

INTERSTATE COMMERCE COMMISSION  
WASHINGTON

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INVESTIGATION NO. 3136  
THE ATCHISON, TOPEKA AND SANTA FE  
RAILWAY COMPANY  
REPORT IN RE ACCIDENT  
NEAR AVALON, N. MEX., ON  
MAY 31, 1948

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SUMMARY

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Railroad:	Atchison, Topeka and Santa Fe
Date:	May 31, 1948
Location:	Avalon, N. Mex.
Kind of accident:	Derailment
Train involved:	Passenger
Train number:	26
Engine number:	3446
Consist:	5 cars
Speed:	48 m. p. h.
Operation:	Timetable and train orders
Track:	Single; tangent; level
Weather:	Dark and raining
Time:	7:14 p. m.
Casualties:	2 killed; 22 injured
Cause:	Washout

INTERSTATE COMMERCE COMMISSION

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INVESTIGATION NO. 5186

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

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July 21, 1948

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Accident near Avalon, N. Mex., on May 31, 1948, caused  
by a washout.

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REPORT OF THE COMMISSION<sup>1</sup>

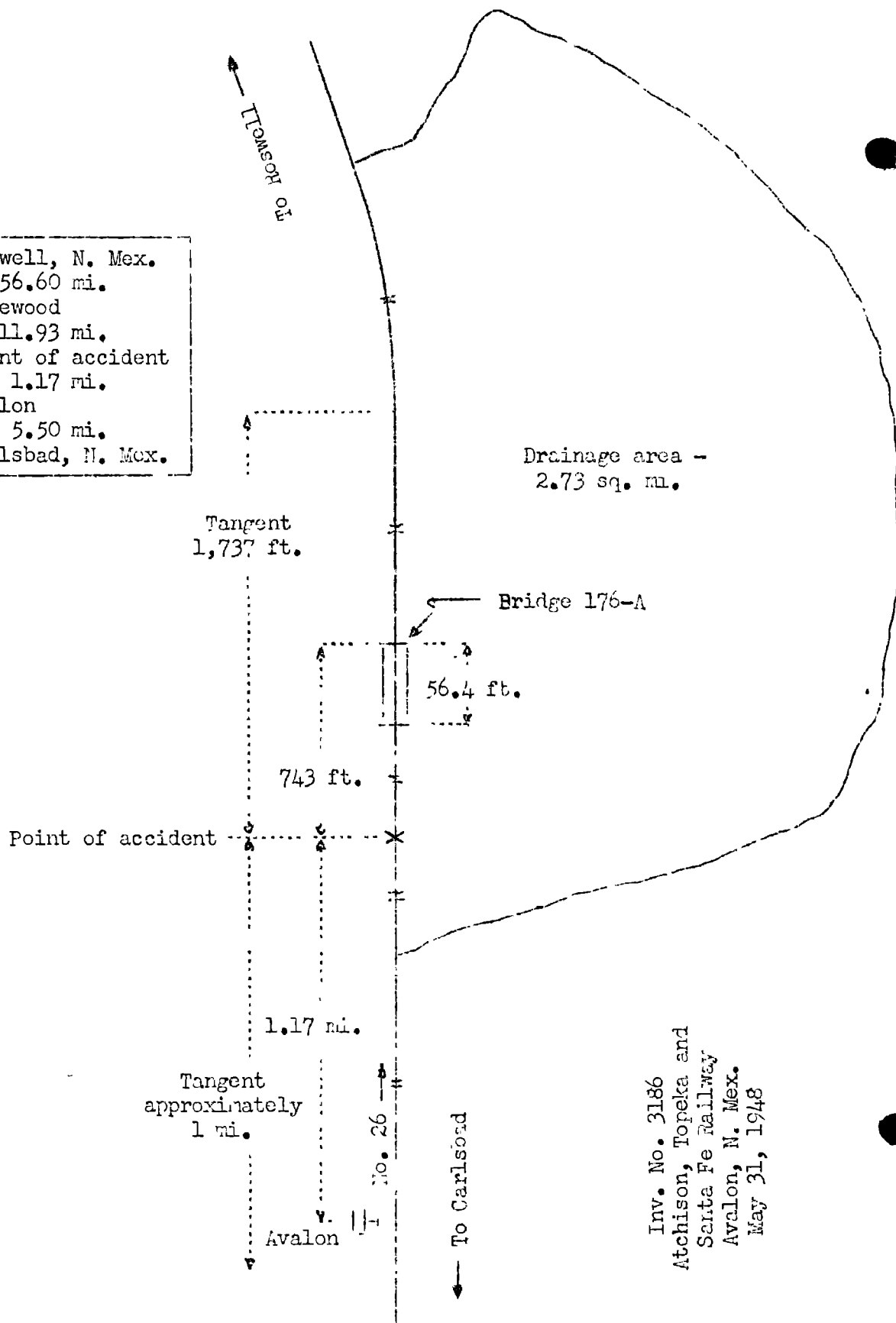
PATTERSON, Commissioner:

On May 31, 1948, there was a derailment of a passenger train on the Atchison, Topeka and Santa Fe Railway near Avalon, N. Mex., which resulted in the death of 2 train-service employees, and the injury of 13 passengers, 1 railway-mail clerk, 1 express messenger, 3 Pullman employees, 3 train-service employees and 1 employee not on duty.

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<sup>1</sup>  
Under authority of section 17 (2) of the Interstate Commerce Act the above-entitled proceeding was referred by the Commission to Commissioner Patterson for consideration and disposition.

o	Roswell, N. Mex.
	56.60 mi.
o	Lakewood
	11.93 mi.
X	Point of accident
	1.17 mi.
o	Avalon
	5.50 mi.
o	Carlsbad, N. Mex.



Inv. No. 3186  
Atchison, Topeka and  
Santa Fe Railway  
Avalon, N. Mex.  
May 31, 1948

Location of Accident and Method of Operation

This accident occurred on that part of the Pecos Division extending between Carlsbad and Roswell, N. Mex., 75.2 miles, a single-track line, over which trains are operated by timetable and train orders. There is no block system in use. The accident occurred on the main track 6.67 miles east of Carlsbad, at a point 1.17 miles east of the station sign at Avalon. The track is tangent throughout a distance of approximately one mile immediately west of the point of derailment and 1,737 feet eastward. The grade for east-bound trains is, successively, 1.00 percent ascending 1,100 feet, level 300 feet, 0.82 percent descending 900 feet and level 368 feet to the point of derailment and 616 feet eastward.

The track structure consists of 90-pound rail, 33 feet in length, rolled in 1922, and relaid in its present location in 1941 on an average of 18 ties to the rail length. It is fully tieplated, single-spiked, and is provided with 4-hole joint bars 24 inches in length and 6 rail anchors per rail length. It is ballasted with rock screenings to the bottoms of the ties. In the immediate vicinity of the point of accident the track is laid on a sandy loam fill, about 3-1/2 feet high, 32 feet wide at the base and 17 feet wide at the top.

An open-deck pile bridge, Bridge 176-A, 56.4 feet in length is located 743 feet east of the point of derailment, and the area of the waterway under the bridge is 234 square feet. The level of the surface of the bridge is about 8 feet above the level of the waterway. Water from an area of 2.73 square miles south of the track drains through the bridge to the north side of the track, but usually the area contains no water.

This carrier's maintenance-of-way rules read in part as follows:

SECTION FOREMEN.

\* \* \*

64. Patrolling During Storms.--They must, during heavy storms, have the entire section patrolled, day or night, and carefully watch and protect all places where trouble is liable to occur. During high water and after storms, they must examine track, waterways, culverts, bridge foundations, etc., and report by wire all severe storms to Superintendent, Division Engineer, Trainmaster and Roadmaster, and if damage has been done, state extent of same.

