

## INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY CONCERNING AN  
ACCIDENT ON THE DELAWARE & HUDSON RAILROAD NEAR AVOCA, PA.,  
ON JULY 23, 1933.

November 27, 1933.

To the Commission:

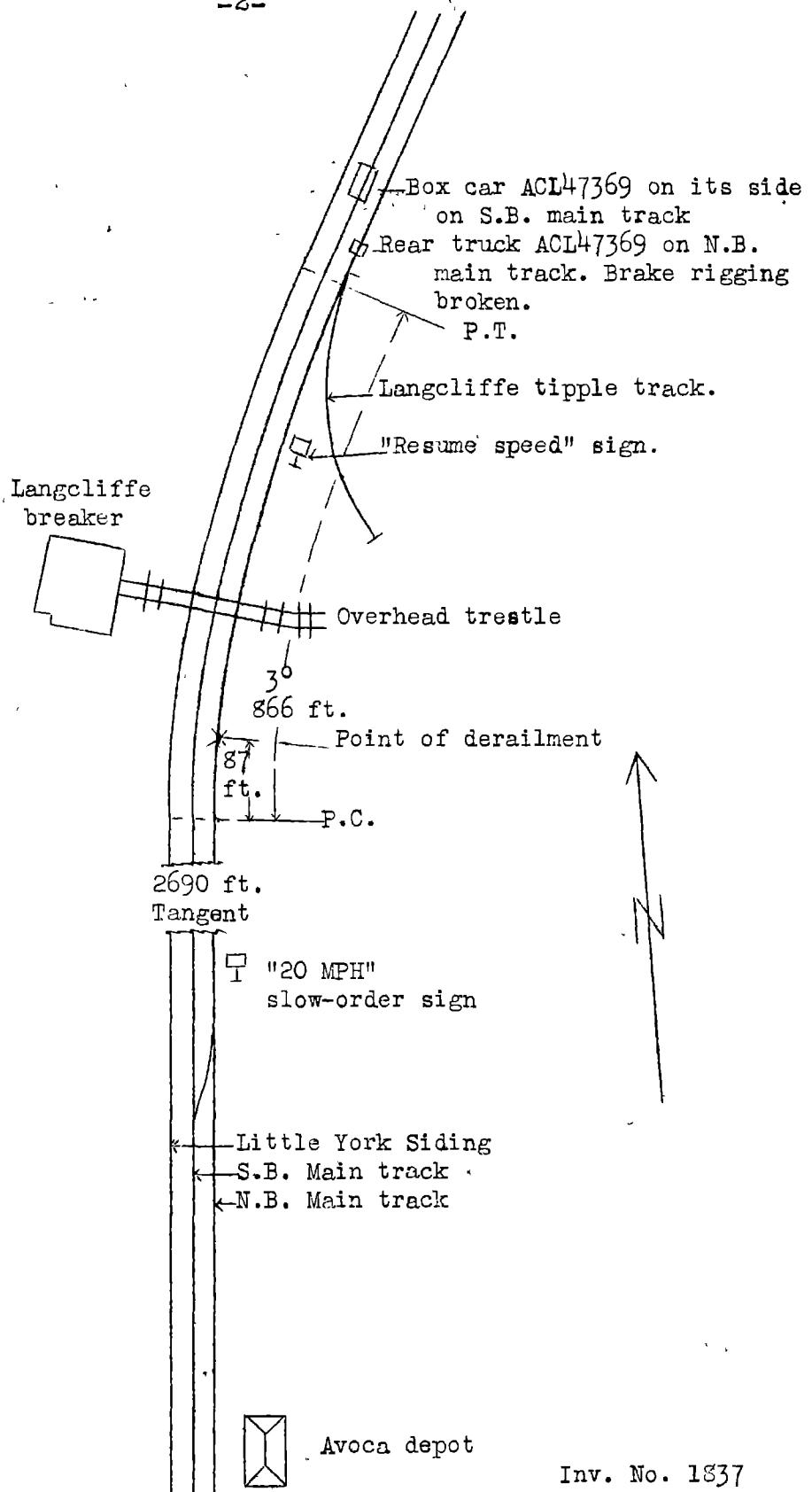
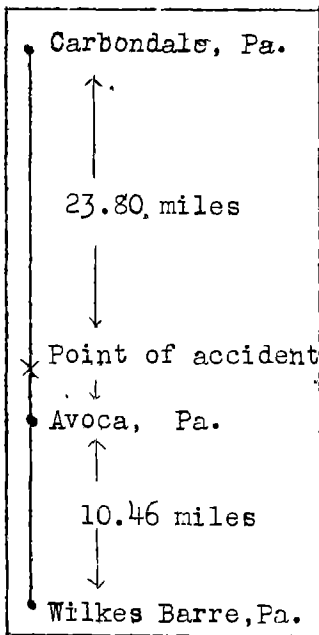
On July 23, 1933, there was a derailment of a freight train on the Delaware & Hudson Railroad near Avoca, Pa., which resulted in the death of 2 trespassers and the injury of 9 trespassers; 10 of the trespassers were riding on the train and 1 was reported to have been walking along the right of way at the time of the accident.

