INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY CONCERNING AN ACCIDENT ON THE CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC RAILROAD AT JAVA JUNCTION, S. D., ON DECEMBER 22, 1933.

February 23, 1934.

To the Commission:

On December 22, 1933, there was a head-end collision between two passenger trains on the Chicago, Milwaukee, St. Paul & Pacific Railroad at Java Junction, S. D., which resulted in the death of 2 trespassers, and the injury of 32 passengers, 7 mail clerks, 2 express company employees, 1 newsagent, and 10 employees.

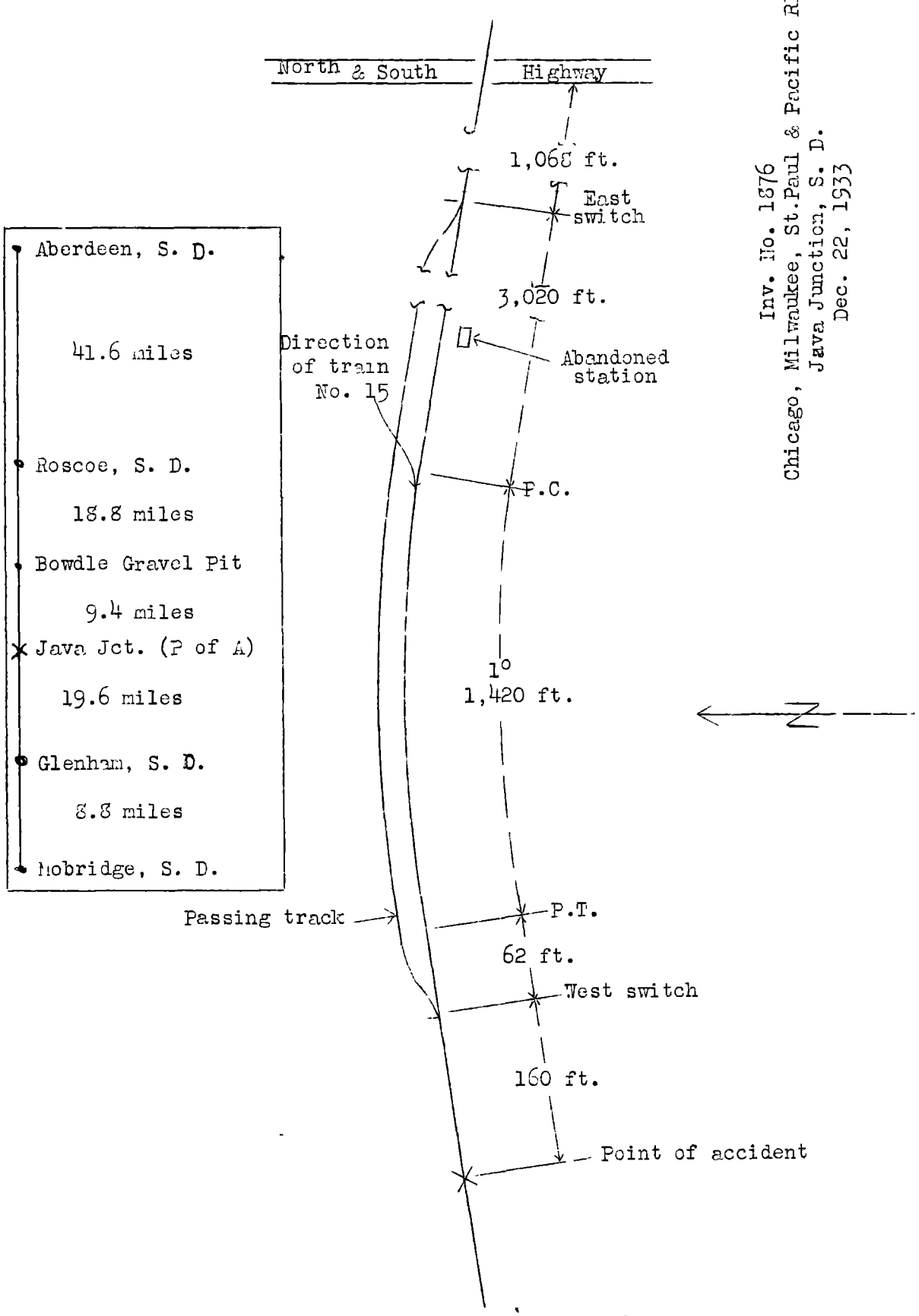
Location and method of operation

This accident occurred on that part of the Hastings and Dakota Division extending between Aberdeen and Mobridge, S. D., a distance of 98.2 miles; in the vicinity of the point of accident this is a single-track line over which trains are operated by time table, train orders, and a manual block-signal system. The accident occurred at a point 130 feet west of the west switch of the passing track at Java Junction; the passing track is 4,502 feet in length and parallels the main track on the north. Approaching the point of accident from the east, beginning at a highway crossing located 1,068 feet east of the east switch, the track is tangent to the east switch and for a distance of 3,020 feet beyond that point; then there is a 1° curve to the left 1,420 feet in length, following which the track is tangent a distance of 62 feet to the west switch and for more than 1 mile beyond the switch. The grade for westbound trains is 0.5 percent descending at the point of accident.

Java Junction is a non-agency station, with an abandoned station building located on the south side of the tracks, just east of the curve above-mentioned; the track passes through a 10-foot cut which commences at the east end of the curve and extends westward a distance of approximately 1,100 feet, and this cut and the abandoned station building interfere with the view to be had by the engine crew of a westbound engine of a train standing just west of the west switch.

The weather was clear at the time of the accident, which occurred about 6:35 p.m., and the temperature was between 17° and 20° F. above zero.

Inv. No. 1876
Chicago, Milwaukee, St.Paul & Pacific RR,
Java Junction, S. D.
Dec. 22, 1933



Description

