

## INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY CONCERNING  
AN ACCIDENT ON THE MISSOURI PACIFIC RAILROAD NEAR  
MONROE, LA., ON APRIL 14, 1933

June 24, 1933.

To the Commission:

On April 14, 1933, there was a derailment of a freight train on the Missouri Pacific Railroad near Monroe, La. The lading of the derailed cars included gasoline and alcohol and 20 cars were destroyed by fire.

Location and method of operation

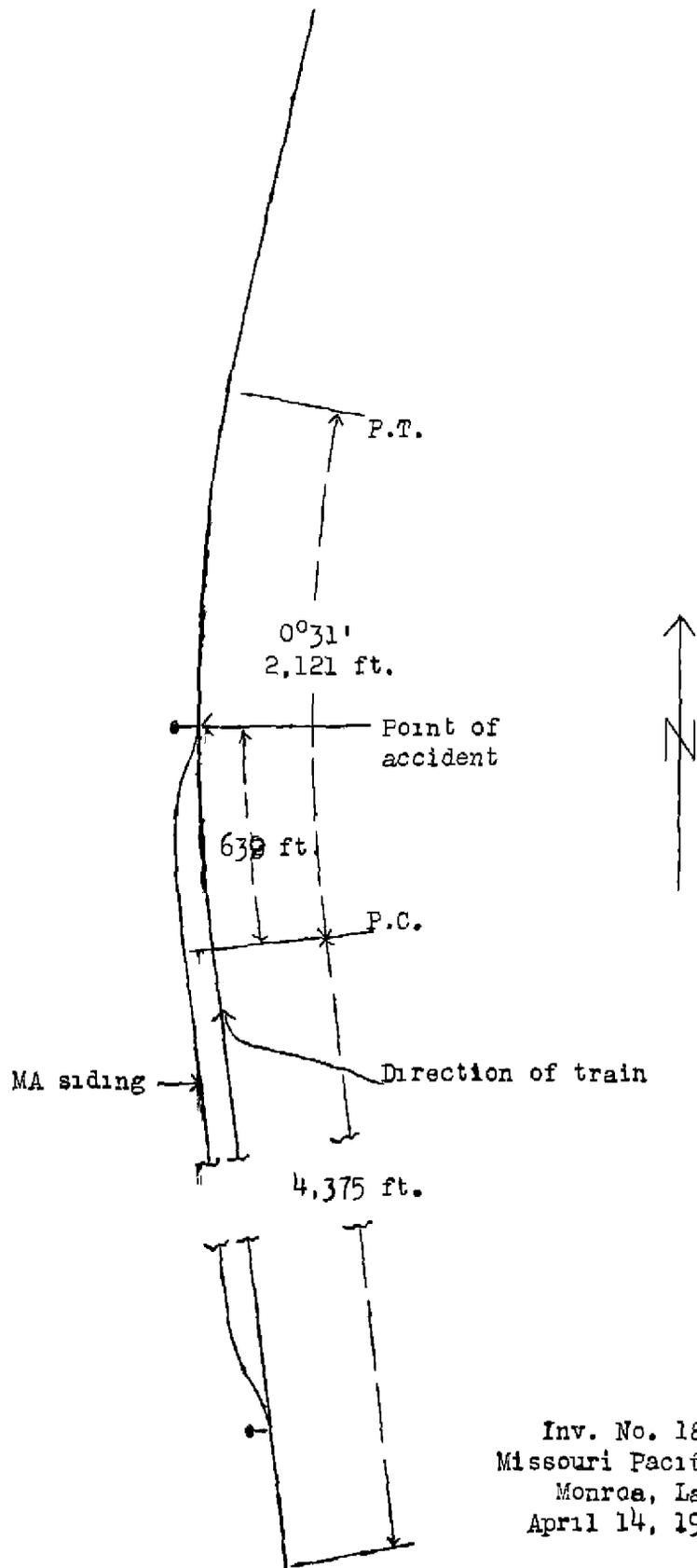
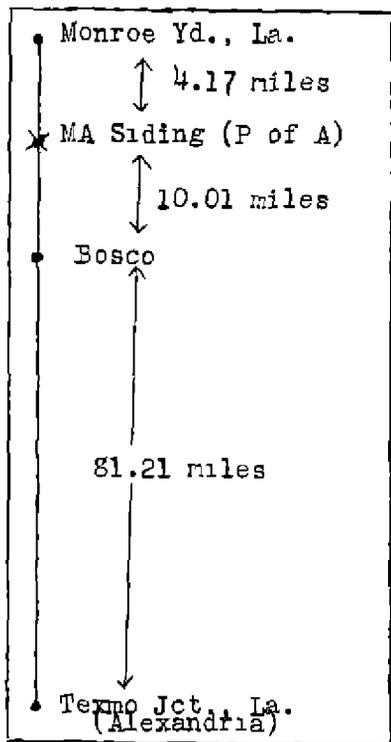
This accident occurred on the Monroe District of the Louisiana Division, extending between Texmo Junction, near Alexandria, and Monroe Yard, La., a distance of 95.39 miles; in the immediate vicinity of the point of accident this is a single-track line over which trains are operated by timetable and train orders, no block-signal system being in use. The accident occurred 4.17 miles south of Monroe Yard, at the north switch of MA Siding; approaching the point of accident from the south, the track is tangent for a distance of 4,375 feet, followed by a  $0^{\circ} 31'$  curve to the right 2,121 feet in length, the accident occurring on this curve at a point approximately 639 feet from its southern end. The grade is level. The passing track at this point, 4,521 feet in length, is on the west side of the main track.

