

Federal Railroad Administration Office of Safety Headquarters Assigned Accident Investigation Report HQ-2008-29

Burlington Northern Santa Fe (BNSF) Marysville, MT March 17, 2008

Note that 49 U.S.C. §20903 provides that no part of an accident or incident report made by the Secretary of Transportation/Federal Railroad Administration under 49 U.S.C. §20902 may be used in a civil action for damages resulting from a matter mentioned in the report.

DEPARTMENT FEDERAL RAILF	OF TRA ROAD A	NSPORT DMINIST	TATIO RATI	ON ON	FRA FA	ACTU	AL RA	ILF	ROAD A	CC.	IDENT RE	EPORT	,	F	FRA Fil	e# <u>H</u>	Q-200	8-29	
1.Name of Railroad Operating Train #1									1a. Alphabetic Code					1b. Railroad Accident/Incident No.					
BNSF Rwy Co. [BN	-	2a Alphabetic Code					NW0308200												
N/A	2a	Za. Alphabelle Coue N/A					2b. Railroad Accident/Incident No. N/A												
3.Name of Railroad O N/A	Operating	Train #3						3a	. Alphabetic	Coc N/A	le		3b. I	3b. Railroad Accident/Incident No.					
4 Name of Dailwood I	Doomonoil	ale for Tree	Ir Mai					10	Alababatia		10		4h 1	41. Deflered A coldent/In 11 (N)					
4.Name of Railroad F BNSF Rwy Co. [B]	NSF]	ble for Trac	K Man	itenan	ice:			4a	. Alphabetic	BNS	SF		4D. I	NW0308200					
5. U.S. DOT_AAR G	Grade Cro	ssing Ident	ificatio	on Nur	nber			6.	Date of Acc	ciden	t/Incident		7. 1	7. Time of Accident/Incident					
		Derail	nont		084	4661A		M	Month 03 Day 17 Year 2008					05:50:00 V AM PM					
8. Type of Accident/I (single entry in con-	ndicent	2. Head of	n colli	sion	4. Side c	ollision	on	8	8. RR grade crossing 11. Fire/violent rupture (describe in									Code	
(suigie entry theor	n Train	collision	9	. Obstructio	n	12 Other impact				narrat	ive)		07						
9. Cars Carrying		10. HAZI	MAT	Cars	0. Broke	1 11	. Cars Re	leasi	ng		12. Other Impac				13. Divi	sion			
HAZMAT	37 Damaged/Derailed 0					H	AZMAT		0		Evacuated			0		No	rthwes	:	
14 Nearest City/Tow	<u>n</u>					15. Milepost			16.5		State		17 County						
14. Incarest enty/10w	M	arysville				(to nearest te) Abt N/A		Abbr N/A	br Code		SNO1			HOMISH		
18. Temperature (F)		19 Visih	ility	(sing	ele entrv)	Code	20 1	Weath	l ner (single	entr	ן ע)	Codo	1	21 Type	of Tra	·k		Code	
(specify if minus))	1.1	Dawn	3.D	usk	20. W			ear 3. Ra	in	a 5.Sleet			1. Main 3.				code	
38	F	2.1	Day	4.I	Dark	4	1	2. Clo	oudy 4. Fo	g	6.Snow 2			2. Ya	urd 4. l	Industry		1	
22. Track Name/Nu	mber					23. FF	A Track		Code 24. Annual Track		Annual Track	k Density		25. Time Table Di			Direction Co		
		Sir	ngle M	ain Tr	ack	C	ass (1-9,	X)	4		(gross tons in millions)	24.4	1	1. North 3. East				1	
4 millions) 24.											2			2. South	4. W	est	1		
							OPER	KAI.	ING I KA	1111 1	#1	07 11 1							
26. Type of Equipme	ent 1.	Freight tra	un tuoin	4. Wo	ork train 7	. Yard/s	witching	А	Spec. Mo	W Eq	quip. Code	27. was I Atten	±quip ded?	ment C	ode	28. Tra	ain Nun	iber/Symbol	
Consist (single entry) 2. Passenger train 5. Single car 8. Light loco(s). 3. Commuter train 6. Cut of cars 9. Maint /increase car											1	1. 1	res.	2. No	1	PASVBT1-16			
