

Federal Railroad Administration Office of Safety Headquarters Assigned Accident Investigation Report HQ-2006-16

Burlington Northern Santa Fe (BNSF) Ismay, Montana March 19, 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.

	TRATION	FRA FA	CTUAL F	AILF	ROAD AG	CCIDENT RI	EPORT	]	FRA File	# <u>HQ-200</u>	06-16		
1.Name of Railroad Operating Train #1			1a	. Alphabetic	Code	11	b. Railroad Accident/Incident No.						
BNSF Rwy Co. [BNSF] 2 Name of Railroad Operating Train #2	20	Alphabetic	BNSF Code	24	MT0306103								
N/A			2d.	. upnaoetie	N/A	20.	Kanodu A	N/A	ieraellt				
3.Name of Railroad Responsible for Tra	3a	. Alphabetic	Code	3t	. Railroad A	Accident/I	ncident No.						
BNSF Rwy Co. [BNSF]			BNSF			N/A							
<ol> <li>U.S. DOT_AAR Grade Crossing Iden</li> </ol>	5.1	Date of Acci	dent/Incident	6. Vear	Time of Ac	cident/In	cident						
							2006	09:55: AM 🖌 PM					
7. Type of Accident/Indicent 1. Dera	lment	4. Side co	ollision	7	. Hwy-rail c	rossing 10. E	Explosion-det	n-detonation 13. Other					
(single entry in code box) 2. Head	on collision	5. Raking	collision	8	. RR grade c	rossing 11. F	ire/violent ru	pture	(descrit narrativ	ve)	I		
S. Kear	3. Rear end collision 6. Broke					1 12. U	other impacts			01			
HAZMAT 0 Damaged	/Derailed	0	HAZMAT	ising	0	Evacuated		0	12. Division Montana		я		
		0	14 Milepost				1.			wontana			
13. Nearest City/Town		(to nearest to				15. State Abbr	Code	16. County	CU				
17. Temperature (E)				1	1047.6	N/A	MT		0.				
(specify if minus) 18. V18	bility (si Dawn 3.	ngle entry) Dusk	Code 19	Weath . 1. Cle	her (single ear 3. Rai	entry) in 5.Sleet	Code	20. Typ	e of Tracl	Code			
23 F 2	23 F 2. Day 4.Dark				oudy 4. Fo	g 6.Snow	6	2. Y	Yard 4. Industry		1		
21. Track Name/Number			22. FRA Trac	k N V)	Code	23. Annual Track	Density	24. Tim	24. Time Table Direction				
	Single Ma	in	Class (1-	9, Л)	3	(gross tons in millions)	1 11.39		1. North 3. East 3				
			OP	ERAT	ING TRA	IN #1		<u> </u>					
25. Type of Equipment 1. Freight t	rain 4. V	Work train 7.	Yard/switchin	g A	. Spec. MoV	V Equip. Code	26. Was Equ	ipment (	Code 2	7. Train Nu	mber/Symbol		
Consist (single entry) 2. Passenge	er train 5. S	Single car 8.	Light loco(s).			1 1	Attended	tended?					
3. Commu	er train 6. (	Cut of cars 9. $0$ Mother $4(x)$	Maint./inspec	t.car	r anda(s) t	hat apply)	I. Yes	Yes 2. No CEBMS					
R - Recorded	) Code 3	a. ATCS	omatic	block	mat appry) m.Special instruct	tions	0 = Not a 2-e Spottly to Wested						
E - Estimated 40 MPH	R	b. Auto train c	control h. Cu	rent of	traffic	n. Other than mair	n track	1 = Remote control portable					
29. Trailing Tons (gross tonnage.	e table/ k warra	train orders	<ul> <li>o. Positive train c</li> <li>p. Other</li> </ul>	ontrol	2 = Remote control tower 3 = Remote control								
excluding power units)	k. Dir	k. Direct traffic control Code(s)				transmitter - more than one							
16	l.Yard	limits		i i N//	A N/A N/A	N/A  N/A  remote control transmitter 0							
		0				- 11/1							
31. Principal Car/Unit a. Initia	and Numbe	r b. Positio	n in Train	c. Load	led(yes/no)	32. If railroad en	nployee(s) te	sted for drug	g/alcohol	use,	-		
31. Principal Car/Unit     a. Initia       (1) First involved	and Numbe	r b. Positio	n in Train	c. Load	led(yes/no)	32. If railroad enter the nu	mployee(s) ter imber that we	sted for drug re positive i	g/alcohol	use, Alcohol	Drugs		
31. Principal Car/Unit     a. Initia       (1) First involved (derailed, struck, etc)     a.	and Numbe	r b. Positio	n in Train 14	c. Load	led(yes/no) yes	32. If railroad en enter the nu the appropri	nployee(s) ter imber that we riate box.	sted for drug re positive i	g/alcohol n	use, Alcohol 0	Drugs 0		
31. Principal Car/Unit     a. Initia       (1) First involved     (derailed, struck, etc)       (2) Causing (if mechanical cause reported)	and Numbe N/A N/A	r b. Positio	n in Train 14 1/A	c. Load	yes N/A	32. If railroad en enter the nu the appropr 33. Was this co	nployee(s) te imber that we iate box.	sted for drug re positive i rting passen	g/alcohol n ngers? (Y/	use, Alcohol 0 N)	Drugs 0 N		
