

INTERSTATE COMMERCE COMMISSION
WASHINGTON

INVESTIGATION NO. 2545
THE SOUTHERN PACIFIC COMPANY
REPORT IN RE ACCIDENT
AT SELMA, CALIF., ON
NOVEMBER 20, 1941

-2-

SUMMARY

Railroad: Southern Pacific
Date: November 20, 1941
Location: Selma, Calif.
Kind of accident: Side collision
Trains involved: Freight : Passenger
Train numbers: Extra 3265 : 59
Engine numbers: 3265 : 4323
Consist: 73 cars, caboose : 17 cars
Speed: Starting : 20-25 m.p.h.
Operation: Time table, train orders and
automatic block-signal system
Track: Single; tangent; 0.075 percent
descending grade eastward
Weather: Clear
Time: 4:04 a.m.
Casualties: 52 injured
Cause: Accident caused by train fouling
main track immediately in front
of an overdue superior train, as
result of failure properly to
observe location of clearance point.

INTERSTATE COMMERCE COMMISSION

INVESTIGATION NO. 2545

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

THE SOUTHERN PACIFIC COMPANY

January 22, 1942.

Accident at Selma, Calif., on November 20, 1941, caused by
train fouling main track immediately in front of an
overdue superior train, as result of failure properly
to observe location of clearance point.

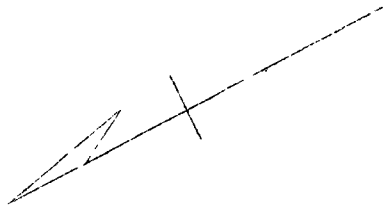
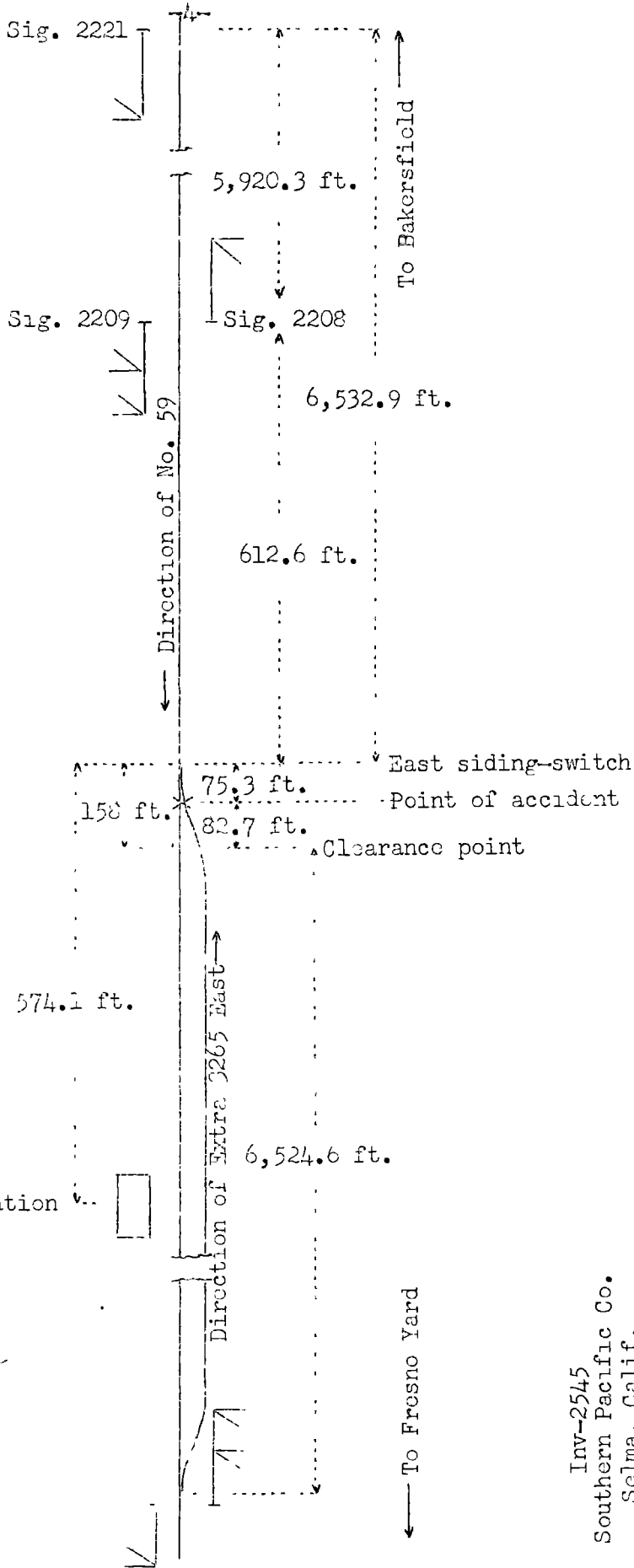
REPORT OF THE COMMISSION¹

