

INTERSTATE COMMERCE COMMISSION
WASHINGTON

REPORT NO. 3759

THE ATCHISON, TOPEKA AND SANTA FE
RAILWAY COMPANY

IN RE ACCIDENT

NEAR ACOMITA, N. MEX., ON

JUNE 18, 1957

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SUMMARY

Date:	June 18, 1957
Railroad:	Atchison, Topeka and Santa Fe
Location:	Acomita, N. Mex.
Kind of accident:	Collision between front and rear portions of train
Train involved:	Passenger
Train number:	21
Engine number:	Diesel-electric units 31C, 31B, 31A, and 31
Consist:	12 cars
Speed:	79 m. p. h.
Operation:	Signal indications
Tracks:	Double; tangent; 0.57 percent grade ascending westward
Weather:	Clear
Time:	5:55 p. m.
Casualties:	70 injured
Cause:	Separation in train and damaged brake equipment on rear portion of train as a result of improperly placed track material

INTERSTATE COMMERCE COMMISSION

REPORT NO. 3759

IN THE MATTER OF MAKING ACCIDENT INVESTIGATION REPORTS
UNDER THE ACCIDENT REPORTS ACT OF MAY 6, 1910.

THE ATCHISON, TOPEKA AND SANTA FE RAILWAY COMPANY

August 21, 1957

Accident near Acomita, N. Mex., on June 18, 1957, caused by a separation in a train and damaged brake equipment on the rear portion of the train as a result of improperly placed track material.

REPORT OF THE COMMISSION¹

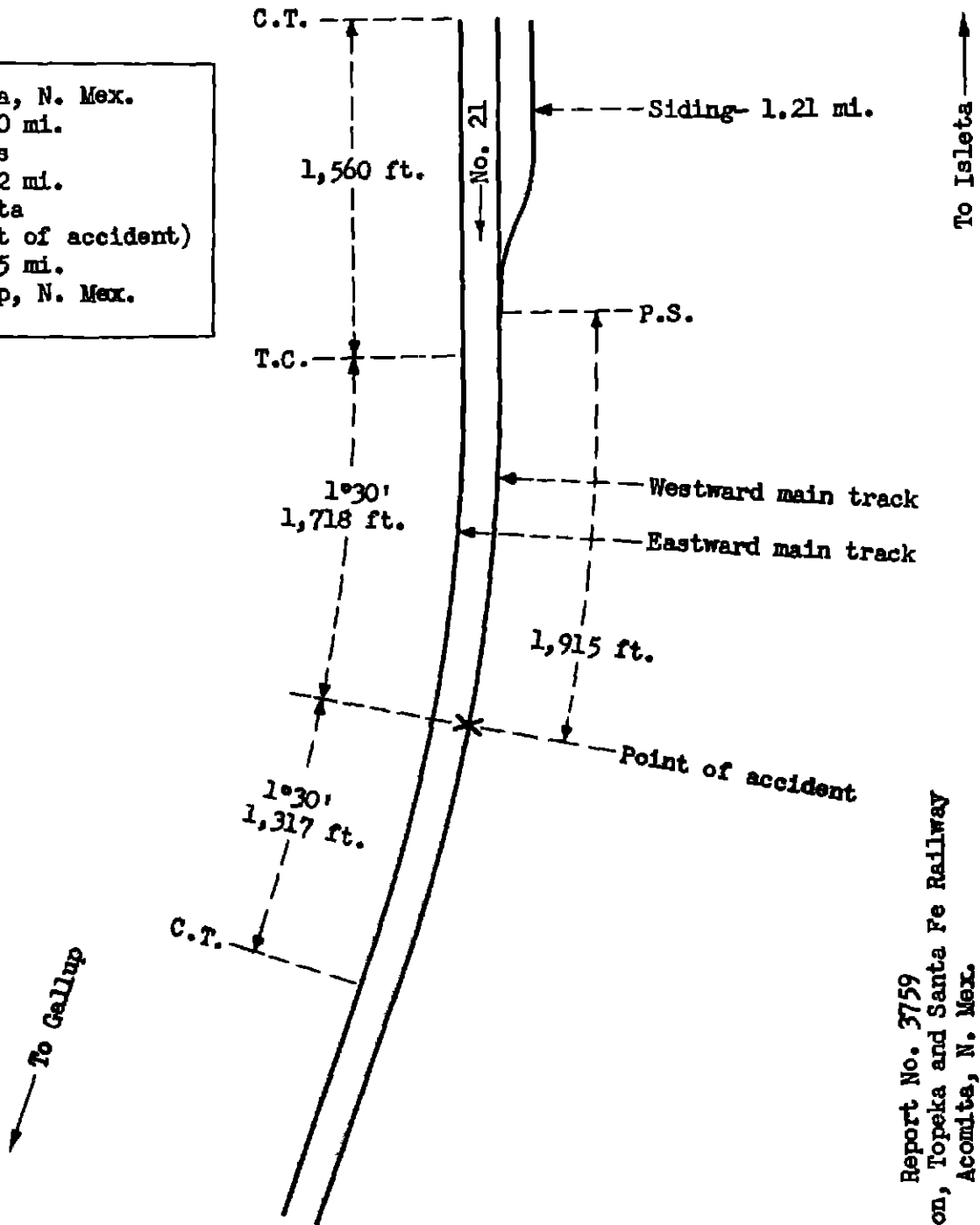
TUGGLE, Commissioner:

