

Federal Railroad Administration Office of Safety Headquarters Assigned Accident Investigation Report HQ-2005-71

> Norfolk Southern (NS) Shannon, West Virginia August 28, 2005

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 RAILROA	D ADMINISTRATION (FRA)

# FRA FACTUAL RAILROAD ACCIDENT REPORT

FRA File # <u>HQ-2005-71</u>

1. Name of Railroad Operat		1a. Alphabetic Code					1b. Railroad Accident/Incident No.											
Norfolk Southern		NS						TSARX22089										
2. Name of Railroad Operating Train #2								2a. Alphabetic Code						2b. Railroad Accident/Incident No.				
N/A								Ν	I/A				1	N/A				
3. Name of Railroad Respon	1	3a. Alphabetic	Code				3b. Railroa	ad Accident/In	cident No.									
N/A		N/A																
4. U. S. DOT-AAR Grade	4	5. Date of Accident/Incident						6. Time of Accident/Incident										
		month day year							PM X									
7. Type of Accident/Incide	7. Hwy-rail cro	crossing 10. Explosion-detonation					13. Other Code											
(single entry in code bo.	(single entry in code box) 2. Head on collision 5. Raking collision 8. RR grad								crossing 11. Fire/violent rupture					(describe in)				
A Com Commine	9. Obstruction	on 12. Other impacts					narrative)											
8. Cars Carrying	eleasing	11. People Evacuated					12. Division											
0	0	Evacuated					System											
13. Nearest City/Town					14. Milepo	st	:	5. State	Code	16.0	County		~	,				
					(to nea	rest tenth)		Abbr.										
17 Tomporatura (E)	Shan	non	sility (single a	ntm;)	Codo 1	27.5	(cingle entry)		WV WYOM			NG	of Trook		Codo			
(specify if minus)		18. VISI 1. D	awn 3. Dus	k ı		1. Clear	3. Rain	5	5. Sleet			20. Type of Track 1. Main 3. Siding			L			
75	<sup>o</sup> F	2. D	ay 4. Dark	k	4	2. Cloudy	4. Fog	6	6. Snow 2			2. Ya	ard 4	4. Industry	1			
21. Track Name/Number					22. FRA Track	c Co	de 23. Ai	nual Trac	ck			24. Time Table Direction			Code			
	Single Main	n Track			Class (1-9,	X)	Density (gross tons					1. North 3.East						
	8			in m	illions)	6	o.20		2.	South 4.	West	3						
A					OP	ERATING	FRAIN # 1											
25. Type of Equipment	<ol> <li>Freight trai</li> <li>Passenger:</li> </ol>	n 4 rain 5	Single car	<ol> <li>Yard/swit</li> <li>Light locc</li> </ol>	ching A	. Spec. Mow E	quip. Code	26.	Was Equipr	nent	. (	code 2	27. Train Numb	er/Symbol				
Consist (single entry)	3. Commuter	train 6	. Cut of cars	<ol> <li>Digit loce</li> <li>Maint./ins</li> </ol>	spect. car		Attended?					1		U77U528				
28. Speed (recorded sp	eed, if available	)	Code 30.1	Method(s) o	f Operation	(enter coa	<i>i i i i i i i i i i</i>					30a. Remo	otely Controlle	d Locomotive	?			
R - Recorded			a. /	ATCS	g. Aut	omatic block	m. Special instructions					0= Not	t a remotely co	ntrolled opera	tion			
E - Estimated			b. 4	Auto train co	ontrol h. Cur	rent of traffic	n. Otl	er than m	ain track rul	es		1 = Re	mote control p	ortable transm	nitter			
25	s toppaga	MPH	R c. A	Auto train st	i Trac	e table/train orde	orders o. Positive train control						mote control to	ower operation	1			
excluding power units)	s ionnage,		e. 1	Fraffic contr	rol k. Dire	ect traffic contro	л р. Ош 1	ci (spec	Code(s)	(100)		J = Re	nsmitter - more	e than one				
		10 500	f. 1	Interlocking	l. Yard	l limits	e N/A N/A N/A N/A					ren	remote control transmitter					
			1 1 1/11															
31. Principal Car/Unit		a. Initial ar	nd Number	b. Positio	on in Train	c. Load	ed (ves/no)	1071	32. If rail	oad empl	oyee(s) te	sted for dru	ıg/alcohol use,		0			
31. Principal Car/Unit (1) First involved		a. Initial ar	nd Number	b. Positio	on in Train	c. Load	ed (yes/no)		32. If rails enter t	oad empl	oyee(s) te er that we	sted for dru re positive i	ıg/alcohol use, n	Alcohol	Drugs			
31. Principal Car/Unit (1) First involved (derailed, struck, etc)	·	a. Initial ar	nd Number	b. Positio	on in Train 1	c. Load	ed (yes/no) N/A		32. If rails enter t the ap	oad empl he numbe propriate	oyee(s) te or that we box.	ested for dru re positive i	ıg/alcohol use, n	Alcohol N/A	0 Drugs N/A			
31. Principal Car/Unit         (1) First involved         (derailed, struck, etc)         (2) Causing (if mec	hanical	a. Initial ar	N/A	b. Positio	on in Train 1 N/A	c. Load	ed (yes/no) N/A N/A		32. If railing enter the approximation of the second secon	road emple he numbe propriate	oyee(s) te er that we box. t transpor	ested for dru re positive i ting passeng	ng/alcohol use, n gers ? (Y/N)	Alcohol N/A	0 Drugs N/A			
31. Principal Car/Unit         (1) First involved         (derailed, struck, etc)         (2) Causing (if meccause reported)	hanical	a. Initial ar	nd Number NS9446 N/A	b. Positio	on in Train 1 N/A	c. Load	ed (yes/no) N/A N/A		32. If railing enter the ap	road empl- he numbe propriate his consist	oyee(s) te er that we box. t transpor	ested for dru re positive i ting passeng	ng/alcohol use, n gers ? (Y/N)	Alcohol N/A	Drugs       N/A       N/A			
31. Principal Car/Unit         (1) First involved         (derailed, struck, etc)         (2) Causing (if meccause reported)         34. Locomotive Units	hanical	a. Initial ar	d Number JS9446 N/A Mid /	b. Positio	on in Train 1 N/A d Manual	c. Load	ed (yes/no) N/A N/A 35. Cars		32. If raih enter t the ap 33. Was t	road emple he numbe propriate	oyee(s) to r that we box. t transpor Loa	ested for dru re positive i ting passen ded	g/alcohol use, n gers ? (Y/N)	Alcohol N/A	0 Drugs N/A N/A			
<ul> <li>31. Principal Car/Unit <ol> <li>First involved</li> <li>first involved</li> <li>derailed, struck, etc)</li> </ol> </li> <li>(2) Causing (if meccause reported)</li> <li>34. Locomotive Units</li> </ul>	hanical	a. Initial ar N a. Head End	d Number JS9446 N/A b. Manual	b. Positio	on in Train 1 N/A d. Manual	c. Load	ed (yes/no) N/A N/A 35. Cars		32. If raih enter t the ap 33. Was th	road emplohe numbe propriate his consist	boyee(s) te box. t transpor Loa Freight	ting passen ded b. Pass.	ig/alcohol use, n gers ? (Y/N) c. Freight	Alcohol N/A	0       Drugs       N/A       N/A       e. Caboose			
