Federal Railroad Administration
Office of Safety
Headquarters Assigned
Accident Investigation Report
HQ-2006-07

Norfolk Southern (NS)
Salamanca, New York
January 26, 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-2006-7

1.Name of Railroad Operating Train #1: Norfolk Southern Corp. [NS]	1a. Alphabetic Code: NS	1b. Railroad Accident/Incident No.: 023967
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: Western New York & Pennsylvania RR LLC [WNYP]	3a. Alphabetic Code: WNYP	3b. Railroad Accident/Incident No.: 942006
4. U.S. DOT_AAR Grade Crossing Identification Number:	5. Date of Accident/Incident: Month 01 / Day 26 / Year 2006	6. Time of Accident/Incident: 04:40:00 ☑ AM ☐ PM

7. 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): 01

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

13. Nearest City/Town	14. Milepost (to nearest tenth)	15. State Abbr	15. State Code	16. County
Salamanca	0	N/A	NY	CATTARAUGUS

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
8 F		4		6		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		3	4.8		3

OPERATING TRAIN #1

25. 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	26. Was Equipment Attended? 1. Yes 2. No	Code	27. Train Number/Symbol
		1		1	5329920

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

29. Trailing Tons (gross tonnage, excluding power units): 10728

30. 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)					
i	j	m	N/A	N/A	

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)	0	0	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	3	0	0	0	0
(2) Total Derailed	1	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	87	0	0	0	0
(2) Total Derailed	42	0	0	0	0

36. Equipment Damage This Consist	37. Track, Signal, Way, & Structure Damage	38. Primary Cause Code	39. Contributing Cause Code
762876	25000	T220	N/A

Number of Crew Members

40. Engineer/ Operators	41. Firemen	42. Conductors	43. Brakemen
N/A	0	1	0

Length of Time on Duty

44. Engineer/Operator	45. Conductor
Hrs 5 Mi 20	Hrs 5 Mi 20

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

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) 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	53. Was Equipment Attended? 1. Yes 2. No	Code	54. Train Number/Symbol
		N/A		N/A	N/A

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

57. 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

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

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56. 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

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

59. 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

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
(1) Total in Train	0	0	0	0	0
(2) Total Derailed	0	0	0	0	0

62. Cars	Loade a. Freight	Loade 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

63. Equipment Damage This Consist: 0

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

65. Primary Cause Code: N/A

66. Contributing Cause Code: N/A

Number of Crew Members

67. Engineer/ Operators	68. Firemen	69. Conductors	70. Brakemen
N/A	N/A	N/A	N/A

Length of Time on Duty

71. Engineer/Operator: Hrs 0 Mi 0

72. Conductor: 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? 1. Yes 2. No: N/A

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

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

Highway User Involved

79. Type: 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: N/A

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

81. Direction geographical) 1.North 2.South 3.East 4.West — Code: N/A

82. Position: 1.Stalled on Crossing 2.Stopped on Crossing 3.Moving Over Crossing 4. Trapped — Code: N/A

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: N/A

Rail Equipment Involved

83. 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: N/A

84. Position of Car Unit in Train: N/A

85. Circumstance: 1. Rail Equipment Struck Highway User; 2. Rail Equipment Struck by Highway User — Code: N/A

86b. Was there a hazardous materials release by 1. Highway User 2. Rail Equipment 3. Both 4. Neither — Code: N/A

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)							
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

88. Signaled Crossing Warning (See instructions for codes) — Code:

89. Whistle Ban 1. Yes 2. No 3. Unknown — Code: N/A

90. Location of Warning 1. Both Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle Approach — Code: N/A

91. Crossing Warning Interconnected with Highway Signals 1. Yes 2. No 3. Unknown — Code: N/A

92. Crossing Illuminated by Street Lights or Special Lights 1. Yes 2. No 3. Unknown — Code: N/A

93. Driver's Age: 0

94. Driver's Gender 1. Male 2. Female — Code: N/A

95. Driver Drove Behind or in Front of Train and Struck or was Struck by Second Train 1. Yes 2. No 3. Unknown — Code: N/A