Eastbound passenger train no. 6 consisted of 1 express car, 1 storage car, 1 mail and express car, 1 express car, 1 baggage car, and 1 coach, in the order named, hauled by engine 6120, and was in charge of Conductor J. J. Cully and Engineman Hirsch. The cars were of steel construction with the exception of the last car, which was of wooden construction. At Glenham, 19.6 miles west of Java Junction, the crew received copy of train order 16, form 19, directing them to meet train no. 15 at Java Junction, train no. 6 to take siding. Train no. 6 left Glenham at 5:57 p.m., according to the train sheet, 14 minutes late, and on arrival at Java Junction it stopped just west of the west switch but on seeing train no. 15 approaching at a high rate of speed, the engineman of train no. 6 released the brakes and endeavored to back out of the way, but just as this train started moving it was struck by train no. 15.

Westbound passenger train no. 15 consisted of 1 deadhead coach, 1 mail and express car, 1 baggage car, 2 coaches, 2 tourist cars, 1 dining car, 4 sleeping cars, and 1 observation car, all of steel construction, hauled by engine 6421, and was in charge of Conductor P. F. Cully and Engineman Champlin. At Roscoe, 28.2 miles east of Java Junction, the crew received copy of train order 16, form 19, previously mentioned. Train no. 15 left that point at 5:39 p.m., according to the train sheet, 1 hour and 3 minutes late, passed the west switch at Java Junction, and collided with train no. 6 while traveling at a speed estimated by employees to have been between 10 and 20 miles per hour.

When engine 6120 stopped its head end was about 170 feet back from the point of collision, and it was separated from engine 6421 by a distance of about 47 feet; its front end was badly damaged and the cab demolished; the first car mounted the tender frame, crushing in the forward end of that car and badly damaging the tender cistern; none of the equipment in train no. 6 was derailed. Engine 6421, its tender, the first two cars and one pair of wheels of the forward truck of the third car in train no. 15 were derailed. The engine and tender stopped on their left sides, south of and parallel with the track, badly damaged; the forward end of the engine was 123 feet beyond the point of collision. The deadhead coach was derailed to the right and stopped nearly upright with its south side ripped off for a distance of about 52 feet from the head end, while the second car remained practically upright on the roadbed. The employees injured were the engineman, fireman, conductor, baggageman, and baggage helper of train no. 6, and the engineman, fireman, two cooks and a porter, of train no. 15.

