
# *Federal Railroad Administration*
# *Office of Safety*
# *Headquarters Assigned*
# *Accident Investigation Report*
# *HQ-2006-29*

## *Union Pacific (UP)*
## *Wagoner, Oklahoma*
## *May 14, 2006*

***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-2006-29

| | | |
|---|---|---|
| 1.Name of Railroad Operating Train #1: Union Pacific RR Co. [UP ] | 1a. Alphabetic Code: UP | 1b. Railroad Accident/Incident No.: 0506WH009 |
| 2.Name of Railroad Operating Train #2: N/A | 2a. Alphabetic Code: N/A | 2b. Railroad Accident/Incident: N/A |
| 3.Name of Railroad Responsible for Track Maintenance: Union Pacific RR Co. [UP ] | 3a. Alphabetic Code: UP | 3b. Railroad Accident/Incident No.: 0506WH009 |
| 4. U.S. DOT_AAR Grade Crossing Identification Number: 434033M | 5. Date of Accident/Incident: Month 05 / Day 14 / Year 2006 | 6. Time of Accident/Incident: 09:06: ☑ AM ☐ PM |

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

| 8. Cars Carrying HAZMAT | 9. HAZMAT Cars Damaged/Derailed | 10. Cars Releasing HAZMAT | 11. People Evacuated | 12. Division |
|---|---|---|---|---|
| 0 | 0 | 0 | 0 | Wichita |

| 13. Nearest City/Town | 14. Milepost (to nearest tenth) | 15. State Abbr | 15. State Code | 16. County |
|---|---|---|---|---|
| Claremore | 606.91 | N/A | OK | ROGERS |

| 17. Temperature (F) (specify if minus) | 18. Visibility (single entry) 1. Dawn 2. Day 3.Dusk 4.Dark | Code | 19. Weather (single entry) 1. Clear 2. Cloudy 3. Rain 4. Fog 5.Sleet 6.Snow | Code | 20. Type of Track 1. Main 2. Yard 3. Siding 4. Industry | Code |
|---|---|---|---|---|---|---|
| 54 F | | 2 | | 1 | | 1 |

| 21. Track Name/Number | 22. FRA Track Class (1-9, X) | Code | 23. Annual Track Density (gross tons in millions) | 24. Time Table Direction 1. North 3. East | Code |
|---|---|---|---|---|---|
| Single Main Track | | 4 | 35.0 | | 1 |

## OPERATING TRAIN #1

| 25. Type of Equipment Consist (single entry) | | | | A. Spec. MoW Equip. | Code | 26. Was Equipment Attended? 1. Yes 2. No | Code | 27. Train Number/Symbol |
|---|---|---|---|---|---|---|---|---|
| | 1. Freight train | 4. Work train | 7. Yard/switching | | | | | |
| | 2. Passenger train | 5. Single car | 8. Light loco(s). | | | | | |
| | 3. Commuter train | 6. Cut of cars | 9. Maint./inspect.car | | 1 | | 1 | CWBC A9-12 |

| 28. Speed (recorded speed, if available) | | Code |
|---|---|---|
| R - Recorded | | |
| E - Estimated | 52 MPH | R |

29. Trailing Tons (gross tonnage, excluding power units): 2937

30. Method(s) of Operation (enter code(s) that apply)

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

30a. 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

| 31. Principal Car/Unit | a. Initial and Number | b. Position in Train | c. Loaded (yes/no) |
|---|---|---|---|
| (1) First involved (derailed, struck, etc) | N/A | 1 | yes |
| (2) Causing (if mechanical cause reported) | N/A | N/A | N/A |