<ul> <li>31. Principal Car/Unit <ol> <li>First involved</li> <li>first involved</li> <li>derailed, struck, etc)</li> </ol> </li> <li>(2) Causing (if mec cause reported)</li> <li>34. Locomotive Units <ol> <li>Total in Train</li> </ol> </li> </ul>	hanical	a. Initial ar N a. Head End 3	ad Number NS9446 N/A b. Manual 0	b. Position	on in Train 1 N/A d. Manual 0	c. Load	ed (yes/no) N/A N/A 35. Cars (1) Tota	l in Equip	32. If raih enter t the ap 33. Was th ment Consis	road emplo he numbe propriate his consist a.	oyee(s) te rr that we box. t transpor Loa Freight 150	ested for dru re positive i ting passeng ded b. Pass.	g/alcohol use, n gers ? (Y/N) c. Freight 0	Alcohol N/A	0 Drugs N/A e. Caboose			
31. Principal Car/Unit         (1) First involved         (derailed, struck, etc)         (2) Causing (if meccause reported)         34. Locomotive Units         (1) Total in Train	hanical	a. Initial ar N a. Head End 3	ad Number NS9446 N/A b. Manual 0	b. Position	on in Train 1 N/A d. Manual 0	tear End e. Remote	ed (yes/no) N/A N/A 35. Cars (1) Tota	l in Equip	32. If raili enter t the ap 33. Was th	road empl- he numbe propriate his consist a. t	boyee(s) te tr that we box. t transpor Loa Freight 150	ting passen b. Pass.	rg/alcohol use, n gers ? (Y/N) c. Freight 0	Alcohol N/A	0 Drugs N/A N/A e. Caboose 0			
31. Principal Car/Unit         (1) First involved         (derailed, struck, etc)         (2) Causing (if meccause reported)         34. Locomotive Units         (1) Total in Train	hanical	a. Initial ar	ad Number NS9446 N/A b. Manual 0	b. Position	on in Train 1 N/A d. Manual 0	tear End e. Remote	ed (yes/no) N/A N/A 35. Cars (1) Tota	l in Equip	32. If raili enter t the ap 33. Was th ment Consis	road empl he numbe propriate his consist a. t	boyee(s) te r that we box. t transpor Loa Freight	ting passen b. Pass.	ng/alcohol use, n gers ? (Y/N) c. Freight 0	Alcohol N/A	0 Drugs N/A e. Caboose 0			
<ul> <li>31. Principal Car/Unit <ol> <li>First involved</li> <li>First involved</li> <li>(derailed, struck, etc)</li> </ol> </li> <li>(2) Causing (if meccause reported)</li> <li>34. Locomotive Units <ol> <li>Total in Train</li> <li>Total Derailed</li> </ol> </li> </ul>	hanical	a. Initial ar N a. Head End 3 3	ad Number JS9446 N/A b. Manual 0 0	b. Positio	on in Train 1 N/A d. Manual 0 0 0	tear End c. Load c. Load c. Remote c. Remote c. Remote c. Load	ed (yes/no) N/A N/A 35. Cars (1) Tota (2) Tota	l in Equip	32. If raili enter t the ap 33. Was t	road empl he numbe propriate his consist a. t	loyee(s) te r that we box. t transpor Loa Freight 150	isted for dru re positive i ting passen ded b. Pass. 0 0	n gers ? (Y/N) c. Freight 0 0	Alcohol N/A d. Pass. 0 0	0 Drugs N/A N/A e. Caboose 0 0			
31. Principal Car/Unit         (1) First involved         (derailed, struck, etc)         (2) Causing (if meccause reported)         34. Locomotive Units         (1) Total in Train         (2) Total Derailed         36. Equipment Damage	hanical	a. Initial ar N a. Head End 3 3	d Number IS9446 N/A b. Manual 0 0 0	b. Positio	on in Train 1 N/A d. Manual 0 0 0	c. Load c. Load c. Load c. Load c. Load c. Control c. Load c. Control c. Contro c. Control c. Control c. Control c. Contr	ed (yes/no) N/A N/A 35. Cars (1) Tota (2) Tota	l in Equips	32. If railing enter the ap 33. Was the ap 33. Was the ap 33. Was the ap 33. Was the appendix th	t	boyee(s) te r that we box. t transpor Loa Freight 150 17	ting passen ded b. Pass. 0 0	ributing Cause	Alcohol N/A	0 Drugs N/A e. Caboose 0 0			
31. Principal Car/Unit         (1) First involved         (derailed, struck, etc)         (2) Causing (if meccause reported)         34. Locomotive Units         (1) Total in Train         (2) Total Derailed         36. Equipment Damage This Consist	hanical	a. Initial ar N a. Head End 3 3	d Number IS9446 N/A b. Manual 0 0 37. Track, Signal, & Structure	b. Positio	on in Train 1 N/A d. Manual 0 0 0 0 0	c. Load c. Load c. Load c. Load c. Cod c. Load c. Cod c. C	ed         (yes/no)           N/A         N/A           35. Cars         (1) Tota           (2) Tota         38. Primary           Code         Code	l in Equipo Derailed Cause	32. If railing enter the ap 33. Was the appendix	a.	loyee(s) te r that we box. t transpor Loa Freight 150	sted for dru re positive i ting passen ded b. Pass. 0 0 39. Cont	gers ? (Y/N) c. Freight 0 0 cuributing Cause	Alcohol N/A	0 Drugs N/A e. Caboose 0 0			
31. Principal Car/Unit         (1) First involved         (derailed, struck, etc)         (2) Causing (if meccause reported)         34. Locomotive Units         (1) Total in Train         (2) Total Derailed         36. Equipment Damage This Consist	hanical \$189,901.	a. Initial ar N a. Head End 3 3 00	d Number IS9446 N/A b. Manual 0 0 0 37. Track, Signal, & Structure	b. Position Train c. Remote 0 Way, Damage	on in Train	c. Load c. Load e. Remote c. Remote c. Remote c. Load c. C. Load c. Load c. C. Load c. C. Load c. C. Load c. C. Load c. C. Load	<pre>(yes/no) N/A N/A 35. Cars (1) Tota (2) Tota 38. Primary Code</pre>	l in Equips l Derailed Cause	32. If railing enter the ap 33. Was the ap 33. Was the ap 33. Was the ap 33. Was the appendix th	t M503	loyee(s) te for that we box. t transpor Loa Freight 150 17	sted for dru re positive i ting passen ded b. Pass. 0 0 39. Cont Code	grs? (Y/N) gers? (Y/N) c. Freight 0 0 cuributing Cause	Alcohol N/A	0 Drugs N/A e. Caboose 0 0 N/A			
