

INTERSTATE COMMERCE COMMISSION  
WASHINGTON

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REPORT NO. 3288  
CHICAGO, ROCK ISLAND AND PACIFIC  
RAILROAD COMPANY  
IN RE ACCIDENT  
NEAR MEADE, KANS., CN  
OCTOBER 10, 1949

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SUMMARY

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Date: October 10, 1949

Railroad: Chicago, Rock Island and Pacific

Location: Meade, Kans.

Kind of accident: Derailment

Train involved: Passenger

Train number: 40

Engine numbers: Diesel-electric units 640 and 640B

Consist: 12 cars

Estimated speed: 45 m. p. h.

Operation: Timetable, train orders and automatic block-signal system

Track: Single; tangent; level

Weather: Clear

Time: 1:30 a. m.

Casualties: 6 killed; 77 injured

Cause: Washout

INTERSTATE COMMERCE COMMISSION

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REPORT NO. 3288

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

CHICAGO, ROCK ISLAND AND PACIFIC RAILROAD COMPANY.

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December 19, 1949

Accident near Meade, Kans., on October 10, 1949, caused  
by a washout.

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REPORT OF THE COMMISSION<sup>1</sup>

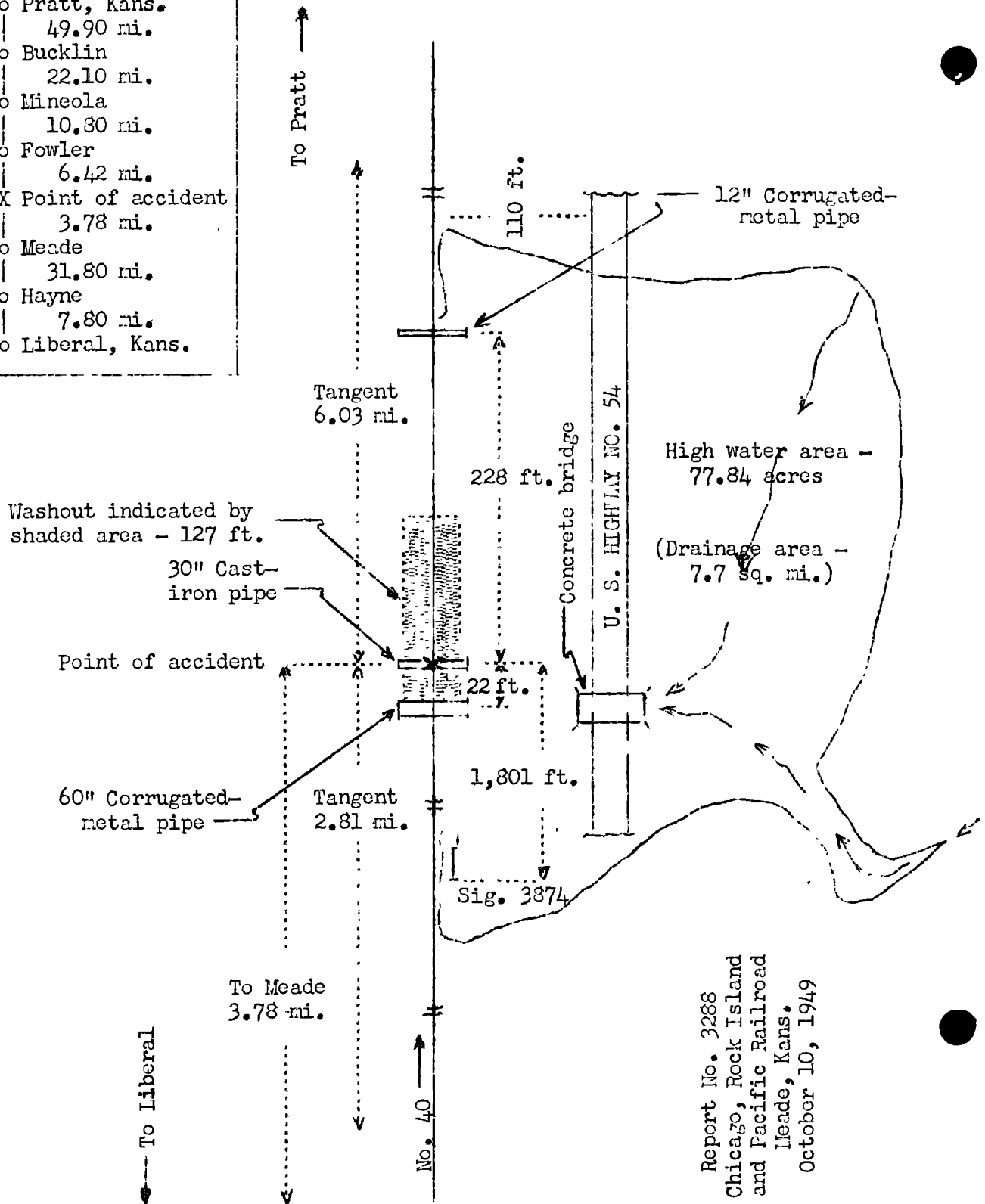
PATTERSON, Commissioner:

