Federal Railroad Administration
Office of Safety
Headquarters Assigned
Accident Investigation Report
HQ-2006-94

Saginaw Bay Southern Railroad
Saginaw, MI
December 2, 2006

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

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

FRA FACTUAL RAILROAD ACCIDENT REPORT

FRA File # HQ-2006-94

1.Name of Railroad Operating Train #1: Lake State Rwy Co. [LSRC]	1a. Alphabetic Code: LSRC	1b. Railroad Accident/Incident No.: A061202
2.Name of Railroad Operating Train #2: N/A	2a. Alphabetic Code: N/A	2b. Railroad Accident/Incident: N/A
3.Name of Railroad Responsible for Track Maintenance: Lake State Rwy Co. [LSRC]	3a. Alphabetic Code: LSRC	3b. Railroad Accident/Incident No.: A061202
4. U.S. DOT_AAR Grade Crossing Identification Number: 232455W	5. Date of Accident/Incident: Month 12 / Day 02 / Year 2006	6. Time of Accident/Incident: 04:12:00 ☑ AM ☐ PM

7. Type of Accident/Indicent (single entry in code box): 1. Derailment; 2. Head on collision; 3. Rear end collision; 4. Side collision; 5. Raking collision; 6. Broken Train collision; 7. Hwy-rail crossing; 8. RR grade crossing; 9. Obstruction; 10. Explosion-detonation; 11. Fire/violent rupture; 12. Other impacts; 13. Other (describe in narrative): 07

8. Cars Carrying HAZMAT	9. HAZMAT Cars Damaged/Derailed	10. Cars Releasing HAZMAT	11. People Evacuated	12. Division
20	00	00	0	SAGINAW

13. Nearest City/Town	14. Milepost (to nearest tenth)	15. State Abbr	15. State Code	16. County
SAGINAW	1.4	N/A	MI	SAGINAW

17. Temperature (F) (specify if minus)	18. Visibility (single entry) 1. Dawn 2. Day 3.Dusk 4.Dark	Code	19. Weather (single entry) 1. Clear 2. Cloudy 3. Rain 4. Fog 5.Sleet 6.Snow	Code	20. Type of Track 1. Main 2. Yard 3. Siding 4. Industry	Code
23 F		4		2		2

21. Track Name/Number	22. FRA Track Class (1-9, X)	Code	23. Annual Track Density (gross tons in millions)	24. Time Table Direction 1. North 3. East	Code
INBOUND LEAD		1	5.6		1

OPERATING TRAIN #1

25. Type of Equipment Consist (single entry): 1. Freight train; 2. Passenger train; 3. Commuter train; 4. Work train; 5. Single car; 6. Cut of cars; 7. Yard/switching; 8. Light loco(s).; 9. Maint./inspect.car; A. Spec. MoW Equip. — Code: 1

26. Was Equipment Attended? 1. Yes 2. No — Code: 1

27. Train Number/Symbol: Z127

28. Speed (recorded speed, if available) — R - Recorded; E - Estimated: 0 MPH — Code: E

29. Trailing Tons (gross tonnage, excluding power units): 6967

30. Method(s) of Operation (enter code(s) that apply): a. ATCS; b. Auto train control; c. Auto train stop; d. Cab; e. Traffic; f. Interlocking; g. Automatic block; h. Current of traffic; i. Time table/train orders; j.Track warrant control; k. Direct traffic control; l.Yard limits; m.Special instructions; n. Other than main track; o. Positive train control; p. Other (Specify in narrative) Code(s): i N/A N/A N/A N/A

30a. Remotely Controlled Locomotive? 0 = Not a remotely controlled; 1 = Remote control portable; 2 = Remote control tower; 3 = Remote control transmitter - more than one remote control transmitter: 0

31. Principal Car/Unit	a. Initial and Number	b. Position in Train	c. Loaded (yes/no)
(1) First involved (derailed, struck, etc)	N/A	99	no
(2) Causing (if mechanical cause reported)	0	0	N/A

32. If railroad employee(s) tested for drug/alcohol use, enter the number that were positive in the appropriate box.

Alcohol	Drugs
N/A	N/A

33. Was this consist transporting passengers? (Y/N): N

34. Locomotive Units	a. Head End	Mid Train b. Manual	Mid Train c. Remote	Rear End d. Manual	Rear End c. Remote
(1) Total in Train	2	0	0	0	0
(2) Total Derailed	0	0	0	0	0

