

Inv-2380

INTERSTATE COMMERCE COMMISSION
WASHINGTON

REPORT OF THE DIRECTOR
BUREAU OF SAFETY

ACCIDENT ON THE
SOUTHERN PACIFIC RAILROAD

HASSON, CALIF.

SEPTEMBER 15, 1939

INVESTIGATION NO. 2380

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SUMMARY

Inv-2380

Railroad	Southern Pacific	
Date:	September 15, 1939	
Location:	Hasson, Calif.	
Kind of accident:	Head-end collision	
Trains involved:	Passenger	: Freight
Train numbers:	72	: 373
Engine numbers:	4301	: 4414
Consist:	9 cars	: 32 cars and rider coach
Speed:	Starting a re- verse movement	: 15-23 m.p.h.
Operation:	Timetable, train orders, and automatic block system	
Track:	Single; 4° curve; 0.8 percent descending grade westward	
Weather:	Clear	
Time:	8:48 p.m.	
Casualties:	32 injured	
Cause:	Failure to control speed of train properly when approaching a meeting point.	

November 16, 1939.

To the Commission:

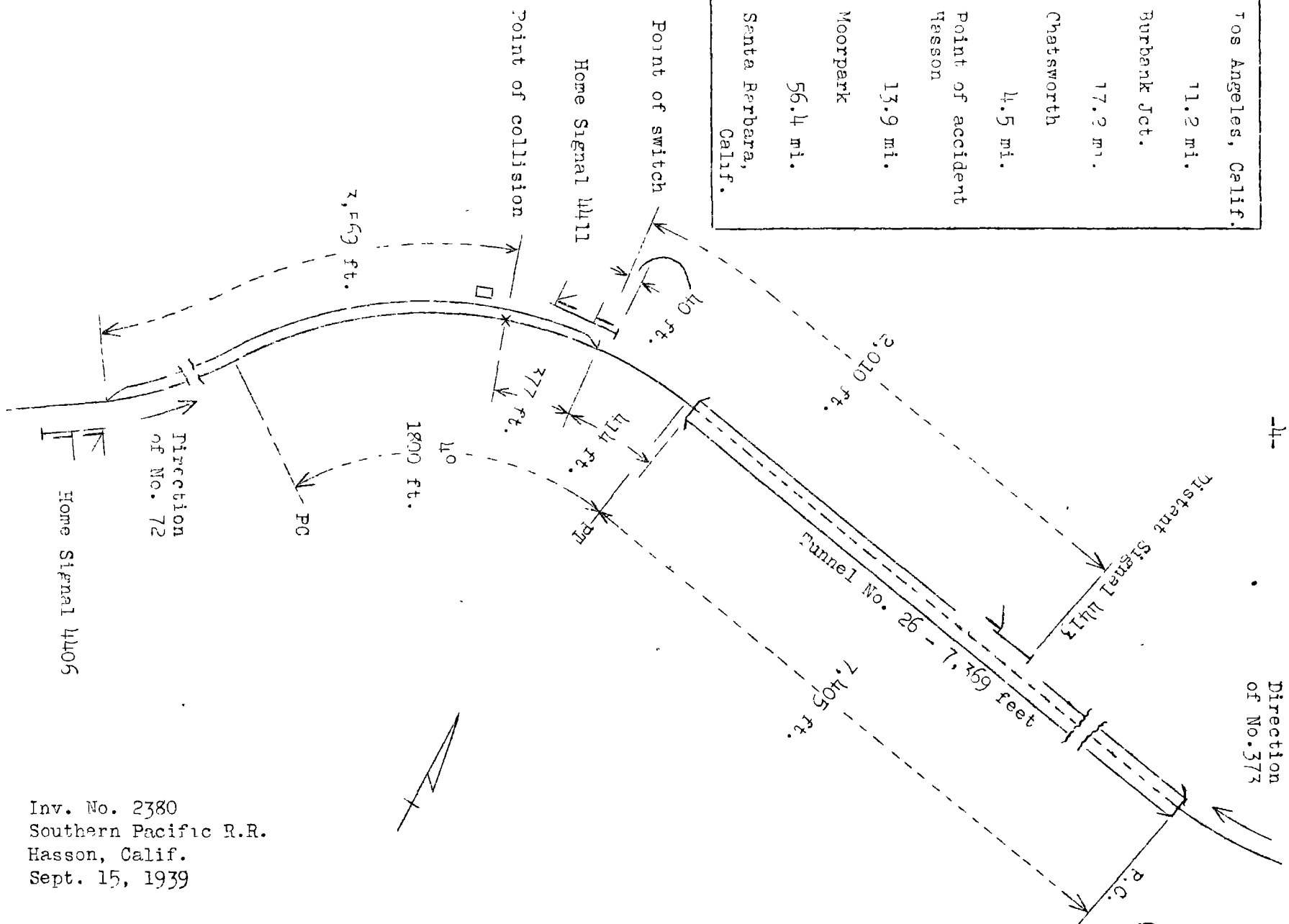
On September 15, 1939, there was a head-end collision between a passenger train and a freight train on the Southern Pacific Railroad at Hasson, Calif., which resulted in the injury of 27 passengers, 2 railway mail clerks, 1 train-service employee, and 2 other employees. The investigation of this accident was made in conjunction with a representative of the Railroad Commission of California.