PATTERSON, Commissioner:

On November 20, 1941, there was a side collision between
a freight train and a passenger train on the line of the
Southern Pacific Company at Selma, Calif., which resulted in
the injury of 49 passengers and 3 employees. This accident
was investigated in conjunction with representatives of the
Railroad Commission of California.

¹Under authority of section 17(2) of the Interstate Commerce
Act the above-entitled proceeding was referred by the Commis-
sion to Commissioner Patterson for consideration and dis-
position.

- o Bakersfield, Calif. 62.9 mi.
- o Tulare 0.3 mi.
- o Tulare Tower 24.1 mi.
- o Kingsburg 4.9 mi.
- X Point of accident
- o Selma 11.6 mi.
- o Calwa Tower 7.3 mi.
- o Fresno Yard, Calif.



Inv-2545
 Southern Pacific Co.
 Selma, Calif.
 November 20, 1941

Location of Accident and Method of Operation

This accident occurred on that part of the Fresno Sub-division of the San Joaquin Division which extends between Fresno Yard and Bakersfield, Calif., a distance of 111.1 miles. In the vicinity of the point of accident this is a single-track line over which trains are operated by timetable, train orders and an automatic block-signal system. At Selma a siding 6,524.6 feet in length parallels the main track on the south. The east siding-switch is 574.1 feet east of the station. The clearance point at the east end of the siding is 158 feet west of the switch and is indicated by a mark painted on the rail. The accident occurred at a point 82.7 feet east of the clearance point and 75.3 feet west of the east siding-switch. As the point of accident is approached from either direction the track is tangent a distance of more than 4 miles. The grade for east-bound trains is 0.075 percent descending a distance of 3,448 feet to the point of accident and 4,351 feet beyond. The switch stand at the east siding-switch is located approximately 6 feet 6 inches south of the south rail of the main track. The spindle is equipped with one disc target. When this switch is lined for through movement on the main track the target is not visible from the engine of a train approaching from either direction. The switch stand is not provided with a switch lamp.

Automatic signal 2208, governing eastward movements, is located 612.6 feet east of the east siding-switch. Automatic signals 2221 and 2209, governing westward movements, are located, respectively, 6,532.9 and 612.6 feet east of the east siding-switch. Signals 2208 and 2221 are of the 1-arm, lower quadrant, semaphore type. Signal 2209 is of the 2-arm, lower quadrant, semaphore type. These three signals are approach lighted. The involved night aspects and the corresponding indications and names of these signals are as follows:

<u>Signal</u>	<u>Aspect</u>	<u>Indication</u>
2208	Red	Stop
2221	Green	Proceed
2209	Green-over-green	Proceed
	Red-over-yellow	Stop

The control circuits are so arranged that when a train or an engine moving eastward on the siding reaches the clearance point signal 2221 will display a yellow aspect and signal 2209 will display a red-over-yellow aspect. When a west-bound train reaches the approach circuit, which extends to a point 13,789 feet east of signal 2221, signal 2208 will display a red aspect.

