Federal Railroad Administration
Office of Safety
Headquarters Assigned
Accident Investigation Report
HQ-2007-21

Amtrak/Canadian National Illinois Central (ATK/CNIC)
Sledge, Mississippi
April 23, 2007

Note that 49 U.S.C. §20903 provides that no part of an accident or incident report made by the Secretary of Transportation/Federal Railroad Administration under 49 U.S.C. §20902 may be used in a civil action for damages resulting from a matter mentioned in the report.

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

FRA FACTUAL RAILROAD ACCIDENT REPORT

FRA File # HQ-2007-21

1.Name of Railroad Operating Train #1: Amtrak [ATK]	1a. Alphabetic Code: ATK	1b. Railroad Accident/Incident No.: 104179
2.Name of Railroad Operating Train #2: N/A	2a. Alphabetic Code: N/A	2b. Railroad Accident/Incident No.: N/A
3.Name of Railroad Operating Train #3: N/A	3a. Alphabetic Code: N/A	3b. Railroad Accident/Incident No.: N/A
4.Name of Railroad Responsible for Track Maintenance: Canadian National	4a. Alphabetic Code: CN	4b. Railroad Accident/Incident No.: N/A
5. U.S. DOT_AAR Grade Crossing Identification Number: 300586M	6. Date of Accident/Incident: Month 04 Day 23 Year 2007	7. Time of Accident/Incident: 07:50: ☑ AM ☐ PM

8. Type of Accident/Indicent (single entry in code box): 1. Derailment; 2. Head on collision; 3. Rear end collision; 4. Side collision; 5. Raking collision; 6. Broken Train collision; 7. Hwy-rail crossing; 8. RR grade crossing; 9. Obstruction; 10. Explosion-detonation; 11. Fire/violent rupture; 12. Other impacts; 13. Other (describe in narrative) — Code: 07

9. Cars Carrying HAZMAT	10. HAZMAT Cars Damaged/Derailed	11. Cars Releasing HAZMAT	12. People Evacuated	13. Division
0	0	0	0	Central

14. Nearest City/Town	15. Milepost (to nearest tenth)	16. State Abbr	16. State Code	17. County
Sledge	55.4	N/A	MS	QUITMAN

18. Temperature (F) (specify if minus)	19. Visibility (single entry) 1. Dawn 2. Day 3.Dusk 4.Dark — Code	20. Weather (single entry) 1. Clear 2. Cloudy 3. Rain 4. Fog 5.Sleet 6.Snow — Code	21. Type of Track 1. Main 2. Yard 3. Siding 4. Industry — Code
70 F	2	1	1

22. Track Name/Number	23. FRA Track Class (1-9, X) — Code	24. Annual Track Density (gross tons in millions)	25. Time Table Direction 1. North 2. South 3. East 4. — Code
Main	4	48	2

OPERATING TRAIN #1

26. Type of Equipment Consist (single entry) 1. Freight train 2. Passenger train 3. Commuter train 4. Work train 5. Single car 6. Cut of cars 7. Yard/switching 8. Light loco(s). 9. Maint./inspect.car — A. Spec. MoW Equip. Code	27. Was Equipment Attended? 1. Yes 2. No — Code	28. Train Number/Symbol
2	1	Amtrak 59

29. Speed (recorded speed, if available) R - Recorded E - Estimated — Code	30. Trailing Tons (gross tonnage, excluding power units)
81 MPH R	0

31. Method(s) of Operation (enter code(s) that apply): a. ATCS; b. Auto train control; c. Auto train stop; d. Cab; e. Traffic; f. Interlocking; g. Automatic block; h. Current of traffic; i. Time table/train orders; j.Track warrant control; k. Direct traffic control; l.Yard limits; m.Special instructions; n. Other than main track; o. Positive train control; p. Other (Specify in narrative)

Code(s)				
e	N/A	N/A	N/A	N/A

31a. Remotely Controlled Locomotive? 0 = Not a remotely controlled; 1 = Remote control portable; 2 = Remote control tower; 3 = Remote control transmitter - more than one remote control transmitter: 0

