INTERSTATE COMMERCE COMMISSION

WASHINGTON

REPORT NO. 3753

ST. LOUIS-SAN FRANCISCO RAILWAY COMPANY

IN RE ACCIDENT

NEAR FAIRLAND, OKLA., ON

JUNE 9, 1957

SUMMARY

Date:	June 9, 1957
Railroad:	St. Louis-San Francisco
Location:	Fairland, Okla.
Kind of accident:	Derailment
Train involved:	Passenger
Train number:	2
Locomotive number:	M.K.T. Diesel-electric units 107A and 132
Consist:	11 cars
Speed:	70 m. p. h.
Operation:	Signal indications
Track:	Single; tangent; 0.10 percent descending grade eastward
Weather:	Raining
Time:	3:45 a. m.
Casualties:	72 injured
Cause:	Washout

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

ST. LOUIS-SAN FRANCISCO RAILWAY COMPANY

July 9, 1957

Accident near Fairland, Okla., on June 9, 1957, caused by a washout.

REPORT OF THE COMMISSION[1]

TUGGLE, Commissioner:

On June 9, 1957, there was a derailment of a passenger train on the St. Louis-San Francisco Railway near Fairland, Okla., which resulted in the injury of 66 passengers, 3 postal employees, 1 Pullman Company employee, and 2 train-service 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 Tuggle for consideration and disposition.

Report No. 3753
St. Louis-San Francisco Railway
Fairland, Okla.
June 9, 1957

Location of Accident and Method of Operation

This accident occurred on that part of the Southwestern Division extending between Tulsa, Okla., and Monett, Mo., 141.5 miles. In the vicinity of the point of accident this is a single-track line, over which trains are operated by signal indications. The accident occurred on the main track at a point 83.8 miles east of Tulsa and 4,858 feet east of the station at Fairland, Okla. The track is tangent throughout a distance of 3,517 feet immediately west of the point of accident and 222 feet eastward. The grade is 0.10 percent descending eastward at the point of accident.

The track structure in the vicinity of the point of accident consists of 132-pound rail, 39 feet in length, laid new in 1955 on an average of 24 ties to the rail length. It is fully tieplated with double-shoulder tie plates, spiked with two rail-holding spikes and two plate-holding spikes per tie plate, and is provided with 6-hole 36-inch joint bars and an average of 12 rail anchors per rail. It is ballasted with chatts to a depth of 13 inches below the bottoms of the ties. In the immediate vicinity of the point of accident the track is laid on a dirt fill approximately 3 feet in height, 24 feet in width at the top, and 28 feet in width at the bottom.

An 8-foot by 4-1/2-foot by 36-foot concrete box culvert is located 908 feet west of the point of accident. The flow line is approximately 14 feet below the base of the rails. A small creek flows from north to south through this culvert, and east of the culvert the creek parallels the railroad on the south. A 3-1/3-foot by 24-foot concrete pipe culvert is located 276 feet east of the point of accident, and a 3-foot by 3-foot by 24-foot concrete box culvert is located 312 feet east of the point of accident. The flow lines of these culverts are, respectively, 5 feet and 7 feet below the level of the base of the rails. Water from an area of approximately 370 acres drains from north to south through these three culverts. North of the track the ground rises on a slope of about 1.5 to 100.

A semi-automatic signal governing east-bound movements is located 3,876 feet west of the point of accident.

The maximum authorized speed for passenger trains in the vicinity of the point of accident is 70 miles per hour.

Description of Accident

No. 2, an east-bound first-class passenger train, consisted of M.K.T. Diesel-electric units 107A and 132, coupled in multiple-unit control, one baggage-mail car, one baggage car, one sleeping car, one coach, one coach-lounge-buffet car, five sleeping cars, and one lounge-sleeping car, in the order named. The second, third, seventh, eighth, and tenth cars were of conventional all-steel construction, and the other cars were of light-weight construction. All cars except the second, third, and eighth were equipped with tight-lock couplers. This train entered the main track of the S.L.S.F. at Vinita, 19.1 miles west of Fairland, at 3:19 a. m., 2 hours 44 minutes late, and passed the semi-automatic signal east of Fairland, which indicated Proceed. While it was moving at a speed of 70 miles per hour, as indicated by the tape of the speed-recording device, the locomotive, with the exception of the No. 2 wheels of the front truck, and the first to the ninth cars, inclusive, were derailed at a point 4,858 feet east of the station at Fairland.