29. Speed (recorded speed, if available) Code 31. Method(s) of Operation (enter code(s) that apply) 31a. Remotely Controlled Locomotive?												motive?							
R - Recorded a ATCS g. Autom									block	m.S	pecial instruct	ions		0 = Not a remotely controlled					
E - Estimated	48	MPH	R	b	. Auto train	control	h. Curre	nt of	traffic	n. O	ther than main	track		1 = Remo	ote contr	ol port	able		
30 Trailing Tons	(gross to	mnage		- c	. Auto traii	n stop	i. Time t	able/	train orders	ain orders o. Positive train control 2 = Remote control tower a control p. Other (Specify in premetic) 3 = Remote control									
excluding power units)								warra	nt control	p. c	Code(s)	in narrat	ive)	5 = Keme	tter - mo	701 re thar	one		
e. Iramic K. Direc 2696 f Interlocking I Vard									ic control			N/A I		remote c	control t	ransmi	tter		
22 Principal Car/Uni	¢	la Initial	and Nu	mbor	h Positi	on in Tr	inla	Lond	lade ()	100				1.6 1	/ 1 1 1			0	
(1) Einst involved	L	a. muai a		mber	D. FOSILIO		un c.	LUau	ieu(yes/no)	- 33	enter the nu	nployee(s)) teste were	o for drug	/alconol 1	use,	lcohol	Drugs	
(1) First involved (derailed, struck, etc) BNSF981									N/A		the appropri	ate box.		F			0	0	
(2) Causing (if med	chanical	!	0			0			N/A	3	4. Was this co	onsist tran	sporti	ng passen	gers? (Y	/N)	0		
cause reported	Fuein I	0	Rear End						Lo	aded	1	Empty		N					
35. Locomotive Units a. Head End b. Ma			nual	c. Remote	d. Man	ial c. Re	emote	36. Cars	5		a. Fre	eight	b. Pass.	c. Freig	ght d.	Pass.	e. Caboose		
(1) Total in Train	n	3		0	0	0	()	(1) Total	in E	quipment Con	sist	3	0	69		0	0	
(2) Total Deraile	d	3		0	0	0	()	(2) Total	Dera	uled		0	0	1		0	0	
37. Equipment Dama	age			38. Tra	ack, Signal, V	Wav.			39 Prima	arv C	ause	•		40 Cont	ributing	Course			
This Consist	\$	6465,200.00)	& Stru	ucture Dama	ge I	\$195,980	0.00	Code	uyc		M304		Code	nounig		М	303	
		Number	of Cr	ew Me	embers							Leng	th of '	of Time on Duty					
41. Engineer/	42. Fire	emen		43. Co	onductors	44.1	44. Brakemen		45. Engir	Operator			46. Conductor						
Operators 2		0			1		0		Hrs ₁ Mi			Mi 50	, 1			s	1	Mi 50	
Casualties to:	Casualties to: 47. Railroad Employees 48.				in Passenger	:s 49	49. Other		50. EOT Device?				51. Was EOT Device Properly A			Armed?			
Fatal 0					0		0		1. Yes 2. No 1				1. Yes 2. No 1					1	
								52. Caboc			ose Occupied by Crew?								
Nonfatal	Nonfatal 1 0 1									1	. Yes	2.	No					N/A	
							OPERA	TIN	G TRAIN	#2									
53. Type of Equipme	nt 1.	Freight tra	in	4. Wo	ork train 7.	Yard/s	vitching	А	. Spec. MoV	V Eq	uip. Code	54. Was E	Equip	ment C	ode 5	55. Tra	in Num	ber/Symbol	
Consist (single en	atry) 2.	Passenger	train	5. Sin	igle car 8.	Light le	oco(s).					Attend	ied?	I					
56.0	3.	Commuter	train	6. Cu	t of cars 9.	Maint./	inspect.ca	ur	• • •	.1	N/A	1. Y	es :	2. No No	N/A		1.1		
Do. Speed (recorded	speed, if	available)	Code	58.	. Method(s)	of Opera	a Autor	(<i>ente</i> natic	er code(s) i block	that	apply)	iona		58a. Rem	otely Co	ntrolle	d Loco	motive?	
K - Recorded a. ATCS g. Autor E - Estimated 0 MPH N/A b. Auto train control h. Curre								nt of	traffic		0 = 100 a remotery controlled 1 = Remote control portable								
				1															

