

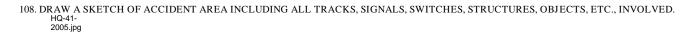
Federal Railroad Administration Office of Safety Headquarters Assigned Accident Investigation Report HQ-2005-41

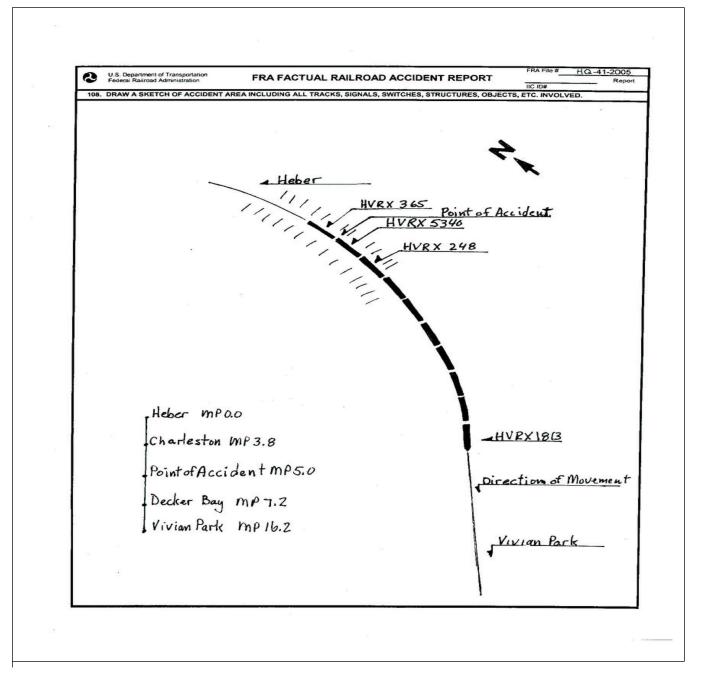
Heber Valley Railroad (HVRX) Heber, Utah May 10, 2005

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.

