recall that. 8 Q All right. So you mentioned -- and 9 I'm not holding you to any specific number. 10 You mentioned about a dozen fuel tank cases. 11 Would it be possible, when you went back to 12 your office, to go through and let 13 Ms. DeFilippo know what cases you still have 14 documents for, whether it's a report, a trial 15 transcript or a dep transcript? Is that 16 something you'd be able to do? 17 A I can attempt to do that. The 18 easiest thing to do, I guess if you look at my 19 C.V. and if you look and the case and testimony 20 lists, those would be the ones that would be 21 the most likely that I may have something on. 22 So if any of those are there, that would be the 23 easiest way. Anything that would be in 24 archives, literally would be like taking a long 25 shot.</p>
<p>Phillips - Direct Page 50</p> <p>1 instantly. 2 And the fire erupted and it was -- 3 it wasn't even two months after the inspection. 4 We did it out at that airport bunker 5 inspection -- I'm sorry, storage facility out 6 on Long Island near McArthur Airport on Long 7 Island. 8 That case settled like within two 9 months. I mean, it was over in a snap. 10 Q Okay. Do you recall what attorneys 11 hired you? 12 Sullivan Papain? 13 A Yes. It was Sullivan, Papain, 14 Block, McGrath & Cannavo. Yes, they hired me. 15 Q So I assume you didn't give a 16 deposition in that case? 17 A I did not. 18 Q Because it's New York. 19 Did you -- you issued a report, 20 though, right? 21 A No. 22 Q Oh, you didn't? 23 A I did not. 24 Q Okay. 25 A Like I said, right after the</p>	<p>Phillips - Direct Page 52</p> <p>1 Q Okay. Did you bring a current case 2 list with you? 3 A Yes. One was supplied with the 4 C.V. 5 Q Okay. 6 MS. DeFILIPPO: You didn't get a 7 copy of it? 8 MR. STOCKWELL: No. 9 MS. DeFILIPPO: That should have 10 been attached. 11 MR. STOCKWELL: That's okay. All 12 right I'll just mark this as 6. 13 MS. DeFILIPPO: Why don't you mark 14 this as B or A portion of that. 15 MR. STOCKWELL: So the C.V. was 16 Exhibit D-2, so we'll make this D-2A. 17 (Exhibit D-2A, Trials & Depositions 18 List, is marked for identification.) 19 MS. DeFILIPPO: What does it say at 20 the -- 21 BY MR. STOCKWELL: 22 Q So I have marked as D-2 what you've 23 provided me as "Trials and Depositions Lists, 24 Last Four Years." 25 So anything on this list you would</p>

Phillips - Direct Page 53

1 probably have a copy of the transcript?
2 A Correct. That would be the best
3 chance of finding a report or a dep or
4 something, if there is a post-collision fuel
5 fed fire case that I gave an opinion on, it
6 would be on that list.
7 Q Okay. Donnelly versus Chrysler.
8 What vehicle was involved in that case? It
9 says, "June, 2012, Short Hills, New Jersey"?
10 A That is a Dodge Grand Caravan.
11 Q What part of the vehicle is at
12 issue in that case?
13 A Seat back design.
14 Q And you're testifying on behalf of
15 Donnelly?
16 A Yes, sir.
17 Q Do you know the names of the --
18 attorneys in that case?
19 A Cindy Walters.
20 Q Okay. Milo versus Chrysler,
21 Chatham, New Jersey. What vehicle is involved
22 in that case?
23 A That was -- I think it was a 2005
24 or 2007 Dodge Charger, police pursuit car.
25 Q Okay. Does that involve the fuel

Phillips - Direct Page 54

1 system at all in your opinion in that case?
2 A No, sir. That was a manufacturing
3 defect. The clip was missing out of the brake
4 linkage, so when the officer went to step on
5 the brakes, surprise, no brakes.
6 Q You were hired on behalf of the
7 officer?
8 A Yes, sir.
9 Q Who's the attorney for the officer?
10 A It was either Jeff Zenna or Mike
11 Zerres of Blume Goldfaden.
12 Q Okay. Did you ever have a case
13 with a Ford Explorer involving the fuel system?
14 A Not technically involving the fuel
15 system, but I did have a high energy, high
16 speed crash involving a Ford Explorer, a case
17 called DaSilva versus Ford.
18 Q Is that on this list; if you know?
19 A It might be.
20 Q Oh, it is. September, 2008 trial.
21 New Brunswick, New Jersey. You were hired on
22 behalf of DaSilva?
23 A Yes, sir.
24 Q Who was DaSilva's attorney in that
25 case?

Phillips - Direct Page 55

1 A Alan Roth.
2 Q Are you able to tell me -- I know
3 it was almost four years ago, the sum and
4 substance of your opinion in that case?
5 A Yes, sir. It was my opinion that
6 due to the asymmetric design of the seat back,
7 in other words, the seat back in the Ford
8 Explorer only had a recliner on one side, that
9 during the rear impact by a -- I think it was a
10 '98 Dodge Dakota hit it -- that the seat back
11 twisted and Mrs. DaSilva ramped up off the
12 inboard side of the seat that was deforming
13 because there was no recliner mechanism on the
14 inboard side.
15 So she ramped up and off the
16 inboard side, and then when she rebounded, her
17 seat belt had slipped off of her shoulder. So
18 that when she rebounded forward, and when the
19 Explorer hit the vehicle in front of it, very
20 similar to the interaction in this case, where
21 we have an initial rear impact and a subsequent
22 frontal, the seat belt being out of position,
23 then snapped Mrs. DaSilva's spine rendering her
24 a paraplegic.
25 Where the fuel system issue comes

Phillips - Direct Page 56

1 in is that the Dakota knocked the heck out of
2 that Explorer. I mean it, the Dakota, if I
3 remember -- if my memory serves me correctly,
4 weighs about 5,200 pounds, and the Explorer
5 weighs, I think, 4,600.
6 So it was like a tank coming in and
7 hitting that Explorer. And it was an offset
8 rear hit, and it pushed the rear axle all the
9 way up to the back seat of that Explorer, yet
10 the fuel system stayed intact and there was no
11 leaks and there was no post-collision fire.
12 Q Okay.
13 A And that's what I remember of the
14 DaSilva case. And the damage on that Explorer
15 was unbelievable, I mean how bad it was hit.
16 Q Did you offer any opinions about
17 the fuel system in that case?
18 A No, sir.
19 MR. STOCKWELL: I just want to --
20 let's go off the record.
21 (Discussion held off the record.)
22 (Recess taken.)
23 BY MR. STOCKWELL:
24 Q All right. So I have two reports
25 from you, April 22nd, 2009; July 25th, 2011;

<p>Phillips - Direct Page 57</p> <p>1 Exhibits D-1 and D-3 respectively. 2 Since the July 25th, 2011, I'm 3 assuming you've reviewed additional materials, 4 correct? 5 A That is correct. 6 Q Do you have a list of the materials 7 that you've reviewed since then? 8 A No, I do not have an official list. 9 Q Okay. Is everything that's in your 10 file here today? 11 A Everything that's printed is here 12 today. I have some things that are on my 13 laptop that are not printed. 14 Q Okay. 15 A Like the Fenton, Funk, Beauchamps 16 reports. Those I have electronically. And 17 there are other things that I have, I guess 18 depositions and -- no, I'm sorry, not 19 depositions, some other test reports, like the 20 Center for Auto Safety and the Karco tests I 21 have electronically that I don't have all of it 22 printed, but anything that I don't have 23 printed, I have here on my laptop. 24 Q Okay. So you have an electronic 25 file and you have a print file?</p>	<p>Phillips - Direct Page 59</p> <p>1 photographs during the second inspection of the 2 Kline vehicle? 3 A I did not. 4 Q Did you take any measurements of 5 the Kline Jeep in either inspection? 6 A At the first one. 7 Q Personal notes? 8 A Yes, sir. 9 Q At both or just one? 10 A Just the first. 11 Q Okay. What, if anything, did you 12 do at the second inspection? 13 A I basically observed. I answered 14 any questions that I could that Mr. Hannemann 15 may have had in regard to his inspection of the 16 Jeep, because I believe that was his first 17 inspection of the Jeep. 18 So I was just trying to assist him 19 and point out certain things that at least I 20 observed, and I believe, if I remember 21 correctly, I brought my original pictures so I 22 could see my original pictures from May 23 of 2007. 24 Q Okay. Was the vehicle in the same 25 place that it was in Corigliano's lot from the</p>
<p>Phillips - Direct Page 58</p> <p>1 A Yes, sir. 2 Q All right. Did you inspect the 3 Kline Jeep Grand Cherokee? 4 A Yes, sir. 5 Q When did you inspect it? 6 A Initially I inspected it, I believe 7 it was May 9th, 2007; and then there was a 8 subsequent inspection where myself, Neil 9 Hannemann and Paul Sheridan were present, so 10 that was a joint inspection. 11 Q All right. Who was at the first 12 inspection? 13 A Myself and Ms. DeFilippo, from what 14 I recall, and I think somebody from Corigliano 15 Towing. 16 Q And the second inspection, was that 17 also at Corigliano? 18 A Yes. 19 Q At the first inspection did you 20 take photographs? 21 A Yes, sir. 22 Q And those photographs are here 23 today? 24 A Yes, sir. 25 Q Did you also take additional</p>	<p>Phillips - Direct Page 60</p> <p>1 first to the second? 2 A I don't believe it was. 3 Q Where was it in the first 4 inspection? 5 A It was in a fenced in yard in a 6 corner of a fence and it was covered with a 7 tarp. So it was right up in the corner. 8 Q Okay. And where was it for the 9 second inspection? 10 A I think it was moved back. I don't 11 think it was as far up in the corner as it was 12 from the first time. 13 Q Okay. Do you know approximately 14 how far it was moved? Are you able to 15 estimate? 16 A I'd have to look back at those 17 pictures and then I could compare them to my 18 originals. 19 Q Did it have a blue tarp for the 20 second inspection? 21 A It may have. 22 Q You don't recall or -- 23 A I'd have to look at the pictures. 24 I know there's some pictures of the second 25 inspection and I'm in it.</p>

Phillips - Direct Page 61

1 Q Okay.
2 A I can see myself in the pictures,
3 I'm wearing a bright, blue jacket, and I'm
4 like, Oh, that's me. So I'd have to go back
5 and look at those.
6 Q Okay. The notes that you took from
7 the first inspection, do you have those with
8 you?
9 A Yes, sir, I do.
10 Q Okay. I don't want to disrupt your
11 file at all. Is it okay if I mark these or
12 would you rather me make copies?
13 MR. GILL: Make copies.
14 MS. DeFILIPPO: That's fine. I
15 don't care. Whatever you want to do.
16 Q Whatever works for you.
17 A If you want to mark it and make a
18 copy of it and then return the original back to
19 me, I'm fine with that.
20 Q Okay.
21 A That's okay with me.
22 Q Are these all your notes from the
23 first inspection --
24 A Yes.
25 Q -- the page you've handed me?

Phillips - Direct Page 62

1 A Yes, sir.
2 Q All right. So we'll mark this --
3 would you prefer that I mark the back of it or
4 can I just find a spot that --
5 A Oh, just mark the front.
6 MR. STOCKWELL: Okay. Let's mark
7 this as the next exhibit.
8 (Exhibit D-6, Handwritten Notes
9 taken May 9, 2007, is marked for
10 identification.)
11 MS. DeFILIPPO: What is it?
12 MR. STOCKWELL: It's notes, at the
13 top it says May 9th, 2007.
14 MS. DeFILIPPO: No, what's the
15 Exhibit Number.
16 MR. STOCKWELL: It's D-6.
17 Q All right. So Mr. Phillips, I'm
18 showing you D-6. These are the notes that you
19 took from the first inspection you did of the
20 Jeep Grand Cherokee?
21 A That is correct.
22 Q Are these all your notes from that
23 day?
24 A Yes, sir.
25 Q Did you do any calculations that

Phillips - Direct Page 63

1 day?
2 A No, I did not.
3 Q What does the designation under
4 Jeep Grand Cherokee, "PCFFF" stand for?
5 A Post-collision fuel fed fire.
6 Q And it says, I believe, "Air bags
7 not deployed in -- " can you read the rest of
8 that for me?
9 A In frontal hit.
10 Q Okay. So which frontal hit are you
11 referring to?
12 A I'm referring to the impact with
13 the Rawls Subaru. I don't believe that the air
14 bags deployed based on the profile of the
15 passenger's side air bag module.
16 Q In the Subaru?
17 A In the Grand Cherokee.
18 Q Oh, okay.
19 A If you want, I can show you what
20 I'm talking about with a photo.
21 Q Yeah, that would be great.
22 A Okay. Right here.
23 Q Thank you.
24 MR. STOCKWELL: We'll mark this as
25 the next exhibit on the back.

Phillips - Direct Page 64

1 (Exhibit D-7, Photograph, is marked
2 for identification.).
3 Q All right. So I'll show you the
4 photograph, D-7, and can you explain to me
5 what's shown?
6 A Certainly. If you look in the
7 middle of D-7, you will see a grayish silver
8 cylindrical object that the left side appears
9 like it's peeled open, okay? That is the
10 passenger's side air bag inflator module. And
11 you will see there are round holes in it.
12 Those are diffusers. When the air bag module
13 deploys properly, the gases will be vented
14 through the diffuser holes, and then the air
15 bag will deflate -- will inflate on a
16 controlled manner. Okay?
17 And there's multiple holes. If you
18 look, you can actually see them across the
19 bottom, too, of the module.
20 So those holes create a controlled
21 release of the gases so that the air bag just
22 doesn't pop and burst. So it inflates in a
23 controlled fashion. And then it eventually
24 deflates.
25 If you look, the canister where all

Phillips - Direct Page 65

1 of the propellant would be stored, is burst on
2 the inboard side of the canister. In other
3 words, the side of the canister closest to the
4 middle of the vehicle is actually burst.
5 That tells me that the sodium azide
6 or the propellant inside that canister did not
7 deploy in a controlled fashion. It deployed
8 basically explosively, which would be
9 consistent with a fire consuming the canister
10 and then it igniting spontaneously, thus
11 rupturing the canister. So that tells me that
12 that air bag did not deploy in the frontal
13 impact.
14 Q Okay. Were you able to make any
15 determinations as to the driver's side air bag?
16 A Well, in this particular vehicle,
17 it did not have separate controls for the
18 passenger or driver's front bag. So if the
19 passenger bag didn't deploy on the impact, that
20 means the driver's bag didn't deploy. So there
21 isn't a separate circuit for driver or
22 passenger side.
23 Q Okay. So then, based on the
24 photograph in D-7, are you telling me that
25 since you don't believe the passenger side air

Phillips - Direct Page 66

1 bag was deployed as a result of the impact,
2 it's -- I don't want to put words in your
3 mouth -- it's more likely that the driver's
4 side also did not deploy as a result of the
5 impact?
6 A That would be correct. Yes, sir.
7 Q And on the bottom of D-6, can you
8 explain to me what this is? Looks like
9 measurements?
10 A Okay. The diagram on the bottom of
11 D-6 is an overall sketch of the perimeter of
12 the Kline Cherokee. So what I did was I
13 measured from the front of the vehicle and used
14 that as a baseline, and then measured rearward
15 to significant damage profiles of the vehicle,
16 so then I could map out what the crush depths
17 would be from the front.
18 Now, I know the front was also
19 damaged. That's why I have the center line of
20 the wheels marked, so I could go back to what's
21 called the MVMA data, or the Motor Vehicle's
22 Manufacturers Association Data, and then I
23 could then use the front axle as a reference,
24 and then get the crush of the front overhang,
25 which is the distance from the center line of

Phillips - Direct Page 67

1 the front axle to the front bumper, and then
2 use that as my zero line back to then get the
3 references of the rear overhang crush. So then
4 that way I have both front and rear crush
5 identified.
6 Q Okay. What is the 1.6 and what I
7 believe is the front passenger's side tire,
8 what does that mean?
9 A Well, that actually is the driver's
10 side front tire.
11 Q Driver's side?
12 A So that measurement means that it
13 is 1.6 feet back from the leading edge of what
14 was left of the front bumper.
15 Q Okay. What does that indicate to
16 you?
17 A That there was a distance of
18 1.6 feet from the center line of the front
19 bumper -- from the center line of the left
20 front wheel, to the front bumper, which
21 indicated that there was some crush to the
22 front of the vehicle.
23 Q So you measured the front crush
24 from the front left side of the vehicle and
25 from the front right side of the vehicle?

Phillips - Direct Page 68

1 A Correct.
2 Q Did you measure crush in the middle
3 of the front?
4 A It was uniform across the front.
5 Q Oh, okay.
6 A So there was no center indentation
7 that was any worse than the middle than it was
8 on the two sides. So it was a uniform slat
9 profile, but as you can tell, there's a
10 difference of .2 feet between the driver and
11 passenger side --
12 Q Okay.
13 A -- which makes sense because the
14 impact to the Rawls Subaru was offset towards
15 the passenger's side. So that is consistent
16 with the damage profile of the Rawls Subaru.
17 Q Okay. And so is it fair to say you
18 probably visually inspected the center of the
19 front of the vehicle to determine that the
20 crush was uniform?
21 A Well, it's flat.
22 Q Okay.
23 A So there's no increased indentation
24 in the middle that exceeds the left or right
25 front corners.

<p>Phillips - Direct Page 69</p> <p>1 Q Okay.</p> <p>2 A And I can show you pictures of the</p> <p>3 profile of the front to show you that it's</p> <p>4 flat.</p> <p>5 Q Okay. No, that's okay. I</p> <p>6 understand what you're talking about.</p> <p>7 And can you tell us what the 9.5</p> <p>8 and the 9.9 in the rear refers to?</p> <p>9 A That would be the center line of</p> <p>10 the restituted position of the rear axle, post</p> <p>11 collision.</p> <p>12 Q Okay. What does the 11.4 and the</p> <p>13 10.6 indicate?</p> <p>14 A That is the maximum depth of the</p> <p>15 under-ride damage as I observed it and measured</p> <p>16 it on May 7th. So as the rear of the vehicle</p> <p>17 buckled and deformed forward and under the</p> <p>18 floor pan, that is the extent of the under-ride</p> <p>19 damage as it goes across the rear.</p> <p>20 So on the driver's side, the</p> <p>21 residual length is 10.6 as measured from the</p> <p>22 front bumper; and on the passenger's side, it's</p> <p>23 11.4 from the front bumper.</p> <p>24 Q Okay. And again, did you do any</p> <p>25 measurements from the middle of the vehicle?</p>	<p>Phillips - Direct Page 71</p> <p>1 already. The first inspection, it was you --</p> <p>2 it was just you, there were no other experts</p> <p>3 present?</p> <p>4 A Not that I recall.</p> <p>5 Q All right. Any other notes from</p> <p>6 any inspections of the Kline Jeep?</p> <p>7 A No, sir. That's it.</p> <p>8 Q Did you inspect any other Jeep</p> <p>9 Grand Cherokees in connection for this case?</p> <p>10 A Yes. I took photographs of another</p> <p>11 Jeep Grand Cherokee that was actually parked</p> <p>12 right next to the Kline vehicle at the</p> <p>13 Corigliano yard on May 9th, 2007.</p> <p>14 Q Okay. Do you know why that other</p> <p>15 Jeep Grand Cherokee was in Corigliano's yard?</p> <p>16 A I have no idea.</p> <p>17 Q What was the purpose of taking</p> <p>18 photographs of that other Jeep?</p> <p>19 A It appeared to be very similar in</p> <p>20 age to the Kline vehicle, with the exception</p> <p>21 that that particular Jeep had a rear fuel tank</p> <p>22 skid plate, and it had a full sized spare.</p> <p>23 Q Okay.</p> <p>24 A And I took pictures of it just so</p> <p>25 you could see what an undamaged Grand Cherokee</p>
<p>Phillips - Direct Page 70</p> <p>1 A Yes. And that's why I have 11.7 in</p> <p>2 the middle, because it's not as pronounced in</p> <p>3 the middle as it was on the two edges.</p> <p>4 Q Okay. Did you perform any crush</p> <p>5 measurements from any other areas in the rear</p> <p>6 other than the left, the center and the right?</p> <p>7 A I did as I went further back</p> <p>8 because then there was a residual of the rear</p> <p>9 overhang at 12.6 feet and then the other side,</p> <p>10 the passenger's side, was 12.9, so now I have</p> <p>11 my profile.</p> <p>12 Q Okay. All right. And six feet is</p> <p>13 the width of the rear of the Kline Jeep Grand</p> <p>14 Cherokee; is that accurate?</p> <p>15 A Correct. Post collision.</p> <p>16 Q Okay. Did you do any electronic</p> <p>17 measurements?</p> <p>18 A No, sir.</p> <p>19 Q How did you come up with these</p> <p>20 measurements? What did you use?</p> <p>21 A Engineering ruler.</p> <p>22 Q Do you have photographs that show</p> <p>23 you using the engineering ruler?</p> <p>24 A No, sir.</p> <p>25 Q And you probably answered this</p>	<p>Phillips - Direct Page 72</p> <p>1 looked like sitting right next to the damaged</p> <p>2 Grand Cherokee.</p> <p>3 Q Okay. So the other Jeep that was</p> <p>4 there that day wasn't involved in any kind of</p> <p>5 accident?</p> <p>6 A Not that I'm aware of. I mean, I</p> <p>7 was not given any history as to what happened</p> <p>8 to it. It just happened to be parked right</p> <p>9 next to the Kline vehicle.</p> <p>10 Q Okay. Any other Jeep Grand</p> <p>11 Cherokee vehicles that you inspected, looked at</p> <p>12 or photographed for this case?</p> <p>13 A No, sir.</p> <p>14 Q All right. And I see you have what</p> <p>15 look to be calculations?</p> <p>16 A Yes.</p> <p>17 Q Okay.</p> <p>18 A I have calculations, which we can</p> <p>19 get into when we're doing the reconstruction.</p> <p>20 If you want to get into it now, that's fine.</p> <p>21 That's up to you. But I figured you may want</p> <p>22 to go through a lot of the information that I</p> <p>23 have to support these calculations before we</p> <p>24 get there.</p> <p>25 Q Right. Yeah.</p>

<p>Phillips - Direct Page 73</p> <p>1 A That's your choice. 2 Q I'll take a look at them at some 3 point. I just wanted to know -- you have some 4 handwritten calculations and a calculations? 5 A No. I do not do computer 6 calculations. If I do do computer 7 calculations, it's usually just to check my 8 hand calculations. The reason being is, is 9 that a lot of these accident reconstruction 10 programs, such as EDCRASH or EDSMAC, rely on 11 co-efficients of restitution, crush 12 co-efficients, co-efficients of friction, 13 post-impact travel distances, and you have to 14 get those programs so that when you get your 15 error messages, all your numbers converge. So 16 in other words, you come to a common solution. 17 If any parameter is off, you're going to get an 18 error message saying that these two numbers 19 didn't converge. 20 I found it to be much easy earlier 21 if you do it by hand and you break it down into 22 its elemental components and then build the 23 reconstruction from the elemental components. 24 You can eliminate those error messages by 25 trying to dump everything into a model and then</p>	<p>Phillips - Direct Page 75</p> <p>1 after I authored the reports. Because I 2 received Mr. Fenton's report, Mr. Beauchamps' 3 report, Mr. Funk's report, the Center For Auto 4 Safety, I think I got -- I think they're 5 mentioned in the supplemental report. 6 I have a Canada test of a Jeep 7 Grand Cherokee, but it was of a 1999 model, 8 which is a different platform, so I couldn't 9 use it. Because it would not give me results 10 that were applicable to the '97 Grand Cherokee, 11 but I have it and I brought it in case you want 12 you want to look at it, it's a part of my file, 13 so here it is. But I have it, but I didn't 14 list it because I'm not using it. 15 Q Was it a rear end test? 16 A Yes, it is a 301 CMVSS test. In 17 other words, the Canada Motor Vehicle Safety 18 Specification test. 19 Q Okay. Have any of the materials 20 that you've received since July 25th, 2011, 21 caused you to change the opinions in either of 22 your reports? 23 A No, sir. 24 Q All right. And looking -- can you 25 tell me, I'll give you both of the reports.</p>
<p>Phillips - Direct Page 74</p> <p>1 run it first shot and then have to tweak it to 2 fix it. 3 It takes too many runs, wastes too 4 much time. If you understand what's called 5 Campbell's formula, in other words, the unit 6 energy per inch of crush on a vehicle, that's 7 the basis for all of these accident 8 reconstruction programs. 9 If you can understand how to work 10 the equation manually, it's so much simpler, 11 and it's so much easier to understand. And you 12 don't have to deal with the error messages. 13 So that's my preference. But if I 14 have to check it, I'll go to EDCRASH, I will go 15 to EDSMAC, I'll run it. But even in this 16 particular case -- and I'm sorry for 17 digressing -- but my numbers match Mr. Fenton's 18 delta-v fairly closely, so I know we're about 19 the same ballpark. We have differences in 20 other areas, but as far as our delta-v's go, we 21 calculate out pretty close. 22 Q Other than what's listed in either 23 of your reports, did you obtain information 24 from any other sources? 25 A I would say yes, but most of it was</p>	<p>Phillips - Direct Page 76</p> <p>1 D-1 and D-3, April 22nd, 2009 and then 2 July 25th, 2011. 3 Can you tell me what information 4 was added in the supplemental report? 5 A The Center For Auto Safety crash 6 tests. I went through the Chrysler FMVSS 301 7 tests, and developed crush coefficients for 8 each one of the crash tests, and then 9 normalized that data to come up with a singular 10 crush coefficient. 11 I also received a Karco crash test 12 and created crush coefficients off of that. I 13 received Mr. Durisek's, report which I did not 14 have before. Of course, the Chrysler 15 production under subpoena duces tecum, which 16 was the 301s. And some other depositions, but 17 they weren't really pertinent to the 18 development of the crash test coefficients, 19 which is what I was most interested in. 20 I hope that answers the question 21 thoroughly enough for the purposes of 22 reconstruction, because a lot of the 23 depositions were more about the design, 24 testing, and defect investigation, not so much 25 reconstruction issues.</p>

<p>Phillips - Direct Page 77</p> <p>1 Q Right. Okay. I'm sorry, which 2 tests again did you utilize to come up with the 3 coefficient? 4 A The Chrysler FMVSS 301s. I believe 5 there was 29 of them. 22, if my memory serves 6 me correct, had enough detail in order for me 7 to normalize the data into crush coefficients. 8 I used the Center for Auto Safety 9 tests. One was run on their own facility, I 10 think in Virginia; the other one was run by 11 Karco out in California. 12 Q Okay. Were those tests, were they 13 offset collisions? 14 A Yes, they were. With the exception 15 of the 301s. Those were full rear flat moving 16 barriers. 17 Q Right. How did you obtain -- 18 strike that. 19 Were you at the Center for Auto 20 Safety tests? 21 A No, sir. 22 Q Were you at the FHWA tests? 23 A No, sir. 24 Q Were you asked to provide any input 25 as to how either the Center for Auto Safety or</p>	<p>Phillips - Direct Page 79</p> <p>1 serves me correct, that was the original 2 request. 3 Q Okay. 4 A But I don't believe anybody else 5 made it from -- that would be working on the 6 Kline case except for Paul Sheridan. 7 Q Okay. The original request from 8 whom? 9 A I don't remember. I just -- I just 10 remember there being a request that somebody's 11 got to observe it. And everybody started 12 scrambling trying to make arrangements to get 13 out there and I had a conflict and I knew I 14 couldn't, and I had tried to get a hold of Neil 15 to see if he could go, and the whole thing was 16 just a big scramble. 17 Q Okay. All right. And it says 18 in -- I'm going to give you the reports to make 19 this easier and I'll get my own copies. 20 In the second report dated 21 July 25th, 2007, at the bottom of the first 22 paragraph it says, "National Forensic 23 Engineers, Inc., was asked to determine the 24 pre-impact speeds of the vehicles involved." 25 Was that the only thing National</p>
<p>Phillips - Direct Page 78</p> <p>1 FHWA tests were going to be performed? 2 A No, sir. 3 Q Did you know that they were going 4 to happen before they did? The Center for Auto 5 Safety tests? 6 A I knew the Karco test was going to 7 be run. I did not have notice of the other 8 test. 9 Q How did you know the Karco test was 10 going to be run? 11 A I believe at the time there was a 12 request made that one of the engineers needed 13 to be present, and if memory serves me 14 correctly, we were scrambling to find out who 15 could be there to observe the test. 16 And I know I spoke to Neil 17 Hannemann about it, because I think I had a 18 conflict and I couldn't get out there and I -- 19 I'm not exactly sure how it resolved. I think 20 Paul Sheridan went ultimately, but I don't 21 think -- I don't think Neil went and I didn't 22 go. 23 Q So one of the engineers from the 24 Kline case needed to be out there? 25 A That would -- I think, if my memory</p>	<p>Phillips - Direct Page 80</p> <p>1 Forensic Engineers was asked to do in this 2 case? 3 A At the time of the authoring of 4 that report, yes, sir. 5 Q And can you explain or define for 6 me what pre-impact speed means? 7 A The pre-impact speed would be the 8 speed of the vehicles prior to impact, and that 9 would include, if available, any evidence of 10 pre-impact braking. 11 So if there was any braking 12 distances that could be determined prior to the 13 impact, then that would go into calculating the 14 initial speed of the vehicle before the event 15 starts. 16 Q Did you find any evidence of 17 pre-impact braking in the Kline case by any of 18 the vehicles involved? 19 A Based on my analysis and review of 20 the evidence that I had available to me, there 21 was not any pre-impact braking evidence that 22 could be obtained, either through the police 23 report, the documentation by the police, or the 24 scene evidence as documented. 25 Q Did you visit the scene of the</p>

<p>Phillips - Direct Page 81</p> <p>1 accident? 2 A Yes. I visited the scene for 3 purposes of this case, at least twice; and I 4 have driven over it over a hundred times? 5 Considering that 287 is my main route from my 6 residence in New Jersey to Newark Airport. 7 Every time I go that way, I drove over that 8 spot and I always was looking at it. 9 Q Okay. Were you ever able to see 10 anything as you were driving past it? 11 A What I was able to see was the burn 12 spot which was on the dotted line separating 13 the far right lane from the middle lane. 14 It was very difficult to make out 15 any gouge marks because as time progressed, 16 those gouge marks became more and more faint, 17 so I had to rely on the police photographs of 18 those marks for their location and 19 documentation. But the major item was the burn 20 spot and where it was in relationship to exit 21 number 42. 22 Q Okay. And on those occasions -- 23 well, strike that. 24 So you've driven past it and there 25 were times that you also stopped your vehicle</p>	<p>Phillips - Direct Page 83</p> <p>1 videos from either of the troopers involved? 2 A Yes, sir. 3 Q Is that -- that's in electronic 4 format in your computer? 5 A Those are on disks in this white 6 folder at the bottom of the stack. The DVDs 7 are there. 8 Q Okay. All right. So the 9 July 25th, 2011 report, and I'm using that 10 because a lot of the information in the 11 supplemental is the same as the April report. 12 A That is correct. 13 Q At the top of Page 2, "Neptune 14 frontal crush crash coefficients." Can you 15 explain for me what that is? 16 A Neptune Engineering has a database 17 that is subscription format that you can buy 18 crash crush coefficients from known published 19 crash tests. So what Neptune has done is 20 they've bought crash tests, whether they're 21 performed by NHTSA or Karco or Calspan, whoever 22 it is, they actually buy the full report, and 23 then calculate out all the different crush 24 coefficients for all of the different available 25 accident reconstruction programs.</p>
<p>Phillips - Direct Page 82</p> <p>1 and got out to inspect the actual scene? 2 A Yes. I believe it was on May 7th 3 of 2009, I stopped on that grass triangle and 4 walked up and down the shoulder and looked at 5 the burn spot and any evidence that was there, 6 and if my memory serves me correct, once I had 7 my hands on the police accident report, I 8 verified the markings from the report at the 9 site and verified that what I was seeing was 10 indeed from this accident. 11 And then from that point I relied 12 on the police accident report for measurements 13 and locations because if you know 287, it's 14 next to impossible -- 15 Q Sure. 16 A -- to measure anything on that 17 roadway because the traffic is so heavy. 18 Q Did you ever take any of your own 19 photographs of the scene? 20 A No. As I said, the police scene 21 evidence were the best photographs available 22 and anything that I took after fact would not 23 have added anything to what the New Jersey 24 state troopers did. 25 Q Do you have copies of dash camera</p>	<p>Phillips - Direct Page 84</p> <p>1 So if you're using EDCRASH, it 2 gives you coefficients A and B. If you're 3 using Campbell's method, like I do, it gives 4 you B-0 and B-1. So it gives you all the 5 different values. It gives you the test 6 weights, the test speed, and the weights of the 7 vehicle, so you can adjust your coefficients 8 based on your accident scenario versus the 9 known crash test. 10 So I obtained crush coefficients 11 from Neptune for the '96 Grand Cherokee and the 12 2004 Toyota Sienna minivan. 13 Q What is the information that 14 Neptune provides? What does that tell you? 15 A It gives you the ability to 16 calculate out an equivalent barrier speed for 17 the amount of damage that you have observed and 18 measured on the vehicle in comparison to a 19 known crash test. Because no two crashes are 20 exactly the same. 21 So if you take a known crash test 22 where you have all the statistics: The weight, 23 the speed, the impact angle orientation, you 24 have all that, then you can take that data that 25 Neptune reduced down into the coefficients, and</p>

