

RAILROAD ACCIDENT INVESTIGATION

Report No. 4120

THE BALTIMORE AND OHIO RAILROAD COMPANY

EAST DILLARD, O.

MAY 21, 1967

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

Washington

Summary

DATE: May 21, 1967

RAILROAD: Baltimore and Ohio

LOCATION: East Dillard, O.

KIND OF ACCIDENT: Collision

EQUIPMENT INVOLVED: Freight train Cut of 14 cars

TRAIN NUMBER: Work Extra 6461

LOCOMOTIVE NUMBERS: Diesel-electric units
6461, 6441, 5512, 5516,
5469, 6488

CONSIST: 68 cars

SPEEDS: 29 m.p.h. Standing

OPERATION: Timetable, train orders;
yard-limit rules

TRACK: Single; tangent; level

WEATHER: Clear

TIME: 9:15 p.m.

CASUALTIES: 5 injured

CAUSE: Malicious tampering with a switch.

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
RAILROAD SAFETY BOARD

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Synopsis

On May 21, 1967, a collision occurred between a Baltimore and Ohio Railroad Company freight train and a cut of cars at East Dillard, Ohio. Four train-service employees and a road foreman of engines were injured.

The accident was caused by malicious tampering with a switch.

Location and Method of Operation

The accident occurred on that part of the Ohio-Newark Division extending between Byers Jct. and Portsmouth, O., a distance of 60.5 miles. In the accident area this is a single-track line over which trains operate by timetable, train orders, and yard-limit rules. There is no block-signal system in use. At East Dillard, 8.9 miles east of Portsmouth, a siding 1,615 feet long parallels the main track on the north. The east switch of the siding is 676 feet east of the station point. The siding is provided with a derail, 185 feet west of the east switch. A yard-limit sign designating the east end of the East Dillard-Portsmouth yard is 645 feet east of the east siding-switch.

The collision occurred within yard limits, on the East Dillard siding, 195 feet west of the east switch.

Details concerning the track, operating rules, train involved, damages, and other factors are set forth in the appendix.

Description and Discussion

About 9:30 p.m., May 19, 1967, two days before the accident, a yard locomotive placed a cut of 14 freight cars on the East Dillard siding via the east siding-switch. The yard conductor said that after the locomotive left the cut of cars on the siding with the east end 195 feet west of the east switch and 10 feet west of the derail, he moved the derail to derailing position and locked it in that position. When the yard locomotive returned to the main track at the east siding-switch, a brakeman on the yard crew restored the switch to normal position, lined for movements on the main track, and locked it in that position by placing the switch padlock in the keeper of the switch stand and closing the padlock to locked position. The yard locomotive then proceeded westward on the main track toward Portsmouth. The cut of 14 cars remained standing on the siding until the time of the accident.

Work Extra 6461, a freight train consisting of 6 diesel-electric units, 144 cars and a caboose, left Byers Jct. at 6:54 p.m., the day of the accident and proceeded westward on the main track. About 40 minutes later, it stopped at Meadow Run Wye, 9.3 miles west of Byers Jct., where the rear 76 cars and caboose were detached and left standing on the main track. The flagman remained in the caboose to prepare train reports. At 7:40 p.m., the locomotive with the remaining 68 cars left Meadow Run Wye and proceeded westward on the main track, en route to Portsmouth. The engineer, fireman, and a road-foreman of engines were in the control compartment at the rear of the first diesel-electric unit, which was of the road-switcher type. The road foreman was at the locomotive controls on the north side of the control compartment, and the engineer and fireman were seated on the south side of that compartment. The conductor and front brakeman were in the control compartment of the second unit. The headlight at the west end of the locomotive was lighted.

The train proceeded westward from Meadow Run Wye at various speeds up to 35 miles per hour, 10 miles per hour in excess of the maximum authorized speed. About 9:15 p.m., as it neared a 1,056-foot curve to the left a short distance east of East Dillard, the speed was 34 miles per hour, as indicated by the speed-recording tape. The road foreman initiated a light service application of the brakes as the train neared the east end of the curve and the speed decreased slightly as the train proceeded on the curve. As the locomotive passed the yard-limit sign near the west end of the curve, the beam of the headlight was directed westward along the tangent track and the road foreman of engines

saw that the yellow banner of the switch stand for the derail near the east end of the East Dillard siding was displayed, indicating that the derail was in non-derailing position. At this time, the target of the switch stand for the east siding-switch was evidently displaying its red vanes, indicating that the switch was in reverse position, lined for movements from the main track to the siding. However, apparently neither the road foreman of engines nor the engineer or fireman noticed this target at any time as the locomotive approached the switch. A few moments later, when the train reached a point about 150 feet east of the switch, the road foreman saw that the switch rails were in reverse position, lined for movement from the main track to the siding. He promptly initiated an emergency application of the brakes and called a warning to the engineer and fireman. The train then entered the siding at the east switch. Moments later, when the speed had been reduced to 29 miles per hour, as indicated by the speed-recording tape, the train collided with the east end of the cut of 14 cars standing on the siding, 195 feet west of the east siding-switch. The engineer and fireman said they were unaware of anything being wrong before the road foreman called the warning. The other crew members were unaware of anything being wrong before the brakes became applied in emergency.

