CENTER FOR AUTO SAFETY
1825 CONNECTICUT AVENUE NW SUITE 330 WASHINGTON DC 20009-5708
202-328-7700 www.autosafety.org

February 1, 2016

Terry Shelton
Associate Administrator, National Center for Statistics and Analysis
National Highway Traffic Safety Administration
1200 New Jersey Ave., S.E. West Building
Washington, D.C. 20510

Dear Ms. Shelton,

The Center for Auto Safety (CAS) recently reviewed the final 2013 FARS data dumps on Jeep Grand Cherokee fires. In doing so, we noticed the omission of a crash that should have been included in the data dump. On November 10, 2013, Skyler Anderson-Coughlin was killed in Longmeadow, MA, when his 1998 Jeep Grand Cherokee was struck from behind and erupted into flames.

While the crash shows up in the FARS system, the 1998 Grand Cherokee driven by Skyler is unidentified in the vehicle level for that crash. The vehicle model, model year, and vehicle identification number fields are coded with "9's," as you can see in the following link: http://www-fars.nhtsa.dot.gov/QueryTool/QuerySection/VehicleDisplayForm.aspx?ShowData=vehform&CaseNum=196&StateNum=25&VNumber=1&CaseYear=2013. Every other vehicle in the crash was correctly identified by VIN, year, make and model and fire is coded as the Most Harmful Event. How does NHTSA explain this one omission? Attached please find a copy of the Massachusetts State Police collision reconstruction report which clearly identifies the Anderson vehicle and the cause of death as "extensive thermal injuries" on pages 35 and 39 of the attached report, respectively.

This is why the data dump we received did not contain Skyler's crash, a consequence of the omission of model, model year, and VIN information. What this also means is that anyone searching the 2013 FARS file for evidence of fires in Jeep Grand Cherokees will be missing incredibly important information. Given the relatively low rate at which Most Harmful Event Fire/Explosion crashes occur, one missing crash can make a great difference in the conclusions derived from the data.

Both Acting NHTSA Administrator Friedman and present Administrator Rosekind knew about Skyler's death in a recalled Jeep Grand Cherokee. The Center wrote to Acting Administrator Friedman about this crash on July 2, 2014 before the 2013 FARS database was released. Additionally, Skyler's father Todd Anderson testified at the July 2, 2015 public hearing regarding Fiat-Chrysler's recall obligations, and described the make, model and year of the Jeep involved, while recounting his son's crash and death by fire. Administrator Rosekind heard Mr. Anderson testify, which begs the question: How do the top two people in the agency

know about Skyler's death in a recalled Jeep Grand Cherokee and the agency's records don't even show a Jeep was involved in this crash? Simply incredible!

It would be a miscarriage of justice if Skyler's crash does not make it into the permanent FARS data as a fatal rear impact fire crash in a 1998 Jeep Grand Cherokee. The only way to rectify this miscarriage of justice is to correct the 2013 FARS database. As demonstrated by the Center for Auto Safety time and time again, the agency miscodes fatal fires in FARS. This results in weaker safety standards and inaccurate defect investigations and recalls. We have called on the agency to upgrade the quality of FARS reporting by getting police to improve their crash reports known as PARs. Yet our calls for improvement have fallen on deaf ears. At the very least, make Skyler's death count and change the identity of the vehicle in which he burned to death from unknown to 1998 Jeep Grand Cherokee.

We request a prompt response to this letter indicating how this error occurred and how it will be corrected.

Sincerely,

Michael Brooks
Staff Attorney

Attachments

GRAND JURY EXHIBIT #6 J.22.14

Massachusetts State Police
Collision Analysis and Reconstruction Section
Collision Reconstruction Report

CASE #	2013-CAR-000404
Related Case#	2013-0B3-006595

Requesting Agency:		MSP Springfield			
Date Rec'd:	10 Nov 2013	Time Rec'd:	1805	Class:	Traffic, Crash - Fatal
Primary Investigating Officer:		Trooper Derek Cormier		Agency	MSP Springfield
Reconstructionist Assigned:		Sergeant John D Pinkham, #2772		Team	West

Collision Occurred:	City/Town	County	Day	Date	Time
	LONGMEADOW	HAMPDEN	Sunday	10 Nov 2013	17:51

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Massachusetts State Police
Collision Analysis and Reconstruction Section
485 Maple Street
Danvers, MA 01923
cars.reports@state.ma.us

Status: Approved
Approved by: #Sergeant Christopher Sanchez ID: 1845

Commonwealth of Massachusetts

Collision Analysis and Reconstruction Section 2013-CAR-000404

Collision Reconstruction Report

Collision Analysis and Reconstruction Section 11/10/13 5:51 PM # Vehicles: 3 # Injured: 1
Sergeant Pinkham, John On Call: No Speed Limit: 55

Arrival Time: 2013-11-10 18:31:50 Cleared Time: 2013-11-10 21:24:50 **Crash - Fatal**

RT 91 North, Mile Marker 2.2, LONGMEADOW, MA

Latitude: 42.05736 **Longitude: 72.58855**

Requesting Agency: MSP Springfield **Requesting Agency Case#: 2013-0B3-006595** **OUI Related: No**

Cause Determination: Vehicle/Mechanical, Mechanical Neglect, Other **Charges: Yes**

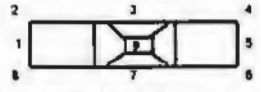
Secondary Cause #1 Determination:

Secondary Cause #2 Determination:

Light:	4 - Dark - lighted roadway	**Trafficway:**	3 - Two-way, divided, positive
Weather:	1 - Clear	**School Bus:**	No
Traffic Ctrl:	1 - No controls	**Work Zone:**	No
Ctrl Function:		**Collision:**	2 - Rear-end
Road Surface:	1 - Dry	**1st Harmful:**	Motor vehicle in traffic
InterSection:	1 - Not at intersection	**1st Harmful Location:**	1 - Roadway

Vehicle# 1 **Reg# 88452PY** **VA** **APN 2006** **Volvo** **Tractor Trailer** **Released to**

Insurance Co:		**Action Prior:**	2 - Slowing or stopped
Veh Config:	10 - Tractor/semi-trailer	**Most Harmful:**	Motor vehicle in traffic
Hit/Run:	No	**Event Seq. 1:**	1 - Motor vehicle in traffic
Moped:	No	**Event Seq. 2:**	
Travel Direction:	N	**Event Seq. 3:**	
Respond Emerg:	No	**Event Seq. 4:**	
Driver Contributing:	1 - No Improper Driving	**Under/Override:**	1 - None
Tow Company:	CJ's Towing	**Tow Reason:**	Crash
CDR:	Yes	**CDR Supported:**	Yes



Damaged Area(s) 1,2
Damage > $1000 Yes

Owner: Veh # 1

Stepanov Trucking

58 Triangle Dr
Weyers CAve VA 24486
DOB:
Sex:
Lic Num:
Lic State: MA
Restrictions:
CDL END:

Medical Examiner:
Body Removed To:
Citation/Charge(s)

Seat Position:
Safety System:
Airbag Status:
Airbag Switch:
Eject Code:
Trap Code:
Injury Status:
Transported:
MedicalFac.
ME Notified and Came To:
Next of Kin Notified By:

Driver: Veh # 1

UNTILOV , ANTOLIY I
2120 SCARLET OAK CT
HARRISONBURG VA 22801
DOB: 04/21/1952
Sex: Male
Lic Num: T63254334
Lic State: VA
Restrictions:
CDL END:

Medical Examiner:
Body Removed To:
Citation/Charge(s)

Status: Approved
Approved by: #Sergeant Christopher

Seat Position: 1 - Front seat - left seat (or
Safety System: 99 - Unknown
Airbag Status: 5 - Not Applicable
Airbag Switch:
Eject Code: 0 - Not ejected
Trap Code: 0 - Not trapped
Injury Status: 5 - No Injury
Transported: 1 - Not transported
MedicalFac.
ME Notified and Came To:
Next of Kin Notified By:

Officer Name	Signature	ID#	Station	Date
Sergeant Pinkham, John		2772	Collision Analysis and	05/21/2014

Commonwealth of Massachusetts
Collision Analysis and Reconstruction Section
2013-CAR-000404
Collision Reconstruction Report

Truck/Bus Info:

Millenium Leasing LLC — US DOT

Carrier Address:
436 Burkes Mill Rd

US DOT Number: 1171309
US DOT State #:
Issuing State :
ICC Number:
US DOT InterState:

Cargo Body: 97
Gross Weight: 3

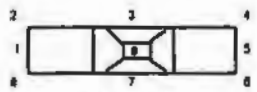
Trailer Reg: 1435306
Reg Type: 51
Reg State: ME
Reg Year:
Length: 4

Hazmat Placard	Material #	Material Name	Material 4-Digit	Release Code

Vehicle# 1A Reg# 1435306 ME TRN 1995 Trailer

Insurance Co:
Veh Config:
Hit/Run:
Moped:
Travel Direction:
Respond Emerg:
Driver Contributing:
Tow Company: CJ's Towing
CDR: No

Action Prior:
Most Harmful:
Event Seq. 1:
Event Seq. 2:
Event Seq. 3:
Event Seq. 4:
Under/Override:
Tow Reason: Crash
CDR Supported: No



Damaged Area(s) 0
Damage > $1000

Owner: Veh # 1A

Cross Keys Leasing

P.O. Box 183
Mount Crawford VA 22841

DOB:
Sex:
Lic Num:
Lic State:
Restrictions:
CDL END:

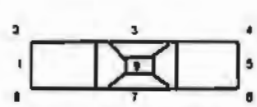
Medical Examiner:
Body Removed To:
Citation/Charge(s)

Seat Position:
Safety System:
Airbag Status:
Airbag Switch:
Eject Code:
Trap Code:
Injury Status:
Transported:
MedicalFac.
ME Notified and Came To:
Next of Kin Notified By:

Vehicle# 2 Reg# 1AAJX8 CT PAN 1998 Jeep Grand Impounded

Insurance Co:
Veh Config: 2 - Light truck (Van, mini-van, pick-up, SUV)
Hit/Run: No
Moped: No
Travel Direction: N
Respond Emerg: No
Driver Contributing: 1 - No Improper Driving
Tow Company: CJ's Towing
CDR: No

Action Prior: 2 - Slowing or stopped
Most Harmful: Motor vehicle in traffic
Event Seq. 1: 1 - Motor vehicle in traffic
Event Seq. 2: 45 - Fire/explosion
Event Seq. 3: 2 - Parked motor vehicle
Event Seq. 4:
Under/Override: 1 - None
Tow Reason: Crash
CDR Supported: No



Damaged Area(s) 5,6,11
Damage > $1000 Yes

Status: Approved
Approved by: Sergeant Christopher Sinclair ID# 1045

Officer Name	Signature	ID#	Station	Date
Sergeant Pinkham, John		2772	Collision Analysis and	05/21/2014

Owner: Veh # 2

ANDERSON , TODD G
12 WHEELER PATH
GUILFORD CT
DOB: 07/30/1962
Sex: Male
Lic Num:
Lic State: MA
Restrictions:
CDL END:

Medical Examiner:
Body Removed To:
Citation/Charge(s)

Seat Position:
Safety System:
Airbag Status:
Airbag Switch:
Eject Code:
Trap Code:
Injury Status:
Transported:
MedicalFac.
ME Notified and Came To:
Next of Kin Notified By:

Driver: Veh # 2

ANDERSON-COUGHLIN , SKYLER J
762 GRAYSON DR
SPRINGFIELD MA 01119
DOB: 10/03/1996
Sex: Male
Lic Num: S40625568
Lic State: MA
Restrictions: 9
CDL END:

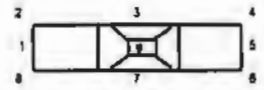
Medical Examiner:
Body Removed To:
Citation/Charge(s)

Seat Position: 1 - Front seat - left seat (or
Safety System: 99 - Unknown
Airbag Status: 99 - Unknown
Airbag Switch: 99 - Unknown
Eject Code: 0 - Not ejected
Trap Code: 0 - Not trapped
Injury Status: 1 - Fatal injury
Transported: 1 - Not transported
MedicalFac.
ME Notified and Came To:
Next of Kin Notified By:

