INTERSTATE COMMERCE COMMISSION

WASHINGTON

INVESTIGATION NO. 2879

THE KANSAS CITY SOUTHERN RAILWAY COMPANY

REPORT IN RE ACCIDENT

NEAR ACORN, ARK., ON

MARCH 29, 1945

SUMMARY

Railroad:	Kansas City Southern
Date:	March 29, 1945
Location:	Acorn, Ark.
Kind of accident:	Derailment
Train involved:	Freight
Train number:	First 41
Engine numbers:	562-902
Consist:	59 cars, caboose
Estimated speed:	25 m. p. h.
Operation:	Timetable and train orders
Track:	Single; 1° curve; vertical curve
Weather:	Cloudy
Time:	6:55 a. m.
Casualties:	3 killed; 3 injured
Cause:	Wasnout

INTERSTATE COMMERCE COMMISSION

INVESTIGATION NO. 2879

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

THE KANSAS CITY SOUTHERN RAILWAY COMPANY

May 4, 1945.

Accident near Acorn, Ark., on March 29, 1945, caused by a washout.

REPORT OF THE COMMISSION[1]

PATTERSON, Commissioner:

On March 29, 1945, there was a derailment of a freight train on the Kansas City Southern Railway near Acorn, Ark., which resulted in the death of three employees, and the injury of three employees.

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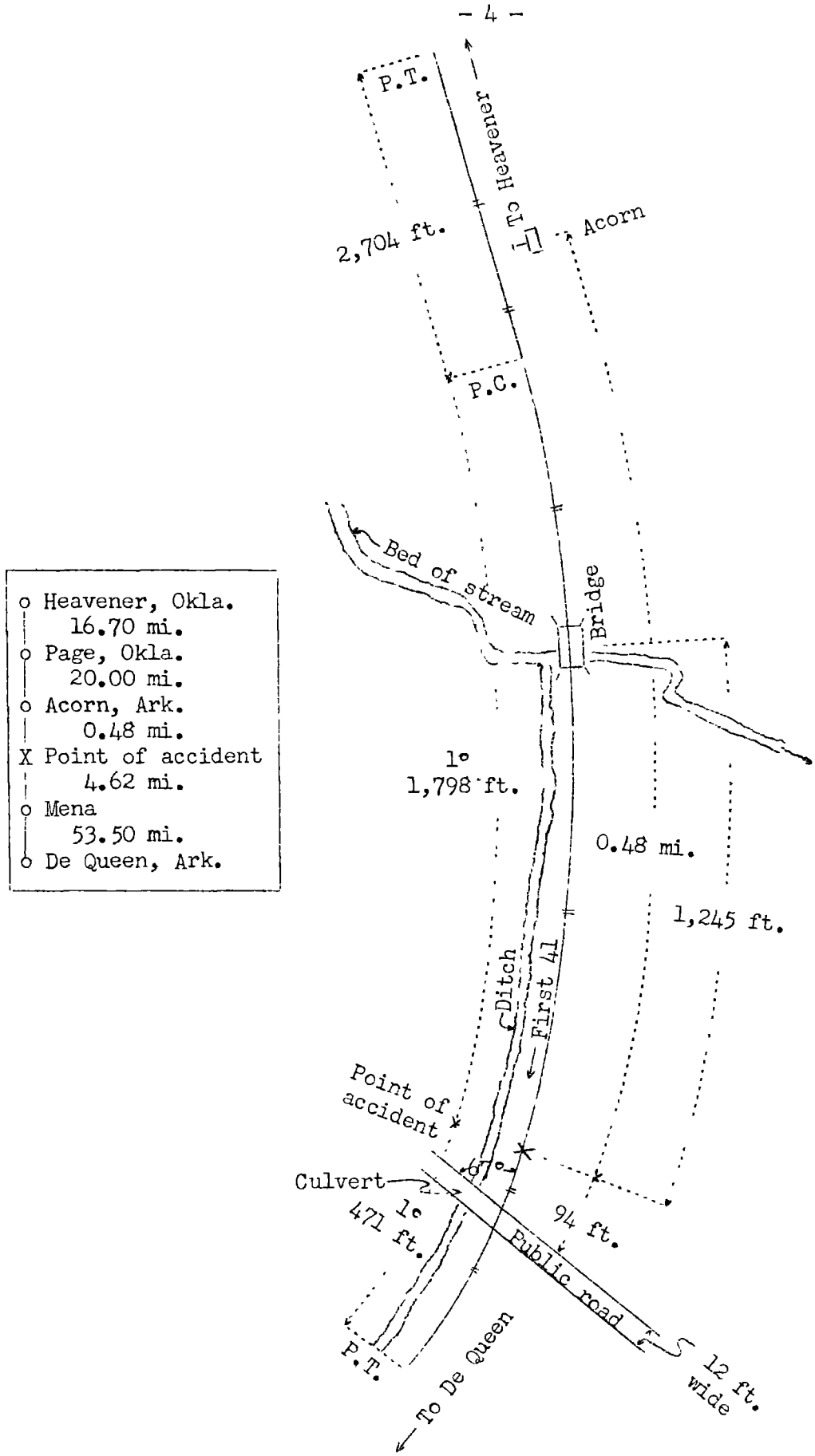
[1]Under authority of section 17 (2) of the Interstate Commerce Act the above-entitled proceeding was referred by the Commission to Commissioner Patterson for consideration and disposition.



