Federal Railroad Administration
Office of Safety
Headquarters Assigned
Accident Investigation Report
HQ-2008-46

Burlington Northern Santa Fe (BNSF)
Lafayette, LA
May 17, 2008

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-2008-46

1.Name of Railroad Operating Train #1: BNSF Rwy Co. [BNSF]	1a. Alphabetic Code: BNSF	1b. Railroad Accident/Incident No.: GC0508110
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: BNSF Rwy Co. [BNSF]	4a. Alphabetic Code: BNSF	4b. Railroad Accident/Incident No.: GC0508110
5. U.S. DOT_AAR Grade Crossing Identification Number:	6. Date of Accident/Incident: Month 05 | Day 17 | Year 2008	7. Time of Accident/Incident: 01:35: ☑ 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: 01

9. Cars Carrying HAZMAT	10. HAZMAT Cars Damaged/Derailed	11. Cars Releasing HAZMAT	12. People Evacuated	13. Division
6	4	1	3005	Gulf

14. Nearest City/Town	15. Milepost *(to nearest tenth)*	16. State Abbr	16. State Code	17. County
Lafayette	147.7	N/A	LA	LAFAYETTE

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
75 F	4	1	2

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. West — Code
103	1	N/A	4

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
1	1	GFC3111-17

29. Speed *(recorded speed, if available)* R - Recorded; E - Estimated: 7 MPH — Code: R

30. Trailing Tons *(gross tonnage, excluding power units)*: 1377

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): n | 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)*	GATX 64605	12	yes
(2) Causing *(if mechanical cause reported)*	N /A	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
0	0

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

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	2	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	7	0	16	0	0
(2) Total Derailed	7	0	0	0	0

37. Equipment Damage — This Consist: $110,900.00

38. Track, Signal, Way, & Structure Damage: $140,000.00

39. Primary Cause Code: M507

40. Contributing Cause Code: N/A

Number of Crew Members

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

Length of Time on Duty

45. Engineer/Operator: Hrs 2 Mi 5

46. Conductor: Hrs 2 Mi 5

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

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

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

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

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: 0 MPH — Code: N/A

58. Method(s) of Operation *(enter code(s) that apply)*: a. ATCS; b. Auto train control; g. Automatic block; h. Current of traffic; m.Special instructions; n. Other than main track

58a. Remotely Controlled Locomotive? 0 = Not a remotely controlled; 1 = Remote control portable

DEPARTMENT OF TRANSPORTATION
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FRA FACTUAL RAILROAD ACCIDENT REPORT

FRA File # HQ-2008-46

57. Trailing Tons *(gross tonnage, excluding power units)* N/A

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: $0.00

65. Track, Signal, Way, & Structure Damage: $0.00

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? Code 1. Yes 2. No 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)* N/A

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: $0.00

92. Track, Signal, Way, & Structure Damage: $0.00

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. 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)*: N/A

108. Vehicle Speed *(est. MPH at impact)*: N/A

109. *geographical)* Code: 1.North 2.South 3.East 4.West: N/A

Rail Equipment Involved

111. 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)*: N/A

112. Position of Car Unit in: 0

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FRA FACTUAL RAILROAD ACCIDENT REPORT

FRA File # HQ-2008-46

110. Position	Code	113. Circumstance	Code
1.Stalled on Crossing 2.Stopped on Crossing 3.Moving Over Crossing 4. Trapped	N/A	1. Rail Equipment Struck Highway User 2. Rail Equipment Struck by Highway User	N/A
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	N/A	114b. Was there a hazardous materials release 1. Highway User 2. Rail Equipment 3. Both 4. Neither	N/A

114c. State here the name and quantity of the hazardous materials released, if any.
N/A

