

INTERSTATE COMMERCE COMMISSION
WASHINGTON

REPORT OF THE DIRECTOR
BUREAU OF SAFETY

ACCIDENT ON THE
SOUTHERN PACIFIC RAILROAD

MORLEY, CALIF.

DECEMBER 15, 1939

INVESTIGATION NO. 2397

SUMMARY

Inv-2397

Railroad: Southern Pacific
Date: December 15, 1939
Location: Morley, Calif.
Kind of accident: Rear-end collision
Trains involved: Freight : Freight
Train numbers: Extra 4042 : Fourth 670
Engine numbers: 4042 : 4152
Consist: : 34 cars and caboose
Speed: Standing : 25 m. p. h.
Operation: Timetable, train orders and automatic
block system
Track: Tangent; 0.531 percent ascending grade
Weather: Cloudy; dark
Time: 5:35 p. m.
Casualties: 2 killed and 1 injured
Cause: Engine 4042 occupying main track with-
out authority and without flag pro-
tection

January 27, 1940.

To the Commission:

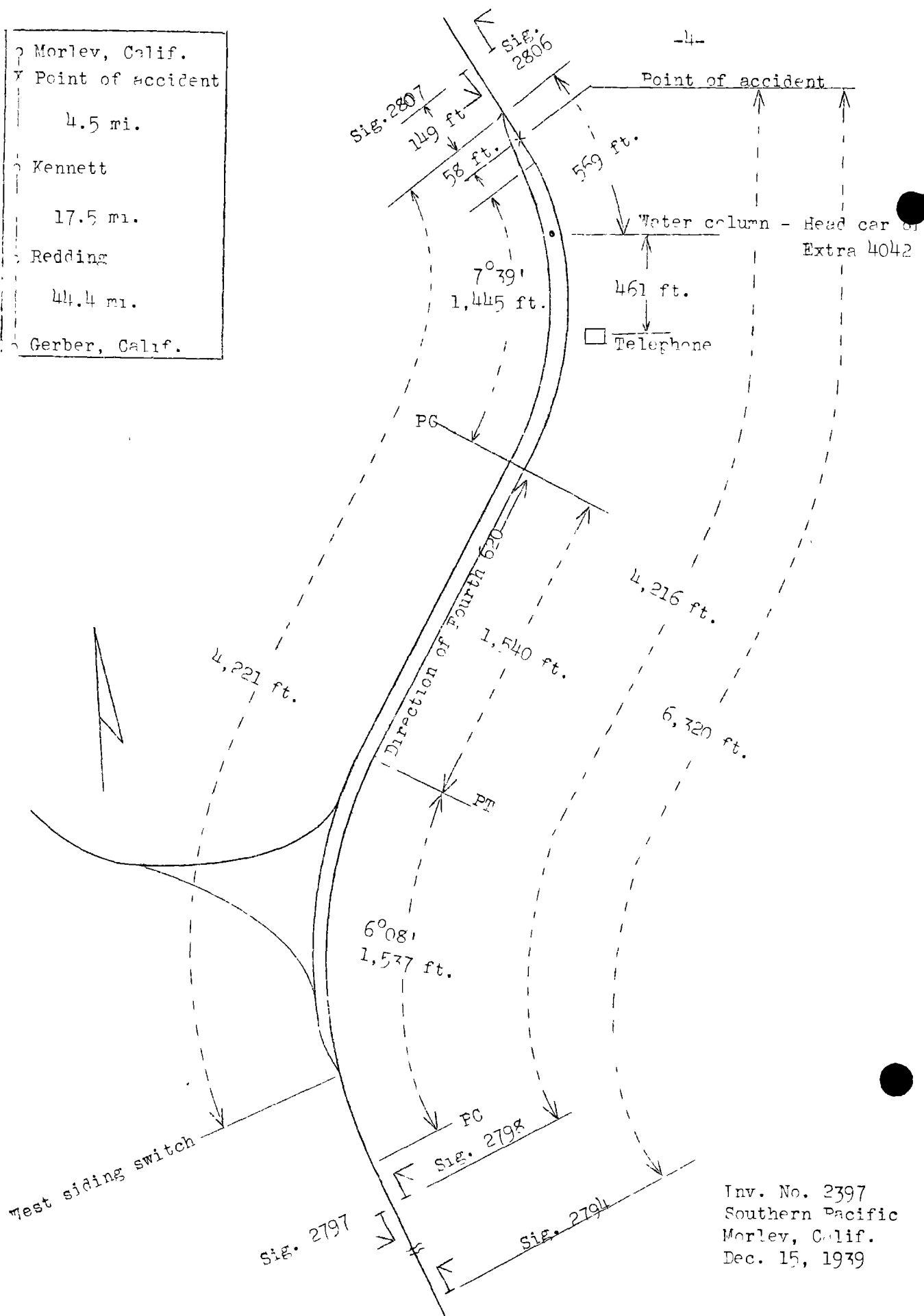
On December 15, 1939, there was a rear-end collision between an engine and a freight train on the Southern Pacific Railroad at Morley, Calif., which resulted in the death of two employees and the injury of one employee.