35. Cars	Loade a. Freight	Loade b. Pass.	Empty c. Freight	Empty d. Pass.	e. Caboose
(1) Total in Equipment Consist	33	0	98	0	0
(2) Total Derailed	0	0	0	0	0

36. Equipment Damage This Consist: 0

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

38. Primary Cause Code: M302

39. Contributing Cause Code: N/A

Number of Crew Members

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

Length of Time on Duty

44. Engineer/Operator: Hrs 11 Mi 30

45. Conductor: Hrs 11 Mi 30

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

49. EOT Device? 1. Yes 2. No — 1

50. Was EOT Device Properly Armed? 1. Yes 2. No — 1

51. Caboose Occupied by Crew? 1. Yes 2. No — N/A

OPERATING TRAIN #2

52. Type of Equipment Consist (single entry): 1. Freight train; 2. Passenger train; 3. Commuter train; 4. Work train; 5. Single car; 6. Cut of cars; 7. Yard/switching; 8. Light loco(s).; 9. Maint./inspect.car; A. Spec. MoW Equip. — Code: N/A

53. Was Equipment Attended? 1. Yes 2. No — Code: N/A

54. Train Number/Symbol: N/A

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

57. Method(s) of Operation (enter code(s) that apply): a. ATCS; b. Auto train control; g. Automatic block; h. Current of traffic; m.Special instructions; n. Other than main track

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

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56. Trailing Tons (gross tonnage, excluding power units)	c. Auto train stop d. Cab e. Traffic f. Interlocking	i. Time table/train orders j.Track warrant control k. Direct traffic control l.Yard limits	o. Positive train control p. Other (Specify in narrative) Code(s)	2 = Remote control tower 3 = Remote control transmitter - more than one remote control transmitter
N/A			N/A N/A N/A N/A N/A	N/A

58. Principal Car/Unit	a. Initial and Number	b. Position in Train	c. Loaded (yes/no)	59. If railroad employee(s) tested for drug/alcohol use, enter the number that were positive in the appropriate box.	Alcohol	Drugs
(1) First involved (derailed, struck, etc)	N/A	N/A	N/A		N/A	N/A
(2) Causing (if mechanical cause reported)	N/A	N/A	N/A	60. Was this consist transporting passengers? (Y/N)	N/A	

61. Locomotive Units	a. Head End	Mid Train b. Manual	Mid Train c. Remote	Rear End d. Manual	Rear End c. Remote	62. Cars	Loade a. Freight	Loade b. Pass.	Empty c. Freight	Empty d. Pass.	e. Caboose
(1) Total in Train	N/A	N/A	N/A	N/A	N/A	(1) Total in Equipment Consist	N/A	N/A	N/A	N/A	N/A
(2) Total Derailed	N/A	N/A	N/A	N/A	N/A	(2) Total Derailed	N/A	N/A	N/A	N/A	N/A

63. Equipment Damage This Consist	64. Track, Signal, Way, & Structure Damage	65. Primary Cause Code	66. Contributing Cause Code
N/A	N/A	N/A	N/A

Number of Crew Members				Length of Time on Duty	
67. Engineer/ Operators	68. Firemen	69. Conductors	70. Brakemen	71. Engineer/Operator	72. Conductor
N/A	N/A	N/A	N/A	Hrs N/A Mi N/A	Hrs N/A Mi N/A

Casualties to:	73. Railroad Employees	74. Train Passengers	75. Other
Fatal	N/A	N/A	N/A
Nonfatal	N/A	N/A	N/A

76. EOT Device?	77. Was EOT Device Properly Armed?	78. Caboose Occupied by Crew?
1. Yes 2. No N/A	1. Yes 2. No N/A	1. Yes 2. No N/A

Highway User Involved

79. Type	Code
A. Auto B. Truck C. Truck-Trailer. D. Pick-Up Truck E. Van F. Bus G. School Bus H. Motorcycle J. Other Motor Vehicle K. Pedestrian M. Other (spec. in narrative)	A

80. Vehicle Speed (est. MPH at impact)	81. Direction geographical) 1.North 2.South 3.East 4.West	Code
30		4

82. Position	Code
1.Stalled on Crossing 2.Stopped on Crossing 3.Moving Over Crossing 4. Trapped	3

86a. Was the highway user and/or rail equipment involved in the impact transporting hazardous materials?	Code
1. Highway User 2. Rail Equipment 3. Both 4. Neither	4