32. 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 |

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

| 34. 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 | 2 | 0 | 0 | 0 | 1 |
| (2) Total Derailed | 0 | 0 | 0 | 0 | 0 |

| 35. Cars | Loade a. Freight | Loade b. Pass. | Empty c. Freight | Empty d. Pass. | e. Caboose |
|---|---|---|---|---|---|
| (1) Total in Equipment Consist | 0 | 0 | 135 | 0 | 0 |
| (2) Total Derailed | 0 | 0 | 0 | 0 | 0 |

| 36. Equipment Damage This Consist | 37. Track, Signal, Way, & Structure Damage | 38. Primary Cause Code | 39. Contributing Cause Code |
|---|---|---|---|
| 100 | 0 | M302 | N/A |

Number of Crew Members

| 40. Engineer/ Operators | 41. Firemen | 42. Conductors | 43. Brakemen |
|---|---|---|---|
| N/A | N/A | 1 | N/A |

Length of Time on Duty

| 44. Engineer/Operator | 45. Conductor |
|---|---|
| Hrs 7 Mi 21 | Hrs 7 Mi 21 |

| Casualties to: | 46. Railroad Employees | 47. Train Passengers | 48. Other |
|---|---|---|---|
| Fatal | 0 | 0 | 3 |
| Nonfatal | N/A | 0 | 2 |

| 49. EOT Device? 1. Yes 2. No | 50. Was EOT Device Properly Armed? 1. Yes 2. No |
|---|---|
| 1 | 1 |

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

## OPERATING TRAIN #2

| 52. Type of Equipment Consist (single entry) | | | | A. Spec. MoW Equip. | Code | 53. Was Equipment Attended? 1. Yes 2. No | Code | 54. Train Number/Symbol |
|---|---|---|---|---|---|---|---|---|
| | 1. Freight train | 4. Work train | 7. Yard/switching | | | | | |
| | 2. Passenger train | 5. Single car | 8. Light loco(s). | | | | | |
| | 3. Commuter train | 6. Cut of cars | 9. Maint./inspect.car | | N/A | | N/A | N/A |

| 55. Speed (recorded speed, if available) | | Code |
|---|---|---|
| R - Recorded | | |
| E - Estimated | 0 MPH | N/A |

57. Method(s) of Operation (enter code(s) that apply)

| | | |
|---|---|---|
| a. ATCS | g. Automatic block | m.Special instructions |
| b. Auto train control | h. Current of traffic | n. Other than main track |

57a. Remotely Controlled Locomotive?
0 = Not a remotely controlled
1 = Remote control portable

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

# FRA FACTUAL RAILROAD ACCIDENT REPORT

FRA File # HQ-2006-29

| 56. Trailing Tons (gross tonnage, excluding power units) | c. Auto train stop<br>d. Cab<br>e. Traffic<br>f. Interlocking | i. Time table/train orders<br>j.Track warrant control<br>k. Direct traffic control<br>l.Yard limits | o. Positive train control<br>p. Other (Specify in narrative)<br>Code(s) | 2 = Remote control tower<br>3 = Remote control transmitter - more than one remote control transmitter |
|---|---|---|---|---|
| N/A | | | N/A N/A N/A N/A N/A | N/A |

| 58. Principal Car/Unit | a. Initial and Number | b. Position in Train | c. Loaded (yes/no) | 59. If railroad employee(s) tested for drug/alcohol use, enter the number that were positive in the appropriate box. | Alcohol | Drugs |
|---|---|---|---|---|---|---|
| (1) First involved (derailed, struck, etc) | 0 | N/A | N/A | | N/A | N/A |
| (2) Causing (if mechanical cause reported) | 0 | N/A | N/A | 60. Was this consist transporting passengers? (Y/N) | N/A | |

| 61. Locomotive Units | a. Head End | Mid Train b. Manual | Mid Train c. Remote | Rear End d. Manual | Rear End c. Remote | 62. Cars | Loade a. Freight | Loade b. Pass. | Empty c. Freight | Empty d. Pass. | e. Caboose |
|---|---|---|---|---|---|---|---|---|---|---|---|
| (1) Total in Train | 0 | 0 | 0 | 0 | 0 | (1) Total in Equipment Consist | 0 | 0 | 0 | 0 | 0 |
| (2) Total Derailed | 0 | 0 | 0 | 0 | 0 | (2) Total Derailed | 0 | 0 | 0 | 0 | 0 |