Location and Method of Operation

This accident occurred on that part of the Sacramento Division designated as the Redding Subdivision which extends between Collier and Dunsmuir, Calif., a distance of 108.3 miles. This is a single-track line over which trains are operated by timetable, train orders and an automatic block system. At Morley a siding 4,221 feet in length parallels the main track on the north; the accident occurred on the main track at a point 58 feet west of the east switch of this siding. Approaching this point from the west there are, in succession, a compound curve to the right a distance of 1,537 feet with a maximum curvature of 6°38', a tangent 1,540 feet in length, a compound curve to the left a distance of 1,445 feet with a maximum curvature of 7°39', and a tangent extending 19 feet to the point of accident and a considerable distance beyond. The grade varies between 0.38 percent and 0.531 percent, ascending eastward, a distance of 2,542 feet to the point of accident and some distance beyond, and is 0.531 percent at the point of accident. The tracks are laid on a hillside cut; an embankment to the north rises at an angle of about 45 degrees to a height of approximately 90 feet. Because of track curvature and the embankment, the view had by a fireman of an eastbound train approaching the scene of accident is restricted to a distance of about 300 feet.

Distant signal 2794 and home signal 2793, governing eastward movements, are located 6,320 and 1,216 feet, respectively, west of the point of accident. Home signals 2806 and 2807, governing eastward and westward movements, respectively, are located on opposite sides of the main track 149 feet east of the east siding-switch. These signals are one-arm, lower quadrant, semaphore signals, approach-lighted; their aspects and indications are as follows:

?	Morley, Calif.
Y	Point of accident
	4.5 mi.
o	Kennett
	17.5 mi.
o	Redding
	44.4 mi.
o	Gerber, Calif.



Inv. No. 2397
 Southern Pacific
 Morley, Calif.
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Home signal:

Aspect	Indication
Red-----	Stop
Green-----	Proceed

Distant signal:

Aspect	Indication
Yellow-----	Proceed prepared to stop at next home signal
Green-----	Proceed

The control circuits are so arranged that when either the main track between signals 2807 and 2798 is occupied, or the east switch of the siding is open, the latter signal displays a red aspect. When signal 2798 displays a red aspect signal 2794 displays a yellow aspect. When an eastward train passes signal 2794, signal 2807 displays a red aspect.

Rule 99 of the operating rules reads in part:

* * *

The front of the train must be protected * * *, when necessary, by the brakeman; if not available, the fireman.

* * *

Before a train fouls the main track in pulling out of a siding or other track, flagman must, if necessary, go back with stop signals a sufficient distance to provide necessary protection.

* * *

Rule 505 reads in part:

Block signals govern the use of the blocks, but unless otherwise provided, do not * * * dispense with the use or the observance of other signals whenever and wherever they may be required.