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

116. Signaled Crossing *(See instructions for codes)*	Code	117. Whistle Ban 1. Yes 2. No 3. Unknown	Code
	N/A		N/A

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
	N/A		N/A		N/A

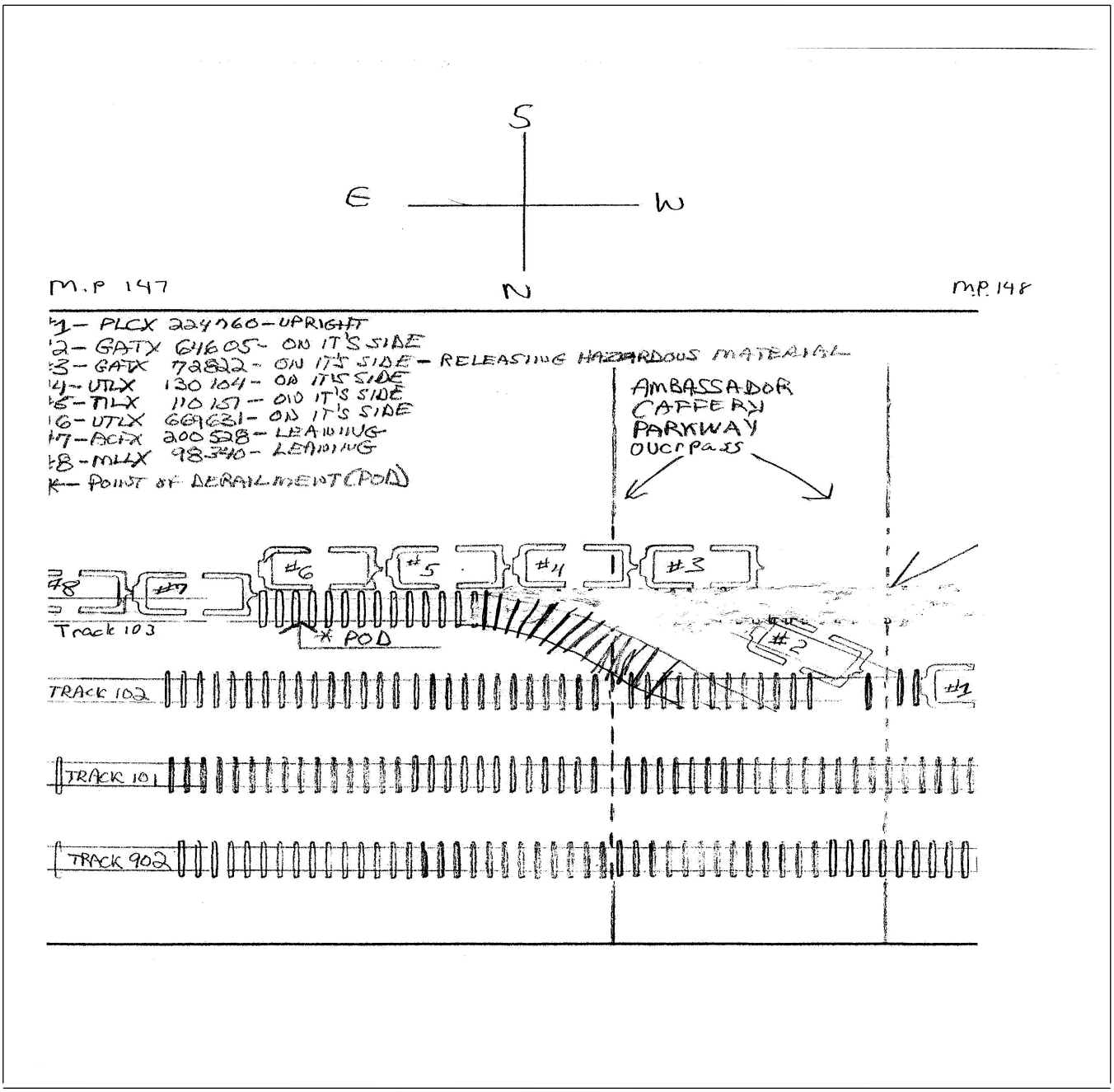
121. Age	122. Driver's Gender 1. Male 2. Female	Code	123. Driver Drove Behind or in Front of and Struck or was Struck by Second Train 1. Yes 2. No 3. Unknown	Code	124. Driver 1. Drove around or thru the Gate 2. Stopped and then Proceeded 3. Did not Stop 4. Stopped on Crossing 5. Other *(specify in narrative)*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

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
	N/A		N/A

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

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

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



137. SYNOPSIS OF THE ACCIDENT

On May 17, 2008, westbound Burlington Northern Santa Fe (BNSF) Train R-GFC3111-17 derailed while departing the BNSF Lafayette Yard in Lafayette, LA. The derailment occurred about 1:35 a.m. in Track No. 103 near milepost 147.7 on the Lafayette Subdivision. The train consisted of two locomotives and 23 rail cars. The 10th thru 16th cars behind the locomotives derailed. The BNSF has listed the cost of the derailment as $250,900 ($110,900 for equipment and $140,000 for track damage).

At the time of the derailment, it was dark and the weather was clear and the temperature was 75 degrees F.

During the derailment a loaded tank car impacted a nearby highway overpass causing the car to release a large amount of Hydrochloric Acid. As a result of this release an area within one mile of the derailment site was evacuated, effecting about 3000 nearby residents and businesses.