31. Principal Car/Unit       a. Initia         (1) First involved       (derailed, struck, etc)         (2) Causing (if mechanical cause reported)       a. Head	and Numbe N/A N/A Mic	r b. Positio	n in Train 14 1/A Rear En	c. Load	led(yes/no) yes N/A 35. Cars	32. If railroad en enter the nu the appropr 33. Was this co	nployee(s) tea imber that we iate box.	sted for drug re positive i rting passen Loade	g/alcohol in n ngers? (Y/	use, Alcohol 0 N) Empty	Drugs 0 N		
31. Principal Car/Unit     a. Initia       (1) First involved     (derailed, struck, etc)       (2) Causing (if mechanical cause reported)     a. Heac       34. Locomotive Units     a. Heac	and Numbe N/A N/A b. Manual	r b. Positio	n in Train 44 i/A Rear Er d. Manual c.	c. Load	ves N/A 35. Cars	<ul> <li>32. If railroad errenter the nut the appropriation of the appro</li></ul>	nployee(s) te: imber that we iate box. onsist transpo	sted for drug re positive i rting passen Loade nt b. Pass.	g/alcohol n ngers? (Y/ E c. Freig	use, Alcohol 0 N) Empty ht d. Pass.	Drugs 0 N e. Caboose		
31. Principal Car/Unit       a. Initia         (1) First involved       (derailed, struck, etc)         (2) Causing (if mechanical cause reported)       a. Head         34. Locomotive Units       a. Head         (1) Total in Train       4	and Numbe N/A N/A b. Manual 0	r b. Positio	n in Train 4 //A Rear Er d. Manual c. 0	c. Load nd Remote 0	ves N/A 35. Cars (1) Total	<ul> <li>32. If railroad en enter the nu the appropr</li> <li>33. Was this construction of the appropriate of the appropristeo of the appropriate</li></ul>	mployee(s) te: umber that we iate box. onsist transpo a. Freigh asist 115	rting passen Loade nt b. Pass. 0	g/alcohol n n ngers? (Y/ c. Freig 0	use, Alcohol 0 N) Empty ht d. Pass. 0	Drugs 0 N e. Caboose 0		
31. Principal Car/Unit       a. Initia         (1) First involved       (derailed, struck, etc)         (2) Causing (if mechanical cause reported)       a. Head         34. Locomotive Units       a. Head         (1) Total in Train       4         (2) Total Derailed       0	and Numbe N/A N/A b. Manual 0 0	r b. Positio	n in Train 4 //A Rear Er d. Manual c. 0 0	c. Load	N/A 35. Cars (1) Total i (2) Total 1	32. If railroad er enter the nu the appropr 33. Was this co n Equipment Con Derailed	mployee(s) te: umber that we iate box. onsist transpo a. Freigh nsist 115 29	sted for drug re positive i rting passen Loade nt b. Pass. 0 0	z/alcohol n ngers? (Y/ c. Freigi 0 0	use, Alcohol 0 N) Compty ht d. Pass. 0 0	Drugs 0 N e. Caboose 0 0		
31. Principal Car/Unit       a. Initia         (1) First involved       (derailed, struck, etc)         (2) Causing (if mechanical cause reported)       a. Head         34. Locomotive Units       a. Head         (1) Total in Train       4         (2) Total Derailed       0         36. Equipment Damage       36. Equipment Damage	And Number N/A N/A b. Manual 0 0 0 37. T	r b. Positio	n in Train 4 KA Kear Er d. Manual c. 0 0 Vay,	c. Load ad Remote 0	vyes N/A 35. Cars (1) Total i (2) Total i 38. Prima	32. If railroad erenter the nuthe appropriation         33. Was this compared         n Equipment Con         Derailed         ry Cause	nployee(s) te: umber that we iate box. onsist transpo a. Freigl asist 115 29	sted for drug re positive i rting passen Loade nt b. Pass. 0 0 39. Cont	g/alcohol n n ngers? (Y/ c. Freigj 0 0 rributing C	use, Alcohol 0 N) Empty ht d. Pass. 0 0 Cause	Drugs 0 N e. Caboose 0 0		
31. Principal Car/Unit       a. Initia         (1) First involved       (derailed, struck, etc)         (2) Causing (if mechanical cause reported)       a. Head         34. Locomotive Units       a. Head         (1) Total in Train       4         (2) Total Derailed       0         36. Equipment Damage       1198228	and Number N/A N/A b. Manual 0 0 37. T 6	r b. Positio	n in Train 4 //A Rear En d. Manual c. 0 0 Vay, mage 72	c. Load nd Remote 0 0	V/A 35. Cars (1) Total (2) Total 38. Prima Code	32. If railroad er         anter the nu         the appropriation         33. Was this compared         n Equipment Con         Derailed         ry Cause	mployee(s) te: umber that we itate box. onsist transpo a. Freigh asist 115 29 T215	sted for drug re positive i rting passen Loade nt b. Pass. 0 0 39. Cont Code	g/alcohol in n gers? (Y/ c. Freigi 0 0 0 rributing C	use, Alcohol 0 N) Empty ht d. Pass. 0 0 Cause	Drugs 0 N e. Caboose 0 0 N/A		
