IN RE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE LOS ANGELES & SALT LAKE RAILROAD, UNION PACIFIC SYSTEM, NEAR VIGO, NEV., ON NOVEMBER 3, 1925.

On November 3, 1925, there was a derailment of a freight train on the Los Angeles & Salt Lake Railroad, Union pacific System, near Vigo, Nev., resulting in the death of one employee, and the injury of two live stock caretakers and three employees.

Location and method of operation.

This accident occurred on the Fourth Sub-division of the Los Angeles Division, extending between Caliente and Las Vegas, Nev., a distance of 125.3 miles; in the vicinity of the point of accident this is a single-track line over which trains are operated by time-table, train orders, and an automatic block-signal system. The accident occurred in a cut approximately 1.1 miles east of Vigo; approaching this point from the east the track is tangent for a considerable distance followed by a 4 degree curve to the right 1,250.4 feet in length, the point of accident being on this curve at a point 344.2 feet from its eastern end. The grade is 0.84 per cent descending for westbound trains. The weather was clear at the time of the accident, which occurred at about 11:20 a.m.

## Description.

Westbound freight train second No. 261 consisted of 73 cars and a caboose, hauled by engine 5508, and was in charge of Conductor Golden and Engineman Paulus. This train left Carp, 5.6 miles east of Vigo, at 11.02 a.m., according to the train sheet, and on reaching a point approximately 4.5 miles beyond, while traveling at a speed estimated to have been between 10 and 15 miles an hour, was derailed by dirt and gravel on the south rail at the point where a work train had been performing work and had just previously departed from this point to get into clear for train second No. 261.

Engine 5508 and five cars were derailed. the engine coming to rest on its left side, south of the track, with its head end 187 feet west of the initial point of derailment. The employee killed was the fireman.

## Summary of evidence.

On September 18, 1925, there was a storm which covered the track with dirt and gravel to a depth of about 4 feet, as well as filling the ditches and culverts on each side of the track. When the track was opened to traffic at that time a bank of dirt and gravel was left on the south side of the track, about 4 feet 7 inches in height which sloped toward the track, the top of the slope being 11 feet from the center of the track; some of the sand and gravel was also left between the rails, covering the ties. On the day of the accident work extra 6037 was engaged in cleaning ditches and hauling this dirt to a point just east of Vigo, or about 3/4 mile from the loading point. This work proceeded until train first No. 261 was due, at which time work extra 6037 proceeded to Vigo and went into the clear until that train passed, after which it returned to the loading point and continued work. Two trips were made with the loaded dump cars between this time and the time train second No. 261 was due, the work extra then going into the clear again at Vigo. In loading the dump cars dirt

and rock were spilled on and around the south rail from the dipper of the ditcher, which stood just east of where the derailment occurred. The dirt and gravel around the south rail was not properly cleaned away, and when train second No. 261 reached this point the head end of the cylinder and cylinder cock on the left side of the engine apparently came in contact with the dirt and gravel, shoved it ahead, piling it up on the south rail and resulting in the derailment.

Engineman Paulus, Fireman Horner, Head Brakeman Downey and Middle Brakeman Tyson, of train second No. 261, were riding on the engine at the time of the accident. Engineman Paulus stated that he and the fireman were sitting in their respective seat boxes; the first intimation Engineman Paulus had of anything wrong was when the accident occurred, at which time he estimated the speed to have been between 12 and 15 miles an hour and he immediately placed the brake valve in the emergency position. He thought the track shifted under the engine and said it was after the engine had been derailed that he heard the sand and gravel grinding under the driving wheels.

Conductor Shortridge, of work extra 6037, stated that the work extra consisted, from west to east, of a ditcher tender, dump car, ditcher, dump car, caboose and engine, with the engine headed west. At the time the two dump cars were loaded on the last trip prior to the accident the west dump car, this being the second car from the west end of the work extra was the last car to be loaded, so that the entire train, with the exception of the two west cars of the work train, passed over the spot where the derailment occurred on the way to Vigo to get into clear for train second No. 261. Conductor Shortridge stated that the ditcher crew consisted of an engineer, fireman, and a section laborer, and on the previous day. when performing work at another point, he inquired of the ditcher engineer as to what the laborer was supposed to do and was informed that he was supposed to unload the cars and watch the gravel, keeping it off the track at the loading and unloading points. Conductor Shortridge admitted that it was his duty to see that the track was kept open and clear for traffic, but that previous to departing from the unloading point on the last trip prior to the accident he was in the caboose when the ditcher engineer's whistle was sounded, and then came out on the north side of the caboose and gave the engineman a proceed signal, without knowing whether or not the laborer was on the train, and he also said that he did not know the condition of the track at the point of derailment when his train started to return to Vigo. None of the other members of the work-train crew noticed whether or not the dirt had been properly cleaned away from the rails when the work train departed from the loading point, neither did they notice that the section laborer was not with the train.