FEDERAL RAILROAD ADM		ION TION	FRA FA	CTUA	L RAII	LROAD AG	CCIDENT R	REPORT		FRA	A File #	<u>HQ-200</u>	<u>)5-41</u>	
1.Name of Railroad Operating Trai Heber Valley RR Utah [HVRX]	#1				1a. Alphabetic	Code HVRX		1b. Railro	Railroad Accident/Incident No. 200501					
2.Name of Railroad Operating Train	#2				2a. Alphabetic	Code	2	b. Railro	ad Accid	dent/Inci	dent			
N/A						N/A			0					
3.Name of Railroad Responsible for	Track M	aintenance	:		3a. Alphabetic			3b. Railro	oad Acci	ident/Inc	ident No.			
Heber Valley RR Utah [HVRX] 4. U.S. DOT_AAR Grade Crossing	dantifica	tion Numb	h.a				HVRX		< m.		0501			
4. U.S. DOI_AAR Grade Crossing		 Date of Acci Month 	dent/Incident	Year	6. Time o	of Accid	ent/Incid	ent						
			05	10	2005		11:30: 🖌 AM 🗌 PM							
7. Type of Accident/Indicent 1. Derailment 4. Side (single entry in code box) 2. Head on collision 5. Rakir						7. Hwy-rail c	-	-	sion-detonation 13. Other iolent rupture (describe in					
	collision	llision	 8. RR grade c 9. Obstruction 	-	Other impac		na		1					
	ear end co					9. Obstruction	11. People	Other Impac	15				12	
	ged/Dera			10. Cars I HAZMA	0	0	Evacuated	0	12.	. Divisio	n N/A			
13. Nearest City/Town			14. Mile	-		15. State Abbr	Code	16. Cou	nty					
			(to n	earest ten	5.0	N/A	UT		WASATCH					
	Visibility		e entry)	Code	19. We	ather (single	entry)	Code	20.	20. Type of Track			Code	
(specify if minus) 66 F	(specify if minus) 1. Dawn 3.D					Clear 3. Rai		2			3. Sidi	1		
21. Track Name/Number	2. Day	4.Da	arĸ	2 22. FRA		Cloudy 4. Fog	3			2. Yard 4. Industry 24. Time Table Directio				
21. Track Name/Number	Main			s (1-9, X)	Code	23. Annual Trac (gross tons millions)		24.		North 3		Code		
					OPERA	TING TRA	IN #1		!					
25. Type of Equipment 1. Frei	ht train	4. Wor	rk train 7.	Yard/swit	tching	A. Spec. MoV	V Equip. Code	26. Was E	quipment	Cod	e 27.	Train Nur	nber/Symbol	
Consist (single entry) 2. Pass	enger trai	n 5. Sing	gle car 8.	Light loce	0	1		Attende	tended?					
3. Con	muter trai	n 6. Cut	of cars 9.	Maint./in	spect.car		5	1. Ye	es 2. No			N//		
28. Speed (recorded speed, if avail	ble) Co		Method(s) o	•	Deperation (enter code(s) that apply) g. Automatic block m.Special instruction					olled Loco	omotive?			
R - Recorded E - Estimated 18 MP	I E		ATCS Auto train c	0			-			0 = Not a ² tesevely to here a lead of the second s				
	Auto train				o. Positive train	control		2 = Remote control tower						
29. Trailing Tons (gross tonnage excluding power units)	,		Cab	-		rrant control	p. Other (Specia							
excluding power units)								transmitter - more than one remote control transmitter						
	0		Traffic			affic control	Code(1.	
	0	f. I	Interlocking	1.	Yard limi	1.	1 N/A N	/A N/A N	ren 7/A	note con	trol trans	smitter	0	
· · · · · · · · · · · · · · · · · · ·	0 itial and 1	f. I		1.	Yard limi	1.	1 N/A N 32. If railroad e	/A N/A N employee(s)	ren ren tested for	note con drug/alo	trol trans	smitter		
(1) First involved		f. I Number	Interlocking	l.` n in Train	Yard limi	ts	1 N/A N 32. If railroad enter the r	A N/A N employee(s) number that w	ren ren tested for	note con drug/alo	trol trans	e, Alcohol	Drugs	
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56. Trailing Tons (gross tonnage, excluding power units)					. Auto trai . Cab . Traffic . Interlockin	Time table/t Frack warran Direct traffi Yard limits	Code(s)				arrative)	2 = Remo 3 = Remo transmit remote c	0				
58. Principal Car/Unit a. Initial and Nu						g I.: ion in Trair		led(ves/no)		1 1		oyee(s) teste	d for drug	v/alcohol m	2e		
(1) First involved HVRX				0.1031	7		ý /	59.		•	er that were		Drugs				
(derailed, struck, etc) HVRX 340					,		yes	the appropriate box.					N/A				
(2) Causing (if cause report		nical 0			0			N/A	60). Was this	s consi	st transporti	ing passen	Y			
61. Locomotive U	nits	a. Hea Enc		Mid ⁄Ianual	Train c. Remote		ar End					Err c. Freight	npty d. Pass.	e. Caboose			
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(2) Total Der		0		0	0	0	0	(2) Total D	2) Total Derailed 0 0 0			0	0	0			
63. Equipment Dat This Consist	. Equipment Damage 28820 64. Track, Signal, Way, & Structure Damage						0	65. Primary Cause Code H018 Code Code					use	E08C			
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67. Engineer/ Operators 1		iremen 0					akemen 0	71. Engin	eer/O Hrs	perator 2	Mi	30	72. Con	ductor Hrs	2	Mi 30	
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Fatal		0			0		0	1. Yes 2. No 2 1. Yes 2. No 78. Caboose Occupied by Crew?									
Nonfatal		2			5		0	/8. Caboo		Yes	y Crew	2. No				N/A	
		High	iway U	ser Inv	olved						Rail I	Equipment	Involved	ł			
79. Type C. Truck-Trailer. F. Bus J. Other Motor Vehicle A. Auto D. Pick-Up Truck G. School Bus K. Pedestrian							Code	83. Equipment 3.Train (standing) 6.Light Loco(s) (moving) 1.Train(units pulling) 4.Car(s) (moving) 7.Light(s) (standing)								Code	
B. Truck E. Van H. Motorcycle M. Other (spec. in narrativ							N/A	N/A 2.Train(units pushing) 5.Car(s)(standing) 8.Other (specify in narrative)							N/A		
80. Vehicle Speed (est, MPH at impact) 0 81. Direction geographical) 1.North 2.South 3.East 4.Wes							N/A	84. Position of Car Unit in Train 0									
(est. MPH at impact) 0 1.North 2.South 3.East 4.Wes 82. Position							Code	85. Circun	nstanc	ce			-			Code	
1.Stalled on Crossing 2.Stopped on Crossing 3.Moving Over Crossi						r Crossing	I N/A	1. Rail Equipment Struck Highway User N/A 2. Rail Equipment Struck by Highway User							N/A		
4. Trapped 86a. Was the highway user and/or rail equipment involved							Code		86b. Was there a hazardous materials release by								
in the impact transporting hazardous materials?							N/A	1 High									
1. Highway Use 86c. State here the						eleased if a		1. High	lway	0301 2.	Kall L	quipinent	5. Doui	4. Neture	1	N/A	
	nume und	quantity	, i uie in			lieuseu, ii u	N/A										
87. Type of Crossing 1.Gates 4.Wig Wags 7.Crossbucks Warning 2.Cantilever FLS 5.Hwy. traffic signals 8.Stop signs Warning 3.Standard FLS 6.Audible 9.Watchman							.Flagged by .Other (spec			-		g Warning for codes)	Code	89. Whis 1. Ye 2. No	s	Code	
	Standard F	LS 6.A N/A	udible	A	9. watc	N/A	None N/A	N/A					1		known	N/A	
90. Location of Wa		1 1/ 1 1	1 19/		Code		ng Warning		ed	Code	92. 0	Crossing Illu	I Iminated b	y Street		Code	
1. Both Sides wit 2. Side of Vehicle Approach							Highway Sig . Yes	gnals				Lights or Sp 1. Yes	pecial Ligl	hts			
3. Opposite Side of Vehicle Approach N/A						2.	. No Unknown	N/A				2. No	N/A				
93. Driver's 94. Driver's Gender Code 95. D					river Drove	rain Code	1 Descent and the day of a start of the second							Code			
Age 1. Male and Struck or was Str 0 2. Female N/A 1. Yes 2. No							by Second Train 1. Drove arou 3. Unknown 2. Stopped and 3. Did not Sto					then Proce	ng N/A				
97. Driver Passed Standing Code 98. View of Track Obscured by						cured by								rrative)	Code		
Highway Vehi	cture	3. Passing Train 5. Vegetation 7. Other (specify in narrative) ent 4. Topography 6. Highway Vehicle 8. Not obstructed									N/A						
1. Yes 2. No 3. 101. Casulties to		N/A Rail			-	ad Equipm 99. Driver		grapny 6.	righ	way Vehi Code		. Not obstru 100. Was E		e Vehicle?		Code	
Crossing Users Killed Injured 1. Ki					1. Killed	2.Injured 3.	-		N/A		1. Ye	es	2. No		N/A		
			0		0	-	way Vehicle lollar damag		ımage	0		103. Total l (incluc	Number of le driver)	Highway-	Rail Cross 0	ing Users	
104. Locomotive A	Auxiliary L	-		I	1		Code		motiv	e Auxilia	ry Ligi	nts Operatio	nal?			Code	
1. Yes 2. No							N/A	1. Yes 2. No						N/A			
106. Locomotive Headlight Illuminated? 1. Yes 2. No						I	Code N/A							Code N/A			
1. 105		1.	1. Yes 2. No							1.7/11							