Operating rules read in part as follows:

17. The headlight on engine will be displayed to the front of every train by night * * *. It must be extinguished when train has stopped clear of main track * * *.

* * *

S-17. Until the headlight of a train turned out to meet another is extinguished, it is an indication that main track is obstructed. The opposing train must approach with caution, * * *.

86. CLEARANCE OF TRAINS WITHIN BLOCK SYSTEM LIMITS:

(a) At meeting points the inferior train must clear the main track before the leaving time of the superior train.

* * *

105. Trains entering a siding or other track, when practicable, must not stop until clear of the main track, and in using siding must proceed with caution.

Where trains are to be met or passed, trains taking siding after clearing main track will provide adequate clearance to fouling points, consistent with operating conditions.

* * *

DEFINITIONS

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With Caution--To run at reduced speed, according to conditions, prepared to stop short of a train, engine, car, misplaced switch, derail, or other obstruction, or before reaching a stop signal. * * *

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Time-table instructions provide that between 11 p.m. and 5 a.m. the maximum authorized speed for passenger trains through the city limits of Selma is 45 miles per hour. The accident occurred within the city limits, at a point 2,901 feet west of the eastern limit.

Description of Accident

Extra 3265 East, an east-bound freight train, consisted of engine 3265, 70 loaded and 3 empty cars and a caboose. At Fresno Yard, 18.9 miles west of Selma, a terminal air-brake test was conducted and the brakes functioned properly. This train departed from Fresno Yard at 2:50 a.m., according to the dispatcher's record of movement of trains. At Calwa Tower, 11.6 miles west of Selma, the crew received copies of train order No. 19, which read as follows:

No 59 wait at Kingsburg until three fifty five 355 am Selma three fifty nine 359 am for Extra 3265 East

Extra 3265 departed from Calwa Tower at 3:32 a.m., entered the siding at Selma and cleared the main track about 3:56 a.m., according to the statements of the crew. This train continued to move eastward on the siding at an estimated speed of 4 to 8 miles per hour and when the engine entered the turnout at the east end of the siding the train was stopped. The front of the engine fouled the main track and an attempt was being made to back the train into clear when the engine was struck by No. 59. There was no condition of the engine of this train that distracted the attention of the crew or obscured their vision.

No. 59, a west-bound first-class passenger train, consisted of engine 4323, four baggage cars, one Pullman tourist car, four coaches, two Pullman tourist cars, one dining car, one lounge car, and four Pullman sleeping cars, in the order named. All cars were of steel construction. After a terminal air-brake test was made this train departed from Bakersfield, 92.2 miles east of Selma, at 2:17 a.m., according to the dispatcher's record of movement of trains, 42 minutes late. At Tulare Tower, 29 miles east of Selma, the crew received copies of train order No. 19, previously quoted. No. 59 departed from Tulare Tower at 3:32 a.m., 35 minutes late, and passed Kingsburg, 4.9 miles east of Selma and the last open office, at 3:58 a.m., 31 minutes late. This train passed signal 2221, which displayed a proceed indication. When the engine reached a point about 500 feet east of signal 2209, the indication of this signal changed from proceed to stop. No. 59 passed signal 2209 and while moving at an estimated speed of 25 miles per hour it struck Extra 3265.

The left end of the pilot beam of engine 4323 struck the left end of the pilot beam of engine 3265. The force of the impact moved engine 3265 backward a distance of 6 feet 3 inches. This engine and its tender were derailed and stopped upright and in line with the turnout. The pilot, the pilot beam and the front-end deck-casting were demolished. The engine truck,

the left cylinder, the smokebox and the trailer frame were damaged. The first car of Extra 3265 was slightly damaged. The second and third cars were derailed to the left and stopped upright. Engine 4323 and its tender, remaining coupled, were derailed to the north of the main track and stopped upright. The front end of the engine was 60 feet west of the point of collision and 20 feet north of the north rail, and the rear end was over the north rail. The pilot, the pilot beam and the engine truck were demolished. The left cylinder and the valve chamber were broken off. The right front corner of the tender telescoped the right side of the engine cab. The front truck of the first car was derailed to the north and this car was slightly damaged.

