

INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY CONCERNING AN
ACCIDENT ON THE INTERNATIONAL-GREAT NORTHERN RAILROAD
AT BLACK BRIDGE, TEXAS, ON DECEMBER 27, 1933.

March 1, 1934.

To the Commission:

On December 27, 1933, there was a derailment of a freight train on the International - Great Northern Railroad at Black Bridge, Texas, which resulted in the death of 3 employees and 2 trespassers.

Location and method of operation

This accident occurred on the Mart District of the Palestine Division, which extends between Mart and Spring, Texas, a distance of 158.5 miles, and is a single-track line over which trains are operated by time table and train orders, no block-signal system being in use. At Black Bridge there is an industrial spur track 534 feet in length which parallels the main track on the west and leads off the main track through a facing-point switch for north-bound trains; the first mark of derailment was found at a point 338.4 feet north of this switch; approaching this point from the north, the track is tangent for more than $2\frac{1}{2}$ miles and for a considerable distance beyond that point, while the grade is practically level.

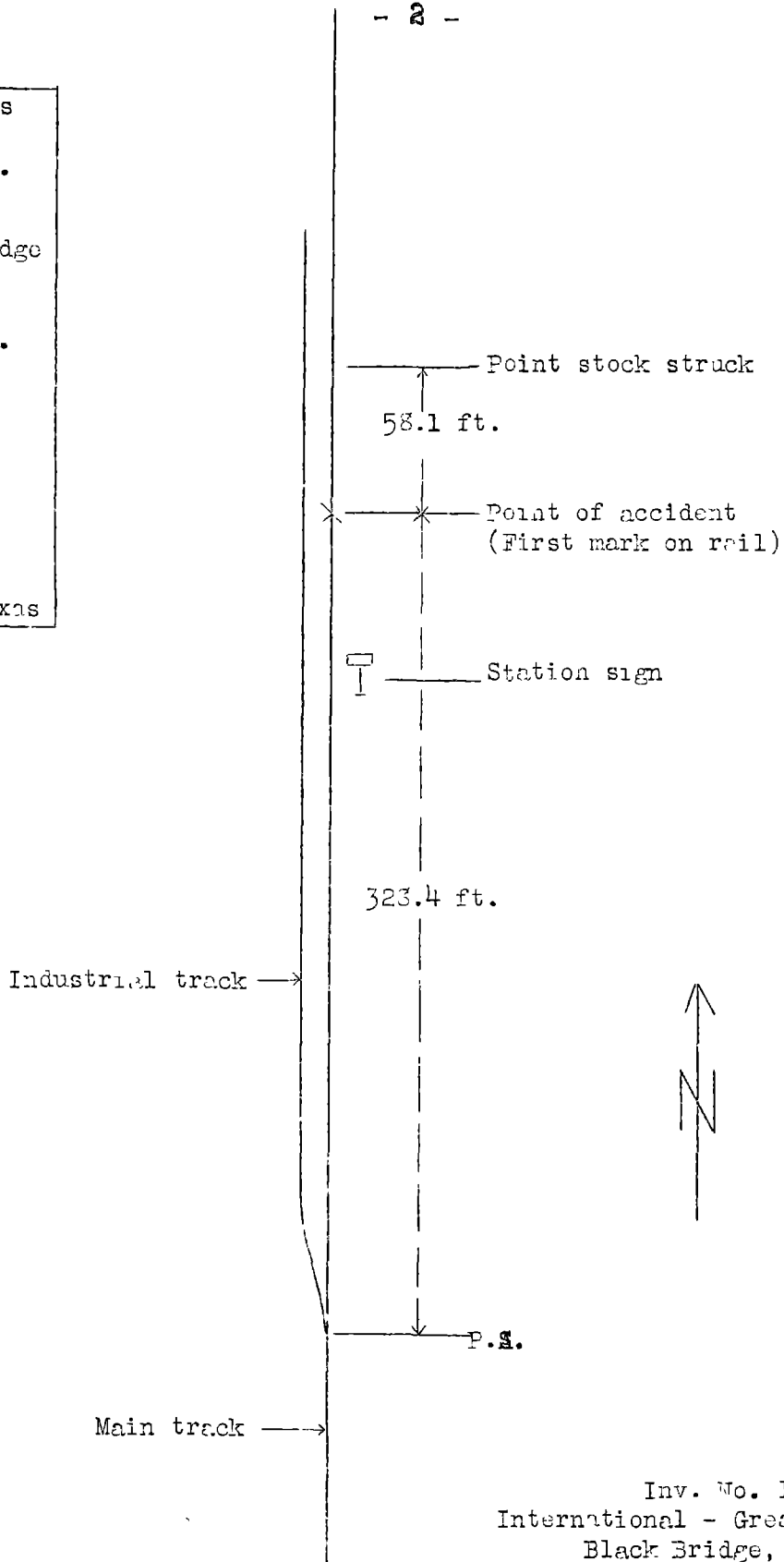
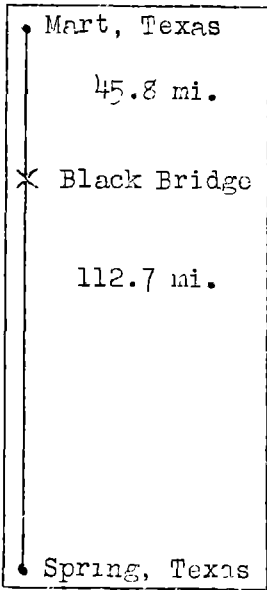
The track is laid with 90-pound rails, 39 feet in length, with an average of 24 ties to the rail length, fully tieplated, single-spiked, and ballasted with gravel to a depth of about 10 inches; the track is well maintained. Under time table rules the maximum speed permitted freight trains is 25 miles per hour.

