

February 15, 1916.

IN RE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON
THE SAN PEDRO, LOS ANGELES & SALT LAKE RAILROAD
NEAR BERYL, UTAH, JANUARY 7, 1916.

On January 7, 1916, there was a derailment of a passenger train on the San Pedro, Los Angeles & Salt Lake Railroad near Beryl, Utah, which resulted in the injury of 4 passengers and 2 employees. After investigation of this accident the Chief of the Division of Safety reports as follows:

The train involved in this accident was westbound passenger train No. 1, consisting of locomotive 3420, 2 baggage cars, 1 smoking car, 1 chair car, 1 tourist sleeping car, 1 standard sleeping car and 1 private car, in charge of Conductor Deacon and Engineman Blomfield. It left Milford, Utah, at 9:47 a.m., 47 minutes late, passed Lund, the last telegraph station east of the point of accident at 10:42 a.m., 40 minutes late, and at 11:04 a.m. was derailed about one-half mile east of Beryl, while running at a speed of approximately 40 miles an hour.

The Salt Lake Division of the San Pedro, Los Angeles & Salt Lake Railroad upon which this accident occurred, is a single-track line. Train movements are governed by time-table and train orders, no block signal system being in use. The accident occurred at about the middle of a 10-mile stretch of straight track, at which point the grade is about .2 per cent descending for westbound trains. The weather at the time was clear and cold.

The track was laid with 75-pound rails, 33 feet in length with about 16 ties under each rail. The rails were laid on tie plates and were single spiked. Angle bars were used at joints with two bolts through each rail. The ballast consisted

of .7 of a foot of gravel.

The accident resulted in the derailment of the entire train with the exception of the engine truck and trailer and the forward truck of the tender. The passenger equipment went down the 4-foot embankment on the north side of the track, the two baggage cars and smoking car being turned over on their sides, while the other cars remained upright. When all of the equipment came to a stop, the rear end of the rear car was 180 feet from the initial point of derailment while the head end of the first car was 646 feet from the point of derailment and the locomotive 875 feet beyond the head end of the train. The track was badly torn up.

Engineman Blaupied stated that the driving wheels of the locomotive were the first wheels to be derailed. He stated that the speed of the train at the time was not in excess of 40 miles an hour, while under the rules trains are allowed to run over this part of the line at the rate of 50 miles an hour when late. He further stated that prior to the derailment he noticed nothing unusual in the condition of the track. Engineman Blaupied stated that the lateral in the engine boxes was between one-half and three-fourths of an inch, while the lateral in the driving wheels was not one-half of an inch. He stated that the locomotive rolled slightly after leaving the mile board, a point where he usually makes an application of the brakes, and because of this rolling motion he made a little heavier application of the air than usual. Just as the locomotive straightened up, he felt the driving wheels on the ties, the brakes still being applied at the time. He stated, however, that the locomotive did not roll more

than any other locomotive and that in his opinion there was nothing in the condition of the locomotive that would cause it to leave the rails. It was his belief that the accident was caused by the spreading of the rails.

Examination of the track showed the first indication of derailment to be 310 feet east of the rear end of the rear car where it stopped after the accident. The marks on the rail showed wheel had sheared off a ribbon of steel from the inside ball of the south rail. From this point to where the first wheel marks showed on ties was 40 feet, and at this point the south rail gave such resistance that it forced the drivers over, breaking the joint in the north rail, breaking the angle bars and also breaking out the first bolt hole in the forward rail and the bolt in the second hole. This allowed the driving wheels of the locomotive to drop on the outside of the north rail, and on the inside of the south rail. The locomotive truck and trailer remained on the rail, in which condition the locomotive ran a distance of 1,321 feet. The brakes having been applied just before the derailment occurred, and the drivers being off the rails, their weight was in a measure carried by the brake shoes which locked the driving wheels and they slid along on the ties, this being indicated by the marks on the ties and on the ball of the rail. This was substantiated by the marks on the driving wheels, the marks being on but one place on the wheel, and only about the depth of the rail.

At a point 110 feet west of where the joint of north rail gave way, the ties had been bunched and broken and eight new ties had been placed, and it is believed that this is the point where the train started to leave the rails.

Examination of the track was made for a distance of 2,850 feet east of the point where derailment occurred, and it was found that at many places the spikes had been pulled up by thaw after hard freezing weather. Also several spike heads were found to have broken or sheared off on the outside of each rail, which was evidently caused by rocking or swinging motion of engines or trains, either by this train or the two eastbound fast limited trains which passed over this track earlier in the morning. This condition was also found west of the point of accident, and beyond the locomotive.

Although the track had been regauged and respiked at the time the examination of the track was made, the tie plates were removed near the point of the derailment and it was found that the south rail had been drawn in seven-eighths of an inch as shown by old spike holes on outside of the rail, while the north rail was found to have been gauged in from five-eighths to three-fourths of an inch. At the point where the ribbon of steel was sheared off of the south rail, where the driving wheels first dropped in between rails, the south rail had been forced over 2-1/2 inches.

This accident was caused by the spreading of the rails.

The section on which this derailment took place is 9 miles in length, in charge of a Japanese section foreman who, during the summer months when ties are to be replaced, has been allowed as many as 6 men, but the force was reduced December 10, 1913, to 3 men, which was the force employed at the time of the accident. This foreman took charge of this section August 31, 1914.