

INTERSTATE COMMERCE COMMISSION
WASHINGTON

INVESTIGATION NO. 2902
THE SOUTH GEORGIA RAILWAY COMPANY
REPORT IN RE ACCIDENT
NEAR QUITMAN, GA., ON
JUNE 19, 1945

SUMMARY

Railroad: South Georgia
Date: June 19, 1945
Location: Quitman, Ga.
Kind of accident: Derailment
Train involved: Freight
Train number: Extra 103 North
Engine number: 103
Consist: 20 cars
Speed: 35 m. p. h.
Operation: Timetable and train orders
Track: Single; 1°54' curve; 2.25 percent descending grade northward
Weather: Clear
Time: 8:45 a. m.
Casualties: 2 killed; 1 injured
Cause: Insecure track which rendered it unsafe for the speed permitted
Recommendation: That the South Georgia Railway Company establish maximum authorized speed consistent with the condition of the track

INTERSTATE COMMERCE COMMISSION

INVESTIGATION NO. 2902

IN THE MATTER OF MAKING ACCIDENT INVESTIGATION REPORTS
UNDER THE ACCIDENT REPORTS ACT OF MAY 6, 1910.

THE SOUTH GEORGIA RAILWAY COMPANY

July 31, 1945.

Accident near Quitman, Ga., on June 19, 1945, caused by
insecure track which rendered it unsafe for the
speed permitted.

REPORT OF THE COMMISSION¹

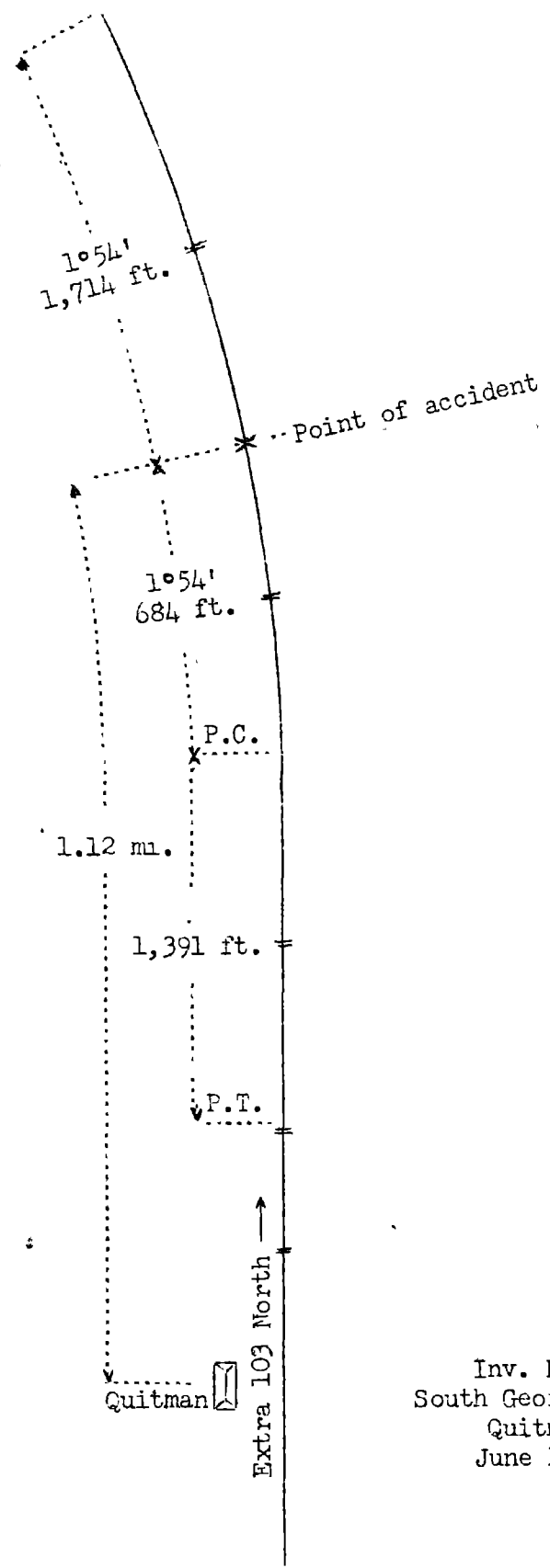
PATTERSON, Commissioner:

On June 19, 1945, there was a derailment of a freight train on the South Georgia Railway near Quitman, Ga., which resulted in the death of two employees, and the injury of one employee.

