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Department
of Transportation
Federal Railroad
Administration

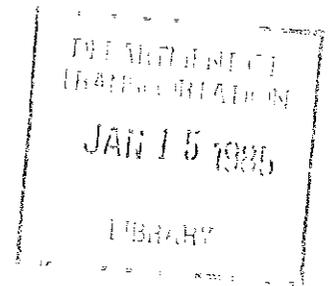
Railroad Accident Investigation Reports

Office of Safety

Report No. 82-1
Bessemer and Lake Erie
Railroad Company
Sherwin, Pennsylvania
January 16, 1982



Report No. 82-2
Louisville and Nashville Railroad Company
Dudley, Alabama
February 3, 1982



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RAILROAD ACCIDENT INVESTIGATION
ACCIDENT REPORT NO. 82-1

BESSEMER AND LAKE ERIE RAILROAD COMPANY
SHERWIN, PENNSYLVANIA
JANUARY 16, 1982

U.S. FEDERAL RAILROAD ADMINISTRATION.
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WASHINGTON, D. C. 20590

FEDERAL RAILROAD ADMINISTRATION

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BESSEMER AND LAKE ERIE RAILROAD COMPANY

SHERWIN, PENNSYLVANIA

JANUARY 16, 1982

Synopsis

On January 16, 1982, at about 6:38 a.m., a head-end collision occurred between two freight trains belonging to the Bessemer and Lake Erie Railroad Company, 0.6 mile north of Sherwin, Pennsylvania. Snow was falling at the time of the accident.

Casualties

The front brakeman of the northbound train (Extra 857 North) was killed. The engineer sustained bruises and multiple contusions of the left ankle, the right lower leg and the spine. The fireman suffered bruises and lacerations to the head and the right leg.

The engineer of the southbound train (Extra 874 South) sustained fractures of the ribs, the right hip, the pelvis and the orbital bone. The fireman sustained lacerations and contusions to the head. The front brakeman sustained cervical strain and bruises.

Cause

The collision was caused by the failure of the crew of the northbound train to operate the train in accordance with signal indication.

Location and Method of Operation

The accident occurred on that part of the railroad extending between North Bessemer, Pennsylvania, and Albion, Pennsylvania, a distance of 128.7 miles. Sherwin, Pennsylvania, is located 48.1 miles north of North Bessemer. In the accident area, this is a single track line over which trains operate in both directions by signal indications from a centralized traffic control system. At Sherwin, the double track changes to single track.

Track

From the south, on the main track, there is a tangent of 663 feet, a 4-degree curve to the left 1,863 feet to a tangent of 29 feet to the point of collision and a considerable distance beyond. (See figure 1.)

The grade for northbound trains is 0.48-percent descending.

Sight Distance

The range of vision is restricted to about 1,000 feet in the accident area because of dense undergrowth and a pole line located along the west side of the railroad right-of-way. Vision is further limited by a 4-degree curve south of the point of collision.

Authorized Train Speed

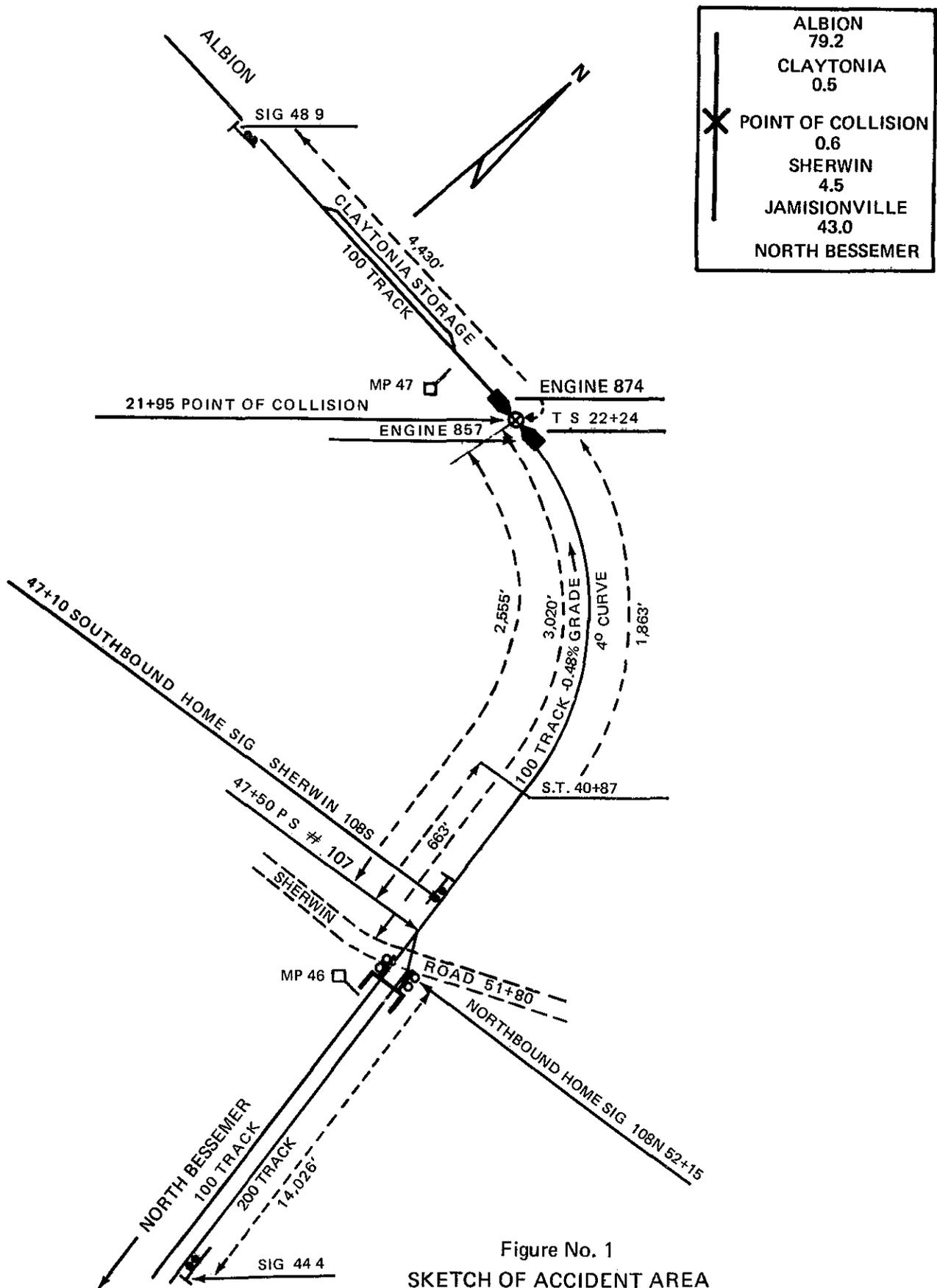
The maximum authorized speed for freight trains in the accident area is 35 mph.