Summary of Evidence

Engineman Hirsch, of train no. 6, stated that when his train stopped he saw train no. 15 approaching at a speed of about 15 or 20 miles per hour. The fireman got off and started for the switch and as he was getting off the engineman remarked to him that he did not believe train no. 15 would get stopped and he decided to try to back his own train out of the way; he released the brakes, reversed the engine, and tried to back up, but realizing that a collision was imminent he jumped, just as his own train started to move backwards, the collision occurring immediately afterwards. Fireman Foster did not understand what the engineman told him as he was getting off the engine and did not see train no. 15 until he was on his way to the switch; he then realized there was something wrong and tried to get out of the way.

Conductor J. J. Cully was riding in the last car when his train stopped to head in, following which he felt the train start to back up. Brakeman Lord, who was in the rear vestibule of the last car, said that at first he looked out from the south side and saw the reflection from the headlight of train no. 15 when it was somewhere in the vicinity of the east switch; on looking out the second time he saw the reflection about opposite or just west of the abandoned station building and at once got off, realizing that the speed of the approaching train was too high to avert an accident; he estimated the speed to have been about 30 miles per hour at the time of the accident.

Engineman Champlin, of train no. 15, stated that he reduced speed for a crossing located about 2 miles east of Java Junction, at which time the speed of his train was about 50 miles per hour. Approaching the mile board at Java Junction he sounded the meeting-point signal on the engine whistle and shortly afterwards he sounded a station whistle signal. After passing over the highway crossing located 1,068 feet east of the east switch, at which time the speed recorder on his engine registered 53 miles per hour, he made a 10-pound reduction from a brake-pipe pressure of 90 pounds, but the brakes did not seem to respond properly and after the engine went over the east switch at a speed of 45 miles per hour he made another 10-pound reduction and lapped the brake valve. At this time he saw the reflection from the headlight of train no. 6, and as it seemed to him that the brakes were not reducing the speed of his train sufficiently, he moved the brake-valve handle to the emergency position when his engine was a short distance east of the station building, no release having been made at any time after the first reduction; he thought he was going to stop, but said it seemed as if the train kept pushing ahead until the accident occurred. Engineman Champlin was thoroughly familiar with conditions in this

locality, fully understood the contents of train order 16, and said he operated his train in the usual manner and applied the brakes at the usual point. The brakes had been tested at Aberdeen, 69.8 miles from Java Junction, he made a running test on leaving that point, they worked properly en route in slowing down and stopping, and he said that proper pressures were registered on the gauge when he applied the brakes at Java Junction; he did not think it possible that he could have erroneously placed the brake valve in holding position instead of lap position after making the brake-pipe reductions and said that he could have told by the length of the exhaust if an angle cock had been closed at the rear of the tender. When reducing speed at Bowdle Gravel Pit, 9.4 miles east of Java Junction, he did not feel any run-in of slack and when he made the first reduction east of Java Junction he obtained the usual brake-pipe exhaust, and he thought he would have noticed it had there been an obstruction in the train line, such as might result from the formation of ice; he was at a loss to explain why he could not stop.

Fireman Birdseye, of train no. 15, who was riding on his seat box, said that when the engine passed the mile board the engineman sounded the meeting-point whistle signal and then applied the brakes at the usual place between the mile board and the east switch. The fireman felt the speed reduced somewhat and thought the train would stop clear of the west switch, even after the emergency application was made, and did not get off the engine prior to the accident. He estimated the speed to have been about 50 miles per hour at the mile board, 45 miles per hour passing over the east switch, and about 12 or 15 miles per hour at the time of the accident. Fireman Birdseye did not think the train was coming into Java Junction at an excessive rate of speed or that the engineman had handled the brakes in an unusual manner, but said that the train did not seem to slow down properly.