32. Principal Car/Unit	a. Initial and Number	b. Position in Train	c. Loaded (yes/no)
(1) First involved (derailed, struck, etc)	0	0	N/A
(2) Causing (if mechanical cause reported)	0	0	N/A

33. If railroad employee(s) tested for drug/alcohol use, enter the number that were positive in the appropriate box.

Alcohol	Drugs
N/A	N/A

34. Was this consist transporting passengers? (Y/N): Y

35. Locomotive Units	a. Head End	Mid Train b. Manual	Mid Train c. Remote	Rear End d. Manual	Rear End c. Remote
(1) Total in Train	1	0	0	0	0
(2) Total Derailed	0	0	0	0	0

36. Cars	Loaded a. Freight	Loaded b. Pass.	Empty c. Freight	Empty d. Pass.	e. Caboose
(1) Total in Equipment Consist	0	6	0	0	0
(2) Total Derailed	0	0	0	0	0

37. Equipment Damage This Consist	38. Track, Signal, Way, & Structure Damage	39. Primary Cause Code	40. Contributing Cause Code
85000	0	M302	N/A

Number of Crew Members

41. Engineer/ Operators	42. Firemen	43. Conductors	44. Brakemen
1	0	2	0

Length of Time on Duty

45. Engineer/Operator	46. Conductor
Hrs 1 Mi 25	Hrs 6 Mi 54

Casualties to:	47. Railroad Employees	48. Train Passengers	49. Other
Fatal	0	0	0
Nonfatal	1	0	0

50. EOT Device? 1. Yes 2. No: 2

51. Was EOT Device Properly Armed? 1. Yes 2. No: N/A

52. Caboose Occupied by Crew? 1. Yes 2. No: 2

OPERATING TRAIN #2

53. Type of Equipment Consist (single entry) 1. Freight train 2. Passenger train 3. Commuter train 4. Work train 5. Single car 6. Cut of cars 7. Yard/switching 8. Light loco(s). 9. Maint./inspect.car — A. Spec. MoW Equip. Code	54. Was Equipment Attended? 1. Yes 2. No — Code	55. Train Number/Symbol
N/A	N/A	N/A

56. Speed (recorded speed, if available) R - Recorded E - Estimated — Code	58. Method(s) of Operation (enter code(s) that apply)	58a. Remotely Controlled Locomotive?
0 MPH N/A	a. ATCS; b. Auto train control; g. Automatic block; h. Current of traffic; m.Special instructions; n. Other than main track	0 = Not a remotely controlled; 1 = Remote control portable

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

FRA FACTUAL RAILROAD ACCIDENT REPORT

FRA File # HQ-2007-21

57. Trailing Tons (gross tonnage, excluding power units): 0

c. Auto train stop; d. Cab; e. Traffic; f. Interlocking; i. Time table/train orders; j.Track warrant control; k. Direct traffic control; l.Yard limits; o. Positive train control; p. Other (Specify in narrative) Code(s): N/A | N/A | N/A | N/A | N/A

2 = Remote control tower
3 = Remote control transmitter - more than one remote control transmitter: N/A

59. Principal Car/Unit	a. Initial and Number	b. Position in Train	c. Loaded (yes/no)
(1) First involved (derailed, struck, etc)	0	0	N/A
(2) Causing (if mechanical cause reported)	0	0	N/A

60. If railroad employee(s) tested for drug/alcohol use, enter the number that were positive in the appropriate box.

Alcohol	Drugs
N/A	N/A

61. Was this consist transporting passengers? (Y/N): N/A

62. Locomotive Units	a. Head End	Mid Train b. Manual	Mid Train c. Remote	Rear End d. Manual	Rear End c. Remote
(1) Total in Train	0	0	0	0	0
(2) Total Derailed	0	0	0	0	0

63. Cars	Loaded a. Freight	Loaded b. Pass.	Empty c. Freight	Empty d. Pass.	e. Caboose
(1) Total in Equipment Consist	0	0	0	0	0
(2) Total Derailed	0	0	0	0	0