Vehicle# 3 **Reg# 57VV23** **MA** **PAN** **2006** **Ford** **F150**

Insurance Co: Arbella Mutual Insurance
Veh Config: 2 - Light truck (Van, mini-van, pick-up, SUV)
Hit/Run: Yes
Moped: No
Travel Direction: N
Respond Emerg: No
Driver Contributing: 97 - Other improper action
Tow Company: Interstate Towing
CDR: Yes

Action Prior: 11 - Parked
Most Harmful: Motor vehicle in traffic
Event Seq. 1: 48 - Cargo/equipment loss or
Event Seq. 2: 1 - Motor vehicle in traffic
Event Seq. 3:
Event Seq. 4:
Under/Override: 1 - None
Tow Reason: Crash
CDR Supported: Yes



Damaged Area(s) 5
Damage > $1000 No

Driver: Veh # 3

Nieves-Cruz , Joel
38 Acushnet Ave
Springfield MA 01105
DOB: 07/30/1981
Sex: Male
Lic Num: S48819383
Lic State: MA
Restrictions:
CDL END:

Medical Examiner:
Body Removed To:
Citation/Charge(s)

Seat Position: 1 - Front seat - left seat (or
Safety System: 99 - Unknown
Airbag Status: 4 - Not Deployed
Airbag Switch: 4 - Unknown if switch is present
Eject Code: 0 - Not ejected
Trap Code: 0 - Not trapped
Injury Status: 5 - No Injury
Transported: 1 - Not transported
MedicalFac.
ME Notified and Came To:
Next of Kin Notified By:

Status: Approved
Approved by: Sergeant Christopher Sanchez ID# 1845

Officer Name	Signature	ID#	Station	Date
Sergeant Pinkham, John		2772	Collision Analysis and	05/21/2014

Owner/Passenger: Veh # 3

Perez , Rafael
32 Acushnet Ave 1rst Floor
Springfield MA 01105
DOB: 10/28/1970
Sex: Male
Lic Num:
Lic State:
Restrictions:
CDL END:

Medical Examiner:
Body Removed To:
Citation/Charge(s)

Seat Position: 3 - Front seat - right side
Safety System: 99 - Unknown
Airbag Status: 4 - Not Deployed
Airbag Switch: 4 - Unknown if switch is present
Eject Code: 0 - Not ejected
Trap Code: 0 - Not trapped
Injury Status: 5 - No Injury
Transported: 1 - Not transported
MedicalFac.
ME Notified and Came To:
Next of Kin Notified By:

Passenger: Veh # 3

Correa , Sonia
23 Lewiston Avenue
Willimantic CT
DOB: 05/14/1979
Sex: Female
Lic Num:
Lic State:
Restrictions:
CDL END:

Medical Examiner:
Body Removed To:
Citation/Charge(s)

Seat Position: 4 - Second seat - left side (or
Safety System: 99 - Unknown
Airbag Status: 5 - Not Applicable
Airbag Switch:
Eject Code: 0 - Not ejected
Trap Code: 0 - Not trapped
Injury Status: 5 - No Injury
Transported: 1 - Not transported
MedicalFac.
ME Notified and Came To:
Next of Kin Notified By:

Passenger: Veh # 3

Correa , Lylian
23 Lewiston Avenue
Willimantic CT
DOB: 12/21/1994
Sex: Female
Lic Num:
Lic State:
Restrictions:
CDL END:

Medical Examiner:
Body Removed To:
Citation/Charge(s)

Seat Position: 5 - Second seat - middle
Safety System: 99 - Unknown
Airbag Status: 5 - Not Applicable
Airbag Switch:
Eject Code: 0 - Not ejected
Trap Code: 0 - Not trapped
Injury Status: 5 - No Injury
Transported: 1 - Not transported
MedicalFac.
ME Notified and Came To:
Next of Kin Notified By:

Passenger: Veh # 3

Correa , Keishla
23 Lewiston Avenue
Willimantic CT
DOB: 12/21/1994
Sex: Female
Lic Num:
Lic State:
Restrictions:
CDL END:

Medical Examiner:
Body Removed To:
Citation/Charge(s)

Seat Position: 6 - Second seat - right side
Safety System: 99 - Unknown
Airbag Status: 5 - Not Applicable
Airbag Switch:
Eject Code: 0 - Not ejected
Trap Code: 0 - Not trapped
Injury Status: 4 - Possible (non-fatal)
Transported: 97 - Other
MedicalFac.
ME Notified and Came To:
Next of Kin Notified By:

Status: Approved
Approved by: Sergeant Christopher Pinkham ID# 2772

Officer Name	Signature	ID#	Station	Date
Sergeant Pinkham, John		2772	Collision Analysis and	05/21/2014

Witness		
Pallas, Michael	129 Clark Street, Hartford, CT ,	623-256-0460
Moreno, Miguel	94 Oswego Street 3L, Springfield,	
Diaz, Christian	109 Abbe Avenue, Springfield, ,	413-388-8820
Orengo, Erick	227 Mill Street 2nd Floor, Springfield, ,	
Arrowsmith-Gray, Debra	129 Feeding Hills Road, Southwick, ,	

Narrative

By Sergeant John D Pinkham 2772

It should be noted that the following synopsis is a brief outline or general view of the facts surrounding this incident.

On Sunday, 10 November 2013 at approximately 1751 hours at the 2.2 mile marker on Interstate Route 91, Longmeadow vehicle #3 was stationary in the breakdown lane and operator #3 and passenger #1 were standing in the roadway. Vehicle #3 had lost a couch out of its pickup bed, and that couch and its cushions had landed in the roadway. Vehicle #3 stopped and operator #3 and passenger #1 exited to retrieve the items. Traffic had to make evasive maneuvers to avoid the obstacles and pedestrians in the road, and witness #1 had lost control and spun-out, coming to uncontrolled final rest in the northbound breakdown lane fronting southbound. Vehicle #2 was northbound in the right lane approaching this scene. Vehicle #2 slowed due to traffic and changed lanes to the left. Vehicle #1 was also northbound, travelling in the middle lane behind vehicle #2. When vehicle #2 changed lanes to the left it intruded in the path of vehicle #1. Vehicle #1 braked and swerved to the left, leaving skidmarks. The right front of vehicle #1 contacted the left rear of vehicle #2. Vehicle #1 continued braking and came to a final rest fronting north in the left lane. Vehicle #2 was propelled north and rotated clockwise approximately 180 degrees. Vehicle #2 travelled from the middle lane, across the right lane, and into the breakdown lane before contacting the guardrail and then the tailgate of vehicle #3. Vehicle #2 ignited immediately after being struck by vehicle #1. Vehicle #2 came to an uncontrolled final rest fronting south in the northbound breakdown lane. After being struck by vehicle #2, operator #3 and passenger #1 got back into vehicle #3 and fled the scene. While vehicle #2 was on fire, operator #2 attempted to exit the vehicle through the front left window, as the door was jammed by induced damage. Operator #2 was overcome by the fire and came to final rest fronting east in the breakdown lane alongside vehicle #2.

Sergeant John D Pinkham #2772

Sergeant John D Pinkham #2772

Status: Approved
Approved by: Sergeant Christopher Sanchez ID: 1245

Officer Name	Signature	ID#	Station	Date
Sergeant Pinkham, John		2772	Collision Analysis and	05/21/2014

Massachusetts State Police

Collision Analysis & Reconstruction Section

Final Reconstruction Report

10 November 2013

Synopsis

1. On Sunday, 10 November 2013 at approximately 1805 hours Lieutenant Warawka of the Massachusetts State Police Troop B headquarters requested I assist the State Police – Springfield substation with a multiple vehicle crash involving in a fatality. The crash occurred at approximately 1751 hours at the 2.2 mile marker northbound on Interstate Route 91 in the town of Longmeadow.

2. At approximately 1835 hours I, Trooper John D. Pinkham #2772 of the Collision Analysis and Reconstruction Section, arrived at the scene. While on scene, I met with Trooper Derek Cormier from the State Police - Springfield, who shall hereafter be referred to as the "investigating officer." Thereafter, the preliminary facts of the investigation were relayed to me and a cooperative preliminary investigation of this crash was initiated. As part of the preliminary investigation the scene was photographed; evidence on the roadway was located and marked; and a preliminary inspection of the vehicles involved was conducted. The scope of my investigation was strictly limited to the kinematic analysis and application of physics to determine contributing factors and causes of this collision and assist the investigating officer in the determination of criminal responsibility. The collection of statements and the procurement of witnesses was the responsibility of the investigating officer. It was revealed that the following persons and vehicles were involved in this collision.

VEHICLE # 1: A white 2007 Volvo tractor, vehicle identification number 4V4NC9TJ07N485750, bearing Virginia apportioned registration number 88452PY. The vehicle's registration was scheduled to expire 30 November 2013. The vehicle was registered to Millenium Leasing LLC from 436 Burkes Mill Road in Weyers Cave, Virginia. The truck bore a USDOT number 1171309 and had a company name of Stepanov Trucking LLC, Weyers Cave, VA.

VEHICLE #1A: A 1995 Wabash 53 foot trailer – vehicle identification number 2JJV532F0SL347718 – bearing Maine long term trailer plate 1435306. The vehicle's registration was scheduled to expire on 28 February 2014. It was registered to Cross Keys Leasing, Post Office Box 183 in Mount Crawford, Virginia. It was being pulled by vehicle #1.

OPERATOR # 1: UNTILOV, Anatoliy Ivanovich of 2120 Scarlet Oak Court in Harrison, Virginia. UNTILOV has a date of birth of 21 April 1952 and a social security

number of 224-79-1737. He had a valid Virginia class A commercial driver's license, scheduled to expire 21 April 2017.

VEHICLE #2: A 1998 Jeep Grand Cherokee sport utility vehicle, vehicle identification number 1J4GZ58S6WC115033, bearing Connecticut registration number 1AAJX8. The vehicle's registration was scheduled to expire August, 2015. The vehicle was registered to Anderson, Todd G. of 12 Wheeler Path in Guilford, Connecticut.

OPERATOR #2: ANDERSON-COUGHLIN, Skyler J. of 762 Grayson Drive in Springfield, Massachusetts. ANDERSON-COUGHLIN had a date of birth of 3 October 1996. He had an active class D Massachusetts driver's license, issued 26 July 2013 and scheduled to expire 3 October 2017.

VEHICLE #3: A 2006 Ford F150 SXT supercab pickup, vehicle identification number 1FTRX14W96FB16875, bearing Massachusetts registration number 57VV23. The vehicle was purchased 4 April 2008. The vehicle's registration was scheduled to expire 31 March 2015. The vehicle passed inspection on 16 October 2013 and displayed sticker number 144871558. The vehicle was registered to passenger #1.

OPERATOR #3: NIEVES-CRUZ, Joel of 38 Acushnet Avenue in Springfield, Massachusetts. NIEVES-CRUZ has a date of birth of 30 July 1981. He had an active class B commercial Massachusetts driver's license, issued 2 December 1999 and scheduled to expire 30 July 2014.

PASSENGER #1: PEREZ, Rafael of 32 Acushnet, First Floor in Springfield, Massachusetts. He has a date of birth of 28 October 1970 and a social security number of 025-56-7161. He was the owner of vehicle #3. He was seated in the front passenger's seat of vehicle #3.

PASSENGER #2: CORREA, Sonia of 23 Lewiston Avenue in Willimantic, Connecticut. She has a date of birth of 14 May 1979. She was seated in the rear of vehicle #3.

PASSENGER #3: CORREA, Lylian of 23 Lewiston Avenue in Willimantic, Connecticut. She has a date of birth of 21 December 1994. She was seated in the rear of vehicle #3.

PASSENGER #4: CORREA, Keishla of 23 Lewiston Avenue in Willimantic, Connecticut. She has a date of birth of 23 October 1999. She was seated in the rear of vehicle #3.

WITNESS #1: PALLAS, Michael J. of 129 Clark Street in Hartford, Connecticut. PALLAS has a date of birth of 20 August 1990.

WITNESS #2: MORENO, Miguel Angel of 94 Oswego Street 3L in Springfield, Massachusetts. MORENO has a date of birth of 5 December 1980.

WITNESS #3: DIAZ, Christian Daniel of 109 Abbe Avenue in Springfield, Massachusetts. DIAZ has a date of birth of 20 April 1989.

WITNESS #4: ORENGO, Erick of 227 Mill Street 2nd Floor in Springfield, Massachusetts. ORENGO has a date of birth of 8 February 1987.