Rule 843 reads in part:

The general direction and government of a train is vested in the conductor, and all other persons employed on the train will obey his instructions. Should there be any doubt

as to authority or safety of proceeding he will consult the engineer, who will be responsible with him for the safety and the proper handling of the train and such use of signals and other precautions as circumstances may require. * * *

A note in the book of operating rules reads in part:

Note.-Where the term "train" * * * appears in these rules in connection with speed restrictions or the observance of signals * * * it also applies to engines.
* * *

The maximum authorized speed for the trains involved is 25 miles per hour.

It was dark and the weather was cloudy at the time of the accident, which occurred at 5:35 p. m.

Description

Extra 2042, an eastbound freight train, with Conductor de la Montanya and Engineman Tolman in charge, consisted of engine 4042, 15 empty cars, and a caboose. This train departed from Gerber, 60.4 miles west of Morley, at 1:15 p. m., according to the train sheet, where the crew received order No. 248, reading in part:

Eng 4042 run extra Gerber to Morley
train run extra Morley to Kennett * * *

At Redding, 23 miles west of Morley, the crew received order No. 257 reading:

Fourth 620 run six 6 hours fifteen
15 cars late Gerber to Delta

and a message reading:

Kennett siding occupied. Do not delay
Fourth 620.

This train departed from Redding at 4:20 p. m., passed Kennett, 4.5 miles west of Morley, at 5:05 p. m., and stopped in the siding at Morley at 5:18 p. m. Soon afterward the engine was uncoupled and moved through the east switch to the main track, and a reverse movement had just been started when it was struck by Fourth 620.

Fourth 620, an eastbound second-class freight train, with Conductor Murphy and Engineman Spellman in charge, consisted of engine 4152, 31 loaded and 33 empty cars, and a caboose. This train departed from Gerber at 3 p. m., according to the train sheet, 6 hours 15 minutes late, where the crew received order No. 257, previously quoted, passed Kenroctt at 5:22 p. m., 6 hours 27 minutes late, passed signals 2794 and 2798, which displayed proceed indications, and, while moving at a speed estimated to have been 25 miles per hour, collided with engine 4042.

The engine of Fourth 620 stopped approximately 226 feet east of the point of impact. Both engines were damaged to a considerable extent; the tender of engine 4042 was derailed. The second and third cars of Fourth 620 were damaged and derailed, the fourth car was slightly damaged.

The employees killed were the engineman and the front brakeman of Fourth 620 and the employee injured was the fireman of Fourth 620.

Summary of Evidence

Engineman Toleman, of Extra 4042, stated that the air brakes functioned properly en route and approaching Morley the headlight was burning. He received and understood orders Nos. 248 and 257. He had a message containing instructions not to delay Fourth 620. He was aware that No. 639, an opposing third-class train, was due to leave Morley at 5:16 p. m. and he understood his train, according to the rules, could not occupy the main track at Morley except under flag protection. Approaching the west switch of the siding at Morley he observed that signals 2794 and 2798 were displaying proceed indications. His train entered the siding at 5:15 p. m., cleared the west switch at 5:17 p. m. and stopped at 5:18 p. m. with the engine opposite the water column located 569 feet west of the east siding-switch. The conductor, who was on the engine, informed him that he would go to the telephone, located to the south of the track, 461 feet west of the water column, and secure information regarding Fourth 620; the engineman requested him to ask about No. 639 also. The conductor did not return to the engine; the engineman instructed the front brakeman to go forward and observe the indications of signals 2806 and 2807; he informed the brakeman that he intended to make a westward movement on the main track and go to the Y to turn the engine. He did not see the brakeman go forward but when the switch was lined for the main track the fireman, who had returned to the engine cab after filling the tank with water, relayed a signal from the brakeman to move the

engine forward. After the forward movement had been started, the engineman could see signal 2806, which he stated was displaying a proceed indication. He did not observe the indication of signal 2807. The engine had entered the main track and a reverse movement had just been started when the fireman called, "Hold them;" the engineman immediately applied the air brakes in emergency and the engine had practically stopped when the collision occurred. He stated that he did not signal for flag protection but depended on signal indications for protection while occupying the main track; this had been the practice under similar circumstances.