31. Principal Car/Unit         (1) First involved         (derailed, struck, etc)         (2) Causing (if meccause reported)         34. Locomotive Units         (1) Total in Train         (2) Total Derailed         36. Equipment Damage This Consist	hanical \$189,901.0	a. Initial ar N a. Head End 3 3 00 Number of C	d Number IS9446 N/A b. Manual 0 0 37. Track, Signal, & Structure Crew Members	b. Position Train c. Remote 0 Way, Damage	on in Train  I N/A d. Manual 0 0 \$20,0	c. Load c. Load c. Remote	<pre>d (yes/no) N/A N/A 35. Cars (1) Tota (2) Tota 38. Primary Code</pre>	l in Equipi	32. If railing enter the ap 33. Was the ap 33. Was the ap 33. Was the ap 33. Was the appendix th	t M503	loyee(s) te r that we box. t transpor Loc Freight 150 17 ngth of T	sted for dru re positive i ting passen ded b. Pass. 0 0 39. Cont Code ime on Dut	g/alcohol use, n gers ? (Y/N) c. Freight 0 0 rributing Cause	Alcohol N/A	0 Drugs N/A e. Caboose 0 0 N/A			
31. Principal Car/Unit         (1) First involved         (derailed, struck, etc)         (2) Causing (if meccause reported)         34. Locomotive Units         (1) Total in Train         (2) Total Derailed         36. Equipment Damage This Consist         40. Engineers/	hanical \$189,901. 41. Firemen	a. Initial ar N a. Head End 3 3 00 Number of C	d Number US9446 N/A b. Manual 0 0 37. Track, Signal, & Structure Crew Members 42. Conductors	b. Position Train c. Remote 0 Way, Damage	on in Train  I N/A d. Manual 0 0 0 \$20,0 43. Brakemed	c. Load c. Load c. Remote	<pre>d (yes/no) N/A N/A 35. Cars (1) Tota (2) Tota (2) Tota 38. Primary Code 44. Enginee</pre>	l in Equips l Derailed Cause	32. If rails enter t the ap 33. Was t ment Consis	noad empl he numbe propriate his consist a. t t M503 Le	loyee(s) te r that we box. t transpor Loc Freight 150 17 ngth of T	sted for dru re positive i ting passen ded b. Pass. 0 0 39. Cont Code ime on Dut 45. Co	ng/alcohol use, n gers ? (Y/N) c. Freight 0 0 uributing Cause	Alcohol N/A	0 Drugs N/A e. Caboose 0 0 N/A			
31. Principal Car/Unit         (1) First involved         (derailed, struck, etc)         (2) Causing (if meccause reported)         34. Locomotive Units         (1) Total in Train         (2) Total Derailed         36. Equipment Damage This Consist         40. Engineers/ Operators         1	hanical \$189,901.0 41. Firemen N/A	a. Initial ar N a. Head End 3 3 00 Number of C	d Number IS9446 N/A b. Manual 0 0 37. Track, Signal, & Structure Crew Members 42. Conductors 1	b. Position Train c. Remote 0 0 Way, Damage	on in Train	c. Load c. Load c. Load c. Load c. Remote c. Remote c. Load c. Load c. c. L	d (yes/no) N/A N/A 35. Cars (1) Tota (2) Tota (2) Tota 38. Primary Code 44. Enginee Hrs:	l in Equipi l Derailed Cause r/Operator 2	32. If rails enter t the ap 33. Was t ment Consis	ins:	t transpor Loa Freight 150 17 50	sted for dru re positive i ting passen; ded b. Pass. 0 0 39. Cont Code ime on Dut 45. Co	n gers ? (Y/N) c. Freight 0 0 rributing Cause 9 y nductor Hrs:	Alcohol N/A	0 Drugs N/A e. Caboose 0 N/A			
31. Principal Car/Unit         (1) First involved         (derailed, struck, etc)         (2) Causing (if meccause reported)         34. Locomotive Units         (1) Total in Train         (2) Total Derailed         36. Equipment Damage This Consist         40. Engineers/ Operators         1         Casualties to:	hanical \$189,901.0 41. Firemen N/A 46. Railroad E	a. Initial ar N a. Head End 3 3 3 Number of C mployees	d Number JS9446 N/A b. Manual 0 0 37. Track, Signal, & Structure Crew Members 42. Conductors 1 47. Train Passer	b. Position Train c. Remote 0 0 Way, Damage ngers	on in Train	c. Load c. Load c. Load c. Load c. Load c. Load c.	ed (yes/no) N/A N/A 35. Cars (1) Tota (2) Tota (2) Tota (2) Tota (38. Primary Code 44. Enginee Hrs: 49. EOT D	l in Equip l Derailed Cause r/Operator 2 evice?	32. If rails enter t the ap 33. Was t ment Consis	ins:	t transpor Loa Freight 150 17 50	sted for dru re positive i ting passen; ded b. Pass. 0 0 39. Cont Code ime on Dut 45. Co	ng/alcohol use, n gers ? (Y/N) c. Freight 0 0 ributing Cause b y nductor Hrs: as EOT Device	Alcohol N/A d. Pass. 0 0 0	0 Drugs N/A e. Caboose 0 N/A ns: 50 red?			
31. Principal Car/Unit         (1) First involved         (derailed, struck, etc)         (2) Causing (if meccause reported)         34. Locomotive Units         (1) Total in Train         (2) Total Derailed         36. Equipment Damage This Consist         40. Engineers/ Operators         1         Casualties to:         Fatal	hanical \$189,901.0 41. Firemen N/A 46. Railroad E 0	a. Initial ar N a. Head End 3 3 3 00 Number of C	d Number JS9446 N/A b. Manual 0 0 37. Track, Signal, & Structure Crew Members 42. Conductors 1 47. Train Passer 0	b. Position	on in Train	c. Load c. Load c. Load c. Remote c.	d (yes/no) N/A N/A 35. Cars (1) Tota (2) Tota (2) Tota 38. Primary Code 44. Enginee Hrs: 49. EOT D 1. Yes	l in Equip l Derailed Cause r/Operator 2 evice?	32. If railing and	man a. t a. t M503 Le ins: 1	loyee(s) te r that we box. t transpor Loz Freight 150 17 17 50	sted for dru re positive i ting passen ded b. Pass. 0 39. Cont Code ime on Dut 45. Co 50. Wa	ng/alcohol use, n gers ? (Y/N) c. Freight 0 0 rributing Cause s y nductor Hrs: as EOT Device Yes	Alcohol N/A d. Pass. 0 0 0	0 Drugs N/A N/A e. Caboose 0 N/A 0 N/A 1 1 1			
31. Principal Car/Unit         (1) First involved         (derailed, struck, etc)         (2) Causing (if meccause reported)         34. Locomotive Units         (1) Total in Train         (2) Total Derailed         36. Equipment Damage This Consist         40. Engineers/ Operators         1         Casualties to:         Fatal         Nonfatal	hanical \$189,901.0 41. Firemen N/A 46. Railroad F 0 0	a. Initial ar N a. Head End 3 3 3 00 Number of O	d Number IS9446 N/A b. Manual 0 0 37. Track, Signal, & Structure Crew Members 42. Conductors 1 47. Train Passer 0 0 0	b. Position	on in Train	c. Load	ed (yes/no) N/A N/A 35. Cars (1) Tota (2) Tota (38. Primary Code Hrs: 49. EOT D 1. Yes (51. Caboos	l in Equip l Derailed Cause r/Operator 2 evice? e Occupie	32. If rails enter t the ap 33. Was t ment Consis r M 2. No d by Crew?	ins:	i transpor Loa Freight 150 17 50	sted for dru re positive i ing passen ded b. Pass. 0 0 39. Cont Code ime on Dut 45. Co 50. Wa 1, 1	n gers ? (Y/N) Emp c. Freight 0 0 rributing Cause e y nductor Hrs: as EOT Device Yes	Alcohol N/A d. Pass. 0 0 0	0 Drugs N/A N/A e. Caboose 0 N/A 0 N/A 1 1 1			