On October 10, 1949, there was a derailment of a passenger train on the Chicago, Rock Island and Pacific Railroad near Meade, Kans., which resulted in the death of 4 passengers and 2 dining-car employees, and the injury of 72 passengers, 4 dining-car employees and 1 train-service employee.

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<sup>1</sup>  
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.

- Pratt, Kans. 49.90 mi.
- Bucklin 22.10 mi.
- Mineola 10.80 mi.
- Fowler 6.42 mi.
- X Point of accident 3.78 mi.
- Meade 31.80 mi.
- Hayne 7.80 mi.
- Liberal, Kans.



Report No. 3288  
 Chicago, Rock Island  
 and Pacific Railroad  
 Meade, Kans.  
 October 10, 1949

Location of Accident and Method of Operation

This accident occurred on that part of the Panhandle Division extending between Liberal and Pratt, Kans., 132.6 miles, a single-track line, over which trains are operated by timetable, train orders and an automatic block-signal system. The accident occurred on the main track 43.38 miles east of Liberal and 3.78 miles east of the station at Meade. The track is tangent throughout a distance of 2.81 miles immediately west of the point of accident and 6.03 miles eastward. The grade for east-bound trains is, successively, 0.5 percent descending 1,900 feet, 0.1 percent descending 2,000 feet, and level 380 feet to the point of accident and 120 feet eastward.

The track structure consists of 112-pound rail, 39 feet in length, laid new in 1942 on an average of 22 creosoted ties 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 6 rail anchors per rail length. It is ballasted with chats to a depth of 6 inches under the ties. In the immediate vicinity of the point of accident the track is laid on a fill, which is 42 feet wide at the bottom and 20 feet wide at the top. It is an average of 6.2 feet high. It is composed of sandy loam and clay.

A cast-iron culvert 30 inches in diameter is located at the point of accident, a corrugated-metal culvert 30 inches in diameter is located 22 feet west of the point of accident, and a corrugated-metal culvert 12 inches in diameter is located 228 feet east of the point of accident. Each culvert is 48 feet in length. The flow lines are, respectively, 11.1 feet, 9.2 feet, and 16.6 feet below the base of the rail. The combined waterway opening is 25.54 square feet. The 12-inch and the 30-inch culverts were installed when the railroad was constructed, and the 30-inch culvert was installed in July, 1941. U. S. Highway No. 54 parallels the main track on the south at a distance of about 110 feet. The highway also is located on a fill, and a concrete bridge is provided at a point about 25 feet west of the point of accident. The bridge has a waterway opening of 64 square feet, and the flow line is 11 feet below the level of the base of the rail of the track. Water from an area of approximately 7.7 square miles south of the track drains under this bridge and thence through the three culverts to the north side of the track. Ordinarily there is no run-off from this area.

Automatic signal 3874, governing east-bound movements, is located 1,801 feet west of the point of accident.

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

DEFINITIONS.

Restricted Speed.--Proceed prepared to stop short of train, obstruction, or anything that may require the speed of a train or engine to be reduced.

101 (c). \* \* \*

\* \* \*

When indications of severe storms, high water, fire or any condition which threatens damage, trains must proceed at restricted speed, and if in doubt as to being able to proceed safely, train must be placed on siding and remain there until it is safe to proceed.

Conductors and enginemen must make careful inquiries at all stopping places, and when thought advisable make extra stops to ascertain the extent and severity of storms: examine bridges and culverts or other places subject to damage by high water, and if they find any indication of danger, must report to the train dispatcher.

Rules and Instructions for Maintenance of Way and Structures read in part as follows:

d. Handling Unusual Conditions. It is the duty of employes to report by wire to the Chief Dispatcher, defects discovered in track, bridges and equipment, or obstructions of any kind; \* \* \* Signals must be used to stop trains when necessary or when there is reason to believe the track or any structure is endangered by flood, fire or other causes. Every employe must make a personal inspection, using all precautions in the interest of life and property, before permitting the track or structure to be used.