64. Equipment Damage This Consist: 0

65. Track, Signal, Way, & Structure Damage: 0

66. Primary Cause Code: N/A

67. Contributing Cause Code: N/A

Number of Crew Members

68. Engineer/ Operators	69. Firemen	70. Conductors	71. Brakemen
0	0	0	0

Length of Time on Duty

72. Engineer/Operator: Hrs 0 Mi 0

73. Conductor: Hrs 0 Mi 0

Casualties to:	74. Railroad Employees	75. Train Passengers	76. Other
Fatal	0	0	0
Nonfatal	0	0	0

77. EOT Device? 1. Yes 2. No: N/A

78. Was EOT Device Properly Armed? 1. Yes 2. No: N/A

79. Caboose Occupied by Crew? 1. Yes 2. No: N/A

OPERATING TRAIN #3

80. Type of Equipment Consist (single entry): 1. Freight train; 2. Passenger train; 3. Commuter train; 4. Work train; 5. Single car; 6. Cut of cars; 7. Yard/switching; 8. Light loco(s); 9. Maint./inspect.car; A. Spec. MoW Equip. Code: N/A

81. Was Equipment Attended? 1. Yes 2. No Code: N/A

82. Train Number/Symbol: N/A

83. Speed (recorded speed, if available) Code: R - Recorded; E - Estimated: N/A MPH 0

84. Trailing Tons (gross tonnage, excluding power units): 0

85. Method(s) of Operation (enter code(s) that apply): a. ATCS; b. Auto train control; c. Auto train stop; d. Cab; e. Traffic; f. Interlocking; g. Automatic block; h. Current of traffic; i. Time table/train orders; j.Track warrant control; k. Direct traffic control; l.Yard limits; m.Special instructions; n. Other than main track; o. Positive train control; p. Other (Specify in narrative) Code(s): N/A | N/A | N/A | N/A | N/A

85a. Remotely Controlled Locomotive?
0 = Not a remotely controlled
1 = Remote control portable
2 = Remote control tower
3 = Remote control transmitter - more than one remote control transmitter: N/A

86. Principal Car/Unit	a. Initial and Number	b. Position in Train	c. Loaded (yes/no)
(1) First involved (derailed, struck, etc)	0	0	N/A
(2) Causing (if mechanical cause reported)	0	0	N/A

87. If railroad employee(s) tested for drug/alcohol use, enter the number that were positive in the appropriate box.

Alcohol	Drugs
N/A	N/A

88. Was this consist transporting passengers? (Y/N): N/A

89. Locomotive Units	a. Head End	Mid Train b. Manual	Mid Train c. Remote	Rear End d. Manual	Rear End c. Remote
(1) Total in Train	0	0	0	0	0
(2) Total Derailed	0	0	0	0	0

90. Cars	Loaded a. Freight	Loaded b. Pass.	Empty c. Freight	Empty d. Pass.	e. Caboose
(1) Total in Equipment Consist	0	0	0	0	0
(2) Total Derailed	0	0	0	0	0

91. Equipment Damage This Consist: 0

92. Track, Signal, Way, & Structure Damage: 0

93. Primary Cause Code: N/A

94. Contributing Cause Code: N/A

Number of Crew Members

95. Engineer/ Operators	96. Firemen	97. Conductors	98. Brakemen
0	0	0	0

Length of Time on Duty

99. Engineer/Operator: Hrs 0 Mi 0

100. Conductor: Hrs 0 Mi 0

Casualties to:	101. Railroad Employees	102. Train	103. Other
Fatal	0	0	0
Nonfatal	0	0	0

104. EOT 1. Yes 2. No: N/A

105. Was EOT Device Properly 1. Yes 2. No: N/A

106. Caboose Occupied by Crew? 1. Yes 2. No: N/A

Highway User Involved

107. A. Auto; B. Truck; C. Truck-Trailer.; D. Pick-Up Truck; E. Van; F. Bus; G. School Bus; H. Motorcycle; J. Other Motor Vehicle; K. Pedestrian; M. Other (spec. in narrative) Code: D