¹Under authority of section 17 (2) of the Interstate Commerce Act the above-entitled proceeding was referred by the Commission to Commissioner Patterson for consideration and disposition.

To Adel →

- Adel, Ga.
26.38 mi.
- X Point of accident
1.12 mi.
- Quitman, Ga.



Inv. No. 2902
 South Georgia Railway
 Quitman, Ga.
 June 19, 1945

Location of Accident and Method of Operation

This accident occurred on that part of the railroad extending northward from Quitman to Adel, Ga., 27.5 miles, a single-track line over which trains are operated by timetable and train orders. There is no block system in use. The accident occurred on the main track 1.12 miles north of the station at Quitman. From the south there is a tangent 1,391 feet in length, which is followed by a 1°54' curve to the left 684 feet to the point of derailment and 1,714 feet northward. Throughout a distance of 1,986 feet immediately south of the point of derailment, the grade varies between 1.25 percent and 2.25 percent descending northward, and is 2.25 percent at the point of derailment.

The track structure consists of 56-pound rail, 28 feet in length, relaid in 1908 on an average of 18 ties to the rail length. It is single-spiked, provided with 4-hole angle bars, and is ballasted with sand. Tieplates, rail anchors and gage rods are not used. On the curve involved the maximum superelevation was 2-3/4 inches and the gage varied between 4 feet 8-1/2 inches and 4 feet 9 inches. At the point of derailment the superelevation was 2-5/8 inches.

No maximum authorized speed for trains was specified by rule or by special instruction.

Description of Accident

Extra 103 North, a north-bound freight train, consisted of engine 103 and 20 cars. This train departed from Quitman at 8:40 a. m., and while it was moving on a curve to the left at an estimated speed of 35 miles per hour the engine and the first to twelfth cars, inclusive, were derailed.

The engine was derailed to the left and stopped on its left side 360 feet north of the point of derailment. The first to ninth cars, inclusive, stopped at various angles to the track and at the rear of the engine. The tenth to twelfth cars, inclusive, remained upright and in line with the track. The engine and the first 9 cars were badly damaged.

The weather was clear at the time of the accident, which occurred about 8:45 a. m.

The fireman and the front brakeman were killed, and the engineer was injured.

Engine 103 is a 4-6-0 type. The total weight in working order is 126,000 pounds, distributed as follows: Engine truck, 31,500 pounds, and driving wheels, 94,500 pounds. The tender is rectangular in shape and is equipped with two 4-wheel trucks. Its capacity is 7 tons of coal and 4,500 gallons of water. The weight of the tender loaded is 75,000 pounds. The rigid wheel-base of the engine is 11 feet 4 inches in length.

Track Data

Distance south of point of derailment	<u>Superelevation</u>		<u>Gage</u>		<u>Curvature</u>
	<u>Feet</u>	<u>Inches</u>	<u>Feet</u>	<u>Inches</u>	
308		2-3/8	4	8-1/2	1°15'
294		2-3/8	4	8-5/8	1°53'
280		2-1/8	4	8-7/8	2°00'
266		2-1/4	4	8-7/8	1°49'
252		2-3/4	4	8-1/2	1°23'
238		2-1/2	4	8-3/4	1°34'
224		1-7/8	4	8-3/4	1°26'
210		1-7/8	4	9	1°19'
196		2-1/2	4	8-3/4	1°49'
187		2-1/2	4	8-3/4	1°38'
168		2-1/4	4	8-3/4	1°41'
154		2	4	8-7/8	1°34'
140		2-1/2	4	8-3/4	1°45'
126		2-1/4	4	8-7/8	1°41'
112		2-5/8	4	8-1/2	2°23'
98		2-3/8	4	8-7/8	2°04'
84		2	4	8-7/8	1°19'
70		2-1/4	4	8-3/4	1°08'
56		2-3/4	4	8-1/2	2°53'
42		2-3/4	4	8-5/8	3°11'
28		2	4	8-7/8	3°15'
14		2	4	9	3°15'
Point of Derailment		2-5/8	4	8-1/2	2°15'

Discussion

Extra 103 was moving on a descending grade of 2.25 percent and on a curve to the left when the engine and the first 12 cars were derailed at a point 684 feet north of the south end of the curve, where the curvature was 2°15' and the superelevation was 2-5/8 inches. The specified curvature was 1°54', but there was no specified superelevation. The engine was derailed to the left and stopped 360 feet north of the point of derailment.