Signals

Signals 44.4 and 108N, governing northbound train movements on main track No. 200, are located 17,046 feet and 14,026 feet south of the point of collision, respectively.

The signals at Sherwin are controlled by a train dispatcher in Greenville, Pennsylvania. When the dispatcher has established the route for a southbound movement on track No. 100, Signal 44.4 displays an approach indication and Signal 108N displays a stop indication for northbound movements on track No. 200 at Sherwin.

The applicable signal aspects, corresponding indications, and names are as follows:



ALBION	79.2
CLAYTONIA	0.5
POINT OF COLLISION	0.6
SHERWIN	4.5
JAMISIONVILLE	43.0
NORTH BESEMER	

Figure No. 1
 SKETCH OF ACCIDENT AREA
 (Not to Scale)

<u>Signal</u>	<u>Aspect</u>	<u>Indication</u>	<u>Name</u>
44.4	Yellow over Red	Proceed preparing to stop at next signal. Train exceeding medium speed at once reduce to that speed.	Approach
108N	Red over Red	Stop	Stop

Applicable Rules

USE OF SIGNALS

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34. Employees located in the operating compartment of an engine must communicate to each other in an audible and clear manner the indication by name of each signal affecting movement of their train or engine, as soon as the signal is clearly visible. It is the responsibility of the engineer to have each employee comply with these requirements, including himself.

It is the engineer's responsibility to have each employee located in the operating compartment maintain a vigilant lookout for signals and conditions along the track which affect the movement of the engine or train.

If a crew member becomes aware that the engineer has become incapacitated or should the engineer fail to operate or control the engine or train in accordance with the signal indications or other conditions requiring speed to be reduced, other members of the crew must communicate with the crew member controlling the movement at once, and if he fails to properly control the speed of the train or engine, other members of the crew must take action necessary to ensure safety including operating the emergency valve.

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GENERAL BLOCK SIGNAL RULES

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209. A train or engine must stop before any part of engine or train passes a home signal displaying a stop indication and must not proceed except as provided by Rules 209-A, 211 and 213.

(Bessemer and Lake Erie Railroad Company Operating Rules)

Circumstances Prior to the Accident

Extra 857 North

Extra 857 North, consisting of three locomotives, 104 loaded coal cars, a caboose, and two helper locomotives, departed North Bessemer, Pennsylvania, at about 4:26 a.m. The train brakes were tested by mechanical department employees at North Bessemer and functioned properly when used.

Extra 857 North proceeded north on the main track to Jamisonville, Pennsylvania. The train was routed onto track No. 200 at Jamisonville and proceeded to Sherwin. The train dispatcher at Greenville informed the members of the crew on Extra 857 North, via radio, that they would meet the Extra 874 South at Sherwin. The engine crew acknowledged the transmission. The fireman operating Extra 857 North admitted he failed to sound the engine whistle at Hunts Road crossing and Sherwin Road crossing.

He alleged that dizziness at the time resulted in his failure to stop the train at Signal 108N.

The engineer was in the fireman's seat in the locomotive cab. The front brakeman was riding in the cab of the second locomotive.

