

INTERSTATE COMMERCE COMMISSION  
WASHINGTON

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INVESTIGATION NO. 3071  
ST. LOUIS-SAN FRANCISCO RAILWAY COMPANY  
REPORT IN RE ACCIDENT  
NEAR SCULLIN, OKLA., ON  
FEBRUARY 6, 1947

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SUMMARY

Railroad: St. Louis-San Francisco  
Date: February 6, 1947  
Location: Scullin, Okla.  
Kind of accident: Derailment  
Train involved: Freight  
Train number: First 533  
Engine number: 4119  
Consist: 52 cars, caboose  
Estimated speed: 50 m. p. h.  
Operation: Timetable and train orders  
Track: Single; tangent; 0.25 percent  
descending grade southward  
Weather: Clear  
Time: 4:27 a. m.  
Casualties: 2 killed; 1 injured  
Cause: Broken angle bars

INTERSTATE COMMERCE COMMISSION

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INVESTIGATION NO. 3071

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

ST. LOUIS-SAN FRANCISCO RAILWAY COMPANY

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March 3, 1947

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Accident near Scullin, Okla., on February 6, 1947, caused  
by broken angle bars.

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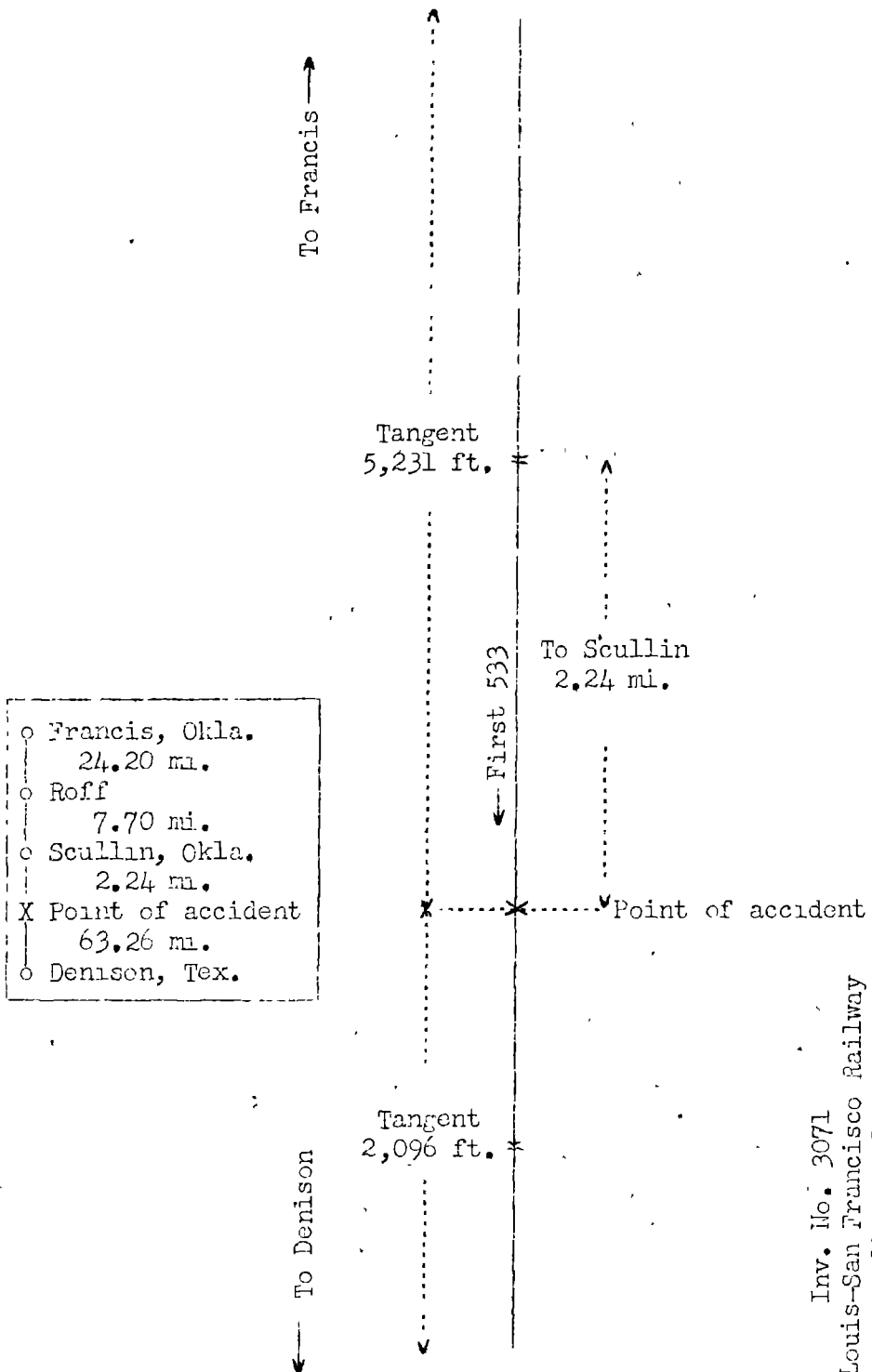
REPORT OF THE COMMISSION<sup>1</sup>

PATTERSON, Commissioner:

On February 6, 1947, there was a derailment of a freight train on the St. Louis-San Francisco Railway near Scullin, Okla., which resulted in the death of two employees, and the injury of one 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.