WITNESS #5: ARROWSMITH-GRAY, Debra J. of 129 Feeding Hills Road in Southwick, Massachusetts. ARROWSMITH-GRAY has a date of birth of 26 July 1956.

HENCEFORTH THE ABOVE INDIVIDUALS AND VEHICLES WILL BE REFERRED TO BY THEIR DESIGNATED NUMBERS ASSIGNED.

3. The following is a general summary of the events that occurred on Sunday, 10 November 2013 at approximately the 2.2 mile marker northbound on Interstate Route 91 in the Town of Longmeadow. This précis should be viewed as an overview of the incident rather than a recitation of the facts. Its intended purpose is to facilitate a systematic understanding of any kinematics that may follow.

On Sunday, 10 November 2013 at approximately 1751 hours at the 2.2 mile marker on Interstate Route 91, Longmeadow vehicle #3 was stationary in the breakdown lane and operator #3 and passenger #1 were standing in the roadway. Vehicle #3 had lost a couch out of its pickup bed, and that couch and its cushions had landed in the roadway. Vehicle #3 stopped and operator #3 and passenger #1 exited to retrieve the items. Traffic had to make evasive maneuvers to avoid the obstacles and pedestrians in the road, and witness #1 had lost control and spun-out, coming to uncontrolled final rest in the northbound breakdown lane fronting southbound. Vehicle #2 was northbound in the right lane approaching this scene. Vehicle #2 slowed due to traffic and changed lanes to the left. Vehicle #1 was also northbound, travelling in the middle lane behind vehicle #2. When vehicle #2 changed lanes to the left it intruded in the path of vehicle #1. Vehicle #1 braked and swerved to the left, leaving skidmarks. The right front of vehicle #1 contacted the left rear of vehicle #2. Vehicle #1 continued braking and came to a final rest fronting north in the left lane. Vehicle #2 was propelled north and rotated clockwise approximately 180 degrees. Vehicle #2 travelled from the middle lane, across the right

lane, and into the breakdown lane before contacting the guardrail and then the tailgate of vehicle #3. Vehicle #2 ignited immediately after being struck by vehicle #1. Vehicle #2 came to an uncontrolled final rest fronting south in the northbound breakdown lane. After being struck by vehicle #2, operator #3 and passenger #1 got back into vehicle #3 and fled the scene. While vehicle #2 was on fire, operator #2 attempted to exit the vehicle through the front left window, as the door was jammed by induced damage. Operator #2 was overcome by the fire and came to final rest fronting east in the breakdown lane alongside vehicle #2.

4. An examination at the scene revealed that Interstate Route 91 north at the 2.2 mile marker is a three lane, divided bituminous concrete highway. The roadway was dry, reasonably free from debris (with the exception of the items lost from vehicle #3) and in relatively good repair with no noticeable defects at the time of the crash. The weather at the time of the crash was cool with scattered clouds and a west wind at approximately 17 miles per hour, gusting to 25 miles per hour. The temperature was approximately 46 degrees Fahrenheit. According to the United States Naval Observatory Astronomical Applications Department, sunset was at 4:34 pm with civil twilight occurring at 5:03 pm.

The location of the crash on Interstate Route 91, Longmeadow is a divided, three lane road. The roadway has a very slight clockwise bend approaching the crash scene. The road is generally level.

Photograph One

The posted speed limit for Interstate Route 91 northbound approaching the crash scene is 65 miles per hour, decreasing to 55 miles per hour at the crash scene with signs posted within the scene. This scene is fairly and accurately depicted in ***Exhibit One, Image One,*** and ***Photograph One***. Interstate Route 91 in Longmeadow, Massachusetts is designated a public way by Massachusetts General Law C. 90 § 1. It is maintained by the Massachusetts Department of Transportation. It is patrolled by the primary agency of jurisdiction, the Massachusetts State Police – Springfield substation.

Exhibit One

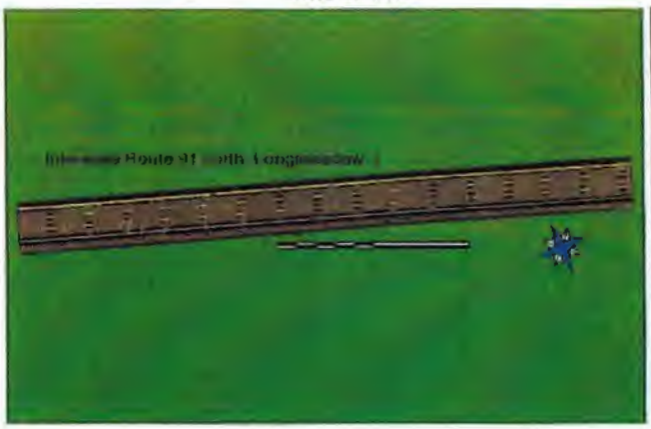


Image One

5. A preliminary joint investigation was begun with the investigating officer. As part of this preliminary investigation physical evidence about the roadway was recorded. Trooper Christopher Kennedy of the Massachusetts State Police Collision Analysis Reconstruction Section assisted me in conducting a forensic survey of the collision location. Infrared technology via a TopCon transit and FC-100 Data acquisition system was utilized. Employing polar coordinates, the physical evidence was located and recorded. Physical evidence was noted as depicted in ***Exhibit Two*** and documented as follows:

Note: For the purpose of this section, impact will be considered as transpiring when vehicle # 1 collided with vehicle #2.

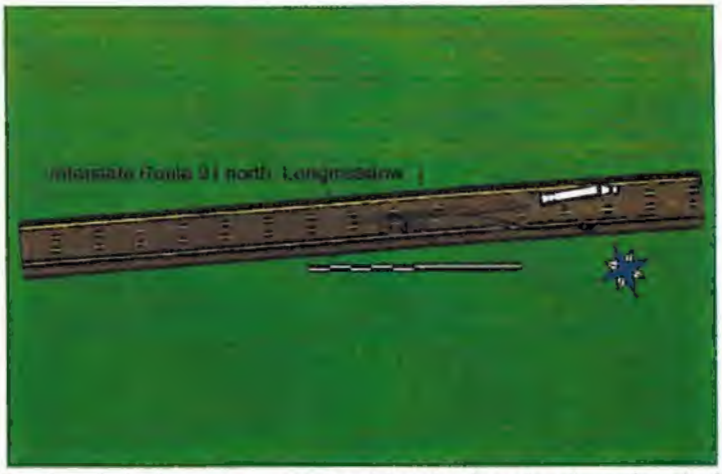
Pre-impact: There was a set of dual tire skidmarks from vehicle #1 leading to impact.

Impact: There was glass debris, a skidmark from the right front tire of vehicle #1, a skidmark from the left rear tire of vehicle #2, and a gouge in the middle lane that memorialized the area of impact.

Post impact: Vehicle #1 left skidmarks beyond the area of impact and scraping from the area of impact toward its position of final rest. Vehicle #2 left scrapes from its left rear damage, a scuff mark with striations from its left front tire in the right lane, and scraping along the guardrail. Both vehicles remained at their positions of uncontrolled final rest. Operator #2 was found in the breakdown lane outside of his vehicle.

Non-Collision: A backpack, a hat, a leather bag, and a couch cushion were also recorded as possible evidence from vehicle #3, which had not been identified at the time of mapping.

Exhibit Two



6. The following injuries were sustained by the involved parties during the crash:

Operator #1: No injury.

Operator #2: The cause of death was determined by the Office of the Chief Medical Examiner to be extensive thermal injuries.

Operator #3: No injury.

Passenger #1: No injury.

Passenger #2: No injury.

Passenger #3: No injury.

Passenger #4: She was brought to Mercy Hospital approximately two hours after the crash as a precaution related to her pregnancy.

7. Vehicle # 1 received the following damage, as depicted in ***Photograph Two***, during the crash:

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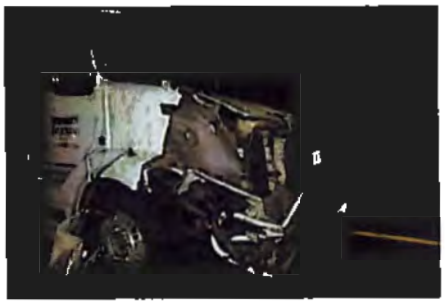
CONTACT DAMAGE
- Right fender
- Right headlight
- Front bumper
- Grill

INDUCED DAMAGE
- Radiator
- Hood

Photograph Two



Vehicle # 2 received the following damage, as depicted in ***Photograph Three,*** during the crash:

CONTACT DAMAGE
- Rear bumper
- Rear hatch
- Left quarter panel
- Rear axle
- Left rear wheel

INDUCED DAMAGE
- Left front door
- Roof
- Left rear door
- Left quarter panel
- Right quarter panel
- Left and right C pillars
- Right rear door
- Right front door
- Rear floor
- Rear seats
- Driver's seat

Photograph Three

Photograph Four

Vehicle # 3 received the following damage, as depicted in ***Photograph Five,*** during the crash:

CONTACT DAMAGE
- Rear tailgate

Photograph Five

8. On Monday, 11 November 2013 at approximately 1600 hours mechanical examinations of vehicle #1 and vehicle #2 were conducted at CJ's Towing located at 350 Pasco Road in Springfield, Massachusetts with the following results:

VEHICLE # 1: Vehicle #1 is a white 2007 Volvo VNL64T tractor manufactured October, 2006 with vehicle identification number 4V4NC9TJ07N485750 and Virginia apportioned registration 88452PY. It was equipped with a Cummins ISX 475ST engine with serial number 79210039. The mileage displayed at the time of inspection was 882,516.9 miles. Affixed to the windshield was Virginia inspection sticker #R2164050 which expires May, 2014.

The tractor was towing a 1995 Wabash 53 foot box trailer, bearing Maine trailer registration number 1435306. The trailer was sealed and loaded with freight for the United States Postal Service.

During the inspection the vehicle's headlight switch was off. The right front bulbs were destroyed in the crash. The left front bulbs were inspected. The low beam was an Osram H11 bulb and the high beam was a Philips HB3 9005 bulb. The filaments were intact. The low beam headlight had some very slight deformation in the uniformity of the coils, indicating that it was illuminated at the time of the collision.

The windshield wipers were off. The seatbelt was partially retracted and did not show any stretching or deformity. There was no airbag deployment. There was no sign of occupant contact with the steering wheel or dashboard. All windows were closed. The windows were all up and intact. The doors were normally operable. The frame was still straight. The suspension did not show any damage.

The front tires were Bridgestone R280 size 295/75R22.5. The rear tires were all Bridgestone M726EL size 295/75R22.5. The tread depths were: left front – 17/32", right front - 18/32", axle 2 outside left - 15/32", axle 2 inside left – 16/32", axle 2 inside right – 11/32", axle 2 outside right – 15/32", axle 3 outside left - 22/32", axle 3 inside left – 22/32", axle 3 inside right – 22/32", and axle 3 outside right – 22/32".

Tpr Ferrara from the Commercial Vehicle Inspection Section performed a level 1 inspection of vehicle #1. No violations were found.

A check of the manufacturer recalls and service bulletins for this vehicle was made. According to Volvo International there are no outstanding recalls for this vehicle.

A check of the manufacturer recalls and service bulletins for the vehicle's tires was made. The National Highway Transportation Safety Administration (NHTSA) – Office of Defect Investigations (ODI) database contained no recalls for the tires equipped on vehicle # 1.

VEHICLE # 2: Vehicle #2 was a black 1998 Jeep Grand Cherokee sport utility vehicle with vehicle identification number 1J4GZ58S6WC115033. It was equipped with a 4.0 liter 6 cylinder engine, coupled to a four speed automatic transmission with overdrive, powering the rear wheels and capable of powering all wheels. The odometer was destroyed by the fire.

The vehicle had been gutted by the fire, and there were no internal components left to inspect. The tires had all melted during the fire and could not be inspected. The windows were all broken and completely missing. It could be determined that the front passenger's window had been partially open from the position of the window control arm in the door. The other windows appeared to have been up prior to the crash.

The brakes all appeared functional. The rotors all had sufficient thickness, the pads all had sufficient thickness, and there was a good contact patch on each rotor. The steering and suspension components were all in good condition, with no evidence of pre-impact damage.

The lights were all damaged during the crash and fire. The only surviving filament located was the right low-beam headlight. The filament was stretched, discolored, and broken consistent with hot-shock. This indicates that the filament was incandescent at the time of the crash, and vehicle #2 had its headlights on.