DEPARTMENT FEDERAL RAILF	OF TRA ROAD AI	NSPOR OMINIS	TATI TRAT	ON ION	FRA FA	CTUAL	RAILR	OAD AC	CIDENT REP	ORT	F	RA File	# <u>HQ-200</u>	8-29		
57. Trailing Tons (gross tonnage, excluding power units)					c. Auto train stop i. Time table/tr d. Cab j.Track warrant e. Traffic k. Direct traffic				 Positive train control Other (Specify in r Code(s) 	ol <i>arrative)</i>	2 = Remo 3 = Remo transmit					
N/A					f. Interlocking 1. Yard limits			[N/A N/A N/A	remote c	N/A					
59. Principal Car/Unit a. Initial and Nur			lumber	b. Positio	on in Train	c. Load	ed(yes/no)	60. If railroad emp	ployee(s) tested for drug/alcohol use,							
(1) First involved (derailed struck etc) 0				0		1	J/A	enter the numb	er that were positive in box.			Alcohol	Drugs			
(2) Causing <i>(if mechanical)</i>		,							61. Was this consis		ist transporting passengers		//N)	N/A		
cause reported)		0		0	0		N/A	or. Was this consist danspor		ung passengers: (1/14)			N/A			
62. Locomotive Units		a. Head End	b. M	Mid 7 anual	Train c. Remote	Rear d. Manual	r End c. Remote	63. Cars	63. Cars		Loaded a. Freight b. Pass. c.		Empty ht d. Pass.	e. Caboose		
(1) Total in Train		0		0	0	0	0	(1) Total in	n Equipment Consist	aipment Consist 0		0	0	0		
(2) Total Deraile	d	0		0	0	0	0	(2) Total Derailed		0	0	0	0	0		
64. Equipment Dama	age			65. Tra	. Track, Signal, Way,			66. Primary Cause			67. Contr	ributing	Cause			
This Consist		\$0.00	or of C	& S	& Structure Damage \$0.00					N/A	Code	h14x7		N/A		
68. Engineer/	69. Fire	men		70. Co	onductors	71. Brak	emen	72. Engin	eer/Operator	Lengui oi	73. Con	ductor				
Operators 0		0			0		0		Hrs 0 M	i O		Hrs		Mi 0		
Casualties to:	74. Railro	oad Emp	oyees	75. Tra	in Passenger	s 76. Othe	76. Other		Device? Yes 2 No 1	N/A	78. Was	EOT De Yes	vice Properly 2. No	Armed?		
Fatal		0			0		0		79 Caboose Occupied by Crew?			1. 103 2.110				
Nonfatal	0				0		0		1. Yes 2. No				I			
						OI	PERATIN	NG TRAIN #3								
80. Type of Equipment 1. Freight train 4. Work train 7. Yard/switching A. Consist (single entry) 2. Passenger train 5. Single car 8. Light loco(s).								Spec. MoW Equip. Code 81. Was Equipment Code 82. Train Number/Symbol Attended? N/A N/A								
83. Speed (recorded	3. Commuter train 6. Cut of cars 9. Maint./inspect.car 83. Speed (recorded speed if available) Code 85 Method(s) of Operation (enter								nat apply)	1. 105	85a. Remo	otely Cor	ntrolled Loco	motive?		
R - Recorded				a.	ATCS	g. /	Automatic b	olock n	n.Special instructions	-1-	0 = Not a	remotely	y controlled			
E - Estimated N/A MPH 0 b. Auto train control h. Current of t							Current of the Time table/to	raffic ^{II} ain orders	. Other than main tra b. Positive train contr	ol	1 = Remo 2 = Remo	ote contro	ol portable			
84. Trailing Tons (gross tonnage, c. Auto train stop 1. Time table/ d. Cab j.Track warra								t control 1	o. Other (Specify in a	uarrative)	3 = Remo	ote contro	ol			
excluding power units)					Traffic	k. l	Direct traffi	c control	Code(s)		transmit	ter - mor	re than one			
		IN/A		1.	Interlocking	1.1			N/A N/A N/A	N/A N/A				IN/A		
86. Principal Car/Unit a. Initial and Nu					mber b. Position in Train c. Load				87. If railroad empl	oyee(s) test er that were	ed for drug e positive i	g/alcohol n	use,	Druge		
(1) First involved (derailed, struck,	(1) First involved (derailed, struck, etc)		0			0		N/A	the appropriate	e box.	positive		N/A	N/A		
(2) Causing (<i>if mechanical</i> cause reported) 0)	1	N/A	88. Was this cons	ist transport	ing passen	gers? (Y	/N)	N/A			
89. Locomotive Units a. Head			Mid 7	Train	Rear	r End	90. Cars		La	aded	I	Empty				
		End	b. M	anual	c. Remote	d. Manual	c. Remote	(1) T (1)	E :	a. Freight	b. Pass.	c. Freig	t d. Pass.	e. Caboose		
(1) Total in Train	n	0		0	0	0	0	(1) Total in	Equipment Consist	0	0	0	0	0		
(2) Total Deraile	d	0	<u> </u>	0	0	0	0	(2) Total E	Derailed	0	0	0	0	0		
91. Equipment Dama This Consist	age	\$0.00		92. Tra	ick, Signal, V	Vay,	\$0.00	93. Primary Cause Code 94. Contributing Cause						N/A		
		Numb	er of C	rew Me	mbers	age	φ0.00	Length of Time on Duty								
95. Engineer/	96. Fire	men		97. 0	Conductors	98. Brak	emen	99. Engin	eer/Operator		100. Conductor					
Operators 0		0			0		0		Hrs 0 M	i 0	Hrs 0 Mi 0					
Casualties to:	101. Rail	01. Railroad Employees			Train	103. Oth	103. Other		104. EOT 105. Was EOT Device Properly							
Fatal		0			0		0		1. Yes 2. No N/A 1. Yes 2. No N/ 106. Caboose Occupied by Crew? <							
Nonfatal 0				0		0	1. Yes 2. No N/A									
Highway User Involved									Rail	Equipmen	t Involved	d				
107. C. Truck-1	Frailer T	Buc	1	I Other	Motor Vab	-le	Code	111. Equipment								
A. Auto D. Pick-U B. Truck E. Van	K. Pede M. Oth	strian	arrative)	С	1.Train(units pulling) 4.Car(s) (moving) 7.Light(s) (standing) 2.Train(units pushing) 5.Car(s) (standing) 8.Other (craasis in parrenting)											
108. Vehicle Speed	D. Huck E. van H. Motorcycle M. 108. Vehicle Speed 109.					cal)	Code	112. Position of Car Unit in								
(est. MPH at impact) 4 1.North 2.South 3.East 4.West 4								1								