<p>Phillips - Direct Page 85</p> <p>1 then plug that into whatever methodology you're 2 using, and you can apply it appropriately for 3 your crash scenario. 4 Q Okay. I've heard other experts use 5 the term, "stiffness data" similar to what 6 you're designing. Is that another -- 7 A Another way to describe the same 8 thing -- 9 Q Okay. 10 A -- because the stiffness 11 coefficient or the crush coefficient is the 12 amount of energy equated, depending oven which 13 program it is, it's either inch, pounds per 14 inch, miles per hour per inch, it's all 15 basically -- and the same thing just in 16 different formats. 17 Q Okay. Do you have copies of the 18 data you used? 19 A Yes, sir, I do. 20 Q Can I take a look? 21 A If you want, I'll just hand them to 22 you in the way that they're grouped. 23 So here's the MVMA data for the 24 2004 Toyota Sienna with the VIN analysis, the 25 exterior dimensions and the Neptune crush or</p>	<p>Phillips - Direct Page 87</p> <p>1 subscripts. The first one will be X subscript 2 C; and then the next column to the right will 3 be b0. The next one is b1. Those are the 4 coefficients that I use. And since I'm using 5 Campbell's method, Campbell utilizes the 6 coefficients b0 and b1. If I was to use 7 EDCRASH, I would use the coefficients A and B. 8 So those would be the numbers that I would plug 9 into my computer program of EDCRASH if I was 10 running that. Remember, I told you earlier, if 11 I'm not -- if I want to check my results, I can 12 use EDCRASH? 13 Q Right. 14 A So I could use these coefficients 15 and EDCRASH to check my Campbell's method using 16 b1 and b0. So any time you see b1 and b0, 17 those are the coefficients that I'm using. 18 And typically what I'll do is I'll 19 normalize that data. There's three crash 20 tests. So I will take all three and average 21 them so I get a more representative number of 22 what the crash values stiffnesses are, just in 23 case there's an anomaly, like something weird 24 happened in the crash test and my coefficient 25 is out of range, this way I normalize the data.</p>
<p>Phillips - Direct Page 86</p> <p>1 stiffness coefficients. That's a three-page 2 document. 3 MR. STOCKWELL: All right. D-8.. 4 (Exhibit D-8, Motor Vehicle Data, 5 2004 Toyota Sienna MPV, is marked for 6 identification.) 7 Q So D-8 is the Toyota Sienna. 8 A And the next three-page document is 9 the same information for the Jeep Grand 10 Cherokee. 11 Q Okay. And then this one will be 12 D-9.. 13 (Exhibit D-9, Motor Vehicle Data, 14 1996 Jeep Grand Cherokee, is marked for 15 identification.) 16 Q All right. So handing you D-8, are 17 you able to tell me which data you used as part 18 of your analysis? 19 A Yes, sir. 20 Going to the third page of D-8,, 21 which is the Neptune Vehicle Crush Stiffness 22 Coefficients, if you go across the top of the 23 page and you look on the right side of the 24 page, you'll start to see columns that are 25 labeled with some strange letters and</p>	<p>Phillips - Direct Page 88</p> <p>1 I did the same for the 301s. I took 22 of them 2 and averaged them. 3 Q Okay. 4 A So that's essentially what I did. 5 Q Okay. And that number, after 6 normalizing, is what you plugged into your 7 calculation? 8 A Correct. 9 Q And with regard to the Jeep Grand 10 Cherokee tests, would that be the same thing, 11 D-9, you used the b0 and b1? 12 A Yes, sir. 13 Q And, you know, could you tell me 14 how many tests all together there were on this? 15 A For the Grand Cherokee they gave 16 stiffness coefficients for three of them, even 17 though there's seven listed. They only have 18 coefficients for three of the seven. 19 Q Okay. All right. So this is all 20 of the Neptune data that you used in your 21 calculations in this case? 22 A Yes, sir. 23 Q D-8 and D-9.. 24 And you've begin us your crush 25 measurements and damage widths, that's on D --</p>

<p>Phillips - Direct Page 89</p> <p>1 A 6. 2 Q -- 6. Okay. Did you include 3 restitution in your calculations? 4 A The restitution is included in the 5 measurements that I took. I did not take into 6 account dynamic effects. 7 Q Are you able to tell me what value 8 you used for the restitution in these 9 measurements? 10 A The restitution is already 11 included. The vehicle has already restituted 12 itself. So the vehicle has already bounced 13 back. 14 Q Okay. 15 A If you want, I'll try to explain it 16 more. 17 Q Yeah, that would be great. 18 A During a crash test, you will have 19 what's called maximum dynamic crush. In other 20 words, at the point when the crash testing is 21 being run, when the vehicle actually, 22 physically stops, when it's hitting the 23 barrier, it will have a crush depth distance 24 that exceeds the distance after rebound. 25 If you can envision a crash test in</p>	<p>Phillips - Direct Page 91</p> <p>1 the dynamic point could have been more than 2 that 1.8? 3 A Yes, it could have been more than 4 that. 5 Q All right. I understand now. 6 A Okay. There are papers that have 7 been written on it, and in some cases they have 8 documented dynamic crush to be 60% greater than 9 the static restituted crush. But that's under 10 just certain circumstances. It's typically not 11 that high. But it can be potentially that 12 high. It all depends on where you hit it, how 13 you hit it, what's collapsing, what's staying 14 intact. 15 Q All right. We'll take a look at 16 that in a couple of minutes, but let me ask you 17 this: Were you able to inspect the Alcala 18 Sienna? 19 A Yes, sir. 20 Q When did you inspect it? 21 A On July 2nd of 2007. 22 Q Was there anybody else with you 23 when you did the inspection? 24 A The attorney for the insurance 25 company that was representing the Alcala</p>
<p>Phillips - Direct Page 90</p> <p>1 your mind, that the vehicle goes down the track 2 and it hits the flat barrier, it hits, and 3 right at the millisecond or fraction of a 4 second when it first stops when it hits the 5 wall and all motion ceases, at that point you 6 have the maximum dynamic deflection. So the 7 most it's going to collapse or crush is gonna 8 be at that point in time. 9 Then you have rebound, where the 10 vehicle will actually bounce back off of the 11 wall. That's restitution. So when the vehicle 12 jumps back off of the wall and now you have a 13 separation distance, everything that had 14 compacted initially, some of it will spring 15 back. Some of it will actually move back. 16 So the restituted distance is what 17 you're actually measuring statically after the 18 test is over. And in this case, what's 19 measured statically after this accident is 20 over, is the restituted distance. It's not the 21 dynamic crush, when everything is still 22 touching. 23 Q Okay. And let me ask this, 24 probably in an inartful way. The 1.8, for 25 example, are you saying that the crush -- that</p>	<p>Phillips - Direct Page 92</p> <p>1 family. 2 Q Okay. Anybody else? 3 A My daughter, maybe. 4 Q Ms. DeFilippo, too, or -- 5 A No. 6 Q So you went out -- sorry? 7 MS. DeFILIPPO: I was there. 8 THE WITNESS: You were? I don't 9 remember you being there. 10 MS. DeFILIPPO: Well -- okay, but I 11 was. 12 THE WITNESS: I thought my daughter 13 was there. 14 (Discussion held off the record.) 15 Q All right. So aside from 16 Ms. DeFilippo, yourself, possibly your daughter 17 and a representative for the Alcala insurance 18 company, was there anybody else present during 19 that inspection? 20 A No, sir, not that I recall. 21 Q Do you know offhand approximately 22 how long you were there? 23 A About two hours. 24 Q Did you take photographs? 25 A Yes, sir.</p>

<p>Phillips - Direct Page 93</p> <p>1 Q And those photographs are with you 2 today? 3 A Yes, sir. 4 Q And you also took measurements? 5 A Yes, sir. 6 Q Did you prepare any notes in 7 connection with those measurements? 8 A The notes would be contained on my 9 inspection sketch. 10 MR. STOCKWELL: All right. Let's 11 do that as the next exhibit. 12 Just for the record, I'm marking 13 D-10, which is dated July 2nd, 2007, appears to 14 be notes -- well, they are notes that you took 15 from your inspection of the 2004 Alcala Sienna? 16 THE WITNESS: Yes, sir. 17 (Exhibit D-10, July 2nd, 2007, 18 notes from inspection of the 2004 Alcala 19 Sienna, is marked for identification.) 20 Q All right. You have a notation 21 here, Bridgestone something or other with 22 P225/70R1798T. 23 Are those the tires that were on 24 the Alcala at the time of your inspection? 25 A Yes, sir. Bridgestone Turanza,</p>	<p>Phillips - Direct Page 95</p> <p>1 A Yes. 2 Q Do you have copies of what you 3 utilized? 4 A Yes, I do. It's electronic for the 5 NCAP, and that would have to be provided, I 6 guess at a later time. 7 Q Okay. 8 A I have a disk. That -- I can 9 produce a disk. I have it electronically. I 10 can make you a disk. 11 Q Okay. All right. So on the bottom 12 of page second, you mention, referring to the 13 police report, that "The post impact travel of 14 the Morris-Kline Grand Cherokee was scaled to 15 be approximately 80 feet." 16 A Yes, sir. 17 Q Can you tell me what you mean, 18 "scaled to be approximately 80 feet"? 19 A On the accident diagram, on the 20 bottom of each page, the trooper put a scale 21 reference on the bottom of each page. So using 22 that scale reference, I used that in 23 association with the diagram as he drew it on 24 the page to determine the post impact travel 25 distances or the significant distances that</p>
<p>Phillips - Direct Page 94</p> <p>1 EL42, that's correct. 2 Q What does it say, "All glass broke 3 except -- " 4 A " -- except passenger's side front 5 door." 6 Q Okay. Could you read for me what 7 this says? 8 A Sure. It says, "Front burned 9 alloys. So it had alloy wheels, and the front 10 of the car was burned. And the next that I 11 have, "D/S" meaning driver's side, not belted. 12 So based on my inspection of the 13 Morgan-Alcala Toyota Sienna minivan, Ms. Alcala 14 was not wearing her seat belt at the time of 15 the collision. 16 MR. STOCKWELL: Okay. Good time 17 for a brief break. 18 (Recess taken.) 19 BY MR. STOCKWELL: 20 Q So we're back on. 21 On the top of Page 2 of your 22 July 25th, 2011, report, it also says you 23 reviewed the May 25th, 2011 research on FMVSS 24 208 and NCAP Testing for occupant injury values 25 and survivability."</p>	<p>Phillips - Direct Page 96</p> <p>1 would be needed to perform the reconstruction. 2 Q Okay. And does that include 3 distance, its final resting spot after impact 4 with the Subaru? 5 A Yes. 6 Q All right. And it's your 7 conclusion that the pre-impact speed of the 8 Alcala Sienna was 51.8 miles per hour? And I'm 9 looking on Page 3. 10 A Yes, sir. 11 Q Okay. And it says, "The pre-impact 12 speed does not include any allowance for speed 13 lost in pre-impact braking? 14 A That is correct. 15 Q But I think you said before you 16 didn't find any evidence of pre-impact braking? 17 A That is correct. There were no 18 marks as noted by the New Jersey State Police 19 of tire marks prior to the initial impact. 20 They noted tire marks post-impact, but didn't 21 note any pre-impact. 22 Q All right. So to arrive at the 23 pre-impact speed, you used the crush and the 24 post-impact travel, correct? 25 A That is correct.</p>

<p>Phillips - Direct Page 97</p> <p>1 Q All right. How much energy was 2 involved in damaging the rear of the Jeep Grand 3 Cherokee? Is there a way to quantify that? 4 A Yes. If you -- if I go to my 5 calculations, based on the front crush of 6 17.4 inches, I calculated a 33.6-mile per hour 7 equivalent barrier speed for the front impact 8 to the Toyota to create the crush profile as 9 observed. 10 Q Okay. How much energy was involved 11 in damaging the front of the Kline Cherokee? 12 A The front of the Kline Cherokee? I 13 believe, if my memory serves me correct, is 14 18.9 miles per hour. 15 Q And how much energy was involved in 16 damaging the rear of the Subaru? 17 A 18.9. Because I did not inspect 18 the Rawls Subaru for its overall length and 19 dimensions, so I assumed that the crush profile 20 of the front of the Grand Cherokee would be 21 identical to the rear of the Rawls Subaru. 22 Q Okay. Do you know how much energy 23 was required to push the Kline Jeep Grand 24 Cherokee to its final resting point? 25 A Yes, sir. That would have been</p>	<p>Phillips - Direct Page 99</p> <p>1 hour pre-impact speed, absent any pre-impact 2 braking that I arrived at for the Morgan-Alcala 3 minivan. 4 Q Can you show me that calculation? 5 A Certainly. 6 Right there. 7 Q All right. We'll mark this. You 8 have a lot of pages of calculations. Do they 9 all relate to each other? 10 A Yes, they do. 11 Q Why don't we put them all together. 12 And would you like me to write page numbers 1, 13 2, 3, 4 or do you want to leave it as it is? 14 It's your file so I don't want to mess with it 15 or maybe we can make a copy. 16 A I guess that's fine, make a copy 17 and then you can do with it -- 18 Q Let's do that. Because these 19 are -- I don't want to mess with his original 20 handwriting. 21 So Mr. Phillips, I'm going to mark 22 Exhibit D-11, which is a copy of the 23 calculations that you provided to me. They are 24 six pages and I'm numbering them in the top 25 right-hand corner, 1 through 6.</p>
<p>Phillips - Direct Page 98</p> <p>1 approximately 31 miles per hour to be able to 2 slide to a rest in 80 feet. 3 Q And how much energy was required to 4 push the Subaru to rest? 5 A To push the Subaru to rest would 6 have been the equivalent of traveling 7 37.9 miles per hour to travel 120 feet. 8 Q Where does the energy come from to 9 push the Subaru to rest? 10 A It comes from the impact from the 11 front of the Kline Grand Cherokee. 12 Q Does it also come from the -- does 13 it originate from the impact of the Alcala 14 Sienna? 15 A Yes, it does originate from there. 16 You have the initial impact from the Alcala 17 Sienna minivan into the rear of the Kline 18 vehicle. Then the Kline vehicle separates off, 19 hits the rear of the Rawls vehicle which 20 accelerates it and pushes it to its final rest. 21 120 feet later. 22 Q Did you perform one calculation 23 that encompasses all of that from the first 24 impact of the Sienna through the Subaru? 25 A Yes. And that's the 51.8 miles per</p>	<p>Phillips - Direct Page 100</p> <p>1 MS. DeFILIPPO: Did you mark your 2 copy that you're writing on? 3 MR. STOCKWELL: This is what I'm 4 going to mark now. She's going to mark it 5 right now. 6 MS. DeFILIPPO: So for the record, 7 you're marking the numberings on the pages of 8 the exhibit that we're marking D-11? 9 MR. STOCKWELL: Correct. 10 MS. DeFILIPPO: There was no 11 numberings prior to you, Counsel, putting his 12 own numbering system on it. 13 MR. STOCKWELL: Correct. 14 MS. DeFILIPPO: Okay. 15 (Exhibit D-11, Handwritten Notes 16 and Calculations, is marked for 17 identification.) 18 Q Why don't we trade, just so you can 19 use the one that's marked and I'll follow 20 along. 21 Now using Page 1 of D-11, can you 22 tell us what these figures are here? 23 A Starting from the top of the page, 24 I just have a heading called "Cherokee." And 25 where you have the different subtractions</p>

<p>Phillips - Direct Page 101</p> <p>1 taking place, those are the subtractions to 2 determine what the crush distance or overhang 3 distance measurements are as compared to what 4 the stock length would be to help to try to 5 determine what the overall crush profile in 6 inches would be. 7 So I'm taking the measurement in 8 feet, subtracting out the difference, and then 9 I come up with the inch conversion. Like you 10 can see the first one where I have 9.9 feet 11 minus 1.8 equals 8.1 feet, and then converted 12 that into inches is 97.2 inches. 13 Q Okay. 14 A So I go down -- after determining 15 these different measurement references, I go 16 down to the lower third of the page where I 17 have the 9.9 plus the 8.9, and then I average 18 the two. So now the wheel base I have as an 19 8.3-foot average wheel base, because I know 20 that the vehicle was crushed between the center 21 line of the front and rear axles. So some 22 crush was absorbed there. 23 And then the next one goes to the 24 rear overhang, so I have the 11.4 average. So 25 then that gives me a 10.35 crush average. And</p>	<p>Phillips - Direct Page 103</p> <p>1 Using the coefficients b0 and b1, 2 which come from Neptune, and the crush depth of 3 11.1 inches, that gives me the equivalent of 4 18.9 miles per hour frontal crush of the 5 Cherokee, which would equate to the same damage 6 of the rear of the Subaru. And that's just 7 based on the simple assumption that whatever 8 the front of the Cherokee hit the back of the 9 Subaru with, that same crush profile should be 10 equivalent because they experienced the same 11 impact. 12 Does that make sense? 13 Q Yes. 14 A So then going to the police 15 accident diagram which we discussed, the 16 scaling, so from the police accident diagram, I 17 scaled off that it's 80 feet for the Jeep, 18 slide to rest; 65 feet for the Toyota skid to 19 stop, because it's not a slide, there's actual 20 tire marks. So the officer is indicating that 21 there are actual physical marks on the roadway, 22 so that enables me to use a different 23 deceleration rate. And then 120 feet for the 24 Subaru, slide to rest, based on the police 25 accident scene diagram.</p>
<p>Phillips - Direct Page 102</p> <p>1 then I take into account the difference with 2 the wheel base and then I come up with an 3 overall crush rear distance equivalent of 4 21.3 inches. 5 So that's the normalized profile. 6 So if I take into account the difference 7 between the left and the right sides, because 8 it's not uniform, one side's pushed in more 9 than the other, if you kind of straighten it 10 out and make it one straight line, that's how I 11 come up with the 21.3. 12 So that assumes that the back end 13 of the Grand Cherokee was uniformly crushed, 14 21.3 inches from its stock length across the 15 rear. That explains Page 1. 16 Now you go to Page 2 where the 17 front overhang is 31.5 inches. Remember I 18 discussed the difference between the left and 19 right side on the front. So now I've got the 20 1.7 foot average, which is now the average 21 distance of the front crush because we have the 22 difference between the left and right side. So 23 that's 20.4 inches, which means that I have a 24 normalized crush depth of 11.1 inches across 25 the front.</p>	<p>Phillips - Direct Page 104</p> <p>1 Going back to the Cherokee, I have 2 the 21.3 rear crush, and you see where it says, 3 "assumed coefficient"? 4 Q Yes. 5 A This calculation was actually done 6 when I did my original report of 2009. Because 7 at the time I didn't have the crash tests to 8 evaluate what the rear crush coefficients were 9 for a '96 Grand Cherokee. They weren't 10 available. 11 So I assumed coefficients of b1 as 12 1.3 mile per hour per inch, and I assumed an 13 equivalent rear bumper strength of four miles 14 per hour. 15 Without getting into nauseating 16 detail about Campbell's formula, the bumper is 17 assumed to be a rigid structure that once it's 18 overcome, it no longer plays any role in the 19 crush characteristics of the vehicle. So 20 before you can actually crush the Vehicle one 21 inch, you have to exceed four miles an hour to 22 get through the bumper. That's what b0 stands 23 for. 24 Q Okay. 25 A So that's the amount of energy you</p>

<p>Phillips - Direct Page 105</p> <p>1 have to absorb before you dent a fender. You 2 have to get through that bumper. 3 So I assumed the rear bumper to 4 have a four-mile per hour strength. So using 5 the rear overhang of 21.3, with the 1.3 miles 6 per hour per inch, comes up with an equivalent 7 31.7 miles per hour rear under-ride. 8 So using that rear under-ride with 9 the 18.9 mile per hour front hit and the 10 80-foot post-collision travel distance, comes 11 up to approximately -- 48.2 miles per hour 12 using the conservation of energy technique. 13 So in other words, you take the 14 equivalent mile per hour per event, square it, 15 add the squares, and take the square root, and 16 that gives you the equivalent energy it would 17 take to hit the rear at 31.7, hit the front at 18 18.9, and push it 80 feet. 19 Q Okay. So you don't need to, then, 20 in order to arrive at an accurate pre-impact 21 speed, you don't need to add into this 22 calculation the 18.9 into the rear of the 23 Subaru and the distance that the Subaru 24 traveled? 25 A No. That energy has been absorbed</p>	<p>Phillips - Direct Page 107</p> <p>1 So using that number, now I come up 2 with a low of 29.13 miles per hour instead of 3 31.7. Does that makes sense? 4 Q Yeah. The CAS test, though, that 5 was and offset. Does change the analysis at 6 all? 7 A It does to the extent that it will 8 alter the crush coefficients, but what's weird 9 is is that because the crush coefficient from 10 the CAS test is actually lower than the assumed 11 value that I have, that means that the amount 12 of energy that it takes to crush one inch of 13 the vehicle is less in the CAS test than it is 14 in the assumed coefficient that I worked with 15 initially. 16 So that means the severity of the 17 impact, in order to get the same amount of 18 crush, it takes less speed. So even though 19 it's offset, the impulse is less severe because 20 you're getting more crush distance for less 21 speed. 22 And I don't mean to be difficult, 23 but this accident was a little offset as well. 24 It wasn't full overlap. I think it was offset 25 by about a foot. So we have -- we have some</p>
<p>Phillips - Direct Page 106</p> <p>1 because the post-impact travel distance is the 2 80 feet. So we're still moving at 80, we're 3 still moving at 80 feet, so that's how I 4 account for that energy. 5 Q Okay. All right. So...I 6 understand. 7 The 120 feet -- so you're saying 8 that the police, when they scaled the Jeep 9 Grand Cherokee to 80 feet, included the energy 10 that was transferred into the Subaru? 11 A Right. 12 And the Subaru traveled 120 feet. 13 So there's that energy that was given to it by 14 the Grand Cherokee. In addition to the 18.9, 15 okay? Does that make sense? 16 Q Yes, I got it. Thanks. 17 A Okay. Now, just before you move 18 off of Page 3, if you look at the left-hand 19 side of the page it says, "New numbers, CAS 20 test." So that's the Center For Auto Safety. 21 So I used the new coefficients which lower the 22 crush coefficient from 1.3, which is what I 23 assumed to be a representative number for the 24 rear of the Cherokee. Based on that crash test 25 I came up with 1.18 miles per hour per inch.</p>	<p>Phillips - Direct Page 108</p> <p>1 characteristics that are similar here, in the 2 analysis. And I can show you that with the 3 photographic evidence, if you want. Now or 4 later. 5 Q Why don't we do that later. I'd 6 like for you to show me where you arrived at 7 the one foot offset. From the photographs. 8 A Sure. If you look at my notes from 9 second -- July 2nd, 2007, you'll see -- 10 Q And that's D-10? 11 A Yes, sir. You'll see where I have 12 a note where it says, "Direct scratch." You'll 13 see the lines 5.5 and 5.1. 14 Q I see that. 15 A And the overall width of the 16 vehicle is 6.5 feet? That 5.5 line, based on 17 my observations of the Morgan-Alcala Toyota 18 Sienna minivan, told me that there was a one 19 foot offset between the front of the 20 Morgan-Alcala Toyota and the rear of the Kline 21 Grand Cherokee. 22 And that's also mimicked, if you 23 look at my inspection notes of the Kline Grand 24 Cherokee, which was previously marked. 25 Q Here we go.</p>

<p>Phillips - Direct Page 109</p> <p>1 A Thank you. You'll see that on the 2 rear, you'll see the under-ride on the driver's 3 side rear is 10.6, and the under-ride on the 4 passenger's side rear is 11.4. 5 So you have more crush on the 6 driver's side, less crush on the passenger's 7 side, which matches the Morgan-Alcala vehicle 8 being offset one foot, essentially to the left. 9 And if you want, I can show you the 10 pictures of the Morgan-Alcala minivan to show 11 you those scratches and to show you where and 12 how that manifests itself. 13 Q Sure. While you're doing that, if 14 I divide one foot into six foot, would you 15 agree that that's about a 16.6% offset? Is 16 that fair? 17 A One foot into -- yeah, that sounds 18 about right. 19 Q Okay. 20 A I pulled three pictures of the 21 Alcala minivan of the front hood. 22 Q You know what? Let me mark this 23 first. Do you need to refer to all three 24 photographs? 25 A Yes.</p>	<p>Phillips - Direct Page 111</p> <p>1 width of the front of the Morgan-Alcala minivan 2 are basically horizontal or parallel with the 3 ground. 4 So when that damage and that the 5 impact occurred, the back of the Kline Cherokee 6 was parallel with the front of the 7 Morgan-Alcala vehicle. 8 The reason why I'm saying that is 9 because according to Mr. Fenton, he says the 10 vehicle was at an angle. It appears to be 11 somewhere between 35 -- I mean, 30 degrees, 12 maybe 40 degrees, at a roll angle. That damage 13 profile cannot exist as shown in D-12 if the 14 vehicle is rolled at a 30-degree angle. 15 Those dents would be angled in the 16 picture, and those scratches would be at an 17 angle. They would not be parallel with the 18 length of the vehicle and parallel with the 19 ground. 20 So that tells me that at maximum 21 engagement those two vehicles were squared up, 22 parallel with each other, and both parallel to 23 the ground, not rolled at any angle. There's 24 probably still a pitch angle, if you know what 25 I mean by pitch.</p>
<p>Phillips - Direct Page 110</p> <p>1 MS. DeFILIPPO: D-12, D-13 and 2 D-14? 3 MR. STOCKWELL: Yeah. 4 (Exhibit D-12, Photograph, is 5 marked for identification.) 6 (Exhibit D-13, Photograph, is 7 marked for identification.) 8 (Exhibit D-14, Photograph, is 9 marked for identification.) 10 A And actually I'll add a fourth. 11 Q Okay. 12 (Exhibit D-15, Photograph, is 13 marked for identification.) 14 A Looking at D-12, which is a 15 close-up photograph of the hood, you will see 16 linear scratches that go -- start at the 17 leading edge of the hood and move straight 18 back. Those are the scratches that I'm 19 referring to in D-10 as direct scratches which 20 would be associated with contact from the Kline 21 Grand Cherokee when the under-ride occurred. 22 And what's interesting to note is 23 that they're straight back, all the scratches. 24 They're not angled. They're not slanted. And 25 the transverse, or the dents that go across the</p>	<p>Phillips - Direct Page 112</p> <p>1 Q Right. 2 A So the back end of the Kline 3 vehicle's up, so you have it pitched forward, 4 and the front of the Morgan vehicle is gonna be 5 pitched down. But as far as a roll angle goes, 6 D-12 rules out that there was any roll angle 7 whatsoever. When the two engaged. 8 Q Okay. 9 A So that's where I'm getting the 10 scratches from and that's how I get the offset, 11 because now these scratches are occurring from 12 the rear suspension of the Kline vehicle, and 13 it's offset to the passenger's side of the 14 Alcala vehicle. 15 If you look at D-13, it's proved by 16 the profile of the driver's side front fender. 17 It's not crushed. It has induced damage, 18 meaning the structure around it pulled it back, 19 but it does not have direct impact damage. So 20 the direct impact damage occurred to the hood, 21 but it missed the fender. The driver's side 22 front fender. 23 Now, if you look at D-15, which is 24 the passenger's front fender, you can see it's 25 wiped out.</p>

Phillips - Direct Page 113

1 Q Right.
2 A So that means that the passenger
3 front fender of the Morgan-Alcala minivan
4 engaged the rear of the Kline Cherokee.
5 So that's how I established the
6 offset. So as you -- when you calculate, you
7 said it was about 16%?
8 Q Right.
9 A That's how I determined that.
10 Because the driver's side front fender is not
11 directly impacted. Passenger's side is.
12 Scratches confirm offset.
13 Q Okay.
14 A And then when you go to D-14, which
15 is the last one, in the picture it shows more
16 of the front, but now you can see how the two
17 scratches that I identify in D-10 go straight
18 back towards the roof line showing that there's
19 no angularity, in a longitudinal plane, between
20 the Morgan-Alcala minivan and the Kline Grand
21 Cherokee. So they're basically nose to tail,
22 but offset toward the passenger's side of the
23 minivan.
24 Q Okay. And this assumes then that
25 there was one collision between the Toyota and

Phillips - Direct Page 114

1 the Jeep?
2 A Yes. Because there's only one set
3 of marks.
4 Q Okay.
5 A So you have impact, separation.
6 And you also have the police identifying that
7 it only took 65 feet for the minivan to stop,
8 which means the deceleration rate on the
9 minivan was much greater than the deceleration
10 rate of the Kline Grand Cherokee, which makes
11 sense. Because if Ms. Alcala manages to get on
12 the brakes right at impact and nails the
13 brakes, based on my calculation, she could stop
14 in 65 feet, which makes sense.
15 But then the Grand Cherokee goes
16 80. So there you get your separation, and
17 that's how it hits the back of the Rawls
18 Subaru, and then they split and come off.
19 Q Okay. So moving on, then, to
20 Page 4 of the calculations.
21 A Yes, sir.
22 Q This looks like calculations that
23 you made from the Karco tests and then the 301,
24 correct?
25 A Correct.

Phillips - Direct Page 115

1 Q Okay.
2 A That's where I go developing the
3 coefficients. So for the Karco test, 32 miles
4 an hour is the delta-v. I have the crush as
5 19.1 inches, and basically what you do is you
6 divide the delta-v of 23 by the 19.51 inches as
7 measured, and then you get the 1.18 miles per
8 hour per inch.
9 Now, the lower part of the page,
10 underneath the double line, is all the crash
11 test numbers with all of the impact speeds with
12 all of the measured crush depths as noted by
13 Chrysler. And the ones that are blank are the
14 ones that didn't have any data listed.
15 So when I normalized this data, I
16 came up with a b1 of 1.48 miles per hour per
17 inch. Now that makes sense because now you're
18 involving the entire rear structure of the
19 Grand Cherokee because it's a flat moving
20 barrier. You're not just offsetting it, you're
21 not under-riding it.
22 So you're going to get the stiffest
23 coefficient, meaning you're involving the most
24 surface area, so of course it's going to be the
25 stiffest. And that's what I came up with. I

Phillips - Direct Page 116

1 came up with a 1.48 mile per hour per inch
2 crush.
3 So if you assume the under-ride
4 impact behaves like a moving flat barrier test,
5 now the delta-v of the rear impact for the same
6 crush depth comes up to be 38.2 miles an hour.
7 So the low is going to be 29, now the high is
8 going to come up to 38.2 based on the Chrysler
9 numbers.
10 Q Okay. All right. Page 5.
11 A Page 5. So now I go to the Karco
12 testing. And that came up with -- I came up
13 with 1.78 miles per hour per inch on the Karco
14 numbers. And using that, that's an offset rear
15 hit with the Taurus. And using their numbers,
16 that equates out to a 40.95 mile per hour
17 delta-v based on the Karco testing.
18 Now, you notice for the Karco, I
19 came up -- I'm using -- I didn't come up with
20 it, I'm using a 2.95 number for b0 instead of
21 4.
22 Q Uh-huh.
23 A That's what Karco determined was b0
24 for the Cherokee. So I'm using their number.
25 Q All right. And then last is Page 6

Phillips - Direct Page 117

1 for the Subaru.
2 A Correct. So now for the Subaru,
3 assuming the rear hit is the same as the front
4 hit to the Cherokee, 18.9, and the equivalent
5 miles per hour to slide to a stop is 37.9, now,
6 I combine that using the conservation of energy
7 technique that I discussed earlier.
8 So now I'd get a post-collision
9 equivalent speed of 42.4 miles per hour. Okay?
10 Now it makes sense. And the reason why I say
11 now it makes sense is that if you look at the
12 delta-v from Kline, and you look at the -- now
13 the delta-v to Rawls, they match within a
14 couple miles an hour. So I know that what
15 energy was imparted by the Kline vehicle
16 matches what was left over from Rawls. They
17 correlate.
18 Q Okay.
19 A And the front collision speed of
20 the Toyota is 33.6, which again is in the
21 ballpark, if you remember the numbers from the
22 rear of the Cherokee, the 33.6 falls right in
23 the bracket of what I calculated for the rear
24 of Kline. So again it correlates. It matches.
25 My numbers -- even though I

Phillips - Direct Page 118

1 approached it from different ways. Remember I
2 did the Sienna by itself, the Cherokee by
3 itself, the Subaru by itself. Yet all numbers
4 are within a couple miles an hour of each
5 other. So I know that my numbers -- I have a
6 high confidence in my numbers.
7 Q Okay. All right. So we have all
8 your calculations pages and we have all of your
9 measurements, correct?
10 A Yes, sir.
11 Q All right. Why don't we put that
12 in this pile. You can take your originals
13 back.
14 A Thank you.
15 Q So moving to Page 4 of your
16 July 25th report, "Post-Accident photographs
17 show that
18 Ms. Kline was found to be in front passenger
19 seat after her death. Therefore, Ms. Kline had
20 to have survived the initial impact sequence to
21 move from the driver's seated position to the
22 passenger's side before her death."
23 So you were saying -- you're ruling
24 out that she was thrown to the passenger's seat
25 as a result of the impact or impacts, correct?