The cause of the derailment has been determined to be T110- Wide gage due to defective cross ties.

FRA's initial inspection of the equipment revealed no obvious defects. The train's event recorders showed no adverse conditions that would have caused the derailment. FRA's Track Inspector inspected the derailment site after it was cleared by heavy equipment and found nothing definitive that would have caused the derailment. The FRA 6180.54 report that BNSF has submitted shows the cause as M505 (Cause under active investigation by the reporting railroad).

138. NARRATIVE

CIRCUMSTANCES PRIOR TO THE ACCIDENT:

The crew of Burlington Northern Santa Fe (BNSF) Train R-GFC3111-17 consisted of a locomotive engineer, a conductor, and a brakeman. They went on duty at 11:30 p.m. CST, on May 16, 2008, at the BNSF Lafayette yard. The train was scheduled to go from Lafayette, LA en route to Beaumont, TX and return. All crew members had received more than the required statutory off duty rest period prior to reporting for duty.

The BNSF Train R-GFC3111-17 consisted of two locomotives, seven loaded rail cars, and sixteen empty rail cars. The train was 1,391 feet long and had 1,377 trailing tons. The crew completed the required train air brake test and locomotive inspection before departing Lafayette yard. No exceptions were noted.

The westbound BNSF train departed Lafayette Yard on Track # 153 and then diverted on to Track #103. The engineer was seated at the controls on the north side of the lead locomotive. The conductor was seated in the first seat on the south side of the lead locomotive and the brakeman was sitting in the brakeman's seat.

The area near the Point of Derailment (POD) is flat with a curve leading up to a #10 right hand turnout which connects Track # 103 to Track # 102. Both tracks are designated as FRA Class 1 and the timetable speed is 10 mph. The weather was clear, the temperature was 75° F, and it was dark.

THE ACCIDENT:

As westward BNSF Train R-GFC3111-17 proceeded at a recorded speed of 7 mph, on Track # 103, the crew reported that they felt a slight "tug". The train crew then experienced an emergency brake application of the train air brake system. The speed recorded by the event recorder at this time was 7 mph. After the train stopped the brakeman and conductor began walking east to inspect the rear of the train. They immediately noticed a "cloud" coming from the rear of the train and notified the yardmaster that the train had derailed. They cut one car and the locomotives away from the train and took them to the west end of the yard.

A total of seven cars were derailed on the west end of Track # 103 just east of the switch to Track # 102. As a result of the derailment tank car # GATX 72822 struck a support of the Ambassador Caffery overpass. About 10,000 gallons of hydrochloric acid was released after a valve on the car was damaged by the impact. Louisiana State Police evacuated the area within a one mile radius of the derailment as a precaution for approximately 52 hours.

ANALYSIS:

The accident met the criteria for 49 CFR Part 219 Subpart C Post Accident Toxicological Testing of the crew. The test results were negative.

ANALYSIS:

FRA obtained fatigue related information for the 10-day period preceding the incident including the 10-day work history (on duty/off duty cycles) for all of the employees involved.

CONCLUSION:

Upon analysis of that information FRA concluded fatigue was not probable for any of the employees.

The BNSF Freight Train R-GEC3111-17 event recorder was downloaded by BNSF personnel and no excessive speed or adverse train handling was noted in the data prior to the derailment. On May 19, 2008, FRA and BNSF personnel inspected the derailment site. BNSF Officials took track measurements and FRA observed the results. It should be noted that the derailed equipment had been removed and the site had been disturbed by heavy equipment involved in the clearing process. Due to this fact several of the track measurements taken were not accurate. FRA observed nothing definitive at the site to determine a cause. As part of the investigation FRA inspected BNSF track inspection records for the BNSF Lafayette Yard. The BNSF track inspector recorded no defects for the five months prior to May 17, 2008. Recent track inspections performed by FRA inspectors resulted in numerous defective conditions noted in Lafayette Yard, but none in the immediate area surrounding the derailment. FRA investigators inspected the equipment involved on May 21, 2008, and noted no obvious defects.

CONCLUSION:

The train was being operated in accordance with FRA Regulations and BNSF Rules as indicated by event recorder data. The results of toxicology tests on all crew members test results were negative. FRA has concluded that fatigue was not a probable cause of the accident. The BNSF obtained the services of a derailment investigation firm in an effort to further determine the cause of this accident and the BNSF using data from that investigation concluded that the probable cause of the derailment was wide gage. However, due to fact that FRA was not able to view the derailment site until after heavy equipment significantly altered the site they were not able to determine the cause with reasonable certainty.