

INTERSTATE COMMERCE COMMISSION
WASHINGTON

REPORT NO. 3490
SOUTHERN PACIFIC COMPANY
IN RE ACCIDENT
AT GUADALUPE, CALIF., ON
OCTOBER 21, 1952

SUMMARY

Date: October 21, 1952

Railroad: Southern Pacific

Location: Guadalupe, Calif.

Kind of accident: Side collision

Trains involved: Freight : Freight

Train numbers: Extra 4248 West : 913

Engine numbers: 4248 : Diesel-electric
units 6387,
8217 and 6386

Consists: 82 cars, caboose : 69 cars, caboose

Estimated speeds: 1 m. p. h. in : 33 m. p. h.
backward motion

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

Track: Single; tangent; 0.44 percent
ascending grade westward

Weather: Clear

Time: 9:10 p. m.

Casualties: 11 injured

Cause: Train fouling main track immediately
in front of following train

INTERSTATE COMMERCE COMMISSION

REPORT NO. 3490

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

SOUTHERN PACIFIC COMPANY

December 15, 1952

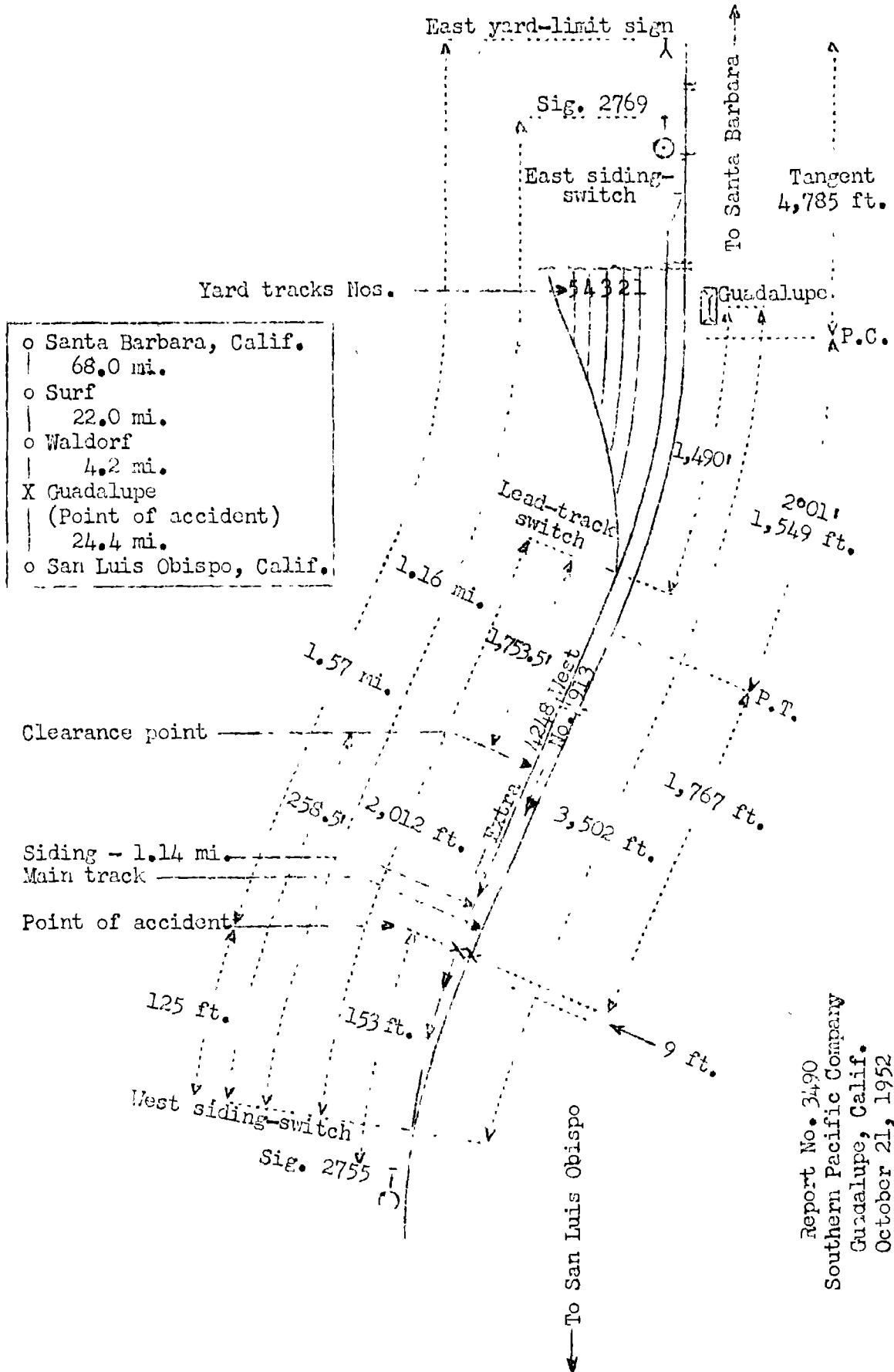
Accident at Guadalupe, Calif., on October 21, 1952, caused
by a train fouling the main track immediately in front
of a following train.