31. Principal Car/Unit         (1) First involved         (derailed, struck, etc)         (2) Causing (if meccause reported)         34. Locomotive Units         (1) Total in Train         (2) Total Derailed         36. Equipment Damage This Consist         40. Engineers/ Operators         1         Casualties to:         Fatal         Nonfatal	hanical \$189,901.0 41. Firemen N/A 46. Railroad E 0 0	a. Initial ar N a. Head End 3 3 3 00 Number of O	d Number IS9446 N/A b. Manual 0 0 37. Track, Signal, & Structure Crew Members 42. Conductors 1 47. Train Passer 0 0	b. Position	on in Train	c. Load c. Loa	ed (yes/no) N/A N/A 35. Cars (1) Tota (2) Tota (2) Tota 38. Primary Code 44. Enginee Hrs: 49. EOT D 1. Yes 51. Caboos 1. Yes	l in Equip l Derailed Cause r/Operator 2 evice? e Occupie	32. If railing enter the ap 33. Was the second seco	main sector of the sector of t	it transpor Loa Freight 150 17 50	sted for dru re positive i ting passen ded b. Pass. 0 39. Cont Code ime on Dut 45. Co 50. Wa 1,	n gers ? (Y/N) Emp c. Freight 0 0 0 rributing Cause e y nductor Hrs: as EOT Device Yes	Alcohol N/A d. Pass. 0 0 0	0 Drugs N/A N/A e. Caboose 0 N/A 0 N/A 1 1 1 N/A			
31. Principal Car/Unit         (1) First involved         (derailed, struck, etc)         (2) Causing (if meccause reported)         34. Locomotive Units         (1) Total in Train         (2) Total Derailed         36. Equipment Damage This Consist         40. Engineers/ Operators         1         Casualties to:         Fatal         Nonfatal	hanical \$189,901.0 41. Firemen N/A 46. Railroad E 0 0	a. Initial ar N a. Head End 3 3 3 00 Number of O	d Number IS9446 N/A b. Manual 0 0 37. Track, Signal, & Structure Crew Members 42. Conductors 1 47. Train Passer 0 0	b. Position	on in Train	c. Load  tear End e. Remote 0 0 000.00 en 1/A 0 0 ERATING 7	ed (yes/no) N/A N/A 35. Cars (1) Tota (2) Tota (2) Tota (2) Tota (2) Tota (2) Tota (2) Tota (38. Primary Code Hrs: 49. EOT D 1. Yes 51. Caboos 1. Yes	l in Equip l Derailed Cause r/Operator 2 evice? e Occupie	32. If railing enter the ap 33. Was the second seco	man de la construction de la con	it transpor Ereight 150 17 50	sted for dru re positive i ing passen ded b. Pass. 0 0 39. Cont Code ime on Dut 45. Co 50. Wa 1, <sup>-</sup>	n gers ? (Y/N) Emp c. Freight 0 0 rributing Cause e y nductor Hrs: as EOT Device Yes	Alcohol N/A d. Pass. 0 0 0	0 Drugs N/A N/A e. Caboose 0 N/A 0 N/A 1 1 1 N/A			
31. Principal Car/Unit         (1) First involved         (derailed, struck, etc)         (2) Causing (if meccause reported)         34. Locomotive Units         (1) Total in Train         (2) Total Derailed         36. Equipment Damage This Consist         40. Engineers/ Operators         1         Casualties to:         Fatal         Nonfatal         52. Type of Equipment	hanical \$189,901.0 41. Firemen N/A 46. Railroad F 0 0 1. Freight trai	a. Initial ar N a. Head End 3 3 00 Number of C Simployees n 4	d Number IS9446 N/A b. Manual 0 0 37. Track, Signal, & Structure Crew Members 42. Conductors 1 47. Train Passer 0 0 0	b. Position	on in Train	c. Load c. Load c. Load c. Load c. Remote c. R	<pre>d (yes/no) N/A N/A 35. Cars (1) Tota (2) Tota 38. Primary Code 44. Enginee Hrs: 49. EOT D 1. Yes 51. Caboos 1. Yes 51. Caboos 1. Yes</pre>	l in Equip l Derailed Cause r/Operator 2 evice? e Occupie	32. If railing enter the appendix of the appen	ippment	i transpor Ereight 150 17 50	sted for dru re positive i b. Pass. 0 39. Cont Code 50. Wa 1. T	ng/alcohol use, n gers ? (Y/N) c. Freight 0 0 rributing Cause e y nductor Hrs: as EOT Device Yes 54. Train Num	Alcohol N/A d. Pass. 0 0 0 2 Min Properly Arm 2. No ber/Symbol	0           Drugs           N/A           e. Caboose           0           0           N/A			
31. Principal Car/Unit         (1) First involved         (derailed, struck, etc)         (2) Causing (if meccause reported)         34. Locomotive Units         (1) Total in Train         (2) Total Derailed         36. Equipment Damage This Consist         40. Engineers/         Operators         1         Casualties to:         Fatal         Nonfatal         52. Type of Equipment Consist (single entry)	hanical \$189,901.0 41. Firemen N/A 46. Railroad F 0 0 0	a. Initial ar N a. Head End 3 3 00 Number of C imployees n 4 rain 5	d Number IS9446 N/A b. Manual 0 0 37. Track, Signal, & Structure Crew Members 42. Conductors 1 47. Train Passer 0 0 0	b. Positio	on in Train		d (yes/no) N/A N/A 35. Cars (1) Tota (2) Tota (2) Tota (2) Tota (2) Tota (2) Tota (2) Tota (38. Primary Code 44. Enginee Hrs: 49. EOT D 1. Yes 51. Caboos 1. Yes 51. Caboos 1. Yes	I in Equipin I berailed Cause r/Operator 2 evice? e Occupie	32. If railing enter the ap 33. Was the ap 34. Was the ap 35. Was	ippment	r that were box. t transported to the transported	sted for dru re positive i b. Pass. 0 0 39. Cont Code ime on Dut 45. Co 50. Wa 1.	n gers ? (Y/N) Emp c. Freight 0 0 rributing Cause b y nductor Hrs: as EOT Device Yes 54. Train Num	Alcohol N/A d. Pass. 0 0 0 2 Mii Properly Arm 2. No ber/Symbol	0           Drugs           N/A           N/A           e. Caboose           0           0           N/A			