Rail Equipment Involved

83. Equipment	Code
1.Train(units pulling) 2.Train(units pushing) 3.Train (standing) 4.Car(s) (moving) 5.Car(s) (standing) 6.Light Loco(s) (moving) 7.Light(s) (standing) 8.Other (specify in narrative)	3

84. Position of Car Unit in Train
99

85. Circumstance	Code
1. Rail Equipment Struck Highway User 2. Rail Equipment Struck by Highway User	2

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

86c. State here the name and quantity of the hazardous materials released, if any.
N/A

87. Type of Crossing Warning	1.Gates	2.Cantilever FLS	3.Standard FLS	4.Wig Wags	5.Hwy. traffic signals	6.Audible	7.Crossbucks	8.Stop signs	9.Watchman	10.Flagged by crew	11.Other (spec. in narr.)	12.None
Code(s)	01	03	06	07	N/A	N/A	N/A					

88. Signaled Crossing Warning (See instructions for codes)	Code
	01

89. Whistle Ban	Code
1. Yes 2. No 3. Unknown	2

90. Location of Warning	Code
1. Both Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle Approach	1

91. Crossing Warning Interconnected with Highway Signals	Code
1. Yes 2. No 3. Unknown	2

92. Crossing Illuminated by Street Lights or Special Lights	Code
1. Yes 2. No 3. Unknown	1

93. Driver's Age	94. Driver's Gender 1. Male 2. Female	Code
36		2

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

96. Driver	Code
1. Drove around or thru the Gate 2. Stopped and then Proceeded 3. Did not Stop 4. Stopped on Crossing 5. Other (specify in narrative)	5

97. Driver Passed Standing Highway Vehicle	Code
1. Yes 2. No 3. Unknown	2

98. View of Track Obscured by (primary obstruction)	Code
1. Permanent Structure 2. Standing Railroad Equipment 3. Passing Train 4. Topography 5. Vegetation 6. Highway Vehicle 7. Other (specify in narrative) 8. Not obstructed	8