31. Principal Car/Unit       a. Initia         (1) First involved       a. Initia         (1) First involved       a. Initia         (derailed, struck, etc)       a. Initia         (2) Causing (if mechanical cause reported)       a. Heac         34. Locomotive Units       a. Heac         (1) Total in Train       4         (2) Total Derailed       0         36. Equipment Damage       1198228         This Consist       Numb	and Number N/A N/A b. Manual 0 0 37. T 8 er of Crew N	r b. Positio	n in Train 4 K/A Rear Er d. Manual c. 0 0 Vay, mage 72 L42 Paslore	c. Load ad Remote 0 0 0000	N/A 35. Cars (1) Total i (2) Total i 38. Prima Code	32. If railroad er         anter the nu         the appropriation         33. Was this compared         n Equipment Con         Derailed         ry Cause	mployee(s) te: umber that we iate box. onsist transpo a. Freigh isist 115 29 T215 Length c	sted for drug re positive i rting passen Loade nt b. Pass. 0 0 39. Cont Code	z/alcohol in n igers? (Y/ E c. Freigi 0 0 cributing C	use, Alcohol 0 N) Campty ht d. Pass. 0 0 Cause	Drugs 0 N e. Caboose 0 0 N/A		
31. Principal Car/Unit       a. Initia         (1) First involved       a. Initia         (1) First involved       (derailed, struck, etc)         (2) Causing (if mechanical cause reported)       a. Head         34. Locomotive Units       a. Head         (1) Total in Train       4         (2) Total Derailed       0         36. Equipment Damage       1198228         This Consist       1198228         40. Engineer/       0         90       0	and Number N/A N/A b. Manual 0 0 37. T 8 er of Crew M	r b. Positio	n in Train /A Rear Er d. Manual c. 0 0 Vay, mage 43. Brakem 0	c. Load ad Remote 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	V/A 35. Cars (1) Total i (2) Total i 38. Prima Code 44. Engir	32. If railroad er enter the nu the appropr       33. Was this co       n Equipment Con       Derailed       ry Cause       eer/Operator       Hrs     4	mployee(s) te: umber that we iate box. onsist transpo a. Freigl asist 115 29 T215 Length c	sted for drug re positive i rting passen Loade nt b. Pass. 0 39. Cont Code of Time on E 45. Con	z/alcohol in n iggers? (Y/ c. Freigi 0 0 0 irributing C Duty iductor	use, Alcohol 0 N) Empty ht d. Pass. 0 Cause 4	Drugs 0 N e. Caboose 0 0 N/A Mi 10		
31. Principal Car/Unit     a. Initia       (1) First involved (derailed, struck, etc)     (2) Causing (if mechanical cause reported)       34. Locomotive Units     a. Head End       (1) Total in Train     4       (2) Total Derailed     0       36. Equipment Damage This Consist     1198228       Numb     41. Firemen Operators N/A     0	and Numbe N/A N/A b. Manual 0 0 37. T 4 er of Crew M 42. 0	r b. Positio	n in Train 4 //A Rear Er d. Manual c. 0 0 Vay, mage 72 43. Brakem 0	c. Load nd Remote 0 0 2000 en	V/A 35. Cars (1) Total (2) Total 38. Prima Code 44. Engir	32. If railroad er         anti-anti-anti-anti-anti-anti-anti-anti-	mployee(s) te: umber that we iate box. onsist transpo a. Freigh asist 115 29 T215 Length of Mi 10	sted for drug re positive i rring passen Loade nt b. Pass. 0 39. Cont Code of Time on I 45. Con	z/alcohol in n igers? (Y/ c. Freigi 0 0 irributing C Duty iductor Hrs	use, Alcohol 0 N) Empty ht d. Pass. 0 0 Cause 1 4	Drugs 0 N e. Caboose 0 0 N/A Mi 10		
31. Principal Car/Unit     a. Initia       (1) First involved (derailed, struck, etc)     (2) Causing (if mechanical cause reported)       34. Locomotive Units     a. Heac End       (1) Total in Train     4       (2) Total Derailed     0       36. Equipment Damage This Consist     1198228       Numb     41. Firemen Operators       N/A     0       Casualties to:     46. Railroad Emp	and Numbe N/A N/A b. Manual 0 0 37. T 6 er of Crew N 42. 0 0 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	r b. Positio	n in Train 4 KA Rear Er d. Manual c. 0 Vay, mage 43. Brakem 0 s 48. Other	c. Load ad Remote 0 2000 en	V/A 35. Cars (1) Total i (2) Total i (2) Total i 38. Prima Code 44. Engir	32. If railroad er         32. If railroad er         enter the nu         the appropriation         33. Was this compared         n Equipment Con         Derailed         ry Cause         eer/Operator         Hrs       4         Device?         cs       2. No	mployee(s) te: umber that we iate box. onsist transpo a. Freigh isist 115 29 T215 Length c Mi 10	sted for drug re positive i rting passen Loade nt b. Pass. 0 39. Cont Code of Time on I 45. Con 50. Was	z/alcohol in n gers? (Y/ E c. Freigi 0 0 u u c. Freigi 0 0 0 0 v ributing 0 Duty ductor Hrs EOT Dev Yes	use, Alcohol 0 N) Campty ht d. Pass. 0 0 Cause	Drugs 0 N e. Caboose 0 0 N/A Mi 10 y Armed?		
