

INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY IN RE
INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE
DENVER AND SALT LAKE RAILWAY NEAR VOLCANO, COLO ,
ON AUGUST 12, 1929.

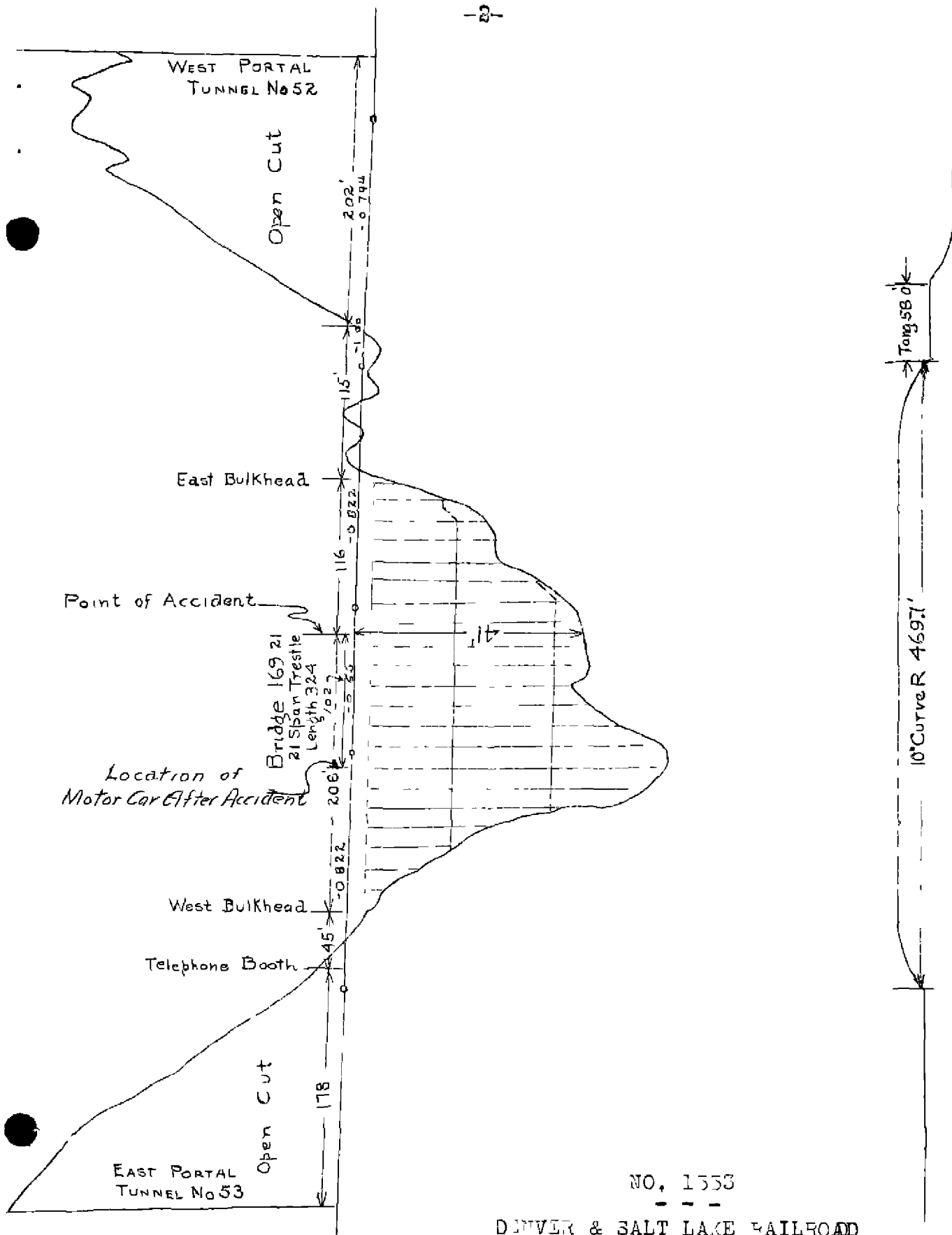
November 23, 1929.

