RAILROAD ACCIDENT INVESTIGATION

Report No 3940

MISSOURI PACIFIC RAILROAD COMPANY

MYERSVILLE, ARK

JANUARY 31, 1962

INTERSTATE COMMERCE COMMISSION

Washington

SUMMARY

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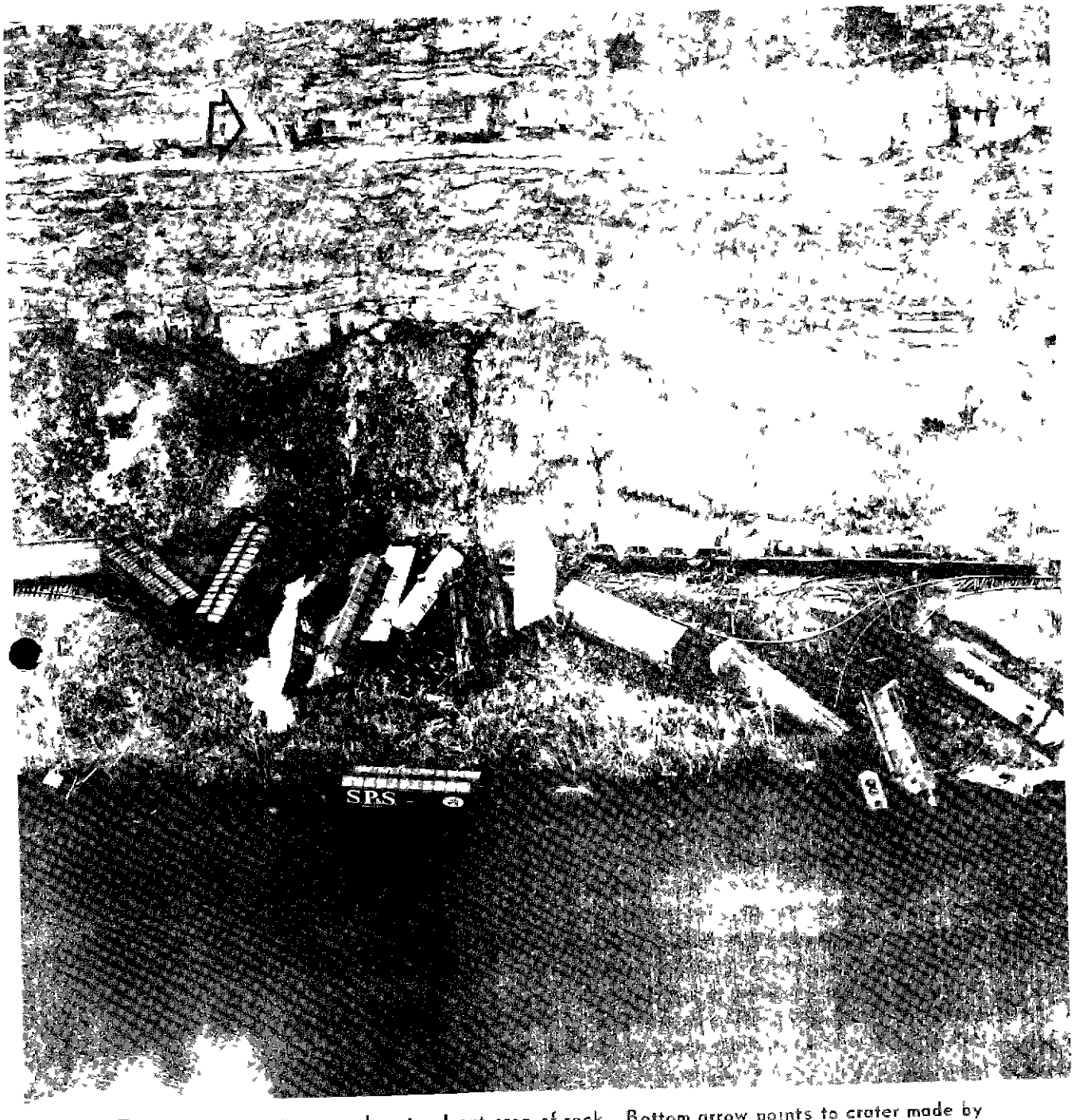
DATE	January 31, 1962
RAILROAD	Missouri Pacific
LOCATION	Myersville, Ark
KIND OF ACCIDENT	Derailment
TRAIN INVOLVED	Freight
TRAIN NUMBER	269
LOCOMOTIVE NUMBERS	Diesel-electric units 581A, 4278, 4141, 580A
CONSIST	112 cars, caboose
ESTIMATED SPEED	45 - 49 m p h
OPERATION	Timetable, train orders
TRACK	Single; 1°30' curve, level
WEATHER	Clear
TIME	10 45 p m
CASUALTIES	3 injured
CAUSE	Track obstructed by falling rock
RECOMMENDATION	That in the area subject to hazards of slides or falling rocks where this accident occurred the carrier take immediate steps to provide suitable slide detection and protective devices, or impose such speed restriction as may be necessary to insure safe passage of trains



Top arrow points to second vertical out crop of rock. Bottom arrow points to crater made by rock involved after falling from second vertical out-crop of rock.