## Location and method of operation

This accident occurred on that part of the Pennsylvania Division extending between Wilkes-Barre and Carbondale, Pa., a distance of 34.26 miles; in the vicinity of the point of accident this is a double-track line over which trains are operated by time table, train orders, and an automatic block-signal system. The accident occurred at a point 2,777 feet north of the station at Avoca; approaching this point from the south, beginning at the station, the track is tangent for a distance of about 2,690 feet, followed by a 3° curve to the right 866 feet in length, the accident occurring on this curve at a point 87 feet from its southern end. The grade for north-bound trains is 0.84 percent descending.

The track is laid with 90-pound rails, 39 feet in length, with an average of 21 ties to the rail length, single-spiked and fully tieplated; rail anchors also are used. Trouble has been experienced with coal-mine-cave settlements in this vicinity for several years. Several days prior to the date of the accident it was noted that there was a slight but uniform settlement, about 300 feet in length. On the morning of July 22, the track supervisor had unloaded two cars of ashes at this location and the track was raised and surfaced under his personal supervision, this work being completed about 10 a.m. that day. At the time of the accident the track was in proper grade and maintained in good condition.

There is a siding known as Little York siding that parallels the main track on the west. The Langcliffe coal breaker is located on that side of the tracks while the tipple track is on the opposite side of the main tracks, the switch connecting it with the north-bound main track being a trailing-point switch for north-bound trains, is located about 600 feet north of the breaker building.



Inv. No. 1837  
 Delaware & Hudson R.R.  
 Avoca, Pa.,  
 July 23, 1933

Under special timetable instructions speed in this territory was restricted to 20 miles per hour, beginning at a point 2,000 feet north of the depot at Avoca, while there was a 20-miles-per hour sign located on the east side of the track 1,400 feet north of the depot.

The weather was clear at the time of the accident, which occurred about 3:11 p.m.

#### Description

North-bound freight train WR-3, operated as extra 1217 north, consisted of 77 loaded and 7 empty cars, and a caboose, hauled by engine 1217, and was in charge of Conductor Hannon and Engineman Gallagher; helper engine 909, in charge of Engineman Hoyle, was coupled ahead of the caboose. This train left Yatesville, 3.66 miles south of Avoca, about 3 p.m., and was derailed shortly after passing Avoca while traveling at a speed variously estimated to have been between 15 and 30 miles per hour.

Engine 1217, its tender, and the first 30 cars in the train were not derailed and stopped with the rear end of the thirtieth car about 1,100 feet north of the derailed thirty-first car, which was ACL box 47369, loaded with cotton-seed meal. The thirty-second to the thirty-sixth cars, inclusive, were not derailed; the thirty-seventh to the thirty-ninth cars were derailed but remained upright and coupled to the cars ahead; the fortieth to the fifty-ninth cars, inclusive, were derailed, the last 18 of them being piled up opposite the coal breaker building. The forward truck of the sixtieth car was derailed, but the rest of the train, including helper engine 909, remained intact. Box car ACL 47369, the first car to be derailed, stopped on its left side on the south-bound main track at a point about 925 feet north of the first mark of derailment; the front truck was entirely derailed and rested on the north-bound track, while the rear truck was not derailed, although its brake rigging was slightly damaged, and it stopped 100 feet south of the body of the car.

#### Summary of evidence

Engineman Gallagher stated that the speed of his train was about 20 miles per hour and that he applied the air-brakes north of the depot at Avoca, in order to comply with the speed restriction, and then released in the vicinity of the whistling post located 1,700 feet beyond the depot, after which he applied the independent engine brake in order to bunch the slack. He looked back along the train after passing the depot, but did not see anything wrong, and the first indication he had of trouble was when the air gauge on the engine showed that the train line pressure was going down; he opened the throttle in order to keep the train stretched, thinking that an air hose had burst. Engineman Gallagher had noticed nothing unusual with track conditions and said that the engine had been riding all right.

The statements of Firemen Kirsteen and Seward, and also Head Brakeman Mooney, were similar to those of Engineman Gallagher.

Engineman Hoyle, of helper engine 909, stated that the brake valve on his engine was cut out and that the air brakes on his engine were cut in with the train brakes and under the control of the lead engineman. Going down hill he was working steam slightly in order to keep the slack bunched, and the first he knew of anything wrong was on feeling a slight shock, as if the brakes had been applied, and then he saw the cars ahead piling up. Engineman Hoyle estimated the speed to have been reduced to between 20 and 25 miles per hour passing Avoca depot, and it then increased, being about 30 miles per hour at the time of the derailment. He noticed nothing unusual with track conditions approaching the point of accident and had made a trip earlier in the day without noticing anything irregular.