- o Francis, Okla.  
24.20 mi.
- o Roff  
7.70 mi.
- o Scullin, Okla.  
2.24 mi.
- X Point of accident  
63.26 mi.
- o Denison, Tex.

Inv. No. 3071  
St. Louis-San Francisco Railway  
Scullin, Okla  
February 6, 1947

### Location of Accident and Method of Operation

This accident occurred on that part of the Southwestern Division extending between Francis, Okla., and Denison, Tex., 97.4 miles, a single-track line in the vicinity of the point of accident, over which trains are operated by timetable and train orders. There is no block system in use. The accident occurred on the main track 34.14 miles south of Francis and 2.24 miles south of the station at Scullin. The track is tangent throughout a distance of 5,231 feet immediately north of the point of accident and 2,096 feet southward. The grade is 0.25 percent descending southward.

The track structure consists of 90-pound rail, 33 feet in length, laid on 20 treated ties to the rail length. It is fully tieplated, single-spiked, provided with 4-hole 24-inch 90-pound head-free heat-treated angle bars, rolled in 1940, and installed in 1941. It has an average of 6 rail anchors per rail length, and is ballasted with chat to a depth of about 12 inches. Throughout a distance of 310 feet immediately north and 400 feet immediately south of the point of derailment the track is laid in a cut, the walls of which rise to a maximum height of 7 feet. Drainage ditches about 2-1/2 feet deep are provided on each side of the cut throughout its length.

The maximum authorized speed for freight trains is 50 miles per hour.

### Description of Accident

First 533, a south-bound second-class freight train, consisting of engine 4119, a 2-8-2 type, 52 cars and a caboose, departed from Roff, the last open office, 9.94 miles north of the point of accident, at 4:07 a. m., 2 hours, 57 minutes late, passed Scullin and while it was moving at an estimated speed of 50 miles per hour the engine and the first 26 cars were derailed.

The engine and tender, remaining coupled, stopped headed east, on their right sides, across the track and at practically right angles to it, with the front end of the engine about 300 feet south of the point of derailment. The cab of the engine was demolished, and the engine was otherwise badly damaged. The first 24 cars were badly damaged.

The engineer and the fireman were killed, and the front brakeman was injured.

The weather was clear at the time of the accident, which occurred about 4:27 a. m.

Discussion

First 533 was moving on tangent track at a speed of about 50 miles per hour, in territory where the maximum authorized speed was 50 miles per hour, when the derailment occurred. The front brakeman was in the brakeman's booth on the tender of the engine. The first he knew of anything being wrong was when he felt the engine lurch to the left, then the engine overturned. The enginemen were killed. After the accident the throttle lever of the engine was in closed position and the brake valve was in emergency position.

The investigation disclosed that the north ends of two broken angle bars were attached to the leaving end of a rail on the west side of the track, and the broken ends of the southern portion of these angle bars were attached to the receiving end of the adjoining rail, which had been torn from the track. At the breaks in the angle bars there were progressive fractures at the top inside edge of each bar, which covered about 15 percent of the cross-sectional area of the inside bar and about 30 percent of the cross-sectional area of the outside bar. The breaks in the angle bars other than the progressive fractures were new; but the broken ends were considerably worn by friction. The rail ends at the location of the broken angle bars were battered considerably. The track structure south of the location of the broken angle bars was torn up or displaced throughout a distance of about 300 feet to the point where the engine stopped. The friction wear on the broken ends of the angle bars and the batter marks on the ends of the rails at the location of the broken angle bars indicate that the complete failure of these bars occurred under some other train, and that the batter marks were made prior to the derailment by the wheels of trains moving in either direction after the angle bars had become completely broken. Examination of the engine of First 533 disclosed scraping marks on the outside edge of the right No. 1 driving-wheel tire and on the counter-balances of the right Nos. 2 and 3 driving wheels. These marks indicate that the outside of these wheels had been in contact with the gage side of the west rail. Evidently the movement of traffic over this track after the angle bars had become broken resulted in the displacement of the west rail at the location of the broken angle bars sufficiently for the right front driving wheel of the engine of First 533 to drop inside the rail, then the general displacement of the track structure followed.

The track involved was last inspected by the section foreman about 30 hours before the derailment occurred, and no defective condition was observed. Two south-bound trains and two north-bound trains passed over this track during the 4-hour period immediately prior to the derailment, and the crews of these trains did not observe any abnormal condition of the track. A rail-detector car was last operated over this territory on July 4, 1946.

Cause

It is found that this accident was caused by broken angle bars.

Dated at Washington, D. C., this third day of March, 1947.

By the Commission, Commissioner Patterson.

W. P. BAPTEL,

Secretary.

(SEAL)