INTERSTATE COMMERCE COMMISSION

REPORT NO 3940

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

MISSOURI PACIFIC RAILROAD COMPANY

June 18, 1962

Accident near Myersville, Ark , on January 31, 1962, caused by track obstructed by falling rock

REPORT OF THE COMMISSION[1]

SAFETY AND SERVICE BOARD NO 1

On January 31, 1962, near Myersville, Ark , there was a derailment of a freight train on the Missouri Pacific Railroad, which resulted in the injury of 2 train-service employees and 1 employee not on duty

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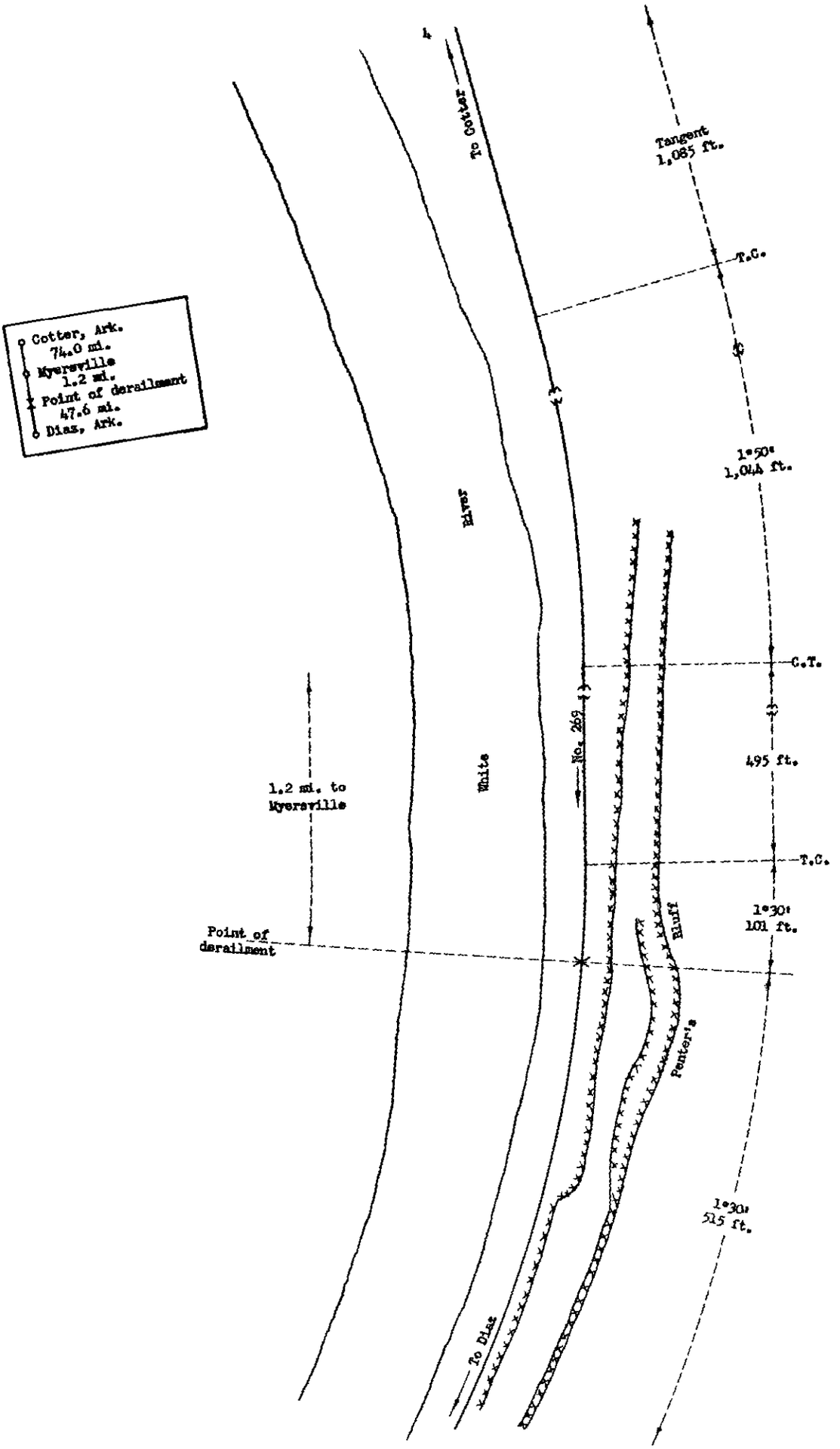
[1]Under authority of section 17(2) of the ***Interstate Commerce Act*** the above-entitled proceeding was referred by the Commission to Safety and Service Board No 1 for consideration and disposition