The track is laid with 85-pound rails, 39 feet in length, with an average of 24 ties to the rail length, single-spiked, about 90 per cent tie-plated, and ballasted with gravel to a depth of about 30 inches. The maximum permissible speed for freight trains is 45 miles per hour.

It was raining at the time of the accident, which occurred about 2:48 p.m.

Description

Northbound freight train No. 168 consisted of 48 cars and a caboose, hauled by engine 1265, and was in charge of Conductor Carnes and Engineman Schultz. This train passed Bosco, the last open office, 10.01 miles south of MA Siding, at 2:28 p.m., according to the train sheet, 2 hours and 27 minutes late, and was derailed near the north switch of MA Siding while traveling at a speed estimated to have been about 40 or 45 miles per hour.



Inv. No. 1819  
 Missouri Pacific R.R.  
 Monroe, La.  
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The engine and first nine cars stopped with the rear end of the ninth car about 1,825 feet north of the switch; the rear truck of the ninth car was broken and the rear pair of wheels derailed. The tenth car, which had its rear truck derailed, stopped about 1,025 feet behind the ninth car and 300 feet north of the eleventh car. The eleventh car and the following 22 cars were derailed, 20 of them being destroyed by the fire which broke out in the wreckage.

#### Summary of evidence

Engineman Schultz stated that while rounding curves en route, he had looked back along his train to inspect it but had noticed nothing wrong, and the track conditions were good and the engine rode smoothly. When the engine reached a point several car lengths beyond the north switch of MA Siding he felt a slight jerk and thought an air hose had burst; on looking back he saw a car derailed. The accident occurred while the train was moving at a speed of slightly more than 40 miles per hour. Fireman Patty and Head Brakeman Powell gave testimony similar to that of Engineman Schultz; after the accident Fireman Patty went back and saw a broken truck on the ninth car, with some of the parts missing from the left side, which he concluded was the cause of the accident.

Conductor Carnes and Flagman Davis, as well as Conductor Stewart, who was deadheading, were riding in the caboose; the first they knew of anything wrong was when the air brakes were applied in emergency as a result of the accident. After the accident Conductor Carnes and Conductor Stewart went forward; the ninth car in the train, QTX 71763, was the first to be derailed. Conductor Carnes saw a broken arch bar some distance behind the ninth car, but at that time the heat from the fire in the wreckage was so intense that he could not examine it, although he was of the opinion that it was the arch bar from the ninth car. Examination of the track just ahead of the cars in the rear portion of the train that were not derailed disclosed a cut in the rail close to the frog of the north switch of MA Siding, and spikes and tie plates were torn up, while the switch points were torn out; he thought that the arch bar broke at this point, causing the derailment.

