

INTERSTATE COMMERCE COMMISSION
WASHINGTON

INVESTIGATION NO. 3202
SOUTHERN RAILWAY COMPANY
REPORT IN RE ACCIDENT
NEAR FLAIR, S. C., ON
SEPTEMBER 6, 1948

SUMMARY

Railroad: Southern
Date: September 6, 1948
Location Blair, S. C.
Kind of accident: Derailment
Train involved: Passenger
Train number: 27
Engine number: 6696
Consist: 8 cars
Speed: 15 m. p. h.
Operation: Timetable and train orders
Track: Single; tangent; 0.10 percent
ascending grade westward
Weather: Raining
Time: 12:25 p. m.
Casualties: 1 killed; 10 injured
Cause: Washout

INTERSTATE COMMERCE COMMISSION

INVESTIGATION NO. 3202

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

SOUTHERN RAILWAY COMPANY

November 9, 1948

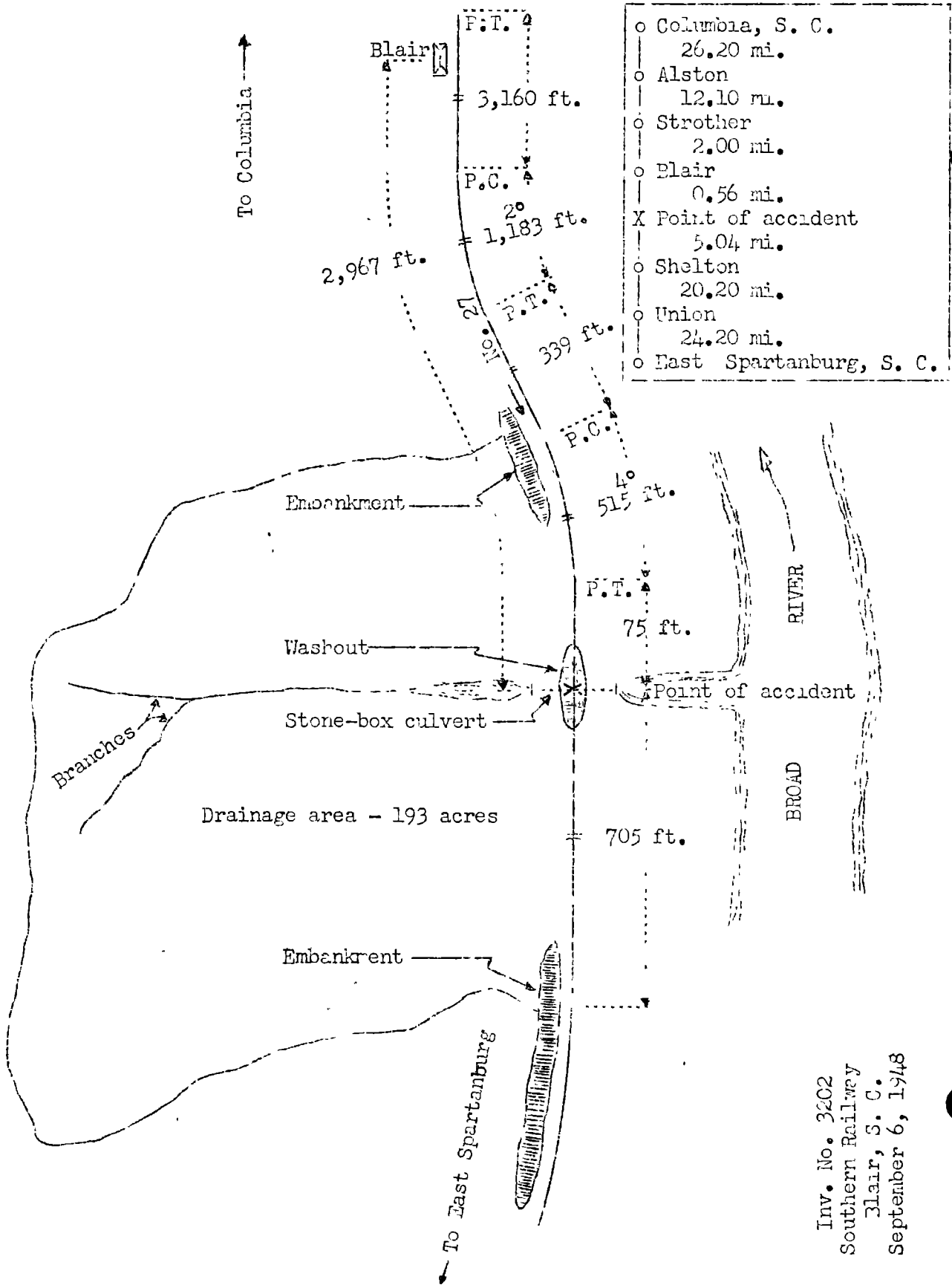
Accident near Blair, S. C., on September 6, 1948, caused
by a washout.