Missouri Pacific Railroad
Myersville, Ark.
January 31, 1962

Location of Accident and Method of Operation

This accident occurred on that part of the Eastern Division extending between Cotter and Diaz, Ark , 122 8 miles In the vicinity of the point of accident this is a single-track line over which trains are operated by timetable and train orders There is no block-signal system in use

The accident occurred on the main track 75 2 miles south of Cotter and 1 2 miles south of the station point at Myersville From the north there are, in succession, a tangent 1,085 feet, a 1°50' curve to the right 1,044 fe- , a tangent 495 feet, a 1°30' curve to the right 101 feet to the point of accident and 515 feet southward In this vicinity the grade is practically level

The structure of the main track in the vicinity of the point of accident consists of 90-pound rail, 39 feet in length, relaid in 1944 on an average of 24 treated ties to the rail length It is fully tie-plated with single-shoulder tie plates, single spiked, and is provided with 4-hole, 24-inch joint bars and an average of 12 rail anchors per rail It is ballasted with chat to a depth of 12 inches below the bottoms of the ties

In the vicinity of the accident the main track parallels White River on the east and is laid on a hillside cut The hillside, which adjoins the river, is known as Penter's Bluff The accident occurred on the hillside cut about 1,100 feet south of the north end of Penter's Bluff From the west side of the track structure at the point of accident, the bluff slopes downward at a 21-degree angle, to the east shore of White River, 28 5 feet below From a point 18 5 feet east of the center-line of the track, Penter's Bluff extends upward and eastward on a 30-degree slope, consisting of dirt and loose rocks, to a point 35 feet above the level of, and 80 feet east of, the track From this point an out-crop of rock, consisting of limestone, rises vertically to a height of 69 feet above the level of the track The bluff then rises 69 feet higher on a 40-degree slope to a point approximately 162 feet east of the track, after which a second out-crop of rock, consisting of limestone, rises vertically to a height of 295 feet above the level of the track Near the top of a portion of this out-crop there is an overhanging rock ledge This ledge is about 11 feet in height and extends outward about 7 feet from the face of the bluff Above the second out-crop of rock there is a third slope and a third vertical out-crop of rock that extends to the summit of the bluff

The maximum authorized speed for freight trains in the vicinity of the point of accident is 49 miles per hour

Description of Accident

No 269, a southbound second-class freight train, consisted of diesel-electric units 581A, 4278, 4141 and 580A, coupled in multiple-unit control, 112 cars and a caboose This train departed from Cotter at 9 00 p m , 2 hours 45 minutes late, passed the station point at Myersville about 10 44 p m , and approximately 1 minute later, while moving southward on the main track at an estimated speed of 45-49 miles per hour, it struck a large rock that had fallen from Penter's Bluff onto the main track 1 2 miles south of the station point at Myersville and about 1,100 feet south of the north end of Penter's Bluff

The train stopped with the front end 243 feet south of the point of impact The 4 diesel-electric units and the 1st to the 17th cars, inclusive, were derailed and stopped in various positions as shown in PLATE 1 The 1st and the 4th diesel-electric units were considerably damaged, and the 2nd and 3rd units were heavily damaged Of the derailed cars, 10 were heavily damaged, 4 were considerably damaged and 3 were somewhat damaged

The front brakeman, the swing brakeman, and an engineer, who was not on duty, were injured

The weather was clear and it was approximately 38 degrees above zero at the time of the accident, which occurred about 10 45 p m

The locomotive was equipped with a speed-recording device On the day of the accident, however, this device was not provided with tape

During the 30-day period immediately preceding the day of the accident, the average daily movement in the vicinity of Myersville was 3 6 trains During this same period the temperature ranged from a low of 6 degrees below zero to a high of 66 degrees above zero, with intermittent light snow and rain No precipitation was recorded on the day of the accident