109. SYNOPSIS OF THE ACCIDENT

Train #1

At about 11:30 A.M., May 10, 2005 a single, free rolling passenger car (HRVX 365), struck the rear end of standing HVRX Train #3 on the main track at Mile Post (MP) 5.0. The point of the accident is located between Charleston Siding and Decker Bay on Heber Valley Railroad main track.

Train #2

On May 10, 2005, HVRX Train #3, a tourist passenger train, departed Heber at about 11:00 A.M. En-route, the engineer experienced unusual wheel slip at three locations, MP 2, M P 4, and M P 5, which ultimately resulted in the train stalling. The stall occurred at approximately 11:30 A. M. at MP 5 located on a slight uphill grade and a right hand curve of approximately 6 degrees. The engineer called the conductor via radio and told him they would have to back up and try the hill again. The conductor, who was riding the caboose (in this case, the first car behind the locomotive), dismounted and began walking North toward the rear of the train. The train was stopped approximately 90 seconds when car HRVX 365, struck the rear of Train #3.

The collision resulted in the derailment of the rear truck (two axles) on car HRVX 5340. Minor injuries were reported by four passengers and two crew members. Total damage to the involved rail equipment HRVX 365, HRCX 5340, and HRVX 248 was \$125,610. No track damage was reported.

At the time of the accident it was daylight; the sky was overcast; the temperature was 66 degrees.

The primary cause of the accident was the failure of the conductor to properly secure car HVRX 365 set out on Track Three. Contributing causes were continued operation of a car with a known defective hand brake, failure to insure the car was coupled to the three cars already in the track and the application of an effective track skate or other securement device.

As a result car HVRX 365 rolled out of Track Three, down a grade and into the rear of Train #3.