REPORT OF THE COMMISSION¹

PATTERSON, Commissioner:

On September 6, 1948, there was a derailment of a passenger train on the Southern Railway near Blair, S. C., which resulted in the death of one train-service employee, and the injury of eight passengers, one railway-mail clerk and one train-service employee.

¹
Under 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.



Inv. No. 3202
 Southern Railway
 Blair, S. C.
 September 6, 1948

Location of Accident and Method of Operation

This accident occurred on that part of the Columbia Division extending between Columbia and East Spartanburg, S. C., 90.3 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 40.86 miles west of Columbia, at a point 2,967 feet west of the station at Blair. From the east there are, in succession, a tangent 3,160 feet in length, a 2° curve to the left 1,183 feet, a tangent 339 feet, a 4° curve to the right 515 feet, and a tangent 75 feet to the point of accident and 705 feet westward. The grade is 0.10 percent ascending westward at the point of accident.

The track structure consists of 100-pound rail, 33 feet in length, rolled in 1925, and relaid in its present location in 1942 on an average of 20 crossties to the rail length. It is fully tieplated, single-spiked, and is provided with 4-hole 100 percent joint bars 24 inches in length and 12 rail anchors per rail length. It is ballasted with crushed stone to a depth of 18 inches under the ties. In the immediate vicinity of the point of accident the track is laid on a fill composed of a mixture of rock and clay. This fill has an average height of 23 feet above the level of the adjacent ground, and is 75 feet wide at the base and 25 feet wide at the top. At the point of accident the base of the rail is 28 feet above the ground level. Immediately east of this fill there is a rock cut which restricts the view from the cab of a west-bound engine to about 400 feet. A stone-box culvert 3 feet wide by 6 feet high is located at the point where the accident occurred. The flow-line is 34 feet 7 inches below the base of the rail. Water from an area of approximately 193 acres lying north of the track drains through this culvert to Broad River on the south side of the track. Usually this area contains little water.

This carrier's operating rules read in part as follows:

GENERAL RULES

* * *

F. * * * defects in track, bridges, * * * or any unusual conditions which may affect the movement of trains must be promptly reported by wire to the proper officer.

* * *

108. * * *

* * *

Due consideration must always be given by the conductor and engineman to conditions of the track, weather, and all other circumstances, and speed must be reduced on curves and at other points, where conditions require, to insure safe and comfortable movement.

* * *

ENGINEMEN

* * *

1306. They must run with caution during or after heavy rains or storms and take necessary precautions for safe movement of the train.

1308. If there is any indication of defect of track or roadway or high water, they must immediately reduce speed, stopping the train if necessary, and be assured that it is safe before proceeding; they must also notify the train dispatcher and, when possible, other trains of such conditions.

The maximum authorized speed for the train involved is 55 miles per hour.

Description of Accident

At Alston, 14.1 miles east of Blair, the crew of No. 27, a west-bound first-class passenger train, received copies of train order No. 805 reading as follows:

- Water reported over track in places between
- Strother and Shelton heavy rains over entire
- section Look out for washed places.

