Inv-2445

INTERSTATE COMMERCE COMMISSION

WASHINGTON

REPORT OF THE DIRECTOR

BUREAU OF SAFETY

ACCIDENT ON THE

CLINCHFIELD RAILROAD

LUNDAY, N. C.

SEPTEMBER 3, 1940

INVESTIGATION NO. 2445

SUMMARY

Inv-2445

Railroad:	Clinchfield
Date:	September 3, 1940
Location:	Lunday, N.C.
Kind of accident:	Derailment
Train involved:	Freight
Train number:	95
Engine numbers:	413-406
Consist:	72 cars, caboose
Speed:	15-18 m.p.h.
Operation:	Timetable and train orders
Track:	Single-compound left curve; grade practically level
Weather:	Foggy and dark
Time:	5:25 a.m.
Casualties:	1 killed
Cause:	Rock-slide

To the Commission:

On September 3, 1940, there was a derailment of a freight train on the Clinchfield Railroad near Lunday, N.C., which resulted in the death of one employee.

Location and Method of Operation

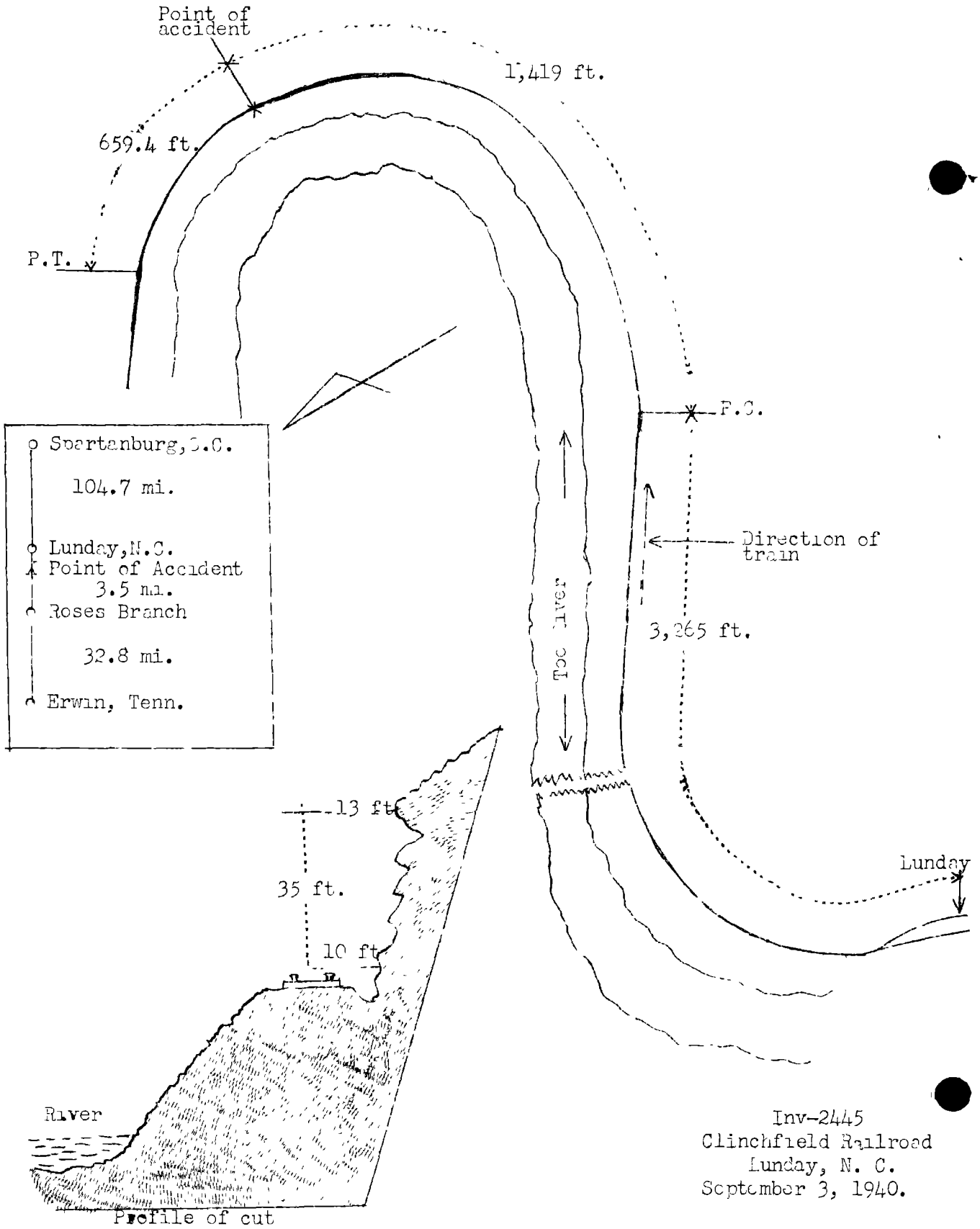
This accident occurred on that part of the railroad which extends between Erwin, Tenn., and Spartanburg, S.C., a distance of 141 miles. In the vicinity of the point of accident this is a single-track line over which trains are operated by timetable and train orders; there is no block system in use. Time-table directions, which are north and south, are used in this report. In the vicinity of the point of accident the track parallels the east bank of the Toe River and is laid in a series of cuts. The accident occurred at a point 4,684 feet north of Lunday station. As the point of accident is approached from the south, there is a series of short curves and tangents followed by a compound curve to the left having a maximum curvature of 11° and extending 1,419 feet to the point of accident and 659.4 feet beyond; the accident occurred at a point where the curvature changed from 4° to 4°30'. The grade is practically level.