31. Principal Car/Unit         (1) First involved         (derailed, struck, etc)         (2) Causing (if meccause reported)         34. Locomotive Units         (1) Total in Train         (2) Total Derailed         36. Equipment Damage This Consist         40. Engineers/ Operators         1         Casualties to:         Fatal         Nonfatal         52. Type of Equipment Consist (single entry)         55 Sneed       (recorded entry)	hanical \$189,901. 41. Firemen N/A 46. Railroad F 0 0 1. Freight trai 2. Passenger 3. Commuter 3. Commuter	a. Initial ar N a. Head End 3 3 3 00 Number of C imployees n 4 rain 5 train 6	d Number IS9446 N/A b. Manual 0 0 37. Track, Signal, & Structure Crew Members 42. Conductors 1 47. Train Passer 0 0 0 0 Code crasses Code crasses Crasses Code crasses Code crasses Code crasses Crasses Code crasses Code crasses Code crasses Code crasses Code crasses Code crasses Crasses	b. Positio	on in Train		ed       (yes/no)         N/A         35. Cars         (1) Tota         (2) Tota         (2) Tota         38. Primary         Code         44. Enginee         Hrs:         49. EOT D         1. Yes         51. Caboos         1. Yes	I in Equipi I berailed Cause r/Operator 2 evice? e Occupie de 5 A	32. If railing enter the ap 33. Was the ap 34. Was the ap 35. Was	ins: 1 No 1 No 1 No No No No No No No No No No	r that we box. t transported to the second	sted for dru re positive i b. Pass. 0 0 39. Cont Code ime on Dut 45. Co 50. Wa 1.	ng/alcohol use, n gers ? (Y/N) c. Freight 0 0 urributing Cause b y nductor Hrs: as EOT Device Yes 54. Train Num	Alcohol N/A d. Pass. 0 0 0 2 Mii Properly Arn 2. No ber/Symbol N/A d Locomotive	0 Drugs N/A N/A e. Caboose 0 0 N/A ns: 50 ned? 1 N/A 2			
31. Principal Car/Unit         (1) First involved         (derailed, struck, etc)         (2) Causing (if meccause reported)         34. Locomotive Units         (1) Total in Train         (2) Total Derailed         36. Equipment Damage This Consist         40. Engineers/         Operators         1         Casualties to:         Fatal         Nonfatal         52. Type of Equipment Consist (single entry)         55. Speed (recorded sp	hanical \$189,901. 41. Firemen N/A 46. Railroad E 0 0 1. Freight trai 2. Passenger 3. Commuter eeed, if available	a. Initial ar N a. Head End 3 3 00 Number of C Employees imployees n 4 train 5 train 6	d Number IS9446 N/A b. Manual 0 0 0 37. Track, Signal, & Structure Crew Members 42. Conductors 1 47. Train Passer 0 0 0 0 . Work train 5. Single car 2. Cut of cars 2. Cut of cars 5. N. A 0 0 0 0 0 0 0 0 0 0 0 0 0	b. Positio	on in Train  I  N/A  d. Manual  0  ()  0  ()  43. Brakeme  48. Other  48. Other  Coperation  Spect. car  Coperation  g. Auto	c. Load c. Load cear End c. Remote c	ed         (yes/no)           N/A         N/A           35. Cars         (1) Tota           (2) Tota         (2) Tota           (2) Tota         (2) Tota           38. Primary Code         (2) Tota           44. Enginee         Hrs:           49. EOT D         1. Yes           51. Caboos         1. Yes           51. Caboos         1. Yes           FRAIN # 2         Quip. Co           N//         N/           le(s) that apply         m. Spec	I in Equipi I berailed Cause r/Operator 2 evice? e Occupie de 5 A	32. If railing enter the ap 33. Was the ap 34. Was the ap 35. Was	ipment	i transpor Loa Freight 150 17 150 17 50	sted for dru re positive i ing passen ded b. Pass. 0 0 39. Cont Code 50. Wa 1 57a. Remc 0= Noi	rg/alcohol use, n gers ? (Y/N) c. Freight 0 0 urributing Cause y nductor Hrs: as EOT Device Yes 54. Train Num tely Controlle t a remotely co	Alcohol N/A d. Pass. 0 0 0 2 Min Properly Arm 2. No ber/Symbol N/A d Locomotive ntrolled opera	0 Drugs N/A N/A e. Caboose 0 0 N/A ns: 50 ned? 1 N/A			
31. Principal Car/Unit         (1) First involved         (derailed, struck, etc)         (2) Causing (if meccause reported)         34. Locomotive Units         (1) Total in Train         (2) Total Derailed         36. Equipment Damage This Consist         40. Engineers/ Operators         1         Casualties to:         Fatal         Nonfatal         52. Type of Equipment Consist (single entry)         55. Speed (recorded sp R - Recorded	hanical \$189,901. 41. Firemen N/A 46. Railroad F 0 0 1. Freight trai 2. Passenger 3. Commuter eed, if available	a. Initial ar N a. Head End 3 3 00 Number of C imployees n 4 train 5 train 6	d Number IS9446 N/A b. Manual 0 0 0 37. Track, Signal, & Structure Crew Members 42. Conductors 1 47. Train Passer 0 0 0 . Work train Single car Cut of cars 57. N a. 4 b. 4 b. 4 b. 4 b. 4 b. 4 cut of cars 57. N b. 4 b. 4 cut of cars 57. N a. 4 b. 4 cut of cars 57. N cut of cars 57. N a. 4 b. 4 cut of cars 57. N a. 4 cut of cars 57. N a. 4 b. 4 cut of cars 57. N a. 4 cut of cars 57. N a. 4 b. 4 cut of cars 57. N a. 4 cut of cars 57. N a. 4 b. 4 cut of cars 57. N a. 4 cut of cars 57. N a. 4 cut of cars 57. N a. 4 cut of cars 57. N a. 4 b. 4 cut of cars 57. N a. 57. N a. 5	b. Position	on in Train  I  N/A  d. Manual  0  ()  ()  ()  ()  ()  ()  ()  ()  ()	c. Load c. Load cear End c. Remote c	d (yes/no) N/A N/A 35. Cars (1) Tota (2) Tota (2) Tota (2) Tota (2) Tota (38. Primary Code 44. Enginee Hrs: 49. EOT D 1. Yes 51. Caboos 1. Yes 51. Caboos 1. Yes FRAIN # 2 quip. Co	I in Equipril I Derailed Cause r/Operator 2 evice? de 5 A	32. If railing enter the ap 33. Was	ippment	r that we box. t transported to the transported to	sted for dru re positive i ing passen ded b. Pass. 0 0 39. Cont Code 39. Cont Code 50. Wa 1. 57a. Remc 0= Noi 1 = Re	rributing Cause 9 9 9 9 9 9 9 9 9 10 10 10 10 10 10 10 10 10 10	Alcohol N/A d. Pass. 0 0 0 2 Mii Properly Arm 2. No ber/Symbol N/A d Locomotive ntrolled opera ortable transm	0 Drugs N/A N/A e. Caboose 0 0 N/A ns: 50 aed? 1 N/A itter			