A check of the manufacturer recalls and service bulletins for this vehicle was made. According to the National Highway Transportation Safety Administration (NHTSA) – Office of Defect Investigations (ODI) there have been ten (10) recalls issued for a 1998 Jeep Grand Cherokee. Recall #13V252000, Post-Collision Fire after Rear Impact, was the only one related to this crash. It was not a cause of the crash, but it was a factor in the resulting death of operator #2.

On Monday, 25 November 2013 Trooper Mazza of the State Fire Marshall's Office assisted me in examining vehicle #2 for evidence of fuel tank failure. Vehicle #2 had a fissure in the sheet metal beneath the left rear seat. This fissure may have permitted gasoline from the ruptured fuel tank to enter the passenger compartment. Tpr Mazza is preparing a report.

9. On Tuesday, 12 November 2013 at approximately 1900 hours a mechanical examination of vehicle #3 was conducted at Interstate Towing located at 350 Pasco Road in Springfield, Massachusetts with the following results:

VEHICLE # 3: Vehicle #3 was a 2006 Ford F150 STX supercab pickup truck that displayed vehicle identification number 1FTRX14W96FB16875 and was manufactured March, 2006. Affixed to the windshield was Massachusetts inspection sticker #144871558, indicating it passed inspection on 16 October 2013 and the inspection would expire in October, 2014. It was equipped with a 4.6 liter 8 cylinder engine, coupled to a four speed automatic transmission with overdrive, powering the rear wheels and capable of powering all wheels. The mileage was displayed as 98,606.9 miles, with the trip odometer displaying 86.4 miles.

During inspection the ignition was in the off position and the key was removed. The headlight switch was in the off position and the windshield wipers were off. The windows were intact and closed. The doors were all intact and operable. The frame was straight and the steering and suspension appeared normal. The front tires reacted appropriately when the steering wheel was turned.

The tires were General Ameritrac TR size P255/70R17 110S. The tread depths were measured as: left front 10/32 inch, left rear 10/32 inch, right front 9/32 inch, and right rear 10/32 inch. The tires were inflated as follows: left front 21 psi, left rear 22 psi, right front 21 psi, and right rear 22 psi.

An inspection of vehicle #2's braking system was conducted. Vehicle #2 was equipped with power anti-lock disc brakes in the front and rear. The master cylinder was full and clear. The brake pads all had sufficient material remaining. The rotors were all in good condition with no scoring or pitting. The brake lines showed no leaks. There was good a contact patch on each rotor. The brakes offered normal expected resistance when the pedal was depressed. The brakes appeared to be in good working condition.

All of the vehicle's lights worked properly. The bulbs were inspected, and all filaments were intact. The right rear taillight filament showed slight elongation consistent with hot-shock. This indicates that it was incandescent when a force - such as the impact from the crash - was applied.

A check of the manufacturer recalls and service bulletins for this vehicle was made. According to the National Highway Transportation Safety Administration (NHTSA) – Office of Defect Investigations (ODI) there has been fourteen (14) recalls issued for a 2006 Ford F150. None of the recalls were a factor in this crash. According to

the NHTSA – ODI, 41 Technical Safety Bulletins (TSB) were issued for 2006 Ford F150 vehicles. The Technical Service Bulletin may commonly be mistaken as a recall. While both procedures address faults in a vehicle, a TSB and a recall are different. A recall notice is issued when vehicle failures amount to a potential safety hazard or emission issue. A technical service bulletin is issued for a variety of other vehicle equipment problems including electronics, drive train, wheel and tire, and even engine parts. The intended receiver for a TSB is an automotive service technician belonging to the automaker's dealership. The repairs suggested in a TSB are not mandated by NHTSA and therefore deemed only as a recommendation, unlike a vehicle recall which is mandatory. There is no requirement by the manufacturer or the dealership to notify customers about a TSB. Some dealerships have nonetheless taken the initiative to voluntarily inform their customers about any vehicle flaws as an act of goodwill.

A check of the manufacturer recalls and service bulletins for the vehicle's tires was made. The National Highway Transportation Safety Administration (NHTSA) – Office of Defect Investigations (ODI) listed no recalls for the tires as equipped on vehicle # 3.

10. Vehicle # 1 was equipped with an Engine Control Module (ECM). The ECM is used to monitor and control engine performance. As a secondary function, the ECM will record these engine parameters when an incident occurs. On Monday, 11 November 2013 a search warrant was applied for to seize and examine the ECM from vehicle #1. Clerk Magistrate Robert Marino of the Springfield District Court issued the warrant. On Monday, 11 November 2013 at approximately 1834 hours the ECM for vehicle # 1 was imaged by Trooper Michael Spencer of the Massachusetts State Police Commercial Vehicle Enforcement Section. A copy of his report is herein included.

The data was interpreted with the assistance Trooper Spencer. Vehicle # 1's ECM recorded three events at occurrence distances of 886,867.4 miles, 888,351.1 miles, and 886,339.6 miles. The second event was most consistent with the crash – it was the most recent as determined by mileage, the trip data since last reset shows a mileage for the vehicle at the time of imaging of 888,351.13 miles, it began at highway speed, it showed deceleration to a stop, and the deceleration rate was consistent with maximum braking. The other events are of unknown origin.

In summary, the event recorded at 886,867.4 miles showed a pre-occurrence speed of 70 miles per hour from -59 seconds to -4 seconds. At -4 seconds the throttle percentage decreased and at -3 seconds it was at 0%. The engine load percentage was at 0% at -4 seconds. From -4 seconds to -1 seconds vehicle #1 slowed from 70 miles per hour to 67 miles per hour. At 0 seconds the brake switch is on and vehicle speed

decreases to 60 miles per hour. The brake switch was on from 0 seconds to 6 seconds and vehicle #1 slowed from 60 mph to 7 mph. From 7 seconds to 12 seconds the brake switch is off and vehicle #1 is travelling at a speed between 3 and 0 miles per hour. The brake switch is again on and vehicle speed is 0 from 13 seconds to the end of the record.

Vehicle #3 was equipped with a Powertrain Control Module (PCM). The PCM is used to monitor and control engine performance. As a secondary function, the PCM will record these engine parameters when an incident occurs. On Monday, 11 November 2013 a search warrant was applied for to seize and examine the PCM from vehicle #3. Clerk Magistrate Robert Marino of the Springfield District Court issued the warrant. On Tuesday, 12 November 2013 at approximately 1047 hours the PCM for vehicle #3 was imaged by Trooper David Sanford of the Massachusetts State Police Collision Analysis and Reconstruction Section. A copy of his report is herein included.

The data was interpreted with the assistance Trooper Sanford. The data recovered from vehicle # 3's PCM did not pertain to the crash. When no restraint deployment signal is received, the data on the PCM is continuously overwritten in a circular buffer that was 63.75 seconds in length. The vehicle was driven from the scene and was operated longer than 63.75 seconds, therefore the data that would have been recorded at the time of the crash was overwritten and could not be recovered.

11. In order to obtain a full understanding as to the sequence of events and conditions leading up to this collision it is essential to establish a speed of the vehicles involved if possible. A kinematical assessment of this collision, based on the physical evidence found at the collision locale and a damage analysis of the vehicle, will be factors in determining the vehicles' speeds. The assumptions employed utilize proven and prudent scientific principles based on the laws of physics and data compiled by Northwestern University; Texas A&M University; the University of North Florida; the National Highway Safety Administration; and the American Association of State Highway Transportation Officials. The following assumptions and facts were employed in this analysis.

It is believed that vehicle #2 changed lanes into the path of vehicle #1 because operator #1 was coasting 4 seconds prior to impact. Operator #1 likely identified the potential hazard ahead, but there was no obstruction in his lane at that point. The reaction of operator #1 to a lane change by vehicle #2 will be examined by calculating the time it would take vehicle #2 to change lanes. This time will be compared to the expected perception reaction time for drivers facing similar situations to see if the crash was avoidable.

The second set of calculations will examine where vehicle #2 was when it changed lanes, and why operator #2 may have had to make an evasive maneuver. The distance to change lanes will be calculated and added to the distance between impact and vehicle #3. Vehicle #3 will be assumed to be the source of the original roadway hazard.

For this particular collision, a series of test skids were conducted at approximately 30 miles per hour. These test skids used a 2006 Ford Crown Victoria mounted with a Vericom VC3000 computer. The VC3000 measures G forces, positive or negative depending on whether the operator is accelerating from a stop or decelerating to a stop. By calculating the G forces, a coefficient of friction for that surface is displayed. The tests were performed on the same section of roadway as the crash and the same pre impact direction of travel for vehicle #1 and vehicle #2. Therefore, no adjustment for grade or super elevation was necessary. Three test skids were performed with results of .820, .805, and .826. A tractor-trailer equipped with anti-lock brakes towing a trailer with conventional brakes will generate approximately 75% of the braking force of a passenger vehicle.[1] Therefore, a drag factor of .82 will be used for vehicle #2 and a drag factor of .61 (.82 * .75) will be used for vehicle #1.

The travel lanes in the area of the crash were approximately 12 feet wide. The left side rear wheel of vehicle #2 was approximately 2.95 feet from the center of mass. There was a skidmark from the left rear wheel of vehicle at impact that was approximately 9.4 feet from the skip line. The center of mass of vehicle #2 was approximately 6.45 feet into the center lane at impact (9.4 feet – 2.95 feet). The total lateral lane change distance, if vehicle #1 started in the center of the right lane, was approximately 12.45 feet (6.45 feet + ½*12 feet). The lateral acceleration factor used for vehicle #2 was .20, as it was a sport utility vehicle.[2] The time for vehicle #2 to change lanes was approximately 1.96 seconds. ***Formula One***

The distance from the start of vehicle #1's skidmarks to impact was approximately 103.3 feet. The distance from the front bumper to the rear trailer axle was approximately 63.58 feet. The pre-impact skid distance was approximately 39.72 feet. The impact speed of vehicle #1 was 60 miles per hour, the speed at the start of braking was approximately 65.77 miles per hour. ***(Formula Two)*** The time to decelerate from 65.77 miles per hour to 60 miles per hour is approximately .42 seconds. ***Formula Three***

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[1] Crawford et al., "Tractor-Trailer ABS Brake Testing on Dry Pavement," Accident Reconstruction Journal, Vol. 17, No. 2 (2007) p. 19.

[2] Daily, John, Nathan Shigemura, and Jeremy Daily, *Fundamentals of Traffic Crash Reconstruction*, Institute of Police Technology and Management, 2007, p. 476.

The calculated perception reaction time for operator #1 was approximately 1.54 seconds (1.96 seconds - .42 seconds). The parameters of this crash were entered into the Interactive Driver Response Research 2013 software and the average perception response time to a similar situation was calculated to be approximately 1.9 seconds. The 33rd percentile response was calculated as 1.6 seconds, meaning that operator #1's reaction is expected to be better than more than 66% of drivers faced with a similar situation. ***Formula Four***

Given the damage sustained by vehicle #1 and vehicle #2 the speed differential at impact must have been well in excess of 30 miles per hour. If vehicle #1 was traveling at 60 miles per hour at impact, vehicle #2 must have been travelling less than 30 miles per hour at impact. The distance for vehicle #2 to make a lane change at 30 miles per hour is approximately 86.41 feet. ***(Formula Five)*** Impact occurred approximately 196 feet prior to vehicle #3. Vehicle #2 began to make a lane change approximately 282.41 feet prior to vehicle #3 (196 feet + 86.41 feet). The distance for vehicle #2 to stop from 30 miles per hour would be approximately 36.58 feet. ***(Formula Six)***

Based upon the distance from vehicle #2 to vehicle #3 (and the roadway hazards) when vehicle #2 began to change lanes, it is likely that the flow of traffic in the right lane had been interrupted, necessitating vehicle #2 to slow and make a lane change to avoid the vehicles in front of him in the right lane. If there were no traffic slowed or stopped in the right lane, vehicle #2 would have had sufficient room to stop prior to encountering vehicle #3 and the roadway debris.