Fireman Wood, of Extra 4042, stated that after the train had stopped in the siding at Morley, he measured the oil, filled the tank with water, and then returned to the engine cab; while he was doing this the front brakeman had uncoupled the engine from the train. Soon afterward, when the engineman started the engine forward, he thought it was intended to proceed to the clearance point and stop; but when the signals and the east switch came into view he observed that the switch was lined for the main track, the brakeman was signaling to move forward, and the fireman relayed the signal to the engineman. After the engine entered the main track a reverse movement was started, at which time he turned on the rear headlight, then looked out the window and observed Fourth 620 approaching. He called to the engineman, "Hold them;" the engineman applied the air brakes in emergency and the collision occurred almost immediately afterward. He stated that he was aware that No. 639 and Fourth 620 were overdue but he thought the conductor had obtained information regarding those trains and had informed the engineman; however, he did not confer with the engineman with regard to their authority to occupy the main track.

Front Brakeman Holcomb, of Extra 4042, stated that when the train stopped in the siding he was on the cab step on the engineman's side of the engine. The conductor, who was on the engine, got off near the location of the telephone. He asked the conductor whether the flagman had closed the switch at the west end of the siding. The conductor instructed him to go forward to see if the signals at the east end were in clear position. He remained on the engine until it stopped, then walked forward until he could see the signals and observed that both were displaying clear indications at that time. He then returned to the engine and the engineman instructed him to uncouple the engine from the train and informed him that they would move the engine ahead of No. 639 and get into clear at the west end.

He knew that No. 639 and Fourth 620 were overdue but he thought that the engineman had received additional time or information; however, he did not inquire whether they had authority for the engine to occupy the main track. When the engine was moved forward he was on the pilot until within about 20 feet of the switch. He got off, lined the switch for the main track, signaled to back up and, after the engine passed, closed the switch. He intended to get a lantern and protect against No. 639, but as he looked westward he observed the headlight of Fourth 620 and began giving stop signals with his white lantern. It was then too late to avert the accident and the collision occurred about 20 seconds after he first saw Fourth 620.

Conductor de la Montanya, of Extra 4042, stated that he understood the provisions of orders Nos. 248 and 257. His train consisted of 25 empty ballast cars destined for Kennett. At Redding he received a message containing information that Kennett siding was occupied and instructions not to delay Fourth 620. After he talked with the train dispatcher and learned that another train was occupying the siding at Kennett it was decided to handle the cars to Morley and place them at Kennett during the return trip. He was on the engine from Redding to Morley and after conversing with the engineman it was decided to go to Morley for No. 639; it was mentioned that Fourth 620 would be close behind their train. His train entered the siding at Morley at 5:15 p. m. and while the train was moving toward the water column he informed the engineman and the front brakeman that he would get off at the telephone and inquire about No. 639 and Fourth 620. The front brakeman inquired whether the flagman had closed the switch at the west end of the siding, whereupon it occurred to him that the flagman might have left the caboose before it reached the siding, to provide flag protection, which would cause delay to Fourth 620. The conductor had mentioned to the crew on the engine that they would have to stay at Morley for Fourth 620. He left the engine as it approached the telephone booth, called the train dispatcher, and received information that Fourth 620 had passed Kennett at 5:22 p. m. He then went to the caboose, which was around the curve and out of view, to ascertain the position of the switch at the west end of the siding. When he arrived at the caboose he did not see the flagman but he observed that the markers had been turned to display green to the rear, which was an indication to him that the flagman had closed the switch. He then heard Fourth 620 approaching and soon after the engine passed he heard the air brakes become applied in emergency. Thinking that something was wrong, he went to the head end of Fourth 620 and learned of the collision. He stated that he had not instructed any member of the crew to make a movement upon the main track. Although he had not issued instructions and had had no understanding with the engineman and the front brakeman, he understood that they would remain in the siding until Fourth 620 and No. 639 had passed.