31. Principal Car/Unit       a. Initia         (1) First involved (derailed, struck, etc)       a. Initia         (2) Causing (if mechanical cause reported)       a. Head         34. Locomotive Units       a. Head         (1) Total in Train       4         (2) Total Derailed       0         36. Equipment Damage This Consist       1198228         Numb       41. Firemen Operators         N/A       0         Casualties to:       46. Railroad Emp         Fatal       0	and Numbe N/A N/A b. Manual 0 0 37. T 8 er of Crew N 42. 0 0 yees 47. T	r b. Positio r b. Positio 4 N Train c. Remote 0 0 rack, Signal, W & Structure Dan Members Conductors 1 rain Passengers 0	n in Train 4 //A Rear Er d. Manual c. 0 0 Vay, mage 72 43. Brakem 0 s 48. Other 0	c. Load ad Remote 0 0 2000 en	led(yes/no)           yes           N/A           35. Cars           (1) Total i           (2) Total i           38. Prima           Code           44. Engir           49. EOT i           1. Ye           51. Caboo	32. If railroad er         art railroad er         enter the nu         the appropriation         33. Was this compared         n Equipment Con         Derailed         ry Cause         eer/Operator         Hrs       4         Device?         rs       2. No         page Occupied by Compared b	mployee(s) te: umber that we iate box. onsist transpo a. Freigl asist 115 29 T215 Length c Mi 10	sted for drug re positive i nt b. Pass. 0 39. Cont Code of Time on E 45. Con 50. Was 1.	z/alcohol in n ogers? (Y/ c. Freigi 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	use, Alcohol 0 N) Empty ht d. Pass. 0 0 Cause 4 vice Properly 2. No	Drugs           0           0           e. Caboose           0           10           y Armed?           1		
31. Principal Car/Unit       a. Initia         (1) First involved (derailed, struck, etc)       (2) Causing (if mechanical cause reported)         34. Locomotive Units       a. Head End         (1) Total in Train       4         (2) Total Derailed       0         36. Equipment Damage This Consist       1198228         Numb       41. Firemen Operators N/A       0         Casualties to:       46. Railroad Emp         Fatal       0         Nonfatal       N/A	and Numbe N/A N/A Mic b. Manual 0 0 37. T 4 er of Crew M 42. 0 oyees 47. T	r b. Positio	n in Train 4 //A Rear Er d. Manual c. 0 0 Vay, mage 72 43. Brakem 0 s 48. Other 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	c. Load nd Remote 0 0000 en	led(yes/no)           yes           N/A           35. Cars           (1) Total i           (2) Total i           38. Prima           Code           44. Engir           49. EOT I           1. Ye           51. Caboo	32. If railroad er         32. If railroad er         enter the nu         the appropriation         33. Was this compared         n Equipment Con         Derailed         ry Cause         eer/Operator         Hrs       4         Device?         es       2. No         ose Occupied by C         1. Yes	mployee(s) te: umber that we iate box. onsist transpo a. Freigh asist 115 29 T215 Length c Mi 10 1 Crew? 2. No	sted for drug rrting passen Loade nt b. Pass. 0 39. Cont Code of Time on E 45. Con 50. Was 1.	z/alcohol in n igers? (Y/ c. Freigi 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	use, Alcohol 0 N) Empty ht d. Pass. 0 0 Cause 4 vice Properly 2. No	Drugs         0           0         N           e. Caboose         0           0         0           N/A         0           Mi         10           y Armed?         1           2         2		