In the vicinity of the point of accident the track is laid on a side-hill cut and is about 35 feet above the east bank of the Toe River. The toe of the wall of the cut is 10.8 feet east of the center-line of the track and the wall extends almost vertically a distance of 34 feet; the top of the wall is 13 feet from the center-line of the track. The wall is composed of sandstone and mica; there is a thin overburden of soil with scant vegetation.

The track structure consists of 100-pound rail, 39 feet in length, laid on 22 treated oak ties to the rail length; it is fully tieplated, double-spiked on the outside and single-spiked on the inside of the rails, ballasted with 10 inches of stone, and is well maintained.

Rule 105(a) of the Rules Governing the Operating Department reads as follows:

> During storms and bad weather, all trains must be handled under control, without regard to making schedule time, at all points where slides or washouts are liable to be encountered.



Inv-2445
Clinchfield Railroad
Lunday, N. C.
September 3, 1940.

The maximum authorized speed for freight trains is 35 miles per hour.

The weather was foggy and it was dark at the time of the accident, which occurred at 5:25 a.m.

Description

No. 95, a north-bound second-class freight train, with Conductor Prince and Enginemen Mattox and Siffert in charge, consisted of engines 419 and 406, 6 loaded and 66 empty cars, and a caboose. At Spartanburg, 104.7 miles south of Lunday, the crew received copies of order No. 445, Form 19, reading as follows:

> Account heavy rains over line run very carefully and observe Rule 105A.

Also the crew received order No. 453, Form 19, reading in part as follows:

> * * *
> Reduce speed to Fifteen 15 miles per hour between Roses Branch and Lunday account soft fills.
> * * *

Roses Branch is located 3.5 miles north of Lunday. This train departed from Spartanburg at 9:05 p.m., September 2, according to the train sheet, 1 hour 5 minutes late, passed Altapass, 14.4 miles south of Lunday, at 4:05 a.m., 3 hours 50 minutes late and, while moving at a speed estimated to have been 15 or 18 miles per hour, struck rocks on the track and was derailed.

Engine 419 and its tender, remaining coupled, were derailed to the right and stopped with the front end of the engine 245 feet north of the point of derailment; the engine leaned to the right against the wall of the cut; the tender stopped to the left of the track with the rear end extending over the edge of the embankment. The engine truck became disengaged and was forced under the cylinders. Engine 406 and its tender, remaining coupled, stopped on their left sides parallel to the track and 56 feet from its center-line, half submerged in Toe River. The first, second and third cars were derailed and stopped on their sides down the embankment at various angles to the track; these cars were badly damaged. The fourth car was derailed and stopped down the embankment but remained coupled to the fifth car. The front truck of the fifth car was derailed. The track was destroyed a distance of 200 feet north of the point of derailment.

The employee killed was the engineman of the second engine.

Summary of Evidence

Engineman Mattox, of the first engine, stated that the brakes were tested at Spartanburg and functioned properly en route. He had read train order No. 453 and was operating his train in compliance with the provisions of the order. As his engine approached the point where the accident occurred the headlight was burning brightly and the speed was about 15 miles per hour. Dense fog restricted visibility to a short distance. When at a point about 3/4 mile north of Lunday he saw an obstruction on the track and applied the air brakes in emergency; the accident occurred immediately afterward, at 5:24 a.m. At the time he saw the obstruction the fireman, who was on his seat-box maintaining a lookout ahead, called a warning of danger. The engineman stated that in the immediate vicinity of the point of accident visibility was restricted to about 90 feet by fog and track curvature. He had never observed any indication of slides in this cut. He said that in numerous instances he had observed faulty rock conditions in cuts and upon reporting such conditions they had been corrected by the maintenance-of-way forces.