DEPARTM FEDERAL F	ENT OF TR. RAILROAD A	ANSPO ADMINI	RTAT STRA	TION TION	FRA F	FACTUA	AL RAILR	ROAD AC	CIDENT	REP	ORT	H	RA File # <u>HQ-2008</u>	<u>-29</u>	
110. Position	110. Position Code 113. Circumstance													Code	
1.Stalled o	1. Stalled on Crossing 2. Stopped on Crossing 3. Moving Over Crossing 1. Rail Equipment Struck Highway User 2. Pail Equipment Struck hy Highway User													Ι.	
4. Trapped							5	2. Rail Eq	uipment Stru	ck by	Highway Use	er		1	
114a. Was the	114a. Was the nighway user and/or rail equipment involved Code 114b. Was there a hazardous materials release													Code	
1. Highway User 2. Rail Equipment 3. Both 4. Neither 2 1. Highway User 2. Rail Equipment 3. Both 4. Neither											4				
114c. State he	1. Inginway osci 2. Ran Equipment 3. Doin 4. Pointer 114c. State here the name and quantity of the hazardous materials released if any												<u> </u>		
		1					N/A								
115. Type 1.Gates 4.Wig Wags 7.Crossbucks 10.Flagged by crew 116. Signaled Crossing Code 117. Whistle Ban												Code			
Crossing 2.Cantilever FLS 5.Hwy. traffic signals 8.Stop signs 11.Other (spec. in narr.) (See instructions for codes) 1. Yes															
Warning 3.Standard FLS 6.Audible 9.Watchman 12.None 2. No												1			
Code(s)	08	N/A	N	I∕A	N/A	N/A	N/A	N/A N/A S. Onknown						2	
118. Location of Warning Code 119. Crossing Warning Code 120. Crossing Illuminated by Street												Code			
1. Both Sid	les					with	h Highway Si	gnals Lights or Special Lights					hts		
2. Side of Vehicle Approach 1. Yes								. Yes I. Yes							
3. Opposite Side of Vehicle Approach 1							2. NO 3. Unknown		2		2. NO 3. Unkn	own		2	
121.	122. Driver's	Gender	Code	123.	Driver Drov	ve Behind o	or in Front of	Code 124. Driver					Code		
Age	1. Male				and Struck o	r was Struc	k by Second	Train	1. Drov	e arou	and or thru th	e Gate	4. Stopped on Crossing		
51	2. Femal	e I	1		1. Yes	2. No	3. Unknown	n I.	2. Stop	ped an	nd then Proce	eded	5. Other (specify in parrative)		
			1					1	3. Did	not Sto	op		nurruiive)	3	
125. Driver Pa	ssed	Coc	e 12	26. Vie	w of Track C	bscured by	(primary ob	struction)						Code	
Highway V	ehicle	1 2		1. P	ermanent Str	ucture	3. Passi	ng Train 5.	Vegetation		7. Other (s	specify in 1	narrative)	l	
1. Yes 2. No	3. Unknown	2		2. 5	tanding Raili	oad Equipr	nent 4. Topo	graphy 6.	Highway Veh	icle	8. Not obstru	icted		Coda	
Casualties to: Killed Injured 127. I						127. Driv	d 2 Injured 3	Uninjured	1 2	1e	128. Was L	Oriver in ti	2 No	1 1	
1. Killő 130 Hig							hway Vehicle	Property Da	roperty Damage			131. Total Number of Highway-Rail Crossin			
129. Highway-Rail Crossing Users 0 1						(est.	dollar damaş	ge)	10000			(include driver) 1			
132. Locomotive Auxiliary Lights? Code 133. Locomotive Auxiliary Lights Operational?											Code				
1. Yes 2. No							1 1. Yes 2. No				1				
134. Locomotive Headlight Illuminated? Code 135. Locomotive Audible Warning Sounded?												Code			
1. Y	es	2.	No				1	1.	Yes		2. No			1	