108. Vehicle Speed (est. MPH at impact): 5

109. geographical) 1.North 2.South 3.East 4.West Code: 4

Rail Equipment Involved

111. Equipment 1.Train(units pulling); 2.Train(units pushing); 3.Train (standing); 4.Car(s) (moving); 5.Car(s) (standing); 6.Light Loco(s) (moving); 7.Light(s) (standing); 8.Other (specify in narrative) Code: 1

112. Position of Car Unit in: 1

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FRA FACTUAL RAILROAD ACCIDENT REPORT

FRA File # HQ-2007-21

110. Position	Code	113. Circumstance	Code
1.Stalled on Crossing 2.Stopped on Crossing 3.Moving Over Crossing 4. Trapped	3	1. Rail Equipment Struck Highway User 2. Rail Equipment Struck by Highway User	1
114a. Was the highway user and/or rail equipment involved in the impact transporting hazardous materials? 1. Highway User 2. Rail Equipment 3. Both 4. Neither	1	114b. Was there a hazardous materials release 1. Highway User 2. Rail Equipment 3. Both 4. Neither	1

114c. State here the name and quantity of the hazardous materials released, if any.
diesel 1000 gallons

115. Type Crossing Warning	1.Gates 2.Cantilever FLS 3.Standard FLS	4.Wig Wags 5.Hwy. traffic signals 6.Audible	7.Crossbucks 8.Stop signs 9.Watchman	10.Flagged by crew 11.Other (spec. in narr.) 12.None	116. Signaled Crossing (See instructions for codes)	Code	117. Whistle 1. Yes 2. No 3. Unknown	Code
Code(s)	07	N/A	N/A	N/A	N/A	N/A	2	

118. Location of Warning 1. Both Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle Approach	Code	119. Crossing Warning with Highway Signals 1. Yes 2. No 3. Unknown	Code	120. Crossing Illuminated by Street Lights or Special Lights 1. Yes 2. No 3. Unknown	Code
	1		2		2