Location and Method of Operation

This accident occurred on that part of the Los Angeles Division designated as the Ventura Subdivision which extends between Los Angeles and Santa Barbara, Calif., a distance of 103.2 miles. This is a single-track line over which trains are operated by timetable, train orders, and an automatic block system. At Hasson a siding 3,946 feet in length parallels the main track on the north; the accident occurred on the main track at a point 377 feet west of the east switch of this siding. The west portal of Tunnel No. 26 is located 414 feet east of the east siding-switch; this tunnel is 7,369 feet in length. Approaching from the east the track is tangent through the tunnel and a distance of 36 feet beyond, followed by a compound curve with a maximum curvature of 4° to the left 1,800 feet in length; the accident occurred at a point 755 feet from the east end of this curve. Beginning at the east portal of the tunnel the grade for west-bound trains is successively 1.0 percent ascending a distance of 3,974 feet, 0.1 percent descending a distance of 3,432 feet, and then varies from 0.45 to 0.8 percent descending on the 4° curve, being 0.8 percent descending at the point of accident.

Home signal 4411 and distant signal 4413 governing westward movements are located 40.4 and 2,010 feet, respectively, east of the east switch of the siding at Hasson. Signal 4411 is of the 2-arm, lower quadrant, semaphore type, and signal 4413 is of the 2-indication, color-light type. The control circuits are so arranged that when the main track between eastward home signal 4406, located at the west end of the siding, and signal 4411 is occupied the latter signal will display a stop indication. When signal 4411 displays a stop indication signal 4413 displays a yellow aspect, which indicates proceed with caution. The term "with caution" is defined in part as follows:

o	Los Angeles, Calif.	
	11.2 mi.	
o	Burbank Jct.	17.2 mi.
o	Chatsworth	4.5 mi.
x	Point of accident	13.9 mi.
o	Hasson	
o	Moorpark	56.4 mi.
o	Santa Barbara, Calif.	



Inv. No. 2380
 Southern Pacific R.R.
 Hasson, Calif.
 Sept. 15, 1939

"To run at reduced speed, according to conditions, prepared to stop short of a train, * * * or before reaching a stop signal. * * *"

The maximum authorized speed for the trains involved is 40 miles per hour.

West-bound trains are superior to trains of the same class in the opposite direction.

The weather was clear at the time of the accident, which occurred at 8:48 p.m.

Description

No. 72, an east-bound first-class passenger train, consisted of two refrigerator cars, one baggage and mail car, two baggage cars, one chair car, one coach, one dining car, and one Pullman sleeping car, in the order named, hauled by engine 4301, and was in charge of Conductor Lass and Engineman Moore. At Santa Barbara, 70.3 miles west of Hasson, the crew received train order No. 67, reading as follows:

No. 72 meet No. 69 at Strathearn has right over No. 373 East Santa Barbara to Burbank Jct and wait at Hasson until eight forty five 845 PM for No. 373. No. 1 wait at Chatsworth until eight fifty eight 858 PM for No. 72.

At Moorpark, 13.9 miles west of Hasson, the crew received train order No. 79 reading as follows:

No. 72 meet No. 373 at Hasson and has right over No. 1 Moorpark to Chatsworth.

No. 72 left Moorpark, the last open office, at 8:14 p.m., according to the train sheet, 6 minutes late, stopped at Hasson on the main track at 8:47 p.m., and about 1 minute later, immediately after starting to move backward, was struck by No. 373.

No. 373, a west-bound first-class freight train, known as the "Coast Manifest West," consisted of 6 box cars, 1 refrigerator car, 1 baggage car, 24 box cars, and 1 coach which was used as a rider-car for the crew, hauled by engine 4400, and was in charge of Conductor Dreibelbis and Engineman E. J. Man. At Los Angeles, 32.9 miles east of Hasson, the crew received a copy of train order No. 67, and at Burbank Junction, 21.7 miles east of Hasson, they received a copy of train order No.