31. Principal Car/Unit         (1) First involved         (derailed, struck, etc)         (2) Causing (if meccause reported)         34. Locomotive Units         (1) Total in Train         (2) Total Derailed         36. Equipment Damage This Consist         40. Engineers/ Operators         1         Casualties to:         Fatal         Nonfatal         52. Type of Equipment Consist (single entry)         55. Speed (recorded sp R - Recorded E - Estimated         0	hanical \$189,901. 41. Firemen N/A 46. Railroad F 0 0 1. Freight trai 2. Passenger 3. Commuter eed, if available	a. Initial ar N a. Head End 3 3 3 00 Number of C imployees n 4 train 5 train 6 0 MPH	d Number IS9446 N/A b. Manual 0 0 0 37. Track, Signal, & Structure Crew Members 42. Conductors 47. Train Passer 0 0 0 0 0 0 0 0 0 0 0 0 0	b. Position	on in Train  I  N/A  d. Manual  0  0  \$20,0  43. Brakema  48. Other  48. Other  Coperation  Spect. car  Operation  g. Auto ontrol h. Cur op i. Time	c. Load c. Load cear End c. Remote c	ed       (yes/no)         N/A         N/A         35. Cars         (1) Tota         (2) Tota         (2) Tota         (38. Primary Code         44. Enginee         Hrs:         49. EOT D         1. Yes         51. Caboos         1. Yes         FRAIN # 2         quip.       Co         N/         le(s) that apply         m. Speen         n. Othe         errs       o. Positi	I in Equipril I Derailed Cause r/Operator 2 evice? de 5 A	32. If railing enter the ap 33. Was	ippment	r that we box. t transported to the second	sted for dru re positive i ing passen ded b. Pass. 0 0 39. Cont Code 39. Cont Code 45. Co 50. Wa 1.	rributing Cause y nductor Hrs: as EOT Device Yes 54. Train Num otely Controllee t a remotely co	Alcohol N/A d. Pass. 0 0 0 2 Min Properly Arm 2. No ber/Symbol N/A d Locomotive ntrolled opera ortable transm	0           Drugs           N/A           N/A           e. Caboose           0           0           N/A           e. Caboose           0           N/A           ns:         50           aed?           1           N/A			
31. Principal Car/Unit         (1) First involved         (derailed, struck, etc)         (2) Causing (if meccause reported)         34. Locomotive Units         (1) Total in Train         (2) Total Derailed         36. Equipment Damage This Consist         40. Engineers/ Operators         1         Casualties to:         Fatal         Nonfatal         52. Type of Equipment Consist (single entry)         55. Speed (recorded sp R - Recorded E - Estimated O         56. Trailing Tons (gros)	hanical \$189,901.0 41. Firemen N/A 46. Railroad F 0 0 1. Freight trai 2. Passenger 3. Commuter eed, if available	a. Initial ar N a. Head End 3 3 3 00 Number of C imployees n 4 train 5 train 6 MPH	d Number IS9446 N/A b. Manual 0 0 0 37. Track, Signal, & Structure Crew Members 42. Conductors 47. Train Passer 0 0 0 0 0 0 0 0 0 0 0 0 0	b. Positio	on in Train  I  N/A  d. Manual  0  0  \$20,0  43. Brakeme  48. Other  48. Other  OP  ching A  b(s). spect. car  OP  ching A  b(s). spect. car  OP  ching A  comparison g. Auto ontrol h. Cur  cop i. Time cop i. Time cop i. Time com i. Ti	c. Load c. Load cear End c. Remote c	d (yes/no) N/A N/A 35. Cars (1) Tota (2) Tota (2) Tota (2) Tota (38. Primary Code 44. Enginee Hrs: 49. EOT D 1. Yes 51. Caboos 1. Yes 51. Caboos 1. Yes FRAIN # 2 quip. Co N/A	I in Equipril I Derailed Cause r/Operator 2 evice? e Occupie de 5 A cial instruc r than mai ive train c (specif)	32. If railing and the set of the	a. t a. t M503 Le ins: 2. No e)	r that we box. t transported to the second	sted for dru re positive i ing passen ded b. Pass. 0 0 39. Cont Code 39. Cont Code 45. Co 50. Wa 1. 57a. Rema 0= Noi 1 = Re 2 = Re 3 = Re	ag/alcohol use, n gers ? (Y/N) c. Freight 0 0 0 0 0 0 second of the sec	Alcohol N/A d. Pass. 0 0 0 2 Min Properly Am 2. No ber/Symbol N/A d Locomotive ntrolled operation ortable transm	0           Drugs           N/A           N/A           e. Caboose           0           0           N/A           e. Caboose           0           N/A           ns:         50           ned?           1           N/A			
31. Principal Car/Unit         (1) First involved         (derailed, struck, etc)         (2) Causing (if meccause reported)         34. Locomotive Units         (1) Total in Train         (2) Total Derailed         36. Equipment Damage This Consist         40. Engineers/ Operators         1         Casualties to:         Fatal         Nonfatal         52. Type of Equipment Consist (single entry)         55. Speed (recorded sp R - Recorded E - Estimated 0         56. Trailing Tons (gros excluding power units)	hanical \$189,901.0 41. Firemen N/A 46. Railroad F 0 0 1. Freight trai 2. Passenger 3. Commuter eed, if available	a. Initial ar N a. Head End 3 3 3 00 Number of C imployees n 4 train 5 train 6 MPH	d Number IS9446 N/A b. Manual 0 0 37. Track, Signal, & Structure Crew Members 42. Conductors 47. Train Passer 0 0 0 0 0 0 0 0 0 0 0 0 0	b. Positio	on in Train  I  N/A  d. Manual  0  S20,(  43. Brakeme  43. Brakeme  48. Other  48. Other  COP  ching A  b(s).  spect. car  COP  ching A  b(s).  ching A	c. Load c. Load cear End c. Remote c	ed       (yes/no)         N/A         N/A         35. Cars         (1) Tota         (2) Tota         (2) Tota         (38. Primary Code         44. Enginee         Hrs:         49. EOT D         1. Yes         51. Caboos         1. Yes         51. Caboos         1. Yes         51. Caboos         1. Yes         51. Caboos         1. Yes         FRAIN # 2         quip.       Co         N/         le(s) that apply         m. Spee         n. Othe         p. Other         1	I in Equipril I Derailed Cause r/Operator 2 evice? e Occupie de 5 A cial instruc r than mai ive train c (specif)	32. If railing and the set of the	ins: 2. No e)	r that we box. t transported to the transported to	sted for dru re positive i ing passen ded b. Pass. 0 0 39. Cont Code ime on Dut 45. Co 50. Wa 1. 50. Wa 57. Remu 0= Noi 1 = Re 2 = Re 3 = Re tra	ag/alcohol use, n gers ? (Y/N) c. Freight 0 0 0 0 0 0 v ributing Cause b v y nductor Hrs: as EOT Device Yes 54. Train Num btely Controllet t a remotely co mote control p mote control t mote control p table control t t mote control t t t t t t t t t t t t t t t t t t t	Alcohol N/A d. Pass. 0 0 0 2 Mir Properly Am 2. No ber/Symbol N/A d Locomotive ntrolled opera ortable transm ower operation ortable	0           Drugs           N/A           N/A           e. Caboose           0           0           N/A			