REPORT OF THE COMMISSION¹

PATTERSON, Commissioner:

On October 21, 1952, there was a side collision between two freight trains on the line of the Southern Pacific Company at Guadalupe, Calif., which resulted in the injury of five train-service employees and six other persons. This accident was investigated in conjunction with a representative of the Public Utilities Commission of California.

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.



Report No. 3490
 Southern Pacific Company
 Guadalupe, Calif.
 October 21, 1952

Location of Accident and Method of Operation

This accident occurred on that part of the Coast Division extending between Santa Barbara and San Luis Obispo, 118.6 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 Guadalupe, 94.2 miles west of Santa Barbara, a siding 1.14 miles in length parallels the main track on the north. The west switch of the siding is 3,502 feet west of the station. Five yard tracks, designated from south to north consecutively as yard tracks No. 1 to No. 5, parallel the siding on the north. A lead track connects the west ends of the yard tracks with the siding. The lead-track switch, which is trailing-point for west-bound movements on the siding, is located 1,490 feet west of the station and 2,012 feet east of the west siding-switch. The accident occurred within yard limits at the fouling point of the siding, 1.57 miles west of the east yard-limit sign and 125 feet east of the west siding-switch. From the east there are, in succession, a tangent 4,785 feet in length, a 2°01' curve to the right 1,549 feet and a tangent 1,767 feet to the point of accident and 9 feet westward. The grade is 0.44 percent ascending westward at the point of accident.

Automatic signals 2769 and 2755, governing west-bound movements on the main track, are located, respectively, 1.16 miles east and 153 feet west of the point of accident. These signals are of the searchlight type and each displays three aspects. They are approach lighted. The aspect applicable to this investigation and the corresponding indication and name are as follows:

<u>Signal</u>	<u>Indication</u>	<u>Name and Aspect</u>
2769)	PROCEED	BLOCK SIGNAL GREEN
2755)		

The controlling circuits are so arranged that when the blocks of signals 2769 and 2755 are unoccupied and the next westward signal displays an aspect more favorable than Stop, these signals indicate Proceed. When a train occupies any portion of the block of signal 2769, including occupancy of the turnout at the west end of the siding, signal 2769 indicates Stop. The shunt fouling circuit on the siding extends to a point 258.7 feet east of the west siding-switch. The approach lighting circuit of signal 2755 extends a distance of 4.11 miles east of the signal.

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

81. A main track must not be occupied without authority, and must not be fouled until by observation, signal indication, block indicator indication, or protection by flagman, the engineer or conductor, as the case may be, is assured that it is safe to do so.

93. Within yard limits engines may use main track without train-order authority, clearing or protecting against first-class trains; protection against second and inferior class trains, extra trains and engines is not required within yard limits.

Second and inferior class trains, extra trains and engines must move with caution on main track within yard limits unless track is known to be clear by signal indication.

* * *

513. Before a train or engine fouls a main track and before the main track switch is thrown it must be known by observance of signal, block indicator or view of the track for entire length of the block that there is no train or engine that may be moving toward the switch within or closely approaching the block to be occupied, unless protection by flagman is provided in the direction or directions necessary, to safeguard the movement. The engineer or conductor, as the case may be, at the fouling point must know that such protection by flagman has been provided.

The maximum authorized speed for the trains involved in the vicinity of the point of accident was 40 miles per hour.

Description of Accident

Extra 4248 West, a west-bound freight train, consisted of engine 4248, 12 cars and a caboose. This train departed from Surf, 26.2 miles east of the point of accident, at 4:33 p. m., entered the siding at Guadalupe and stopped clear of the main track about 7:10 p. m. The rear portion of the train was detached on the siding and switching service was performed. About 2 hours later the engine and a cut of 41 cars, the rear cars of which were on yard track No. 1, were

moved westward on the lead track and the siding to double over and to couple to 41 cars previously assembled on the siding, to complete the train. When the rear car of the cut was closely approaching the lead-track switch, the engine fouled the main track at the west end of the siding. The westward movement was stopped and a reverse movement was immediately started. The engine and the cut of cars had moved eastward only a few feet when the engine was struck by No. 913.