| 63. Equipment Damage This Consist | 64. Track, Signal, Way, & Structure Damage | 65. Primary Cause Code | 66. Contributing Cause Code |
|---|---|---|---|
| 0 | 0 | N/A | N/A |

| Number of Crew Members | | | | Length of Time on Duty | |
|---|---|---|---|---|---|
| 67. Engineer/ Operators | 68. Firemen | 69. Conductors | 70. Brakemen | 71. Engineer/Operator | 72. Conductor |
| N/A | N/A | N/A | N/A | Hrs 0 Mi 0 | Hrs 0 Mi 0 |

| Casualties to: | 73. Railroad Employees | 74. Train Passengers | 75. Other |
|---|---|---|---|
| Fatal | 0 | 0 | 0 |
| Nonfatal | 0 | 0 | 0 |

| 76. EOT Device? | 77. Was EOT Device Properly Armed? | 78. Caboose Occupied by Crew? |
|---|---|---|
| 1. Yes 2. No N/A | 1. Yes 2. No N/A | 1. Yes 2. No N/A |

## Highway User Involved

| 79. Type | Code |
|---|---|
| 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) | E |

| 80. Vehicle Speed (est. MPH at impact) | 81. Direction geographical) 1.North 2.South 3.East 4.West | Code |
|---|---|---|
| 2 | | 4 |

| 82. Position | Code |
|---|---|
| 1.Stalled on Crossing 2.Stopped on Crossing 3.Moving Over Crossing 4. Trapped | 3 |

| 86a. 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 | Code |
|---|---|
| | 4 |

## Rail Equipment Involved

| 83. Equipment | Code |
|---|---|
| 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) | 8 |

| 84. Position of Car Unit in Train |
|---|
| 1 |

| 85. Circumstance | Code |
|---|---|
| 1. Rail Equipment Struck Highway User 2. Rail Equipment Struck by Highway User | 1 |

| 86b. Was there a hazardous materials release by 1. Highway User 2. Rail Equipment 3. Both 4. Neither | Code |
|---|---|
| | 4 |

86c. State here the name and quantity of the hazardous materials released, if any.
N/A

| 87. Type of 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Code(s) | 07 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | | | | |

| 88. Signaled Crossing Warning (See instructions for codes) | Code |
|---|---|
| N/A | |

| 89. Whistle Ban | Code |
|---|---|
| 1. Yes 2. No 3. Unknown | 2 |

| 90. Location of Warning | Code |
|---|---|
| 1. Both Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle Approach | 1 |

| 91. Crossing Warning Interconnected with Highway Signals | Code |
|---|---|
| 1. Yes 2. No 3. Unknown | 2 |

| 92. Crossing Illuminated by Street Lights or Special Lights | Code |
|---|---|
| 1. Yes 2. No 3. Unknown | 2 |

| 93. Driver's Age | 94. Driver's Gender 1. Male 2. Female | Code |
|---|---|---|
| 42 | | 1 |

| 95. Driver Drove Behind or in Front of Train and Struck or was Struck by Second Train 1. Yes 2. No 3. Unknown | Code |
|---|---|
| | 2 |

| 96. Driver | Code |
|---|---|
| 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) | 3 |

| 97. Driver Passed Standing Highway Vehicle 1. Yes 2. No 3. Unknown | Code |
|---|---|
| | 2 |

| 98. 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 |
|---|---|
| | 8 |

| 101. Casulties to Highway-Rail Crossing Users | Killed | Injured |
|---|---|---|
| | 3 | 2 |

| 99. Driver Was 1. Killed 2.Injured 3. Uninjured | Code |
|---|---|
| | 2 |

| 100. Was Driver in the Vehicle? 1. Yes 2. No | Code |
|---|---|
| | 1 |

| 102. Highway Vehicle Property Damage (est. dollar damage) | 103. Total Number of Highway-Rail Crossing Users (include driver) |
|---|---|
| 5000 | 5 |