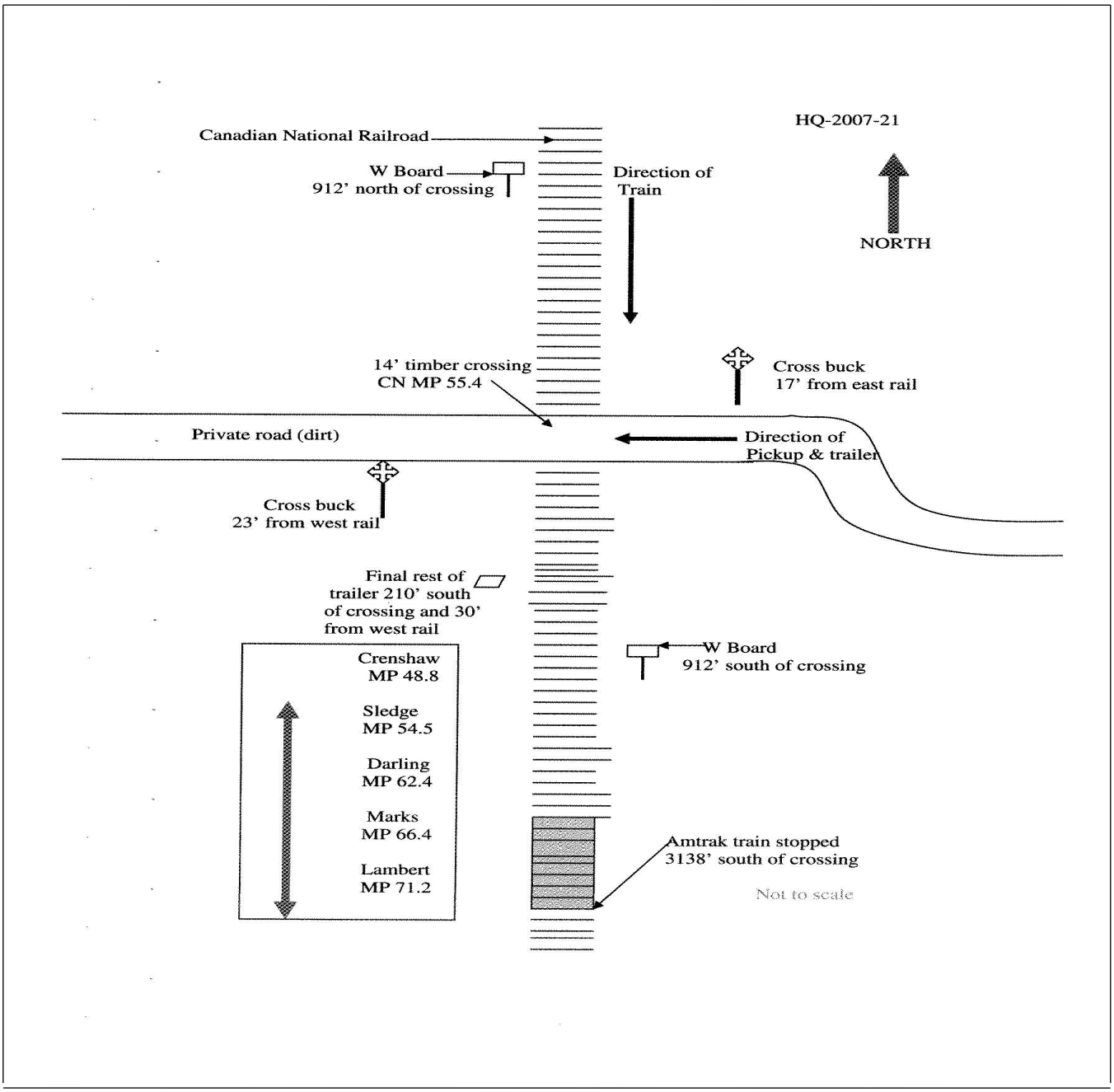
121. Age	122. Driver's Gender 1. Male 2. Female	Code	123. Driver Drove Behind or in Front of and Struck or was Struck by Second Train 1. Yes 2. No 3. Unknown	Code	124. Driver 1. Drove around or thru the Gate 2. Stopped and then Proceeded 3. Did not Stop 4. Stopped on Crossing 5. Other (specify in narrative)	Code
56		1		2		3

125. Driver Passed Highway Vehicle 1. Yes 2. No 3. Unknown	Code	126. View of Track Obscured by (primary obstruction) 1. Permanent Structure 2. Standing Railroad Equipment 3. Passing Train 4. Topography 5. Vegetation 6. Highway Vehicle 7. Other (specify in narrative) 8. Not obstructed	Code
	2		8

Casualties to:	Killed	Injured	127. Driver 1. Killed 2.Injured 3. Uninjured	Code	128. Was Driver in the Vehicle? 1. Yes 2. No	Code
				3		1
129. Highway-Rail Crossing Users	0	0	130. Highway Vehicle Property Damage (est. dollar damage)	10000	131. Total Number of Highway-Rail Crossing Users (include driver)	1

132. Locomotive Auxiliary Lights? 1. Yes 2. No	Code	133. Locomotive Auxiliary Lights Operational? 1. Yes 2. No	Code
	1		1
134. Locomotive Headlight Illuminated? 1. Yes 2. No	Code	135. Locomotive Audible Warning Sounded? 1. Yes 2. No	Code
	1		1

136. DRAW A SKETCH OF ACCIDENT AREA INCLUDING ALL TRACKS, SIGNALS, SWITCHES, STRUCTURES, OBJECTS, ETC., INVOLVED.



137. SYNOPSIS OF THE ACCIDENT

On April 23, 2007, at 7:50 a.m. Central Standard Time (CST), a southbound Amtrak (ATK) Passenger Train 59 collided with a pickup truck pulling a fuel trailer at a private farm crossing. The accident occurred near Sledge, Mississippi (MS) on the Canadian National (CN) main line at milepost (MP) 55.4 on the Central Division, Yazoo Subdivision. This private road crossing is protected by crossbucks and the Department of Transportation (DOT) No. is 300586M.