Fireman Fortune, of the first engine, stated that when his train was approaching the point where the accident occurred speed was reduced to about 15 miles per hour in compliance with train order No. 453. As the point of accident was approached he was on his seat-box maintaining a lookout ahead. Dense fog restricted visibility to a distance of 2 or 3 car lengths. At the point where the accident occurred he observed an obstruction on the track and called a warning to the engineman, who immediately applied the air brakes in emergency, but too late to avert the accident.

Fireman Davis, of the second engine, stated that approaching the point where the accident occurred his train was moving at a speed of 15 or 18 miles per hour. The first knowledge he had of anything being wrong was the emergency application of the brakes; the accident occurred immediately afterward. Subsequent to the accident he observed that rocks had fallen from the wall to the track. He said whenever train-service employees reported that rock slides were imminent, the maintenance-of-way forces took action immediately to correct such condition.

The statement of Front Brakeman Hollifield added nothing of importance.

Conductor Prince stated that the air brakes were tested before departure from Spartanburg and functioned properly en route. Cars were set out and others added to the train at several points en route and in each instance an air-brake test was made. He had read train order No. 453. As his train approached the point where the accident occurred he was in the cupola of the caboose and the speed was about 15 or 20 miles per hour. The caboose gauge indicated 70 pounds brake-pipe pressure. His first knowledge of anything being wrong was when the air brakes were applied in emergency; the train stopped in a distance of about 350 feet. He proceeded to the front end of the train and found that a rock-slide had been struck and both of the engines were derailed.

The statement of Rear Brakeman Cooper added nothing of importance.

Engineman Ingram, of No. 92, a south-bound freight train, stated that about 4 a.m. his train, moving at a speed of about 15 miles per hour, passed the point where the accident occurred and at that time there was no indication of falling rocks or of any obstruction on the track in the cut involved. He had never known of a rock-slide in the vicinity of the point of accident.

Roadmaster Brown stated that prior to the accident no difficulty had been experienced in the cut involved. The cut was examined during April and no unusual condition was observed.

Section Foreman Johnson stated that since 1932 he had been in charge of the territory where the accident occurred and he had never previously experienced rock-slides in the cut involved. Heavy rains had fallen in this vicinity during the period between August 13 and August 29 and because of these rains the track had been patrolled by track walkers. Several days prior to the accident he was in this cut and at that time he found no indication of seepage, cracks, or loose or falling rocks. He said that he had never found any condition to warrant the scaling of the wall where the rock-slide occurred.

Section Laborers Roberts and Thomas stated that they had inspected this cut many times and had never found any indication of loose rocks.

Night Chief Dispatcher Hendrix, on duty at the time of the accident, stated that the wires failed at 5:25 a.m.

Superintendent Moss, who arrived at the scene of the accident at 8:50 a.m., stated that the derailment was caused by the train striking two rocks which had fallen upon the track; one rock was 8 feet long, 3 feet wide, and 2-1/2 feet thick; the other rock was 6 feet long, 2-1/2 feet wide, and 2 feet thick. These rocks had fallen from a point about 20 feet above the top of the rails and near the top of the wall of the cut. In the cavity from which the rocks fell there was a seam in the wall; also there was evidence of seepage. The seam and the seepage were located so that no indication of their presence was noticeable from the surface of the wall. A fresh break was found on the left side of this cavity. Although there had been difficulty in many locations from landslides and falling rocks, no difficulty had ever been experienced in the cut involved.

Observations of the Commission's Inspectors

The Commission's inspectors observed that a cavity 14 feet long, 2-1/2 feet high, and 2 feet deep in the wall resulted from the rocks falling.

Discussion

Rain had fallen throughout a period of several days and train order No. 445 had been issued instructing crews of trains to move under control at all points where slides might be encountered; in addition, train order No. 453 restricted speed to 15 miles per hour in the territory where the accident occurred. No. 95 was moving at a speed of about 15 miles per hour when the engineman observed an obstruction on the track about 90 feet distant and applied the air brakes in emergency but too late to avert the accident. Examination subsequent to the accident disclosed that two rocks had fallen from the wall of the cut to the track. At the time of the accident the headlight was burning brightly;however, dense fog and track curvature restricted the engineman's range of vision ahead to about 90 feet and the fireman's range of vision was restricted to about 3 car lengths.

None of the witnesses recalled any rocks having fallen in this cut prior to the accident. A south-bound freight train passed through the cut involved about 1-1/2 hours prior to the time of the accident and at that time the crew observed no obstruction on the track. The cut had been examined at intervals and no fault or seam in the wall had been observed. In the cavity left by the falling rocks there was a rusty colored seam, which was located so that it was not visible from the surface. There was a small amount of seepage. As a

result of the heavy rainfall, undoubtedly water seeped into the seam in the wall of the cut and loosened the rocks so that they fell to the track.

Conclusion

This accident was caused by a train striking rocks which had fallen upon the track.

Respectfully submitted,

S. N. MILLS,

Director.