INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY CONCERNING AN ACCIDENT ON THE PENNSYLVANIA RAILROAD NEAR BLAIRSVILLE, PA., ON JANUARY 18, 1933.

March 14, 1933.

To the Commission:

On January 18, 1933, there was a derailment of a freight train on the Pennsylvania Railroad near Blairsville, Pa., which resulted in the death of one employee and the injury of one employee. This accident was investigated in conjunction with the Pennsylvania Public Service Commission.

Location and method of operation

This accident occurred on that part of the Conemaugh Division extending between Conpitt Junction and Federal Street, Pittsburgh, Pa., a distance of 79.2 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 a manual block-signal system. The accident occurred on the westbound main track at a point about 1¼ miles east of Blairsville, approaching this point from the east, there are numerous short tangents and curves, and then the tracks are tangent for a distance of 450 feet, followed by a 6° curve to the left 680 feet in length, the accident occurring on this curve at a point about 470 feet from its eastern end. The grade for westbound trains is 0.35 per cent ascending at the point of accident.

The track is laid with 130-pound rails, 33 feet in length, with 18 ties to the rail-length, fully tie-plated and spiked, ballasted with cinders, and is well maintained. In this vicinity the tracks parallel the north bank of the Conemaugh River, and are laid in a side-hill cut. The eastbound track is located about 54 feet above the river, while the westbound track is about 2 feet higher. The cliff at the point of accident is precipitous and the top of it is approximately 130 feet above the rails; the strata consist of soft shale, medium shale, hard shale, limestone, coal, fire clay, and sandstone.

The weather was clear at the time of the accident, which occurred about 2.29 a.m.

Inv. No. 1806
Pennsylvania Railroad
Blairsville, Pa.
January 18, 1933

Description

Westbound freight train WP15-PG3 consisted of 64 cars and a caboose, hauled by engine 4439, of the 2-10-0 type, and was in charge of Conductor Fishel and Engineman Gascoine. This train left Conpitt Junction at 2.05 a.m., according to the train sheet, and after having traveled a distance of about 10.35 miles, while traveling at a speed estimated to have been between 25 and 35 miles per hour, it struck a large rock that had fallen from the cliff and fouled the track.

Engine 4439, its tender, and the first eight cars in the train were derailed; the engine stopped on the north side of the tracks, with its front end 175 feet west of the rock, overturned on its right side against the base of the cliff. The cars stopped across and at various angles to the tracks. The employee killed was the engineman, while the employee injured was the fireman.

Summary of evidence

Fireman McGraw was sitting on his seat box looking ahead while rounding the curve, and when the reflection from the headlight shone upon the fallen rock, just a short distance away, he called a warning of danger to Engineman Gascoine, who at once applied the air brakes in emergency. The air brakes worked properly and the train traveled about two car lengths from the time they were applied until the rock was encountered, at which time the fireman estimated the speed to have been about 35 miles per hour. The rock was on the south side of the westbound main track and he saw only the one rock.

Head Brakeman Snyder was in the brakeman's cabin on the tender, while Conductor Fishel and Flagman Zimmers were in the caboose, none of them was aware of anything wrong until the accident occurred. Their estimates of the speed ranged from 25 to 30 miles per hour.

Supervisor of Track Critchfield, who had been stationed at Blairsville for the past 12 years, had inspected the cliff from which the rock fell, known as Alum Bank, on September 1 and 2, 1932, and found a few loose stones which were removed. There was no indication of working of either the rocks or the hillside at this point, nor any running water; during the course of this inspection he got as close to the particular rock that fell as the first ledge above it. He did not consider this a particularly dangerous point, although whenever a heavy rain occurred or there was a storm which lasted for a night or a day, a cut watchman would be stationed in this locality for a period of from 36 to 48 hours. The last time a cut watchman was used here was about November 1,

1932, as a matter of extra precaution, while dirt and stones were being removed. It is his practice to inspect hillsides during the spring and fall, looking for signs of working, crevices opening, loose stones, etc., and in addition the track foreman is required to make frequent inspections, depending on rainfall and weather conditions, so far this year there had been a deficiency in rainfall of about 1½ inches. On January 10, 1933, he made an inspection of this cliff from the track, but noticed no indication of working under the rock. About 10 years ago a rock fall blocked the westbound track at a point about 250 feet west of where the present rock fell, and that was the only previous trouble he had experienced in this immediate vicinity. In the present case the rock apparently fell because of some weakness under the rock which was not visible from the track. In his opinion the rock fell in one piece and landed on the inside rail of the curve of the westbound track, shoving it out of line about 2 or 2½ feet, causing the opposite rail to break at a joint, and resulting in engine 4439 becoming at least partially derailed before encountering the rock.

Section Foreman Antonio stated that he made inspections of this hill on November 3 and December 23, 1932, climbing over it, but saw no evidence of the hill working or rocks moving, and he considered the hill to be in good condition. He also observed the hill from the tracks below practically every day while passing that point and had looked it over the day prior to the accident, but noticed nothing wrong.

Foreman-Mason Atkinson inspected the place where the rock fell from the cliff and stated that the rock became dislodged as a result of erosion, probably due to disintegration by water or weather of the supporting layer of shale under the limestone upon which the rock rested, this supporting layer being composed of shale and slate. On the west side of the pocket from which the piece of rock became dislodged, there was a section of ledge overhanging the embankment about 4 or 5 feet, but it was solid and not dangerous in his opinion; there were some other rocks, however, within a radius of 200 or 300 feet which he said would be removed, not because of their being dangerous at present, but in order to guard against the possibility of trouble in the future.

Division Engineer Wilson stated that there had not been any trouble in this locality from falling rocks in the past 9 or 10 years, and it was not considered as a dangerous point. In his opinion the rock fell as a result of disintegration over a long period of time of the shale formation which was under it.

When examined after the accident by the Commission's inspectors, the rock which had fallen from the cliff was in two pieces, one measured roughly 14 by 12 by 4 feet and weighed about 30 tons, and the other measured about 12 by 9 by 4 feet and weighed about 28 tons. It appeared as though the rock had been separated from the rest of the stratum for some time, as the parts which were imbedded in the bank showed a general condition of erosion, indicating that water and dirt had been passing through the crevices. Disintegration of the supporting layer of shale under the limestone upon which the rock rested, as a result of erosion, apparently caused the rock to become dislodged.

Conclusions

This accident was caused by a large rock having fallen from the side of a cliff, fouling the track.

The rock became dislodged from the cliff at a point about 50 feet above the track and fouled the westbound track, where it was struck by the train involved. Subsequent investigation indicated that gradual erosion, probably extending over a considerable period of time, finally resulted in so weakening its support as to permit it to break loose from its resting place in the side of the cliff.

Respectfully submitted

W. P. BORLAND,

Director.