31. Principal Car/Unit       a. Initia         (1) First involved (derailed, struck, etc)       a. Initia         (2) Causing (if mechanical cause reported)       a. Heat         34. Locomotive Units       a. Heat         End       (1) Total in Train       4         (2) Total Derailed       0         36. Equipment Damage This Consist       1198228         Numb       41. Firemen Operators       Numb         40. Engineer/ Operators       46. Railroad Emp         Fatal       0         Nonfatal       N/A	and Numbe N/A N/A Mic b. Manual 0 0 37. T 6 er of Crew N 42. 0 oyees 47. T	r b. Positio	n in Train 4 //A Rear Er d. Manual (c. 0 0 Vay, mage 72 43. Brakem 0 s 48. Other 0 0 OPER	c. Load nd Remote 0 0 0000 en ATIN	Inded(yes/no) yes N/A 35. Cars (1) Total i (2) Total i (2) Total i 38. Prima Code 44. Engir 49. EOT I 1. Ye 51. Caboo	32. If railroad er         32. If railroad er         enter the nu         the appropriation         33. Was this compared         33. Was this compared         an Equipment Condition         Derailed         try Cause         eeer/Operator         Hrs       4         Device?         ess       2. No         ose Occupied by C         1. Yes         #2	mployee(s) te: umber that we iate box. onsist transpo a. Freigl asist 115 29 T215 Length of 1 Crew? 2. No	sted for drug re positive i rting passen Loade nt b. Pass. 0 39. Cont Code of Time on I 45. Con 50. Was 1.	z/alcohol in n ingers? (Y/ c. Freigi 0 0 0 tributing 0 Duty tductor Hrs EOT Dev Yes	use, Alcohol 0 N) Empty ht d. Pass. 0 0 Cause 4 vice Properly 2. No	Drugs           0           0           e. Caboose           0           0           0           N/A           Mi           10           y Armed?           1           2		
31. Principal Car/Unit       a. Initia         (1) First involved (derailed, struck, etc)       (a)         (2) Causing (if mechanical cause reported)       a. Head         34. Locomotive Units       a. Head         (1) Total in Train       4         (2) Total Derailed       0         36. Equipment Damage This Consist       1198228         Numb       41. Firemen Operators         N/A       0         Casualties to:       46. Railroad Emp         Fatal       0         Nonfatal       N/A         52. Type of Equipment       1. Freight t	and Numbe N/A N/A N/A Mic b. Manual 0 0 37. T 4 covers 47. T 42. covers 0 0 0 0 0 0 0 0 0 0 0 0 0	r b. Positio	n in Train	c. Load nd Remote 0 0 0 0 0 0 0 0 0 0 0 0 0	led(yes/no) yes N/A 35. Cars (1) Total i (2) Total i (2) Total i 38. Prima Code 44. Engin 1. Ye 51. Caboo G TRAIN	32. If railroad er         32. If railroad er         enter the nu         the appropriation         33. Was this comparison         an Equipment Condition         Derailed         ry Cause         eer/Operator         Hrs       4         Device?         es       2. No         ose Occupied by C         1. Yes         #2         / Equip. Code	mployee(s) te: mber that we iate box. onsist transpo a. Freigl a. Freigl 15 10 12 10 10 1 Crew? 2. No 53. Was Equ	sted for drug re positive i rring passen Loade nt b. Pass. 0 39. Cont Code of Time on I 45. Con 50. Was 1.	z/alcohol in n igers? (Y/ c. Freigi 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	use, Alcohol 0 N) Empty ht d. Pass. 0 Cause 4 vice Properly 2. No 4. Train Nut	Drugs 0 N e. Caboose 0 0 N/A Mi 10 y Armed? 1 2 nber/Symbol		
31. Principal Car/Unit       a. Initia         (1) First involved (derailed, struck, etc)       a. Initia         (2) Causing (if mechanical cause reported)       a. Heat         34. Locomotive Units       a. Heat         End       (1) Total in Train       4         (2) Total Derailed       0         36. Equipment Damage       1198228         This Consist       1198228         Operators       N/A         O       Casualties to:         46. Railroad Emp         Fatal       0         Nonfatal       N/A         52. Type of Equipment       1. Freight t         Consist (single entry)       2. Passenge	and Numbe N/A N/A N/A Mic b. Manual 0 0 37. T 6 er of Crew M 42. 0 oyees 47. T ain 4. V r train 5. S	r b. Positio	n in Train 4 Karan Kar Karan Karan Kar Karan Karan Kar	c. Load ad Remote 0 0 0 0 0 0 0 0 0 0 0 0 0	ed(yes/no) yes N/A 35. Cars (1) Total i (2) Total i (38. Prima Code 44. Engir 1. Ye 51. Caboo G TRAIN . Spec. MoW	32. If railroad er         32. If railroad er         enter the nu         the appropriation         33. Was this comparison         assert of the appropriation         thread of the approprise         thread of the appro	mployee(s) te: umber that we iate box. onsist transpo a. Freigh isist 115 29 T215 Length c Mi 10 1 Crew? 2. No 53. Was Equ Attended	sted for drug re positive i rting passen Loade nt b. Pass. 0 39. Cont Code of Time on E 45. Con 50. Was 1.	z/alcohol in n igers? (Y/ c. Freigi 0 0 0 uty iductor Hrs EOT Dev Yes	use, Alcohol 0 N) Empty ht d. Pass. 0 0 Cause 4 Vice Properly 2. No 4. Train Nur	Drugs 0 N e. Caboose 0 0 N/A Mi 10 y Armed? 1 2 nber/Symbol		