79, both previously quoted. This train passed Chatsworth, 4.5 miles east of Hasson and the last open office, at 8:41 p.m., according to the train sheet, 14 minutes late, passed signal 4411 displaying a stop indication, and collided with No. 72 while moving at a speed estimated to have been between 15 and 23 miles per hour.

No. 72 stopped approximately 299 feet west of the point of impact. The front end of engine 4301 was slightly damaged. The truck pedestal of the sixth car was damaged. No. 373 stopped about two car lengths east of No. 72. The front end and the frame of engine 4414 were slightly damaged and all driving wheels sustained flat spots ranging from 1 to 2-1/8 inches.

The train-service employee injured was the fireman of No. 373.

Summary of Evidence

Engineman Berkman, of No. 373, stated that a brake-pipe pressure of 90 pounds was being carried and that the air brakes were tested before leaving Los Angeles and functioned properly en route. At Los Angeles he received train order No. 67 giving No. 72 right over his train and at Burbank Junction he received train order No. 79 which provided a meeting point between Nos. 72 and 373 at Hasson. He fully understood both orders and knew that his train was required to take siding at Hasson. Just before entering Tunnel No. 26 a meeting-point signal was sounded from the rear on the train air-signal system, but he did not sound the engine whistle in acknowledgment as the engine had already entered the tunnel. When entering Tunnel No. 26 the speed of his train was 40 miles per hour. When approaching the apex of the grade, approximately half way through the tunnel, he closed the throttle; the speed of his train at that point was 35 miles per hour. He fully realized that the siding switch was only a short distance beyond the west portal of the tunnel, and he was depending upon signal 4413 in the tunnel for a landmark to begin braking. Signal 4413 was displaying a yellow aspect; he made a preliminary brake-pipe reduction at this signal to bunch the slack, then followed it immediately with another reduction; the total of both reductions was 12 pounds. The brakes responded and as soon as the brake-pipe exhaust ceased the speed of the train was retarded. When emerging from the west portal of the tunnel the speed of his train was 20 miles per hour, and, realizing it was too high to stop at the siding switch, he placed the brake valve in emergency position and opened the sanders. Although he had previously applied the brakes in service he believed that the brakes responded to the emergency application. He estimated that the speed of his

train was 10 to 15 miles per hour at the time of the collision. He did not hear the fireman or the head brakeman call any warning to him. He said that he made the emergency application of the brakes before he saw the stop indication displayed by signal 4411. He stated that he had just been assigned to the extra board at Los Angeles on September 8, 1939, and that this was his first trip over the west end of the division since December 21, 1938; however, he was thoroughly familiar with the conditions at Hasson, as he had entered the siding at that point when in charge of west-bound freight trains.

Fireman Burns, of No. 373, stated that he understood that his train was to take siding at Hasson. The air brakes had functioned properly en route. There was nothing unusual about the manner in which the train was being operated. He was on the lookout for signal 4413 but did not see the yellow aspect until they were very near the signal. When passing this signal, having heard the train air-signal whistle sounded, he considered the speed of his train somewhat excessive and called a warning to his engineman, who applied the brakes, and the speed was retarded to some extent. At a point about 300 feet east of the west portal of the tunnel the engineman made an emergency application of the brakes. When emerging from the tunnel, the speed was about 25 miles per hour. He jumped from his engine as it passed the east siding-switch, at which time the speed was about 20 miles per hour. He had made several previous trips on No. 373 and, having had occasion to use the siding at Hasson in meeting No. 72, he was familiar with the procedure at that point.

Front Brakeman Jones, of No. 373, stated that he had read the orders and understood their provisions. While passing through Tunnel No. 26 he was standing in the gangway of the engine, but he did not see signal 4413. After emerging from the tunnel he got down on the gangway steps preparatory to opening the siding switch, at which time the engineman applied the brakes in emergency; the speed at that time was about 25 miles per hour. He remained on the steps until his engine was within two car lengths of No. 72 and then got off, at which time the speed was about 15 miles per hour.

Conductor Dreilbelbis, of No. 373, stated that he understood the provisions of orders Nos. 67 and 79. When approaching Tunnel No. 26, he was in the coach at the rear end of the train. He sounded the meeting-point signal on the train air-signal system, but did not know whether the engineman answered this signal as the engine was then in the tunnel. Because of smoke and gas in the tunnel he did not see either signal 4413 or the car-length markers. There was a run-in of slack, which is usual after a service application of the brakes, and this was closely followed by an emergency application, at which time he was unable

to determine the location. At 8:48 p.m. his train stopped abruptly, with the rear end standing in the tunnel.