96. 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: N/A

97. Driver Passed Standing Highway Vehicle 1. Yes 2. No 3. Unknown — Code: N/A

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: N/A

101. Casulties to Highway-Rail Crossing Users	Killed	Injured
	0	0

99. Driver Was 1. Killed 2.Injured 3. Uninjured — Code: N/A

100. Was Driver in the Vehicle? 1. Yes 2. No — Code: N/A

102. Highway Vehicle Property Damage (est. dollar damage): 0

103. Total Number of Highway-Rail Crossing Users (include driver): 0

104. Locomotive Auxiliary Lights? 1. Yes 2. No — Code: N/A

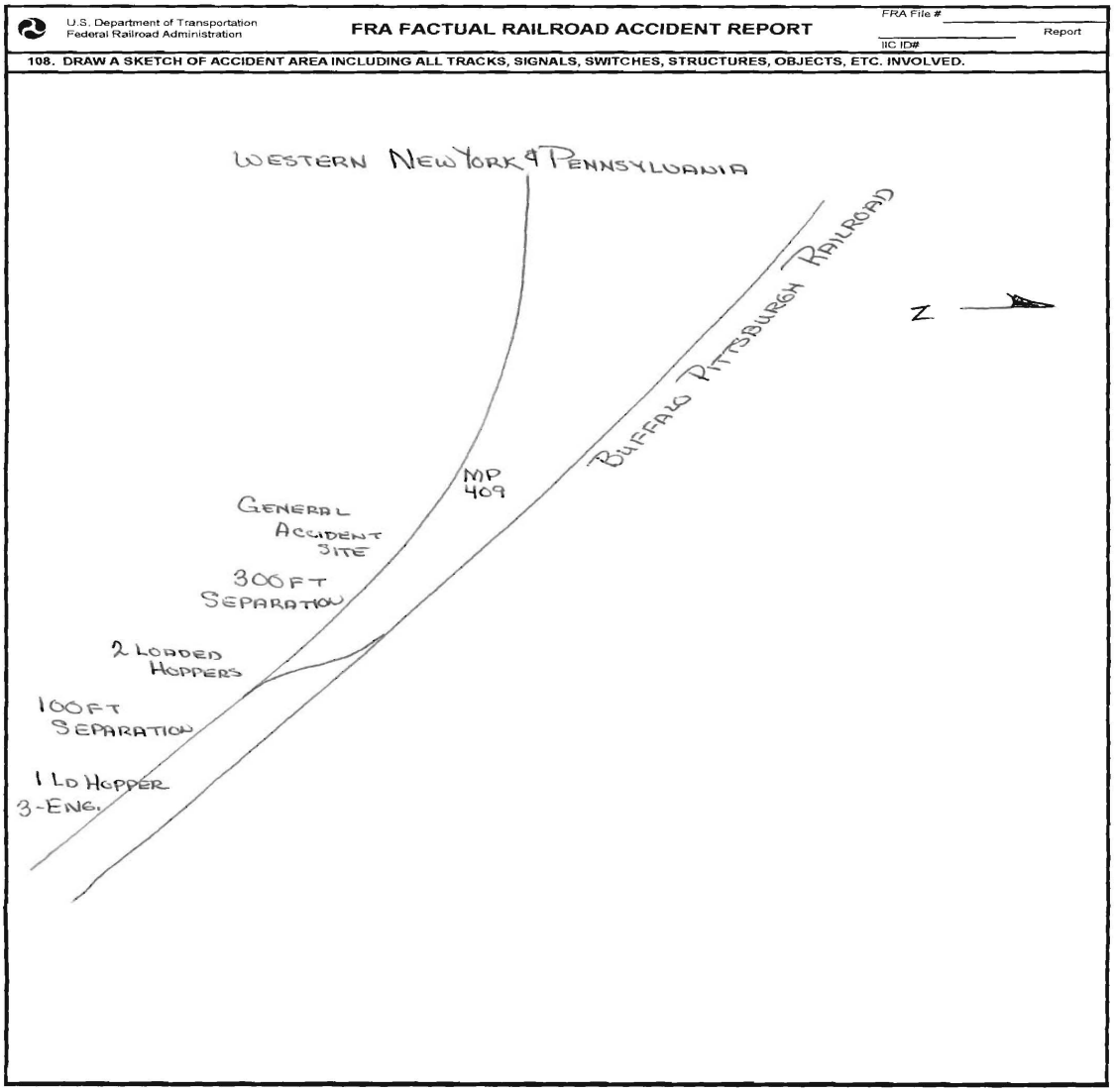
105. Locomotive Auxiliary Lights Operational? 1. Yes 2. No — Code: N/A

106. Locomotive Headlight Illuminated? 1. Yes 2. No — Code: N/A

107. Locomotive Audible Warning Sounded? 1. Yes 2. No — Code: N/A

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

HQ-2006-7
Sketch.jpg



109. SYNOPSIS OF THE ACCIDENT

An eastbound NS coal train derailed one locomotive, and 43 cars on the Western New York & Pennsylvania Railroad, Thursday, January 26, 2006, at 4:40 a.m. The accident occurred approximately 4 miles east of Salamanca, NY, at milepost JC408.8, on the WNYP single main track.

There was no evacuation and no injuries to the train crew. Coal from the derailed cars spilled into the Allegheny River. Equipment damage is estimated at $762,876. Track damages is estimated at $24,200.

At the time of the accident it was dark, and snowing. The temperature was 8°F.

The cause of the accident is a broken rail - transverse fissure in the outer rail in a curve.

110. NARRATIVE

Circumstances Prior to the Accident

The crew of NS5329920 east, included a locomotive engineer and a conductor. They went on duty at 11:00 p.m., EST, January 25, 2006, at the NS Yard Office in Meadville, PA. This is the home terminal for the crew, and they received more than the statutory off duty period, prior to reporting for duty.

NS train NS5329920 originated on the Norfolk Southern Railroad at Shire Oaks, PA. An initial terminal inspection was performed, in addition too, an inspection and test of the end-of-train device at Conway Yard in Pittsburgh, PA. An NS train crew operated the coal train in a east direction from Conway Yard in Pittsburgh, PA to Meadville, PA. The inbound crew de-boarded the train on arrival in Meadville, PA. The outbound crew boarded the train and departed Meadville, PA. Meadville, PA is a crew change location.