| 104. Locomotive Auxiliary Lights? 1. Yes 2. No | Code |
|---|---|
| | 1 |

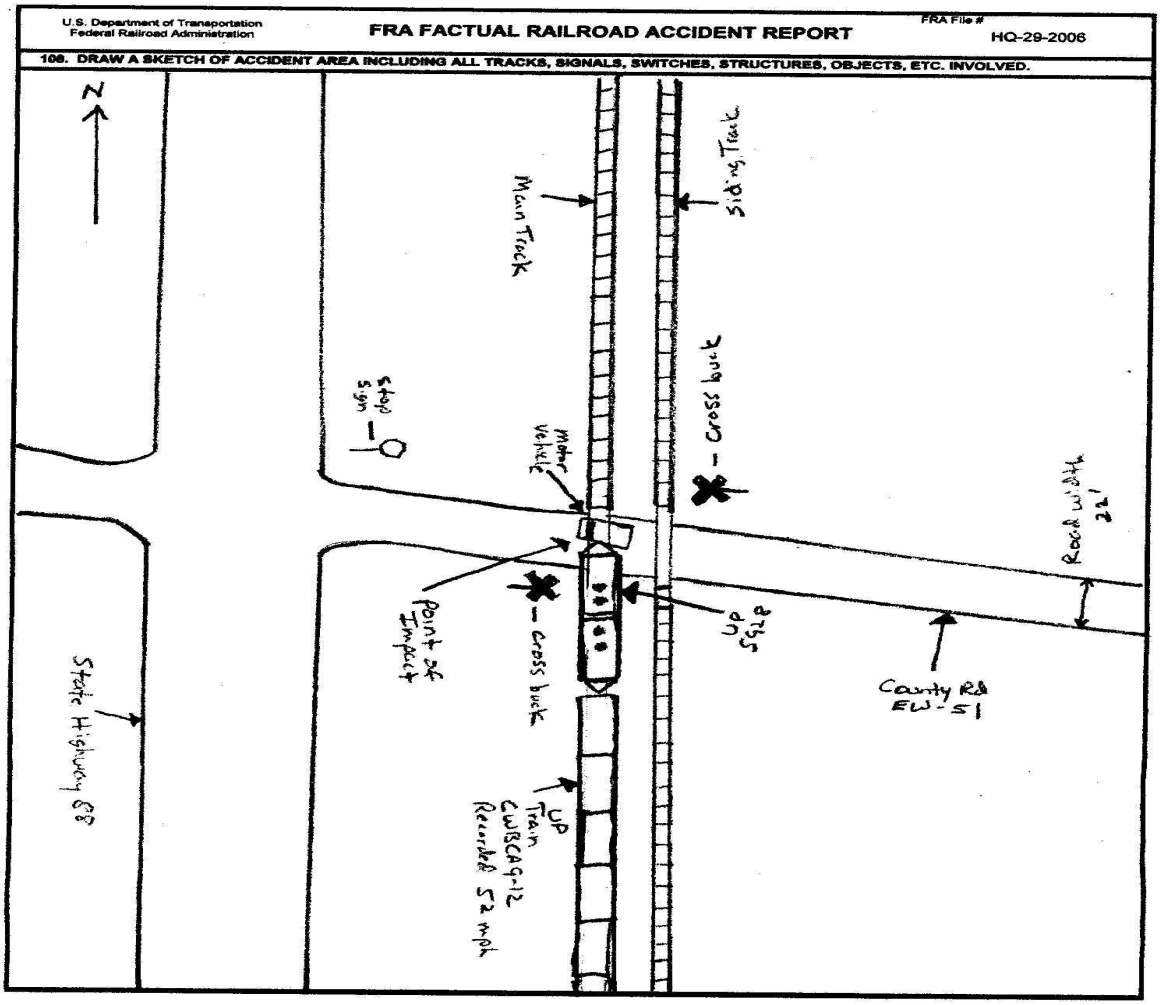
| 105. Locomotive Auxiliary Lights Operational? 1. Yes 2. No | Code |
|---|---|
| | 1 |

| 106. Locomotive Headlight Illuminated? 1. Yes 2. No | Code |
|---|---|
| | 1 |

| 107. Locomotive Audible Warning Sounded? 1. Yes 2. No | Code |
|---|---|
| | 1 |