Flagman Blewitt, of No. 373, corroborated the statement of his conductor.

Engineman Moore, of No. 72, stated that he had received orders Nos. 67 and 79 and understood that No. 373 was to enter the siding at Hasson to meet No. 72. His train stopped on the main track, clear of the east siding-switch at Hasson, about 8:47 p.m. Shortly thereafter, seeing No. 373 emerging from the tunnel and realizing that its speed was too high to stop at the east switch of the siding, he reversed his engine and had just succeeded in getting his train in backward motion when the collision occurred. After the collision he permitted his train to drift until it stopped about two car lengths west of the point where the engine of No. 373 stopped.

Fireman Todd, of No. 72, corroborated the statement of his engineman; it was his opinion that his train had moved backward about an engine length before the collision occurred.

Conductor Lass, of No. 72, stated that orders Nos. 67 and 79 gave his train the right to hold the main track in meeting No. 373 at Hasson. No. 72 stopped at Hasson at 8:47 p.m. He got off at the head end of the first coach and started forward; he saw No. 373 approaching; and heard the brakes on that train being applied in emergency. His engineman succeeded in getting his train in reverse motion and the train had moved about one-half car length when the collision occurred. The accident occurred at 8:48 p.m., and he thought the speed of No. 373 at that time was about 20 miles per hour. After the collision his train continued to move backward about 14 car lengths and stopped 6 or 7 car lengths west of the engine of No. 373. No. 373 stopped with its engine about 8-1/2 car lengths west of the clearance point of the east siding-switch.

Front Brakeman Bremmer and Flagman Brundige, of No. 72, corroborated in substance the statement of Conductor Lass.

Machinist Sears stated that he inspected the air-brake equipment on engine 4414 before it left Los Angeles and also after the accident, and found it to be in proper condition.

Car Inspector Brennan stated that he tested the air brakes on No. 373 at Los Angeles. The brakes on all cars were operative.

Car Repairers Hailey and Kempf inspected No. 373 about one-half hour after the accident and the brakes functioned

properly except there was a broken branch pipe on the seventh car and a slight leak in an air hose on the eleventh car; these defects, however, apparently were caused by the accident.

The speed-recorder tape of engine 4414 discloses that at approximately the east portal of Tunnel No. 26 the speed of No. 373 was 40 miles per hour. From this point the speed decreased until the apex of the grade was reached, being 35 miles per hour at that point; the speed then gradually increased until the train reached the west portal of the tunnel, at which time it was 40 miles per hour. From a point approximately 700 feet east of the point of accident the speed rapidly decelerated from 40 miles per hour to about 23 miles per hour at the point of accident.

Discussion

The evidence indicates that all members of the crew of No. 373 read and understood orders Nos. 67 and 79, which required their train to take siding at Hasson to meet No. 72. The engine crew heard the meeting-point signal sounded on the train air-signal whistle but as the engine had just entered Tunnel No. 26 the engine whistle was not sounded in acknowledgment. At the apex of the grade, midway in Tunnel No. 26, the speed of No. 373 was 35 miles per hour. According to the statements of the engineman and the fireman, two brake-pipe reductions totaling 12 pounds were made when passing signal 4413. From this point there was a distance of 2,010 feet in which to stop before reaching the east switch of the siding at Hasson. When emerging from Tunnel No. 26 an emergency application of the brakes was made, at which time, according to the engineman, the speed was 20 miles per hour; however, the fireman and the front brakeman stated that it was 25 miles per hour and the speed recorder tape indicates that it was 40 miles per hour. The distance from the west portal of the tunnel to the point of collision was 791 feet and No. 373 moved a distance of about 219 feet beyond the point of collision before stopping. The speed-recorder tape of engine 4414 substantiates the statements of the engine crew regarding the speed of their train up to the apex of the grade in the tunnel. From that point the tape discloses that the speed increased until, at the west portal of the tunnel, it was 40 miles per hour. The distance from the west portal to the point of accident was about 700 feet, in which distance the tape discloses that the speed had been reduced to about 23 miles per hour. As the scale of this speed-recorder tape is 1/2 inch to 1 mile, the figures presented are approximate.

The brakes on No. 373 had functioned properly en route. It is apparent from the evidence that this train was not under

proper control when approaching the meeting point. The engine-
man had not been over this portion of the division since Decem-
ber 24, 1938; however, he stated that he was familiar with
conditions at Hasson. Some of the members of the crew of No.
373 stated that they had difficulty in ascertaining locations
when in a tunnel as long as the one involved.

Conclusion

This accident was caused by failure to control the speed
of a train properly when approaching a meeting point.

Respectfully submitted,

S. N. MILLS

Director.