Section Laborer Tejeda stated that the section foreman of his section assigned him to work with the ditcher, and that Trainmaster Tompkins, instructed him to level off the dirt and keep the rails clean. On the last two trips prior to the accident he did not return to the loading point with the ditcher, as the work train left the unloading point before he had the dirt properly cleaned away from the rails and he had remained behind to complete this work.

Section Foreman Hilburn stated that he arrived at the scene of the accident shortly after its occurrence, before any of the cars had been removed and found dirt on the track, which he attributed as the cause of the derailment; there was a ridge of dirt about 4 inches in height and 11 feet in length immediately outside of and parallel with the south rail, right up against the rail.

Trainmaster Tompkins and Roadmaster Gulley were of the opinion that the derailment was probably caused by sand and gravel on the rails. Trainmaster McKinnon, of the Third Subdivision, stated that examination of the track at the point of derailment showed that a flange had climbed the south rail about 5 feet west of the point where the ditcher had been working and had run on the top of the rail a distance of about 10 feet to where it dropped off on the outside of the rail. There was dirt on both sides of the south rail, and some on top of this rail, and he was of the opinion the accident was caused by the dirt and gravel not having been properly cleaned away from the rail, with which opinion Road Foreman of Engines Pfister agreed.

In this report relative to this accident Supt. Cunningham stated that Trainmaster Tompkins was assigned with the work extras on the Fourth Subdivision for the purpose of generally supervising the movements of the trains, seeing that they were out on the line working as much of the time as was possible; it was actually to supervise the work being done. On October 29 Trainmaster Tompkins verbally notified Roadmaster Gulley that the ditcher would be through with its work east of Carp about November 2, and the roadmaster in turn notified Section Foreman Eddins to furnish three or four men to go with the ditcher when it began work west of Carp for the purpose of keeping the rails free from dirt and gravel, and safe for the movement of trains. Section Foreman Eddins, however, was not notified when the ditcher actually began work west of Carp. It also appeared from Mr. Cunningham's report that Trainmaster Tompkins was at the point where the accident afterwards occurred and noted that there were no men working with the ditcher for the purpose of keeping the track clear of obstructions.

## Conclusions.

This derailment is believed to have been caused by dirt and gravel on the outside rail of the curve.

The evidence was to the effect that Section Laborer Tejeda, who had been assigned to the ditcher to keep the rails free from dirt, remained at Vigo to clean the dirt from the rails at that point, not returning to the loading point with the ditcher on the last two trips prior to the accident. When the work train departed from the loading Point on the trip prior to the accident, none of the members of the crew noticed whether or not the dirt was properly cleaned away from the south rail, or that the laborer assigned to that work was not with the ditcher. The indications were that the cylinder and cylinder cock of engine 5508, of train second No. 261, which was considerably larger then engine 6037, of the work train, came in contact with dirt which had been spilled on and around the south rail, at the point where the ditcher had been working, pushing the dirt and gravel ahead and piling it up on the south rail, causing the derailment.

Roadmaster Gulley had been notified of the approximate time the ditcher could begin work west of Carp, but failed to provide for the assignment of the men necessary to keep the track clear; had he notified the section foreman of the date when the men were to be furnished, the accident probably would not have occurred, and for this failure he is considered to be primarily responsible for the accident.

While Trainmaster Tompkins apparently was not expected to have charge of the actual maintenance work which was being done, being concerned primarily with the handling of the trains, it appeared that he had been at the point where the work was being performed and had noted that there were no men working with the ditcher. Under such circumstances it is believed he would have been justified in notifying the section foreman to assign men to the ditcher until such time as he could take up the matter with the official in charge of the maintenance work.

It is also clear that it was incumbent on Conductor Shortridge, of work extra 6037, to see that the track was safe for the passage of trains before his own train departed from the scene, and he is at fault for his failure to perform his duty in this respect.

All of the employees involved were experienced men; at the time of the accident none of them had been on duty in violation of any of the previsions of the hours of service law.