Extra 874 South

Extra 874 South, consisting of three locomotives, 80 empty cars, and a caboose, departed Albion, Pennsylvania, at about 3:34 a.m. The train brakes were tested by mechanical department employees at Albion and functioned properly when used.

The signal indication at Signal 48.9 was clear; authorizing the crew to continue south to Sherwin at the prescribed speed of 35 mph.

The Accident

Extra 857 North

Extra 857 North proceeded north on track No. 200 from Jamisonville to Sherwin. The train continued north past Signal 108N, which displayed a stop indication, and onto track No. 100. (See figures 2 and 3.) It traveled approximately 3,020 feet from Signal 108N on a 0.48-percent descending

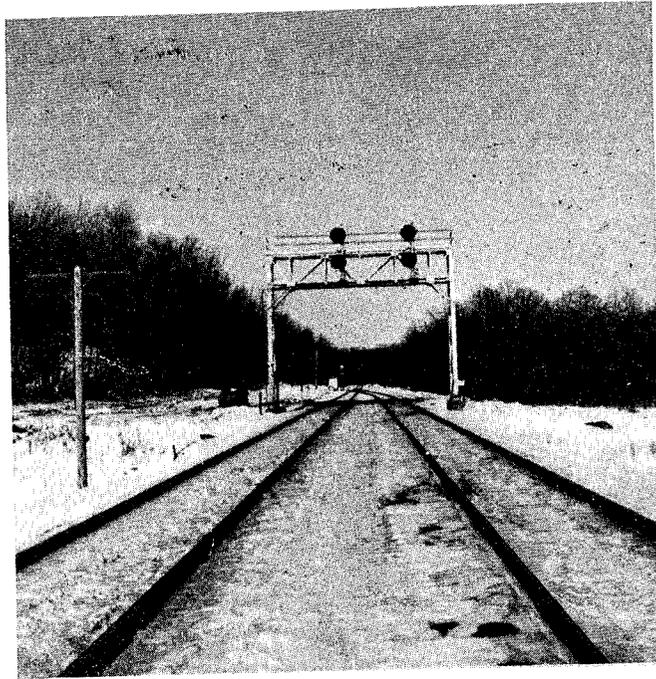


Figure 2. View of signal 108-N, and Sherwin Road Crossing.



Figure 3. View of switch at Sherwin.

grade at a speed of 33 mph to the point of collision. As a result of the collision, the front brakeman was killed, and the engineer and the fireman were severely injured.

Extra 874 South

Extra 847 South received a "Clear" indication at Signal 48.9 located 4,430 feet south of the point of collision. The "Clear" indication authorized Extra 874 South to continue south to Sherwin at 35 mph. The train was traveling at approximately 24 mph at the time of the accident. The engineer, the fireman, and the front brakeman suffered severe injuries as a result of the collision.

Damages

Two locomotives and 22 cars of Extra 857 North were destroyed. The third locomotive and six cars received minor damage.

Two locomotives and six cars of Extra 874 South were destroyed. The third locomotive and four cars sustained minor damage.

The carrier's estimate of damages was \$1,197,531 to equipment and \$47,611 to track and signals.

Post-accident Examination and Tests

Extra 857 North

The speed recorder tape on locomotive 857 showed 33 mph at the moment of impact, and no application of the air brakes. An inspection of the locomotive disclosed that the automatic brake was in full release, the independent brake was partially applied, and the handle was missing. The dynamic brake was in the "On" or minimum position. The throttle was in the "Off" position, and the reverser handle was in the forward position. The fireman's emergency brake valve was closed.

The home terminal of the crew of Extra 857 North is Albion, Pennsylvania. The day before the accident, the crew went on duty at 11:15 a.m., at Albion, to operate a southbound train to North Bessemer. The crew went off duty at 6:38 p.m., on January 15, 1982, after being on duty for 7 hours and 23 minutes. The crew was called for duty at 3 a.m., on January 16, 1982, to operate Extra 857 North from North Bessemer to Albion. The crew had been off duty for 8 hours and 22 minutes.

All crew members had been examined on the carrier operating rules during June and July 1981.

Extra 874 South

The speed recorder tape on locomotive 874 showed 24 mph at the moment of impact. An inspection of the locomotive disclosed that the automatic and independent brakes were fully applied. The throttle was in the "Off" position, the reverser handle was in the forward position, and the fireman's emergency valve was closed.

Findings

1. At the time of the accident, Extra 874 South was being operated in accordance with the carrier's applicable rules and regulations.
2. Extra 857 North passed Signal 108N displaying a stop indication and collided with the front end of Extra 874 South.
3. The fireman of Extra 857 North failed to operate the train in accordance with signal indications.
4. The engineer of Extra 857 North failed to take positive action to stop the train after the fireman failed to stop at Signal 108N.
5. The engineer of Extra 857 North admitted that he had fallen asleep prior to arriving at Sherwin.
6. The fireman of Extra 857 North alleged dizziness prior to arriving at Sherwin but may have fallen asleep.

Dated at Washington, D. C., this
30th Day of July 1982
by the Federal Railroad Administration

J. W. Walsh
Chairman
Railroad Safety Board