12. Trooper Ronald Gibbons and Trooper Laurie Gillis conducted interviews of witnesses to the crash and the operators involved. A summary of those statements follows:

OPERATOR #1: He was northbound on Interstate Route 91 in the middle lane. The governor on vehicle #1 was set at 69 miles per hour. He saw a car doing something ahead. A car was passing him on the right and a car was passing him on the left. He checked his mirrors, and when he looked in front of him he saw a car in the middle lane braking. He put his foot on the brake, then he realized that the car was stopped in the middle lane. He steered left to avoid the stopped vehicle. The car on his right then changed lanes to the middle lane. After impact his truck moved forward into the left lane. After impact the other vehicle spun around and hit the guardrail in the breakdown lane. The car blew up when it hit the guardrail.

OPERATOR #3: He was returning to his residence in Springfield, Massachusetts from Williamantic, Connecticut. There were two couches, a kitchen table, and chairs in

the bed of the pickup truck. The items in the bed were secured with nylon rope tied to the tailgate. The smaller couch flew from the bed of the truck while he was northbound on Route 91. He pulled over and he and passenger #1 retrieved the couch and put it back in the truck. Then one car spun-out and stopped facing them in the breakdown lane. He went and spoke to the driver and while walking back to his truck he saw traffic was slowing and cars were honking. He heard brakes screeching and he jumped over the guardrail. When he came back, he saw a car in flames that had hit his truck. He got in the truck and pulled forward away from the fire. Passenger #2 told him that passenger #4 was pregnant so he left. They went to his house and unloaded the furniture. They discovered that the couch was missing and had presumably flown from the truck again. After unloading the furniture, they got in another car and went to Mercy Hospital.

PASSENGER #1: He and operator #1 went to Williamantic, Connecticut and picked up some furniture and three passengers. The furniture was a couch, loveseat, kitchen table, and chairs. Operator #1 tied the load down. They were northbound on Route 91 when operator #1 pulled over in the breakdown lane. There was furniture in the middle of the highway and he and operator #1 ran out in the highway and retrieved it. They put the furniture back in the truck and a car then spun-out in front of them. After that, he saw an SUV hit the side of a tractor trailer. The tractor trailer was trying to stop. The SUV bounced off the tractor trailer and hit a car in the middle lane that then hits his truck. That car exploded. Operator #1 pulled ahead. They then ran back to the car that was on fire. They returned to their truck and operator #1 drove away. Passenger #1 was not fully inside the truck when operator #1 drove off, dragging him. Operator #1 stopped so passenger #1 could get in. They then went to 38 Acushnet Street in Springfield, and subsequently to Mercy Hospital.

WITNESS #1: He was northbound on Route 91, having just entered Massachusetts. He was in the left lane. He saw a pickup truck in the breakdown lane. The car ahead of him stopped. He tried to steer and stop. He spun-out and came to a stop facing south in the breakdown lane. The two men in the truck checked on him. He saw a couch in the median. The men ran across the road and got the couch. They had to sprint back across the road. Cars were honking at them. They put the couch back and then he heard a crash. A car hit the tractor trailer then crossed the road and hit the truck. One of the men from the truck jumped over the guardrail and one ran toward witness #1. One man came back over the guardrail and the two men walked toward each other. They then ran to the truck and drove away.

WITNESS #2: He was a backseat passenger in a vehicle northbound on Route 91. They hit something in the road and pulled over. His friend in a different car pulled over behind them. He saw a car spin-out and come to final rest facing traffic in the right lane.

He got out of the car and he saw a car stop in the road near the debris they had hit. He saw two or three people retrieving cushions from the road. The car that had stopped then got hit by a truck. The car that was hit caught on fire. One of the men that had been collecting cushions asked another man if he was okay, and then the men got in a Ford F350 and drove away.

WITNESS #3: He was driving north on Route 91 in the middle lane, going about 65 mph. Traffic volume was medium. He saw a pickup truck in the breakdown lane with its hazard lights on. He saw someone outside of the truck. There were several dark objects in the road and he hit one of them in the middle lane and pulled over approximately 100 yards north of the pickup truck. He got out of his car and saw a tractor trailer stop in the left lane after hitting a small truck. The small truck hit the guardrail and stopped in the breakdown lane. Then there were some explosions and the small car caught on fire.

WITNESS #4: He was the front passenger in a car northbound on Route 91. He saw a truck with its blinkers on in the breakdown lane. A man ran from the truck into the middle lane. The car he was in hit something and pulled over. He heard a noise and turned around and saw a car behind them. That car moved and he saw a tractor trailer in the fast lane and a small SUV caught on fire. The person in the truck got back in and left quickly.

WITNESS #5: She was northbound in the left lane on Route 91. She saw headlights facing her on the right side of the road so she slowed down. She then observed a couch in front of her in the left lane. She stopped and put on her flashers. Two men ran out and retrieved the couch and brought it back to the breakdown lane. There were cars screeching behind her, and when the couch was cleared she proceeded through some debris and continued north. As she left she saw three other vehicles in the breakdown lane.

13. A check with the Virginia Department of Motor Vehicles found three violations and one crash on operator #1's driver history – all three violations were for lane change violations in Connecticut on 8 October 2008, in New Jersey on 4 September 2008, and in Massachusetts on 20 June 2012. The crash was a property damage crash that occurred in Virginia on 17 August 2011.

A check with the Massachusetts Department of Transportation – Registry Division into the driver history of operator #2 found no violations.

A check with the Massachusetts Department of Transportation – Registry Division into the driver history of operator #3 found 54 violations since 1999. Including a violation for leaving the scene of a property damage crash in 2008.

14. Trooper Maher of the Massachusetts State Police Crime Scene Services Section at Springfield took post collision photographs of the scene.

15. **CONCLUSIONS:**

A. Sunday, 10 November 2013 at approximately 1751 hours it was a cool, dry and windy evening.

B. It was dark, but the roadway was lighted and there were no adverse lighting or atmospheric conditions.

C. Interstate Route 91 in the Town of Longmeadow is a public way.

D. Vehicle #3 lost a couch out of its pickup bed and stopped in the breakdown lane near the 2.2 mile marker.

E. Vehicle #2 was northbound on Interstate Route 91 in the right lane.

F. Vehicle #1 was northbound on Interstate Route 91 in the middle lane behind vehicle #2.

G. Vehicle #2 slowed and changed lanes from the right lane to the middle lane because the traffic flow had been interrupted in the right lane by the hazard created by vehicle #3.

H. Vehicle #1 slowed before vehicle #2 intruded on its path, at which point vehicle #1 fully braked and steered left.

I. Operator #1 did not have sufficient time to avoid the collision with vehicle #2.

J. The right front of vehicle #1 struck the left rear of vehicle #2.

K. Vehicle #1 was traveling approximately 60 miles per hour at impact..

L. Vehicle #2 ignited almost immediately following impact.

M. Operator #2 attempted to exit his vehicle post-collision, but was killed by the fire.

N. Vehicle #2 was the subject of a NHTSA investigation regarding fires following rear-end collisions.

O. There was a secondary impact when vehicle #2 struck the rear of vehicle #3.

P. Vehicle #1 came to a controlled final rest in the left lane fronting north.

Q. Vehicle #2 came to an uncontrolled final rest in the breakdown lane fronting south.

R. Operator #3 observed the crash and subsequent fire.

S. Vehicle #3 fled the scene.

T. There were no roadway defects that contributed to this crash.

U. There were no mechanical defects in any vehicle that contributed to this crash.

V. Operator #1 should have been familiar with the vehicle and roadway as he was a professional truck driver.

W. Operator #2 is believed to have been familiar with vehicle #2 as it was registered to his father.

X. Operator #2 should have been familiar with the roadway as he resided locally.

Y. Operator #2 was a newly licensed driver, having received his license on 26 July 2013.

16. **OPINION**

Although every fact and circumstance of this collision may not be known, the conclusions and opinions presented in this narrative are based on this officer's training and experience and should be considered within a reasonable scientific certainty.

It is my opinion that vehicle #3, and its occupants and cargo, created a hazard that impeded traffic in the right lane. Vehicle #2 changed lanes to the left to avoid the slowed traffic in the right lane. In making a lane change, vehicle #2 intruded on the path of vehicle #1. Operator #1 did not have sufficient time to avoid the collision. Vehicle #2 ignited as a result of the collision and operator #2 was killed by the fire. Vehicle #3 was struck by vehicle #2 while vehicle #2 was already on fire. The operator of vehicle #3 precipitated this crash, and then chose to leave the scene of the resultant fatal crash.

The facts, conclusions and opinions presented in this report are based on the evidence and materials reviewed to date and are subject to revision should further evidence materialize.

Respectfully Submitted,

Trooper John D. Pinkham #2772
Collision Reconstruction Specialist
ACTAR #2663

Massachusetts State Police

Collision Analysis & Reconstruction Section

Final Reconstruction Report

10 November 2013

Formula One

Tpr. John D. Pinkham #2772
Massachusetts State Police
485 Maple Street
Danvers, MA 01923

*** * TIME W/ DISTANCE AND ACCEL FACTOR * ***

Find a Time with Acceleration / Deceleration Factor and Distance.

$$t = 0.249 \times \sqrt{\frac{D}{f}}$$

$$t = 0.249 \times \sqrt{\frac{12.45}{0.20}}$$

$$t = 0.249 \times \sqrt{62.25}$$

$$t = 0.249 \times 7.88$$

$$t = 1.96$$

Formula Inputs:		Formula Results:	
The Distance in Feet is:	12.45	The Time in Seconds is:	1.96
The Acceleration/Drag Factor is:	0.20		

Calculation Notes:

Massachusetts State Police

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Formula Two

Tpr. John D. Pinkham #2772
Massachusetts State Police
485 Maple Street
Danvers, MA 01923

*** * FINAL SPEED W/ DISTANCE AND ACCEL/DRAG FACTOR * ***

Find a Final Speed with Distance, Original Speed and Accel/Decceleration Factor.

$Sf = \sqrt{So^2 \pm (30 \times D \times f)}$

$Sf = \sqrt{60.00^2 + (30 \times 39.72 \times 0.61)}$

$Sf = \sqrt{3600.00 + 726.87}$

$Sf = \sqrt{4326.87}$

$Sf = 65.77$

Formula Inputs:

The Acceleration/Drag Factor is	0.61
The Speed in MPH is	60.00
The Distance in Feet is	39.72

Formula Results:

The Speed in MPH is:	65.77
The Velocity in FPS is.	96.46

Calculation Notes:

Massachusetts State Police

Collision Analysis & Reconstruction Section

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10 November 2013

Formula Three

Tpr. John D. Pinkham #2772
Massachusetts State Police
485 Maple Street
Danvers, MA 01923

*** * TIME W/ HIGHER TO LOWER SPEEDS AND DRAG FACTOR * ***

Find a Time with a High to Low Speed and Acceleration / Deceleration Factor.

$$t = \frac{0.0455 \times (So - Sf)}{f}$$

$$t = \frac{0.0455 \times (65.77 - 60.00)}{0.61}$$

$$t = \frac{0.26}{0.61} \qquad t = 0.42$$

Formula Inputs:

The Original Speed in MPH is:	65.77
The Final Speed in MPH is:	60.00
The Acceleration/Drag Factor is	0.61

Formula Results:

The Time in Seconds is:	0.42

Calculation Notes:

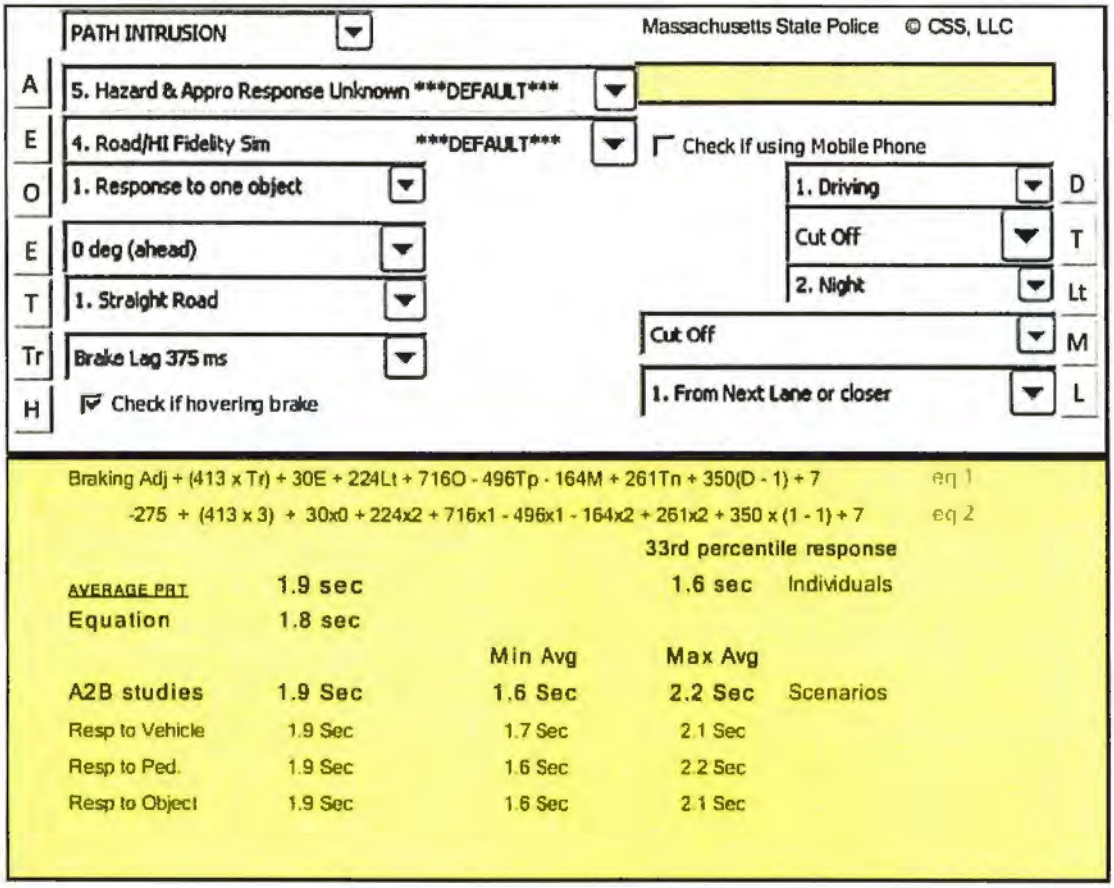
Massachusetts State Police

Collision Analysis & Reconstruction Section

Final Reconstruction Report

10 November 2013

Formula Four



Massachusetts State Police

Collision Analysis & Reconstruction Section

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Formula Five

Tpr. John D. Pinkham #2772
Massachusetts State Police
485 Maple Street
Danvers, MA 01923

*** * LANE CHANGE DISTANCE (SWERVE) * ***

Find a Lane Change Distance (Collision Avoid) with Speed, Lateral Distance, Acc/Dec Factor, P&R Time.

$D = 0.366 \times S \times \sqrt{L \div f}$
D = 0.366 × 30.00 × sqrt(12.40 ÷ 0.20)
D = 0.366 × 30.00 × sqrt(62.00)
D = 0.366 × 30.00 × 7.87
D = 86.41

Dpr = Tpr × S × 1.466
Dpr = 0.00 × 30.00 × 1.466
Dpr = 0.00

Dt = Dpr + D
Dt = 0.00 + 86.41
Dt = 86.41

Formula Inputs:

The Speed in MPH is:	30.00
The Lateral Dist in Feet is.	12.40
The Lateral Deceleration Factor is:	0.20
The P & R Time in Seconds is:	0.00

Formula Results:

The Distance in Feet is:	86.41
The P & R Dist in Feet is:	0.00
The Total Distance is:	86.41

Calculation Notes:

Massachusetts State Police

Collision Analysis & Reconstruction Section

Final Reconstruction Report

10 November 2013

Formula Six

Tpr. John D. Pinkham #2772
Massachusetts State Police
465 Maple Street
Danvers, MA 01923

*** * TOTAL STOPPING DISTANCE * ***

Find a Total Stopping Distance with Speed, Decel Factor, and Perception & Reaction Time.

$$D = \frac{S^2}{30 \times f} \qquad D = \frac{30.00^2}{30 \times 0.82}$$

D = 36.58

Dpr = Tpr × S × 1.466..
Dpr = 0.00 × 30.00 × 1.466..
Dpr = 0.00

Dt = Dpr + D
Dt = 0.00 + 36.58
Dt = 36.58

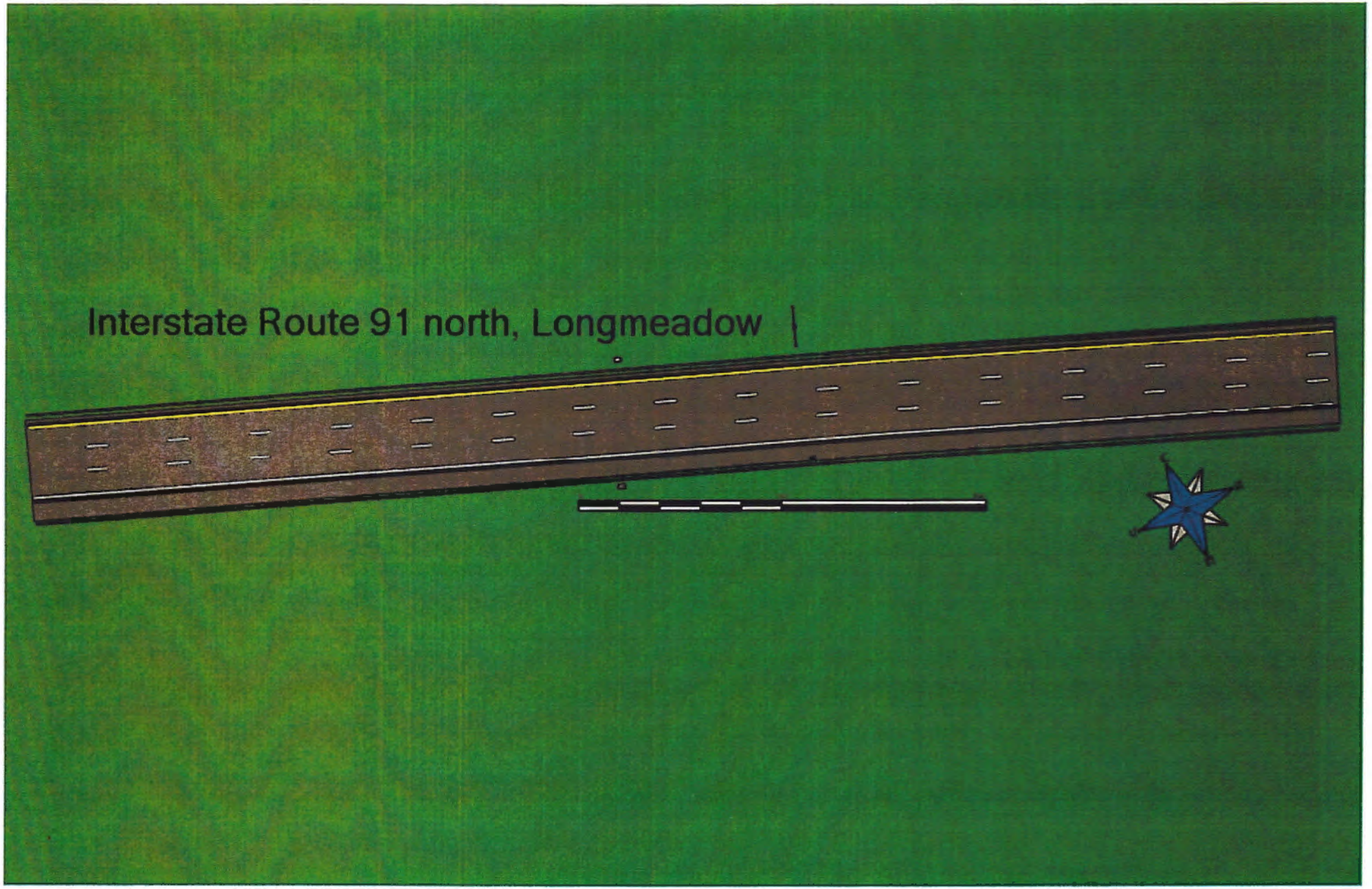
Formula Inputs:

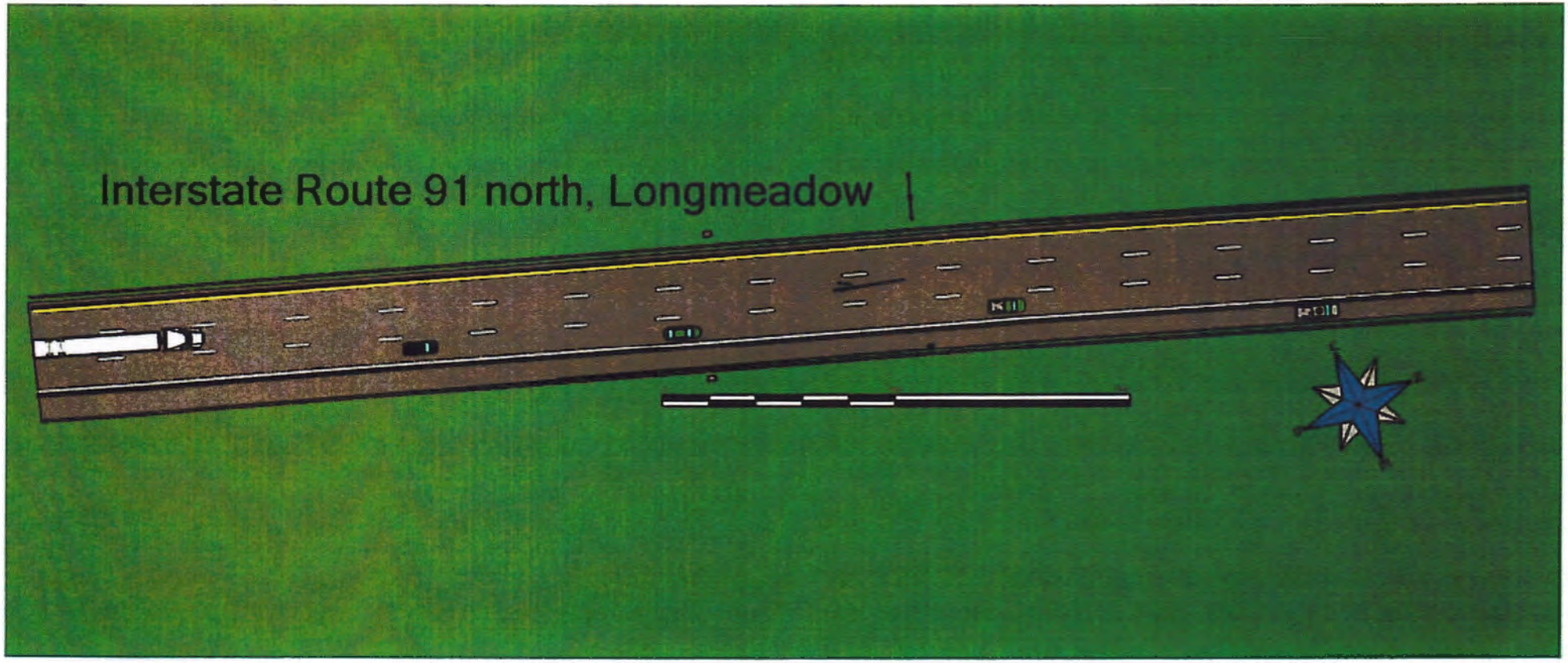
The Speed in MPH is:	30.00
The Acceleration/Drag Factor is:	0.82
The P & R Time in Seconds is:	0.00