Phillips - Direct Page 119

1 A Correct.
2 Q And what do you base that on?
3 A On the lack of damage to the
4 steering column in her vehicle. If she was an
5 unrestrained occupant, in the initial impact
6 her body would initially move rearward, as her
7 seatback would start to deform and deflect
8 rearward as well.
9 But through the crush sequence, we
10 can see in the post-accident photos that the
11 floor in the rear seat area of the Kline
12 vehicle is moving forward. As it's buckling.
13 That would actually, in effect, support the
14 rear of the front seatback of where she's
15 sitting as it is deflecting rearward, so it's
16 actually going to provide a support. And
17 unless the seatback angle exceeds 45 degrees,
18 she's not going to be ramped up and ejected out
19 of the seat. She's going to stay in the seat.
20 If she's unrestrained and she's
21 still in that seat, on rebound, when the
22 maximum engagement stops and the vehicles start
23 to separate and she starts to move forward to
24 hit the Rawls vehicle, she's gonna go flying
25 forward, because she's gonna have not only the

Phillips - Direct Page 120

1 delta-v from the 18.9 mile per hour collision,
2 but she's also gonna have the rebound effects
3 from coming off the seatback unrestrained. And
4 she would have clobbered that steering column.
5 And remember, I showed you the
6 picture of that steering column. It's laying
7 almost exactly in its designed position, depth
8 wise. So it's not stroked. So she didn't hit
9 it. And if the vehicles are co-linear, in
10 other words, lined up, as it's my opinion, and
11 it's not -- you're not getting rolling angles,
12 you're not getting anything where she's going
13 to -- her trajectory is going to go off angle,
14 she's going to head right to that steering
15 wheel.
16 And clearly she didn't hit it, so
17 that means she had to have her seat belt on.
18 Because on rebound, her seat belt would have
19 caught her. Because at that point it would
20 have locked. Because an ALR retractor locks at
21 7/10ths of a G. So it's going to be locked,
22 ready to catch her.
23 So therefore, the belt captures
24 her, doesn't hit the steering wheel, and that
25 means she had to have unbuckled it because the

<p>Phillips - Direct Page 121</p> <p>1 latch plate was not found in the buckle. You 2 know, if she was unconscious, she wouldn't have 3 been able to unbuckle it, and the latch plate 4 would have melted and burned into the buckle, 5 and it would have stayed there. 6 Q Right. 7 A The webbing would have burnt away 8 and still have been there. 9 But instead they found her on the 10 passenger's seat, and when I inspected the 11 vehicle, I think there was her purse and some 12 personal items, so she was covering that. And 13 it's my opinion that she tried to get out the 14 passenger door because the flames were coming 15 in the vehicle through the hole that opened up 16 by the driver's side rear wheel well. So the 17 flames would have been coming up. The only 18 door that was openable was the driver's side 19 front door. 20 Q Okay. When you talk about the 21 rebound aspect of the accident, could the 22 subsequent impact with the Subaru change the 23 direction that she would have went upon 24 rebound? 25 A Not initially. Only upon impact.</p>	<p>Phillips - Direct Page 123</p> <p>1 Grand Cherokee hit that bumper cover on the 2 Rawls Subaru square. It's not at an angle, 3 it's not pitched, because if it was pitched you 4 wouldn't have damage on the driver's side rear 5 of the bumper cover. You would not have that 6 contact damage. So it goes all the way across. 7 What supports that opinion is that 8 the front of the Kline Grand Cherokee, which I 9 have marked in photographs D-17 and D-18, show 10 the front bumper beam, which is linear across, 11 but the two plastic front headlights are still 12 there. 13 If the vehicle was pitched -- I'm 14 sorry, not pitched -- rolled. If it was rolled 15 at the angle that Mr. Fenton says it was at the 16 time it engaged the Rawls Subaru, that driver's 17 side plastic front headlight should be 18 obliterated. It should be smashed in the 19 accident, and it's not. It's still there, 20 hanging by the wire, but it's there and it's 21 not broken. 22 Q And you're pointing to Exhibit 23 D-18? 24 A D-18, and it's also shown in D-17. 25 Q Okay.</p>
<p>Phillips - Direct Page 122</p> <p>1 Q Okay. 2 A And that impact was also co-linear. 3 If I may -- you've got them. Okay. 4 (Discussion held off the record.) 5 A This photo -- and you'll probably 6 want to mark it, before I discuss it. 7 MR. STOCKWELL: Sure. Let's mark 8 this D-16. 9 (Exhibit D-16, Photograph, is 10 marked for identification.) 11 A Looking at D-16 -- and I'm going to 12 hand you two other pictures that you probably 13 want to mark. 14 (Exhibit D-17, Photograph, is 15 marked for identification.) 16 (Exhibit D-18, Photograph, is 17 marked for identification.) 18 A D-16 is the rear bumper cover of 19 the Rawls Subaru. I found that amongst the 20 debris inside the Kline Grand Cherokee. 21 If you look at the damage to the 22 rear bumper cover, you'll see there's damage 23 that extends from the driver's side rear all 24 the way across to the passenger's side rear. 25 And that's at ride height. So the front of the</p>	<p>Phillips - Direct Page 124</p> <p>1 A The driver's side front headlight 2 is still there. That is just a plastic 3 assembly. If that was rolled to the angle that 4 Mr. Fenton says it was, that headlight 5 shouldn't exist. Because that headlight would 6 have been hitting the rear hatch of the Rawls 7 Subaru, and it didn't. 8 Q Right. 9 A So that tells me that the front 10 bumper beam of the Kline Grand Cherokee hit the 11 rear bumper cover of the Rawls Subaru. 12 And if you look at the rear of the 13 Rawls Subaru, you'll see that it hit it and 14 then the Cherokee actually jumped up over the 15 bumper, and then hit the rear tailgate. 16 So that means, again, there's no 17 roll angle. They're parallel to the ground at 18 impact. And that also supports the proposition 19 that the Kline Cherokee had to have separated 20 from the Morgan-Alcala minivan for the second 21 hit. There had to be a separation distance. 22 Q Okay. 23 A Because now this Grand Cherokee is 24 now settled back down to the ground. So now 25 it's not pitched any more up in -- so the</p>

<p>Phillips - Direct Page 125</p> <p>1 rear's not up in the air any more. So now it's 2 sliding flat when it hits it. 3 Q Okay. Do you know how long after 4 the first impact the Kline Jeep started 5 rotating counterclockwise? 6 A That would have happened after 7 hitting the Rawls Subaru. 8 Q Okay. 9 A And I can calculate the times, but 10 I have all the numbers, I just haven't done it. 11 I have all the interim speeds so I can do it. 12 Q Okay. Do you have an explanation 13 for the position in which Ms. Kline was found 14 in the passenger's seat, that being with her 15 head tilted to the right and her body towards 16 the left? 17 MS. DeFILIPPO: Objection. I don't 18 think that that's -- you haven't laid a 19 foundation for that. 20 MR. STOCKWELL: All right. Well, I 21 can. 22 MS. DeFILIPPO: I don't think 23 that's accurate. 24 MR. STOCKWELL: Well, we can -- do 25 you have any pictures of the body?</p>	<p>Phillips - Direct Page 127</p> <p>1 photograph? 2 A Yes, sir, I do. 3 Q Do you have an explanation for why 4 it's in that position? 5 A Now, I'm going to give you this 6 explanation based on my understanding of the 7 human fight or flight characteristics. I'm not 8 saying that I'm an expert in it, but I know 9 from perception reaction studies and accident 10 reconstruction there's different reactions that 11 people can have in emergency situations, one of 12 those is the fight or flight syndrome. 13 Typically if something scares you 14 on the left, you run to the right. So you run 15 away from something. You usually typically 16 don't run toward it. 17 My explanation for what I'm 18 observing in D-19 would be consistent with the 19 fire coming into the vehicle through the tear 20 in the driver's side rear wheel well area 21 because now the gasoline has been liberated, 22 the fire has started, so the fire would be 23 coming up the driver's side interior of the 24 vehicle. 25 So her body position would make</p>
<p>Phillips - Direct Page 126</p> <p>1 MS. DeFILIPPO: You have pictures. 2 The State Police took pictures. 3 MR. STOCKWELL: I don't have them 4 with me. 5 BY MR. STOCKWELL: 6 Q Do you have any pictures of that in 7 your file? 8 A No, sir, I don't. 9 Q Okay. Let me pull it up. 10 Do you have a recollection of 11 seeing that picture of Ms. Kline in the 12 passenger's seat? 13 A I may have. I possibly have. 14 MS. DeFILIPPO: Do you have copies 15 of the State Police photographs? 16 THE WITNESS: Not printed. 17 MS. DeFILIPPO: Okay. Do you have 18 them on your computer? 19 THE WITNESS: No, they would be on 20 disks. I'd have thrown the disks out. 21 (Discussion held off the record.) 22 (Exhibit D-19, Photograph, is 23 marked for identification.) 24 Q Just showing you D-19, do you see 25 how Ms. Kline's body is positioned in that</p>	<p>Phillips - Direct Page 128</p> <p>1 sense that she gets out of the driver's seat 2 and tries to go to the passenger's side of the 3 car to get out because she's trying to get away 4 from the fire. 5 I could not find a breach in the 6 floor pan of the car on the passenger's side 7 similar to that on the driver's side. So my 8 explanation, given my experience in human 9 factors for fight or flight and perception 10 reaction, would be that she's trying to escape 11 to the passenger's side running away from the 12 flames that would be coming up the driver's 13 side interior of the vehicle. 14 Q Okay. Do you know how many windows 15 in the Kline Jeep were broken as a result of 16 the accident? If any? 17 A Well, after the fire, all of them 18 were compromised. But from what I could tell, 19 and based on my inspection of -- 20 MS. DeFILIPPO: Can I have that? 21 A -- May 7th, 2009, I determined that 22 the windows were in the full up position in the 23 door tracks of the Kline vehicle, and that the 24 crush of the vehicle did not extend past the 25 rear doors of the vehicle. So it would be</p>

<p>Phillips - Direct Page 129</p> <p>1 consistent, and it would be my opinion that the 2 front two windows, the driver's front door, 3 passenger front door windows would be unbroken 4 at the time. 5 Q As a result -- after both impacts? 6 A Correct. 7 Q Okay. 8 A Okay? 9 Q Was the -- do you know if the rear 10 windshield was shattered as a result of the 11 accident? 12 A Oh, yes. The rear hatch glass 13 would have been shattered instantly on impact. 14 Q Okay. 15 A But that's where the fire is. 16 Q Right. 17 A So anything in the rear of the 18 vehicle, so the second row in the rear, both 19 quarter glass windows would have been blown 20 out, the rear hatch would have been blown out, 21 both rear doors would have been blown out. But 22 that's where the fire is. 23 So she's not going to go towards 24 the fire, even though there's open portals. 25 The two accessible portals left would be the</p>	<p>Phillips - Direct Page 131</p> <p>1 So I need to know, are you saying, 2 then -- are you addressing the design of the 3 fuel system of the Jeep Grand Cherokee or as 4 Ms. DeFilippo spoke about before, are you just 5 referring to the location? 6 A Location. 7 Q Okay. Location only? 8 A Correct. 9 Q All right. 10 MS. DeFILIPPO: Well, he says 11 "unprotected." So -- 12 MR. STOCKWELL: All right. 13 Q Are you making a comment as to the 14 whether the fuel tank should have been 15 protected in some fashion? 16 A Well -- 17 MS. DeFILIPPO: No. He's making a 18 statement -- 19 MR. STOCKWELL: Let him make the 20 statement. 21 MS. DeFILIPPO: It's not about what 22 it should have been, because "should have been" 23 is a design issue, but it wasn't. 24 MR. STOCKWELL: Well, let him 25 testify.</p>
<p>Phillips - Direct Page 130</p> <p>1 driver's side and the passenger's side, but if 2 the fire's coming up the driver's side 3 interior, it just would be, in my -- you know, 4 again, based on my perception and reaction, 5 kinematic and human factors training as far as 6 reconstruction goes, fight or flight, she'd be 7 trying to get out the passenger front door, but 8 unfortunately that door was jammed shut. 9 Q Okay. 10 A And if you want, I can locate the 11 photos showing that the windows were in their 12 full up position at the time of the crash. 13 Q This is in February, right? No, 14 that's okay. You don't need to show me that. 15 (Discussion held off the record.) 16 Q All right. So you add in this 17 report, which was not in your first report, 18 it's the bottom of Page 4, you make the 19 statement, it starts, "But for the fuel tank 20 location and the fact that it was unprotected 21 in rear crush zone and was struck directly by 22 the Alcala vehicle," and in parenthesis, 23 (under-ride), "the fuel tank explosion and burn 24 injuries and death of the plaintiff would not 25 have occurred in this motor vehicle collision."</p>	<p>Phillips - Direct Page 132</p> <p>1 MS. DeFILIPPO: Fine. 2 BY MR. STOCKWELL: 3 Q What's your opinion in that regard? 4 A My opinion is, is that when there's 5 an under-ride collision and you have an 6 unguarded tank, that now the tank is subject to 7 direct contact because of the tank's exposure 8 and its location. Because of that, it makes it 9 easy to compromise the tank. 10 Had the tank been moved forward, 11 forward of the axle, its location then would 12 have been guarded, it's what they called 13 guarding by location. That's a known technique 14 for guarding, is that you move it. You get it 15 out of reach so you can't get to it. 16 That would be my opinion, that 17 either you move it forward in the vehicle so 18 it's not in the crush zone, or you design it in 19 such a way that if it can become in contact 20 with something, that it can't come in direct 21 contact. So you have to put something in 22 between it. 23 And one of those things could be a 24 shield. Those would be my opinions. 25 Q Okay. Do you know, is there any</p>

Phillips - Direct Page 133

1 physical evidence that the Alcala Sienna
2 contacted the fuel tank of the Jeep Grand
3 Cherokee before it made contact with the bumper
4 of the Jeep Grand Cherokee?
5 A No. The bumper of the Alcala
6 vehicle should have made initial contact with
7 the bumper and then gone under and then hit the
8 tank.
9 Q Okay. Is there any physical
10 evidence in this case that the Alcala Sienna
11 made contact with the Jeep Grand Cherokee's
12 fuel tank before it made contact with the cross
13 member of the Jeep Grand Cherokee?
14 A Can you say that one more time,
15 please?
16 Q Sure. Is there any physical
17 evidence in the case that the Alcala Sienna
18 made contact with the Kline fuel tank before it
19 made contact with the Kline rear cross member?
20 A Okay. Which rear cross member are
21 you referring to?
22 Q The one right behind the bumper --
23 or right in front of the rear bumper?
24 A I would say yes, that it did.
25 Q Yes, that it made contact with the

Phillips - Direct Page 134

1 fuel tank first?
2 A Yes.
3 Q All right. What do you base that
4 on?
5 A That once the front bumper of the
6 Alcala Toyota hits the rear bumper -- and I
7 have to probably explain a little bit more.
8 The Kline vehicle was either nearly
9 stopped or moving slowly, so Mrs. Kline is on
10 the brakes, avoiding the Rawls vehicle in the
11 roadway. So the Kline Cherokee is already
12 going to have a pitch attitude nose down, which
13 is going to help expose the fuel tank and raise
14 the rear of the Kline vehicle up in the air,
15 which is something that Mr. Fenton doesn't take
16 into account in his diagrams. He has them
17 meeting on a level plane. He doesn't take into
18 account any pitch of the Kline vehicle.
19 So once the Morgan-Alcala Toyota
20 comes in and hits the front -- hits the rear
21 bumper of the Kline Cherokee, it's going to hit
22 below the center line of the rear bumper, and
23 then it's going to pick it up. And as soon as
24 it picks it up, now the front bumper is going
25 to go right at the tank in the Grand Cherokee.

Phillips - Direct Page 135

1 So that rear cross member, the one right -- and
2 I'll, for ease of reference, I'll call it the
3 rear bumper support, because that's where the
4 rear frame rails tie in and the rear trailer
5 hitch would span, if one was mounted there.
6 Once that happens, now the front
7 radiator cross member of the Sienna minivan,
8 the grille work, the leading edge of the hood
9 are going to snag and grab the tank. And
10 that's exhibited in the pictures that we
11 discussed earlier which we marked as D-12
12 through D-15.
13 So you can see how the hood gets
14 pushed up and back, and we have minor scratches
15 which would be from the undercarriage, but most
16 of it is softer contour dents, which would be
17 consistent with contact with the plastic fuel
18 tank as it was crushing and deforming. So
19 you're not hitting hard objects there. You're
20 hitting deformable objects because you don't
21 have sharp creases and bends. You have more
22 gentle pressure deformations and not crumbling.
23 So that's consistent with contact with the
24 plastic tank.
25 So that's why I would say yes, it

Phillips - Direct Page 136

1 got to the tank and started crushing it right
2 before it actually starts crushing the rear
3 bumper support cross beam.
4 Q Okay. Have you undertaken any
5 analysis to determine whether a skid plate
6 would have protected the fuel tank of the Kline
7 Jeep in this accident?
8 A I have not conducted a specific
9 analysis to do that. That's not my role in
10 this case.
11 Q Okay.
12 A But any time you provide an extra
13 barrier, it helps.
14 Q Okay. I'm sorry, I have various
15 notes on various copies of your reports, so I'm
16 going to go through all of them.
17 A That's fine.
18 (Discussion held off the record.)
19 BY MR. STOCKWELL:
20 Q Without a time stamp recorded, can
21 we determine what happened to Ms. Kline inside
22 the vehicle to a reasonable degree of
23 certainty?
24 MS. DeFILIPPO: Objection to the
25 form.

Phillips - Direct Page 137

1 A We can bracket it within certain
2 time frames, because based on the pre-impact
3 speeds and the post-impact travel distances, we
4 can recreate a time line based on those
5 calculated numbers. But as to the specifics of
6 how long it took for each individual event to
7 take place, I don't think we can get that
8 specific.
9 Q Okay. In your calculations, did
10 you take into account any forces that would
11 have been exerted on the roadway?
12 A Yes.
13 Q How did you do that?
14 A Through the coefficients of
15 friction that I used, or I should say the
16 coefficients of deceleration that I used for
17 the post-impact travel distances.
18 Q Okay. And those figures that you
19 used, do they take into account under
20 under-ride?
21 A Yes.
22 Q And I have those marked already,
23 right?
24 A Yes, sir.
25 Q There's nothing separate?

Phillips - Direct Page 138

1 A Yes, sir. And just so you know,
2 the coefficients of deceleration that I used
3 for the Rawls Subaru and for the Kline Grand
4 Cherokee were 4/10ths of a G, so that takes
5 into account that it's sliding, friction is
6 low, coefficients of deceleration, because you
7 don't have full contact of the vehicles at all
8 times with the roadway.
9 And I used a .8 coefficient of
10 deceleration for the Alcala minivan, taking
11 into account that she would have been on the
12 brakes, and the fact that she had ABS brakes.
13 So that's why there's less evidence of
14 pre-impact braking because ABS brakes wouldn't
15 have allowed for marks in the first place, but
16 once the fuel is liberated, now her vehicle can
17 slide.
18 Q Okay. Do you have a definition for
19 the phrase, "speed energy"?
20 A Yes. There is a definition for
21 that term. Well, speed energy is basically, as
22 I was showing with -- some of the calculations,
23 that the equivalent speed energy is the energy
24 that is represented in the terms of miles per
25 hour instead of inch pounds or foot pounds. So

Phillips - Direct Page 139

1 you're taking into account the speed of the
2 vehicle, not just the absolute energy.
3 And when you're doing the speed,
4 lost in a slide or a skid calculation, you're
5 calculating the equivalent speed energy to
6 travel that distance. And you're doing the
7 same thing when you use Campbell's formula.
8 You're calculating what the speed energy it
9 takes to recreate that damage profile.
10 Q Okay. And your report gives the
11 pre-impact speed for all three vehicles, right?
12 A No. I just give the pre-impact
13 speed for the Morgan-Alcala vehicle. The other
14 speeds would be equivalent speeds used to
15 create the energy for the damage and the
16 post-impact travel distances that we have.
17 Because the Rawls vehicle and the Kline vehicle
18 were stopped, or nearly stopped, and the only
19 one really moving to set this accident in
20 motion, is the Morgan-Alcala minivan.
21 Q And you may have answered this
22 before, did you use any simulation software?
23 A No, I did not. I did it all by
24 hand because there's too many aspects --
25 Q Okay.

Phillips - Direct Page 140

1 A -- of this collision that could
2 create errors. And sometimes an error in one
3 area will compound and multiply an error in
4 another area. So I didn't want to have to deal
5 with that.
6 MR. STOCKWELL: Okay. I believe
7 I'm just about done. I just want to take a
8 look at the materials you sent, so if you want
9 to take a break or if somebody else wants to
10 go, that's fine.
11 THE WITNESS: I'm good.
12 MS. DeFILIPPO: Do you have any
13 questions?
14 MR. GILL: I don't.
15 MS. DeFILIPPO: You don't?
16 MR. GILL: So far.
17 THE WITNESS: Wow.
18 MR. STOCKWELL: I think Angel's
19 gearing up.
20 THE WITNESS: That's not good.
21 MS. DeFILIPPO: I'm just trying to
22 see, if I go over some things with you today,
23 if we could avoid another report.
24 MR. STOCKWELL: Well, I'd be
25 careful. Let's go off the record.

Phillips - Cross Page 141

1 (Discussion held off the record.)
2 MS. DeFILIPPO: I have a couple of
3 quick questions, so I'll just go.
4 CROSS-EXAMINATION
5 BY MS. DeFILIPPO:
6 Q I just want to clarify what you
7 said about the bumper heights of the Jeep and
8 the Alcala vehicle. I think you said that
9 Mr. Fenton did not take into account the back
10 of the Jeep being raised. Is that accurate as
11 to what you said?
12 A Somewhat. He didn't take into
13 account that the Kline vehicle would have been
14 pitched forward due to the braking action,
15 which would raise the rear of the Kline
16 vehicle's bumper height above a level riding
17 position, therefore creating an additional --
18 an initial bumper height mismatch, so the
19 Morgan-Alcala Sienna minivan would be more
20 prone to go under the rear of the Kline Grand
21 Cherokee.
22 Q And did you indicate earlier your
23 opinion as to when the fire occurred, vis-a-vis
24 the impacts that you talked about?
25 A I don't believe I did. But it

Phillips - Cross Page 142

1 would be my opinion that the fire would have
2 started shortly after the initial impact by the
3 Morgan-Alcala Toyota minivan.
4 So once the Toyota gets under the
5 back of the Kline Cherokee and gets to the fuel
6 tank and compromises it, the fire would start
7 very shortly, if not instantaneously, at that
8 point.
9 Q And is there any physical evidence
10 that you saw in your review at any time which
11 would support a theory that the fire did not
12 occur in the impact with the Alcala vehicle,
13 but rather the Jeep fire occurred in the impact
14 with the Subaru?
15 MR. STOCKWELL: Objection to the
16 form.
17 A Could you please --
18 MS. DeFILIPPO: Can you read it
19 back?
20 (Question read.)
21 A No. The physical evidence, the
22 burn pattern on the roadway, the spray pattern
23 on the Alcala minivan, the location of the fire
24 as it was spread behind the Alcala minivan, all
25 indicates that the fuel tank was compromised

Phillips - Cross Page 143

1 during the first collision and not during the
2 second. And there had to be a separation
3 distance between the Alcala minivan and the
4 Kline Cherokee at the time of impact with the
5 Rawls Subaru because of the damage profile and
6 the way they lined up. It couldn't have been
7 in contact with it at that time.
8 Q Now, I note you made a couple of
9 references to the Fenton report throughout your
10 examination today. Do you understand the term
11 photogrammetry?
12 A Yes, ma'am.
13 Q Does photogrammetry create 3D
14 models out of two dimensional pictures?
15 A Yes, it can.
16 Q And does photogrammetry, by its
17 nature, cause the use of items in a photograph,
18 for instance in the foreground, to affixed
19 reference points?
20 MR. STOCKWELL: Objection to the
21 form.
22 A Well, photogrammetry is a technique
23 of recreating a 3D scene or image from a 2D
24 photograph. So you're relying on fixed known
25 reference points in the field of vision of the

Phillips - Cross Page 144

1 photograph to recreate a depth, width and
2 height aspect of a 2D photograph to create a 3D
3 model. And in doing so, you have to pick your
4 references very carefully for your fixed points
5 because any error in your fixed references can
6 create huge errors in your measurements in the
7 foreground in the picture because you're
8 scaling that in a non-linear scale from the
9 fixed references in your background.
10 So you have to be very careful of
11 how you lay out your map and where your
12 references are placed, because the errors are
13 not linear errors, they can be exponential. In
14 other words, the error margin can take off on
15 you if you don't have it set up just right.
16 Q You went through a lot of
17 photographs and you made reference to the
18 police scaled drawings. Did you use any
19 photogrammetry in your analysis in this case?
20 A No. I used the measurements from
21 the State Police.
22 Q Did you use actual photographs from
23 the State Police in conjunction with your
24 actual photographs taken in 2007, in July, I
25 believe you said?

<p>Phillips - Cross Page 145</p> <p>1 A Yes. I used their photographs from 2 the scene, their measurements from the scene, 3 my inspection photographs and I correlated all 4 of that evidence as presented from the State 5 Police. I did not feel that I had to create a 6 new map of the scene based on photographs, 7 because I had the measurements taken directly 8 there by the State Police. 9 Q Did you see any physical evidence, 10 based on your review in this case, which could 11 support a finding that the Alcala vehicle 12 locked onto the Jeep and stayed locked for 13 30 feet and hit the Subaru locked together? 14 MR. STOCKWELL: Just object to the 15 form, "locked," but it's -- you can answer. 16 A No. The damage profile on the 17 Morgan-Alcala vehicle shows one hit. And 18 there's only one set of -- there's only one set 19 of damage to the front of the vehicle. There's 20 not overlying damage hits. 21 Q You're talking about the Alcala 22 vehicle? 23 A Right. The minivan. Does not have 24 a damage profile on top of another one. It's 25 one hit, and you don't have overlapping or</p>	<p>Phillips - Redirect Page 147</p> <p>1 in this package. Do you know what is on those 2 four disks? 3 A Those should be the dash cam 4 videos. 5 Q Is there any way for you, when you 6 get back to your office, to copy the videos and 7 give them to Ms. DeFilippo? 8 MS. DeFILIPPO: The dash cam 9 videos? 10 MR. STOCKWELL: Yeah, I don't have 11 them. 12 MS. DeFILIPPO: You can get them 13 from the State Police. 14 MR. STOCKWELL: I don't think so. 15 They're not in the file anywhere. So if you 16 can make copies, I'll pay whatever the costs 17 are. 18 THE WITNESS: Sure. 19 BY MR. STOCKWELL: 20 Q Do you know if the State Police 21 that arrived at the accident scene had any 22 accident reconstruction training? 23 MS. DeFILIPPO: Apart from what 24 they said in their depositions? 25 Q Well, I'm asking, do you remember</p>
<p>Phillips - Cross Page 146</p> <p>1 over -- overlapping or damage stacked on top of 2 one another. 3 And the damage profile to the rear 4 of the Rawls Subaru indicates that the Kline 5 Cherokee was no longer at a pitch angle, that 6 it was lined up because the front bumper of the 7 Kline Grand Cherokee hit the full width of the 8 back of the Rawls Subaru before it jumped over 9 on top of it and hit the rear hatch. 10 Q And do your actual photographs 11 support that conclusion that, in fact, the 12 Alcala vehicle and the Jeep were not united in 13 their striking of the Subaru? 14 A Well, yes. My pictures would 15 support it and the State Police pictures 16 support it. It's not just mine. It's the 17 combination of both. 18 MS. DeFILIPPO: I don't have any 19 other questions. 20 MR. STOCKWELL: Just a couple more. 21 REDIRECT-EXAMINATION 22 BY MR. STOCKWELL: 23 Q I'm looking through a package here 24 that has depositions of the police officers in 25 this case, and there are four disks that were</p>	<p>Phillips - Redirect Page 148</p> <p>1 if they said in their deposition what kind of 2 accident reconstruction training they had? 3 A I believe whatever training they 4 mentioned is in there. I don't specifically 5 recall off the top of my head, but it's in 6 their deposition. 7 MR. STOCKWELL: Let me mark this 8 as -- no, I said I wasn't going to mark it. 9 I'm sorry. 10 Q In your file I found a document, 11 it's four pages, and it's titled, "Model Years 12 '93 to 2004 Jeep Grand Cherokee in Fatal Rear 13 Impact Crashes Involving Fire." This is a 14 document I've never seen before. Do you know 15 where it came from? 16 A I don't recall. It might have been 17 from Paul Sheridan. But I know I have that 18 particular document twice, one under one file 19 name and then it's named the same thing, but 20 with a subscript A, and it seems to be some 21 sort of press release or study that was done by 22 some group. 23 Q Did you rely on this document in 24 any way in forming your opinions in this case? 25 A Not for my reconstruction, no, sir.</p>

<p>Phillips - Redirect Page 149</p> <p>1 Q All right. And that's a document 2 you could give to Ms. DeFilippo, you said it's 3 kept electronically? 4 A Yes. 5 MS. DeFILIPPO: Can you read me the 6 title again? 7 MR. STOCKWELL: Yeah, sure. "Model 8 Year '93 to 2004 Jeep Grand Cherokees in Fatal 9 Rear Impact Crashes Involving Fire." 10 It says it's a report to WTVD, and 11 then it says Quality Control Systems, Corp., 12 dated September 24th, 2009. 13 Q Are there any documents you have in 14 electronic format that are not referenced in 15 either of your reports? 16 A No, sir. Everything that I have 17 electronically that I would have relied upon is 18 listed in my report. 19 Q All right. And has anything been 20 taken out of your file? 21 MS. DeFILIPPO: Transmittal 22 letters. 23 A Yeah, that's it. 24 Q Just letters from Ms. DeFilippo? 25 A Correct.</p>	<p>Phillips - Redirect Page 151</p> <p>1 Q I found another Chrysler case that 2 I forgot to ask -- or Mr. Gill found it. 3 MS. DeFILIPPO: Can you just give 4 her the documents and she'll start making the 5 copies if you're done? 6 (Discussion held off the record.) 7 Q Paschal versus Chrysler, May 8 of 2009. Do you recall what vehicle that case 9 was about? 10 A That was a Jeep Cherokee roll over, 11 and if I remember correctly, it was a Gen-3 12 seat belt allegation. 13 Q Who was the attorney that you were 14 hired by in that case? 15 A Bill Gold. 16 Q Of? 17 A Bendit Weinstock. 18 Q Okay. What model year Jeep Grand 19 Cherokee? 20 A '93, maybe? Or '94? 21 Q Do you know what the crash event 22 was that led to the rollover? 23 A Drove off the side of the road. I 24 think he fell asleep. 25 Q Did he strike anything other</p>
<p>Phillips - Redirect Page 150</p> <p>1 MS. DeFILIPPO: Yes. My letters. 2 Q Okay. And you didn't rely on any 3 of the information that Ms. DeFilippo put in 4 the letter? 5 A No, sir. 6 Q From your -- 7 MS. DeFILIPPO: I didn't have any 8 information. 9 MR. STOCKWELL: I figured you 10 didn't. 11 MS. DeFILIPPO: I can't pretend to 12 know this stuff. 13 BY MR. STOCKWELL: 14 Q And I have all of your notes and 15 handwritten notes and calculations that you 16 made in this case in front me? 17 A Yes, sir. 18 Q Okay. And the photographs which 19 you have here today are also kept 20 electronically in your computer? 21 A Yes, sir. 22 Q All right. I did have one other 23 question, and it goes back to your list of 24 cases. 25 A Yes, sir.</p>	<p>Phillips - Redirect Page 152</p> <p>1 than -- 2 A No, I think it was just a rollover. 3 Q Was there any fire in that case? 4 A No, sir. 5 MR. STOCKWELL: All right. Those 6 are my questions. Thank you. 7 MS. DeFILIPPO: I just have a 8 follow-up to something that you said earlier. 9 RE-CROSS-EXAMINATION 10 BY MS. DeFILIPPO: 11 Q You indicated that you were 12 involved in a Long Island accident involving a 13 Jeep Grand Cherokee, correct? 14 A Yes. 15 Q And I believe you said you recall 16 people calling it the Austin case, correct? 17 A Yes. 18 Q Now, in that case, did you do an 19 investigation from a reconstruction point of 20 view? 21 A Yes. 22 Q And in that case, did you have to 23 formulate calculations and delta-v's with 24 respect to that accident? 25 A Yes, I believe I did.</p>

1 Q Can you tell us what, if anything,
2 that accident revealed to you which pertains in
3 any way to the Jeep Grand Cherokee involved in
4 this accident? For the Kline vehicle?