110. NARRATIVE

CIRCUMSTANCES PRIOR TO THE ACCIDENT

Train #1

At approximately 10:00 A.M. MDT May 10, 2005, a crew (conductor handling the movement) left two rear coaches on the main track and set out one coach (HRVX 365) into Track Three, in the Heber City Depot Yard, to what he thought was a coupling on two other cars that were secured in track three. The car set out was not stretched to ensure a proper coupling had been made. In addition, the hand brake on HRVX 365 was defective. The angle cock on car HRVX 365 was left open which resulted in the application of the air brakes. No wheel chocks or other devices were placed under the wheels, which is the normal practice at this location.

At an unknown time, HVRX 365 rolled out of Track 3 onto the main track and struck Train #2 at about 11:30 A.M.

Train #2

The crew of Train #3, a tourist passenger train, included an engineer, a conductor, and two car attendants. They went on duty at 9:00 A.M., MDT, May 10, 2005 at Heber, Utah. This is the home terminal for all crew members. All crew members received more than the statutory off duty period, prior to reporting for duty.

The train consisted of one locomotive, seven passenger cars and a caboose. The train was about 670 feet long and weighed 421 tons (with locomotive). The train was scheduled to travel from Heber Station, Mile Post MP 1, to Vivian Park, MP 16, and return. The scheduled departure time was 11:00 A. M., MDT.

The train was then shoved back to a coupling on the two coaches left on the main track. The train then shoved back to the station for passenger loading. The train then received a proper air test, passengers were boarded, and Train #3 departed southbound at 11:01 a.m. under timetable authority.

En-route, the engineer experienced unusual wheel slip at three locations, MP 2, M P 4, and M P 5, which ultimately resulted in the train stalling. The stall occurred at approximately 11:30 A. M. at MP 5 located on a slight uphill grade and a right hand curve of approximately 6 degrees. The engineer called the conductor via radio and told him they would have to back up and try the hill again. The conductor, who was riding the caboose (in this case, the first car behind the locomotive), dismounted and began walking North toward the rear of the train. The train was stopped approximately 90 seconds when car HRVX 365, struck the rear of Train #3.

Timetable direction is North /South; geographical direction is East/West; timetable direction will be used in all references to direction.

The Collision.

Train #1

Car HRVX 365, which was set out in Track Three, began to move freely because it did not have an operative hand brake; the air brakes released due to a loss of air pressure (bleed off), there was not a chock or derail applied to prevent movement on to the main track; and it was not coupled to the cars previously placed in Track Three. The car rolled out of Track Three, passed through the Track Three switch, rolled five miles and struck Train #3. The main track is a continuous downhill grade from the Track Three switch to a point just prior to impact, where there is a slight upgrade. The speed of car HRVX 365, at point of impact, was estimated to be between 10 and 18 MPH.

Damage to HVRX 365 was \$28,820.

Train #2

At the time of the collision, the engineer was sitting at the controls of the locomotive and the train was stopped. The conductor was walking to the rear, through the train, to protect the intended reverse movement when the impact occurred and was knocked down.

Total damage to the involved rail equipment, HRCX 5340, and HRVX 248 was \$96,790. There was no track damage and no release of hazardous material.

There were four injured passengers. All passenger injuries were determined to be minor (bruises, contusions, and a possible concussion). The four passengers were taken via ambulance (WASATCH, Co. Emergency Services) to Heber Valley Medical Facility. The four passengers were underage children who were not accompanied by their parents on the trip. Ambulance services were used by the railroad as a precautionary measure due to the age of the passengers. Also, two railroad employees sustained injuries. A car attendant sustained injuries to her shoulder. Another attendant, sustained a bruise to his knee.

All injuries were treated at Heber Valley Medical Facility, and released.

There were no toxicological tests, under any authority, administered to the crew of Train #3.

The primary cause of the accident was the failure of the conductor to follow HVRX Operation Rule 1.53 and to properly secure car HVRX 365 and to ensure it was secure with the other cars in Track 3. Also, after setting the car out, and knowing the handbrake was not in working order, some means should have been taken to prevent undesired movement.

Conclusion.

Inspection of the site revealed there was not a derail south of the station to protect against uncontrolled movement from the yard. It was recommended derails be placed in order to prevent any uncontrolled movements in the future. This recommendation has been completed.

Rail car HRVX 365 had a broken latch bracket, which prevented the hand brake from working properly. The break in the bracket was old and its existence was known by the crews working at the time. The rail car was out of service until repaired.

HVRX modified Operating Rule 1.53 on securement of equipment.

At the time of the accident, HVRX did not have an active Operational Testing Program. Following the FRA investigation into this accident, HVRX instituted a Operating Rules Training and Testing Program.