To the Commission

On August 12, 1929, there was a head-end collision between a work train and a section motor car on the Denver and Salt Lake Railway near Volcano, Colo , which resulted in the death of one employee and the injury of two employees, one of whom later died

Location and method of operation

This accident occurred on the Second District, which extends between Tabernash and Phippsburg, Colo , a distance of 104.03 miles, and is a single-track line over which trains are operated by time-table and train orders, no block-signal system being in use. The accident occurred on bridge 169.21, located 2.4 miles west of Volcano Ballast Pit, also known as Cinder Pit, which in turn is located about 1 mile west of Volcano. Bridge 169.21 is located between tunnel 52, which is 1,318 feet in length, and tunnel 53, which is 129 feet in length, there are open cuts at each end of the tunnels. Approaching the point of accident from the east there is a 12° curve to the left 901.2 feet in length, the east portal of tunnel 52 being located on this curve at a point 283.8 feet from its western end, continuing westward through the tunnel, the track is then tangent for a distance of 515.9 feet, followed by a 12° curve to the right 690.6 feet in length, the west portal of tunnel 52 being on this curve at a point 173.3 feet from its western end, the track is then tangent for a distance of 58 feet followed by a 10° curve to the left 469.7 feet in length, the accident occurring on this curve 203.7 feet from its eastern end, or 435 feet from the west portal of tunnel 52. Approaching from the west the track is tangent for a distance of



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Volcano, Colo.

Aug. 12, 1929.

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846.5 feet, followed by the curve on which the accident occurred, tunnel 53 being located on the tangent track near its eastern end, or 423 feet from the point of accident. The grade is descending for eastbound trains, being 0.65 per cent at the point of accident.

Bridge 163 21 is a 21-span trestle bridge, 324 feet in length, and the accident occurred on this bridge at a point about 116 feet from its eastern end. The greatest depth from the tops of the rails to the base of the bridge is 60 feet, which is near the west bulkhead, at the point of accident the depth is 41 feet. There is a clear view across the 10° curve from the western end of the cut at tunnel 52 to the point of accident of 256 feet, and to the end of the cut at tunnel 53 of 500 feet. Tunnel 52 runs through a mountain of rock and earth, rising hundreds of feet above the tunnel portals, and due to this fact the sound of a whistle on an approaching train at one portal is deflected and cannot be heard over the mountain at the other portal.

Bulletin No. 784, issued at Denver on March 5, 1926, and still in effect, addressed to motor-car operators, provides in part

The train dispatcher will issue a general lineup to all motor car operators once each day, beginning 7.30 a. m.

All section foremen, extra gang foremen, B & B. foremen and others, at points where no operator is on duty, between Denver and Phippsburg, who will need information regarding train movements for motor car operation in the morning, will get on the telephone and be ready to receive the information from the dispatcher.

Where an operator is on duty, he will record this lineup as given by the dispatcher and issue it in writing to motor car operators, requesting it, retaining a file copy.

This lineup will be depended upon for protection up to 9.30 a. m. After that time cars must be protected by flag regardless of lineup. A flagman must be sent ahead with flag and torpedoes at all points where view is obstructed.

motor cars and push cars will not be left standing on the main line at any time without full flag protection on both sides. Trains must be expected and protected against at all hours.

The weather was clear at the time of the accident, which occurred at 7:45 a. m.

Description

Westbound work extra 114 consisted of 10 dump cars pushed by engine 114, and was in charge of Conductor Dearin, and Enginemen Ohms. This train departed from Cinder Pit at 7:03 a. m., en route to bridge 170 12, and collided with section motor car 31 on bridge 169 31 while traveling at an estimated speed of 5 miles per hour.

Eastbound section motor car 31, hauling a push car loaded with track tools, was in charge of Section Foreman Bedard, accompanied by four section men. The motor car departed from Egeria, 7.26 miles west of Volcano, at 7:10 a. m., after Section Foreman Bedard had received a line-up of trains, and collided with extra 114 while traveling at a speed estimated to have been about 3 or 7 miles per hour.

The force of the collision drove the motor car backward a distance of 102 feet. There was very slight damage to the equipment and none of it was derailed. The employees killed were two of the section men, while the employee injured was the section foreman.

Summary of Evidence

Section Foreman Bedard stated that at 6:45 a. m. he received the line-up, which was broadcasted by the dispatcher and was to the effect that work extra 114 works between 7:01 a. m. and 5:01 p. m. between Cinder Pit and Egeria, as well as containing information about other trains. Thinking that he would have time to patrol the track from Egeria to tunnel 52 and return, before work extra 114 would arrive, he proceeded eastward, leaving Egeria at 7:00 a. m., and was traveling at a speed of about 6 or 7 miles per hour when at about the center of bridge 169.31 he saw cars coming out of tunnel 52, about 300 feet distant. He immediately shut off the motor and applied the brakes, which were in good condition, but was unable to stop the motor car before the collision.