No. 913, a west-bound third-class freight train, consisted of Diesel-electric units 6387, 8217 and 6386, coupled in multiple-unit control, 69 cars and a caboose. This train departed from Surf at 6:42 p. m., 3 hours 5 minutes late, passed the east yard-limit sign at Guadalupe, passed signal 2769, which indicated Proceed, passed the station, where copies of two train orders were delivered to the crew, and while moving at a speed of 33 miles per hour it collided with the engine of Extra 4248 West at the fouling point at the west end of the siding.

Engine 4248 was derailed on the turnout and stopped with the front end about 50 feet east of the west siding-switch. It leaned toward the north at an angle of about 15 degrees. The tender and the front truck of the first car were derailed and stopped upright and in line with the track. The engine was considerably damaged and the first, sixth and seventh cars were somewhat damaged. The Diesel-electric units of No. 913, the first car, the front truck of the second car, the front truck of the seventh car and all trucks of the eighth to the twelfth cars, inclusive, were derailed. The first Diesel-electric unit stopped on its left side, with the front end 110 feet west of the point of collision and 7 feet south of the track. The rear end of the unit was 42 feet south of the track. The second Diesel-electric unit stopped upright, with the front end against the rear of the first unit and the rear end on the track structure and against the south side of engine 4248. The third Diesel-electric unit stopped with the front end against the rear of the second unit and the side of engine 4248. Oil from the derailed equipment became ignited and the Diesel-electric units, which were badly damaged in the collision, were further damaged by fire. The derailed cars stopped in various positions on or near the track. The ninth to the twelfth cars, inclusive, were considerably damaged and the other derailed cars were somewhat damaged. Two houses on the south side of the track were damaged by derailed equipment.

The engineer, the fireman, the conductor, the front brakeman and the swing brakeman of No. 913 were injured.

The weather was clear at the time of the accident, which occurred about 9:10 p. m.

Engine 4248 is of the 4-8-8-2 single-expansion, articulated; cab-in-front type. The tender is rectangular in shape and is equipped with two six-wheel trucks. Its capacity is 6,400 gallons of oil and 21,900 gallons of water. The total length of the engine and tender, coupled, is 113 feet 5-1/2 inches.

Discussion

On the day of the accident Extra 4248 West entered the siding at Guadalupe at the east siding-switch and stopped clear of the main track about 7:10 p. m. The flagman said that before he alighted from the caboose he observed that the markers were lighted and turned them to display green to the rear. The caboose and the rear three cars were detached on the siding east of the station. Switching service was performed, then the engine moved to the west end of the siding and the members of the crew received permission to take their lunch period. When they resumed duty First 916, an east-bound second-class freight train, was occupying the main track in the vicinity of the station. They received instructions that cars which were on yard tracks Nos. 1, 4, and 5 were to be assembled for movement in their train. Because a switch list had not been prepared the number of cars which were to be added to the train could not be determined. The swing brakeman said that he gave the flagman a list which contained only the number and designation of the rear car on each track that was to be added to their train. The flagman observed that the cars to be moved had been separated from other cars on each track, and he then proceeded eastward to make the coupling at the forward end of the rear portion of the train. The engine moved to the yard tracks and cars which were to be added to the train were assembled with the rear end of the cut of cars on yard track No. 1. It was then necessary to move the cut, which consisted of 41 cars, westward a sufficient distance to clear the lead-track switch before making a reverse movement on the siding to couple to the rear portion of the train. This movement would have completed the work of Extra 4248 West at Guadalupe. The conductor said that soon after the movements on the yard tracks began he proceeded to the station. He said that the train-order signal had indicated Stop when his train arrived, and it was

necessary to obtain a clearance and train-order authority to proceed against opposing superior trains before his train could depart. He thought it would require about 30 minutes to obtain the waybills for the cars which had been added to the train and to deliver to the engineer his copies of train orders that would be issued. He heard the operator inform the train dispatcher that No. 913 was approaching and observed it pass the station. He said he was not aware that the engine of his train had fouled the main track until the accident had occurred.

