

INTERSTATE COMMERCE COMMISSION
WASHINGTON

REPORT NO. 3412
CHICAGO & EASTERN ILLINOIS
RAILROAD COMPANY
IN RE ACCIDENT
NEAR MODE, ILL., ON
JUNE 28, 1951

SUMMARY

Date: June 28, 1951

Railroad: Chicago & Eastern Illinois

Location: Mode, Ill.

Kind of accident: Derailment

Train involved: Passenger

Train number: 11

Engine number: Diesel-electric unit 1609

Consist: 4 cars

Speed: 60 m. p. h.

Operation: Timetable and train orders

Track: Single; tangent; level

Weather: Hazy

Time: 9:29 p. m.

Casualties: 2 killed; 58 injured

Cause: Sinking of a fill

INTERSTATE COMMERCE COMMISSION

REPORT NO. 3412

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

CHICAGO & EASTERN ILLINOIS RAILROAD COMPANY

September 5, 1951

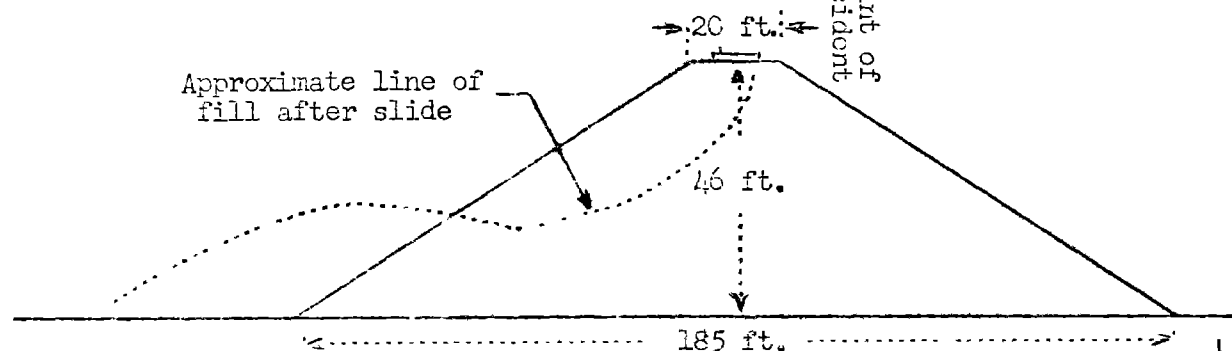
Accident near Mode, Ill., on June 28, 1951, caused by
the sinking of a fill.

¹
REPORT OF THE COMMISSION

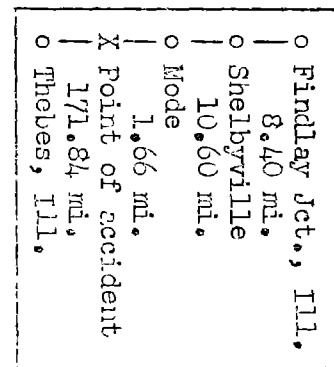
PATTERSON, Commissioner:

On June 28, 1951, there was a derailment of a passenger train on the Chicago & Eastern Illinois Railroad near Mode, Ill., which resulted in the death of 1 railway-mail clerk and 1 train-service employee, and the injury of 53 passengers, 3 dining-car employees and 2 train-service employees. This accident was investigated in conjunction with a representative of the Illinois Commerce Commission.

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.



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Report No. 3412
Chicago & Eastern Illinois Railroad
Moline, Ill.
June 28, 1951

Location of Accident and Method of Operation

This accident occurred on that part of the railroad extending between Findlay Jct. and Thebes, Ill., 192.5 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 at a point 20.66 miles south of Findlay Jct. and 1.66 miles south of the station at Mode. From the north there is a tangent 2,123 feet to the point of accident and 1,156 feet southward. The grade for south-bound trains varies between 0.54 percent descending and level throughout a distance of about 1 mile immediately north of the point of accident and is level at the point of accident.

The track structure consists of 90-pound relay rail, 39 feet in length, laid in its present location in 1946 on an average of 23 treated ties to the rail length. It is fully tieplated, single-spiked, and is provided with 4-hole joint bars and 8 rail anchors per rail length. It is ballasted with chats to a depth of 24 inches. In the vicinity of the point of accident the track is laid on a fill constructed in 1896. The fill is about 700 feet in length and has a maximum height of 46 feet. At the point of accident it is about 20 feet in width at the top and about 185 feet in width at the base. On the east side the toe of the fill is 46 feet below the level of the base of the rail and about 92 feet east of the center-line of the track. The original fill is composed of a mixture of clay and loam. Later, earth, cinders and slag were added. The railroad crosses Brush Creek about 355 feet south of the point where the accident occurred. Bridge C-2063, which spans the creek, is an open-deck, 21-bent creosoted-pile trestle, 244 feet in length. Drainage from an area of approximately 22.8 square miles flows westward under the bridge. The waterway area of Bridge C-2063 is 2,250 square feet and is approximately 3.4 times larger than is necessary to admit the normal run-off from the drainage area. The normal ground level under the bridge is about 59 feet below the base of the rail. East of the fill the terrain is marshy, and an area of approximately 3 acres adjacent to the fill frequently is covered by water.