Conductor P. F. Cully said he heard a meeting-point whistle signal and started ahead and was in the head end of the fourth car when he felt a light application of the air brakes as the train was passing the east switch, moving at a speed of about 45 miles per hour, and at that time he felt that the engineman had the train under control. He continued out into the vestibule and noticed that the speed was a little high and then felt an emergency application of the brakes.

Brakeman Bechtle said he was in the baggage car when he felt an application of the brakes and he had one of the doors open and was looking out on the north side as the train passed over the east switch at a speed of about 40 miles per hour. When about half way between the switches he felt the brakes applied in emergency and he estimated that the speed was 15 miles per hour or more when the accident occurred.

Flagman Aggas had looked out on the south side as the train approached Java Junction and was looking out along the north side as the rear car passed over the east switch at a speed of 50 miles per hour and at this time he felt the brakes being applied. Knowing they were to meet train no. 6 he went back into the car to get his flagging equipment and had about reached the middle of the car when he noticed that the brakes were being applied more strongly all the time and by the time he reached the head end of the car the brakes seemed to be applied in emergency.

Car Inspectors Bauman and Demmers stated that they inspected and tested the air brakes on train no. 15 prior to its departure from Aberdeen and found them working properly on the entire train; the consist of the train was not changed in any way while at Aberdeen. On the morning after the accident, about 8:30 or 9 a.m., Car Inspectors Moffenbier and Mertz tested the air brakes on the 10 undamaged cars as they stood on the passing track, where they had been placed following the accident, at which time no repairs or alterations had been made to the braking equipment since the accident, and the air brakes worked properly on each car. Car Inspector Mertz further stated that the air brakes on one of the derailed cars, namely, the third car in train no. 15, worked properly when that car was moved back to Aberdeen in the wreck train.

Conclusions

This accident was caused by the failure of Engineman Champlin, of train no. 15, properly to control the speed of his train approaching a meeting point.

Engineman Champlin said he sounded the meeting-point signal when in the vicinity of the mile board and began braking at the usual point, between the last road crossing and the east switch, making a 10-pound reduction, at which time the speed recorder registered 53 miles per hour. The brakes did not seem to respond properly and he made a second 10-pound reduction just after the engine passed over the east switch at a speed of 45 miles per hour and then lapped the brake valve and on reaching a point just east of the abandoned station, which is 1,689 feet from the west switch, he placed the brake-valve in emergency position, no release having been made at any time after the first reduction; he could offer no explanation for the failure of the train to stop.

Engine 6421 had handled train no. 15 from Minneapolis, Minn., to Aberdeen, S. D., a distance of 285 miles, and no difficulty had been experienced with the air brakes; at Aberdeen the brakes were inspected and tested by car inspectors and found to be in proper working order, and on departing from that point Engineman Champlin made a running test, while accord-

ing to his own statements the brakes worked properly en route to Java Junction, Engineman Champlin also said there was no indication of a closed angle cock behind the tender, or that the train line had been obstructed by the formation of ice due to the prevailing freezing temperatures. According to Engineman Champlin's statement the speed of his train was reduced from 53 to 45 miles per hour as a result of the first reduction before reaching the east switch, and members of the crew of train no. 15 felt the brakes being applied as their train approached the point of accident. Tests made after the accident showed that the brakes on the 10 undamaged cars were working properly. It therefore appears that Engineman Champlin's failure to stop was not because of any failure of the brakes to function properly, but probably was due to his failure to begin braking soon enough. That the speed of train no. 15 was excessive when approaching the west switch is apparent from the fact that the engineman of train no. 6 realized the approaching train could not stop, while the rear brakeman of train no. 6 reached the same conclusion just after the head end of train no. 15 had passed the abandoned station. The condition of the equipment after the accident, coupled with the fact that train no. 6 was backing away at the moment of impact, indicates that the speed when the accident occurred probably was considerably higher than was estimated by the various witnesses.

Respectfully submitted,

W. P. BORLAND,

Director.