5 A If I understand your question
6 correctly, the delta-v in -- and I think that
7 was called the Austin case, but I think I
8 remember it by the name Evans, because I think
9 Evans was the owner of the vehicle.

10 In that particular case, the
11 delta-v was relatively low, it was in the low
12 20s, because it was a Toyota MR2 that basically
13 just drove straight under the back bumper of
14 the Jeep Grand Cherokee. But the headlights
15 were on in the MR2, and they're pop-up
16 headlights so they were standing up. So the
17 actual headlight door with the illuminated
18 headlight, struck the fuel tank, ripping it
19 open and instantly causing a fire.

20 So it really wasn't even the speed
21 of the impact, it was the fact that the Toyota
22 MR2 just went straight under and hit the tank
23 instantly and ignited it.

24 Q Was that an example of
25 under-ride --

1 A Yes.

2 Q -- in your opinion?

3 A Yes.

4 MS. DeFILIPPO: I have no other
5 questions.

6 MR. STOCKWELL: That's it. Thank
7 you.

8 THE WITNESS: Thank you.

9

10 (The proceedings are concluded at 1:48 p.m.)

11

12 (Exhibits D-1 through D-18 are attached
13 hereto.)

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1 C E R T I F I C A T E

2
3 I, REGINA A. CRITCHLEY, hereby certify
4 that the foregoing is a true and accurate
5 transcript of the testimony and proceedings as
6 reported stenographically by and before me at
7 the time, place and on the date hereinbefore
8 set forth.

9 I do further certify that I am neither a
10 relative nor employee nor attorney or counsel
11 of any of the parties in this action, and that
12 I am neither a relative nor employee of such
13 attorney or counsel, and that I am not
14 interested in the action.

15

16

17 _____
18 Notary Public of the State of New Jersey

19 Certificate No. XI1046

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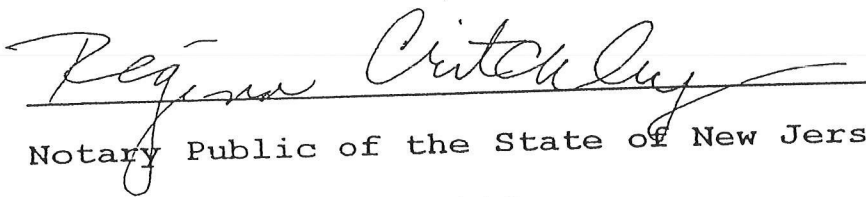
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C E R T I F I C A T E

I, REGINA A. CRITCHLEY, hereby certify that the foregoing is a true and accurate transcript of the testimony and proceedings as reported stenographically by and before me at the time, place and on the date hereinbefore set forth.

~~I do further certify that I am neither a relative nor employee nor attorney or counsel of any of the parties in this action, and that I am neither a relative nor employee of such attorney or counsel, and that I am not interested in the action.~~



Notary Public of the State of New Jersey

Certificate No. XI1046

This transcript was prepared in accordance with N.J.A.C. 13:43-5.9

**Kline v.
Morgan-Alcala, et al**

	97:14,17;103:4;105:9, 18,22;106:14;117:4; 120:1	53:9 208 (1) 94:24	111:11 37.9 (2) 98:7;117:5	7/25/11 (2) 9:7,9 7th (3) 69:16;82:2;128:21
#				
#150 (1) 6:3	19.1 (1) 115:5 19.51 (1) 115:6 19446-4053 (1) 6:4 1978 (1) 29:25 1984 (3) 9:15;29:25;45:4 1986 (1) 30:14 1988 (1) 30:19 1989 (1) 30:19 1990 (1) 31:2 1993 (1) 35:24 1996 (1) 86:14 1999 (1) 75:7	20s (1) 153:12 21.3 (5) 102:4,11,14;104:2; 105:5 22 (3) 8:18;77:5;88:1 22nd (5) 7:17;8:4,17;56:25; 76:1 23 (1) 115:6 24th (1) 149:12 25 (1) 9:10 25th (11) 7:17,24;56:25;57:2; 75:20;76:2;79:21;83:9; 94:22,23;118:16 287 (2) 81:5;82:13 29 (2) 77:5;116:7 29.13 (1) 107:2 2D (2) 143:23;144:2 2nd (4) 91:21;93:13,17;108:9	38.2 (2) 116:6,8 3D (3) 143:13,23;144:2 4 4 (5) 99:13;114:20;116:21; 118:15;130:18 4,600 (1) 56:5 4/10ths (1) 138:4 40 (1) 111:12 40.95 (1) 116:16 41 (1) 46:19 42 (2) 46:19;81:21 42.4 (1) 117:9 45 (1) 119:17 48.2 (1) 105:11 5 5 (2) 116:10,11 5,200 (1) 56:4 5.1 (1) 108:13 5.5 (2) 108:13,16 5/30 (1) 42:13 51.8 (2) 96:8;98:25	8 8 (1) 138:9 8.1 (1) 101:11 8.3-foot (1) 101:19 8.9 (1) 101:17 80 (10) 95:15,18;98:2;103:17; 105:18;106:2,2,3,9; 114:16 80-foot (1) 105:10 9 9 (2) 46:12;62:9 9.5 (1) 69:7 9.9 (3) 69:8;101:10,17 92 (3) 30:19,20;31:10 93 (3) 148:12;149:8;151:20 94 (1) 151:20 96 (2) 84:11;104:9 97 (3) 44:12;49:2;75:10 97.2 (1) 101:12 98 (1) 55:10 9th (3) 58:7;62:13;71:13
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1		2		
1 (4) 99:12,25;100:21; 102:15 1.18 (2) 106:25;115:7 1.3 (3) 104:12;105:5;106:22 1.48 (2) 115:16;116:1 1.6 (3) 67:6,13,18 1.7 (1) 102:20 1.78 (1) 116:13 1.8 (3) 90:24;91:2;101:11 1:48 (1) 154:10 10.35 (1) 101:25 10.6 (3) 69:13,21;109:3 100% (1) 36:10 11.1 (2) 102:24;103:3 11.4 (4) 69:12,23;101:24; 109:4 11.7 (1) 70:1 12.6 (1) 70:9 12.9 (1) 70:10 120 (5) 98:7,21;103:23;106:7, 12 128 (1) 39:13 16% (1) 113:7 16.6% (1) 109:15 17.4 (1) 97:6 1758 (1) 6:2 18.9 (9)	2 (5) 68:10;83:13;94:21; 99:13;102:16 2.95 (1) 116:20 20.4 (1) 102:23 2000 (1) 12:11 2002 (2) 12:11;14:15 2004 (8) 25:25;84:12;85:24; 86:5;93:15,18;148:12; 149:8 2005 (2) 48:1;53:23 2007 (14) 14:4,5;53:24;58:7; 59:23;62:9,13;71:13; 79:21;91:21;93:13,17; 108:9;144:24 2008 (2) 27:18;54:20 2009 (10) 7:17;8:17,18;56:25; 76:1;82:3;104:6;128:21; 149:12;151:8 2011 (10) 7:18,24;9:10;56:25; 57:2;75:20;76:2;83:9; 94:22,23 2012 (1)	3 3 (3) 96:9;99:13;106:18 30 (3) 42:16;111:11;145:13 300 (1) 44:16 301 (3) 75:16;76:6;114:23 30-101d (1) 51:5 301s (4) 76:16;77:4,15;88:1 30-degree (1) 111:14 31 (1) 98:1 31.5 (1) 102:17 31.7 (3) 105:7,17;107:3 32 (1) 115:3 33.6 (2) 117:20,22 33.6-mile (1) 97:6 35 (1)	6 6 (5) 52:12;89:1,2;99:25; 116:25 6.5 (1) 108:16 60% (1) 91:8 65 (3) 103:18;114:7,14 7 7/10ths (1) 120:21	8 (1) 138:9 8.1 (1) 101:11 8.3-foot (1) 101:19 8.9 (1) 101:17 80 (10) 95:15,18;98:2;103:17; 105:18;106:2,2,3,9; 114:16 80-foot (1) 105:10 9 9 (2) 46:12;62:9 9.5 (1) 69:7 9.9 (3) 69:8;101:10,17 92 (3) 30:19,20;31:10 93 (3) 148:12;149:8;151:20 94 (1) 151:20 96 (2) 84:11;104:9 97 (3) 44:12;49:2;75:10 97.2 (1) 101:12 98 (1) 55:10 9th (3) 58:7;62:13;71:13 A AAA (3) 44:24;45:1,1 ability (2) 6:23;84:15 able (18) 16:15,22,24;18:13; 20:24;23:23;26:22; 51:16;55:2;60:14;65:14; 81:9,11;86:17;89:7; 91:17;98:1;121:3 above (4) 22:3,19;34:19;141:16 ABS (2) 138:12,14

<p>absent (1) 99:1</p> <p>absolute (2) 19:5;139:2</p> <p>absorb (1) 105:1</p> <p>absorbed (2) 101:22;105:25</p> <p>Academy (1) 12:10</p> <p>accelerates (1) 98:20</p> <p>accelerometer (1) 10:6</p> <p>access (2) 13:16,24</p> <p>accessible (1) 129:25</p> <p>Accident (42) 13:11,13,14;14:3; 24:12;32:11,19;37:20, 22;41:11,16;44:2;46:18; 72:5;73:9;74:7;81:1; 82:7,10,12;83:25;84:8; 90:19;95:19;103:15,16, 25;107:23;121:21; 123:19;127:9;128:16; 129:11;136:7;139:19; 147:21,22;148:2;152:12, 24;153:2,4</p> <p>according (1) 111:9</p> <p>account (13) 89:6;102:1,6;106:4; 134:16,18;137:10,19; 138:5,11;139:1;141:9,13</p> <p>accuracy (1) 27:21</p> <p>accurate (4) 70:14;105:20;125:23; 141:10</p> <p>acronym (1) 27:8</p> <p>across (11) 15:18;64:18;68:4; 69:19;86:22;102:14,24; 110:25;122:24;123:6,10</p> <p>act (1) 36:14</p> <p>ACTAR (2) 37:15,20</p> <p>acting (1) 43:9</p> <p>action (1) 141:14</p> <p>actual (8) 33:8;82:1;103:19,21; 144:22,24;146:10; 153:17</p> <p>actually (30) 17:19;23:1;30:2; 31:11;33:14;35:15,16; 39:13;40:13;45:2,19,21;</p>	<p>48:7;64:18;65:4;67:9; 71:11;83:22;89:21; 90:10,15,17;104:5,20; 107:10;110:10;119:13, 16;124:14;136:2</p> <p>add (4) 105:15,21;110:10; 130:16</p> <p>added (2) 76:4;82:23</p> <p>addition (2) 26:24;106:14</p> <p>additional (4) 7:21;57:3;58:25; 141:17</p> <p>addressed (1) 43:12</p> <p>addressing (1) 131:2</p> <p>adjust (1) 84:7</p> <p>adjustment (1) 33:13</p> <p>adversely (1) 26:19</p> <p>advertising (1) 12:4</p> <p>Aerostar (2) 30:20;31:10</p> <p>affect (1) 26:19</p> <p>affected (1) 41:21</p> <p>affixed (1) 143:18</p> <p>afford (1) 34:3</p> <p>again (11) 14:11;25:20;28:5; 42:3;69:24;77:2;117:20, 24;124:16;130:4;149:6</p> <p>against (2) 26:17;46:13</p> <p>age (3) 47:21,22;71:20</p> <p>ago (3) 41:4,5;55:3</p> <p>agree (1) 109:15</p> <p>agreed (1) 48:19</p> <p>aided (1) 30:8</p> <p>air (19) 9:25;10:3;30:18,18; 32:12;42:12,13;63:6,13, 15;64:10,12,14,21; 65:12,15,25;125:1; 134:14</p> <p>airbag (9) 13:22;18:8;24:6; 30:20;31:13;42:7,14,18, 21</p>	<p>airbags (1) 42:8</p> <p>airport (3) 50:4,6;81:6</p> <p>Akida (1) 39:4</p> <p>Alabama (1) 25:24</p> <p>Alan (1) 55:1</p> <p>Alcala (30) 25:10,13;91:17,25; 92:17;93:15,18,24; 94:13;96:8;98:13,16; 109:21;112:14;114:11; 130:22;133:1,5,10,17; 134:6;138:10;141:8; 142:12,23,24;143:3; 145:11,21;146:12</p> <p>Alcala-Morgan (1) 24:16</p> <p>allegation (1) 151:12</p> <p>Allentown (1) 6:2</p> <p>allow (1) 17:20</p> <p>allowance (1) 96:12</p> <p>allowed (1) 138:15</p> <p>allows (1) 13:23</p> <p>alloy (1) 94:9</p> <p>alloys (1) 94:9</p> <p>almost (6) 11:20;22:7,23;23:7; 55:3;120:7</p> <p>along (1) 100:20</p> <p>ALR (1) 120:20</p> <p>alter (1) 107:8</p> <p>alterations (1) 40:10</p> <p>altered (2) 26:23;40:10</p> <p>altering (1) 30:12</p> <p>aluminum (2) 18:1;22:5</p> <p>always (1) 81:8</p> <p>American (7) 11:5,10;12:7,9;27:7; 28:5,11</p> <p>amongst (1) 122:19</p> <p>amount (5) 84:17;85:12;104:25;</p>	<p>107:11,17</p> <p>analog (1) 10:1</p> <p>analog/digital (1) 9:20</p> <p>analysis (15) 9:19;10:7,12;15:8; 20:3;24:22;25:1;80:19; 85:24;86:18;107:5; 108:2;136:5,9;144:19</p> <p>and/or (1) 41:20</p> <p>Angel's (1) 140:18</p> <p>angle (16) 84:23;111:10,12,14, 17,23,24;112:5,6; 119:17;120:13;123:2, 15;124:3,17;146:5</p> <p>angled (2) 110:24;111:15</p> <p>angles (1) 120:11</p> <p>angularity (1) 113:19</p> <p>annual (2) 11:3;28:9</p> <p>anomaly (1) 87:23</p> <p>answered (5) 6:20,22;59:13;70:25; 139:21</p> <p>Apart (1) 147:23</p> <p>A-Pillar (1) 26:14</p> <p>appear (2) 7:3;17:1</p> <p>appeared (2) 17:5;71:19</p> <p>appears (3) 64:8;93:13;111:10</p> <p>applicable (1) 75:10</p> <p>applied (1) 31:15</p> <p>apply (1) 85:2</p> <p>approached (2) 12:23;118:1</p> <p>appropriately (1) 85:2</p> <p>approximately (6) 60:13;92:21;95:15,18; 98:1;105:11</p> <p>April (8) 7:17;8:4,17,18;32:2; 56:25;76:1;83:11</p> <p>ARC (1) 13:20</p> <p>architectural (1) 38:20</p> <p>archives (1)</p>	<p>51:24</p> <p>arcing (1) 49:24</p> <p>area (8) 22:3;35:16;40:11; 115:24;119:11;127:20; 140:3,4</p> <p>areas (3) 12:22;70:5;74:20</p> <p>arguments (1) 40:22</p> <p>arm (1) 43:5</p> <p>around (3) 17:13;46:19;112:18</p> <p>arrangements (2) 31:23;79:12</p> <p>arrive (2) 96:22;105:20</p> <p>arrived (3) 99:2;108:6;147:21</p> <p>arson (1) 33:23</p> <p>aside (1) 92:15</p> <p>asleep (1) 151:24</p> <p>aspect (2) 121:21;144:2</p> <p>aspects (1) 139:24</p> <p>assembly (1) 124:3</p> <p>assess (1) 28:16</p> <p>assist (2) 37:9;59:18</p> <p>assisted (3) 30:6,18;33:6</p> <p>associate (1) 11:24</p> <p>associated (1) 110:20</p> <p>association (6) 11:25;12:25;14:8,14; 66:22;95:23</p> <p>assume (3) 6:21;50:15;116:3</p> <p>assumed (9) 97:19;104:3,11,12,17; 105:3;106:23;107:10,14</p> <p>assumes (2) 102:12;113:24</p> <p>assuming (3) 29:25;57:3;117:3</p> <p>assumption (1) 103:7</p> <p>asymmetric (1) 55:6</p> <p>Atlanta (3) 32:4,5;35:16</p> <p>attached (2) 52:10;154:12</p>
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<p>attained (1) 35:7</p> <p>attempt (1) 51:17</p> <p>attempting (1) 12:16</p> <p>attending (1) 31:6</p> <p>attitude (1) 134:12</p> <p>attorney (7) 6:10;46:21;48:11; 54:9,24;91:24;151:13</p> <p>attorneys (3) 48:24;50:10;53:18</p> <p>Austin (6) 49:8,11,11,16;152:16; 153:7</p> <p>authored (1) 75:1</p> <p>authoring (1) 80:3</p> <p>Auto (9) 6:11;57:20;75:3;76:5; 77:8,19,25;78:4;106:20</p> <p>automobile (2) 38:24;39:2</p> <p>Automotive (11) 9:25;10:23;11:15,19, 23;12:6;30:14,15,23; 31:2;32:18</p> <p>available (5) 80:9,20;82:21;83:24; 104:10</p> <p>average (7) 87:20;101:17,19,24, 25;102:20,20</p> <p>averaged (1) 88:2</p> <p>avoid (1) 140:23</p> <p>avoiding (1) 134:10</p> <p>aware (1) 72:6</p> <p>away (4) 121:7;127:15;128:3, 11</p> <p>axle (9) 45:7,8,17;47:9;56:8; 66:23;67:1;69:10; 132:11</p> <p>axles (1) 101:21</p> <p>azide (1) 65:5</p>	<p>84:4</p> <p>b1 (8) 87:3,6,16,16;88:11; 103:1;104:11;115:16</p> <p>B-1 (1) 84:4</p> <p>bachelor (1) 9:14</p> <p>back (52) 16:3;21:3;26:15;41:8, 10;43:24;45:24;46:1,2; 49:15;51:11;53:13;55:6, 7,10;56:9;60:10,16;61:4, 18;62:3;63:25;66:20; 67:2,13;70:7;89:13; 90:10,12,15,15;94:20; 102:12;103:8;104:1; 110:18,23;111:5;112:2, 18;113:18;114:17; 118:13;124:24;135:14; 141:9;142:5,19;146:8; 147:6;150:23;153:13</p> <p>background (1) 144:9</p> <p>backwards (1) 41:22</p> <p>bad (1) 56:15</p> <p>bag (16) 9:25;10:4;30:18,18; 42:13;63:15;64:10,12, 15,21;65:12,15,18,19, 20;66:1</p> <p>bags (4) 32:12;42:12;63:6,14</p> <p>Baker (1) 13:19</p> <p>ballpark (2) 74:19;117:21</p> <p>Bar (3) 14:14;18:3;35:12</p> <p>barrier (7) 84:16;89:23;90:2; 97:7;115:20;116:4; 136:13</p> <p>barriers (2) 32:21;77:16</p> <p>base (5) 101:18,19;102:2; 119:2;134:3</p> <p>based (27) 9:24;12:21;16:25; 35:8;39:5;40:15;48:10; 63:14;65:23;80:19;84:8; 94:12;97:5;103:7,24; 106:24;108:16;114:13; 116:8,17;127:6;128:19; 130:4;137:2,4;145:6,10</p> <p>baseline (1) 66:14</p> <p>Basically (14) 14:19;18:2;20:17,18; 24:1;41:16;59:13;65:8;</p>	<p>85:15;111:2;113:21; 115:5;138:21;153:12</p> <p>basis (1) 74:7</p> <p>beam (3) 123:10;124:10;136:3</p> <p>Beauchamps (1) 57:15</p> <p>Beauchamps' (1) 75:2</p> <p>became (3) 25:17;39:24;81:16</p> <p>become (3) 25:15;35:4;132:19</p> <p>bed (1) 45:14</p> <p>began (2) 30:13;35:24</p> <p>begin (1) 88:24</p> <p>behalf (3) 53:14;54:6,22</p> <p>behaves (1) 116:4</p> <p>Behind (5) 45:7;47:9;49:20; 133:22;142:24</p> <p>belly (1) 39:23</p> <p>belong (1) 11:25</p> <p>below (2) 15:9;134:22</p> <p>belt (22) 15:17,20,24;16:4,11, 14;18:9,10,22;19:6,7,13, 22;20:4,11;55:17,22; 94:14;120:17,18,23; 151:12</p> <p>belted (2) 16:10;94:11</p> <p>belts (2) 14:22;16:20</p> <p>Bendit (1) 151:17</p> <p>bends (1) 135:21</p> <p>besides (1) 36:25</p> <p>best (3) 6:23;53:2;82:21</p> <p>better (1) 34:18</p> <p>big (1) 79:16</p> <p>Bill (1) 151:15</p> <p>biomechanical (1) 42:5</p> <p>biomechanics (1) 43:1</p> <p>Birmingham (1) 25:24</p>	<p>bit (5) 6:17;7:14;15:4;33:19; 134:7</p> <p>black (2) 14:20;15:1</p> <p>Blake (1) 35:3</p> <p>blank (1) 115:13</p> <p>Block (1) 50:14</p> <p>blow (1) 42:20</p> <p>blown (3) 129:19,20,21</p> <p>blue (2) 60:19;61:3</p> <p>Blume (1) 54:11</p> <p>body (8) 18:7,10,24;119:6; 125:15,25;126:25; 127:25</p> <p>bolster (1) 15:9</p> <p>bolsters (1) 14:23</p> <p>bolts (1) 17:15</p> <p>bombed (1) 39:22</p> <p>booklet (1) 7:4</p> <p>Bosch (1) 13:21</p> <p>both (9) 46:14;59:9;67:4; 75:25;111:22;129:5,18, 21;146:17</p> <p>bottom (10) 51:6;64:19;66:7,10; 79:21;83:6;95:11,20,21; 130:18</p> <p>bought (1) 83:20</p> <p>bounce (1) 90:10</p> <p>bounced (1) 89:12</p> <p>Bowman (1) 49:1</p> <p>box (1) 15:1</p> <p>boxes (1) 14:20</p> <p>B-Pillar (2) 26:16,19</p> <p>bracket (5) 17:14,18;20:22; 117:23;137:1</p> <p>brackets (3) 17:4;19:9;22:11</p> <p>brake (1)</p>	<p>54:3</p> <p>brakes (8) 54:5,5;114:12,13; 134:10;138:12,12,14</p> <p>braking (9) 80:10,11,17,21;96:13, 16;99:2;138:14;141:14</p> <p>breach (1) 128:5</p> <p>break (7) 31:17,19;38:4;43:5; 73:21;94:17;140:9</p> <p>Breed (8) 9:25;30:15,23;31:2,5, 7,19;32:14</p> <p>Bridgestone (2) 93:21,25</p> <p>Brief (2) 19:2;94:17</p> <p>bright (1) 61:3</p> <p>bring (2) 35:17;52:1</p> <p>broke (1) 94:2</p> <p>broken (2) 123:21;128:15</p> <p>Brooke (1) 49:1</p> <p>brought (4) 32:5,13;59:21;75:11</p> <p>Brunswick (1) 54:21</p> <p>buckle (6) 15:21,22,25;18:22; 121:1,4</p> <p>buckled (1) 69:17</p> <p>buckling (1) 119:12</p> <p>build (2) 39:15;73:22</p> <p>Building (1) 30:11</p> <p>built (1) 39:20</p> <p>bumper (38) 45:8;47:10;67:1,14, 19,20;69:22,23;104:13, 16,22;105:2,3;122:18, 22;123:1,5,10;124:10, 11,15;133:3,5,7,22,23; 134:5,6,21,22,24;135:3; 136:3;141:7,16,18; 146:6;153:13</p> <p>bunker (1) 50:4</p> <p>burn (5) 81:11,19;82:5;130:23; 142:22</p> <p>burned (5) 17:24;49:12;94:8,10; 121:4</p>
B				
<p>b0 (9) 87:3,6,16,16;88:11; 103:1;104:22;116:20,23</p> <p>B-0 (1)</p>				

<p>burning (1) 46:13</p> <p>burnt (1) 121:7</p> <p>burst (3) 64:22;65:1,4</p> <p>business (3) 12:3;32:15;35:17</p> <p>buy (2) 83:17,22</p>	<p>14:17;15:4;16:12;19:11; 22:4,11;26:19;27:17; 30:25;33:19;36:24;38:7; 43:7,17,25;44:19;51:17; 61:2;62:4;63:7,19;64:4, 18;66:7;68:9;69:2,7; 72:18;73:24;74:9;75:24; 76:3;80:5;83:14,17; 84:7,24;85:2,20;87:11; 89:25;91:11;95:8,10,17; 99:4,15,17;100:18,21; 101:10;104:20;108:2; 109:9;112:24;113:16; 118:12;119:10;125:9,11, 21,24;127:11;128:20; 130:10;132:19;133:14; 135:13;136:20;137:1,4, 7;138:16;142:18; 143:15;144:5,13,14; 145:15;147:12,16; 149:5;151:3;153:1</p> <p>Canada (2) 75:6,17</p> <p>canister (6) 64:25;65:2,3,6,9,11</p> <p>Cannavo (1) 50:14</p> <p>Cannon (3) 44:1,21,22</p> <p>capable (1) 36:22</p> <p>capsule (3) 17:8,11,13</p> <p>capsules (3) 17:6;23:13;24:3</p> <p>captures (1) 120:23</p> <p>car (6) 34:11;39:21;53:24; 94:10;128:3,6</p> <p>Caravan (1) 53:10</p> <p>care (1) 61:15</p> <p>careful (2) 140:25;144:10</p> <p>carefully (1) 144:4</p> <p>carpal (2) 41:12,19</p> <p>carried (1) 36:3</p> <p>cars (1) 15:23</p> <p>CAS (4) 106:19;107:4,10,13</p> <p>case (74) 7:22;24:5;28:15; 34:22;37:7,10;38:12; 39:4;40:17,24;41:8; 44:1,12,17;45:1,10; 46:17,25;47:17,22,24; 48:1,4;49:3,6,8,11,17;</p>	<p>50:8,16;51:19;52:1; 53:5,8,12,18,22;54:1,12, 16,25;55:4,20;56:14,17; 71:9;72:12;74:16;75:11; 78:24;79:6;80:2,17; 81:3;87:23;88:21;90:18; 133:10,17;136:10; 144:19;145:10;146:25; 148:24;150:16;151:1,8, 14;152:3,16,18,22; 153:7,10</p> <p>cases (15) 26:21;33:8,9,14,17,20, 21;36:22;44:18,20; 47:20;51:10,13;91:7; 150:24</p> <p>casting (1) 22:6</p> <p>catch (1) 120:22</p> <p>catches (1) 46:10</p> <p>caught (1) 120:19</p> <p>cause (2) 44:3;143:17</p> <p>caused (2) 33:22;75:21</p> <p>causing (1) 153:19</p> <p>CDR (2) 13:22;14:19</p> <p>ceases (1) 90:5</p> <p>center (20) 22:3,8;57:20;66:19, 25;67:18,19;68:6,18; 69:9;70:6;75:3;76:5; 77:8,19,25;78:4;101:20; 106:20;134:22</p> <p>Cereghini (1) 49:1</p> <p>certain (6) 26:11;32:24;35:5; 59:19;91:10;137:1</p> <p>Certainly (3) 15:7;64:6;99:5</p> <p>certainty (1) 136:23</p> <p>certification (2) 12:18;37:20</p> <p>certifications (1) 37:12</p> <p>Certified (1) 12:10</p> <p>chance (1) 53:3</p> <p>change (3) 75:21;107:5;121:22</p> <p>changed (1) 40:21</p> <p>changes (2) 26:23;40:3</p>	<p>channels (1) 10:6</p> <p>characteristics (3) 104:19;108:1;127:7</p> <p>Charger (1) 53:24</p> <p>Chatham (1) 53:21</p> <p>check (5) 47:24;73:7;74:14; 87:11,15</p> <p>Cherokee (82) 16:17;18:14;24:15,20; 28:17;44:13;49:2,15,17; 58:3;62:20;63:4,17; 66:12;70:14;71:11,15, 25;72:2,11;75:7,10; 84:11;86:10,14;88:10, 15;95:14;97:3,11,12,20, 24;98:11;100:24; 102:13;103:5,8;104:1,9; 106:9,14,24;108:21,24; 110:21;111:5;113:4,21; 114:10,15;115:19; 116:24;117:4,22;118:2; 122:20;123:1,8;124:10, 14,19,23;131:3;133:3,4, 13;134:11,21,25;138:4; 141:21;142:5;143:4; 146:5,7;148:12;151:10, 19;152:13;153:3,14</p> <p>Cherokees (2) 71:9;149:8</p> <p>Cherokee's (2) 49:25;133:11</p> <p>chest (2) 15:18;17:23</p> <p>Chevrolet (1) 44:11</p> <p>choice (1) 73:1</p> <p>Christmas (1) 31:18</p> <p>Chrysler (10) 44:16;53:7,20;76:6, 14;77:4;115:13;116:8; 151:1,7</p> <p>Cindy (1) 53:19</p> <p>circuit (1) 65:21</p> <p>circumstances (1) 91:10</p> <p>clarify (1) 141:6</p> <p>clean (1) 49:23</p> <p>clear (1) 20:10</p> <p>clearly (1) 120:16</p> <p>client (1) 40:20</p>	<p>clients (1) 51:2</p> <p>clip (1) 54:3</p> <p>clobbered (1) 120:4</p> <p>close (2) 26:17;74:21</p> <p>closed (1) 47:20</p> <p>closely (1) 74:18</p> <p>closest (1) 65:3</p> <p>close-up (1) 110:15</p> <p>CMVSS (1) 75:16</p> <p>coefficient (11) 76:10;77:3;85:11,11; 87:24;104:3;106:22; 107:9,14;115:23;138:9</p> <p>coefficients (30) 76:7,12,18;77:7; 83:14,18,24;84:2,7,10, 25;86:1,22;87:4,6,7,14, 17;88:16,18;103:1; 104:8,11;106:21;107:8; 115:3;137:14,16;138:2,6</p> <p>co-efficients (3) 73:11,12,12</p> <p>co-linear (2) 120:9;122:2</p> <p>collapse (2) 45:15;90:7</p> <p>collapsed (1) 15:14</p> <p>collapsing (1) 91:13</p> <p>collision (12) 14:20;49:21;69:11; 70:15;94:15;113:25; 117:19;120:1;130:25; 132:5;140:1;143:1</p> <p>collisions (1) 77:13</p> <p>column (29) 15:12,13;16:25;17:1, 4,12,14,18,20,22;18:2,8; 19:6;21:25;22:5,10,13; 23:2,5,8,14,21,24;24:2, 4;87:2;119:4;120:4,6</p> <p>columns (1) 86:24</p> <p>combination (1) 146:17</p> <p>combine (1) 117:6</p> <p>coming (9) 46:4;56:6;120:3; 121:14,17;127:19,23; 128:12;130:2</p> <p>comment (2)</p>
C				
<p>cab (1) 45:14</p> <p>calculate (5) 74:21;83:23;84:16; 113:6;125:9</p> <p>calculated (3) 97:6;117:23;137:5</p> <p>calculating (3) 80:13;139:5,8</p> <p>calculation (8) 24:23;88:7;98:22; 99:4;104:5;105:22; 114:13;139:4</p> <p>calculations (22) 62:25;72:15,18,23; 73:4,4,6,7,8;88:21;89:3; 97:5;99:8,23;100:16; 114:20,22;118:8;137:9; 138:22;150:15;152:23</p> <p>California (1) 77:11</p> <p>call (5) 15:24;36:5;42:13; 51:5;135:2</p> <p>Callahan (1) 6:10</p> <p>called (9) 32:20;36:1;54:17; 66:21;74:4;89:19; 100:24;132:12;153:7</p> <p>calling (1) 152:16</p> <p>Calspan (1) 83:21</p> <p>cam (2) 147:3,8</p> <p>came (9) 40:1;106:25;115:16, 25;116:1,12,12,19; 148:15</p> <p>camera (1) 82:25</p> <p>Campbell (1) 87:5</p> <p>Campbell's (6) 74:5;84:3;87:5,15; 104:16;139:7</p> <p>can (94) 7:13;8:11,12;11:20, 24;12:3,11,13;13:12,15;</p>				