Inv. No. 2879
Kansas City Southern Railway
Acorn, Ark.
March 29, 1945

Location of Accident and Method of Operation

This accident occurred on that part of the Northern Division designated as the Fourth District and extending southward from Heavener, Okla., to De Queen, Ark., 95.3 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 37.18 miles south of Heavener, at a point 0.48 mile south of the station at Acorn. From the north there is a tangent 2,704 feet in length, which is followed by a 1° curve to the right 1,798 feet to the point of accident and 471 feet southward. The grade for south-bound trains varies between 0.60 and 1.15 percent descending about 0.75 mile, then there is a vertical curve 250 feet to the point of accident and 150 feet southward.

The track structure consists of 127-pound rail, 39 feet in length, laid new in 1938 on 23 ties to the rail length. It is fully tieplated, single-spiked, provided with 6-hole angle bars and an average of 6 rail anchors per rail length, and is ballasted with about 4 inches of coarse chatts on 9 inches of gravel. In the immediate vicinity of the point of accident the track is laid on a fill about 5 feet high, about 30 feet wide at the bottom and 15 feet wide at the top. Normally, water from a considerable area west of the track drains into a stream, the bed of which extends eastward and is 5 feet wide and 1-1/2 feet deep. The track crosses this stream at approximately right angles at a bridge 18 feet long, located 1,245 feet north of the point of accident. At a point 94 feet south of the point of accident a public road intersects the railroad at an angle of 67°. The road and the crossing are 12 feet wide. About 20 feet west of the track a culvert, 5 feet in diameter and 16 feet long, extends under the road. A ditch extends along the west side of the track, from the bed of the stream to and beyond the culvert.

Rules of the maintenance-of-way department read in part as follows:

> 253. In case of storm, high water, wreck or other emergency whereby tracks or structures may be damaged or traffic delayed, section foremen must immediately, day or night, go over their sections with such of their forces as necessary, going first to places where damage is most likely to occur, and do everything in their power to keep conditions safe. If there is a probability of a dangerous situation in each direction on his section the foreman must divide his gang, part going one way and part the other. * * *

Operating rules read in part as follows:

915. During and immediately after severe storms, enginemen must run with caution over those portions of the track likely to be damaged.

The maximum authorized speed for the train involved was 45 miles per hour.