Division Engineer Jones arrived at the scene of the accident about 20 minutes after its occurrence, and examined the tank car involved, QTX 71763; the rear truck was broken, the rear pair of wheels was derailed, and the arch bar and oil boxes on the west side of the truck were missing and the center sill was resting on the axle. About 200 feet south of this car and on the west side of the track an oil box was found. Later on, in company with Roadmaster Hitchcock, an oil box bolt was found at a point about 700 feet south of

the rear of the train. On the following day an inspection was made of the track between the switches of MA Siding and cross levels were taken, but nothing wrong was found.

Roadmaster Hitchcock stated that the switch stand was broken down, heel block on the switch broken, bolt broken out on the heel of the frog, side track rail, and there was a mark on the frog heel block; south of this point there were marks on the ties on the outside of the west rail, about  $8\frac{1}{2}$  or  $9\frac{1}{2}$  inches from the gauge side of the rail, starting at a point about 1,450 feet south of the north switch and extending northward for a distance of about 75 feet, apparently made by something dragging; these were not very deep marks and apparently had not been made by wheels. There was nothing about track conditions that would have caused the accident. Roadmaster Hitchcock was of the opinion that something dragged through the switch point and spread the track just north of the switch, allowing the cars to drop to the ties. Division Engineer Jones was of the opinion that the accident was due to a broken truck on tank car QTX 71763.

Trainmaster Dunaway arrived at the scene of the accident about 1 hour after its occurrence. There were marks on the filler block at the north switch, indicating that it had received a severe blow, hard enough to lift a truck off the rail and cause the derailment, while 15 feet north of the switch the track was kicked out to the east from 3 to 5 feet; beyond that point it was destroyed as a result of the accident. There also were indications that something had struck the angle-bar bolt just back of the switch frog, shearing off the bolt. The truck side of the left rear truck of a tank car was found in the wreckage; it apparently came from tank car QTX 71763. The arch bar showed a break in the bend at the bottom just back of the front oil box, indicating that it had given way at this point, dropping down and riding below the rail to the point where it caught in the side of the passing track turnout, which drew it in and forced it against the filler block; then the arch bar buckled back under the rear box of the truck, raising it off the track and precipitating the derailment.

Master Mechanic Roquemore, who arrived at the scene of the accident shortly after its occurrence, said that after the fire from the wreckage died down somewhat, the steam derrick commenced to clear the track; a set of arch bars was found about 250 feet north of the switch, on the west side of the track and north of the other tank cars involved in the derailment, and he identified them as belonging to tank car QTX 71763. The break in the bottom arch bar was  $2\frac{3}{4}$  inches from the center of the column-bolt hole. He was unable to determine the cause of the arch-bar failure.

Car Inspector Stevens stated that he inspected train No. 168 at Alexandria Yard and particularly noticed tank car QTX 71763, as he knew it contained resin, a heavy load; he inspected both sides of this car, but found nothing wrong, saying that he uses a mirror to inspect arch bars.

The tank car involved, Quaker City Tank Line Company QTX 71763, was built in June, 1914, by the General American Tank Car Corporation. It has a capacity of 80,000 pounds, or a liquid capacity of 8,151 gallons, with a light weight of 39,000 pounds. Subsequent to the accident this car of resin was weighed and found to have a total weight of 111,800 pounds, net weight 72,800 pounds.

The last train to pass MA Siding prior to the accident was northbound passenger train No. 116, which was running at a speed of 30 to 35 miles per hour, and nothing wrong was noticed then as to track conditions.

#### Conclusions

This accident was caused by a broken arch bar.

The arch bar that failed was of the non-lip type; it was the bottom arch bar and was broken at a point about  $2\frac{3}{4}$  inches in front of the center of the forward column-bolt hole. The truck had been subjected to intense heat in the fire following the accident and while there also had been considerable erosion, this erosion was not so pronounced at the point of rupture, and at the time of this investigation the exact cause of the break had not been determined. It is possible that the breaking of the arch bar was aided by the nut being stripped from one column bolt and the breaking of another column bolt, but this also was not definitely determined.

Respectfully submitted,

W. P. BORLAND,

Director.