On June 18, 1957, there was a collision between the front and rear portions of a passenger train on the Atchison, Topeka and Santa Fe Railway near Acomita, N. Mex., which resulted in the injury of 66 passengers and 4 dining-car employees. This accident was investigated in conjunction with representatives of the State Corporation Commission of New Mexico.

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Under authority of section 17 (2) of the Interstate Commerce Act the above-entitled proceeding was referred by the Commission to Commissioner Tuggle for consideration and disposition.

- Isleta, N. Mex.
14.0 mi.
- Dalies
53.2 mi.
- X Acomita
(Point of accident)
80.5 mi.
- Gallup, N. Mex.



Report No. 3759
The Atchison, Topeka and Santa Fe Railway
Acomita, N. Mex.
June 18, 1957

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Location of Accident and Method of Operation

This accident occurred on that part of the Albuquerque Division extending between Isleta and Gallup, N. Mex., 147.7 miles. In the vicinity of the point of accident this is a double-track line, over which trains moving with the current of traffic are operated by signal indications. The main tracks from north to south are designated as eastward and westward. At Acomita, 67.2 miles west of Isleta, a siding 1.21 miles in length is located south of the westward main track. The accident occurred on the westward main track at a point about 1,915 feet west of the west siding-switch at Acomita. From the east there are, in succession, a tangent 1,560 feet in length, a 1°30' curve to the right 1,718 feet to the point of accident and 1,317 feet westward. The grade for west-bound trains averages 0.57 percent ascending throughout a distance of 2,100 feet immediately east of the point of accident.

In the vicinity of the point of the accident the track structure consists of 112-pound rail, 39 feet in length laid new in 1939 on an average of 25 treated ties to the rail length. It is fully tieplated with 8-inch by 10-1/2-inch single-shoulder tieplates, single-spiked, and is provided with 4-hole 24-inch joint bars and an average of 8 rail anchors per rail. It is ballasted with volcanic cinders to a depth of 6 inches below the bottoms of the ties on a 10-inch gravel sub-base.

The maximum authorized speed for passenger trains in the vicinity of the point of accident is 79 miles per hour.

Description of Accident

No. 21, a west-bound first-class passenger train, consisted of diesel-electric units 31C, 31B, 31A, and 31, coupled in multiple-unit control, 2 baggage cars, 1 baggage-dormitory car, 3 chair cars, 1 dining car, 1 lounge car, and 4 chair cars, in the order named. All cars were of lightweight construction. The third car was equipped with tightlock couplers, and the other cars were equipped with controlled-slack couplers. This train passed Dalies, 53.2 miles east of Acomita, the last open office, at 5:06 p. m., 42 minutes late, and while it was moving at a speed of 79 miles per hour it dislodged a quantity of tie plates which had been distributed along the track west of the west siding-switch at Acomita. As a result of tie plates flying underneath the train, the eighth car became uncoupled from the ninth car. A separation occurred between these cars, and the brakes became applied

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in emergency. The rear portion of the train then collided with the forward portion at a point about 4,050 feet west of the west siding-switch at Acomita. The fireman thought that the forward portion of the train was moving at a speed of 10 or 15 miles per hour when the collision occurred. According to the tape of the speed recording device the train was moving at a speed of 79 miles per hour when the brakes became applied, and the train stopped within a distance of 3,065 feet. The locomotive stopped 4,981 feet west of the west siding-switch.

No equipment was derailed or damaged by the force of the collision.

The weather was clear at the time of the accident, which occurred at 5:55 p. m.

The fourth to the twelfth cars, inclusive, were of the high-level type, built of stainless steel in 1956. They are 85 feet in length over buffers and are equipped with disc brakes and D-22AR control valves. The disc brakes consist of cast-iron discs mounted on the inside of the wheel hub of each wheel, and two brake shoes with composition linings which bear on the sides of each disc. The shoes are actuated through a tong arrangement by an air cylinder located between the wheels of the truck.