Unsafe track, bridges, culverts, or other obstructions to traffic must be promptly reported by wire after being protected in accordance with Rule. Conditions likely to affect safety of trains, such as storms, floods, fire, etc., must be promptly reported by wire and watched. In case of threatening or prevailing storms, track must be patrolled and all bridges, culverts and roadbed liable to damage by such storms, must be closely watched. \* \* \*

\* \* \*

303. Inspection and Protection During Severe Storms. Track Foremen must go over their section during or after storms, either by day or night, and carefully examine all waterways, culverts, bridges, etc., and watch all other places where trouble may occur. If there is indication of a heavy rain on parts of their section, the track in such territory must be given special attention. \* \* \*

Timetable special instructions read in part as follows:

DISPATCHERS

34. When heavy rains are reported dispatchers will give train and enginemen notification of same by train order in following form:

Heavy rains between .....and..... All trains run carefully watching out for places likely to be affected.

TRAINMEN AND ENGINEMEN

34a. All trains must run carefully during and after heavy storms, particularly when the track is liable to be affected. \* \* \*

The maximum authorized speed for the train involved was 70 miles per hour.

Description of Accident

No. 40, an east-bound first-class passenger train, consisted of Diesel-electric units 640 and 640B, coupled in multiple-unit control, one mail-baggage car, one dormitory car, two chair cars, two sleeping cars, one dining car, one club car and four sleeping cars, in the order named. All cars were of all-steel construction. At Liberal the crew received, among others, copies of train order No. 751 reading as follows:

Heavy rains between Bucklin and Liberal  
Particularly heavy between Mineola and Hayne  
run carefully watching out for places likely  
to be affected

Bucklin, Mineola, and Hayne are, respectively, 82.7 miles, 60.6 miles, and 7.9 miles east of Liberal. This train departed from Liberal at 12:20 a. m., 2 hours 25 minutes late, passed Meade, the last open office, at 1:24 a. m., 2 hours 48 minutes late, passed signal 3874, which indicated Proceed, and while moving at an estimated speed of 45 miles per hour the rear pair of wheels of the front truck and the rear pair of wheels of the rear truck of the first Diesel-electric unit, all wheels of the second Diesel-electric unit and of the first to the seventh cars, inclusive, and the front truck and the rear pair of wheels of the rear truck of the eighth car were derailed at a point 3.78 miles east of the station at Meade.

Separations occurred between adjacent units of the train from the front end to and including the fifth car. The first Diesel-electric unit stopped with the rear end 2,114 feet east of the point of derailment. It was somewhat damaged. The second Diesel-electric unit stopped with its front end 482 feet east of the point of derailment and 40 feet south of the track, and its rear end 19 feet south of the track. It leaned to the south at an angle of 20 degrees. It was badly damaged. The first car stopped on its left side, 15 feet north of the track and parallel to it, and 410 feet east of the point of derailment. The second car stopped on its left side, across the track and against the first car. The third car stopped upright and across the track. The fourth car stopped on its left side, about 35 feet north of the track and parallel to it. The east end was against the second car. These cars were badly damaged. The fifth, sixth, and seventh cars were derailed to the north but stopped in line and in an upright position. The east end of the fifth car was 34 feet 6 inches north of the track and against the west end of the fourth car. They were considerably damaged. The front truck of the eighth car was derailed to the north and the rear pair of wheels of the rear truck was derailed to the south. This car stopped at the initial point of derailment and was slightly damaged. The ninth to the twelfth cars, inclusive, were not derailed or damaged.

The train-service employee injured was the conductor.

The weather was clear at the time of the accident, which occurred at 1:30 a. m.

#### Discussion

No. 40 was moving at a speed of about 45 miles per hour on tangent track, in territory where the maximum authorized speed was 70 miles per hour, when the derailment occurred.



Prior to the time the accident occurred, there was no defective condition either of the Diesel-electric units or of the cars. As the train was approaching the point where the accident occurred the enginemen were maintaining a lookout ahead from their positions in the control compartment at the front of the first Diesel-electric unit, and the members of the train crew were in various locations throughout the cars of the train. The headlight and the oscillating signal light were lighted brightly. When the first Diesel-electric unit was a short distance west of the point where the accident occurred the enginemen observed debris on the south rail, and also that a portion of the fill was washed away, but the rails and ties appeared to be in normal alignment. The engineer initiated an emergency brake application. The derailment occurred immediately afterward.

Examination of the track after the accident occurred disclosed that a section of the fill 127 feet in length and a maximum of 9 feet in depth had been washed away by a flow of water from the drainage area south of the track. The waterway openings of the three culverts in this portion of the fill were insufficient to carry away the water, and water had backed up against the south side of the fill and flooded an area of 77.84 acres. High water marks indicated that the water had risen to the level of the base of the rail at points 450 feet west and 250 feet east of the point of derailment. At the latter point the elevation is 1 foot higher than at the point of derailment.