31. Principal Car/Unit       a. Initia         (1) First involved (derailed, struck, etc)       a. Initia         (2) Causing (if mechanical cause reported)       a. Head         34. Locomotive Units       a. Head         (1) Total in Train       4         (2) Total Derailed       0         36. Equipment Damage This Consist       1198228         Wumb       41. Firemen Operators N/A       0         Casualties to:       46. Railroad Emp         Fatal       0         Nonfatal       N/A         52. Type of Equipment Consist (single entry)       1. Freight t 2. Passenge 3. Commut	and Numbe N/A N/A Mic b. Manual 0 0 37. T 6 er of Crew N 42. 0 0 vyces 47. T 4 ain 4. V r train 5. S er train 5. S	r b. Positio	n in Train 4 //A Rear Er d. Manual c. 0 0 0 Vay, mage 72 43. Brakem 0 s 48. Other 0 s 48. Other 0 0 OPER Yard/switchin Light loco(s). Maint./inspect	c. Load ad Remote 0 0 0 0 0 0 0 0 0 0 0 0 0	ed(yes/no) yes N/A 35. Cars (1) Total i (2) Total i (2) Total i 38. Prima Code 44. Engir 49. EOT I 1. Ye 51. Caboo G TRAIN Spec. MoW	32. If railroad er         32. If railroad er         enter the nu         the appropriation         33. Was this compared         33. Was this compared         an Equipment Condition         Derailed         try Cause         eer/Operator         Hrs         Hrs         2. No         cose Occupied by Compared         1. Yes         #2         / Equip. Code         N/A	mployee(s) te: umber that we iate box. onsist transpo a. Freigl asist 115 29 T215 Length c Mi 10 1 Crew? 2. No 53. Was Equ Attended 1. Yes	sted for drug re positive i rting passen Loade nt b. Pass. 0 39. Cont Code of Time on I 45. Con 45. Con 50. Was 1. 50. Was 2. No N	z/alcohol in n ingers? (Y/ c. Freigi 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	use, Alcohol 0 N) Empty ht d. Pass. 0 0 Cause 4 vice Properly 2. No 4. Train Nur N/.	Drugs 0 N e. Caboose 0 0 N/A Mi 10 y Armed? 1 2 nber/Symbol A		
31. Principal Car/Unit       a. Initia         (1) First involved (derailed, struck, etc)       (2) Causing (if mechanical cause reported)         34. Locomotive Units       a. Head End         (1) Total in Train       4         (2) Total Derailed       0         36. Equipment Damage This Consist       1198228         Numb       41. Firemen Operators         N/A       0         Casualties to:       46. Railroad Emp         Fatal       0         Nonfatal       N/A         52. Type of Equipment       1. Freight t Consist (single entry)         2. Passenge 3. Commut       55. Speed (recorded speed, if a vailable R - Recorded	and Numbe N/A N/A N/A Mic b. Manual 0 0 37. T 4 cover of Crew M 42. 0 0 0 42. 0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1	r b. Positio r b. Positio r b. Positio r c. Remote 0 0 rack, Signal, W c Structure Dar dembers Conductors 1 rain Passengers 0 0 Vork train 7. ingle car 8. but of cars 9. 7. Method(s) o a ATCS	n in Train A n in Train A Rear Er d. Manual c. 0 0 Vay, mage 72 43. Brakem 0 s 48. Other 0 s 48. Other 0 Vay, 0 C 0 0 0 0 0 0 0 0	c. Load ad Remote 0 0 0 0 0 0 0 0 0 0 0 0 0	ed(yes/no) yes N/A 35. Cars (1) Total i (2) Total i (2) Total i (2) Total i 38. Prima Code 44. Engir 49. EOT I 1. Ye 51. Caboo G TRAIN . Spec. MoW	32. If railroad er         32. If railroad er         enter the nu         the appropriation         33. Was this composition         an Equipment Con         Derailed         ry Cause         eer/Operator         Hrs         4         Device?         ess         0. No         1. Yes         #2         / Equip. Code         N/A         hat apply)         m.Special instruct	mployee(s) terminate we interview that we interview the terminate the terminate that we interview the terminate the terminate the terminate the terminate the terminate that we interview the terminate the terminate the terminate terminate the terminate termin	sted for drug re positive i rrting passen Loade nt b. Pass. 0 39. Cont Code of Time on I 45. Con 50. Was 1. 50. Was 2. No N 57a. Rem 0 Not	z/alcohol in n ingers? (Y/ c. Freigi 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	use, Alcohol 0 N) Empty ht d. Pass. 0 0 Cause 1 Cause 2. No 4. Train Nur N/ htrolled Locc y controlled	Drugs 0 N e. Caboose 0 0 N/A Mi 10 y Armed? 1 2 nber/Symbol A omotive?		