Description of Accident

First 41, a south-bound second-class freight train, consisting of engine 562, 1 auxiliary water car, engine 902, 1 auxiliary water car, 59 cars and a caboose, in the order named, passed Page, 20 miles north of Acorn and the last open office, at 5:51 a. m., 4 hours 16 minutes late, and while it was moving at an estimated speed of 25 miles per hour the engines, the water cars and the first 12 cars were derailed.

The engines and tenders and the water cars stopped on their right sides west of the track and practically parallel to it, with the front end of the first engine 230 feet south of the point of derailment. The derailed equipment was badly damaged.

It was cloudy at the time of the accident which occurred about 6:55 a. m.

The engineer of the second engine, and the front brakeman and the swing brakeman were killed. The engineer and the fireman of the first engine, and the fireman of the second engine were injured.

Discussion

First 41 was moving at a speed of about 25 miles per hour on a 1° curve to the right in territory where the maximum authorized speed was 45 miles per hour when the engines, the auxiliary water cars and the first 12 cars were derailed. There was no defective condition of the engines prior to the accident, and there was no indication of dragging equipment or of any obstruction having been on the track. The train air-brake system was in the charge of the engineer of the first engine. The headlight was lighted and the enginemen were maintaining a lookout ahead. When the train reached a point about 1 mile north of Acorn the members of the crew observed water on the track, and the train was stopped. Examination disclosed no unsafe condition of the track in this vicinity, and First 41 proceeded. From this point southward to the point where the accident occurred no unusual amount of water was observed on the track or

adjacent to it. However, when the first engine was about 100 feet north of the point where the accident occurred the engineer observed that the ballast was scoured from beneath the ties, and he immediately moved the brake valve to emergency position, but the derailment occurred before the train could be stopped.

The surviving members of the crew said that no dangerous condition resulting from high water had been observed in this vicinity during a period of several years, and they were not expecting to find unsafe track in the vicinity of the point where the accident occurred. The members of the crew of a north-bound freight train, which passed this point about 1 hour 30 minutes prior to the accident, did not observe high water adjacent to the track in this vicinity.

The investigation disclosed that about 50 minutes prior to the accident the operator at Mena, 5.1 miles south of Acorn, reported to the train dispatcher that a heavy rainfall had occurred and a considerable amount of water was flowing over the streets in the vicinity of the station. The train dispatcher immediately issued a train order to warn trains in this territory. However, as First 41 had passed the last open office north of Mena, he was unable to send the order to that train. The section foreman who had charge of the track where the accident occurred was located at Mena. He was awakened by thunder and lightning about 5:30 a. m., and observed that it was raining very hard. Soon afterward he departed from his home, called the laborers and then proceeded to the station to obtain a train line-up. He said that during the 6-year period he had been employed in this territory the facilities for drainage of the track on that part of his section north of Mena had been adequate, but he was apprehensive of conditions south of Mena. He and the laborers departed southward on their motor-car about 6:30 a. m. Later, he received information of the accident and immediately proceeded to that point. Examination disclosed that about 85 feet of the fill in the immediate vicinity of the point of derailment had been washed out to a depth of about 1 foot.

According to data recorded by the U. S. Weather Bureau at Mena, rain had fallen in the vicinity of Mena on 31 days during February and March. During this period which included the day of the accident, the rainfall was 28.58 inches, or 20.78 inches in excess of the average rainfall. During the 9-hour period immediately prior to the accident the rainfall was 4.3 inches. Officers of the railroad said that drainage facilities in the vicinity of the point of accident had been adequate during the past 34 years. However, the opening of the bridge was not large enough for the amount of water flowing in the stream bed, and the surplus water was diverted to the ditch on the west side of the track in such volume that the ballast section was scoured.

Cause

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

Dated at Washington, D. C., this fourth day of May, 1945.

By the Commission, Commissioner Patterson.

W. P. BARTEL,
Secretary.

(SEAL)