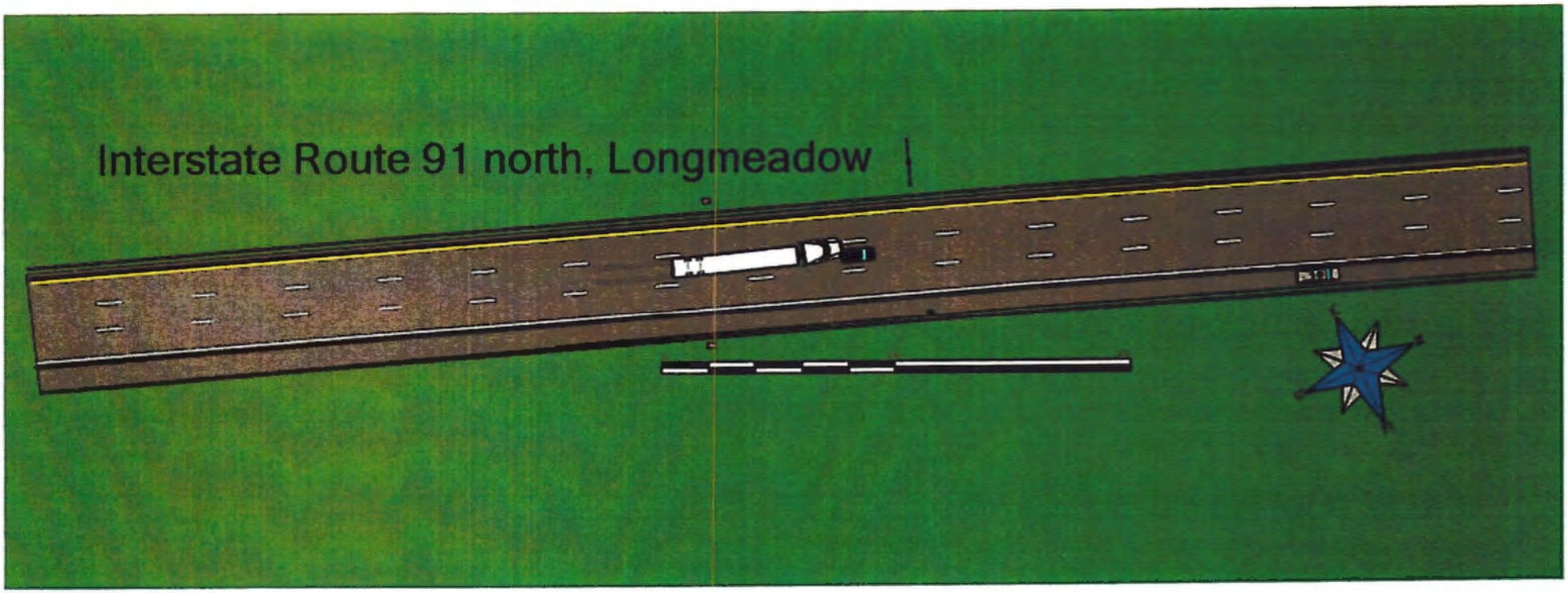
Formula Results:

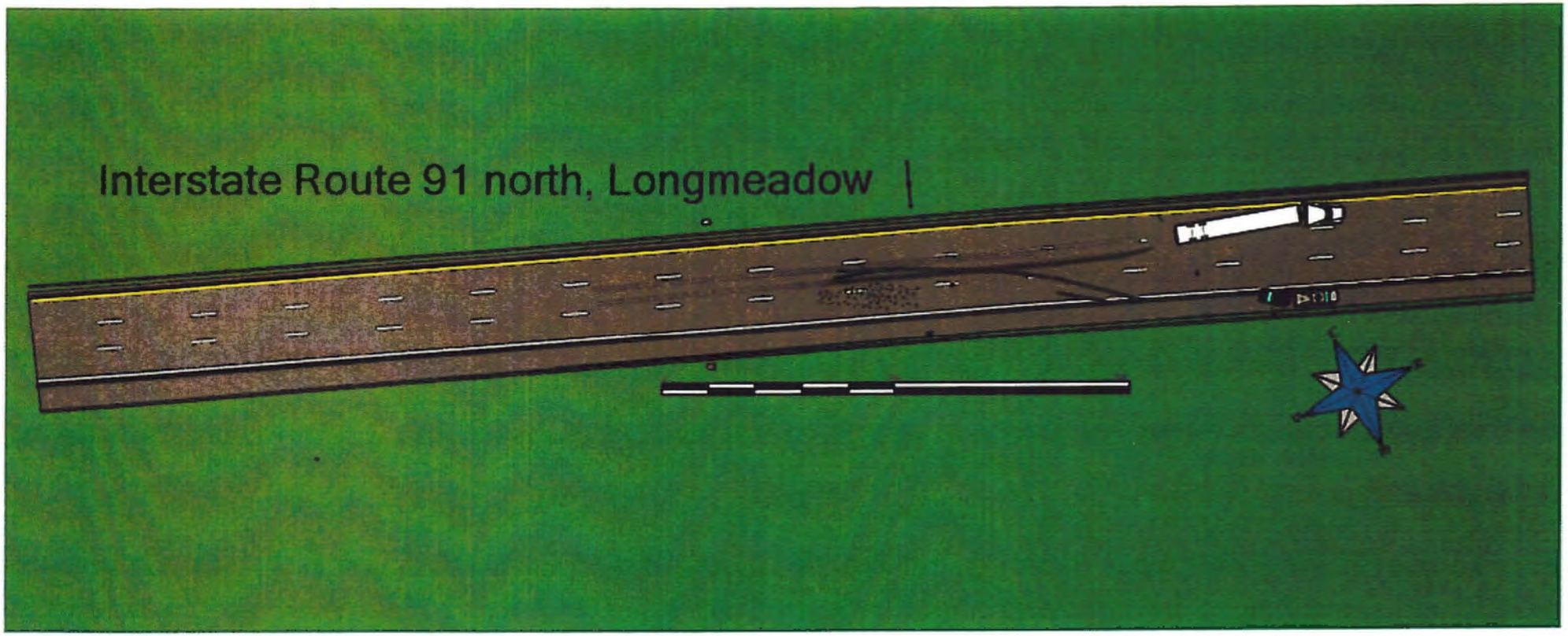
The Distance in Feet is:	36.58
The P & R Dist in Feet is:	0.00
The Total Stop Dist in Feet is:	36.58

Calculation Notes:


Interstate Route 91 north, Longmeadow


Interstate Route 91 north, Longmeadow


Interstate Route 91 north, Longmeadow


Interstate Route 91 north, Longmeadow

PowerSpec - Sudden Deceleration Data Report

Report Date: 11/11/2013 6:34:41 PM

Engine Type	ISX 02	ECM Code	AB10337.19	Last Tool Used	Insite
Engine Serial Number	79210039	Software Phase	6.5.3.2	Customer Name	
Unit Number		ECM Runtime hh:mm:ss	24623:47:26	PowerSpec Version	4.3.0.15

Record 1 View Record 2 View Record 3

Occurrence Date	N/A	Total ECM Run Time @ Occurrence (HH:MM:SS)	24587:33:16
Air Temp @ Occurrence (°F)	0	Occurrence Distance (miles)	886887.4

Time (Seconds)	Vehicle Speed (mph)	Engine Speed (rpm)	Engine Load (%)	Throttle (%)	Brake Status	Clutch Status	Cruise Status	Lamp Status
-59	61	1343	0.0	0.0	-	-	-	On
-58	61	1336	67.4	80.3	-	-	-	On
-57	61	1355	67.8	85.5	-	-	-	On
-56	62	1386	82.7	69.5	-	-	-	On
-55	63	1390	32.0	47.5	-	-	-	On
-54	63	1413	52.1	53.0	-	-	-	On
-53	64	1410	15.7	44.3	-	-	-	On
-52	64	1438	56.2	77.5	-	-	-	On
-51	64	1458	0.0	0.0	-	-	-	On
-50	64	1413	0.0	22.3	-	-	-	On
Time (Seconds)	Vehicle Speed (mph)	Engine Speed (rpm)	Engine Load (%)	Throttle (%)	Brake Status	Clutch Status	Cruise Status	Lamp Status
-49	64	1418	11.4	50.8	-	-	-	On
-48	65	1432	16.8	41.0	-	-	-	On
-47	64	1420	0.0	0.0	-	-	-	On
-46	64	1405	0.0	0.0	-	-	-	On
-45	64	1422	13.8	46.8	-	-	-	On
-44	65	1440	61.3	73.5	-	-	-	On
-43	66	1470	76.6	66.8	-	-	-	On
-42	65	1438	0.0	0.0	-	-	-	On
-41	65	1455	14.0	41.0	-	-	-	On
-40	65	1415	0.0	0.0	-	-	-	On
Time (Seconds)	Vehicle Speed (mph)	Engine Speed (rpm)	Engine Load (%)	Throttle (%)	Brake Status	Clutch Status	Cruise Status	Lamp Status
-39	64	1412	0.0	0.0	-	-	-	On
-38	63	1396	0.0	0.0	-	-	-	On
-37	62	1377	0.0	42.0	-	-	-	On
-36	62	1389	57.6	83.5	-	-	-	On
-35	63	1392	61.2	62.0	-	-	-	On
-34	62	1352	0.0	0.0	-	-	-	On
-33	60	1326	0.0	0.0	-	-	-	On
-32	59	1288	0.0	0.0	-	-	-	On
-31	58	1290	79.3	82.8	-	-	-	On
-30	58	1305	84.3	75.5	-	-	-	On
Time (Seconds)	Vehicle Speed (mph)	Engine Speed (rpm)	Engine Load (%)	Throttle (%)	Brake Status	Clutch Status	Cruise Status	Lamp Status
-29	59	1306	86.8	57.0	-	-	-	On
-28	58	1340	19.2	53.5	-	-	-	On
-27	59	1302	67.7	56.8	-	-	-	On
-26	58	1274	0.0	0.0	-	-	-	On
-25	57	1288	0.0	0.0	-	-	-	On
-24	57	1274	16.7	40.8	-	-	-	On

-23	56	1242	0.0	0.0	-	-	-	On
-22	56	1251	14.9	44.3	-	-	-	On
-21	57	1268	45.4	44.3	-	-	-	On
-20	57	1238	0.0	0.0	-	-	-	On
Time (Seconds)	**Vehicle Speed (mph)**	**Engine Speed (rpm)**	**Engine Load (%)**	**Throttle (%)**	**Brake Status**	**Clutch Status**	**Cruise Status**	**Lamp Status**
-19	56	1225	0.0	0.0	On	-	-	On
-18	54	1166	0.0	0.0	On	-	-	On
-17	51	1106	0.0	0.0	On	-	-	On
-16	49	1070	0.0	0.0	-	-	-	On
-15	49	1093	31.3	34.3	-	-	-	On
-14	49	764	0.0	0.0	-	-	-	On
-13	47	585	0.0	0.0	On	-	-	On
-12	44	595	0.0	0.0	On	-	-	On
-11	40	587	0.0	0.0	On	-	-	On
-10	37	586	0.0	0.0	On	-	-	On
Time (Seconds)	**Vehicle Speed (mph)**	**Engine Speed (rpm)**	**Engine Load (%)**	**Throttle (%)**	**Brake Status**	**Clutch Status**	**Cruise Status**	**Lamp Status**
-9	32	599	0.0	0.0	On	-	-	On
-8	27	598	0.0	0.0	On	-	-	On
-7	24	599	0.0	0.0	On	-	-	On
-6	22	606	0.0	0.0	On	-	-	On
-5	21	624	0.0	0.0	On	-	-	On
-4	18	606	0.0	0.0	On	-	-	On
-3	15	599	0.0	0.0	On	-	-	On
-2	10	598	0.0	0.0	On	-	-	On
-1	7	606	0.0	0.0	On	-	-	On
0	14	598	0.0	0.0	On	-	-	On
Time (Seconds)	**Vehicle Speed (mph)**	**Engine Speed (rpm)**	**Engine Load (%)**	**Throttle (%)**	**Brake Status**	**Clutch Status**	**Cruise Status**	**Lamp Status**
1	1	601	0.0	0.0	On	-	-	On
2	0	599	0.0	0.0	-	-	-	On
3	0	602	0.0	0.0	-	On	-	On
4	0	604	0.0	0.0	-	On	-	On
5	0	599	0.0	18.3	-	On	-	On
6	0	894	2.8	21.0	-	On	-	On
7	0	883	23.1	31.0	-	On	-	On
8	4	1183	0.0	0.0	-	-	-	On
9	5	1023	16.1	33.5	-	-	-	On
10	6	1289	15.4	37.5	-	-	-	On
Time (Seconds)	**Vehicle Speed (mph)**	**Engine Speed (rpm)**	**Engine Load (%)**	**Throttle (%)**	**Brake Status**	**Clutch Status**	**Cruise Status**	**Lamp Status**
11	7	1062	0.0	14.0	-	-	-	On
12	8	1101	10.1	29.0	-	-	-	On
13	9	1231	0.0	26.3	-	-	-	On
14	9	1193	0.0	18.8	-	-	-	On
15	9	1147	0.0	0.0	-	-	-	On

Record 2 To Top

Occurrence Date	N/A	Total ECM Run Time @ Occurrence (HH:MM:SS)	24622:56:2
Air Temp @ Occurrence (°F)	0	Occurrence Distance (miles)	888351.1