The investigation disclosed that on October 9 there was an excessive rainfall in the vicinity of the point of accident between the hours of 2 p. m. and 4 p. m., and also between 7 p. m. and 9 p. m. According to information furnished by the U. S. Weather Bureau, 3.36 inches of rain fell at Meade between 11 a. m. and 9 p. m. According to witnesses who were in the immediate vicinity of the point of accident, the amount of rainfall during this period varied between 4.5 inches and 5 inches.

The territory in which the accident occurred was in the charge of the section foreman at Fowler, 10.2 miles east of Meade. He was permitted to be absent from his headquarters between 5 p. m., October 7, and 8 a. m., October 10. About 6 p. m., October 9, the operator at Meade, who was not aware that the foreman was absent, attempted to talk with the foreman by commercial telephone to notify him to patrol his section. When the operator

found he was unable to do so, he requested the telephone operator to locate the assistant section foreman, who was not listed in the telephone directory. About 7 p. m., the telephone operator, because of a misunderstanding, called the residence of the section foreman at Mineola, 21 miles east of Meade. The wife of this section foreman answered, identified herself as the wife of the section foreman, and informed the operator at Meade that the section foreman then was patrolling the track. The operator at Meade did not identify himself and did not request further identification. The operator at Meade said he assumed that he was talking with the wife of the section foreman at Fowler, and on this assumption he informed the dispatcher that the section force at Fowler was on duty.

The section foreman at Fowler was a relief foreman, who was temporarily assigned to the Fowler section about 3 weeks before the accident occurred. He returned to his headquarters about 12:01 a. m., October 10. He immediately called two sectionmen, and, after receiving from the dispatcher an oral line-up of train movements, proceeded to patrol the track east of Fowler to a location where, from an adjacent highway, he had observed high water a short time before midnight. The line-up was issued at 12:28 a. m. an inspection disclosed that the track was not damaged at this location, and at 12:55 a. m. he again called the dispatcher by telephone for another line-up of train movements. The dispatcher said he informed the section foreman of the location of No. 40 and asked him if any condition had been found which would affect the movement of that train. The section foreman said he did not hear distinctly some parts of the dispatcher's conversation, and was not aware that he was being questioned about unsafe track conditions. He told the dispatcher that he would look out for No. 40. He said he meant to inform the dispatcher that he would be on the alert to avoid a collision between his track motor-car and that train. He said he did not inform the dispatcher that he would provide protection for No. 40. The dispatcher went on duty at 12:01 a. m. and was informed by the preceding dispatcher that the section foreman at Fowler had been patrolling the track during a period of several hours. He said he thought from the section foreman's conversation that the foreman had patrolled the track and would protect No. 40 against any unsafe track condition on his section.

No. 40 was held at Liberal from 9:55 p. m. until 12:20 a. m. while section forces were repairing track damage resulting from high water at several points west of Meade. At 12:20 a. m., after the crew had received copies of train order No. 751 and also copies of a train order requiring reduced speed at five locations, the train was permitted to proceed. Four of the locations at which reduced speed was required were between points 11 miles and 3 miles west of Meade, and the fifth location was at a point 18 miles east of Meade. The speed restrictions were complied with at the four locations west of Meade, and the speed of the train then was increased to about 45 miles per hour. The engineer said he interpreted train order No. 751 as requiring restricted speed only at locations where the track previously had been damaged by high water and at places where in his opinion it was likely to be damaged. Timetable special instructions provide that dispatchers will issue this form of train order when heavy rains are reported, and the train orders are customarily worded to cover a district extending between the first open office on each side of a reported rain. In the instant case, train order No. 751 covered a district 82.7 miles in length. The engineer of No. 40 had been in engine service in this territory since 1909 and had no knowledge of previous track damage resulting from high water at the point where the derailment occurred. In the absence of specific speed restrictions or information regarding track conditions at the point of derailment, he considered that he was operating the train at a safe speed when it was approaching that point.

Members of the crew of an east-bound freight train which passed over the track involved about 9:30 p. m. said that the rainfall was exceptionally heavy in that vicinity but that no unusual amount of water was backed up against the fill at that time. A sectionman who inspected the fill about 5 p. m. said that the water was not unusually high and that its flow through the culverts was not obstructed.

Cause

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

Dated at Washington, D. C., this nineteenth day of December, 1949.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,

Secretary.