The weather was clear at the time of the accident, which occurred about 4:04 a.m.

The employees injured were the engineer, the fireman and the flagman of No. 59.

Discussion

The rules governing operation on the line involved provide that when a train enters a siding it must proceed with caution and be prepared to stop short of anything that may require a train to be stopped. In addition, when trains are to be met or passed, adequate clearance at fouling points must be provided. All the employees involved understood these requirements.

Extra 3265 East entered the siding at Selma to clear for No. 59, which was an opposing superior train. Extra 3265 consisted of 73 cars and a caboose and the capacity of the siding was 125 cars, based on an average of 49 feet per car. Extra 3265 was moving eastward on the siding at a speed of about 8 miles per hour. The engineer and the fireman were on their respective sides of the cab and the front brakeman was on top of the tender. The fireman and the front brakeman were maintaining a lookout toward the rear for signals and both were depending on the engineer to observe conditions ahead. The engineer stated that when the rear of his train was clear of the main track he applied the independent brake, and the speed was reduced to about 3 or 4 miles per hour. The headlight switch was on the fireman's side of the engine cab, and the engineer instructed the fireman to extinguish the headlight. The engineer understood the provisions of the rules requiring that the headlight must be displayed unless the train using the siding was stopped clear of the main track. The fireman did not understand these requirements and he complied with the engineer's instruction. It was the engineer's intention that

his train proceed at a slow rate of speed so that after No. 59 passed the east siding-switch, his train could enter the main track without stopping. He thought the siding extended eastward to a point near the location of signal 2208 and for this reason he was not looking for the clearance mark on the rail, which could not be seen unless he stood and leaned far out the side cab window. No. 59 was approaching and the reflection of the headlight on the engine of that train prevented him from observing the switch stand at the east siding-switch. He first became aware of the actual location of the clearance point when his engine entered the turnout and he immediately moved the brake valve to emergency position and instructed the fireman to turn on the headlight. He gave the front brakeman a red lantern and instructed him to flag No. 59. When the train stopped, his engine fouled the main track and he was attempting to back the train into clear when the engine was struck by No. 59. In his opinion, if a distinctive sign to indicate the clearance point had been provided or if the switch stand had been provided with a lighted switch lamp he would have been aware of the location of the clearance point.

Signal 2221 displayed a proceed indication and No. 59 was moving at a speed of about 45 miles per hour when it passed this signal. The engineer was observing the headlight of Extra 3265 and when it was extinguished he concluded that this train had stopped clear of the main track. When the engine of No. 59 reached a point about 500 feet east of signal 2209, the engineer observed simultaneously that the indication of this signal changed from proceed to stop and a member of the crew of Extra 3265 was giving stop signals with a red lantern near the east siding-switch. The engineer of No. 59 immediately moved the brake valve to emergency position but the distance was not sufficient to stop short of Extra 3265.

Had the clearance point at the east end of the siding been provided with a distinctive sign to indicate the fouling point or had the switch stand been provided with a lighted switch lamp, it is probable that the engineer of Extra 3265 would have been aware of his location with respect to the clearance point and would have controlled the speed of his train to stop short of the fouling point, and this accident would have been averted. Had the headlight of Extra 3265 been kept lighted until this train stopped on the siding and clear of the main track it is probable this accident would not have occurred.

Cause

It is found that this accident was caused by a train fouling the main track immediately in front of an overdue superior train, as a result of failure properly to observe location of clearance point.

Dated at Washington, D.C., this twenty-second day of January, 1942.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,
Secretary.