101. Casulties to Highway-Rail Crossing Users	Killed	Injured
	0	1

99. Driver Was	Code
1. Killed 2.Injured 3. Uninjured	2

100. Was Driver in the Vehicle?	Code
1. Yes 2. No	1

102. Highway Vehicle Property Damage (est. dollar damage)
8500

103. Total Number of Highway-Rail Crossing Users (include driver)
1

104. Locomotive Auxiliary Lights?	Code
1. Yes 2. No	1

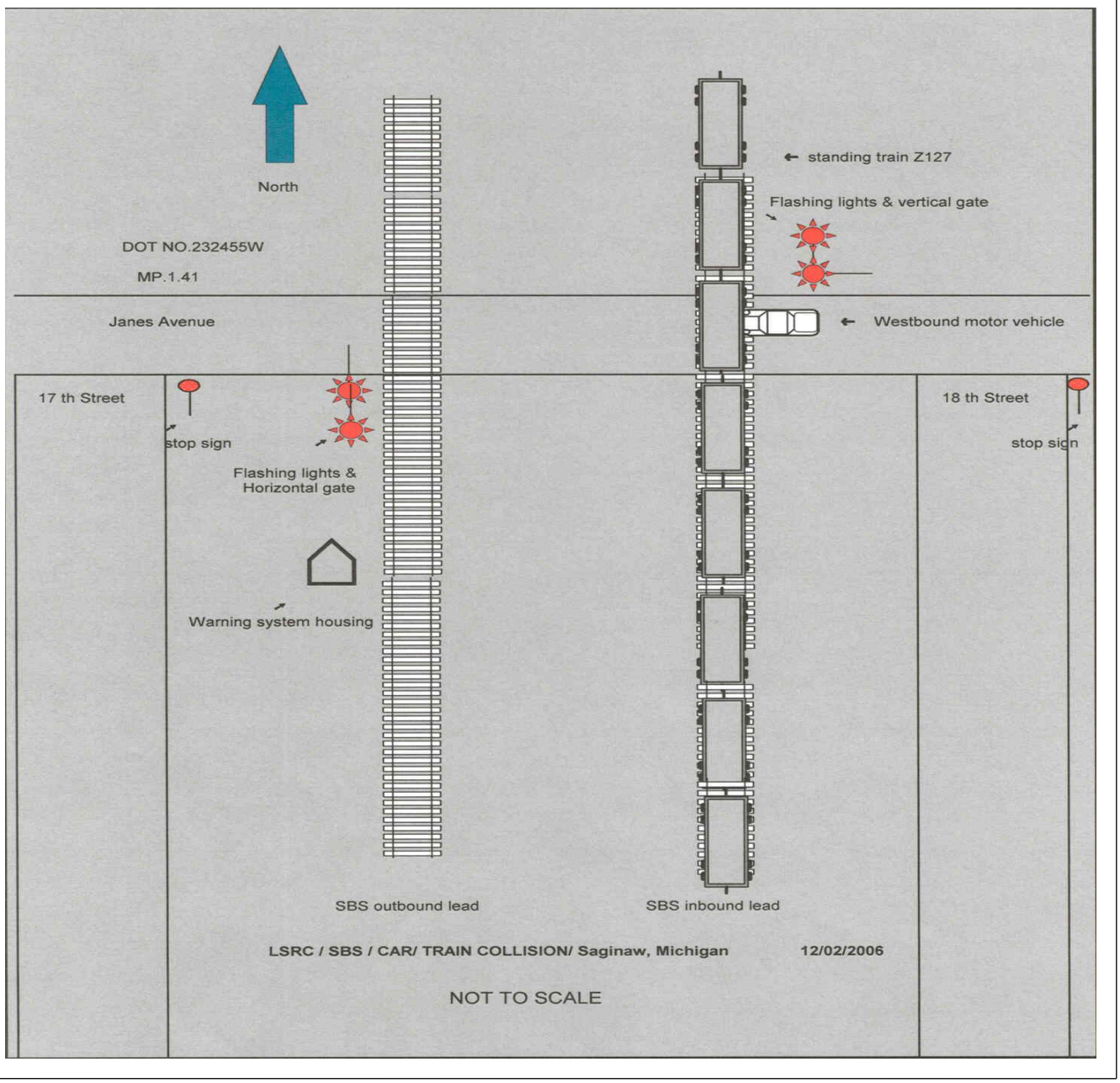
105. Locomotive Auxiliary Lights Operational?	Code
1. Yes 2. No	1

106. Locomotive Headlight Illuminated?	Code
1. Yes 2. No	1

107. Locomotive Audible Warning Sounded?	Code
1. Yes 2. No	1

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

HQ-94-2006 - Accident Sketch.jpg



109. SYNOPSIS OF THE ACCIDENT

An automobile collided with the 99th car of Saginaw Bay Southern Railway Company (SBS) freight train Z127 which was stopped and blocking the highway-rail grade crossing at Janes Avenue. The accident occurred on December 2, 2006, at approximately 4:12 a.m. E.S.T. The accident occurred in Saginaw, Michigan, at SBS milepost 1.41, on the SBS Saginaw Division.

The driver of the motor vehicle was transported to St. Mary's Hospital in Saginaw. The motor vehicle sustained extensive damage. There were no injuries to the train crew. The rail car sustained minor damage, and there was no derailment caused by the motor vehicle striking the train.

At the time of the accident it was dark and cloudy. The temperature was 23 F.

According to the Saginaw Police Department Michigan Traffic Crash Report, the driver bent down to get her cell phone and when she looked up, she was not able to stop in time and struck the train. The driver was not issued a citation.

The accident was caused by highway user inattentiveness.

110. NARRATIVE

Circumstances Prior to the Accident

Lake State Railway Company (LSRC) and the SBS are owned and operated by the same management team. SBS was acquired from the CSX Transportation Company in 2005.

The crew of SBS Train No. Z127 included a locomotive engineer, conductor, and a brakeman. They first went on duty at 4:30 p.m. E.S.T., on December 1, 2006, at Saginaw Yard in Saginaw, Michigan. This was the home terminal for all crew members, and all received more than the statutory off duty period prior to reporting for duty.

Their assigned freight train consisted of two locomotives, 33 loaded, and 98 empty cars of several varieties. It was 7,208 feet long, and weighed 7,487 tons. The train was scheduled to travel north from Flint, Michigan, to Saginaw Yard. The train crew had a job briefing with the train coordinator and performed an initial air brake test prior to departure.