The weather was cloudy at the time of the accident, which occurred about 12:10 a.m.

Description

South-bound freight train extra 1108 consisted of 35 cars and a caboose, hauled by engine 1108, and was in charge of Conductor Ferguson and Enginemen Delhomme. This train departed from Mart, 45.8 miles north of Black Bridge, at 11 p.m., December 26, and was derailed at Black Bridge while traveling at a speed estimated to have been between 35 and 40 miles per hour.

The engine and tender became entirely derailed after passing the frog of the switch, and then overturned and stopped on their right sides with the engine to the left of the track and its forward end 521.9 feet south of the point of accident, while the tender stopped diagonally across the track. The first 17 cars



Inv. No. 1879
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and the forward truck of the eighteenth car were also derailed and stopped in various positions across and adjacent to the track within a space of 300 feet. The engine was considerably damaged, four of the cars were destroyed and the remainder of the derailed cars, except the eighteenth car, was more or less damaged. The employees killed were the engineman, fireman and head brakeman.

Summary of evidence

Conductor Ferguson stated that the brakes were tested before the train left Mart, and in making a stop for a railroad crossing at Marlin, 20 miles from Mart, the brakes functioned perfectly. He rode in the cupola of the caboose en route and as the train was rounding curves he observed that the headlight appeared to be burning in the usual manner. He did not hear any unusual whistling of the engine while approaching the point of accident and his first intimation of anything wrong was when the train made about four successive lunges and then stopped. Thinking that the train had parted he immediately went forward along the right side and when he reached a point about 11 or 12 car lengths from the caboose he noticed parts of a cow or steer under the train and also saw four or five cattle standing alongside the train. Continuing ahead he found what had occurred and after examining the wreckage he proceeded to Calvert Junction, approximately 2.6 miles beyond, and reported the accident to the dispatcher. He estimated the speed of the train at the time of the accident at between 35 and 40 miles per hour, and could not say whether the lurches of the caboose in stopping were caused by a brake application made by the engineman or to the cars being derailed.

Brakeman Patrick also was riding in the cupola of the caboose and he said he opened a window while rounding every curve, as well as several times on straight track, but failed to hear stock-alarm signals sounded although such signals could have been sounded without his being able to hear them on account of the high wind. He also failed to notice any reduction in speed near the point of accident to indicate that the engineman had made a service application of the brakes, and estimated that the train was traveling between 35 and 40 miles per hour at the time of the accident.

T.L. Griffin, a trespasser, stated that he boarded the train at Mart and rode in the bunker of a refrigerator car near the engine. He heard the whistle at Marlin, and after leaving that point he heard it sounded several times for road crossings, but he did not hear any short, sharp blasts just before the accident occurred. After the accident he saw the remains of cattle scattered along the track but did not see any live stock in the vicinity.

The statements of Inspector Foreman Fullbright and Car Inspector Curry were to the effect that they inspected and assisted in testing the brakes of extra 1108 before it departed from Mart and found them all to be in proper working order.

Engineman Coor, of Train No. 70, stated that his train passed Black Bridge at about 6:25 p.m., December 26, with the headlight burning brightly and that he did not see any live stock on the right of way, neither did he notice any irregularities of the track. Fireman Graves, of the same train, stated that he was maintaining a sharp lookout while passing Black Bridge, but no cattle were within range of the headlight.

Section Foreman Boggan stated that he has had charge of the section on which the accident occurred since August, 1933, and usually patrols the track in the vicinity of Black Bridge at least three times each week, the last time having been about 1:30 p.m., December 26, and has never seen cattle in what immediate vicinity although he had seen them in a pasture about $1\frac{1}{2}$ miles east of the right of way. On the previous day he had observed that feed was being hauled from cars standing on the siding to the farm where this pasture was located and he thought probably some of these cattle had escaped and proceeded to the track where they were struck by the train, causing it to be derailed. He also said that none of the main line right of way on his section is fenced but there is a fence adjoining the pasture; he did not know its condition.