The outbound train crew's assigned train consisted of three locomotives and 87 loaded hopper cars with coal. The train weighed 10,728 tons. Their train was scheduled to travel from Meadville, PA to Gang Mills, NY. There was no inspection of the train before departing Meadville, PA.

As the eastbound freight train approached the accident area, the locomotive engineer was seated at the controls on the south side of the locomotive. The conductor was seated on the north side of the locomotive. The engineer and conductor had an unobstructed view of the area approaching the accident site.

In this area of the railroad there are, in succession, a tangent about 8976 feet long, followed by a 2- degree 30 minute curve to the right about 600 feet; a tangent about 5800 feet long; a 3-degree 45 minute curve to the right about 1000 feet in length; followed by a tangent about 700 feet long. There is a trailing point No.10 turnout located about 100 feet of the 3-degree 45 minute curve to the right. The turnout connects to the Buffalo & Pittsburgh Railroad's, Single Main Track. There is a .09 percent ascending grade.

The railroad timetable direction of the train is east. The geographical direction was east. Timetable directions are used throughout this report.

The Accident

The freight train was being operated at 39 mph approaching the accident site. At the time of the accident, the train was being operated at 39 mph. The speed was recorded by the event recorder on the controlling locomotive. The maximum authorized speed for freight trains is 40 mph, as designated in the current Western New York & Pennsylvania Railroad, Timetable No.4, effective Sunday November 23, 2003.

The NS freight train was moving east on the Western New York & Pennsylvania Railroad's, single main track. The train was moving on a tangent, followed by a 3-degree 45 minute curve to the right, onto a tangent when an unintentional train line emergency brake application occurred.

The train crew began to make an emergency transmission over the radio after they discovered their train was on the ground. The WNYP's Train Dispatcher acknowledged the emergency transmission.

The conductor dismounted the locomotive to make an inspection of the train. The conductor found the 2nd through the 43rd cars in the train derailed. The derailed cars extended from the turnout in the main track west around the curve.

The train crew inspected the locomotives and the first car. The crew took no exceptions to the condition of the locomotives or the first car in the train. The train crew moved the locomotive consist and the first car to Olean, NY. The locomotives and the first car were parked on the WNYP main track at milepost 397.2.

There was no evacuation, and there was no injuries to the train crew.

Analysis and Conclusions

The locomotive was equipped with a speed indicator and an event recorder. The event recorder data was downloaded by an NS Road Foreman of Engines from Pittsburgh, PA. The train crew was interviewed by NS and WNYP Transportation officials. No exception was taken to the operation of the train.

The train crew was not tested for Alcohol and Drug use.

Norfolk Southern Railroad's, General Car Foreman and FRA made an inspection of the locomotives and the first car. The inspection disclosed the trailing truck of the third locomotive and the first car were derailed in the train accident. There were marks on the under carriage and the wheels of the trailing truck of the third locomotive. There were missing bearing adaptors, wheel bearings not properly seated in the bearing adaptors, and the truck sides were canted on the first car.

The inspection of the main track was made by representatives from Norfolk Southern Railroad and Western New York & Pennsylvania Railroad's Engineering Department. Inspection of the main track disclosed a break in the outer rail in the curve. The outer rail of the curve was pushed out allowing the wheels to drop in the gage of the south rail. There were wheel marks on the web of rail of the outer rail in the curve. There were wheel marks on the gage corner and head of the outer rail of the receiving end of rail.

Inspection of the WNYP track inspection records, and the internal rail inspection records were made. Track inspection records indicated the last inspection was made on January 24, 2006. The inspection of the main track was made from a hi-rail vehicle traversing the single main track. There were no exceptions noted in the area of the accident. WNYP employees a contractor to make internal inspections of the rail. The last internal inspection of the rail in the main track was completed on April 16, 2003. The internal inspection records disclosed that there were no exceptions to the rails in the area of the accident.

The train accident committee determined the front of the first loaded coal hopper, NW144828, was the first to derail. The wheel marks on the ties and rail extended from the location the first car stopped back into the general pile up of the coal hoppers. The distance from the broken rail to the derailed hopper car was about 5oo feet. The accident committee determined the POD is the broken rail.

WNYP and the NS determined the probable cause of the train accident as a T-220, Broken rail - Transverse Fissure.

Conclusions

Train NS5329920 east was being operated within the requirements of the operating and train handling requirements.

Inspection records disclosed the track was last inspected on January 24, 2006 and found in compliance. Internal rail inspection records disclosed the last internal inspection of the rails was made on April 16, 2003, with no exceptions found in the area of the accident.

The inspection disclosed the outer rail in a 3-degree 45 minute curve to the right broke at a transverse fissure about 500 feet west of the first derailed car. Wheel marks extended west of the ties and rail from the location where the first car stopped into the general accident site.

Probable Cause & Contributing Factors

According to the Federal Railroad Administration's investigation, the probable cause of the accident was attributed to a broken rail - transverse fissure.