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

101 (b). During severe storms or when there is indication of high water or any condition which threatens damage, trains must move so they can be stopped in time to avoid accident, and if there is doubt as to being able to proceed safely, train must be placed on siding. Conductors and engineers must make inquiries at stopping places and, when advisable, extra stops must be made to ascertain extent and severity of storms and to examine bridges, culverts, or other places subject to damage by high water, and if any condition is found that might affect the safety of a train, protection must be provided as prescribed by Rule 99 and section forces and train dispatcher promptly notified. * * *

The maximum authorized speed for passenger trains was 60 miles per hour.

Description of Accident

No. 11, a south-bound first-class passenger train, consisted of Diesel-electric unit 1609, one combination mail-baggage-cafe car and three coaches, in the order named. All cars were of lightweight steel construction. The Diesel-electric unit and all cars of the train were equipped with tightlock couplers. This train departed from Findlay Jct. at 8:59 p. m., 4 minutes late, passed Mode, the last open office at 9:24 p. m., 5 minutes late, and while moving at a speed of 60 miles per hour it was derailed at a point 1.66 miles south of the station at Mode.

The Diesel-electric unit overturned to the east, and stopped on its right side and east of the bridge. The front end of the unit was on the south bank of the creek, 414 feet south of the point of accident and about 13 feet east of the center-line of the track. The rear end of the unit was partially submerged in the stream and was about 22 feet east of the center line of the track. Separations occurred between the Diesel-electric unit and the first car and between the third and fourth cars. The cars overturned to the east and stopped on the side of the fill. The front end of the first car was partially submerged in the stream 28 feet east of the center-line of the track and about 48 feet below the level of the base of the rail. The rear end was on the north bank of the stream, 58 feet east of the center-line of the track and 30 feet below the level of the base of the

rail. The rear end of the third car was 80 feet east of the center-line of the track and 28 feet below the level of the base of the rail. The fourth car stopped 27 feet to the rear of the third car, with the front end and the rear end 40 feet and 24 feet, respectively, east of the center-line of the track. The Diesel-electric unit and the first car were destroyed and the second, third and fourth cars were badly damaged.

The fireman was killed. The engineer and the flagman were injured.

The weather was hazy and it was dark at the time of the accident, which occurred at 9:29 p. m.

Discussion

As No. 11 was approaching the point where the accident occurred, the speed was 60 miles per hour, as indicated by the tape of the speed recording device. The brakes of this train had been tested and had functioned properly when used en route. The headlight was lighted brightly. The enginemen were maintaining a lookout ahead from their respective positions in the control compartment of the Diesel-electric unit. The conductor was in the second car and the flagman was in the vestibule at the rear of the third car. The engineer said the Diesel-electric unit was riding smoothly and the track ahead apparently was in normal alinement. The Diesel-electric unit suddenly turned toward the left on the fill and then veered toward the right, and he immediately moved the brake valve to emergency position. Then the Diesel-electric unit overturned and fell from the bridge. The fireman was killed.

Examination after the accident occurred disclosed that a section of the fill about 100 feet in length had sunk. The displaced material had moved eastward at the toe of the fill a distance of about 85 feet. At the point of accident the depression extended under the ties to the west rail. The track north of the point of accident was in normal alinement and surface. There was no indication of dragging equipment. It is apparent that the fill subsided and the track moved eastward under the weight of the Diesel-electric unit and the cars of No. 11. There were no wheel marks to indicate that any of the equipment was derailed before it overturned. The Diesel-electric unit and equipment that fell from the trestle struck and dislodged the braces and the caps of four bents and broke three piles of the bridge structure.

The fill on which the accident occurred was constructed in 1896. In 1909 it was extended southward and the trestle was rebuilt and shortened to its present length. The accident occurred at a point where the fill had been extended and was about 200 feet south of the point where a slide occurred in 1907.

According to the records of the U.S. Weather Bureau Station at Shelbyville, 12.2 miles northwest of the point of accident, 3.08 inches of rain had fallen during the 36-hour period ending at 7:30 p. m. on the day of the accident. There was no available record of the amount of rainfall in the immediate vicinity of the point of accident during this period, but high-water marks on the fill indicated that before the accident occurred the water had risen about 20 feet above the normal level of the stream and 10 feet above the toe of the fill.

A south-bound freight train passed over the fill about 7 hours 14 minutes before the accident occurred, and the members of the crew observed no defective condition of the track. The foreman of a bridge maintenance force performing work at Bridge C-2063 inspected the bridge and the fill about 10 a. m. on the day of the accident. He said that at the time of his inspection the water appeared to have receded about 3 feet below the high-water mark on the fill and he observed no defective condition of the bridge or fill. The assistant track supervisor in charge of track maintenance in this territory inspected Bridge C-2063 and the fill about 3 p. m. and reported that he found no defective condition. The section foreman who was in charge of this section inspected the bridge and fill about 6 hours before the accident occurred. He said that he found no defective condition and at the time of his inspection the water had receded and the stream under the bridge was about its normal level. The members of the bridge maintenance force who were performing work at Bridge C-2063 departed from that location on a track motor-car at 5:25 p. m. and returned to Mode, about 4 hours before the accident occurred. They observed no defective condition as the motor-car passed over the bridge and the fill. The division engineer said that there was no record of any slide at this fill since 1907.

Cause

It is found that this accident was caused by the sinking of a fill.

Dated at Washington, D. C., this fifth
day of September, 1951.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,
Secretary.