The carrier's operating rules read in part as follows:

317(A). At night, trains must not be operated over submerged track. By day, they may be operated over submerged track, when preceded by competent employe, who, after ascertaining condition of track and finding it safe, will give train signal to proceed. In case of an extraordinary rain storm or high water, trains must be brought to a stop and a man sent out to examine bridges, trestles, culverts and other points liable to damage, before passing over. \* \* \*

\* \* \*

The maximum authorized speed for the train involved is 50 miles per hour.

#### Description of Accident

No. 26, an east-bound first-class passenger train, consisted of engine 3440, of the 4-6-2 type, one baggage-mail car, one baggage car, one coach and two sleeping cars, in the order named. All cars were of all-steel construction. This train departed from Carlsbad, the last open office, 5.5 miles west of Avalon, at 7 p. m., on time, and while it was moving at a speed of 48 miles per hour, as indicated by the speed-recorder tape, the engine and the first four cars were derailed at a point 1.17 miles east of the station sign at Avalon.

The engine and tender, remaining coupled, stopped on their left sides, with the front end of the engine 50 feet north of the roadbed and 450 feet east of the point of derailment. The first, second, and third cars stopped behind the tender and leaned to the north at an angle of about 30 degrees, with the front end of the first car and the rear end of the third car, respectively, 21 feet and 6 feet north of the roadbed. The fourth car stopped on the roadbed, practically upright and in line with the third car. The engine and the first and fourth cars were badly damaged, and the second and third cars were slightly damaged.

The engineer and the fireman were killed. The conductor, the baggageman and the flagman were injured.

It was dark and raining at the time of the accident, which occurred at 7:14 p. m.

### Discussion

No. 26 was moving at a speed of 48 miles per hour on tangent track, in territory where the maximum authorized speed was 50 miles per hour, when the engine and the first four cars were derailed. There was no defective condition of the engine or equipment prior to the accident, and there was no indication of dragging equipment. At the time of the accident the members of the train crew were in various locations throughout the cars in the train, and they were not aware of anything being wrong until the accident occurred. The engineer and the fireman were killed.

Examination after the accident disclosed that about 500 feet of track had been washed from the roadbed to the north side of the fill by an excessive overflow of water from the drainage area south of the track, and that the greater portion of the north side of the fill had been washed away. In addition, 186 feet of track immediately westward had been forced out of normal alinement, but remained on the roadbed.

The investigation disclosed that about 1 hour prior to the time of the accident a heavy rain had fallen in the vicinity of Avalon. Members of the crew of an east-bound freight train, which passed over the track involved about 45 minutes before the accident occurred, said that the rainfall was exceptionally heavy in this vicinity, and that water to a depth of 1-1/2 feet was flowing under the bridge immediately east of the point of derailment. At 7:02 p. m., when this train arrived at Lakewood, the first point of communication, 13.1 miles east of Avalon, the engineer reported the conditions to the dispatcher, and the conductor informed the section foreman. The dispatcher immediately called the operator at Carlsbad in an attempt to stop No. 26, but at that time No. 26 had departed from Carlsbad. When the accident occurred the section foreman at Lakewood was waiting at the station for No. 26 to arrive so that he could proceed westward on his motor-car to patrol the track.

According to information furnished by the U. S. Department of the Interior at Carlsbad, approximately 2.5 inches of rain had fallen in the vicinity of Avalon between 6 p. m. and 7:45 p. m., on the day of the accident. High water marks in the vicinity of the point of accident indicated that during the crest of the flow, the water had risen to a height of about

2 feet above the surface of the track throughout a distance of about 400 feet immediately west and 850 feet immediately east of the point of derailment. During a 37-year period preceding the date of the accident, no washout or damage by storm had occurred in the immediate vicinity of the point of accident. Data furnished by the carrier indicates that the waterway area required at Bridge 176-A is 269 square feet, whereas the area provided was 234 square feet.

Cause

It is found that this accident was caused by a washout.

Dated at Washington, D. C., this twenty-first day of July, 1948.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,  
Secretary.