FORM FRA F 6180.39 (Revised July 2003)

#### DEPARTMENT OF TRANSPORTATION FEDERAL RAILROAD ADMINISTRATION (FRA)

# FRA FACTUAL RAILROAD ACCIDENT REPORT

FRA File # <u>HQ-2005-71</u>

OPERATING TRAIN # 2 (CONTINUED)																	
58. Principal Car/Unit a. Initial and Number b. Position in Train c. J								oaded (yes/no) 59. If railroad employee(s) tested for drug/alcohol use,									
(1) First involved										enter the number that were positive in					Drugs		
(derailed, struck, etc)				N/A			N/A	1	the appropriate box.				N/A	N/A			
(2) Causing (if me cause reported)	chanical		0		N/A			N/A	60.	60.Was this consist transporting passengers ?				(y/n)	N/A		
61. locomotive Units a. Head End b. M			Mid ' b. Manual	frain c. Remote	Rear d. Manual	r End e. Remote	62.	Cars	I			a. Freight b. Pass. c. Freight			e. Caboose		
(1) Total in Train		0	0	0	0	0		(1) Total in Equip	ment Cons	sist	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	63. Equipment Damage This Consist & & Structure Damage						65.	65. Primary Cause Code 66. Contributing Cause Code Code						1	NT/4		
\$0 Structure Duringer \$0							I N/A N/A N/A										
67. Engineers/	68. Firer	men	69. Conduct	69. Conductors 70. Brakemen			71.	71. Engineer/Operator 72. Conductor									
Operators N/A		NT/A	N		N			Uro. (	-	Mine				0 Mi			
A N/A	73 Pail	IN/A	N/A		N/A 75. Other		76	EOT Device?	)	wints.	0 Hrs: 77. Was EOT Device			e Properly Ari	ned?		
Fatal	73. Kali	0	/4. ITalii Fa	)	75. Ouler 0	)	- 70.	1. Yes         2. No         N/A         1. Yes         2. No									
Nonfatal		0	(	)	0	)	- 78.	. Caboose Occupie	d by Crew 1.	? Yes	2	2. No			N/A		
		Highway U	ser Involve	đ						Rail	Equipmer	nt Involve	d				
79. Type C. Truck	Trailer	E. Bus	J. Othe	r Motor Vehic	e	Code	83.	83. Equipment 3 Train (standing) 6 Light Loss(s) (moving)									
A. Auto D. Pick-U	Jp Truck	G. School Bus	K. Ped	estrian			1.	1. Train (units pulling)     4. Car(s) (moving)     7. Light Loco(s) (standing)									
B. Truck E. Van		H. Motorcycle	M. Oth	er (spec. in	narrative)	N/A	2.	2. Train (units pushing) 5. Car(s) (standing) 8. Other (specify in narrative) N/A									
80. Vehicle speed		8	1. Direction	(geographic	al)	Code	84. Position of Car Unit in Train										
(est. MPH at impact)	N	N/A 1	. North 2. So	uth 3. East	4. West	N/A		N/A									
82. Position					i.	Code	85.	85. Circumstance									
1. Stalled on Crossing	2. Stopped	d 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								N/A		
86a. Was the highway use	r and/or rail	equipment involv	/ed			Code	86b	. Was there a haza	rdous mate	erials releas	e by				Code		
1. Highway User	rung nazaro 2. Rail Equir	pment 3. Bo	oth	<ol> <li>Neither</li> </ol>		$N/\Delta$		1. Highway User 2. Rail Equipment 3. Both 4. Neither									
86c. State here the name a	nd quantity of	of the hazardous	materials releas	ed, if any.	I	10/11	-			1.1				-	10/11		
97 Turn of 1.0	1-4	4 337 - 337		7. Countralia	10 El		N/A										
87. Type of 1. Gates 4. Wig Wags 7. Crossbucks 10. Fla					10. Flagg	ed by crew	narr)	rr.) 88. Signaled Crossing Warning Code 89. Whistle Ban				Whistle Ban		Code			
Warning 3. S	tandard FLS	6. Audible	inte orginalo	9. Watchman 12. None				(See instru	ctions for	codes)	1. Yes				1		
	N/A		NI/A	NI/A	N/A	N	A				N/A 2. No				NI/A		
90. Location of Warning	N/A N/A N/A N/A N/A N/A N/A N/A N/A						ted	ed 92. Crossing Illuminated by Street							IN/A		
1. Both Sides			Code	wit	h Highway Si	ignals			Code	1	Lights or Spec	ial Lights			Code		
2. Side of Vehicle A		1.					1. Yes										
3. Opposite Side of Vehicle Approach			N/A	2.1	No			N/A 2			2. No				N/A		
02 Driver's	02 Drivaria 04 Drivaria Candar			3.	Unknown	ont of Test				:	3. Unknown	11///					
95. Driver's Age	and Struck or	ening or in Fr was Struck by	Ont OF Train	in	Code	96. Driv	/er )rove aroun/	d or thru the Gate				Code					
	1. Mal	e		1 37				2. Stopped and then Proceeded 4. Stopped on Crossing							1		
0 2. Female N/A 1. Yes 2. N					2. No	No 3. Unknown N/A 3. Did not Stop 5. Other (specify narrative state)						rrative)	N/A				
97. Driver Passed Standing 28. View of Track Obscured by (prime							obstruction)							Code			
Highway Vehicle 1. Permanent Structure 3							ssing train 5. vegetation 7. Other (specify in narrative) popography 6. Highway Vehicles 8 Not obstructed										
1. Yes 2. No	1. Yes 2. No 3. Unknown N/A 2. Standing Railroad Equipment 4. Top							Code 100 Was Driver in the Valuate?							N/A		
Casualties to: Killed Injured 99				99. Drive	a was	ue d	2 Unintered	Code 100. was Driver in the Vehicle?									
			_		1. Kil 102. Hig	hway Vehicl	e Proper	rty Damage		//A 10	1. Ye 03. Total Num	ber of High	2. INO way-Rail Cros	sing Users	IN/A		
101. Highway-Rail Crossi	ng Users	0		0	(e	est. dollar dar	mage)	5	\$0		(include	driver)		0			
104. Locomotive Auxiliary Lights?     Code     105. Locomotive Auxiliary Lights Operational?     Code										Code							
	1. Ye	es	2. No	·		N/A				1. Yes		2. N	0		<u>N/</u> A		
106. Locomotive Headligh	nt Illuminate	d?				Code	107	7. Locomotive Aud	dible Warn	ing Sounde	d?				Code		
1. Yes 2. No N/A							1. Yes 2. No							N/A			

DEPARTMENT OF TRANSPORTATION FEDERAL RAILROAD ADMINISTRATION (FRA)



### 109. SYNOPSIS OF THE ACCIDENT

Eastbound Norfolk Southern freight train U77U528, consisting of three locomotives and 150 loaded coal cars derailed at milepost GR27.5 near Shannon, West Virginia on August 28, 2005 at 9:50 PM. There were no injuries and no hazardous materials were involved.

The train was operating at a speed of 25 mph approaching the point of derailment as recorded by the event recorder of the controlling locomotive. The maximum authorized speed is 25 mph as designated by Norfolk Southern Pocahontas Division Timetable Number 4, dated January 25, 2004.