19:18;131:13 common (1) 73:16 compacted (1) 90:14 company (10) 30:1,3,5;33:12;34:17; 36:8,20;44:24;91:25; 92:18 compare (1) 60:17 compared (1) 101:3 comparing (2) 14:19,21 comparison (1) 84:18 complies (1) 21:1 components (4) 16:5;18:1;73:22,23 compound (2) 28:19;140:3 compress (1) 17:21 compromise (1) 132:9 compromised (4) 18:17;45:13;128:18; 142:25 compromises (1) 142:6 computer (10) 9:19,24;10:2,9;73:5,6; 83:4;87:9;126:18; 150:20 computers (1) 13:23 concerning (1) 28:13 concluded (1) 154:10 conclusion (2) 96:7;146:11 conducted (1) 136:8 confidence (1) 118:6 confirm (1) 113:12 conflict (2) 78:18;79:13 confused (1) 48:22 Congress (2) 27:16;28:8 conjunction (1) 144:23 connection (2) 71:9;93:7 conservation (2) 105:12;117:6 Considering (1)	81:5 consistent (10) 16:13;18:9,23;19:5; 65:9;68:15;127:18; 129:1;135:17,23 Construction (2) 30:1,9 consult (1) 38:11 consultant (3) 32:16,18;36:15 Consultants (3) 12:10,17;36:20 consultation (1) 33:5 consuming (1) 65:9 contact (19) 25:19;42:17;45:16; 110:20;123:6;132:7,19, 21;133:3,6,11,12,18,19, 25;135:17,23;138:7; 143:7 contacted (1) 133:2 contained (1) 93:8 contour (1) 135:16 Control (1) 149:11 controlled (4) 64:16,20,23;65:7 controls (1) 65:17 controversy (1) 16:9 converge (2) 73:15,19 conversion (1) 101:9 converted (2) 10:2;101:11 cooler (1) 34:11 copies (12) 27:3;47:19;61:12,13; 79:19;82:25;85:17;95:2; 126:14;136:15;147:16; 151:5 copy (13) 7:10;8:3,6,8;14:12; 52:7;53:1;61:18;99:15, 16,22;100:2;147:6 Corigliano (3) 58:14,17;71:13 Corigliano's (2) 59:25;71:15 corner (4) 60:6,7,11;99:25 corners (1) 68:25 Corp (4)	30:15,24;31:2;149:11 correctly (10) 18:21;26:5,6;41:12; 46:20;56:3;59:21;78:14; 151:11;153:6 correlate (1) 117:17 correlated (1) 145:3 correlates (1) 117:24 costs (1) 147:16 counsel (3) 48:19;51:5;100:11 counterclockwise (1) 125:5 couple (8) 10:9;26:21;91:16; 117:14;118:4;141:2; 143:8;146:20 course (3) 11:2;76:14;115:24 court (1) 7:1 cover (5) 122:18,22;123:1,5; 124:11 covered (1) 60:6 covering (1) 121:12 cowl (1) 17:15 crash (29) 13:17,25;16:8;32:12; 43:3;54:16;76:5,8,11,18; 83:14,18,19,20;84:9,19, 21;85:3;87:19,22,24; 89:18,20,25;104:7; 106:24;115:10;130:12; 151:21 crashes (5) 16:9;42:10;84:19; 148:13;149:9 crashworthiness (8) 26:7,8,20,23;27:1; 39:17;40:7;44:3 Crawford (1) 33:12 creases (1) 135:21 create (9) 35:14;64:20;97:8; 139:15;140:2;143:13; 144:2,6;145:5 created (1) 76:12 creating (1) 141:17 credentials (1) 12:18 criteria (2)	35:5;42:12 cross (6) 133:12,19,20;135:1,7; 136:3 CROSS-EXAMINATION (1) 141:4 crumbling (1) 135:22 crush (64) 66:16,24;67:3,4,21,23; 68:2,20;70:4;73:11; 74:6;76:7,10,12;77:7; 83:14,18,23;84:10; 85:11,25;86:21;88:24; 89:19,23;90:7,21,25; 91:8,9;96:23;97:5,8,19; 101:2,5,22,25;102:3,21, 24;103:2,4,9;104:2,8,19, 20;106:22;107:8,9,12, 18,20;109:5,6;115:4,12; 116:2,6;119:9;128:24; 130:21;132:18 crushed (3) 101:20;102:13;112:17 crushing (3) 135:18;136:1,2 current (4) 7:5;37:24;38:8;52:1 Currently (1) 36:9 Curriculum (1) 8:24 CV (10) 7:5;8:23;10:20;13:1; 29:23;37:25;38:3;51:19; 52:4,15 cycles (1) 32:25 cylindrical (1) 64:8	122:8,9,11,18 D-17 (3) 122:14;123:9,24 D-18 (5) 122:16;123:9,23,24; 154:12 D-19 (3) 126:22,24;127:18 D-2 (4) 8:23,24;52:16,22 D-2A (2) 52:16,17 D-3 (4) 9:9,10;57:1;76:1 D-4 (3) 21:7,8,20 D-5 (6) 21:13,14,15,17,21; 22:2 D-6 (5) 62:8,16,18;66:7,11 D-7 (4) 64:1,4,7;65:24 D-8 (6) 86:3,4,7,16,20;88:23 D-9 (4) 86:12,13;88:11,23 dad's (1) 30:4 Dakota (3) 55:10;56:1,2 damage (27) 56:14;66:15;68:16; 69:15,19;84:17;88:25; 103:5;111:4,12;112:17, 19,20;119:3;122:21,22; 123:4,6;139:9,15;143:5; 145:16,19,20,24;146:1,3 damaged (2) 66:19;72:1 damaging (3) 97:2,11,16 dash (8) 17:3,16;18:3;23:1,11; 82:25;147:3,8 dashboard (5) 15:14;17:21;22:10; 23:22;24:3 DaSilva (4) 54:17,22;55:11;56:14 DaSilva's (2) 54:24;55:23 data (23) 9:19,24;10:6,10; 14:19,20,24;66:21,22; 76:9;77:7;84:24;85:5, 18,23;86:4,13,17;87:19, 25;88:20;115:14,15 database (3) 12:20;13:3;83:16 databases (1) 10:16 dated (5)
D				
			D/S (1) 94:11 D-1 (6) 8:14,18,21;57:1;76:1; 154:12 D-10 (5) 93:13,17;108:10; 110:19;113:17 D-11 (4) 99:22;100:8,15,21 D-12 (6) 110:1,4,14;111:13; 112:6;135:11 D-13 (3) 110:1,6;112:15 D-14 (3) 110:2,8;113:14 D-15 (3) 110:12;112:23;135:12 D-16 (4)	

<p>7:16,17;79:20;93:13; 149:12</p> <p>daughter (3) 92:3,12,16</p> <p>day (3) 62:23;63:1;72:4</p> <p>days (1) 36:4</p> <p>dead (1) 22:7</p> <p>deal (2) 74:12;140:4</p> <p>dealers (1) 13:21</p> <p>Dearborn (2) 31:8,16</p> <p>death (4) 49:12;118:19,22; 130:24</p> <p>debris (1) 122:20</p> <p>deceleration (7) 103:23;114:8,9; 137:16;138:2,6,10</p> <p>defect (2) 54:3;76:24</p> <p>defective (2) 29:8;39:19</p> <p>defectively (1) 43:13</p> <p>defend (2) 39:8;45:1</p> <p>defendant (2) 39:24;44:22</p> <p>defendants (1) 44:23</p> <p>Defense (2) 14:13;45:2</p> <p>DeFILIPPO (69) 8:15,21;9:2,7;19:21, 25;20:7,9,16;21:14; 28:18,25;29:9,12,15,19; 51:13;52:6,9,13,19; 58:13;61:14;62:11,14; 92:4,7,10,16;100:1,6,10, 14;110:1;125:17,22; 126:1,14,17;128:20; 131:4,10,17,21;132:1; 136:24;140:12,15,21; 141:2,5;142:18;146:18; 147:7,8,12,23;149:2,5, 21,24;150:1,3,7,11; 151:3;152:7,10;154:4</p> <p>define (1) 80:5</p> <p>definition (2) 138:18,20</p> <p>deflate (1) 64:15</p> <p>deflates (1) 64:24</p> <p>deflect (1) 119:7</p>	<p>deflecting (1) 119:15</p> <p>deflection (1) 90:6</p> <p>deform (1) 119:7</p> <p>deformable (1) 135:20</p> <p>deformations (1) 135:22</p> <p>deformed (3) 41:15,18;69:17</p> <p>deforming (2) 55:12;135:18</p> <p>degree (1) 136:22</p> <p>degreed (1) 11:3</p> <p>degrees (3) 111:11,12;119:17</p> <p>delta-v (11) 46:18;74:18;115:4,6; 116:5,17;117:12,13; 120:1;153:6,11</p> <p>delta-v's (2) 74:20;152:23</p> <p>demonstration (1) 28:2</p> <p>dent (1) 105:1</p> <p>dents (3) 110:25;111:15;135:16</p> <p>dep (2) 51:15;53:3</p> <p>department (1) 10:9</p> <p>depending (1) 85:12</p> <p>depends (1) 91:12</p> <p>deploy (6) 42:13;65:7,12,19,20; 66:4</p> <p>deployed (4) 63:7,14;65:7;66:1</p> <p>deployment (2) 24:7;42:14</p> <p>deploys (1) 64:13</p> <p>deposed (1) 6:15</p> <p>deposited (1) 46:11</p> <p>deposition (7) 6:13;41:2;48:4,5; 50:16;148:1,6</p> <p>depositions (9) 20:13;52:17,23;57:18, 19;76:16,23;146:24; 147:24</p> <p>depressed (1) 23:22</p> <p>depth (7)</p>	<p>69:14;89:23;102:24; 103:2;116:6;120:7; 144:1</p> <p>depths (2) 66:16;115:12</p> <p>describe (1) 85:7</p> <p>design (35) 10:1;26:23;27:12; 28:13,16,20,23;29:3,12, 16;30:19;39:8,14,19; 40:3,5,12;41:14;42:8,11; 43:22;44:6,8,11,20; 47:13;48:13,16,21; 53:13;55:6;76:23;131:2, 23;132:18</p> <p>designation (2) 14:2;63:3</p> <p>designed (4) 43:14;47:1,5;120:7</p> <p>designing (1) 85:6</p> <p>detail (2) 77:6;104:16</p> <p>determination (5) 34:10,16,16,20;40:9</p> <p>determinations (1) 65:15</p> <p>determine (13) 16:6,13,20;24:23; 34:6;40:3;68:19;79:23; 95:24;101:2,5;136:5,21</p> <p>determined (5) 41:16;80:12;113:9; 116:23;128:21</p> <p>determining (2) 34:4;101:14</p> <p>developed (1) 76:7</p> <p>developing (1) 115:2</p> <p>development (1) 76:18</p> <p>devoted (1) 38:9</p> <p>diagram (6) 66:10;95:19,23; 103:15,16,25</p> <p>diagrams (1) 134:16</p> <p>difference (6) 68:10;101:8;102:1,6, 18,22</p> <p>differences (1) 74:19</p> <p>different (14) 11:21;45:18;47:3,15; 75:8;83:23,24;84:5; 85:16;100:25;101:15; 103:22;118:1;127:10</p> <p>differently (2) 47:1,5</p> <p>difficult (2)</p>	<p>81:14;107:22</p> <p>diffuser (1) 64:14</p> <p>diffusers (1) 64:12</p> <p>digital (1) 10:3</p> <p>digressing (1) 74:17</p> <p>dimensional (1) 143:14</p> <p>dimensions (2) 85:25;97:19</p> <p>Direct (6) 108:12;110:19; 112:19,20;132:7,20</p> <p>DIRECT-EXAMINATION (1) 6:6</p> <p>direction (3) 18:6;43:9;121:23</p> <p>directly (4) 22:19;113:11;130:21; 145:7</p> <p>dired (1) 48:6</p> <p>disbanded (1) 35:23</p> <p>discuss (1) 122:6</p> <p>discussed (6) 11:10;51:2;102:18; 103:15;117:7;135:11</p> <p>discussing (1) 26:11</p> <p>Discussion (10) 7:12;21:5;56:21; 92:14;122:4;126:21; 130:15;136:18;141:1; 151:6</p> <p>disk (3) 95:8,9,10</p> <p>disks (5) 83:5;126:20,20; 146:25;147:2</p> <p>disposed (1) 47:23</p> <p>dispositive (1) 19:4</p> <p>disrupt (1) 61:10</p> <p>distance (20) 24:25;66:25;67:17; 89:23,24;90:13,16,20; 96:3;101:2,3;102:3,21; 105:10,23;106:1; 107:20;124:21;139:6; 143:3</p> <p>distances (7) 73:13;80:12;95:25,25; 137:3,17;139:16</p> <p>divide (2) 109:14;115:6</p> <p>division (1)</p>	<p>44:25</p> <p>DoBus's (1) 42:1</p> <p>document (8) 51:6;86:2,8;148:10, 14,18,23;149:1</p> <p>documentation (2) 80:23;81:19</p> <p>documented (2) 80:24;91:8</p> <p>documents (3) 51:14;149:13;151:4</p> <p>Dodge (3) 53:10,24;55:10</p> <p>Donald (3) 8:19,25;9:11</p> <p>done (11) 10:12;24:22;38:2; 44:10,10;83:19;104:5; 125:10;140:7;148:21; 151:5</p> <p>Donnelly (2) 53:7,15</p> <p>door (12) 26:15,16;94:5;121:14, 18,19;128:23;129:2,3; 130:7,8;153:17</p> <p>doors (2) 128:25;129:21</p> <p>dotted (1) 81:12</p> <p>double (1) 115:10</p> <p>down (18) 7:2;10:10;17:21;18:2, 4,11;34:3;46:7,12; 73:21;82:4;84:25;90:1; 101:14,16;112:5; 124:24;134:12</p> <p>downloads (1) 13:22</p> <p>dozen (2) 43:18;51:10</p> <p>drawings (1) 144:18</p> <p>drew (1) 95:23</p> <p>D-ring (2) 15:15;18:18</p> <p>driven (2) 81:4,24</p> <p>driver (8) 15:11;41:9,11;45:25; 46:8;49:12;65:21;68:10</p> <p>driver's (29) 49:22;65:15,18,20; 66:3;67:9,11;69:20; 94:11;109:2,6;112:16, 21;113:10;118:21; 121:16,18;122:23;123:4, 16;124:1;127:20,23; 128:1,7,12;129:2;130:1, 2</p>
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<p>driving (1) 81:10</p> <p>dropped (3) 18:2;24:4;40:25</p> <p>drove (3) 81:7;151:23;153:13</p> <p>D-shaped (1) 15:16</p> <p>duces (1) 76:15</p> <p>due (2) 55:6;141:14</p> <p>dues (2) 11:3;13:5</p> <p>duly (1) 6:4</p> <p>dump (1) 73:25</p> <p>during (10) 16:8;33:6;39:22; 45:14;55:9;59:1;89:18; 92:18;143:1,1</p> <p>Durisek's (1) 76:13</p> <p>DVDs (1) 83:6</p> <p>dynamic (6) 89:6,19;90:6,21;91:1, 8</p>	<p>efficient (1) 31:14</p> <p>efficiently (1) 10:11</p> <p>either (15) 17:15;18:8;19:10; 37:6;54:10;59:5;74:22; 75:21;77:25;80:22;83:1; 85:13;132:17;134:8; 149:15</p> <p>ejected (2) 45:25;119:18</p> <p>EL42 (1) 94:1</p> <p>elapses (1) 42:16</p> <p>electrical (1) 34:6</p> <p>electronic (6) 14:24;57:24;70:16; 83:3;95:4;149:14</p> <p>electronically (6) 57:16,21;95:9;149:3, 17;150:20</p> <p>elemental (2) 73:22,23</p> <p>eliminate (1) 73:24</p> <p>else (10) 14:1;19:16;34:23; 47:11;48:22;79:4;91:22; 92:2,18;140:9</p> <p>elsewhere (1) 32:1</p> <p>e-mailed (1) 7:7</p> <p>emergency (1) 127:11</p> <p>employees (3) 36:12,14;38:15</p> <p>employment (1) 32:1</p> <p>enables (1) 103:22</p> <p>encompassed (1) 28:23</p> <p>encompasses (1) 98:23</p> <p>end (3) 75:15;102:12;112:2</p> <p>ended (1) 41:9</p> <p>energy (27) 54:15;74:6;85:12; 97:1,10,15,22;98:3,8; 104:25;105:12,16,25; 106:4,9,13;107:12; 117:6,15;138:19,21,23, 23;139:2,5,8,15</p> <p>engaged (4) 25:14;112:7;113:4; 123:16</p> <p>engagement (2)</p>	<p>111:21;119:22</p> <p>engine (1) 34:5</p> <p>engineer (7) 11:4,23;12:1;31:11; 34:18;37:19,22</p> <p>engineering (6) 9:14;27:11;42:5; 70:21,23;83:16</p> <p>engineering/consulting (1) 32:15</p> <p>Engineers (24) 10:23;11:6,11,15,20; 12:6,8;27:8;28:6,12; 31:9,12;33:6;35:25; 36:4,5;38:9,24;39:7; 43:12;78:12,23;79:23; 80:1</p> <p>enough (3) 47:25;76:21;77:6</p> <p>entire (1) 115:18</p> <p>envision (1) 89:25</p> <p>equals (1) 101:11</p> <p>equate (1) 103:5</p> <p>equated (1) 85:12</p> <p>equates (1) 116:16</p> <p>equation (1) 74:10</p> <p>equipment (2) 13:24;30:7</p> <p>equivalent (15) 84:16;97:7;98:6; 102:3;103:3,10;104:13; 105:6,14,16;117:4,9; 138:23;139:5,14</p> <p>error (8) 73:15,18,24;74:12; 140:2,3;144:5,14</p> <p>errors (4) 140:2;144:6,12,13</p> <p>erupted (1) 50:2</p> <p>escape (1) 128:10</p> <p>escaping (1) 37:3</p> <p>essentially (2) 88:4;109:8</p> <p>establish (1) 12:16</p> <p>established (1) 113:5</p> <p>estimate (1) 60:15</p> <p>evaluate (2) 40:2;104:8</p> <p>evaluated (2)</p>	<p>27:20;41:14</p> <p>evaluation (1) 40:15</p> <p>Evans (2) 153:8,9</p> <p>Even (11) 17:24;38:16;43:22; 48:15;50:3;74:15;88:16; 107:18;117:25;129:24; 153:20</p> <p>event (5) 32:22;80:14;105:14; 137:6;151:21</p> <p>eventually (4) 34:12;35:4,20;64:23</p> <p>everybody (3) 6:20;13:6;79:11</p> <p>everyone (1) 36:22</p> <p>evidence (27) 14:21,23;16:12,13,16, 18,22;18:12,16;19:4; 80:9,16,20,21,24;82:5, 21;96:16;108:3;133:1, 10,17;138:13;142:9,21; 145:4,9</p> <p>exactly (5) 38:21;40:20;78:19; 84:20;120:7</p> <p>examination (1) 143:10</p> <p>example (2) 90:25;153:24</p> <p>exceed (1) 104:21</p> <p>exceeds (3) 68:24;89:24;119:17</p> <p>except (3) 79:6;94:3,4</p> <p>exception (2) 71:20;77:14</p> <p>exerted (1) 137:11</p> <p>Exhibit (29) 8:18,24;9:10;21:8,17, 20;52:16,17;62:7,8,15; 63:25;64:1;86:4,13; 93:11,17;99:22;100:8, 15;110:4,6,8,12;122:9, 14,16;123:22;126:22</p> <p>exhibited (1) 135:10</p> <p>Exhibits (2) 57:1;154:12</p> <p>exist (2) 111:13;124:5</p> <p>exit (1) 81:20</p> <p>experience (7) 12:22;13:2;29:24; 32:13;37:5;42:8;128:8</p> <p>experienced (1) 103:10</p>	<p>expert (4) 29:3;36:15;45:2;127:8</p> <p>expertise (1) 12:22</p> <p>Experts (6) 12:10,17,20;20:10; 71:2;85:4</p> <p>explain (7) 17:7;64:4;66:8;80:5; 83:15;89:15;134:7</p> <p>explained (1) 35:13</p> <p>explains (1) 102:15</p> <p>explanation (5) 125:12;127:3,6,17; 128:8</p> <p>Explorer (9) 54:13,16;55:8,19; 56:2,4,7,9,14</p> <p>explosion (1) 130:23</p> <p>explosively (1) 65:8</p> <p>exponential (1) 144:13</p> <p>expose (1) 134:13</p> <p>Exposition (2) 27:16;28:8</p> <p>exposure (1) 132:7</p> <p>extend (2) 26:13;128:24</p> <p>extends (2) 22:10;122:23</p> <p>extent (2) 69:18;107:7</p> <p>exterior (1) 85:25</p> <p>extra (2) 8:6;136:12</p> <p>extraneous (1) 10:7</p>
E				
<p>Eagle (1) 14:8</p> <p>earlier (7) 26:25;73:20;87:10; 117:7;135:11;141:22; 152:8</p> <p>ease (1) 135:2</p> <p>easier (2) 74:11;79:19</p> <p>easiest (2) 51:18,23</p> <p>easy (3) 7:1;73:20;132:9</p> <p>EDCRASH (7) 73:10;74:14;84:1; 87:7,9,12,15</p> <p>edge (3) 67:13;110:17;135:8</p> <p>edges (1) 70:3</p> <p>EDSMAC (2) 73:10;74:15</p> <p>education (3) 9:18;10:15;42:5</p> <p>educational (1) 13:2</p> <p>effect (1) 119:13</p> <p>effects (2) 89:6;120:2</p>	<p>else (10) 14:1;19:16;34:23; 47:11;48:22;79:4;91:22; 92:2,18;140:9</p> <p>elsewhere (1) 32:1</p> <p>e-mailed (1) 7:7</p> <p>emergency (1) 127:11</p> <p>employees (3) 36:12,14;38:15</p> <p>employment (1) 32:1</p> <p>enables (1) 103:22</p> <p>encompassed (1) 28:23</p> <p>encompasses (1) 98:23</p> <p>end (3) 75:15;102:12;112:2</p> <p>ended (1) 41:9</p> <p>energy (27) 54:15;74:6;85:12; 97:1,10,15,22;98:3,8; 104:25;105:12,16,25; 106:4,9,13;107:12; 117:6,15;138:19,21,23, 23;139:2,5,8,15</p> <p>engaged (4) 25:14;112:7;113:4; 123:16</p> <p>engagement (2)</p>	<p>111:21;119:22</p> <p>engine (1) 34:5</p> <p>engineer (7) 11:4,23;12:1;31:11; 34:18;37:19,22</p> <p>engineering (6) 9:14;27:11;42:5; 70:21,23;83:16</p> <p>engineering/consulting (1) 32:15</p> <p>Engineers (24) 10:23;11:6,11,15,20; 12:6,8;27:8;28:6,12; 31:9,12;33:6;35:25; 36:4,5;38:9,24;39:7; 43:12;78:12,23;79:23; 80:1</p> <p>enough (3) 47:25;76:21;77:6</p> <p>entire (1) 115:18</p> <p>envision (1) 89:25</p> <p>equals (1) 101:11</p> <p>equate (1) 103:5</p> <p>equated (1) 85:12</p> <p>equates (1) 116:16</p> <p>equation (1) 74:10</p> <p>equipment (2) 13:24;30:7</p> <p>equivalent (15) 84:16;97:7;98:6; 102:3;103:3,10;104:13; 105:6,14,16;117:4,9; 138:23;139:5,14</p> <p>error (8) 73:15,18,24;74:12; 140:2,3;144:5,14</p> <p>errors (4) 140:2;144:6,12,13</p> <p>erupted (1) 50:2</p> <p>escape (1) 128:10</p> <p>escaping (1) 37:3</p> <p>essentially (2) 88:4;109:8</p> <p>establish (1) 12:16</p> <p>established (1) 113:5</p> <p>estimate (1) 60:15</p> <p>evaluate (2) 40:2;104:8</p> <p>evaluated (2)</p>	<p>27:20;41:14</p> <p>evaluation (1) 40:15</p> <p>Evans (2) 153:8,9</p> <p>Even (11) 17:24;38:16;43:22; 48:15;50:3;74:15;88:16; 107:18;117:25;129:24; 153:20</p> <p>event (5) 32:22;80:14;105:14; 137:6;151:21</p> <p>eventually (4) 34:12;35:4,20;64:23</p> <p>everybody (3) 6:20;13:6;79:11</p> <p>everyone (1) 36:22</p> <p>evidence (27) 14:21,23;16:12,13,16, 18,22;18:12,16;19:4; 80:9,16,20,21,24;82:5, 21;96:16;108:3;133:1, 10,17;138:13;142:9,21; 145:4,9</p> <p>exactly (5) 38:21;40:20;78:19; 84:20;120:7</p> <p>examination (1) 143:10</p> <p>example (2) 90:25;153:24</p> <p>exceed (1) 104:21</p> <p>exceeds (3) 68:24;89:24;119:17</p> <p>except (3) 79:6;94:3,4</p> <p>exception (2) 71:20;77:14</p> <p>exerted (1) 137:11</p> <p>Exhibit (29) 8:18,24;9:10;21:8,17, 20;52:16,17;62:7,8,15; 63:25;64:1;86:4,13; 93:11,17;99:22;100:8, 15;110:4,6,8,12;122:9, 14,16;123:22;126:22</p> <p>exhibited (1) 135:10</p> <p>Exhibits (2) 57:1;154:12</p> <p>exist (2) 111:13;124:5</p> <p>exit (1) 81:20</p> <p>experience (7) 12:22;13:2;29:24; 32:13;37:5;42:8;128:8</p> <p>experienced (1) 103:10</p>	<p>expert (4) 29:3;36:15;45:2;127:8</p> <p>expertise (1) 12:22</p> <p>Experts (6) 12:10,17,20;20:10; 71:2;85:4</p> <p>explain (7) 17:7;64:4;66:8;80:5; 83:15;89:15;134:7</p> <p>explained (1) 35:13</p> <p>explains (1) 102:15</p> <p>explanation (5) 125:12;127:3,6,17; 128:8</p> <p>Explorer (9) 54:13,16;55:8,19; 56:2,4,7,9,14</p> <p>explosion (1) 130:23</p> <p>explosively (1) 65:8</p> <p>exponential (1) 144:13</p> <p>expose (1) 134:13</p> <p>Exposition (2) 27:16;28:8</p> <p>exposure (1) 132:7</p> <p>extend (2) 26:13;128:24</p> <p>extends (2) 22:10;122:23</p> <p>extent (2) 69:18;107:7</p> <p>exterior (1) 85:25</p> <p>extra (2) 8:6;136:12</p> <p>extraneous (1) 10:7</p>
F				
				<p>facility (2) 50:5;77:9</p> <p>fact (5) 82:22;130:20;138:12; 146:11;153:21</p> <p>factors (2) 128:9;130:5</p> <p>factory (1) 39:22</p> <p>faint (1) 81:16</p> <p>fair (2) 68:17;109:16</p> <p>fairly (1) 74:18</p> <p>falls (2)</p>

46:9;117:22 familiarize (1) 10:15 family (2) 49:14;92:1 far (8) 48:6;60:11,14;74:20; 81:13;112:5;130:5; 140:16 fashion (3) 64:23;65:7;131:15 fast (2) 42:23;51:3 Fatal (2) 148:12;149:8 father's (1) 30:2 February (1) 130:13 fed (4) 44:4,13;53:5;63:5 feel (2) 35:9;145:5 feet (26) 67:13,18;68:10;70:9, 12;95:15,18;98:2,7,21; 101:8,10,11;103:17,18, 23;105:18;106:2,3,7,9, 12;108:16;114:7,14; 145:13 fell (1) 151:24 felt (1) 35:7 fence (1) 60:6 fenced (1) 60:5 fender (7) 105:1;112:16,21,22, 24;113:3,10 Fenton (8) 20:11;57:15;111:9; 123:15;124:4;134:15; 141:9;143:9 Fenton's (2) 74:17;75:2 few (1) 6:14 FHWA (2) 77:22;78:1 Fiat (8) 39:8,13,25;40:1,2,4, 12,14 field (1) 143:25 fight (4) 127:7,12;128:9;130:6 figured (2) 72:21;150:9 figures (2) 100:22;137:18 file (13)	7:16;8:9;57:10,25,25; 61:11;75:12;99:14; 126:7;147:15;148:10, 18;149:20 files (1) 10:2 fill (1) 12:25 final (5) 34:16,22;96:3;97:24; 98:20 find (7) 12:20;41:20;62:4; 78:14;80:16;96:16; 128:5 finding (2) 53:3;145:11 findings (4) 40:18;41:23;42:1;51:1 fine (8) 8:13;61:14,19;72:20; 99:16;132:1;136:17; 140:10 finish (1) 31:17 fire (35) 18:17;24:2;33:22; 34:5,10,13,13;37:5;44:4, 14;46:10,12;50:2;53:5; 56:11;63:5;65:9;127:19, 22,22;128:4,17;129:15, 22,24;141:23;142:1,6, 11,13,23;148:13;149:9; 152:3;153:19 fired (2) 15:25;16:3 fires (5) 33:25;36:19,21,25; 37:13 fire's (1) 130:2 firewall (1) 18:4 firm (2) 35:5,15 firms (1) 33:13 first (32) 6:4;7:25;12:24;24:17, 24;25:20;30:13;37:2; 58:11,19;59:6,10,16; 60:1,3,12;61:7,23;62:19; 71:1;74:1;79:21;87:1; 90:4;98:23;101:10; 109:23;125:4;130:17; 134:1;138:15;143:1 fit (1) 23:10 Five (2) 36:16;42:15 fix (1) 74:2 fixed (4)	143:24;144:4,5,9 flames (3) 121:14,17;128:12 flat (8) 45:14;68:21;69:4; 77:15;90:2;115:19; 116:4;125:2 flight (4) 127:7,12;128:9;130:6 floor (3) 69:18;119:11;128:6 Florida (1) 44:17 flying (2) 32:22;119:24 FMVSS (3) 76:6;77:4;94:23 folder (1) 83:6 follow (1) 100:19 follows (1) 6:5 follow-up (1) 152:8 foot (9) 102:20;107:25;108:7, 19;109:8,14,14,17; 138:25 force (2) 43:5,8 forces (2) 43:3;137:10 Ford (12) 30:19;31:9,10,12; 44:23;45:4;46:25;47:2; 54:13,16,17;55:7 Ford's (3) 48:11,19,24 foreground (2) 143:18;144:7 Forensic (9) 35:25;36:4,5;38:9,23; 39:7;43:11;79:22;80:1 forgot (1) 151:2 form (5) 28:18;136:25;142:16; 143:21;145:15 format (4) 10:3;83:4,17;149:14 formats (1) 85:16 forming (1) 148:24 formula (3) 74:5;104:16;139:7 formulate (1) 152:23 forward (13) 18:6;19:1;22:10; 55:18;69:17;112:3; 119:12,23,25;132:10,11,	17;141:14 found (11) 39:18;40:7;73:20; 118:18;121:1,9;122:19; 125:13;148:10;151:1,2 foundation (1) 125:19 Four (7) 52:24;55:3;104:13,21; 146:25;147:2;148:11 four-mile (1) 105:4 fourth (1) 110:10 fraction (1) 90:3 frame (3) 10:12;42:19;135:4 frames (1) 137:2 friction (4) 16:7;73:12;137:15; 138:5 friend (1) 41:25 front (86) 14:12;26:14,16;34:11; 47:10;49:22;55:19;62:5; 65:18;66:13,17,18,23, 24;67:1,1,4,7,10,14,18, 20,20,22,23,24,25;68:3, 4,19,25;69:3,22,23;94:4, 8,9;97:5,7,11,12,20; 98:11;101:21;102:17,19, 21,25;103:8;105:9,17; 108:19;109:21;111:1,6; 112:4,16,22,24;113:3, 10,16;117:3,19;118:18; 119:14;121:19;122:25; 123:8,10,11,17;124:1,9; 129:2,2,3;130:7;133:23; 134:5,20,24;135:6; 145:19;146:6;150:16 frontal (7) 24:19;55:22;63:9,10; 65:12;83:14;103:4 fuel (53) 28:13,16;29:3,7,16; 30:23;33:17,22;34:13; 43:13,22;44:4,5,7,10,13, 20;45:5,13,16;46:4,5, 47:1,3,8;48:12,16,20; 51:10;53:4,25;54:13,14; 55:25;56:10,17;63:5; 71:21;130:19,23;131:3, 14;133:2,12,18;134:1, 13;135:17;136:6; 138:16;142:5,25;153:18 full (11) 11:22;12:5,7;71:22; 77:15;83:22;107:24; 128:22;130:12;138:7; 146:7	Funk (2) 20:11;57:15 Funk's (1) 75:3 further (2) 46:12;70:7 Fusco (1) 6:11
G				
				Garden (1) 41:10 gas (1) 49:25 gases (2) 64:13,21 gasoline (4) 34:6,14;46:9;127:21 gave (4) 25:22;48:3;53:5;88:15 gearing (1) 140:19 Gen-3 (1) 151:11 generally (1) 15:10 gentle (1) 135:22 gentlemen (1) 37:6 Georgia (2) 32:4,6 gestures (1) 7:3 gets (4) 128:1;135:13;142:4,5 GILL (4) 61:13;140:14,16; 151:2 girls (1) 49:15 given (4) 28:10;72:7;106:13; 128:8 gives (9) 84:2,3,4,5,15;101:25; 103:3;105:16;139:10 giving (2) 44:5,7 glass (3) 94:2;129:12,19 glazing (3) 28:2,3,4 GM (1) 30:19 goes (10) 15:18,20;69:19;90:1; 101:23;112:5;114:15; 123:6;130:6;150:23 Gold (1) 151:15 Goldfaden (1)