Flagman Beale, of Extra 4042, stated that when his train approached Morley siding he did not provide flag protection because he did not consider it necessary. After the train stopped in the siding he changed the position of the caboose markers and then went back about 20 car lengths to a point where he could both observe the indications of the signals at the west end of the siding and when needed be in position to handle the Y switches. He did not anticipate a movement of his engine to the main track until after Fourth 620 had passed. When Fourth 620 was approaching he could see that signals 2794 and 2798 were displaying proceed indications.

Fireman Ahl, of Fourth 620, stated that the engine was in good condition and the air brakes functioned properly en route. He had read and understood the train orders. A stop for water was made at Redding, and after departure he observed that his train was 6 hours 27 minutes late on the schedule. The maximum authorized speed was 25 miles per hour and he estimated that the speed of his train was about 22 miles per hour from Redding to Morley. Approaching Morley siding he observed that signals 2794 and 2798 were displaying proceed indications, which he called to the engineman; also he observed that these signals continued to display proceed indications until his engine passed them. After passing signal 2798 the engineman increased the speed of the train to about 25 miles per hour. He observed that there was a train in the siding and he saw a member of the crew of that train on the caboose platform. Approaching the east end of the curve he saw an engine on the main track about seven or eight car lengths away, near the east switch, at which instant the headlight on the west end of that engine was turned on. He called "Hold them," to the engineman, who immediately applied the brakes in emergency. He realized that it would be impossible for his train to stop before striking the engine, and he jumped, landing on the ground about 6 feet from the point where the collision occurred. The accident occurred at 5:35 p. m. He stated that he did not see either a flagman or a burning fuse, and that no torpedoes were exploded.

Conductor Murphy, of Fourth 620, stated that a terminal air-brake test was made by the train crew at Garber and the brakes functioned properly en route. Approaching Morley he was in the cupola of the caboose. He estimated that the speed of his train was about 25 miles per hour and his first knowledge anything being wrong was when the brakes were applied in emergency just prior to the collision.

The statements of Brakemen Colvig, Wheeler and Reid, of Fourth 620, contained no additional information of importance.

Signal Supervisor Baxter tested the signals in the vicinity of Morley after the accident occurred and found them in proper working order.

Discussion

According to the evidence, engine 4042 was occupying the main track at Morley without authority or flag protection. After his train arrived at Morley the conductor went to the rear of the train because he was concerned about the possibility of the flagman delaying Fourth 620 and he did not give instructions to the members of his crew or supervise the movements of the engine of his train. Although the engineman, the fireman and the front brakeman were familiar with the operating rules, which under the circumstances prohibited their train from occupying the main track except under flag protection, they did not comply with the provisions of the rules. The engineman was depending on signal indications for protection as had been the practice; however, according to his statement he did not observe the stop indication of signal 2807 displayed at the time and after Fourth 620 passed signal 2794, located 6,320 feet west of the point of accident. Engine 4042 was moved from the siding to the main track through the east switch and had just started a reverse movement when it was struck by Fourth 620. The front brakeman and the firemen did not inquire about the authority for occupying the main track as they apparently assumed the conductor had given the engineman information which authorized the movement.

Fourth 620 passed signals 2794 and 2798 prior to the time engine 4042 fouled the main track and according to the evidence these signals were displaying proceed indications when passed by the engine of Fourth 620. The view had by the members of the crew on the engine of Fourth 620 approaching the point of accident was restricted to about 300 feet because of track curvature and the embankment. When engine 4042 was seen by the engine crew of Fourth 620 the brakes were applied in emergency but the distance was not sufficient in which to stop the train in time to avert the collision.

After the accident the signals were tested and found to be functioning properly.

Conclusion

This accident was caused by engine 4042 occupying the main track without authority and without flag protection.

Respectfully submitted,

S. N. MILLS,

Director.