Division Engineer Cook arrived at the scene about 4:20 a.m. and found there were four cars standing on the spur, three of them near the north end being coupled, the fourth car being separated from the others a distance of 33 feet. Hoof prints of cattle were plainly discernible on the track about opposite the south end of the north car, and about 30 feet south of this point it could be plainly seen where animals had been knocked down on the track and dragged a short distance to the point where there were indications that at least two of these animals had been run over. Three feet south of this point the first flange mark appeared on the outer edge of the ball of the east rail, this mark being 0.8 foot in length; there was then a flange mark on a spike on the outside of the rail, followed by flange marks on intermittent ties to the frog of the switch, a distance of 253.9 feet. The first tie to be marked on the inside of the west rail was $7\frac{1}{4}$ inches from the gauge side and 6.7 feet south of the mark on the east rail and these marks were continuous to the turnout rail of the switch; these marks on the ties appeared to have been made by only one pair of wheels. The running rail between the frog and the heel of the switch was shoved eastward and the turnout rail was torn loose and shoved towards the west, resulting in the complete derailment of the train. Division Engineer Cook further stated that the western portion of Robertson County has a stock law which prohibits the running at

large of horses, cattle, etc. Black Bridge is located 22.7 miles from the southern extremity and about 12 miles from the northern extremity of the county and is within the area where the stock law is in effect, the territory subject to the stock law being from 8 to 10 miles in width at this point. The railroad right of way is mostly unfenced through this territory, due to the existing stock law.

On the day following the accident measurements were made of the gauge and surface and they were found to be generally well maintained. The Commission's inspectors also examined the track, as well as the equipment, but found nothing which it was thought could have contributed to the cause of the accident.

Master Mechanic Stark stated that engine 1108, of the Mikado or 2-8-2 type, is equipped with a standard steel pilot and Westinghouse ET braking equipment; this engine last received classified repairs at San Antonio and was turned out of the shops 30 days prior to the date of the accident. He inspected the engine at the scene of accident and found that none of the wheels or flanges showed any marks of wear. The right engine-truck wheel had an indentation at the outer edge of the rim and tread about $\frac{1}{4}$ inch in maximum depth and approximately 16 inches long; this was a new scar and evidently was caused by the wheel coming in contact with the turnout rail of the switch, after being derailed, as this rail showed a corresponding mark near the heel of the frog. There was hair and a substance that resembled animal flesh on the pilot, on the engine truck jaws and bolts, and on some of the brake rigging farther back under the engine. In his opinion an engine of this type could have its truck derailed and travel some distance at a speed of 25 miles per hour or more without the engineman's knowledge, provided the wheels followed the rails closely, as was indicated by the flange marks on the ties in this particular case.

Conclusions

This accident was caused by the train striking cattle on the track.

An inspection of the track and equipment did not disclose any defects that could have contributed to the cause of the accident, but the foot prints of cattle were visible along the track approximately 400 feet north of the spur track switch and about 30 feet south of this point there was evidence to show that cattle had been struck and dragged along the track and then run over. The damaged condition of the track and the mark on the engine-truck wheel indicated that the truck became derailed when it ran over the cattle and then followed the rails closely until

the right wheel encountered the turnout rail, causing the engine to swerve to the left and resulting in the final derailment.

On December 29 the Commission's inspectors rode on the rear platform of Train No. 19 between mile posts 120 and 101, within which territory the accident occurred, and observed a total of 22 head of stock in the fields, all of them being within $\frac{1}{2}$ mile of the track and at points where the right of way is not fenced. There is a county stock law in effect for a considerable distance surrounding Black Bridge prohibiting the running at large of horses, cattle, etc., but it does not provide a penalty for violation of the law. In view of this accident, and also in view of the number of cattle seen near the track in that locality by the Commission's inspectors 2 days after the accident, it is believed that steps should be taken either to enforce the law or to provide some means for keeping stray animals from the right of way.

Engine 1108 originally was equipped with a pilot which extended out considerably farther than was the case with the pilot with which the engine was equipped at the time of the accident. This latter pilot was applied in October, 1932, and is of the type now being applied to all large engines of this railroad when receiving general repairs. It would appear that this newer blunt pilot would have a greater tendency to knock cattle down in front of the engine and thus increase the hazard of derailment due to cattle getting under the wheels. Under the conditions as they exist at present, with cattle roaming at large and a county law which does not appear to be enforced, greater protection could be provided by installing pilots more suitable for throwing cattle clear of the rails.

Respectfully submitted,

W. J. PATTERSON,
Director.