The pickup truck towing a trailer was traveling west on a private road and the driver was the only occupant of the vehicle. The trailer contained a plastic tank loaded with 1,000 gallons of diesel fuel. ATK Train 59 consisted of one locomotive and six passenger cars. It was traveling southbound at 81 miles per hour (mph) when the locomotive struck the center of the trailer, immediately igniting the diesel fuel. The driver of the pickup truck was taken to Quitman County Hospital where he was examined and released. The Lambert Fire Department extinguished the fire and their hazardous material personnel treated the accident scene. When ATK Train 59 was released, it continued south to Lambert, MS where passengers were offloaded onto charter buses.

There were three crew members, six on board service employees, and 69 passengers on the train, and there were no injuries to the train crew or passengers. There was $85,000 of damage to railroad equipment, but no damage to the track structure. There were no evacuations as a result of the grade crossing accident.

At the time of the accident, it was daylight and clear with a temperature of 70 degrees.

The probable cause of this accident was the failure of the motor vehicle driver to yield to the train at the road crossing.

138. NARRATIVE

The following information was obtained from an investigation that was conducted by the Federal Railroad Administration.

Circumstances Prior to the Accident

The crew of ATK Train 59 included a locomotive engineer, conductor, and assistant conductor. The conductor and assistant conductor went on duty on April 23, 12:56 a.m., at the Amtrak station in Carbondale, Illinois (IL). This was the home terminal for the conductor and the assistant conductor. The engineer went on duty at 6:25 a.m. at the Amtrak station in Memphis, Tennessee (TN). The engineer and conductor received more than the statutory off duty time prior to reporting for duty. ATK Train 59 is a passenger train consisting of one locomotive and six passenger cars. It is a regularly scheduled passenger train traveling from Chicago, IL to New Orleans, Louisiana (LA) and received its initial terminal brake test in Chicago.

ATK Train 59 departed Memphis at 6:50 a.m. southbound for New Orleans. The trip was uneventful, making no stops prior to the accident. The southbound train approached the accident area at MP 55.4 on the Yazoo Subdivision about 7:49 a.m. The engineer was operating the locomotive (short hood forward) seated on the right side of the cab. The conductor was working in the first passenger car behind the locomotive.

Approaching the accident site, MP 55.4, in a southbound direction, the track is tangent and level. Timetable speed for passenger trains at this location is 79 mph. The private road crossing, which crosses the Canadian National (CN) main track is elevated for vehicular traffic. Crushed stone mixed with dirt and gravel is used for the road approaching the east and west of the grade crossing. The crossing itself is built with wooden timber and is 14 feet wide intersecting the track at 90-degrees. The private highway road crossing is protected by cross bucks for vehicular traffic. The cross buck located on the east side of the track is 17 feet from the nearest rail. The cross buck on the west side of the track is 23 feet from the nearest rail. The CN right-of-way extends 50 feet from the center of the track in both directions. The site distance from the CN property line on the east side of the track (direction of the pickup truck) looking to the north is about 350 feet. The site distance from the cross buck on the east side of the track is about 900 feet. CN has a whistle post in place about 912 feet north of the crossing.

The CN timetable direction and geographic direction are the same and run north and south. CN timetable direction is used for this report.

The Accident

ATK Train 59 was operating southbound on the CN main track at 81 mph approaching the accident area. The engineer said prior to the accident the trip was uneventful and there were no problems with any operation of the train. He said approaching the accident site his view of the crossing was unobstructed and while sounding the horn for the road crossing, he noticed the pickup and trailer pulled onto the track without stopping for the cross buck.