Train Z127 passed over Janes Avenue on SBS trackage without incident as they entered Saginaw Yard. At 3:20 a.m. they reported to the third Shift Coordinator that R40 yard switch was broken. Train Z127 attempted to cut the blocked highway-rail grade crossings. At 3:50 a.m. Train Z127 reported they had derailed two cars on R50 track and the crossings were still blocked. The derailed cars were the first two cars behind the locomotives. The third shift coordinator contacted 911 and notified them that the crossings at Janes Avenue and Lapeer Street were blocked by Train Z127. The crew of Train Z127 left the train and walked to crew headquarters at Saginaw Yard.

The area of the railroad where the accident occurred is tangent for one half mile. There is a 0.24 percent ascending grade approaching the Janes Avenue crossing from the south.

The railroad timetable and geographic direction of the train was north.
The Accident

Train LSRC Z127
Train Z127 was stopped and the crew had left the locomotive due to derailing two cars of the train. Janes Avenue and Lapeer Street highway-rail grade crossings were blocked because of the derailment.

At approximately 4:12 a.m. an automobile traveling in an westward direction struck the 99th car of Train Z127 at Janes Avenue.

Highway Vehicle
The automobile was traveling east to west on Janes Avenue with one occupant at an unknown speed. The posted highway speed limit is 30 mph. Speed of the automobile at impact is unknown.

The driver of the automobile was reported to have been bending down to get her cell phone just prior to the collision. The automobile stuck the 99th car of Train Z127 and ended up partially under the rail car. The driver of the automobile was pinned in the driver's seat.

A Saginaw police officer arrived at the scene at 4:12 a.m. The police officer reported the accident occurred on the east side of the crossing and when he arrived at the scene the railroad's flashing lights were flashing and the audible bells were working but the gate on the east side of Janes Avenue was in the upright position.

The Saginaw Fire Rescue Squad and paramedics arrived a few minutes later and removed the driver from the vehicle.

The driver of the automobile was taken by ambulance to St. Mary's Hospital in Saginaw. There were no other reported injuries.

A National Signal Corporation (NSC) signal maintainer who is contracted by SBS to test and maintain the highway-rail grade crossing warning equipment was dispatched to the accident site and arrived at approximately 5:30 a.m. The signal maintainer performed testing and determined that the highway-rail grade crossing warning system was operating and the northeast gate was in the up or vertical position with the train stopped and blocking the highway-rail grade crossing at Janes Avenue.

There was no track damage reported.

Analysis and Conclusions

Analysis
The driver of the automobile was a 36 year old female.

The highway-rail grade crossing is equipped with 12 inch flashing light units, two gate mechanisms, two bells, stop on red signal signs, and cross bucks for each direction of highway traffic. There are advanced warning signs posted approximately 300 feet from the crossing. Pavement marking were in place.

The highway-rail grade crossing warning system was again tested by a LSRC-SBS signal supervisor and a NSC signal maintainer at 10:00 a.m. the day of the accident. The signal maintainer indicated the cover of the northeast quadrant gate mechanism had been stolen. Absence of the gate mechanism cover allowed ice to form in the gate mechanism causing it to malfunction. Photographs supplied by NSC show the ice deposits in the gate mechanism. The highway-rail crossing warning devices worked as intend during the post accident testing. The LSRC-SBS signal supervisor decided to remove the warning system gates from service. The LSRC-SBS signal supervisor notified the train coordinator to apply a stop and flag order for all train movements over the crossing until proper repairs could be made.

The highway-rail grade crossing warning system tests were performed again on December 12, 2006, by a NSC signal maintainer, this time in the presence of an FRA signal and train control inspector. The warning devices functioned as intended when they were tested during the inspection.

It is not known when, where, or how the gate mechanism cover was removed from the gate mechanism.

Conclusions
The railroad was in compliance with their operating and safety rules. The railroad was issued a defect for non-compliance with CFR 234.273, for not having the required monthly test and inspection reports on file within the required time frame, by one day.

The Saginaw Police Department State of Michigan Traffic Crash Report states the driver of the automobile was bending down to get her cell phone just prior to the collision and was unable to stop in time to avoid the collision.

Probable Cause and Contributing Factors

Probable Cause
The accident was caused by highway user inattentiveness.

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