Strother and Shelton are located, respectively, 2 miles east and 5.6 miles west of Blair. No. 27 consisted of engine 6696, one mail-baggage car, one express car, three coaches and three Pullman sleeping cars, in the order named. All cars were of all-steel construction. This train departed from Alston at 11:59 a. m., 2 minutes late, departed from Blair, the last open office, at 12:24 p. m., 8 minutes late, and while it was moving at an estimated speed of 15 miles per hour the engine and the first two cars were derailed at a washout at a point 2,967 feet west of the station at Blair.

The engine stopped upright, in line with the track, and at the bottom of the washout, with the upper part of the front end of the engine level with the track and with the rear end of the engine about 12 feet below the level of the track. The tender was separated from the engine, and it stopped upside down, in reverse direction, and on top of the engine. The first car stopped with its west end on the west bank of the washout and 10 feet from the center-line of the track. It leaned to the north at an angle of 45°. The east end was suspended over the washout. The cars remained coupled. The front truck of the second car was suspended over the washout. The engine was badly damaged and the derailed cars were slightly damaged.

The fireman was killed. The engineer was injured.

It was raining at the time of the accident, which occurred at 12:25 p. m.

Discussion

At Alston the crew of No. 27 received copies of a train order stating that heavy rains had occurred between Strother and Shelton and contained the instruction to look out for washed places. Because of sand having been washed upon the track, the agent-operator at Blair signalled this train to stop, and it stopped just east of that station. Immediately afterward it proceeded westward and was moving at an estimated speed of 15 miles per hour, in territory where the maximum authorized speed was 55 miles per hour, when the engine and the first two cars were derailed at a point 0.56 mile west of the station at Blair. At the time of the accident the members of the train crew were in various locations throughout the cars in the train, and they were not aware of anything being wrong until the accident occurred. The fireman was killed, and the engineer was so seriously injured that he could not be questioned during the investigation.

Examination after the accident disclosed that a section of the embankment about 65 feet in length and adjacent to the stone-box culvert had been washed out by an excessive amount of water flowing from the area north of the track. Apparently the lower end of the culvert had been clogged by debris, and this condition caused the water to back up to a height of approximately 23 feet along the north side of the fill.

The investigation disclosed that, on the day of the accident, an excessive amount of rain starting about 7 a. m. and stopping about 2 p. m. had fallen in the immediate vicinity of Blair. Members of the crew of Extra 4756 West, a west-bound freight train which passed over the track

involved about two hours before the accident occurred, said that the rainfall was exceptionally heavy in this vicinity but that no water was backed up against the fill at that time. When this train arrived at Union, the next open office, at 11:38 a. m., the engineer reported the heavy rains encountered to the dispatcher, who issued a train order and took immediate steps to notify the section foreman of the unusual conditions. Since it was a holiday, the section force's were off duty. The rain was not excessive at their headquarters, and prior to being called by the dispatcher the foreman had not patrolled the track. According to information furnished by the U. S. Weather Bureau at Columbia, S. C., 7.7 inches of rain fell at Blair between 7 a. m. and 2 p. m. on the day of the accident. High water marks in the vicinity of the point of accident indicated that during its crest the water had risen to a height of about 23 feet above the flow-line of the stone-box culvert, or approximately 11 feet below the tops of the ties.

The position of the engine indicated that the track was intact as No. 27 approached the point where the accident occurred, and that the enginemen had no warning of its dangerous condition. The enginemen could not see the track where the accident occurred a distance of more than 400 feet, because of track curvature and an embankment. The fill was composed of a mixture of stone and clay. Apparently, after water had risen above the top of the culvert, seepage occurred to such an extent that the material of the fill became saturated, then pressure of the water on the north side forced the material of the fill adjacent to the culvert to the south side of the fill sufficiently to permit water to flow through the new opening. The fill was constructed in 1861, and no washout or damage by storm previous to the present accident had occurred in the immediate vicinity.

Cause

It is found that this accident was caused by a washout.

Dated at Washington, D. C., this ninth
day of November, 1948.

By the Commission, Commissioner Patterson

(SEAL)

W. P. BARTEL,
Secretary.