Discussion

As No 269 was approaching the point where the accident occurred its speed was between 45 and 49 miles per hour, according to estimates made by the members of the crew The enginemen and the front brakeman were in the control compartment at the front of the first diesel-electric unit, which was of the car-body type, and the swing brakeman and an engineer not on duty were in the control compartment near the front of the second unit, which was of the road-switcher type The conductor and the flagman were in the caboose The brakes had been tested and had functioned properly when used en route The headlight was lighted

When the train reached a point at Penter's Bluff approximately 300 feet north of the north end of the curve involved, the fireman observed a large rock on the track ahead at a distance of about 400 feet He said this rock extended across both rails and 2 to 3 feet beyond the field side of each rail Its height appeared to be about 4 feet Upon observing the rock the fireman immediately called a warning to the engineer and the front brakeman, and at the same time he opened the emergency brake valve located on his side of the control compartment The engineer moved the automatic brake valve to emergency position when he heard the fireman's warning, and both said they then observed that the track in the vicinity of the rock appeared to be displaced about 3 feet westward, toward White River They said the speed was not materially reduced before the locomotive struck the rock and derailed to the west The swing brakeman, the conductor and the flagman were unaware of anything being wrong before the brakes of the train became applied in emergency

Examination of the track structure disclosed that only fragments of the rock remained in the vicinity of the point of accident, and that the track structure was destroyed throughout a considerable distance northward and southward

Examination of Penter's Bluff in the vicinity of the point of accident disclosed a large fresh cavity in the overhanging rock ledge located 295 feet above the level of, and 162 feet east of, the main track It appeared that the rock which fell upon the track started from this cavity This cavity was somewhat triangular in shape and it measured about 13 feet by 7 feet, with a depth of 3½ feet It is apparent from marks on the slopes and ledges that a rock weighing several tons became dislodged from the overhanging rock ledge then fell and rolled to the bottom of the bluff where it lodged on the rails of the main track, and was struck by No 269

On the day before the accident a track supervisor inspected the main track in the vicinity of Penter's Bluff and noticed no unusual condition of the track or the bluff He said that during wet, or freezing or thawing weather conditions rocks of various dimensions fall from Penter's Bluff He said that a track force is primarily engaged in scaling slopes of bluffs and hills adjoining the main track in the territory involved, and that members of this track force had worked at Penter's Bluff one day about a week prior to the day of the accident He said he had no knowledge as to whether any member of this force or another track force had been assigned to watch for rocks or slides obstructing the main track at Penter's Bluff during wet, or freezing or thawing weather conditions and to provide protection against trains striking such rocks or slides

A southbound freight train passed Penter's Bluff 4 hours 40 minutes before the accident occurred, and the members of the crew noted no unusual condition at this point

A rock quarry is located approximately one-half mile north of Penter's Bluff Small explosive blasts are regularly detonated at this quarry, and large blasts are detonated several times yearly The last large blast, which was detonated by 22,000 pounds of ammonium nitrate, occurred October 5, 1961

On November 9, 1955, a train struck a large rock that had fallen from Penter's Bluff onto the main track, and as a result of this incident the carrier placed a speed restriction of 20 miles per hour in effect at the bluff During the period in which this speed restriction was effective, no derailment or extensive damage occurred from trains striking rocks or rock slides at Penter's Bluff According to statements made during the investigation, several trains struck rocks at Penter's Bluff during this period, but little or no damage occurred because of the slow speeds at which the trains had been moving in compliance with the speed restriction According to these statements, other trains moving in the vicinity of Penter's Bluff during the period of the speed restriction had been able to stop short of rocks obstructing the track because such trains had been moving in compliance with the 20 mile-per-hour speed restriction This speed restriction was cancelled in August 1961 On January 21, 1962, 10 days prior to the accident involved in the instant case, No 269 struck a large rock at Penter's Bluff but no derailment or extensive damage occurred It was necessary, however, to replace a rail at the point where the rock had fouled the track

Cause

This accident was caused by track obstructed by falling rock

Recommendation

It is recommended that in the area subject to hazards of slides or falling rocks where this accident occurred the carrier take immediate steps to provide suitable slide detection and protective devices, or impose such speed restriction as may be necessary to insure safe passage of trains

Dated at Washington, D C , this eighteenth day of June, 1962

By the Commission, Safety and Service Board No 1

(SEAL)

HAROLD D McCOY,

Secretary

Interstate Commerce Commission
Washington 25, D. C.

OFFICIAL BUSINESS
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