As Extra 103 was approaching the point where the accident occurred, the throttle was about one-fourth open and the reverse lever was in position for short cut-off in forward motion. The engineer and the front brakeman were maintaining a lookout ahead, the fireman was tending the fire and the conductor was on the twelfth car. There was no flagman. The engineer said that just before the accident occurred the speed was about 30 miles per hour and the engine pivoted excessively and rolled laterally a number of times, then the front pair of driving wheels became derailed. He immediately moved the brake valve to emergency position, but the general derailment occurred before the speed was reduced. The fireman and the front brakeman

were killed in the accident, therefore it could not be determined when they first became aware of anything being wrong. The first that the conductor was aware of anything being wrong was when the derailment occurred. He estimated the speed as about 35 miles per hour at the time of the derailment. There was no service application of the brakes between Quitman and the point of accident. The brakes had been tested at Quitman and functioned properly.

There was no indication of any obstruction having been on the track. Examination of the track disclosed that many ties were so badly decayed that the spikes were not holding the rails securely. Beginning at a point 684 feet north of the south end of the curve on which the derailment occurred, a scraping mark appeared on the inside of the head of the low rail. At a point 3 feet 11 inches farther north a wheel mark appeared inside the high rail, and the low rail was canted outward. At this point wheel marks appeared in the web of the low rail, and the leading end was overturned. From this point the track was destroyed about 300 feet northward.

The specified curvature was $1^{\circ}54'$, but measurements of the track throughout a distance of 308 feet immediately south of the point of derailment disclosed that the curvature varied between $1^{\circ}08'$ and $3^{\circ}15'$. At a point 112 feet south of the point of derailment the curvature was $2^{\circ}23'$, then decreased to $1^{\circ}08'$ in a distance of 42 feet, increased to $3^{\circ}15'$ in 42 feet farther, remained constant 14 feet, then decreased to $2^{\circ}15'$ in a distance of 14 feet to the point of accident. There were other irregularities in alignment almost as great. The superelevation varied between $1\frac{7}{8}$ inches and $2\frac{3}{4}$ inches, and the gage varied between 4 feet $8\frac{1}{2}$ inches and 4 feet 9 inches. In the 112 feet of track immediately south of the point of accident, the superelevation decreased from $2\frac{5}{8}$ inches to 2 inches in the first 28 feet, increased to $2\frac{3}{4}$ inches in the second 28 feet, decreased to 2 inches in the third 28 feet, then in the last 28 feet increased to $2\frac{5}{8}$ inches at the point of accident.

The flanges of all wheels of the engine were worn to a thickness of 1 inch. The No. 1 and No. 3 pairs of driving wheels had an average measurement of 53 inches back-to-back, which resulted in the gage of these wheels being 4 feet 7 inches. The irregularities in curvature caused the engine to pivot laterally, and the irregularities in surface caused the engine to roll laterally. This was further aggravated by the lateral motion resulting from the difference of $1\frac{1}{2}$ to 2 inches between the gage of the wheels and the gage of the track. Evidently, the engine rolled and thrust with such force against the gage sides of the rails that the rails moved outward on the decayed ties far enough for the right wheels to drop inside the high rail and the left wheels to cant the low rail outward.

The roadmaster said that there was no regular program of track maintenance, and that track work was performed at any

point which appeared to need it. No device is used to determine the proper alinement of curves. The curve involved was gaged and inspected at intervals of about three weeks, and was last inspected about two weeks prior to the accident. At that time several new ties were placed in the curve. He said also that whenever the track is considered unsafe for the usual speed, special bulletins are posted to inform the train-service employees of the speed permitted, but at the time of the accident there was no bulletin in effect which restricted the speed on any portion of the railroad.

Since there was no maximum authorized speed for trains on this line and no speed restriction on any portion of it at the time of the accident, operation of trains at safe speeds depended entirely upon the judgment of the employees operating the trains. The engineer and the conductor of Extra 103, and another engineer, said that it had been the practice to operate freight trains at speeds of 30 to 40 miles per hour on the curve involved. The estimated speed of Extra 103 at the time of the accident was 35 miles per hour. The manner in which this train was derailed shows conclusively that a speed of 30 to 40 miles per hour is too high for safe operation of trains on track of such construction and state of maintenance.

Cause

It is found that this accident was caused by insecure track which rendered it unsafe for the speed permitted.

Recommendation

It is recommended that the South Georgia Railway Company establish maximum authorized speed consistent with the condition of the track.

Dated at Washington, D. C., this thirty-first day of July, 1945.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,
Secretary.