DEPARTMENT FEDERAL RAILF	OF TRA ROAD AI	NSPORT OMINIST	TATI RAT	ON ION	FRA FA	ACTUAI	LRAILR	OAD AC	CII	DENT I	REPO	ORT	F	RA File #	<u>HQ-200</u>	<u>6-16</u>	
56. Trailing Tons (gross tonnage, excluding power units)			с. d. e.	c. Auto train stop d. Cab e. Traffic k. Direct traffic				ain orders o. Positive train control t control p. Other (Specify in narrative) c control Code(s)				2 = Remo 3 = Remo transmit					
N/A			f.	f. Interlocking 1. Yard limits				N/A	N/A 1	N/A N	N/A N/A	remote c	N/A				
58. Principal Car/Unit a. Initial and Nu			Jumber	b. Posit	c. Load	led(yes/no)	59.	If railroad	l emplo	oyee(s) teste	ed for drug	g/alcohol us	se,				
(1) First involved 0				N/A			N/A		enter the number that were positive in Alcohol								
(2) Causing (if mechanical								CO. When this sensitivity is a constraint of the						N/A			
cause reported	l)	0				N/A	]	I/A 00. was this con			s consi	st transport	N/A				
61. Locomotive Units	5	a. Head End	b. M	Mid ' anual <sub>I</sub>	Train c. Remote	Rea d. Manual	r End c. Remote	62. Cars	62. Cars L a. Freigh			Lo a. Freight	ade b. Pass.	Err c. Freight	pty d. Pass.	e. Caboose	
(1) Total in Trai	n	0	0 0		0 0		0	(1) Total in	n Equ	ipment C	onsist	0	0	0	0	0	
(2) Total Deraile	ed	0	0 0		0	0	0	(2) Total E	2) Total Derailed 0 0				0	0	0		
63. Equipment Dama This Consist	mage 0 64. Track, Signal, Way & Structure Damag				Way, amage	0	65. Primar Code	ry Cat	use	N/A	A	66. Contr Code	ributing Ca	use	N/A		
		Numbe	r of Ċ	rew Me	embers							Length of	Time on D	uty			
67. Engineer/ Operators N/	68. Fire	N/A 69.			Conductors 70. N/A		kemen N/A	71. Engineer/Operator     72. Conductor       Hrs     0     Hrs     0						0	Mi 0		
Casualties to:	73. Railr	oad Employees 74. Train Passenge				s 75. Other		76. EOT Device? 77. V					77. Was	7. Was EOT Device Properly Arr			
Fatal		0			0		0		I. Yes         Z. No         N/A         I. Yes         Z. No           78. Caboose Occupied by Crew?								
Nonfatal		0 0					0		1.	Yes	,	2. No				N/A	
		Highwa	ay Us	ser Inv	olved						Rail E	Equipment	Involved	1			
79. Type C. Truck-	Frailer. F	7. Bus		J. Other	Motor Veh	icle	Code	83. Equipi	ment	3.	Train	(standing)	6.Light	Loco(s) (n	oving)	Code	
A. Auto D. Pick-U B. Truck E. Van	narrative)	N/A	1.Train(units pulling)       4.Car(s) (moving)       7.Light(s) (standing)         2.Train(units pushing)       5.Car(s) (standing)       8.Other (specify in narrative)														
80. Vehicle Speed 81. Direction geographical)								84. Position of Car Unit in Train									
(est. MPH at impact) 1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.							Code	85. Circum	istanc	e			IN/A			Code	
1.Stalled on Crossing 2.Stopped on Crossing 3.Moving Over Cross								1. Rail Ec	1. Rail Equipment Struck Highway User								
4. Trapped 86a. Was the highway user and/or rail equipment involved							Code	2. Rail Ed 86b. Was t	86b. Was there a hazardous materials release by								
in the impact transporting hazardous materials?							. N/A	1 Highway User 2 Rail Equipment 3 Both 4 Neither									
1. Highway User	2. Rail E	Equipment	3. he ha	Both	4. Neither	leased if a		1. High	way	0.301 2.	Kall E	quipinent	5. Doui	4. Neture		IN/A	
obe. State here the ha	ine and qu	antity of t	ne naz	zaruous	materials it	licased, ii ai	N/A										
87. Type of     1.Gates     4.Wig Wags     7.Crossbucks       Crossing     2.Cantilever FLS     5.Hwy. traffic signals     8.Stop signs       Warning     2.0.     2.1.1.1.2.2     2.1.1.1.2.2						bucks 10. signs 11.	Flagged by Other (spec	crew . in narr.)	88. S	Signaled C See instrue	Crossin ctions 1	g Warning for codes)	Code	89. Whis 1. Ye 2. No	tle Ban s	Code	
Code(s) N/A	A I	N/A	N/A	A	N/A	N/A	N/A	N/A			N/A 3. Unk				known	N/A	
90. Location of Warn 1. Both Sides	ing	<u> </u>		<u> </u>	Code	91. Crossin with H	l ng Warning I Highway Sig	g Interconnected Code 92. Crossing Illuminated by Street Lights or Special Lights							Code		
2. Side of Vehicle Approach 3. Opposite Side of Vehicle Approach							Yes No		I	N/ A		1. Yes 2. No		1			
02 Driver's 04 Driver's Cander Code 05 Driver Dr. D.L.						3.	Unknown	N/A 3.					Jnknown				
93. Driver's     94. Driver's Gender     Code     95. Driver Drove Behind and Struck or was St       0     2. Female     1. Yes     2. No						Behind or in was Struck	by Second T 3. Unknown	an     Code       irain     1. Drove around or thru the Gate       2. Stopped and then Proceeded     5. Other (specify in							g		
	andin -	N/	/A	Viere	Tracel- Ol	anna d 1		N/A	4	3. Did n	ot Stop	)		na	rrative)	N/A	
97. Driver Passed St Highway Vehicle	anding	Code	98.	1. Perr	nanent Stru	cured by ( cture	primary obs 3. Passii	struction) ng Train 5.	Vege	tation	7.	. Other (s	pecify in n	arrative)		Code	
1. Yes 2. No 3. Ur	ıknown	N/A		2. Stan	ding Railro	ad Equipme	ent 4. Topog	graphy 6.	Highv	way Vehio	cle 8.	Not obstru	cted			N/A	
101. Casulties to Highway-Rail     Killed     Injured     99. Di       Crossing Users     0     0     1. Ki					99. Driver	r Was Code 100. Was Driver in the Vehicle?						Code N/A					
					102. Highw	vay Vehicle	Property Damage 0 (include driver)							ing Users			
104. Locomotive Aux	iliary Lig	hts?				(cst. d	Code	105. Locoi	notiv	e Auxilia	ry Ligh	ts Operatio	nal?		0	Code	
1. Yes 2. No							N/A	1.	Yes			2. No				N/A	
106. Locomotive Hea	dlight Illu	minated?					Code	107. Locomotive Audible Warning Sounded?						Code			
1. Yes		N/A	1.	1. Yes 2. No							N/A						