All three locomotives and the head 17 cars derailed. The 18th head car was not derailed but the impact caused damages sufficient to cause the car to be destroyed. Equipment damages totaled \$189,901. About 480 feet of continous welded rail was destroyed with damages totaling \$20,000.

At the time of the accident it was dark and cloudy and the temperature was 69 degrees fahrenheit.

The derailment was caused by two pieces of I-beam being placed on the track by vandals.

110. NARRATIVE

## CIRCUMSTANCES PRIOR TO ACCIDENT

The crew of train U77U528 included an engineer and a conductor. They went on duty at 7:00 p.m., EDT, August 28, 2005 at Plunkett Yard near Oceana, West Virginia. This is the home terminal for both crew members and they had received more than the statutory off duty period prior to reporting for duty.

Their assigned freight train was in two parts when they reported. There were three locomotives and 100 that had arrived prior to the crew's reporting and another 50 cars in a yard track, all of which had arrived earlier that day.

Upon commencing work, the crew added the 50 cars to the east end of the 100 car train and performed the required class 1 air brake inspection and predeparture inspection to the 50 cars they had added. Train U77U528 consisting of three locomotives and 150 loaded coal cars was complete. The train was 6000 feet in length and weighed 19,500 tons.

Train U77U528 was scheduled to travel eastward to Elmore Yard in Mullens, WV without any stops. They departed Plunkett Yard at 9:05 PM.

As eastbound train U77U528 approached the accident area, the engineer was seated at the controls on the south side of the lead locomotive and the conductor was seated on the north side of the controlling locomotive. The train was operating at 25 m.p.h. and the throttle was in the number 6 power position, as recorded by the event recorder from the lead locomotive.

In this area of the railroad there are, in succession, a 10 degree curve to the left for about 1300 feet, a tangent for about 500 feet over a bridge that crosses the Guyandot River and WV State Route 97, to the point of derailment (POD), then a 10 degree curve to the left for about 1000 feet beyond.

The POD was about 250 feet east of the bridge near the end of the 500 foot tangent and at the beginning of a .25% descending grade. The head of the train had just passed through a slight dip in elevation about 1 mile in length. The dip in elevation was between a .25% descending grade and a .25% ascending grade in the direction of movement.

The railroad timetable of the direction of the train and the geographical direction in the area of the accident were both east. Timetable directions are used throughout this report.

#### THE ACCIDENT

Train NS U77U528 was being operated at 25 mph both approaching the accident site and at the time of the derailment. These speeds were recorded by the event recorder of the lead locomotive. The maximum authorized speed in this area is 25 mph, as designated by Norfolk Southern, Pocahontas Division, Eastern Region, Timetable Number 4, in effect at 12:01 a.m., January 25, 2004.

The engineer said that just as the train approached the east end of the overpass bridge, he saw the obstruction on the track ahead and heard the conductor yell out a warning to him. He also said that before he could react, the train had started to derail.

The train struck two l-beams that had been placed on the track, derailing the 3 locomotives and had 17 cars over a distance of about 480 feet.

When U77U528 derailed, the three locomotives and two head cars came uncoupled from the remainder of the train, causing an emergency application of the train's air brakes. The third head car derailed and turned sideways in the rock cut. The following fourteen cars derailed in an accordion style, all within an approximate 300 foot distance.

When the train came to rest, the engineer radioed the train dispatcher and reported tht the train had derailed while the conductor inspected the damages.

#### ANALYSIS

RAIL VIEW

The lead locomotive, NS 9446, was equipped with Rail View which makes a video recording of the view in the direction of movement as the train operates.

During the post accident investigation, the recording taken from the Rail View equipment revealed that the track was obstructed by two pieces of l-beam which had been placed on the tracks.

The first l-beam was placed across the tracks and the second l-beam was placed perpendicular to the first one. The second l-beam was placed with its east end on top of and near the center of the first one, with its west end on top of the south rail forming a switch or derail.

### SIGNAL SYSTEM

During the post accident investigation FRA inspected the signal system in the area of the derailment. Included in this inspection was an inspection of the control box at Simon and a review of the data log from the time of the derailment. Simon, about 1.3 miles west of the derailment site, is the location of the signal controls and the last signal that the train passed prior to derailing.

Train U77U528 was eastbound as it passd through control point Simon. The data log retrieved during the post accident investigation indicated that control point Simon had a clear signal for the eastbound movement of train U77U528. The data log also indicated that the signal flashed red for approximately six seconds from 9:02:31 pm until 9:02:37 pm on August 28, 2005. When the Dispatcher discovered the signal had flashed, he reset the route to see if the signal would remain knocked down. The signal reset and cleared.

DEPARTMENT OF TRANSPORTATION FEDERAL RAILROAD ADMINISTRATION (FRA)

During the site inspection, FRA noted that there was a pile of steel l-beams lying along side the track near the derailment site. The l-beams were to be used for a bridge decking project on the railroad bridge crossing WV State Route 97 and the Guyandot river. Upon inspection of the l-beams it was determined that they were identical to the l-beams used to derail train U77U528.

Closer examination revealed that the l-beams were covered with rust, and there were no clean shiny surfaces present. FRA as well as NS management determined that these l-beams would probably not be an effective shunt for the signal system. Due to their rusty condition, it would be difficult for the signal system to detect them when placed across the rails. Therefore, the probability that the six second shunt resulting from an l-beam being dropped across the rails is very likely.

FRA, accompanied by NS signal personnel, inspected control point Simon and found one minor defect. The end post was broken out of an insulated joint on the siding track at Simon. The signal system was checked thoroughly and no additional defects were found. It was determined that the minor defect found did not cause or contribute to the derailment.

## EQUIPMENT

The post accident inspection of equipment revealed markings on the front of the lead locomotive's pilot near the right side. The marks appeared to match the shape of the l-beams that were found during the cleanup.

All three locomotives were derailed, and sustained minor damages including damage to pilots, gear cases, and safety appliances. Locomotive damages totaled \$6,000.00

The head 17 cars derailed and the 18th head car sustained heavy damages from the impact. All 18 cars were declared destroyed for a total car damage of \$183,901.00

#### TRACK

Approximately 480 feet of continous welded rail (CWR) was destroyed during the derailment. FRA found no evidence of any track deviations or defects in the derailment area that would have contributed to the derailment.

The north (low) rail was 132 pound rail milled in 2003. The south (high) rail was 132 pound rail milled in 2004. The 10 degree curve that U77U528 was approaching had 2 1/2 inches elevation. Both rails had 18 inch tie plates.

The last track inspection prior to the accident was on Thursday, August 25, 2005, with no exceptions found in the area of the derailment. The last geometry car inspection was during the week of July 4, 2005, also with no exceptions noted.

Total track damages were \$20,000.00

CONCLUSIONS

Train U77U528 was being operated in full compliance with all applicable Norfolk Southern Rules and Federal Regulations.

The derailment occurred when the lead locomotive NS 9446 struck two pieces of l-beam that had been placed across the rails. This was clearly documented by the Rail View video taken from the lead locomotive.

Two suspects were taken into custody by law enforcement following the derailment. A copy of the Rail View video has been turned over to the United States Attorney's Office and is being held for evidence pending criminal charges against these suspects.