ATK Train 59 struck the center of the trailer containing diesel fuel at a speed of 79 mph. The engineer said he did not make an emergency brake application because he noticed the fuel tank and did not want to stop the train in the middle of a fuel spill and possible fire. He applied the train brake after the collision. This was for the safety of the passengers and crew and is his training instructions. After impacting the trailer, loaded with 1,000 gallons of diesel fuel, it ignited. The trailer separated from the pickup and was carried south by the locomotive about 210 ft. before stopping on the west side of the track. The train stopped about 3,138 feet south of the road crossing. The conductor called the CN train dispatcher informing him about the highway grade crossing accident and asking him to contact emergency response personnel. The conductor instructed the assistant conductor to take a fire extinguisher and put out the fire burning on the rear trucks of the locomotive. He left the passenger car to check on the engineer. The front of the locomotive was on fire and the cab was filled with smoke. The engineer said when he brought the train to a stop he could not get off the locomotive because fire was blocking both exits. He finally exited the locomotive when the fire diminished. The conductor moved the passengers to the rear cars in the train because the smoke had engulfed the front cars. According to the train crew, the accident occurred about 7:50 a.m.

Marks Volunteer Fire Department arrived at the scene about 8:21 a.m. The Crenshaw Fire Department and Coahoma County Fire Department arrived on the scene within a few minutes of the accident. When the fire department arrived there was no fire on the train, but there was a grass fire on the right of way and the spilled diesel fuel was burning. The Quitman County Sheriff's Department arrived at 8:22 a.m. The driver of the pickup was taken to the Quitman County Hospital where he was examined and released. A CN track supervisor inspected the track and determined it was safe for ATK Train 59 to move. After the fire was put out, ATK Train 59 continued south to Marks, MS, MP 66.4, where a new Amtrak crew boarded the train. The train traversed to Lambert, MS and the passengers were put on buses because of smoke damage to the passenger cars. A CN hazardous material team and transportation supervisor was dispatched to assess the accident scene.

Analysis and Conclusion
Analysis

There was no toxicology test given to the driver by the Quitman County Sheriff's Department.

The engineer and conductor said the horn was sounded as the train approached the whistle post sign governing the private road crossing at MP 55.4 and was verified by the locomotive's event recorder.

The driver of the pickup was a 57 year old male. He is employed by Alderson Farms for the past seven years. Alderson Farms owns the property on both sides of the private road crossing located at MP 55.4. The driver said this private crossing was used often during the farms' growing season. He also said on the day of the accident he had to get a running start for him to get the pickup truck and fuel trailer over the road crossing. He said as he entered the crossing he could hear the train horn and that's when he saw the train.

The leading locomotive was equipped with a headlight, auxiliary lights, and audible warning device as required by federal regulations. The locomotive was also equipped with a speed indicator and an event recorder as required. The event recorder data was downloaded by the mechanical supervisor in New Orleans. The analysis disclosed that the locomotive engineer was in compliance with all applicable railroad operating and train handling requirements. The Federal Railroad Administration reviewed the event recorder and took no exceptions to the data or the engineer.

Conclusion

The railroad was in full compliance with their own operating rules and all applicable federal standards. The engineer, the only eye witnesses to the accident, said the automobile failed to stop before entering the crossing.

The driver of the pickup said that he had to get a running start to get over the crossing pulling the fuel trailer. If he was getting a running start he could not have stopped and looked for a train.

Fatigue Analysis
FRA obtained fatigue related information, including a 10-day work history, for three Amtrak employees involved in this accident, including the engineer, conductor and assistant conductor of ATK Train 59. Fatigue was found probable for the conductor and the assistant conductor of ATK Train 59.

1. Conductor assigned to ATK Train 59
Sleep setting (Excellent, Good, Fair, or Poor) Excellent
Overall effectiveness = 59%
Lapse Index = 8.2
Reaction Time = 168
Chronic Sleep Debt = 10.29
Hours of Continuous Wakefulness = 8.42
Time of Day (military) 07:50
BAC Equivalent = >0.08
Conclusion: fatigue was probable for this employee.

2. Assistant Conductor assigned to ATK Train 59
Sleep setting (Excellent, Good, Fair, or Poor) Excellent
Overall effectiveness = 59%
Lapse Index = 8.2
Reaction Time = 168
Chronic Sleep Debt = 10.29
Hours of Continuous Wakefulness = 8.42
Time of Day (military) 07:50
BAC Equivalent = >0.08
Conclusion: fatigue was probable for this employee.

Probable Cause

The FRA determined that the probable cause of this accident was the failure of the motor vehicle driver to yield to the train at the road crossing.