108. DRAW A SKETCH OF ACCIDENT AREA INCLUDING ALL TRACKS, SIGNALS, SWITCHES, STRUCTURES, OBJECTS, ETC., INVOLVED. HQ-16-2006 sketch.jpg

## 109. SYNOPSIS OF THE ACCIDENT

On March 19, 2006, at 9:55 p.m. (MST), an eastbound BNSF Railway Company (BNSF) loaded coal train (C-EBMSPCO-27) derailed on the Montana Division, Hettinger Subdivision approximately 3.7 miles west of Ismay, Montana, milepost 1047.6. The train was traveling on a single main track at a recorded speed of 40 mph. The maximum authorized timetable track speed in the area of the accident is 40 mph.

The train consisted of four locomotives, 115 railcars of coal, 16,317 trailing tons and was 6,390 feet in length. A total of 29 cars, 40th through the 68th, derailed. There were no injuries reported and no release of hazardous materials. The estimated damage of the derailment was \$1,270,228 (\$72,000 track and \$1,198,228 equipment).

At the time of the derailment it was dark, windy with snow. The temperature was 23°F.

The probable cause of the accident was broken non-insulated rail joint bars (T215).

# 110. NARRATIVE

#### Circumstances Prior to the Accident

On March 19, 2006, after completing more than the statutory off duty time, a crew consisting of an engineer and conductor reported for duty at their home terminal at Forsyth, Montana, at 5:45 p.m. (MST). The crew was assigned to operate eastbound BNSF unit coal train symbol C-EBMSPCO-27, from Forsyth to Hettinger, South Dakota, a distance of 237 miles.

The train consisted of four locomotives, 115 railcars of coal, 16,317 trailing tons and was 6,390 feet in length and had received a Class 1A air brake inspection by BNSF Carmen at Mandan, North Dakota.

According to the crew, the engineer performed a daily locomotive inspection before departing. The crew boarded the train and departed Forsyth at 6:00 p.m. (MST).

The train approached the derailment area traveling geographically and timetable east. Timetable directions will be used throughout the report. The engineer was seated at the controls on the right (south) side of the leading locomotive and the conductor was seated on the left (north) side.

Approaching the accident site from the west at milepost 1049, there is in succession, a 2-degree curve to the left 1,188 feet in length, tangent 2,508 feet in length, a 1-degree curve to the right 1,716 in length, 1,980 feet of tangent to the point of derailment and 5,280 feet beyond. The grade at the accident area is 0.25 percent ascending.

According to the crew, as the train approached the accident area, the trip was uneventful and the weather was dark, cold with blowing snow.

#### The Accident

As the train approached the accident site and at the time the accident occurred, the train was being operated at 40 mph. The speed was recorded by the event recorder of the controlling locomotive. In the accident area, trains operate on a single main track under the authority of a Track Warrant Control System (TWC), controlled by a dispatcher located in Fort Worth, Texas. The maximum authorized speed for freight trains is 40 mph as designated in the current BNSF Timetable Montana Division No. 6.

According to the train crew there was no observation of any unusual track condition. The crew stated that shortly after passing over a private grade crossing, they suddenly felt the lead locomotive sway to the right. They were preparing to inform the dispatcher of the location of the rough spot when the train experienced a train line induced emergency air brake application and came to a stop in1,737 feet. After coming to a stop the conductor left the locomotive to investigate and observed that a portion of the train had derailed. The engineer immediately contacted the dispatcher, and advised that the train was stopped and derailed.

### Analysis and Conclusions

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

On March 17, 2006, a BNSF track inspector conducted a track inspected by traversing the track with a hi-rail vehicle between milepost 995 and milepost 1078.9. No defective conditions were noted in the accident area.

On October 6, 2005, the BNSF track Geometry Test Car (Car 85) conducted a test through the accident area and detected gage measurements of 57 5/16-inches, at milepost 1047.576. The gage measurement meets the Federal Track Safety Standards requirements for FRA Class 3 track of 57 3/4-inches.

On March 1, 2006, the BNSF conducted an internal rail inspection in the area of the accident from milepost 1046 to milepost 1073.6. No exceptions were noted.

Wheels of two cars ahead of the first car derailed contained marks on the tread section of the wheel. They appeared to have been caused by impacting the end of a rail.

During the investigation, a rail end section was recovered with broken rail joint bars still attached. The joint bars were broken in the center. The mating pieces of rail end and rail joint bars were not found. The rail end section and the broken joint bars exhibited signs of excessive wheel batter. The bottom section of the rail joint bars appeared to have metallurgy defects on the broken face. The recovered rail joint bars were sent to a lab for further analysis.

The severely battered rail end and joint bars indicate the joint bars were center broke causing catastrophic failure in the track structure resulting in the derailment of the coal train.

Probable Cause

The probable cause of the accident was broken non-insulated rail joint bars (T215).