<p>54:11 gonna (6) 38:12;90:7;112:4; 119:24,25;120:2 Good (7) 6:8;38:3;41:25;42:22; 94:16;140:11,20 gouge (2) 81:15,16 grab (1) 135:9 grades (1) 11:22 Graduate (1) 9:18 graduated (1) 9:13 Grand (63) 16:16;18:14;24:15,20; 28:17;44:13;49:2,17; 53:10;58:3;62:20;63:4, 17;70:13;71:9,11,15,25; 72:2,10;75:7,10;84:11; 86:9,14;88:9,15;95:14; 97:2,20,23;98:11; 102:13;104:9;106:9,14; 108:21,23;110:21; 113:20;114:10,15; 115:19;122:20;123:1,8; 124:10,23;131:3;133:2, 4,11,13;134:25;138:3; 141:20;146:7;148:12; 149:8;151:18;152:13; 153:3,14 grass (1) 82:3 grayish (1) 64:7 Great (3) 8:14;63:21;89:17 greater (2) 91:8;114:9 grille (1) 135:8 ground (5) 111:3,19,23;124:17,24 Group (2) 6:11;148:22 grouped (1) 85:22 guarded (1) 132:12 guarding (3) 32:20;132:13,14 guards (1) 32:21 guess (4) 51:18;57:17;95:6; 99:16 guys (1) 10:9 GV (5) 39:10,15,18,19;40:1</p>	<p style="text-align: center;">H</p> <p>Hall (2) 9:23;31:7 hand (7) 31:12,12;73:8,21; 85:21;122:12;139:24 handed (1) 61:25 handing (1) 86:16 handle (1) 36:24 handling (5) 10:1,16;15:1,2;36:22 hands (3) 32:24;41:20;82:7 handwriting (1) 99:20 Handwritten (4) 62:8;73:4;100:15; 150:15 hanging (1) 123:20 Hannemann (4) 6:8;58:9;59:14;78:17 happen (3) 6:17;12:5;78:4 happened (5) 72:7,8;87:24;125:6; 136:21 happens (1) 135:6 happy (1) 17:10 hard (1) 135:19 hardware (1) 17:25 hatch (4) 124:6;129:12,20; 146:9 head (7) 7:2;35:11;39:9;44:19; 120:14;125:15;148:5 heading (1) 100:24 headlight (8) 49:22,25;123:17; 124:1,4,5;153:17,18 headlights (4) 49:21;123:11;153:14, 16 heard (4) 6:21;42:3;49:7;85:4 heavy (1) 82:17 heck (1) 56:1 height (4) 122:25;141:16,18; 144:2</p>	<p>heights (1) 141:7 held (10) 7:12;21:5;56:21; 92:14;122:4;126:21; 130:15;136:18;141:1; 151:6 help (5) 16:19;32:22;37:6; 101:4;134:13 helps (1) 136:13 here's (2) 21:10;85:23 hereto (1) 154:13 high (6) 54:15,15;91:11,12; 116:7;118:6 Hills (1) 53:9 Hime (2) 46:23,23 hinge (1) 26:15 hired (7) 37:4;46:21;50:11,14; 54:6,21;151:14 hiring (1) 35:3 history (1) 72:7 hit (35) 18:7;41:25;49:20; 55:10,19;56:8,15;63:9, 10;91:12,13;103:8; 105:9,17,17;116:15; 117:3,4;119:24;120:8, 16,24;123:1;124:10,13, 15,21;133:7;134:21; 145:13,17,25;146:7,9; 153:22 hitch (1) 135:5 hits (10) 90:2,2,4;98:19; 114:17;125:2;134:6,20, 20;145:20 hitting (6) 56:7;89:22;124:6; 125:7;135:19,20 hold (3) 31:20;37:12;79:14 holding (2) 18:10;51:9 holds (1) 23:1 hole (1) 121:15 holes (5) 45:21;64:11,14,17,20 hollowed (1) 22:12</p>	<p>hood (6) 109:21;110:15,17; 112:20;135:8,13 hope (1) 76:20 horizontal (1) 111:2 hour (33) 46:19;85:14;96:8; 97:6,14;98:1,7,99:1; 103:4;104:12,14,21; 105:4,6,7,9,11,14; 106:25;107:2;115:4,8, 16;116:1,6,13,16;117:5, 9,14;118:4;120:1; 138:25 hours (1) 92:23 houses (1) 30:12 housing (1) 38:19 huge (1) 144:6 human (3) 127:7;128:8;130:5 hundred (1) 81:4</p>	<p>24;25:9,11,15,16,20; 34:12;40:6;45:14;55:9, 21;63:12;65:13,19;66:1, 5;68:14;80:8,13;84:23; 95:13,24;96:3,19;97:7; 98:10,13,16,24;103:11; 107:17;111:5;112:19, 20;114:5,12;115:11; 116:4,5;118:20,25; 119:5;121:22,25;122:2; 124:18;125:4;129:13; 142:2,12,13;143:4; 148:13;149:9;153:21 impacted (1) 113:11 impacts (4) 24:11;118:25;129:5; 141:24 impaled (1) 17:22 imparted (1) 117:15 impossible (1) 82:14 improved (1) 27:1 impulse (1) 107:19 inartful (1) 90:24 inboard (4) 55:12,14,16;65:2 Inc (2) 35:25;79:23 inch (15) 74:6;85:13,14,14; 101:9;104:12,21;105:6; 106:25;107:12;115:8, 17;116:1,13;138:25 inches (13) 42:16;97:6;101:6,12, 12;102:4,14,17,23,24; 103:3;115:5,6 include (5) 36:19;80:9;89:2;96:2, 12 included (3) 89:4,11;106:9 income (1) 35:14 inconsistent (1) 16:14 increase (1) 35:15 increased (1) 68:23 indeed (1) 82:10 indentation (2) 68:6,23 indicate (3) 67:15;69:13;141:22 indicated (2)</p>
			<p style="text-align: center;">I</p> <p>ID (2) 36:2,6 idea (2) 35:18;71:16 identical (1) 97:21 identification (20) 8:20;9:1,12;21:9,18; 52:18;62:10;64:2;86:6, 15;93:19;100:17;110:5, 7,9,13;122:10,15,17; 126:23 identified (1) 67:5 identify (1) 113:17 identifying (1) 114:6 ignite (1) 46:5 ignited (1) 153:23 igniting (1) 65:10 illuminated (1) 153:17 image (1) 143:23 IMECE (2) 28:6,7 impact (60) 17:17;24:14,18,19,24,</p>	

<p>67:21;152:11 indicates (2) 142:25;146:4 indicating (1) 103:20 indicative (1) 16:7 individual (1) 137:6 induced (1) 112:17 industry (1) 30:14 inflate (1) 64:15 inflates (1) 64:22 inflator (1) 64:10 information (10) 25:5;29:15;72:22; 74:23;76:3;83:10;84:13; 86:9;150:3,8 initial (13) 19:22;35:3;40:18; 42:17;55:21;80:14; 96:19;98:16;118:20; 119:5;133:6;141:18; 142:2 initially (7) 18:24;35:8;58:6; 90:14;107:15;119:6; 121:25 initiated (1) 42:15 initiation (1) 42:18 injected (1) 17:13 injuries (2) 41:12;130:24 injury (3) 32:22;41:19;94:24 input (1) 77:24 inside (4) 17:16;65:6;122:20; 136:21 insolvent (1) 39:24 inspect (7) 58:2,5;71:8;82:1; 91:17,20;97:17 inspected (4) 58:6;68:18;72:11; 121:10 inspection (31) 50:3,5;51:1;58:8,10, 12,16,19;59:1,5,12,15, 17;60:4,9,20,25;61:7,23; 62:19;71:1;91:23;92:19; 93:9,15,18,24;94:12; 108:23;128:19;145:3</p>	<p>inspections (1) 71:6 instance (1) 143:18 instantaneously (1) 142:7 instantly (4) 50:1;129:13;153:19, 23 instead (5) 18:25;107:2;116:20; 121:9;138:25 instructions (1) 6:14 insurance (2) 91:24;92:17 intact (2) 56:10;91:14 intended (1) 7:25 interact (1) 31:8 interaction (3) 16:8;18:6;55:20 interactions (1) 32:23 interested (1) 76:19 interesting (1) 110:22 interfacing (1) 9:20 interim (1) 125:11 interior (4) 30:9;127:23;128:13; 130:3 interlocked (1) 32:21 International (2) 27:16;28:8 interruption (1) 19:2 into (51) 15:14,22;17:3,14,21, 22;18:4;22:10;23:10,22; 24:14,20;25:2,14;32:24; 45:16;46:9;47:13;49:18; 72:19,20;73:21,25;77:7; 80:13;84:25;85:1;87:9; 88:6;89:5;98:17;101:12; 102:1,6;104:15;105:21, 22;106:10;109:14,17; 121:4;127:19;134:16, 17;137:10,19;138:5,11; 139:1;141:9,12 inverted (2) 22:22;23:10 investigate (1) 33:24 investigating (1) 37:13 investigation (2)</p>	<p>76:24;152:19 involve (2) 30:22;53:25 involved (13) 24:2;43:22;53:8,21; 72:4;79:24;80:18;83:1; 97:2,10,15;152:12;153:3 involving (8) 54:13,14,16;115:18, 23;148:13;149:9;152:12 irrespective (1) 24:6 Island (4) 44:12;50:6,7;152:12 issue (15) 19:22;20:1,12;40:7,8, 16;41:6;43:12;44:8,20; 47:6,16;53:12;55:25; 131:23 issued (1) 50:19 issues (3) 19:14;33:25;76:25 issuing (1) 20:4 item (1) 81:19 items (2) 121:12;143:17</p>	<p>John (1) 30:1 join (3) 11:20;12:24;13:15 joint (1) 58:10 judge (3) 44:6;48:10,18 judgment (1) 40:14 Judith (1) 46:23 July (16) 7:17,24;9:10;56:25; 57:2;75:20;76:2;79:21; 83:9;91:21;93:13,17; 94:22;108:9;118:16; 144:24 jumped (2) 124:14;146:8 jumps (1) 90:12 June (1) 53:9 jury (3) 40:7;48:8;49:17</p>	<p>128:15,23;133:18,19; 134:8,9,11,14,18,21; 136:6,21;138:3;139:17; 141:13,15,20;142:5; 143:4;146:4,7;153:4 Kline's (2) 18:7;126:25 knee (2) 14:22;15:9 knees (1) 15:10 knew (2) 78:6;79:13 knocked (1) 56:1 known (6) 83:18;84:9,19,21; 132:13;143:24</p>
J				
		<p>jacket (1) 61:3 jammed (1) 130:8 jaw (1) 41:20 Jeep (55) 16:16;18:13;20:20; 24:15,20;25:10,14; 28:17;29:7;44:12;49:2; 58:3;59:5,16,17;62:20; 63:4;70:13;71:6,8,11,15, 18,21;72:3,10;75:6;86:9, 14;88:9;97:2,23;103:17; 106:8;114:1;125:4; 128:15;131:3;133:2,4, 11,13;136:7;141:7,10; 142:13;145:12;146:12; 148:12;149:8;151:10, 18;152:13;153:3,14 Jeff (1) 54:10 Jersey (7) 44:1;53:9,21;54:21; 81:6;82:23;96:18 Jim (1) 41:25 job (1) 32:7 Joe (1) 35:2</p>	<p>K Karco (13) 57:20;76:11;77:11; 78:6,9;83:21;114:23; 115:3;116:11,13,17,18, 23 keep (3) 8:8;27:3;47:19 keeping (2) 11:1,7 Kent (9) 32:3,9;33:1,11,17; 34:24;35:1,2,22 kept (3) 13:6;149:3;150:19 kind (7) 22:22;32:16;34:8; 35:23;72:4;102:9;148:1 kinematic (1) 130:5 kinematics (3) 41:17;42:7;43:2 Kline (73) 16:16;18:13;19:13; 20:3,20;24:15,20;25:10, 14;28:17;29:7;58:3; 59:2,5;66:12;70:13; 71:6,12,20;72:9;78:24; 79:6;80:17;97:11,12,23; 98:11,17,18;108:20,23; 110:20;111:5;112:2,12; 113:4,20;114:10;117:12, 15,24;118:18,19;119:11; 122:20;123:8;124:10, 19;125:4,13;126:11;</p>	<p style="text-align: center;">L</p> <p>labeled (1) 86:25 laborer (1) 30:6 lack (4) 26:12,17;34:18;119:3 laid (2) 35:5;125:18 laminated (1) 28:3 lane (3) 46:11;81:13,13 Lansdale (1) 6:3 laptop (2) 57:13,23 large (1) 10:16 last (6) 7:7;37:3;41:24;52:24; 113:15;116:25 latch (5) 15:20,21;18:19;121:1, 3 later (4) 95:6;98:21;108:4,5 lawsuit (1) 39:17 lay (1) 144:11 laying (1) 120:6 leading (3) 67:13;110:17;135:8 leak (1) 33:22 leaked (1) 34:12 leaks (1) 56:11 leaning (1) 19:1</p>

<p>learned (3) 32:11,14;43:1</p> <p>least (6) 7:15;41:5;43:18; 45:21;59:19;81:3</p> <p>leave (2) 34:24;99:13</p> <p>leaving (1) 31:4</p> <p>lecture (2) 14:15,18</p> <p>led (1) 151:22</p> <p>left (19) 22:4;31:2;35:23; 46:11;49:18;64:8;67:14; 19,24;68:24;70:6;102:7, 18,22;109:8;117:16; 125:16;127:14;129:25</p> <p>left-hand (1) 106:18</p> <p>Lehigh (1) 9:13</p> <p>length (5) 69:21;97:18;101:4; 102:14;111:18</p> <p>less (6) 107:13,18,19,20; 109:6;138:13</p> <p>letter (1) 150:4</p> <p>letters (4) 86:25;149:22,24; 150:1</p> <p>level (3) 35:10;134:17;141:16</p> <p>levels (1) 35:8</p> <p>liability (2) 25:23,24</p> <p>liaison (1) 31:11</p> <p>liberated (2) 127:21;138:16</p> <p>licensed (3) 10:19;37:18,21</p> <p>likely (2) 51:21;66:3</p> <p>line (16) 23:19;33:22;66:19,25; 67:2,18,19;69:9;81:12; 101:21;102:10;108:16; 113:18;115:10;134:22; 137:4</p> <p>linear (3) 110:16;123:10;144:13</p> <p>lined (3) 120:10;143:6;146:6</p> <p>lines (1) 108:13</p> <p>linkage (1) 54:4</p> <p>list (9)</p>	<p>52:2,18,25;53:6; 54:18;57:6,8;75:14; 150:23</p> <p>listed (6) 10:19;13:2;74:22; 88:17;115:14;149:18</p> <p>lists (2) 51:20;52:23</p> <p>lit (1) 49:25</p> <p>literally (2) 49:23;51:24</p> <p>litigated (1) 38:12</p> <p>litigation (7) 6:12;33:2,3,4,9,15; 38:9</p> <p>little (7) 7:14;13:7;15:4;23:6; 33:19;107:23;134:7</p> <p>living (1) 31:23</p> <p>loaded (1) 23:15</p> <p>locate (1) 130:10</p> <p>located (1) 45:6</p> <p>location (19) 17:3,5;28:16,20,20,22; 29:1,20;47:4,15;81:18; 130:20;131:5,6,7;132:8, 11,13;142:23</p> <p>locations (2) 45:18;82:13</p> <p>locked (6) 120:20,21;145:12,12, 13,15</p> <p>locks (1) 120:20</p> <p>Loman (1) 6:11</p> <p>long (10) 24:23;41:4;44:12; 50:6,6;51:24;92:22; 125:3;137:6;152:12</p> <p>longer (2) 104:18;146:5</p> <p>longitudinal (1) 113:19</p> <p>look (39) 11:13;14:10;15:8,12, 14,19,23;16:5,12,15,19, 23,24;18:18,19;51:18, 19;60:16,23;61:5;64:6, 18,25;72:15;73:2;75:12; 85:20;86:23;91:15; 106:18;108:8,23;112:15, 23;117:11,12;122:21; 124:12;140:8</p> <p>looked (4) 12:19;72:1,11;82:4</p> <p>looking (10)</p>	<p>15:6;29:23;32:1; 36:17;75:24;81:8;96:9; 110:14;122:11;146:23</p> <p>looks (5) 22:22;23:6;29:24; 66:8;114:22</p> <p>loop (1) 15:16</p> <p>lost (2) 96:13;139:4</p> <p>lot (17) 10:1,5,6;16:9;29:5,20; 33:5,23;38:11,18;59:25; 72:22;73:9;76:22;83:10; 99:8;144:16</p> <p>low (5) 107:2;116:7;138:6; 153:11,11</p> <p>lower (6) 18:3;45:17;101:16; 106:21;107:10;115:9</p>	<p>margin (1) 144:14</p> <p>mark (28) 8:11,12,14,23;9:3; 21:3,6,12;52:12,13; 61:11,17;62:2,3,5,6; 63:24;99:7,21;100:1,4,4; 109:22;122:6,7,13; 148:7,8</p> <p>marked (28) 8:19,25;9:12;21:8,17, 20;52:18,22;62:9;64:1; 66:20;86:5,14;93:19; 100:16,19;108:24;110:5, 7,9,13;122:10,15,17; 123:9;126:23;135:11; 137:22</p> <p>marking (4) 8:16;93:12;100:7,8</p> <p>markings (1) 82:8</p> <p>marks (14) 16:6,7;18:18,19; 81:15,16,18;96:18,19, 20;103:20,21;114:3; 138:15</p> <p>Martin (1) 41:24</p> <p>match (2) 74:17;117:13</p> <p>matches (3) 109:7;117:16,24</p> <p>material (2) 27:4,22</p> <p>materials (4) 57:3,6;75:19;140:8</p> <p>Matt (1) 20:7</p> <p>matter (1) 12:4</p> <p>Matthew (1) 6:9</p> <p>maximum (5) 69:14;89:19;90:6; 111:20;119:22</p> <p>may (17) 51:21;58:7;59:15,22; 60:21;62:9,13;69:16; 71:13;72:21;82:2;94:23; 122:3;126:13;128:21; 139:21;151:7</p> <p>maybe (5) 29:5;92:3;99:15; 111:12;151:20</p> <p>MBA (4) 9:23;10:14;31:7,16</p> <p>McArthur (1) 50:6</p> <p>McEnroe (1) 46:23</p> <p>McGrath (1) 50:14</p> <p>mean (13)</p>	<p>14:4;20:16;38:21; 50:9;51:2;56:2,15;67:8; 72:6;95:17;107:22; 111:11,25</p> <p>meaning (3) 94:11;112:18;115:23</p> <p>means (12) 11:24;65:20;67:12; 80:6;102:23;107:11,16; 113:2;114:8;120:17,25; 124:16</p> <p>measure (2) 68:2;82:16</p> <p>measured (9) 66:13,14;67:23;69:15, 21;84:18;90:19;115:7, 12</p> <p>measurement (3) 67:12;101:7,15</p> <p>measurements (18) 59:4;66:9;69:25;70:5, 17,20;82:12;88:25;89:5, 9;93:4,7;101:3;118:9; 144:6,20;145:2,7</p> <p>measuring (1) 90:17</p> <p>mechanical (8) 9:14;11:4,6,11;12:8; 27:7;28:6,12</p> <p>mechanism (1) 55:13</p> <p>meet (1) 22:18</p> <p>meeting (2) 28:9;134:17</p> <p>melted (3) 18:1;24:3;121:4</p> <p>member (14) 10:22;11:23,24;12:5, 7;13:23;14:5;36:7; 37:15;133:13,19,20; 135:1,7</p> <p>membership (3) 11:1,7,22</p> <p>memorialized (1) 25:2</p> <p>memory (9) 26:4;39:16;47:25; 56:3;77:5;78:13,25; 82:6;97:13</p> <p>Mendez (1) 37:3</p> <p>mention (2) 48:20;95:12</p> <p>mentioned (5) 19:12;51:8,10;75:5; 148:4</p> <p>Mercury (3) 39:6,6;41:7</p> <p>mess (2) 99:14,19</p> <p>message (1) 73:18</p>
		M		
		<p>ma'am (1) 143:12</p> <p>machine (2) 32:23,25</p> <p>main (1) 81:5</p> <p>maintenance (2) 30:7,8</p> <p>major (1) 81:19</p> <p>makes (8) 68:13;107:3;114:10, 14;115:17;117:10,11; 132:8</p> <p>making (4) 31:23;131:13,17; 151:4</p> <p>management (2) 9:19,24</p> <p>manages (1) 114:11</p> <p>manifests (1) 109:12</p> <p>manner (1) 64:16</p> <p>manually (1) 74:10</p> <p>manufacturer (1) 38:25</p> <p>manufacturers (2) 39:2;66:22</p> <p>manufacturing (2) 29:16;54:2</p> <p>many (11) 24:11;33:8;35:12; 36:12,14;43:4,16;74:3; 88:14;128:14;139:24</p> <p>map (3) 66:16;144:11;145:6</p>		

<p>messages (3) 73:15,24;74:12</p> <p>method (3) 84:3;87:5,15</p> <p>methodology (1) 85:1</p> <p>Michigan (2) 31:8,17</p> <p>Mid-Atlantic (1) 44:25</p> <p>middle (9) 64:7;65:4;68:2,7,24; 69:25;70:2,3;81:13</p> <p>might (4) 9:3;48:2;54:19;148:16</p> <p>Mike (1) 54:10</p> <p>mile (6) 104:12;105:9,14; 116:1,16;120:1</p> <p>miles (25) 46:19;85:14;96:8; 97:14;98:1,7,25;103:4; 104:13,21;105:5,7,11; 106:25;107:2;115:3,7, 16;116:6,13;117:5,9,14; 118:4;138:24</p> <p>millisecond (1) 90:3</p> <p>milliseconds (1) 42:16</p> <p>Milo (1) 53:20</p> <p>mimicked (1) 108:22</p> <p>mind (2) 34:9;90:1</p> <p>mine (1) 146:16</p> <p>minivan (25) 24:16;39:5;84:12; 94:13;98:17;99:3; 108:18;109:10,21; 111:1;113:3,20,23; 114:7,9;124:20;135:7; 138:10;139:20;141:19; 142:3,23,24;143:3; 145:23</p> <p>minor (1) 135:14</p> <p>minus (1) 101:11</p> <p>minutes (1) 91:16</p> <p>mirror (1) 23:4</p> <p>mismatch (1) 141:18</p> <p>missed (1) 112:21</p> <p>missing (1) 54:3</p> <p>model (8)</p>	<p>10:11;26:25;73:25; 75:7;144:3;148:11; 149:7;151:18</p> <p>modelling (2) 10:4;31:13</p> <p>models (1) 143:14</p> <p>module (4) 63:15;64:10,12,19</p> <p>monthly (1) 13:16</p> <p>months (2) 50:3,9</p> <p>more (28) 10:11,12,15;13:7; 17:8;19:6;31:14;35:14; 44:9;66:3;76:23;81:16, 16;87:21;89:16;91:1,3; 102:8;107:20;109:5; 113:15;124:25;125:1; 133:14;134:7;135:21; 141:19;146:20</p> <p>Morgan (1) 112:4</p> <p>Morgan-Alcala (17) 94:13;99:2;108:17,20; 109:7,10;111:1,7;113:3, 20;124:20;134:19; 139:13,20;141:19; 142:3;145:17</p> <p>morning (1) 6:8</p> <p>Morris-Kline (1) 95:14</p> <p>most (11) 18:15;37:24;43:19,21, 24;51:21;74:25;76:19; 90:7;115:23;135:15</p> <p>motion (4) 18:24;48:11;90:5; 139:20</p> <p>Motor (5) 66:21;75:17;86:4,13; 130:25</p> <p>mount (1) 17:12</p> <p>mounted (4) 15:25;16:2;22:7;135:5</p> <p>mounting (4) 17:4,25;19:9;20:22</p> <p>mounts (1) 45:17</p> <p>mouth (1) 66:3</p> <p>move (11) 31:20;42:9;43:3; 90:15;106:17;110:17; 118:21;119:6,23;132:14, 17</p> <p>moved (4) 35:12;60:10,14; 132:10</p> <p>movement (2)</p>	<p>42:10;43:10</p> <p>moves (1) 42:15</p> <p>moving (12) 42:22;45:23;77:15; 106:2,3;114:19;115:19; 116:4;118:15;119:12; 134:9;139:19</p> <p>MPV (1) 86:5</p> <p>MR2 (9) 34:9;49:12,13,20,22, 23;153:12,15,22</p> <p>Mrs (6) 18:7;19:13;20:3; 55:11,23;134:9</p> <p>much (14) 10:7;38:22;47:4; 73:20;74:4,10,11;76:24; 97:1,10,15,22;98:3; 114:9</p> <p>multiple (1) 64:17</p> <p>multiply (1) 140:3</p> <p>Mustang (5) 45:4,25;46:3,6,8</p> <p>MVMA (2) 66:21;85:23</p> <p>myself (5) 10:15;36:25;58:8,13; 61:2</p>	<p>needed (4) 31:25;78:12,24;96:1</p> <p>needless (1) 31:24</p> <p>Neil (4) 58:8;78:16,21;79:14</p> <p>Neptune (10) 83:13,16,19;84:11,14, 25;85:25;86:21;88:20; 103:2</p> <p>NESA (1) 14:7</p> <p>Network (4) 13:12,13,20;14:3</p> <p>New (15) 14:13;31:18;44:1,12; 50:18;53:9,21;54:21,21; 81:6;82:23;96:18; 106:19,21;145:6</p> <p>Newark (1) 81:6</p> <p>newer (1) 15:23</p> <p>newsletter (1) 13:17</p> <p>next (13) 14:3;62:7;63:25; 71:12;72:1,9;82:14; 86:8;87:2,3;93:11; 94:10;101:23</p> <p>NHTSA (1) 83:21</p> <p>nightclub (1) 49:19</p> <p>Nissan (1) 39:5</p> <p>nods (1) 7:2</p> <p>non-linear (1) 144:8</p> <p>normalize (3) 77:7;87:19,25</p> <p>normalized (4) 76:9;102:5,24;115:15</p> <p>normalizing (1) 88:6</p> <p>northeast (1) 35:17</p> <p>nose (2) 113:21;134:12</p> <p>notation (1) 93:20</p> <p>note (4) 96:21;108:12;110:22; 143:8</p> <p>noted (3) 96:18,20;115:12</p> <p>notes (19) 59:7;61:6,22;62:8,12, 18,22;71:5;93:6,8,14,14, 18;100:15;108:8,23; 136:15;150:14,15</p> <p>notice (2)</p>	<p>78:7;116:18</p> <p>number (10) 36:3;51:9;62:15; 81:21;87:21;88:5; 106:23;107:1;116:20,24</p> <p>numbering (2) 99:24;100:12</p> <p>numberings (2) 100:7,11</p> <p>numbers (18) 46:20;73:15,18;74:17; 87:8;99:12;106:19; 115:11;116:9,14,15; 117:21,25;118:3,5,6; 125:10;137:5</p> <p>NYSBA (1) 14:13</p>
<p>O</p>				
		<p>N</p>		
		<p>nails (1) 114:12</p> <p>name (7) 6:9;14:25;37:2,3; 41:24;148:19;153:8</p> <p>named (1) 148:19</p> <p>names (2) 49:5;53:17</p> <p>National (10) 14:8;35:25;36:4,5; 38:8,23;39:7;43:11; 79:22,25</p> <p>nature (1) 143:17</p> <p>nauseating (1) 104:15</p> <p>NCAP (2) 94:24;95:5</p> <p>near (1) 50:6</p> <p>nearly (2) 134:8;139:18</p> <p>need (12) 8:7;10:8;11:13;14:10; 17:7;35:10;37:19; 105:19,21;109:23; 130:14;131:1</p>	<p>Object (3) 28:18;64:8;145:14</p> <p>objection (5) 29:1;125:17;136:24; 142:15;143:20</p> <p>objects (3) 32:23;135:19,20</p> <p>obliterated (1) 123:18</p> <p>observations (2) 16:25;108:17</p> <p>observe (3) 18:13;78:15;79:11</p> <p>observed (6) 14:22;59:13,20;69:15; 84:17;97:9</p> <p>observing (1) 127:18</p> <p>obtain (3) 35:10;74:23;77:17</p> <p>obtained (2) 80:22;84:10</p> <p>obvious (1) 18:15</p> <p>obviously (1) 29:19</p> <p>occasions (2) 43:16;81:22</p> <p>occupant (11) 16:8,10;18:6;23:15, 16;41:17;42:6,15,20; 94:24;119:5</p> <p>occupants (2) 42:9;43:3</p> <p>occur (1) 142:12</p> <p>occurred (7) 24:24;110:21;111:5; 112:20;130:25;141:23; 142:13</p> <p>occurring (1) 112:11</p> <p>occurs (1)</p>	