Separations occurred between the first and second, second and third, third and fourth, fifth and sixth, sixth and seventh, and seventh and eighth cars. The locomotive and the first car stopped approximately in line with the track, with the front end of the locomotive 920 feet east of the point of derailment. The second car stopped several feet south of the track and parallel to it. The front end was 210 feet west of the rear end of the first car. The second car leaned to the south at an angle of about 45 degrees, and the third car leaned to the north at an angle of about 45 degrees. The other derailed equipment remained upright. The third, fourth, and fifth cars stopped several feet north of the track and approximately parallel to it. The front end of the third car was opposite the second car. The sixth and seventh cars stopped across the track and approximately at right angles to it. The eighth and ninth cars stopped approximately in line. The front end of the eighth car was several feet north of the track and against the rear end of the seventh car, and the rear end of the ninth car was on the track structure at the point of derailment. The appurtenances below the floor level of the derailed equipment were considerably damaged.

The fireman and the flagman of No. 2 were injured.

A light rain was falling at the time of the accident, which occurred about 3:45 a. m.

Discussion

As No. 2 was approaching the point where the accident occurred the enginemen were maintaining a lookout ahead from the control compartment at the front of the locomotive. The members of the train crew were in the cars of the train. The headlight and the oscillating white light on the locomotive were lighted brightly. The enginemen said that a light rain was falling, but they encountered no hard rain at any point. The engineer said that water along the track east of the station at Fairland indicated that there had been a heavy rain in that vicinity, but he did not consider that there was sufficient water to damage the track structure. He said that as the locomotive was closely approaching the point where the accident occurred he saw that a portion of the fill was washed away at a distance which he thought was about 60 feet. He immediately initiated an application of the brakes. The derailment occurred at approximately the same time.

Examination of the track structure after the accident occurred disclosed that at the point of derailment the material of the fill had been washed away by a flow of water from the drainage area north of the track. The fill was washed to a maximum depth of approximately 2-1/2 feet below the bottoms of the ties throughout the width of the fill and throughout a distance of about 70 feet. At a second point a short distance west of this area the material of the fill was washed away to a maximum depth of about 1-1/2 feet below the bottoms of the ties throughout a distance of about 10 feet. There were indications that a portion of the material of the fill was washed away after the derailment occurred.

The investigation disclosed that the washout resulted from a heavy rainfall which was confined to the vicinity of the point of accident. Several residents of the vicinity said that there was an extremely heavy rain after 1:30 a. m. or 2 a. m. on the day of the accident. Two of these persons, who have access to rain gauges, said that the gauges were filled to capacity during the night. One of these gauges is designed to indicate a maximum of 4.5 inches of rainfall, and the other is designed to indicate a maximum of 5.5 inches. The operators at Afton, 7.5 miles west of Fairland, and at Neosho, Mo., 30.8 miles east of Fairland, reported only a light rain during the night. No. 1, a west-bound passenger train, passed Fairland about 2 hours before the accident occurred. The crew of this train reported no high water or unusual weather conditions. The roadmaster, who resides at Vinita, said that there was no hard rain at that point. He

arrived at the scene of the accident about 1 hour 45 minutes after the accident occurred. He said that there was little evidence of rain between Vinita and Afton. At Afton there was a considerable amount of water in ditches along the highway but no indication of rain sufficiently heavy to cause him concern as to the condition of the track. Between Afton and Fairland there were indications that there had been a heavy rainfall. When the roadmaster arrived at the scene of the accident he found indications that water on the side of the fill had risen to the level of the top of the fill. At the time he arrived the water had receded and was flowing freely through the culverts at approximately 50 percent of their capacity. The district maintenance-of-way foreman was unaware that there had been an unusual amount of rainfall before the accident occurred.

The division superintendent said that one of the two culverts immediately east of the point of accident was installed after a flood which occurred in 1943. Since that time the capacity of the culverts had been sufficient to accomodate the run-off from the drainage area north of the track, and no trouble had been experienced with high water in the vicinity of the point of accident.

Cause

This accident was caused by a washout.

Dated at Washington, D. C., this ninth day of July, 1957.

By the Commission, Commissioner Tuggle.

(SEAL)

HAROLD D. McCOY,

Secretary.