Time (Seconds)	Vehicle Speed (mph)	Engine Speed (rpm)	Engine Load (%)	Throttle (%)	Brake Status	Clutch Status	Cruise Status	Lamp Status
-59	70	1545	47.6	46.8	-	-	-	On
-58	70	1541	44.3	55.5	-	-	-	On
-57	70	1551	34.6	67.0	-	-	-	On

-56	70	1543	12.6	55.5	-	-	-	On
-55	70	1550	41.1	57.5	-	-	-	On
-54	70	1546	11.8	58.0	-	-	-	On
-53	70	1560	36.2	72.8	-	-	-	On
-52	70	1553	24.7	46.8	-	-	-	On
-51	70	1554	33.2	42.0	-	-	-	On
-50	70	1543	0.0	36.8	-	-	-	On
Time (Seconds)	**Vehicle Speed (mph)**	**Engine Speed (rpm)**	**Engine Load (%)**	**Throttle (%)**	**Brake Status**	**Clutch Status**	**Cruise Status**	**Lamp Status**
-49	70	1549	44.0	50.3	-	-	-	On
-48	70	1549	48.7	54.0	-	-	-	On
-47	70	1545	22.6	63.5	-	-	-	On
-46	70	1548	38.8	72.8	-	-	-	On
-45	70	1540	29.2	44.8	-	-	-	On
-44	70	1546	42.0	53.0	-	-	-	On
-43	70	1535	27.3	49.5	-	-	-	On
-42	70	1546	50.1	77.0	-	-	-	On
-41	70	1547	48.5	72.3	-	-	-	On
-40	70	1548	45.2	74.0	-	-	-	On
Time (Seconds)	**Vehicle Speed (mph)**	**Engine Speed (rpm)**	**Engine Load (%)**	**Throttle (%)**	**Brake Status**	**Clutch Status**	**Cruise Status**	**Lamp Status**
-39	70	1554	42.8	60.3	-	-	-	On
-38	70	1556	43.0	75.5	-	-	-	On
-37	70	1557	43.3	77.0	-	-	-	On
-36	70	1554	42.6	73.5	-	-	-	On
-35	70	1548	17.0	44.3	-	-	-	On
-34	70	1555	34.7	68.0	-	-	-	On
-33	70	1558	29.7	96.0	-	-	-	On
-32	70	1556	24.8	83.0	-	-	-	On
-31	70	1559	21.3	57.5	-	-	-	On
-30	70	1557	26.9	74.0	-	-	-	On
Time (Seconds)	**Vehicle Speed (mph)**	**Engine Speed (rpm)**	**Engine Load (%)**	**Throttle (%)**	**Brake Status**	**Clutch Status**	**Cruise Status**	**Lamp Status**
-29	70	1551	28.1	73.5	-	-	-	On
-28	70	1554	25.9	72.8	-	-	-	On
-27	70	1549	28.9	84.0	-	-	-	On
-26	70	1552	29.8	84.3	-	-	-	On
-25	70	1546	32.7	72.0	-	-	-	On
-24	70	1547	40.7	84.8	-	-	-	On
-23	70	1549	40.7	96.0	-	-	-	On
-22	70	1552	39.3	85.0	-	-	-	On
-21	70	1553	39.3	85.5	-	-	-	On
-20	70	1548	40.9	71.0	-	-	-	On
Time (Seconds)	**Vehicle Speed (mph)**	**Engine Speed (rpm)**	**Engine Load (%)**	**Throttle (%)**	**Brake Status**	**Clutch Status**	**Cruise Status**	**Lamp Status**
-19	70	1547	41.9	84.0	-	-	-	On
-18	70	1552	42.9	78.0	-	-	-	On
-17	70	1554	42.4	55.0	-	-	-	On
-16	70	1556	40.2	79.5	-	-	-	On
-15	70	1553	31.8	54.3	-	-	-	On
-14	70	1562	31.7	56.3	-	-	-	On
-13	70	1552	31.4	60.3	-	-	-	On
-12	70	1560	27.8	65.0	-	-	-	On
-11	70	1560	24.3	76.8	-	-	-	On
-10	70	1557	25.1	73.0	-	-	-	On
Time (Seconds)	**Vehicle Speed (mph)**	**Engine Speed (rpm)**	**Engine Load (%)**	**Throttle (%)**	**Brake Status**	**Clutch Status**	**Cruise Status**	**Lamp Status**
-9	70	1555	27.8	62.8	-	-	-	On

-8	70	1550	26.7	58.8	-	-	-	On
-7	70	1553	29.2	89.5	-	-	-	On
-6	70	1549	34.4	74.3	-	-	-	On
-5	70	1551	44.6	76.3	-	-	-	On
-4	70	1544	49.7	69.5	-	-	-	On
-3	69	1523	0.0	41.0	-	-	-	On
-2	68	1492	0.0	0.0	-	-	-	On
-1	67	1465	0.0	0.0	-	-	-	On
0	60	1130	0.0	0.0	On	-	-	On
Time (Seconds)	**Vehicle Speed (mph)**	**Engine Speed (rpm)**	**Engine Load (%)**	**Throttle (%)**	**Brake Status**	**Clutch Status**	**Cruise Status**	**Lamp Status**
1	45	711	0.0	0.0	On	-	-	On
2	33	600	0.0	0.0	On	On	-	On
3	23	608	0.0	0.0	On	On	-	On
4	16	596	0.0	0.0	On	On	-	On
5	9	594	0.0	0.0	On	On	-	On
6	7	600	0.0	0.0	On	On	-	On
7	3	599	0.0	0.0	-	On	-	On
8	3	627	0.0	0.0	-	On	-	On
9	0	598	0.0	0.0	-	On	-	On
10	0	603	0.0	0.0	-	On	-	On
Time (Seconds)	**Vehicle Speed (mph)**	**Engine Speed (rpm)**	**Engine Load (%)**	**Throttle (%)**	**Brake Status**	**Clutch Status**	**Cruise Status**	**Lamp Status**
11	1	602	0.0	0.0	-	On	-	On
12	0	598	0.0	0.0	-	On	-	On
13	0	592	0.0	0.0	On	On	-	On
14	0	598	0.0	0.0	On	-	-	On
15	0	596	0.0	0.0	On	-	-	On

Record 3 To Top

Occurrence Date	N/A	**Total ECM Run Time @ Occurrence (HH:MM:SS)**	24572:34:10
Air Temp @ Occurrence (°F)	0	**Occurrence Distance (miles)**	886339.6

Time (Seconds)	**Vehicle Speed (mph)**	**Engine Speed (rpm)**	**Engine Load (%)**	**Throttle (%)**	**Brake Status**	**Clutch Status**	**Cruise Status**	**Lamp Status**
-59	67	1504	69.2	40.3	-	-	-	On
-58	66	1467	0.0	27.5	-	-	-	On
-57	67	1489	65.1	75.5	-	-	-	On
-56	66	1474	0.0	45.0	-	-	-	On
-55	67	1489	41.3	70.8	-	-	-	On
-54	67	1487	0.0	0.0	-	-	-	On
-53	67	1459	16.7	54.0	-	-	-	On
-52	67	1484	50.1	81.0	-	-	-	On
-51	67	1496	64.3	74.3	-	-	-	On
-50	67	1495	51.9	74.0	-	-	-	On
Time (Seconds)	**Vehicle Speed (mph)**	**Engine Speed (rpm)**	**Engine Load (%)**	**Throttle (%)**	**Brake Status**	**Clutch Status**	**Cruise Status**	**Lamp Status**
-49	67	1486	45.1	57.5	-	-	-	On
-48	66	1501	1.7	37.0	-	-	-	On
-47	66	1452	42.8	68.3	-	-	-	On
-46	65	1437	30.4	54.0	-	-	-	On
-45	65	1426	16.0	43.0	-	-	-	On
-44	64	1413	26.6	48.8	-	-	-	On
-43	64	1410	49.9	70.8	-	-	-	On
-42	63	1403	58.9	78.8	-	-	-	On
-41	63	1397	59.9	63.0	-	-	-	On
-40	63	1400	73.3	66.0	-	-	-	On

Time (Seconds)	Vehicle Speed (mph)	Engine Speed (rpm)	Engine Load (%)	Throttle (%)	Brake Status	Clutch Status	Cruise Status	Lamp Status
-39	63	1395	54.4	67.0	-	-	-	On
-38	63	1400	86.4	90.8	-	-	-	On
-37	63	1394	70.5	68.8	-	-	-	On
-36	63	1395	56.0	91.0	-	-	-	On
-35	63	1391	45.7	64.8	-	-	-	On
-34	63	1393	60.8	76.8	-	-	-	On
-33	63	1389	66.2	86.8	-	-	-	On
-32	63	1381	40.8	53.5	-	-	-	On
-31	63	1389	52.4	62.3	-	-	-	On
-30	63	1393	99.6	94.0	-	-	-	On
Time (Seconds)	Vehicle Speed (mph)	Engine Speed (rpm)	Engine Load (%)	Throttle (%)	Brake Status	Clutch Status	Cruise Status	Lamp Status
-29	63	1392	99.7	82.0	-	-	-	On
-28	63	1397	82.0	87.5	-	-	-	On
-27	63	1407	90.7	82.3	-	-	-	On
-26	63	1412	73.3	77.0	-	-	-	On
-25	63	1416	71.4	79.0	-	-	-	On
-24	63	1408	71.7	74.8	-	-	-	On
-23	64	1405	72.0	72.0	-	-	-	On
-22	63	1403	70.7	79.0	-	-	-	On
-21	64	1413	74.5	77.5	-	-	-	On
-20	64	1414	74.7	68.8	-	-	-	On
Time (Seconds)	Vehicle Speed (mph)	Engine Speed (rpm)	Engine Load (%)	Throttle (%)	Brake Status	Clutch Status	Cruise Status	Lamp Status
-19	64	1409	69.0	81.0	-	-	-	On
-18	64	1411	72.2	86.3	-	-	-	On
-17	64	1428	97.7	98.0	-	-	-	On
-16	64	1411	65.4	88.0	-	-	-	On
-15	64	1424	65.4	83.5	-	-	-	On
-14	64	1419	69.5	76.3	-	-	-	On
-13	64	1422	55.2	75.5	-	-	-	On
-12	64	1415	77.6	77.5	-	-	-	On
-11	64	1417	71.6	77.5	-	-	-	On
-10	64	1414	58.9	62.8	-	-	-	On
Time (Seconds)	Vehicle Speed (mph)	Engine Speed (rpm)	Engine Load (%)	Throttle (%)	Brake Status	Clutch Status	Cruise Status	Lamp Status
-9	64	1420	99.1	100.0	-	-	-	On
-8	64	1434	96.3	99.5	-	-	-	On
-7	64	1439	85.5	100.0	-	-	-	On
-6	65	1450	100.1	88.0	-	-	-	On
-5	65	1449	86.5	89.0	-	-	-	On
-4	65	1451	74.1	84.0	-	-	-	On
-3	65	1454	78.0	84.0	-	-	-	On
-2	66	1454	74.3	69.0	-	-	-	On
-1	66	1454	90.3	73.5	-	-	-	On
0	63	1354	0.0	0.0	On	-	-	On
Time (Seconds)	Vehicle Speed (mph)	Engine Speed (rpm)	Engine Load (%)	Throttle (%)	Brake Status	Clutch Status	Cruise Status	Lamp Status
1	50	1084	0.0	0.0	On	-	-	On
2	40	765	0.0	0.0	On	-	-	On
3	34	730	88.6	0.0	-	-	-	On
4	32	696	96.3	83.5	-	-	-	On
5	31	686	99.6	85.5	-	-	-	On
6	31	695	99.8	93.5	-	-	-	On
7	31	701	99.6	89.5	-	-	-	On
8	31	700	81.8	11.0	-	-	-	On

9	32	699	99.9	98.0	-	-	-	On
10	32	712	76.5	0.0	-	On	-	On
Time (Seconds)	**Vehicle Speed (mph)**	**Engine Speed (rpm)**	**Engine Load (%)**	**Throttle (%)**	**Brake Status**	**Clutch Status**	**Cruise Status**	**Lamp Status**
11	31	976	39.3	54.3	-	On	-	On
12	32	981	100.6	82.8	-	-	-	On
13	33	1019	100.5	87.5	-	-	-	On
14	34	1046	99.6	86.0	-	-	-	On
15	35	1084	100.1	88.3	-	-	-	On