<p>43:10 off (31) 7:12;21:5;31:20; 44:19;46:7;55:11,15,17; 56:20,21;73:17;76:12; 90:10,12;92:14;98:18; 103:17;106:18;114:18; 120:3,13;122:4;126:21; 130:15;136:18;140:25; 141:1;144:14;148:5; 151:6,23 offer (3) 32:7;46:24;56:16 offered (1) 48:15 offhand (1) 92:21 office (2) 51:12;147:6 officer (4) 54:4,7,9;103:20 officers (1) 146:24 Offices (1) 6:2 official (1) 57:8 offset (18) 26:7;56:7;68:14; 77:13;107:5,19,23,24; 108:7,19;109:8,15; 112:10,13;113:6,12,22; 116:14 offsetting (1) 115:20 oil (3) 34:5,10,11 old (3) 47:19,23;48:2 once (10) 24:2;45:23;51:1;82:6; 104:17;134:5,19;135:6; 138:16;142:4 one (60) 7:16,17;8:14;13:19, 21;34:8;35:13;36:18; 39:4;43:20,21,24,25; 44:9;48:23;52:3;55:8; 59:6,9;76:8;77:9,10; 78:12,23;86:11;87:1,3; 98:22;100:19;101:10, 23;102:8,10;104:20; 107:12;108:7,18;109:8, 14,17;113:15,25;114:2; 127:11;132:23;133:14, 22;135:1,5;139:19; 140:2;145:17,18,18,24, 25;146:2;148:18,18; 150:22 one-quarter (1) 28:1 ones (7) 20:25;43:25;44:9,16;</p>	<p>51:20;115:13,14 only (16) 36:23,23;40:19;42:6; 55:8;79:25;88:17;114:2, 7;119:25;121:17,25; 131:7;139:18;145:18,18 onto (3) 18:2;46:9;145:12 open (4) 49:24;64:9;129:24; 153:19 openable (1) 121:18 opened (2) 12:24;121:15 opinion (18) 25:17;34:22;46:24; 48:8;53:5;54:1;55:4,5; 120:10;121:13;123:7; 129:1;132:3,4,16; 141:23;142:1;154:2 opinions (9) 44:5,7;45:10;47:2; 48:12;56:16;75:21; 132:24;148:24 oral (1) 40:22 order (6) 10:3;11:22;42:8;77:6; 105:20;107:17 organization (8) 11:8,16,21;12:12,15; 13:14,16;28:12 organizers (1) 13:20 orientation (1) 84:23 origin (1) 44:3 original (11) 40:3,4,12;42:11; 59:21,22;61:18;79:1,7; 99:19;104:6 originals (2) 60:18;118:12 originate (2) 98:13,15 others (1) 44:15 out (50) 7:11;12:25;15:17; 16:4;20:24;32:14;34:8; 35:5;40:14;45:20;46:4; 50:4,5;51:1;54:3;55:22; 56:1;59:19;66:16;74:21; 77:11;78:14,18,24; 79:13;81:14;82:1;83:23; 84:16;87:25;92:6;101:8; 102:10;112:6,25; 116:16;118:24;119:18; 121:13;126:20;128:1,3; 129:20,20,21;130:7; 132:15;143:14;144:11;</p>	<p>149:20 outside (1) 35:16 oven (1) 85:12 over (17) 6:24,25;31:16;36:3; 45:14;50:9;81:4,4,7; 90:18,20;117:16; 124:14;140:22;146:1,8; 151:10 overall (5) 66:11;97:18;101:5; 102:3;108:15 overcome (1) 104:18 overhang (7) 66:24;67:3;70:9; 101:2,24;102:17;105:5 overlap (2) 29:21;107:24 overlapping (2) 145:25;146:1 overlying (1) 145:20 own (6) 27:24;36:9;77:9; 79:19;82:18;100:12 owned (1) 34:1 owner (1) 153:9</p>	<p>paragraph (1) 79:22 parallel (7) 111:2,6,17,18,22,22; 124:17 parameter (1) 73:17 paraplegic (1) 55:24 pared (1) 10:10 parenthesis (1) 130:22 parked (2) 71:11;72:8 Parkway (1) 41:10 part (5) 43:2;53:11;75:12; 86:17;115:9 parted (1) 35:20 particular (7) 13:15;36:20;65:16; 71:21;74:16;148:18; 153:10 parties (1) 49:6 partner (2) 35:4,7 partnership (1) 35:2 Paschal (1) 151:7 pass (1) 15:19 passenger (10) 65:18,19,22,25;68:11; 113:2;118:18;121:14; 129:3;130:7 passenger's (23) 63:15;64:10;67:7; 68:15;69:22;70:10;94:4; 109:4,6;112:13,24; 113:11,22;118:22,24; 121:10;122:24;125:14; 126:12;128:2,6,11;130:1 past (3) 81:10,24;128:24 pattern (2) 142:22,22 Paul (5) 49:1;58:9;78:20;79:6; 148:17 pay (2) 11:2;147:16 payments (1) 34:3 PCFFF (1) 63:4 PE (5) 6:1;8:19,25;9:12; 10:19</p>	<p>peeled (1) 64:9 pending (1) 49:3 Pennsylvania (1) 6:3 people (3) 34:1;127:11;152:16 per (38) 74:6;85:13,14,14; 96:8;97:6,14;98:1,7,25; 103:4;104:12,12,14; 105:4,6,6,7,9,11,14,14; 106:25,25;107:2;115:7, 8,16,16;116:1,1,13,13, 16;117:5,9;120:1; 138:24 percentage (1) 38:8 perception (3) 127:9;128:9;130:4 perform (3) 70:4;96:1;98:22 performed (2) 78:1;83:21 perimeter (1) 66:11 periods (1) 25:3 person (1) 12:3 Personal (2) 59:7;121:12 pertains (1) 153:2 pertinent (1) 76:17 Peterson (1) 37:2 Phillips (9) 6:9;7:15;8:19,25;9:11; 21:19;30:1;62:17;99:21 photo (2) 63:20;122:5 photogrammetry (5) 143:11,13,16,22; 144:19 Photograph (22) 21:8,10,16,17;22:2; 64:1,4;65:24;110:4,6,8, 12,15;122:9,14,16; 126:22;127:1;143:17, 24;144:1,2 photographed (1) 72:12 photographic (1) 108:3 photographs (30) 20:20,25;21:3,21,22, 23;58:20,22;59:1;70:22; 71:10,18;81:17;82:19, 21;92:24;93:1;108:7; 109:24;118:16;123:9;</p>
		<p>P</p>		
		<p>P225/70R1798T (1) 93:22 package (2) 146:23;147:1 page (27) 9:18;61:25;83:13; 86:20,23,24;94:21; 95:12,20,21,24;96:9; 99:12;100:21,23; 101:16;102:15,16; 106:18,19;114:20; 115:9;116:10,11,25; 118:15;130:18 pages (5) 99:8,24;100:7;118:8; 148:11 pan (2) 69:18;128:6 panel (3) 15:9;26:18;39:20 panels (1) 26:13 Papain (2) 50:12,13 paper (3) 27:24,25;28:1 papers (3) 27:19,20;91:6</p>		

126:15;144:17,22,24; 145:1,3,6;146:10;150:18 photos (2) 119:10;130:11 phrase (2) 34:19;138:19 physical (13) 14:21,23;15:2,5; 16:12;18:12;103:21; 133:1,9,16;142:9,21; 145:9 physically (1) 89:22 pick (2) 134:23;144:3 picks (1) 134:24 picture (7) 22:4,8;111:16;113:15; 120:6;126:11;144:7 pictures (19) 59:21,22;60:17,23,24; 61:2;69:2;71:24;109:10, 20;122:12;125:25; 126:1,2,6;135:10; 143:14;146:14,15 pierced (1) 45:18 pile (1) 118:12 pinned (1) 46:1 pitch (5) 111:24,25;134:12,18; 146:5 pitched (8) 112:3,5;123:3,3,13,14; 124:25;141:14 place (6) 39:23;40:21;59:25; 101:1;137:7;138:15 placed (4) 17:13;45:16;47:3; 144:12 placement (1) 31:13 places (1) 32:24 plaintiff (1) 130:24 plaintiffs (1) 39:25 plane (2) 113:19;134:17 plans (5) 39:13,14;40:1,4,19 plastic (8) 17:12,19,25;123:11, 17;124:2;135:17,24 plate (7) 15:20,21;18:20;71:22; 121:1,3;136:5 platform (2) 31:10;75:8 platforms (1) 30:19 plays (1) 104:18 Please (4) 6:24;17:9;133:15; 142:17 plug (2) 85:1;87:8 plugged (1) 88:6 plus (1) 101:17 pm (1) 154:10 point (17) 19:11;29:2,10,13; 35:20;45:22;59:19;73:3; 82:11;89:20;90:5,8; 91:1;97:24;120:19; 142:8;152:19 pointed (1) 51:1 pointing (3) 22:2,19;123:22 points (3) 143:19,25;144:4 police (25) 53:24;80:22,23;81:17; 82:7,12,20;95:13;96:18; 103:14,16,24;106:8; 114:6;126:2,15;144:18, 21,23;145:5,8;146:15, 24;147:13,20 pop (1) 64:22 pop-up (1) 153:15 portals (2) 129:24,25 portion (1) 52:14 position (10) 55:22;69:10;118:21; 120:7;125:13;127:4,25; 128:22;130:12;141:17 positioned (1) 126:25 positive (1) 19:6 possible (1) 51:11 possibly (3) 36:24;92:16;126:13 post (5) 41:11;69:10;70:15; 95:13,24 Post-Accident (2) 118:16;119:10 post-collision (7) 44:4,13;53:4;56:11; 63:5;105:10;117:8 post-impact (7) 73:13;96:20,24;106:1; 137:3,17;139:16 potentially (1) 91:11 pounds (5) 43:5;56:4;85:13; 138:25,25 practice (1) 38:8 prefer (1) 62:3 preference (1) 74:13 pre-impact (19) 79:24;80:6,7,10,17,21; 96:7,11,13,16,21,23; 99:1,1;105:20;137:2; 138:14;139:11,12 prepare (3) 51:4,5;93:6 prepared (2) 7:16,21 present (6) 43:8;48:8;58:9;71:3; 78:13;92:18 presentation (1) 28:11 presented (5) 27:20,24;41:23;42:1; 145:4 presenter (3) 14:25;27:9,23 press (1) 148:21 pressure (1) 135:22 pretend (1) 150:11 pretensioner (3) 15:24,25;16:2 pretty (2) 10:7;74:21 prevent (1) 32:22 previously (1) 108:24 primarily (1) 30:8 primary (1) 13:21 print (1) 57:25 printed (6) 7:10;57:11,13,22,23; 126:16 prior (4) 80:8,12;96:19;100:11 privy (1) 33:7 probably (10) 6:17;31:25;53:1; 68:18;70:25;90:24; 111:24;122:5,12;134:7 proceedings (1) 154:10 process (2) 31:14,21 processing (1) 10:17 produce (1) 95:9 produced (2) 40:5,13 product (1) 25:22 production (1) 76:15 products (1) 25:23 Professional (3) 11:13;37:18,21 profile (17) 63:14;68:9,16;69:3; 70:11;97:8,19;101:5; 102:5;103:9;111:13; 112:16;139:9;143:5; 145:16,24;146:3 profiles (1) 66:15 program (6) 9:23;10:4,31;16;33:7; 85:13;87:9 programs (5) 30:20;73:10,14;74:8; 83:25 progressed (1) 81:15 prone (1) 141:20 pronounced (1) 70:2 proof (2) 19:5,7 propellant (2) 65:1,6 properly (1) 64:13 proposition (1) 124:18 protected (2) 131:15;136:6 prove (1) 26:22 proved (1) 112:15 provide (5) 12:17;13:1;77:24; 119:16;136:12 provided (4) 10:5;52:23;95:5;99:23 provides (1) 84:14 published (1) 83:18 pull (2) 20:24;126:9 pulled (4) 16:3;21:21;109:20; 112:18 purely (1) 33:5 purpose (1) 71:17 purposes (2) 76:21;81:3 purse (1) 121:11 pursuit (1) 53:24 push (6) 18:11;97:23;98:4,5,9; 105:18 pushed (6) 17:2,18;18:3;56:8; 102:8;135:14 pushes (1) 98:20 put (7) 31:21;66:2;95:20; 99:11;118:11;132:21; 150:3 putting (1) 100:11				
				Q
				qualified (1) 48:12 Quality (1) 149:11 quantify (1) 97:3 quarter (2) 39:20;129:19 questionnaire (1) 13:1 quick (2) 38:3;141:3 quite (1) 6:17
				R
				radiator (1) 135:7 rails (1) 135:4 raise (2) 134:13;141:15 raised (1) 141:10 ramped (3) 55:11,15;119:18 range (1) 87:25 rate (4) 12:21;103:23;114:8, 10

rather (2) 61:12;142:13	55:16,18	references (8) 27:21;67:3;101:15; 143:9;144:4,5,9,12	104:6;118:16;130:17, 17;139:10;140:23; 143:9;149:10,18	return (1) 61:18
Rawls (24) 24:21;63:13;68:14,16; 97:18,21;98:19;114:17; 117:13,16;119:24; 122:19;123:2,16;124:6, 11,13;125:7;134:10; 138:3;139:17;143:5; 146:4,8	rebuttal (1) 20:12	referred (2) 15:15;49:7	reporter (1) 7:1	revealed (1) 153:2
reach (2) 18:11;132:15	recall (17) 19:18;30:25;44:1; 45:9;48:3,24;49:5; 50:10;51:7;58:14;60:22; 71:4;92:20;148:5,16; 151:8;152:15	referring (7) 22:15;63:11,12;95:12; 110:19;131:5;133:21	reports (18) 7:16,22;19:10,13,19, 23;20:4;48:21;56:24; 57:16,19;74:23;75:1,22, 25;79:18;136:15;149:15	review (4) 34:19;80:19;142:10; 145:10
reaction (3) 127:9;128:10;130:4	received (4) 75:2,20;76:11,13	refers (1) 69:8	represent (1) 6:11	reviewed (4) 27:19;57:3,7;94:23
reactions (1) 127:10	recent (5) 43:19,21,24;44:9; 47:24	refuse (1) 32:8	representative (3) 87:21;92:17;106:23	Reviewer (3) 27:8,18;28:7
read (5) 63:7;94:6;142:18,20; 149:5	Recess (3) 38:5;56:22;94:18	regard (3) 59:15;88:9;132:3	represented (1) 138:24	revolution (1) 39:23
ready (2) 35:10;120:22	reclined (1) 41:21	regarding (1) 29:16	representing (1) 91:25	Rich (1) 37:2
realized (2) 13:8;31:25	recliner (2) 55:8,13	relate (1) 99:9	request (4) 78:12;79:2,7,10	rid (1) 34:2
really (5) 47:13;51:3;76:17; 139:19;153:20	recollection (2) 34:21;126:10	related (3) 38:19,20;41:18	required (2) 97:23;98:3	ride (1) 122:25
rear (99) 24:14,20;39:20,21; 41:9;45:7,8,8,15,16; 47:9,10;55:9,21;56:8,8; 67:3,4;69:8,10,16,19; 70:5,8,13;71:21;75:15; 77:15;97:2,16,21;98:17, 19;101:21,24;102:3,15; 103:6;104:2,8,13;105:3, 5,7,8,17,22;106:24; 108:20;109:2,3,4; 112:12;113:4;115:18; 116:5,14;117:3,22,23; 119:11,14;121:16; 122:18,22,23,24;123:4; 124:6,11,12,15;127:20; 128:25;129:9,12,17,18, 20,21;130:21;133:19,20, 23;134:6,14,20,22; 135:1,3,4,4;136:2; 141:15,20;146:3,9; 148:12;149:9	reconstructed (1) 46:17	relates (1) 42:6	requirements (3) 10:25;11:6;13:5	riding (1) 141:16
rear's (1) 125:1	Reconstruction (26) 13:11,13;14:3;19:14; 29:2,10,20;32:11,19; 37:21,22;44:2;72:19; 73:9,23;74:8;76:22,25; 83:25;96:1;127:10; 130:6;147:22;148:2,25; 152:19	relating (1) 14:23	research (3) 13:8;27:11;94:23	right (104) 9:8;11:17;14:10; 21:19;23:9,17;25:8; 30:17;31:1,1,18;38:7; 41:6;42:20;47:7;48:17, 20;50:20,25;51:8;52:12; 56:24;58:2,11;60:7; 62:2,17;63:22;64:3; 67:25;68:24;70:6,12; 71:5,12;72:1,8,14,25; 75:24;77:1,17;79:17; 81:13;83:8;86:3,16,23; 87:2,13;88:19;90:3; 91:5,15;92:15;93:10,20; 95:11;96:6,22;97:1; 99:6,7;100:5;102:7,19, 22;106:5,11;109:18; 112:1;113:1,8;114:12; 116:10,25;117:22;118:7, 11;120:14;121:6;124:8; 125:15,20;127:14; 129:16;130:13,16;131:9, 12;133:22,23;134:3,25; 135:1;136:1;137:23; 139:11;144:15;145:23; 149:1,19;150:22;152:5
rearward (5) 18:24;66:14;119:6,8, 15	reconstructionists (1) 13:15	relationship (2) 43:3;81:20	residence (1) 81:6	right-hand (1) 99:25
reason (9) 6:19;31:4;37:17; 39:12;44:6;48:18;73:8; 111:8;117:10	record (17) 7:12;20:9,17;21:5; 22:15;56:20,21;92:14; 93:12;100:6;122:4; 126:21;130:15;136:18; 140:25;141:1;151:6	relatively (1) 153:11	residual (2) 69:21;70:8	rigid (1) 104:17
reasonable (1) 136:22	recorded (1) 136:20	release (3) 17:20;64:21;148:21	resolved (1) 78:19	ring (1) 15:16
rebound (7) 89:24;90:9;119:21; 120:2,18;121:21,24	records (1) 47:19	relied (2) 82:11;149:17	respect (2) 26:9;152:24	ripping (1) 153:18
rebounced (2)	recreate (3) 137:4;139:9;144:1	relocate (1) 31:8	respectively (1) 57:1	Road (4) 6:2;46:7,13;151:23
	recreating (1) 143:23	rely (4) 73:10;81:17;148:23; 150:2	rest (9) 46:7;63:7;98:2,4,5,9, 20;103:18,24	roadway (7) 46:9;82:17;103:21; 134:11;137:11;138:8; 142:22
	RE CROSS-EXAMINATION (1) 152:9	relying (1) 143:24	restaurant (1) 49:19	Robson (2) 36:2,3
	rectangular (3) 22:12,18;23:7	remain (1) 25:14	resting (2) 96:3;97:24	
	REDIRECT-EXAMINATION (1) 146:21	remember (32) 14:25;18:21,22;19:17; 25:25;26:3,5,6,9;33:20; 41:11,24;44:19,24; 46:20;49:10,16,17;56:3, 13;59:20;79:9,10;87:10; 92:9;102:17;117:21; 118:1;120:5;147:25; 151:11;153:8	restitution (5) 69:10;89:11;90:16,20; 91:9	
	reduced (1) 84:25	rendering (1) 55:23	restitution (6) 73:11;89:3,4,8,10; 90:11	
	refer (1) 109:23	rephrase (1) 6:19	restraint (3) 15:8;19:18;31:12	
	reference (8) 12:16;66:23;95:21,22; 135:2;143:19,25;144:17	replace (1) 8:1	result (8) 43:9;45:17;66:1,4; 118:25;128:15;129:5,10	
	referenced (1) 149:14	report (39) 7:25,25;8:4,18;9:3,9, 11;40:16;47:16,22; 50:19;51:14;53:3;75:2, 3,3,5;76:4,13;79:20; 80:4,23;82:7,8,12;83:9, 11,22;94:22;95:13;	results (2) 75:9;87:11	
		reporting (1) 55:23	retained (5) 38:24;39:8;40:2; 44:25;49:14	
		retracted (1) 16:1	retractor (2) 16:2;120:20	

<p>rocker (2) 26:13,18</p> <p>rockers (1) 26:25</p> <p>role (2) 104:18;136:9</p> <p>roll (6) 28:2;111:12;112:5,6; 124:17;151:10</p> <p>rolled (5) 111:14,23;123:14,14; 124:3</p> <p>rolling (1) 120:11</p> <p>rollover (2) 151:22;152:2</p> <p>rolls (1) 46:10</p> <p>roof (1) 113:18</p> <p>roofing (1) 30:9</p> <p>root (1) 105:15</p> <p>rotating (1) 125:5</p> <p>Roth (1) 55:1</p> <p>roughly (1) 43:16</p> <p>round (1) 64:11</p> <p>Route (2) 46:12;81:5</p> <p>row (1) 129:18</p> <p>rule (1) 42:14</p> <p>ruled (2) 44:6;48:10</p> <p>ruler (2) 70:21,23</p> <p>rules (1) 112:6</p> <p>ruling (1) 118:23</p> <p>run (12) 10:3,11;74:1,15;77:9, 10;78:7,10;89:21; 127:14,14,16</p> <p>running (2) 87:10;128:11</p> <p>runs (1) 74:3</p> <p>rupturing (1) 65:11</p>	<p>76:5;77:8,20,25;78:5; 106:20</p> <p>same (21) 10:12;17:5;36:2,6; 59:24;74:19;83:11; 84:20;85:7,15;86:9; 88:1,10;103:5,9,10; 107:17;116:5;117:3; 139:7;148:19</p> <p>Saturn (1) 44:11</p> <p>save (1) 29:5</p> <p>saw (1) 142:10</p> <p>saying (8) 47:8;73:18;90:25; 106:7;111:8;118:23; 127:8;131:1</p> <p>scale (3) 95:20,22;144:8</p> <p>scaled (5) 95:14,18;103:17; 106:8;144:18</p> <p>scaling (2) 103:16;144:8</p> <p>scares (1) 127:13</p> <p>scenario (2) 84:8;85:3</p> <p>scene (12) 80:24,25;81:2;82:1, 19,20;103:25;143:23; 145:2,2,6;147:21</p> <p>schools (1) 31:22</p> <p>Scott (1) 13:19</p> <p>Scout (1) 14:8</p> <p>scramble (1) 79:16</p> <p>scrambling (2) 78:14;79:12</p> <p>scratch (2) 39:9;108:12</p> <p>scratches (11) 109:11;110:16,18,19, 23;111:16;112:10,11; 113:12,17;135:14</p> <p>scratching (1) 35:11</p> <p>screens (1) 32:21</p> <p>seat (43) 14:22;15:17,24;16:11, 20;18:9,10,21;19:7,12, 22;20:4,11;39:5;41:8,10, 15,15,17,21;49:15; 53:13;55:6,7,10,12,17, 22;56:9;94:14;118:19, 24;119:11,19,19,21; 120:17,18;121:10;</p>	<p>125:14;126:12;128:1; 151:12</p> <p>seatback (4) 119:7,14,17;120:3</p> <p>Seatbelt (1) 14:13</p> <p>seated (1) 118:21</p> <p>second (21) 9:18;21:10,15;24:18, 19,24;25:14;58:16;59:1, 12;60:1,9,20,24;79:20; 90:4;95:12;108:9; 124:20;129:18;143:2</p> <p>section (4) 9:18;29:24;39:20,21</p> <p>seeing (2) 82:9;126:11</p> <p>seems (1) 148:20</p> <p>Seminar (4) 14:14;25:23,24;26:10</p> <p>seminars (3) 13:17,18;27:4</p> <p>sending (1) 45:19</p> <p>sense (10) 68:13;103:12;106:15; 107:3;114:11,14; 115:17;117:10,11;128:1</p> <p>sensors (1) 31:14</p> <p>sent (1) 140:8</p> <p>separate (6) 11:15,17;65:17,21; 119:23;137:25</p> <p>separated (3) 25:16,18;124:19</p> <p>separates (2) 46:6;98:18</p> <p>separating (1) 81:12</p> <p>separation (5) 90:13;114:5,16; 124:21;143:2</p> <p>September (2) 54:20;149:12</p> <p>sequence (2) 118:20;119:9</p> <p>SERAD (1) 27:12</p> <p>S-E-R-A-D (2) 27:8,9</p> <p>serves (8) 39:16;47:25;56:3; 77:5;78:13;79:1;82:6; 97:13</p> <p>set (6) 10:10;114:2;139:19; 144:15;145:18,18</p> <p>Seton (2) 9:22;31:6</p>	<p>settled (3) 50:8;51:3;124:24</p> <p>seven (3) 48:2;88:17,18</p> <p>severe (1) 107:19</p> <p>severely (1) 18:17</p> <p>severity (1) 107:16</p> <p>shape (2) 22:12;23:7</p> <p>sharp (1) 135:21</p> <p>shattered (2) 129:10,13</p> <p>shear (6) 17:6,8,11,19;23:13; 24:3</p> <p>sheetrock (1) 30:11</p> <p>Sheridan (4) 58:9;78:20;79:6; 148:17</p> <p>shield (1) 132:24</p> <p>shock (1) 45:17</p> <p>short (2) 46:14;53:9</p> <p>shortly (2) 142:2,7</p> <p>shot (2) 51:25;74:1</p> <p>shoulder (4) 7:2;46:13;55:17;82:4</p> <p>show (17) 20:25;21:23;22:14; 63:19;64:3;69:2,3; 70:22;99:4;108:2,6; 109:9,10,11;118:17; 123:9;130:14</p> <p>showed (1) 120:5</p> <p>showing (7) 21:20;40:20;62:18; 113:18;126:24;130:11; 138:22</p> <p>shown (3) 64:5;111:13;123:24</p> <p>shows (3) 20:21;113:15;145:17</p> <p>shrugs (1) 7:2</p> <p>shut (1) 130:8</p> <p>side (68) 15:1,2,5;22:12,13; 23:7,23;28:3,3;55:8,12, 14,16;63:15;64:8,10; 65:2,3,15,22,25;66:4; 67:7,10,11,24,25;68:11, 15;69:20,22;70:9,10;</p>	<p>86:23;94:4,11;102:19, 22;106:19;109:3,4,6,7; 112:13,16,21;113:10,11, 22;118:22;121:16,18; 122:23,24;123:4,17; 124:1;127:20,23;128:2, 6,7,11,13;130:1,1,2; 151:23</p> <p>sides (2) 68:8;102:7</p> <p>side's (1) 102:8</p> <p>Sienna (21) 25:10,13;84:12;85:24; 86:5,7;91:18;93:15,19; 94:13;96:8;98:14,17,24; 108:18;118:2;133:1,10, 17;135:7;141:19</p> <p>sign (1) 51:6</p> <p>significant (2) 66:15;95:25</p> <p>silver (1) 64:7</p> <p>similar (5) 55:20;71:19;85:5; 108:1;128:7</p> <p>simple (1) 103:7</p> <p>simpler (1) 74:10</p> <p>simulation (2) 28:2;139:22</p> <p>singular (1) 76:9</p> <p>Sit (1) 42:2</p> <p>site (1) 82:9</p> <p>sitting (2) 72:1;119:15</p> <p>situations (1) 127:11</p> <p>Six (4) 36:13;70:12;99:24; 109:14</p> <p>sized (1) 71:22</p> <p>sketch (2) 66:11;93:9</p> <p>skid (4) 71:22;103:18;136:5; 139:4</p> <p>slanted (1) 110:24</p> <p>slat (1) 68:8</p> <p>sliced (1) 49:23</p> <p>slide (7) 98:2;103:18,19,24; 117:5;138:17;139:4</p> <p>slides (1)</p>
S				
<p>S10s (1) 44:11</p> <p>Safety (10) 27:11;57:20;75:4,17;</p>				

46:6 sliding (2) 125:2;138:5 slightly (1) 22:3 slipped (1) 55:17 slot (1) 15:20 slowly (1) 134:9 smashed (1) 123:18 Smith (2) 36:2,3 snag (1) 135:9 snap (1) 50:9 snapped (1) 55:23 Society (10) 10:22;11:5,10,14,19; 12:6,7;27:7;28:5,11 sodium (1) 65:5 softer (1) 135:16 software (1) 139:22 SoI (1) 106:5 sold (2) 39:6,13 solution (1) 73:16 somebody (2) 58:14;140:9 somebody's (2) 43:5;79:10 sometimes (3) 15:15;33:25;140:2 Somewhat (1) 141:12 somewhere (3) 46:19;47:11;111:11 soon (1) 134:23 sorry (11) 6:9;43:23;47:22;50:5; 57:18;74:16;77:1;92:6; 123:14;136:14;148:9 sort (1) 148:21 sounds (2) 7:3;109:17 sources (1) 74:24 southbound (1) 46:11 span (1) 135:5 spare (1)	71:22 sparking (1) 49:24 sparks (1) 46:5 Speaker (1) 14:14 specialities (2) 36:18,18 specialize (1) 36:21 specialized (2) 9:23;10:14 specialty (1) 9:19 specific (3) 51:9;136:8;137:8 specifically (1) 148:4 Specification (1) 75:18 specifics (1) 137:5 sped (1) 10:13 speech (2) 26:3;28:10 speeches (1) 27:5 speed (30) 25:1;54:16;80:6,7,8, 14;84:6,16,23;96:7,12, 12,23;97:7;99:1;105:21; 107:18,21;117:9,19; 138:19,21,23;139:1,3,5, 8,11,13;153:20 speeds (6) 79:24;115:11;125:11; 137:3;139:14,14 spelled (1) 32:3 spine (1) 55:23 split (3) 35:19,21;114:18 spoke (3) 25:23;78:16;131:4 spontaneously (1) 65:10 spot (6) 62:4;81:8,12,20;82:5; 96:3 spray (1) 142:22 spread (1) 142:24 spring (1) 90:14 square (3) 105:14,15;123:2 squared (1) 111:21 squares (1)	105:15 stack (1) 83:6 stacked (1) 146:1 stamp (1) 136:20 stand (4) 14:7;27:10;48:6;63:4 standing (2) 18:22;153:16 standpoint (2) 23:16;42:25 stands (2) 27:12;104:22 start (7) 31:25;86:24;110:16; 119:7,22;142:6;151:4 started (13) 32:2,19;34:5,13; 35:11,19;45:19,23; 79:11;125:4;127:22; 136:1;142:2 Starting (1) 100:23 starts (4) 80:15;119:23;130:19; 136:2 State (13) 14:14;41:10;82:24; 96:18;126:2,15;144:21, 23;145:4,8;146:15; 147:13,20 stated (1) 20:17 statement (3) 130:19;131:18,20 states (1) 10:19 static (1) 91:9 statically (2) 90:17,19 statistics (1) 84:22 stay (1) 119:19 stayed (3) 56:10;121:5;145:12 staying (1) 91:13 steel (1) 22:9 steering (31) 14:22;15:10,12,13; 16:24;17:1,4,12,14,18, 20,22;18:1,7;19:6; 21:25;22:5,6,13;23:1,5, 8,14,21;24:2,4;119:4; 120:4,6,14,24 step (1) 54:4 sticks (1)	34:8 stiffest (2) 115:22,25 stiffness (5) 85:5,10;86:1,21;88:16 stiffnesses (1) 87:22 still (12) 47:24;49:3;51:13; 90:21;106:2,3;111:24; 119:21;121:8;123:11, 19;124:2 stock (2) 101:4;102:14 STOCKWELL (65) 6:7,10;8:22;9:5,8; 19:24;20:8,14;21:2,6,12, 15;28:22;29:4,11,14,18, 22;38:2,6;52:8,11,15,21; 56:19,23;62:6,12,16; 63:24;86:3;93:10;94:16, 19;100:3,9,13;110:3; 122:7;125:20,24;126:3, 5;131:12,19,24;132:2; 136:19;140:6,18,24; 142:15;143:20;145:14; 146:20,22;147:10,14,19; 148:7;149:7;150:9,13; 152:5;154:6 stop (5) 42:19;103:19;114:7, 13;117:5 stopped (8) 13:4;46:14;49:18; 81:25;82:3;134:9; 139:18,18 stops (3) 89:22;90:4;119:22 storage (1) 50:5 stored (1) 65:1 straddles (1) 22:13 straight (9) 18:2,23;41:22;102:10; 110:17,23;113:17; 153:13,22 straighten (1) 102:9 straightened (1) 18:25 strange (1) 86:25 strength (2) 104:13;105:4 strike (3) 77:18;81:23;151:25 striking (1) 146:13 stroked (3) 15:13;17:2;120:8 struck (2)	130:21;153:18 structure (12) 17:16;22:9,25;23:5; 26:12,17,24;40:11; 45:15;104:17;112:18; 115:18 structures (2) 22:18;23:18 stub (1) 22:6 stuck (1) 19:14 studies (1) 127:9 study (1) 148:21 stuff (1) 150:12 Subaru (40) 24:21;25:15;63:13,16; 68:14,16;96:4;97:16,18, 21;98:4,5,9,24;103:6,9, 24;105:23,23;106:10,12; 114:18;117:1,2;118:3; 121:22;122:19;123:2, 16;124:7,11,13;125:7; 138:3;142:14;143:5; 145:13;146:4,8,13 subject (3) 26:2;27:22;132:6 subpoena (1) 76:15 subscribed (1) 12:19 subscript (2) 87:1;148:20 subscription (1) 83:17 subscripts (1) 87:1 subsection (1) 27:15 subsequent (4) 26:22;55:21;58:8; 121:22 substance (4) 14:18;45:9;46:16;55:4 subtracting (1) 101:8 subtractions (2) 100:25;101:1 success (1) 31:9 Sullivan (2) 50:12,13 sum (4) 14:17;45:9;46:16;55:3 summary (1) 40:14 Summer (1) 14:14 supplement (2) 7:25;8:2
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<p>Supplemental (4) 9:11;75:5;76:4;83:11</p> <p>supplied (1) 52:3</p> <p>supplier (2) 39:3,5</p> <p>support (12) 17:15;22:25;72:23; 119:13,16;135:3;136:3; 142:11;145:11;146:11, 15,16</p> <p>supports (2) 123:7;124:18</p> <p>Sure (12) 21:4;38:12,14;78:19; 82:15;94:8;108:8; 109:13;122:7;133:16; 147:18;149:7</p> <p>surface (1) 115:24</p> <p>surprise (1) 54:5</p> <p>survivability (1) 94:25</p> <p>survived (1) 118:20</p> <p>suspension (2) 39:21;112:12</p> <p>sworn (1) 6:5</p> <p>syndrome (1) 127:12</p> <p>system (23) 28:13,17;29:7,17; 30:23;33:17;43:13,22; 44:5,7,10,20;48:12,16, 20;54:1,13,15;55:25; 56:10,17;100:12;131:3</p> <p>systems (2) 29:3;149:11</p>	<p>24;136:1,6;142:6,25; 153:18,22</p> <p>tank's (1) 132:7</p> <p>tarp (2) 60:7,19</p> <p>taught (1) 32:12</p> <p>Taurus (1) 116:15</p> <p>tax (2) 36:2,6</p> <p>tear (2) 45:19;127:19</p> <p>technically (3) 39:3;44:5;54:14</p> <p>technique (4) 105:12;117:7;132:13; 143:22</p> <p>tecum (1) 76:15</p> <p>telling (1) 65:24</p> <p>tells (5) 24:1;65:5,11;111:20; 124:9</p> <p>tempered (1) 28:3</p> <p>ten (1) 41:5</p> <p>tension (1) 16:4</p> <p>term (3) 85:5;138:21;143:10</p> <p>terms (1) 138:24</p> <p>territory (1) 35:15</p> <p>test (30) 13:17;26:3;57:19; 75:6,15,16,18;76:11,18; 78:6,8,9,15;84:5,6,9,19, 21;87:24;89:18,25; 90:18;106:20,24;107:4, 10,13;115:3,11;116:4</p> <p>testified (1) 6:5</p> <p>testify (2) 48:21;131:25</p> <p>testifying (1) 53:14</p> <p>testimony (6) 41:2;48:4,5,7,8;51:19</p> <p>testing (7) 13:25;32:12;76:24; 89:20;94:24;116:12,17</p> <p>tests (18) 57:20;76:6,7,8;77:2,9, 12,20,22;78:1,5;83:19, 20;87:20;88:10,14; 104:7;114:23</p> <p>Thanks (1) 106:16</p>	<p>theory (1) 142:11</p> <p>therefore (4) 40:13;118:19;120:23; 141:17</p> <p>thinking (1) 26:11</p> <p>third (3) 25:10;86:20;101:16</p> <p>thoroughly (1) 76:21</p> <p>though (10) 17:24;29:5;43:22; 48:15;50:20;88:17; 107:4,18;117:25;129:24</p> <p>thought (1) 92:12</p> <p>three (8) 45:21;87:19,20;88:16, 18;109:20,23;139:11</p> <p>three-page (2) 86:1,8</p> <p>throughout (1) 143:9</p> <p>thrown (2) 118:24;126:20</p> <p>thus (1) 65:10</p> <p>tie (1) 135:4</p> <p>tight (1) 42:2</p> <p>tiling (1) 30:9</p> <p>tilted (1) 125:15</p> <p>times (8) 16:9;33:24;35:12; 38:11;81:4,25;125:9; 138:8</p> <p>timing (1) 42:10</p> <p>tire (5) 67:7,10;96:19,20; 103:20</p> <p>tires (1) 93:23</p> <p>title (1) 149:6</p> <p>titled (1) 148:11</p> <p>TMJ (2) 41:12,19</p> <p>today (9) 6:13,20;57:10,12; 58:23;93:2;140:22; 143:10;150:19</p> <p>together (5) 24:12;45:24;88:14; 99:11;145:13</p> <p>told (8) 18:5;31:19;33:13; 35:4,8;42:2;87:10;</p>	<p>108:18</p> <p>Tom (1) 35:2</p> <p>took (16) 16:3;20:20;39:23; 40:21;61:6;62:19;71:10, 24;82:22;88:1;89:5; 93:4,14;114:7;126:2; 137:6</p> <p>top (13) 15:17;44:19;45:20; 62:13;83:13;86:22; 94:21;99:24;100:23; 145:24;146:1,9;148:5</p> <p>touching (1) 90:22</p> <p>tough (1) 38:10</p> <p>tow (4) 45:15;46:2,6,14</p> <p>toward (2) 113:22;127:16</p> <p>towards (6) 18:4;26:15;68:14; 113:18;125:15;129:23</p> <p>towing (2) 44:24;58:15</p> <p>Toyota (18) 34:9;84:12;85:24; 86:5,7;94:13;97:8; 103:18;108:17,20; 113:25;117:20;134:6, 19;142:3,4;153:12,21</p> <p>track (1) 90:1</p> <p>tracks (1) 128:23</p> <p>trade (1) 100:18</p> <p>traffic (1) 82:17</p> <p>trailer (1) 135:4</p> <p>training (9) 13:17,25;33:7;37:23; 42:4;130:5;147:22; 148:2,3</p> <p>trajectory (1) 120:13</p> <p>transcript (3) 51:15,15;53:1</p> <p>transcripts (1) 31:22</p> <p>transfer (3) 18:18,19;31:16</p> <p>transferred (1) 106:10</p> <p>transferring (2) 31:22,22</p> <p>Transmittal (1) 149:21</p> <p>transverse (1) 110:25</p>	<p>travel (11) 73:13;95:13,24;96:24; 98:7;105:10;106:1; 137:3,17;139:6,16</p> <p>traveled (2) 105:24;106:12</p> <p>traveling (1) 98:6</p> <p>trial (6) 29:6;41:2;48:4,7; 51:14;54:20</p> <p>Trials (2) 52:17,23</p> <p>triangle (1) 82:3</p> <p>tried (2) 79:14;121:13</p> <p>tries (1) 128:2</p> <p>trooper (1) 95:20</p> <p>troopers (2) 82:24;83:1</p> <p>truck (4) 45:15;46:2,6,14</p> <p>try (4) 6:24,25;89:15;101:4</p> <p>trying (8) 34:6;59:18;73:25; 79:12;128:3,10;130:7; 140:21</p> <p>tunnel (2) 41:13,19</p> <p>Turanza (1) 93:25</p> <p>turn (1) 49:18</p> <p>turning (1) 15:16</p> <p>tweak (1) 74:1</p> <p>twice (2) 81:3;148:18</p> <p>twisted (1) 55:11</p> <p>two (27) 7:16;13:4;19:10; 21:21;22:17;23:6,18; 24:13;36:23;45:18;50:3, 8;56:24;68:8;70:3; 73:18;84:19;92:23; 101:18;111:21;112:7; 113:16;122:12;123:11; 129:2,25;143:14</p> <p>type (2) 10:14;41:19</p> <p>typically (4) 87:18;91:10;127:13, 15</p>
T				
<p>table (1) 6:21</p> <p>tail (1) 113:21</p> <p>tailgate (1) 124:15</p> <p>talk (3) 6:24,25;121:20</p> <p>talked (2) 19:9;141:24</p> <p>talking (6) 20:21;21:24;28:19; 63:20;69:6;145:21</p> <p>tank (38) 45:6,13,16,18,20,21; 47:1,3,8,14;49:23,25; 51:10;56:6;71:21; 130:19,23;131:14;132:6, 6,9,10;133:2,8,12,18; 134:1,13,25;135:9,18,</p>				
U				
				UD (1)