The coupler on the B or east end of the eighth car, ATSF 575, is equipped with a double articulated rotary lock-lift assembly with uncoupling levers provided for each side of the car. The uncoupling levers are made in two sections. The outward or handle section is provided with a locking device so that when the lever is in downward position the handle is prevented from turning. The inward section of the uncoupling lever is connected to the eye of the rotary lock-lift assembly by a hook in the end of the lever and to the outward section by a sliding uncoupling rod connector. The locking of the handle section of the uncoupling lever will not prevent the rotary lock-lift assembly from operating if sufficient force is applied to the assembly.

Discussion

On the day of the accident two extra gangs were engaged in unloading and assembling track material for the renewal of rails in the west and main track in the vicinity of the point of accident. During the forenoon the roadmaster assigned 10 trackmen to unload tie plates along the westward main track westward from a point about 450 feet west of the west siding-switch at Acomita. East of this point tie plates and other

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track material had been placed between the two tracks. In this vicinity the surface of the ground between the tracks slopes downward toward the westward main track. After assigning the men, the roadmaster left the vicinity. The men selected had previously worked on a section of track on which the speed of trains had been restricted, and on this track they had piled the tie plates between the rails. On the day of the accident they placed the tie plates in a similar manner, two tie plates on each tie, one on top of the other, between the rails and near the north side of the track. A total of 616 tie plates were so placed. The first few were placed on ballast which was over the tops of the ties. The foreman in charge of the men was east of the point at which the tie plates were distributed, and he did not notice the manner in which they were placed. About noon a track supervisor saw the tie plates and questioned the foreman as to their location between the rails. A misunderstanding resulted from this conversation, and the foreman gained the impression that the track supervisor was referring to tie plates which had been unloaded by the other extra gang. The track supervisor gained the impression that the trackmen had been authorized to leave them between the rails. The members of the extra gang went off duty before the accident occurred.

As No. 21 was approaching the point where the accident occurred the enginemen were in the control compartment at the front of the locomotive, the conductor was in the third car, the front brakeman was in the fourth car, and the flagman was in the rear car. The brakes of the train had been tested and had functioned properly when used en route. The members of the crew said that prior to the time the tie plates were dislodged the locomotive and cars had been riding smoothly and there had been no indications of defective equipment. The members of the train crew said that after the train passed Acomita they heard objects striking the bottoms of the cars and saw ballast flying. The brakes became applied in emergency several seconds later. The enginemen first became aware that anything was wrong when the brakes became applied as a result of the separation in the train.

Examination of the track structure after the accident occurred disclosed that throughout a distance of approximately 1,000 feet westward from a point 453 feet west of the west siding-switch at Acomita a considerable number of ties had been struck by flying tie plates. Between points 69 feet and 1,203 feet west of the first tie which had been struck 142 damaged tie plates were found either between the rails or outside the rails of the westward main track. There were no marks of dragging equipment east of the point at which the first tie had been struck.

Inspection of the equipment after the accident occurred disclosed that the locomotive and the first two cars were not damaged, but the floors, air brake equipment, piping, and other appurtenances below the floor level of all the other cars had been damaged in varying degrees by the tie plates. A total of 7 air hose, 4 metallic steam connectors, 8 brake discs, 10 disc-brake tong assemblies, and 7 air cylinders were broken, and 3 fuel tanks on the dining car were ruptured. On the east end of the eighth car, which became uncoupled from the ninth car, the coupler rotary lock-lift assembly had been struck on the bottom, the eye where the uncoupling lever connected was broken off, and the lock-lift assembly was operated allowing the coupler to open. The uncoupling lever was bent. The brake equipment of the four cars which separated from the forward portion of the train was damaged to the extent that the braking power of the cars was reduced to 50 percent of their normal braking, thereby reducing the rate of deceleration of these cars as compared to that of the forward portion of the train after the brakes became applied.

No. 1, a west-bound passenger train, passed Acomita about 50 minutes before the accident occurred. The members of the crew took no exception to any unusual condition. Apparently a tie plate worked over toward the north rail and was dislodged and set in motion under the third car of No. 21 as that train was passing. After the first tie plate was struck it struck other tie plates which had been placed between the rails causing them in turn to be set in motion and to be struck by the train. The design of the high-level cars is such that the floor crossbearer is 8 inches above the level of the tops of the rails. There were no indications that anything had been dragging or had fallen from the locomotive or the first three cars of the train.

Cause

This accident was caused by a separation in a train and damaged brake equipment on the rear portion of the train as a result of improperly placed track material.

Dated at Washington, D. C., this twenty-first day of August, 1957.

By the Commission, Commissioner Tuggle.

(SEAL)

HAROLD D. McCOY,

Secretary.