occurred. He helped Sectionmen Dillinger to get out on a bridge cap and then ran back to get out on the next cap himself, but he was unable to reach it because of the fact that the train was so near him and he therefore leaped off the bridge. Section Foreman Bedard stated that he saw Conductor Peering and Brakeman Rogers riding on the head car, and he heard the sound of the air when they applied the brakes, but he did not hear the whistle on the engine or the tail-hose whistle on the head car. Section Foreman Bedard further stated that he did not flag when he went through tunnel 53 and out on to bridge 169.21, although under the flagging requirements he should have been protected by flag, saying that the work train had never arrived that early in the morning but would usually come between 9 and 12 o'clock. When the engineman and conductor of Extra 114 went down the hill to carry him up to the track, Section Foreman Bedard said to the conductor that he did not expect his train down there that early in the morning and the conductor then told him that they went to work at 8:55 a.m. Section Foreman Bedard was seriously injured and this statement was obtained while he was in the hospital.

Sectionmen Dillinger stated that he was riding in the center of the motor car, and when near the telephone booth at east end of the cut, after leaving tunnel 53, he saw the approaching train and called to Section Foreman Bedard, who immediately applied the brakes. He then jumped off the motor car and ran along the side of it trying to stop it, but when he saw that they were colliding, he got down on the side and crawled out on a bridge cap. Sectionmen Dillinger said he had been working on this section only since August 5, but was thoroughly familiar with the conditions, as he had previously worked on sections nearby. He further stated that Sectionman Stewart usually acted as flagman, and had his flag in his hand on this occasion, but at no time did the section foreman send him ahead in accordance with the usual custom, he had always flagged around curves and through tunnels and it was invariably his practice to flag through tunnel 53. Sectionmen Dillinger thought that they had been traveling at a speed of about 10 or 12 miles per hour, but this speed had been reduced considerably before the collision occurred. It also appeared from his statements that they went to work at 7:00 a.m. put the cars on the track, loaded a few tools and started, he did not know what time they started but said it could not have been later than 7:10 a.m. The statements of Sectionman Arrondondo brought out nothing additional of importance.

Conductor Dearing, of work extra 114, stated that he and the brakeman were riding on the lead car and that he sounded the air whistle on all curves and on approaching all tunnels, and that on passing out of the cut at the west end of tunnel 52 he saw the motor car approaching, about five car-lengths distant. Brakeman Rogers immediately applied the brakes in emergency by means of the tail hose coupled to the brake pipe. Conductor Dearing further stated that the air brakes worked properly, and he estimated that the speed of the train which had been about 15 miles per hour, was reduced to about 3 miles per hour at the time of the collision. According to his statements, his train did not depart from Cinder Pit until 7.08 a.m. The statements of Brakeman Rogers corroborated those of Conductor Dearing. The statements of Engineman Orris and Fireman Harrison brought out nothing additional of importance except that they both stated that the brakes worked properly, the engineman saying he made an all-brake test before leaving Cinder Pit, the fireman thought they left Cinder Pit at 7.05 or 7.06 a.m.

Roadmaster Kane stated that the Egeria section, on which this accident occurred, extends from mile post 175 to a point within tunnel 52, twenty-one rail-lengths from its eastern end, and he requires both section foremen when working in that vicinity to go all the way through tunnel 52 for the reason that the Volcano foreman, in order to return with safety, should go to the telephone at the east end of tunnel 53, and when the Egeria foreman is working in tunnel 52 his instructions are to go all the way to the east end and new work back. He also stated that the motor car stops sometimes at the telephone booth and sometimes at the west end of the tunnel, when sending a flag ahead.

Conclusions

This accident was caused by the failure of Section Foreman Bedard to provide proper flag protection for the movement of his motor car.

The investigation disclosed that Section Foreman Bedard received a line-up showing that extra 114 would work between Cinder Pit and Egeria between 7.01 a.m. and 8.01 p.m., and he assumed that he could cover his section from Egeria to the end of his section, which is within tunnel 52, before extra 114 would arrive at that point, and therefore provided no flag protection on approaching bridge 165.31 or tunnel 52, in direct violation of Bulletin No. 784, previously quoted, which provides that

a flagman must be sent ahead with flag and torpedoes at all points where view is obstructed. This motor car was also operated in violation of rule 118 of the maintenance of way rules, which provides in part that foremen must not assume that a train may not come for a certain time.

All of the employees involved were experienced men with the exception of the sectionmen who had been in the employ of this railroad less than one year. None of them had been on duty in violation of any of the provisions of the hours of service law.

Respectfully submitted,

W P BORLAND,

Director