Conductor Hannon and Flagman Garbett, as well as Brakeman Walker, of helper engine 909, were riding in the caboose, and their first knowledge of anything wrong was on feeling the air brakes apply as a result of the accident. Conductor Hannon estimated the speed to have been not in excess of 30 miles per hour at the time, Flagman Garbett estimated it to have been about 15 to 18 miles per hour, and Brakeman Walker placed it at about 20 miles per hour. Brakeman Walker was riding in the front end of the caboose, looking out of the window and watching the train, but he had noticed nothing wrong.

After the accident Conductor Hannon and Flagman Garbett examined the track. Conductor Hannon saw a flange mark on the west or outside rail of the curve, just south of the last derailed car, and this was followed by marks on the outside of the west rail and on the gauge side of the east rail, the indications being that they were made by only one pair of wheels. South of this point for a distance of about two car lengths there were light abrasions on the edges of the ties, as though something had been dragging. Flagman Garbett said the marks on the ties looked like brush marks, and he placed them as being just south of the curve, the last derailed car having stopped on the curve at a point about 150 feet north of its southern end. Flagman Garbett also said that the flange mark that appeared on top of the west rail started on the gauge side and gradually extended across to the outside, and in his opinion this was where the derailment occurred.

General Roadmaster Gutelius arrived at the scene of the accident and examined the track in company with Track Supervisor Carpenter about 3 hours after its occurrence. He saw a flange mark about 7 feet in length extending diagonally across the top of the west rail and near the south end of the curve. This mark, which became deeper as it progressed, looked like a single wheel mark, and there were corresponding flange marks on the ties on the opposite side of the track. These marks led off to the left,

toward the outside of the curve, and north of this point the track was torn up. South of this point there were marks on the ties and he followed them back as far as they went, a distance of 200 feet; these marks were about 1 inch wide, as though made by pressure on top of the ties, while in the case of some of the ties there were abrasions on the south edges, and he said there were from 45 to 55 ties south of the flange-marked rail on which these marks appeared. The track was torn up for a distance of 300 feet north of the flange-marked rail; north of this point there were flange marks on the ties and on the gauge side of the outside rail, continuing until the switch of the tipple track was reached. At this point one set of marks continued through the switch point and the other was eventually crowded off the ties toward the outside of the curve; Roadmaster Gutelius thought these marks were made by one truck with all four wheels derailed. The north truck of ACL 47369 was derailed and the west wheels of the truck were off the ties; but the south truck was not derailed and stopped a short distance north of the switch. Roadmaster Gutelius at first thought that something dragging on this car had caused the derailment, but he finally concluded that he did not know what caused it.

Traveling Car Inspector McLain made an inspection of box car ACL 47369 the day after the accident, at which time it had been rerailed. On the north truck of the car the brake chain between the hand brake shaft and the brake rod was broken, and the brake rod between the cylinder lever and the floating lever was missing; on the south truck the live brake lever and the bottom brake rod, as well as one-half of the bottom portion of the dead lever and a portion of the third point suspension support, were missing while the brake beam fulcrum was broken. The only missing part found was the bottom part of the dead lever. Inspection of the wheels disclosed them to be in good condition as to flanges, alinement and lateral.

Inspection of the track made by the Commission's inspectors disclosed that the track was demolished for a distance of about 250 feet. There were numerous marks on the track on both sides of the section which was destroyed; however, from these marks it was impossible to determine exactly the conditions which led to this accident.

Inspection of ACL 47369 disclosed conditions to be practically as described by Traveling Car Inspector McLain. It was noted, however, that the lower part of the dead lever bore evidence of having been dragged against something other than metal; also, that the major damage to the west side of the body occurred on the south portion of the car, indicating that the south end left the truck and was dragged on the southwest corner and side before finally leaving the north truck and turning over.

The last train to pass over the track where the accident occurred passed that point about 1 or 2 hours prior to its occurrence and at that time the crew noticed nothing wrong as to track conditions.

### Conclusions

The cause of this accident was not definitely ascertained.

While the cause could not be determined positively, there were indications that the brake rigging under box car ACL 47369 was dragging and that some part or parts eventually broke, got under the wheels, and precipitated the derailment. The lower part of the dead lever was found nearby with a V-shaped indentation on the lower edge and there were indications on the fractured end that it had been dragging against something other than metal. Marks on the ties south of the first flange mark on the west rail were such as might have been made by the lower part of the dead lever dragging while attached to the bottom rod, and indicated that the broken part of the lever hinged back and forth, making the marks only when in the downward position. No defect was found in the frames or wheels of either truck, and examination failed to disclose any track condition which it was thought could have caused the accident.

Respectfully submitted,

W. P. BORLAND,

Director.