<p>45:14 ultimately (2) 40:5;78:20 unbelievable (1) 56:15 unbelted (1) 18:8 unbroken (1) 129:3 unbuckle (1) 121:3 unbuckled (1) 120:25 unconscious (1) 121:2 undamaged (1) 71:25 under (14) 9:17;11:13;13:8;63:3; 69:17;76:15;91:9;133:7; 137:19;141:20;142:4; 148:18;153:13,22 undercarriage (1) 135:15 underneath (1) 115:10 under-ride (13) 49:21;69:15,18;105:7, 8;109:2,3;110:21;116:3; 130:23;132:5;137:20; 153:25 under-riding (1) 115:21 understood (1) 6:22 undertake (1) 20:2 undertaken (1) 136:4 unfair (1) 38:21 unfortunately (1) 130:8 unguarded (1) 132:6 uniform (4) 68:4,8,20;102:8 uniformly (1) 102:13 unit (3) 13:22;45:19;74:5 united (1) 146:12 University (1) 31:15 unless (1) 119:17 unprotected (2) 130:20;131:11 unrestrained (4) 23:15;119:5,20;120:3 unto (1) 44:8</p>	<p>up (62) 10:13;15:17;16:4; 18:23,25;22:14,18; 23:10,19;35:21;39:24; 45:24;55:11,15;56:9; 60:7,11;70:19;72:21; 76:9;77:2;82:4;101:9; 102:2,11;105:6,11; 106:25;107:1;111:21; 112:3;115:16,25;116:1, 6,8,12,12,19,19;119:18; 120:10;121:15,17; 124:14,25;125:1;126:9; 127:23;128:12,22;130:2, 12;134:14,23,24;135:14; 140:19;143:6;144:15; 146:6;153:16 upon (5) 17:17;35:3;121:23,25; 149:17 upper (1) 18:10 upset (1) 31:24 upside (1) 34:3 use (23) 16:14;19:6,7,13,19,22; 66:23;67:2;70:20;75:9; 85:4;87:4,6,7,12,14; 100:19;103:22;139:7, 22;143:17;144:18,22 used (19) 16:21;66:13;77:8; 85:18;86:17;88:11,20; 89:8;95:22;96:23; 106:21;137:15,16,19; 138:2,9;139:14;144:20; 145:1 using (22) 70:23;75:14;83:9; 84:1,3;85:2;87:4,15,17; 95:21;100:21;103:1; 105:4,8,12;107:1; 116:14,15,19,20,24; 117:6 usually (2) 73:7;127:15 utilize (1) 77:2 utilized (1) 95:3 utilizes (1) 87:5</p>	<p>89:7;107:11 values (3) 84:5;87:22;94:24 various (2) 136:14,15 vehicle (105) 16:19;17:24;26:7; 30:7;33:25;36:19,21,25; 37:4,13;40:11,20;45:3,6; 46:5,12;53:8,11,21; 55:19;59:2,24;65:4,16; 66:13,15;67:22,24,25; 68:19;69:16,25;71:12, 20;72:9;74:6;75:17; 80:14;81:25;84:7,18; 86:4,13,21;89:11,12,21; 90:1,10,11;98:18,18,19; 101:20;104:19,20; 107:13;108:16;109:7; 111:7,10,14,18;112:4, 12,14;117:15;119:4,12, 24;121:11,15;123:13; 127:19,24;128:13,23,24, 25;129:18;130:22,25; 132:17;133:6;134:8,10, 14,18;136:22;138:16; 139:2,13,17,17;141:8, 13;142:12;145:11,17,19, 22;146:12;151:8;153:4, 9 vehicles (16) 26:12,20,24;27:2; 30:23;34:1;45:23;72:11; 79:24;80:8,18;111:21; 119:22;120:9;138:7; 139:11 Vehicle's (3) 66:21;112:3;141:16 vented (1) 64:13 verbal (1) 40:19 verified (2) 82:8,9 version (1) 37:25 versus (6) 28:3;53:7,20;54:17; 84:8;151:7 Vetronix (1) 13:22 videos (4) 83:1;147:4,6,9 view (4) 29:2,10,13;152:20 Views (1) 44:11 Villager (2) 39:6;41:7 VIN (1) 85:24 Virginia (1) 77:10</p>	<p>vis-a-vis (1) 141:23 vision (1) 143:25 visit (1) 80:25 visited (1) 81:2 visually (1) 68:18 Vitae (1) 8:24 voir (1) 48:6</p>	<p style="text-align: center;">W</p> <p>waiting (1) 49:18 walked (1) 82:4 wall (3) 90:5,11,12 Walters (1) 53:19 wants (1) 140:9 wastes (1) 74:3 way (19) 29:21;39:20;41:17; 51:23;56:9;67:4;81:7; 85:7,22;87:25;90:24; 97:3;122:24;123:6; 132:19;143:6;147:5; 148:24;153:3 ways (4) 35:14,19,21;118:1 wear (1) 16:6 wearing (3) 16:11;61:3;94:14 webbing (1) 121:7 week (1) 7:8 weighs (2) 56:4,5 weight (1) 84:22 weights (2) 84:6,6 Weinstock (1) 151:17 weird (2) 87:23;107:8 weren't (3) 19:15;76:17;104:9 what's (18) 13:6,7;15:24;21:14; 22:4;32:20;62:14;64:5; 66:20;74:4,22;89:19; 90:18;91:13,13;107:8;</p>	<p>110:22;132:3 whatsoever (1) 112:7 wheel (10) 15:10;22:6;67:20; 101:18,19;102:2;120:15, 24;121:16;127:20 wheels (3) 14:22;66:20;94:9 white (1) 83:5 whole (2) 44:8;79:15 Who's (1) 54:9 width (5) 70:13;108:15;111:1; 144:1;146:7 widths (1) 88:25 window (1) 46:1 windows (6) 128:14,22;129:2,3,19; 130:11 windshield (3) 26:15;46:2;129:10 wings (2) 23:6,23 winter (2) 31:17,19 wiped (1) 112:25 wire (1) 123:20 wise (1) 120:8 within (5) 42:13;50:8;117:13; 118:4;137:1 Without (2) 104:15;136:20 Witness (12) 21:1,4;92:8,12;93:16; 126:16,19;140:11,17,20; 147:18;154:8 Wood (10) 32:3,10;33:2,12,17; 34:25;35:1,3,22,22 words (14) 17:2;19:4;26:14; 32:21;55:7;65:3;66:2; 73:16;74:5;75:17;89:20; 105:13;120:10;144:14 work (11) 10:1;30:22;31:11; 32:20;33:5,11,16;35:16; 38:18;74:9;135:8 worked (3) 10:8;30:18;107:14 working (5) 30:14;32:2;33:8; 34:17;79:5</p>
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**Kline v.
Morgan-Alcala, et al**

works (1)
61:16
worse (1)
68:7
Wow (1)
140:17
write (1)
99:12
writing (1)
100:2
written (3)
19:23;27:4;91:7
WTVD (1)
149:10

Y

yard (3)
60:5;71:13,15
Year (2)
149:8;151:18
years (8)
12:21;13:4;31:18;
41:5;48:2;52:24;55:3;
148:11
yielded (2)
41:10,22
York (3)
14:13;44:12;50:18
Yugo (10)
39:10,13,14,15,18,22,
23;40:1,5,10

Z

Zenna (1)
54:10
zero (1)
67:2
Zerres (1)
54:11
zone (2)
130:21;132:18

National Forensic Engineers, Inc.

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April 22, 2009

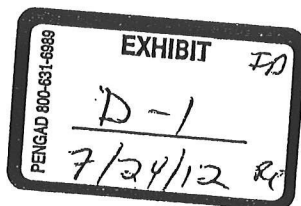
Re: Estate of Susan Morris Kline
Our File No.: 0732NJ-P
Date of Incident: 2/24/07
PRELIMINARY REPORT

Dear Ms. De Filippo,

National Forensic Engineers, Inc. was asked to inspect a 1996 Jeep Grand Cherokee, inspect a 2004 Toyota Sienna van, review file materials, crash test results and coefficients, review the New Jersey Police Crash Investigation Report, and post accident photographs regarding a four vehicle collision that resulted in a post collision fuel fed fire that resulted in a fatality. Reportedly, Natalie Rawls and Susan Morris-Kline were driving southbound in the right lane on Interstate Route 287 in Parsippany Township, NJ on February 24, 2007 when Natalie Rawls slowed because she intended to take Exit 42 (Parsippany Road) and Susan Morris-Kline reacted and slowed accordingly. Victoria Morgan-Alcala approached in her 2004 Toyota Sienna van in the right lane, failed to react to the two vehicles in front of her, and struck the Morris-Kline Jeep in the rear. The fuel tank was compromised and a post collision fuel fed fire erupted. A fourth vehicle, a 2003 Acura MDX driven by Peter Moodie swerved to avoid the three vehicles, and his vehicle suffered minor cosmetic damage as he passed by and avoided the spinning Jeep while it was engulfed in flames. *National Forensic Engineers, Inc.* was asked to determine the pre-impact speeds of the vehicles involved.

Donald R. Phillips, P.E. reviewed the New Jersey Police Crash Investigation Report # B080-2007-00445A dated February 24, 2007, obtained Motor Vehicle Data VIN Analysis and Specifications of the 1996 Jeep Grand Cherokee and the 2004 Toyota Sienna, obtained Neptune frontal crush crash coefficients for the 1996 Jeep Grand Cherokee and the 2004 Toyota Sienna, Mr. Phillips inspected and photographed the Kline 1996 Jeep Grand Cherokee on May 9, 2007, and Mr. Phillips inspected and photographed the 2004 Toyota Sienna on July 2, 2007.

Attached to this report is Donald R. Phillips, P.E. updated Curriculum Vitae which includes a list of publications, professional affiliations, education, experience, and background. Also attached is an updated list of cases in which Mr. Phillips has testified either at trial or at deposition over the last four years.



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ENGINEERS, SCIENTISTS AND ARCHITECTS

Angel M. De Filippo, Esq.

April 22, 2009

Page 2

National Forensic Engineers, Inc. is billing professional time at \$250 per hour. This report was written in compliance with ASTM E620-97, Reporting Opinions for Technical Experts.

The New Jersey Police Crash Investigation Report # B080-2007-00445A dated February 24, 2007 stated in the Crash Description Box 135:

“Vehicle #1, Vehicle #2 and Vehicle #3 were traveling southbound on Interstate 287 in the right lane. Vehicle #4 was traveling on Interstate 287 in the center lane. Driver #1 suddenly slowed down drastically, after she noticed she had missed her exit to her destination. Vehicle #2 then slowed to a very low speed after Driver #2 noticed that Vehicle #1 was barely moving in the right lane. Subsequently, Vehicle #3 struck Vehicle #2 causing it to explode and both vehicles became engulfed in flames. After the initial impact, Vehicle #2 continued to travel forward and struck Vehicle #1. Vehicle #4, was struck by debris while driving by in the center lane at the time of the explosion. Driver #2, Susan Morris, died as result of the injuries sustained in this accident. Driver #1 and Driver #2 (sic, should state Driver #3) were transported to Saint Claire’s Hospital for treatment of minor injuries. Driver #4 continued on driving south on Interstate 287. He contacted Netcong Station on 2/28/2007 and stated that he had not been injured and his vehicle sustained minor cosmetic damage.”

The New Jersey Police Crash Investigation Report # B080-2007-00445A dated February 24, 2007 presented three scale diagrams of the accident sequence attached as pages 8, 9, & 10 of the report. The post impact travel of the Morris-Kline Jeep Cherokee was scaled to be approximately 80 feet. The post impact travel of the Morgan-Alcala Toyota was scaled as approximately 65 feet. The Rawls Subaru traveled approximately 120 feet to final rest after the impact took place based on the scaled diagram.

Frontal crush coefficients of the Morgan-Alcala Toyota Sienna van obtained from Neptune Engineering were used in conjunction with Campbell’s method of determining crash damage energies to determine an equivalent barrier speed of the initial impact to front of the van. Based on 17.4 inches of crush to the van’s length during the bumper under-ride collision, the equivalent barrier speed of the impact was approximately 33.6 miles per hour.

The post impact travel distance of the Morgan-Alcala Toyota Sienna van was approximately 65 feet. Using the equivalent speed lost in a skid or slide, that equivalent speed energy was 39.5 miles per hour. The resultant pre-impact speed of the Morgan-Alcala Toyota Sienna van was approximately 51.8 miles per hour

National Forensic Engineers, Inc.

ENGINEERS, SCIENTISTS AND ARCHITECTS

Angel M. De Filippo, Esq.

April 22, 2009

Page 3

when utilizing conservation of energy techniques. This pre-impact speed does not include any allowance for speed lost in pre-impact braking. The posted speed limit was 55 miles per hour.

Frontal crush coefficients of the Morris-Kline Jeep Grand Cherokee obtained from Neptune Engineering were used in conjunction with Campbell's method of determining crash damage energies to determine an equivalent barrier speed of the impact from the front of the Morris-Kline Cherokee to the rear of the Rawls Subaru. Based on approximately 11.1 inches of crush to the front overhang of the Jeep, the equivalent barrier speed of the frontal impact to the rear of the Rawls Subaru was approximately 18.9 miles per hour.

Rear crush coefficients were estimated for the rear impact of the Morris-Kline Jeep Grand Cherokee. The numbers would be consistent with typical crush values and will be adjusted once known crash test values for rear impacts are obtained. Utilizing Campbell's method of determining crash damage energy for the rear impact, the equivalent rear crush depth was approximately 21.3 inches, and the rear impact damage was calculated to be 31.7 miles per hour for the rear under-ride collision. Post collision travel was scaled to be approximately 80 feet, and using the speed lost in a skid or slide resulted in an approximate 31 mile per hour skid or slide speed.

The resultant post impact speed that was transferred into the Morris Kline Jeep Grand Cherokee by the Morgan-Alcala Toyota Sienna van was approximately 48.2 miles per hour when utilizing conservation of energy techniques.

The Rawls Subaru was not available for inspection, but assuming the rear impact was equivalent to the frontal impact by the Morris-Kline Jeep would mean that the rear impact was approximately 18.9 miles per hour to the Subaru. The post impact travel of the Rawls Subaru was approximately 120 feet as scaled off of the accident diagram. This would mean that the post impact speed of the Rawls Subaru was approximately 42.4 miles per hour when using conservation of energy techniques.

Once discovery from Chrysler Motors, LLC has been produced on known rear impact testing of the subject 1996 Jeep Grand Cherokee, and exact scene diagram measurements are obtained from the New Jersey State Police Fatal Accident Investigation Team, this report will be supplemented to incorporate and reflect any new data that might be obtained.

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Angel M. De Filippo, Esq.

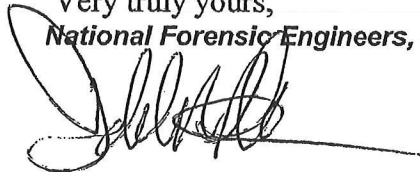
April 22, 2009

Page 4

Based on the information and analysis contained herein, with a reasonable degree of engineering and scientific certainty it is the opinion of ***National Forensic Engineers, Inc.*** that the pre-impact speed without taking into account any pre-impact braking of the Morgan-Alcala Toyota Sienna van was approximately 51.8 miles per hour. In addition, it is the opinion of ***National Forensic Engineers, Inc.*** that the total speed energy transferred into the Morris-Kline Jeep Grand Cherokee was approximately 48.2 miles per hour, approximately 31.7 miles per hour was absorbed during the rear under-ride collision from the Morgan-Alcala Toyota Sienna van. Lastly, it is the opinion of ***National Forensic Engineers, Inc.*** that the frontal impact experienced by the Morris-Kline Jeep Grand Cherokee into the rear of the Rawls Subaru was approximately 18.9 miles per hour.

Mr. Phillips will supplement this preliminary report if any additional information has been received and reviewed. He may respond to additional opinions offered by defendant's experts, or supplement as additional discovery becomes available.

Very truly yours,
National Forensic Engineers, Inc.

A handwritten signature in black ink, appearing to read 'D. Phillips', with a long horizontal line extending to the right.

Donald R. Phillips, P.E.

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July 25, 2011

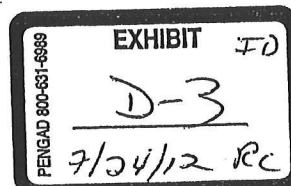
Angel M. De Filippo, Esq.
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West Orange, NJ 07052

Re: Estate of Susan Morris Kline
Our File No.: 0732NJ-P
Date of Incident: 2/24/07
SUPPLEMENTAL REPORT

Dear Ms. De Filippo,

National Forensic Engineers, Inc. was asked to inspect a 1996 Jeep Grand Cherokee, inspect a 2004 Toyota Sienna van, review file materials, crash test results and coefficients, review the New Jersey Police Crash Investigation Report, and post accident photographs regarding a four vehicle collision that resulted in a post collision fuel fed fire that resulted in a fatality. Reportedly, Natalie Rawls and Susan Morris-Kline were driving southbound in the right lane on Interstate Route 287 in Parsippany Township, NJ on February 24, 2007 when Natalie Rawls slowed because she intended to take Exit 42 (Parsippany Road) and Susan Morris-Kline reacted and slowed accordingly. Victoria Morgan-Alcala approached in her 2004 Toyota Sienna van in the right lane, failed to react to the two vehicles in front of her, and struck the Morris-Kline Jeep Grand Cherokee in the rear. The Grand Cherokee's fuel tank was compromised and a post collision fuel fed fire erupted. A fourth vehicle, a 2003 Acura MDX driven by Peter Moodie swerved to avoid the three vehicles, and his vehicle suffered minor cosmetic damage as he passed by and avoided the spinning Jeep while it was engulfed in flames. **National Forensic Engineers, Inc.** was asked to determine the pre-impact speeds of the vehicles involved.

Donald R. Phillips, P.E. reviewed the New Jersey Police Crash Investigation Report # B080-2007-00445A dated February 24, 2007; reviewed deposition of Trooper Elkin Orellano (with dash camera video); the deposition of Kevin Bartels (with dash camera video); Defendant's expert report of Robert Banta, Defendant's expert report of Nicholas Durisek; a DVD disc of FMVSS 301 Crash Testing produced by Chrysler Group, LLC under a Subpoena Duces Tecum; Plaintiff's expert report with attachments of Paul V. Sheridan; Center for Auto Safety vehicle to vehicle rear impact crash tests of a Jeep ZJ and Jeep WJ; May 16, 2011 Center for Auto Safety 40 mph Vehicle to Vehicle 30 % Offset Rear Impact Crash Testing at KARCO of a 1996 Jeep Grand Cherokee; June 14, 2011 deposition of Francois Castaing; June 15, 2011 deposition of Bernard Robertson; June 15, 2011 deposition of Owen Viergutz; obtained Motor Vehicle Data VIN Analysis and Specifications of the 1996 Jeep Grand Cherokee and the 2004 Toyota Sienna; obtained



National Forensic Engineers, Inc.

ENGINEERS, SCIENTISTS AND ARCHITECTS

Angel M. De Filippo, Esq.

July 25, 2011

Page 2

Neptune frontal crush crash coefficients for the 1996 Jeep Grand Cherokee and the 2004 Toyota Sienna; reviewed May 25, 2011 research on FMVSS 208 and NCAP testing for Occupant Injury Values and Survivability, Mr. Phillips inspected and photographed the Kline 1996 Jeep Grand Cherokee on May 9, 2007; and Mr. Phillips inspected and photographed the 2004 Toyota Sienna on July 2, 2007.

Attached to this report is Donald R. Phillips, P.E. updated Curriculum Vitae which includes a list of publications, professional affiliations, education, experience, and background. Also attached is an updated list of cases in which Mr. Phillips has testified either at trial or at deposition over the last four years. **National Forensic Engineers, Inc.** is billing professional time at \$300 per hour. This report was written in compliance with ASTM E620-97, Reporting Opinions for Technical Experts.

The New Jersey Police Crash Investigation Report # B080-2007-00445A dated February 24, 2007 stated in the Crash Description Box 135:

“Vehicle #1, Vehicle #2 and Vehicle #3 were traveling southbound on Interstate 287 in the right lane. Vehicle #4 was traveling on Interstate 287 in the center lane. Driver #1 suddenly slowed down drastically, after she noticed she had missed her exit to her destination. Vehicle #2 then slowed to a very low speed after Driver #2 noticed that Vehicle #1 was barely moving in the right lane. Subsequently, Vehicle #3 struck Vehicle #2 causing it to explode and both vehicles became engulfed in flames. After the initial impact, Vehicle #2 continued to travel forward and struck Vehicle #1. Vehicle #4, was struck by debris while driving by in the center lane at the time of the explosion. Driver #2, Susan Morris, died as result of the injuries sustained in this accident. Driver #1 and Driver #2 (sic, should state Driver #3) were transported to Saint Claire’s Hospital for treatment of minor injuries. Driver #4 continued on driving south on Interstate 287. He contacted Netcong Station on 2/28/2007 and stated that he had not been injured and his vehicle sustained minor cosmetic damage.”

The New Jersey Police Crash Investigation Report # B080-2007-00445A dated February 24, 2007 presented three scale diagrams of the accident sequence attached as pages 8, 9, & 10 of the report. The post impact travel of the Morris-Kline Jeep Cherokee was scaled to be approximately 80 feet. The post impact travel of the Morgan-Alcala Toyota was scaled as approximately 65 feet. The Rawls Subaru traveled approximately 120 feet to final rest after the impact took place based on the scaled diagram.

National Forensic Engineers, Inc.

ENGINEERS, SCIENTISTS AND ARCHITECTS

Angel M. De Filippo, Esq.

July 25, 2011

Page 3

Frontal crush coefficients of the Morgan-Alcala Toyota Sienna van obtained from Neptune Engineering were used in conjunction with Campbell's method of determining crash damage energies to determine an equivalent barrier speed of the initial impact to front of the van. Based on 17.4 inches of crush to the van's length during the bumper under-ride collision, the equivalent barrier speed of the impact was approximately 33.6 miles per hour.

The post impact travel distance of the Morgan-Alcala Toyota Sienna van was approximately 65 feet. Using the equivalent speed lost in a skid or slide, that equivalent speed energy was 39.5 miles per hour. The resultant pre-impact speed of the Morgan-Alcala Toyota Sienna van was approximately 51.8 miles per hour when utilizing conservation of energy techniques. This pre-impact speed does not include any allowance for speed lost in pre-impact braking. The posted speed limit was 55 miles per hour.

Frontal crush coefficients of the Morris-Kline Jeep Grand Cherokee obtained from Neptune Engineering were used in conjunction with Campbell's method of determining crash damage energies to determine an equivalent barrier speed of the impact from the front of the Morris-Kline Cherokee to the rear of the Rawls Subaru. Based on approximately 11.1 inches of crush to the front overhang of the Jeep, the equivalent barrier speed of the frontal impact to the rear of the Rawls Subaru was approximately 18.9 miles per hour.

Rear crush coefficients were calculated for the rear impact of the Morris-Kline Jeep Grand Cherokee based on the Center for Auto Safety (CAS) tests on the Jeep ZJ, the Chrysler Group LLC FMVSS 301 flat rear barrier impact crash testing, and the CAS testing at KARCO from May 16, 2011. Utilizing Campbell's method of determining crash damage energy for the rear impact, the equivalent rear crush depth was approximately 21.3 inches, and the rear impact damage was calculated to be a minimum of 29.2 miles per hour (CAS), an equivalent speed of 38.2 miles per hour (flat rear barrier) for the Chrysler Group LLC FMVSS 301 flat rear barrier coefficients, and a maximum of 41 miles per hour based on coefficients from the CAS testing at KARCO from May 16, 2011 for the subject rear under-ride collision. Post collision travel was scaled to be approximately 80 feet, and using the speed lost in a skid or slide resulted in an approximate 31 mile per hour post impact skid or slide speed.

The resultant post impact speed energy that was transferred into the Morris Kline Jeep Grand Cherokee by the Morgan-Alcala Toyota Sienna van was approximately 42.6 to 51.4 miles per hour when utilizing conservation of energy techniques.

National Forensic Engineers, Inc.

ENGINEERS, SCIENTISTS AND ARCHITECTS

Angel M. De Filippo, Esq.

July 25, 2011

Page 4

The Rawls Subaru was not available for inspection, but assuming the rear impact was equivalent to the frontal impact by the Morris-Kline Jeep would mean that the rear impact was approximately 18.9 miles per hour to the Subaru. The post impact travel of the Rawls Subaru was approximately 120 feet as scaled off of the accident diagram. This would mean that the post impact speed of the Rawls Subaru was approximately 42.4 miles per hour when using conservation of energy techniques.

Post accident photographs show that Ms. Kline was found to be in front passenger seat after her death. Therefore, Ms. Kline had to have survived the initial impact sequence to move from the driver's seated position to the passenger side before her death. Also, medical records showed that the main cause of death was due to injuries sustained by the fire.

Based on the information and analysis contained herein, with a reasonable degree of engineering and scientific certainty it is the opinion of **National Forensic Engineers, Inc.** that the pre-impact speed without taking into account any pre-impact braking of the Morgan-Alcala Toyota Sienna van was approximately 51.8 miles per hour. In addition, it is the opinion of **National Forensic Engineers, Inc.** that the total speed energy transferred into the Morris-Kline Jeep Grand Cherokee was approximately 42.6 to 51.4 miles per hour, approximately 29.2 miles per hour to a maximum of 41 miles per hour was absorbed during the rear under-ride collision from the Morgan-Alcala Toyota Sienna van. Furthermore, it is the opinion of **National Forensic Engineers, Inc.** that the frontal impact experienced by the Morris-Kline Jeep Grand Cherokee into the rear of the Rawls Subaru was approximately 18.9 miles per hour. Lastly, it is the opinion of **National Forensic Engineers, Inc.** that based on my knowledge, training experience, review of all the facts, witness statements, application of all the engineering/ reconstruction/ mathematics and physics principles, that the crash forces exerted by the Alcala vehicle were not the cause of the plaintiff's injuries and death. But for the fuel tank location and the fact that it was unprotected in rear crush zone and was struck directly by the Alcala vehicle (under-ride), the fuel tank explosion and burn injuries and death of the plaintiff would not have occurred in this motor vehicle collision.

Mr. Phillips will supplement this report if any additional information has been received and reviewed. He may respond to additional opinions offered by defendant's experts, or supplement as additional discovery becomes available.

Very truly yours,
National Forensic Engineers, Inc.


Donald R. Phillips, P.E.