The swing brakeman remained in the vicinity of the lead-track switch, 1,753 feet east of the fouling point, when the engine and the cut of cars moved westward on the siding. He said before the movements on the yard tracks began he had inquired of the operator if there were any trains approaching Guadalupe and had received information that there were none. He thought the movements to assemble the train on the siding could be completed without fouling the main track. When he observed the rear car of the cut closely approaching the lead-track switch he gave reduce-speed signals and then gave proceed signals to indicate that the distance to the switch was short. He continued to give proceed signals. He said that he expected the engineer to proceed as far as possible on the siding but to stop the movement short of the fouling point. He was not aware that the engine had fouled the main track until the locomotive of No. 913 had passed and he heard the brakes of that train being applied in emergency. He thought that the movement of the cut of cars was reversed and the cars had moved a few feet eastward immediately before the accident occurred. Because of track curvature the front brakeman stationed himself in the vicinity of the eighteenth car to relay signals from the swing brakeman to the engineer. He said before the movement began he observed that signal 2755, immediately west of the west siding-switch, was not lighted. His view of the signal later was obscured by the cut of cars and when the engine entered the turnout the engineer passed from his view. He said that when he heard No. 913 approaching he did not know the engine had fouled the main track and he did not give stop signals to the approaching train.

As engine 4248 was approaching the turnout at the west end of the siding the enginemen were in their respective positions in the cab at the front end of the engine. The engineer was looking toward the rear for signals from the brakeman and the fireman was maintaining a lookout ahead.

The engineer said he observed that signal 2755 was not lighted before the westward movement began and this indicated to him that its approach circuit was unoccupied. When the engine entered the turnout he was unable to see the signals of the brakemen, and the movement was stopped. He informed the fireman that he was unable to see the signals. The fireman alighted from the engine and informed the engineer orally that proceed signals were being given, and the westward movement was resumed. The engineer said he then observed that signal 2755 was lighted and indicated Proceed but he thought it resulted from his engine entering the shunt fouling circuit at the west end of the siding. The fireman said he had observed that signal 2755 was lighted but thought First 916, which occupied the main track when his crew had returned from their lunch period, was still in its approach circuit. After he alighted from the engine he heard the sound of an approaching train. He crossed the siding in front of his engine and observed No. 913 closely approaching. He called a warning and the engineer immediately moved the reverse lever to position for backward movement and opened the throttle in an effort to back the movement clear of the main track. The engine and the cut of cars had started to move eastward immediately before the collision occurred.

As No. 913 was approaching the point where the accident occurred the enginemen and the front brakeman were maintaining a lookout ahead from their respective positions in the control compartment at the front of the locomotive. The swing brakeman was in the rear unit of the locomotive and the conductor and the flagman were in the caboose. The brakes of this train had been tested and had functioned properly when used en route. The headlight was lighted brightly. Signal 2739 at the east end of the yard indicated Proceed and the train-order signal indicated Stop for orders. The indications were called by members of the crew in the control compartment of the locomotive. The train orders which had been placed on a delivery post were picked up by the fireman and handed to the engineer as the locomotive passed the station. The engineer immediately began to read the train orders. The front brakeman said signal 2755 indicated Proceed and the indication was called. When he observed that the engine on the siding had fouled the main track he called a warning. The engineer immediately made an emergency application of the brakes. The speed was reduced to 33 miles per hour at the point of collision as indicated by the tape of the speed-recording device.

The rules of this carrier provide that a main track must not be fouled by a train or engine until the engineer or conductor is assured by observation, signal indication, block indicator indication or protection by flagman, that it is safe to do so. Before a train or engine fouls a main track in automatic block-signal territory it must be known that there is no train or engine that may be moving toward the switch within or closely approaching the block to be occupied, unless protection by flagman is provided for the movement. The engineer or conductor must know that such protection has been provided.

The distance between the lead-track switch and the clearance point at the west end of the siding is 1,753.5 feet. The overall length of engine 4248 and the cut of 41 cars was 1,987 feet. None of the members of the crew of Extra 4248 West except the engineer and the fireman were aware when the movement was stopped that the engine had fouled the main track. There is no block indicator at the west end of the siding and the clearance point is not marked. Lamp signals to proceed were given after the engine entered the turnout. Apparently No. 913 passed signal 2769 before the engine of Extra 4248 West entered the shunt fouling circuit at the west end of the siding. The signal system was tested after the accident occurred and no defective condition was found. Under the conditions present, the crew of Extra 4248 West was required to provide protection by flagman before fouling the main track.

Cause

It is found that this accident was caused by a train fouling the main track immediately in front of a following train.

Dated at Washington, D. C., this fifteenth day of December, 1952.

By the Commission, Commissioner Patterson.

(SEAL)

GEORGE W. LAIRD,
Acting Secretary.