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

HQ-29-2006.jpg



109. SYNOPSIS OF THE ACCIDENT

A northbound Union Pacific Railroad freight train CWBCA9-12 collided with a motor vehicle at a highway-rail grade crossing, on May 14, 2006, at 9:06 a.m (CST). The accident occurred near Claremore, Oklahoma, at UP milepost 606.91, on the Wagoner Subdivision.

The motor vehicle was occupied by a driver and four passengers. The driver and one passenger sustained injuries and the remaining three passengers were killed. The automobile received an estimated damage of $5,000. There were no reported injuries to the train crew. The leading locomotive sustained minor damage of about $100, and there was no derailment.

At the time of the accident it was daylight and clear. The temperature was 54°F. The highway-rail grade crossing consisted of cross bucks indicating multiple tracks, one main line and siding track. The crossing was of asphalt with cement plank on the main and wooden plank for the siding.

According to the Oklahoma Highway Patrol, the accident was caused by failure of the motor vehicle driver to yield to the oncoming train.

Investigations and inquiries, revealed that there were no cameras, nor any related photographical equipment located on either of the locomotives for purpose of filming events, of which the locomotive and or train was involved in.

110. NARRATIVE

CIRCUMSTANCES PRIOR to the ACCIDENT

The train crew of northbound train CWBCA9-12 included a locomotive engineer and a conductor. They first went on duty at 01:45 a.m. (CST), May 14, 2006, at the UP Van Buren Yard in Van Buren, Arkansas. This was the originating terminal for both train crew members, and both received the statutory off duty period, prior to reporting to duty.

Their assigned freight train was a coal train which consisted of two head end locomotives and one DPU locomotive at the rear of train and 135 empty coal cars. The DPU locomotive utilized at the rear of this train also served as end of train device (EOT). It was 7290 feet in length with 2937 trailing tons. Required air brake tests and inspections had been conducted on their train, prior to departure.

The train crew received their required documentation and departed Van Buren Yard at about 05:00 a.m. (CST), en route to Coffeyville, Kansas.

As the train approached the accident area, the locomotive engineer was seated at the controls on the east side of the leading locomotive and the conductor was seated on the west side of the leading locomotive.

The railroad timetable direction of the train was north, on tangent and level track. The weather was clear with good visibility. The trip had been uneventful. There were no visible sight restrictions, as would be seen from a locomotive approaching County Road EW-51 highway-rail grade crossing.

The motor vehicle was a 1998 Oldsmobile Silhouette blue van, license number FL U23-1KM. There was one driver and four passengers in the vehicle. The motor vehicle was traveling geographically westward, at a very slow rate of speed, just prior to impact.

County Road EW-51 is a asphalted road that is tangent, level and crosses the railroad tracks diagonally with two designated directional lanes and intersects with State Highway 88 which parallels main line track. The highway-rail grade crossing runs east to west in good condition and is composed of asphalt skirting with wooden plank for siding track and a cement plank for the main line track. It is equipped with crossbucks indicating multiple tracks.

The posted speed on County Road EW-51 is 40 m.p.h. The motor vehicle was traveling from the east direction onto the subject crossing and there were no advanced warning signs nor pavement markings on County Road EW-51. The view is unrestricted in either direction.

THE ACCIDENT

Traveling timetable direction north and approaching mile post 606.91, the engineer stated he had observed the posted whistle boards and began sounding the horn. The train speed was 52 miles per hour recorded from the lead locomotive. The maximum authorized speed for this train was 60 mph, per FRA track classification 4 at this location.