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

137. SYNOPSIS OF THE ACCIDENT

A northbound Burlington Northern Santa Fe (BNSF) freight train collided with a semi-truck and trailer at a private highway-rail grade crossing on March 17, 2008 at 5:50 a.m.. The accident occurred when the semi-truck driver (highway user) operated his truck onto the private crossing and into the path of the approaching BNSF freight train. The highway user failed to fully stop for the stop sign that was positioned at the east entrance of the private crossing and failed to yield the right-of-way to the BNSF freight train.

The accident occurred in Marysville, Washington on the BNSF Northwest Division, Bellingham Subdivision, at mile post 43.10. Marysville is located about 35 miles north of Seattle, Washington.

The student engineer, who was operating the train, sustained minor injuries. The highway user sustained internal injuries and was hospitalized for four days. The three locomotives and first railcar in the train consist derailed as a result of the collision. Equipment damages of \$465,200 and track / structural damages of \$195,980 were sustained.

Weather conditions at the time of the accident were dark, cloudy, and 38 degrees Fahrenheit.

The probable cause:

The highway user was cited for violation of highway-rail grade crossing traffic laws for failing to yield the rightof- way to the oncoming northbound BNSF frieght train (M304). A contributing cause was misjudgement of the highway user under normal weather and traffic conditions (M303).

138. NARRATIVE

CIRCUMSTANCES PRIOR TO THE ACCIDENT

BNSF FRIEGHT TRAIN, PASVBT1-16A

The crew consisted of a locomotive engineer, a conductor, and a student engineer. The crew went on duty March 17, 2008 at 4:00 a.m. at Everett, Washington following a THE required statutory rest period. Everett is the home terminal for the engineer and student engineer. The conductor's home terminal is Balmer Terminal in Seattle, WA.

The crew was assigned to operate BNSF Frieght Train No. PASVBT1-16A, between Everett and Vancouver, Canada. The train consisted of three locomotives, 72 cars (3 loads and 69 empties). There were 37 residue hazardous materials cars in the consist. The train received an initial terminal air brake test and departed Everett at 5:30 a.m..

Approaching the accident area, the student engineer was operating the train at a recorded speed of 48 mph. There were multiple crossings in the area and the student engineer was sounding the locomotive horn. The crew stated they became aware of the impending collision when a semi-truck moved onto an approaching private grade crossing. The student engineer simultaneously initiated an emergency train air brake application.

The student engineer was seated at the locomotive control stand and the engineer was standing next to the control stand on the right side, in the leading locomotive. The conductor was seated on the left side of the lead locomotive facing forward. When the crew realized that a collision was eminent, they positioned themselves on the locomotive cab floor.

The railroad right-of-way in the accident area is a single main track, tangent for one mile north and south of the accident area. Approaching the private crossing from the south, the railroad grade is .37-percent ascending. The railroad timetable direction of the train is north. The geographic direction is north. Timetable

directions are used throughout this report.

HIGHWAY VEHICLE:

The semi-truck was a 2007 Kenworth T600 tractor with a trailer. There was one occupant, a 51-year-old male driver. The semi-truck was traveling south on State Aveenue and made a turn to the right onto the private crossing known as the Pacific Grinding Wheel crossing. Before proceeding over the private crossing the driver slowed for a stop sign, however, he did not come to a complete stop and proceeded over the private crossing in front of the approaching train. The view of the railroad right-of-way, from the aforementioned stop sign, is unobstructed in both directions. The above is based on train crew statements and the police report.