As the train approached the subject highway-rail grade crossing, the engineer observed a motor vehicle approaching from the east moving at a slow rate of speed while occupying the crossing, and continued to blow the locomotive horn. The motor vehicle occupied by the driver and four passengers proceeded westward and entered the highway-rail grade crossing, not yielding to the on-coming Union Pacific train CWBCA9-12.

Seconds prior to impact, it became apparent to the engineer, who stated he had a gut feeling that the motor vehicle might be struck. The engineer simultaneously

initiated an emergency brake application. The train struck the left side of the motor vehicle causing it to be driven into a broad slide and went over onto its passenger side, rotated, and came back onto its wheels without doing a complete roll. According to the Union Pacific Railroad reports, the train had traveled between 1,676 and 1, 753 feet from the time the emergency brake application was initiated to the time the train came to a complete stop.

The motor vehicle was occupied with four passengers and the driver. The driver of the motor vehicle was of male gender, 42 years of age and was seriously injured. One of the four passengers was of female gender, 2 years of age and was seriously injured. The three remaining passengers were fatally injured, a 1 year old male, 10 year old female and a 32 year old female. There was no reported injuries to the train crew.

The driver of the motor vehicle was taken to local hospital by Life Flight Helicopter and the 2 year old female was taken by Air Evac Helicopter. The three fatally injured were transported by Pafford EMS.

ANALYSIS

Damages to the motor vehicle were estimated at $5,000 and the lead locomotive sustained an estimated $100 damage. The Oklahoma Highway Patrol, did not determine the speed of the motor vehicle prior to impact due to the weight ratio of the locomotive and motor vehicle being greater than 10:1. This made it impossible to use momentum formulas to determine the speed of the motor vehicle.

The Oklahoma Highway Patrol, did determine at the time of accident, that the motor vehicle traveling west was approaching State Highway 88 intersection and had a posted stop sign only 123 feet ahead and would not have been likely for the vehicle to be traveling more than 10-20 m.p.h.

The Oklahoma Highway Patrol reported at the time of accident, that a passing motor vehicle traveling south on State Highway 88 was struck by debris that projected outward when the locomotive and subject motor vehicle collided, producing minimal damage and no injury to the occupant.

The data revealed from the event recorders of the lead locomotive UP 5928 and trailing locomotive UP 8283, reflects that the train crew of Union Pacific train CWBCA9-12, were within the posted speed for this location, and had followed required protocols and procedures, prior to and at the time when the accident occurred. The last whistle board, approaching from the south is about 1,350 feet from the crossing.

The lead locomotive UP 5928, was equipped with headlights, auxiliary lights and audible warning device. Railroad officials and personnel tested these devices and confirmed they were functioning as intended.

There are no active warning devices at this crossing nor was there any advance warning signs approaching from the east on County Road EW-51. The road maintenance at this crossing is the responsibility of Rogers County, who has geographical jurisdiction at this location.

The Oklahoma Highway Patrol, did not perform any drug or alcohol testing to the driver of the motor vehicle.

REPORT DISCREPANCIES

Wherein the Union Pacific Railroad FRA Form 6180.97, states on page 2, locomotive placement for Head/Middle/Rear locations, indicates a total of 3 on the Head. Freight train CWBCA9-12, was a coal train and had occupied a DPU locomotive at the rear of train. Although the total number of locomotives are 3, Form 6180.97 is formatted to indicate actual placement of locomotives involved and should in this case indicate 2 at Head and 1 at Rear. The Union Pacific accident personnel concurred and made appropriate correction.

CONCLUSION

The railroad was in full compliance with their own, and all applicable Federal standards. Based on the Oklahoma Highway Patrol, this collision was caused by the driver of the motor vehicle not devoting his full attention and time to the roadway, and failure to yield at a railroad crossing.

PROBABLE CAUSE

The Federal Railroad Administration determined that the failure of the driver of the motor vehicle to yield to an oncoming freight train was the probable cause.