THE ACCIDENT

BNSF FREIGHT TRAIN PASVBTI1-16:

BNSF Freight Train PASVBTI1-16 struck the left side of the semi-truck and began to shove it northward on the track structure. The cab of the semi-truck became detached from the trailer approximately 30 feet north of the point of collision. The trailer was shoved an additional 400 yards where the train came to a stop. The collision occurred at a recorded speed of 48 mph.

After the train stopped, the student engineer and the engineer remained on the locomotive to establish radio communications with the train dispatcher. The conductor dis-embarked the locomotive and discovered that parts of the semi-trailer were entangled and stuck to the front of the lead locomotive. The three locomotives and the leading truck (set of rail wheels) of the first rail car were derailed and came to rest on the track structure.

The Marysville Washington police arrived on the scene at 5:52 a.m. Marysville fire and medical emergency services arrived on the scene shortly thereafter. The BNSF Everett Terminal Superintendent, and two BNSF Trainmasters arrived on the scene at about 6:00 a.m..

The student engineer suffered a minor head injury and was transported to a local hospital where he was treated and released. There was no release of a hazardous materials.

The lead locomotive was equipped with a camera that verified the above conditions and statements. The maximum authorized speed for this train was 50 mph, as designated in the current BNSF Northwest Division Timetable, Bellingham Subdivision, No. 3.

The rail equipment damage estimates are \$465,200 and \$195,980 for track structure.

HIGHWAY VEHICLE:

The semi-truck was operating west on State Avenue as the driver turned right onto the private highway-rail crossing known as, "Pacific Grinding Wheel Crossing." According to the train crew, the semi-truck slowed for the stop sign; but, did not stop before proceeding over the private crossing. The student engineer was blowing the locomotive horn when the driver proceeded over the crossing and into the path of the approaching train. The estimated speed of the semi-truck was less than 5 mph at the time of the collision. The semi-truck driver was transported to a local hospital where he was admitted with internal bruising and remained there for four days.

The tractor of the semi-truck sustained minor damage to the fifth wheel area. The trailer of the semi-truck was a total loss valued at about \$10,000.

ANALYSIS:

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

CONCLUSION:

Upon analysis of that information FRA concluded that one or more of the employees may have been working at a diminished level of safety (effectiveness) due to mental and/or physical attributes associated with fatigue, however this condition could not have caused or contributed to the cause of the accident.

CROSSING INFORMATION:

Private crossing US DOT 084661A. The crossing is an elevated paved private highway/rail grade crossing that crosses the single main track at a 90-degree angle. The crossing is equipped with stop signs, private crossing signs, and no cross bucks. The crossing provides access to an industrial facility called Pacific Grinding Wheel and there is no other access to this facility. Amtrak is the only scheduled passenger service that operates over this crossing. Ten to fifteen freight trains operate over this crossing daily. Large amounts of various hazardous materials are transported over this crossing by BNSF. Records from FRA and Washington State Utilities and Transportation Commission show there have been eight grade crossing accidents at this crossing since February 11, 1975. The most recent was August 14, 2001 which resulted in a fatality. At the time of the accident, BNSF was in the process of upgrading the crossing with active warning devices, lights and gates. However, completion of the upgrade was not expected for two to three weeks.

ANALYSIS AND CONCLUSIONS:

•The lead locomotive was equipped with an operative video camera and event recorder.

•The video and event recorder analysis supported the crew's statements.

•The crew stated that their view of the private crossing was clear.

•The train crew was in compliance with current operating rules and applicable federal regulations at the time of the accident.

•Engineer was sounding the locomotive horn as required, and the head and ditch lights were operating. This was verified by the interviews, event recorder, and by the viewing of the locomotive onboard camera video.

•Video from the locomotive onboard camera verified that the highway user approached the crossing, paused slightly, then proceeded over the crossing into the path of the oncoming train.

•According to the police report, the highway user stated he saw the train but didn't think it was so close.

•Stop signs were in place at the crossing and were not obstructed.

PROBABLE CAUSE & CONTRIBUTING FACTORS:

The highway user was cited for violation of highway-rail grade crossing traffic laws for failing to yield right-ofway to the northbound train (M304).

Contributing Cause: Highway user misjudgment under normal weather and traffic conditions (M303).