The road foreman of engines, engineer, fireman, conductor and front brakeman were injured.

Examination of the east-siding switch after the accident disclosed that it was in reverse position, lined for movement from the main track to the siding. The operating lever of the switch stand was also in reverse position and was locked with the switch stand padlock. The target of the switch stand was displaying its red vanes, indicating that the switch was in reverse position. The 3-inch glass reflectors attached to the vanes were broken and remnants of the reflectors were scattered on the ground, at the base of the switch stand. The keeper assembly for securing the operating lever of the switch stand in normal position was dislodged and was found east of the switch stand on the north side of the main track structure.

The derail near the east end of the East Dillard siding and the target of the switch stand for the derail were dislodged and were found in the wreckage. Since the road foreman saw the target of the derail switch stand displaying a yellow banner and the front of the locomotive passed the derail without derailing, it is evident the derail was not in derailing position when the train entered the siding and collided with the cut of 14 cars.

Examination of the cut of 14 cars disclosed that the air hose at the west end of the easternmost car had been severed by a sharp instrument, about 10 inches below the angle-cock coupling.

Two teen-age boys were taken into police custody after the accident and were charged with juvenile delinquency, based on allegations that they had cut the air hose at the west end of the easternmost car of the cut of 14 cars standing on the East Dillard siding, and that they had moved the east siding-switch and derail to reverse and non-derailing positions, respectively. Court proceedings related to these charges were pending at completion of the accident investigation.

Findings

Train order No. 22 which established Work Extra 6461, conferred authority on this train to work extra 6:25 p.m., (Sunday) to 8:25 a.m. (Monday) between Byers Jct. and Portsmouth not protecting against extra trains. No regular trains are scheduled over the working limits and no yard locomotives were assigned to work in Portsmouth yard limits on Saturdays or Sundays.

It is evident that trespassers, apparently the two teen-age boys taken into police custody after the accident, tampered with the switch stands for the east switch and derail of the East Dillard siding sometime after the cut of 14 cars was left standing on the siding, and that they moved the switch and derail to reverse and non-derailing positions, respectively, causing Work Extra 6461 to be diverted onto the siding and to collide with the cut of 14 cars.

Cause

This accident was caused by malicious tampering with a switch.

Dated at Washington, D. C., this 7th
day of December 1967.
By the Federal Railroad Administration,
Railroad Safety Board.

(SEAL) Bette E Holt
Acting Executive Secretary

Appendix

Track

From the east on the main track there are, in succession, a tangent 859 feet long, a $2^{\circ}45'$ curve to the left 1,056 feet, and a tangent 586 feet to the east switch of the East Dillard siding and 626 feet beyond.

The switch at the east end of the siding is a No. 10 right-hand turnout and is manually operated from a ground throw, low, switch stand located 7 feet 6 inches north of the centerline of the main track. A double-vane target is mounted on the spindle of the switch stand, at a height of 19 inches above the ties. When the switch is lined for movements on the main track, a diagonal, green, dart-shaped vane, 12 inches long and $4\frac{1}{2}$ inches high with glass reflectors attached to both sides of one end, is displayed as viewed from an approaching train. When the switch is in reverse position, lined for movement from the main track to the siding, a red, semi-circular banner, 12 inches long and 6 inches high, is displayed. The banner is provided with glass reflectors on both sides.

The derail near the east end of the siding is manually operated from a ground throw, low, switch stand located 7 feet 6 inches north of the centerline of the siding. A double-vane target is mounted on the spindle of the switch stand at a height of about 19 inches above the ties. When the derail is in derailing position a diagonal, purple, dart-shaped vane, 12 inches long and $4\frac{1}{2}$ inches high with glass reflectors attached to both sides of one end, is displayed as viewed from an approaching train. When the derail is in non-derailing position, a yellow, semi-circular banner, 12 inches long and 6 inches high, is displayed. The banner is equipped with glass reflectors on both sides of one end.

Carrier's Operating Rules

Yards and Switching

93. Yard limits are indicated by yard limit signs.

*** Trains other than first and second class will move within yard limits prepared to stop unless the main track is seen or known to be clear.

Train Involved

Work Extra 6461 consisted of road-switcher type diesel-

electric units 6461 and 6441, car-body type diesel-electric units 5512, 5516 and 5469, and road-switcher type diesel-electric unit 6488, coupled in multiple-unit control, and 68 cars. The train brakes had been tested and had functioned properly when used en route.

Damages

Work Extra 6461 stopped with the front end 69 feet west of the collision point.

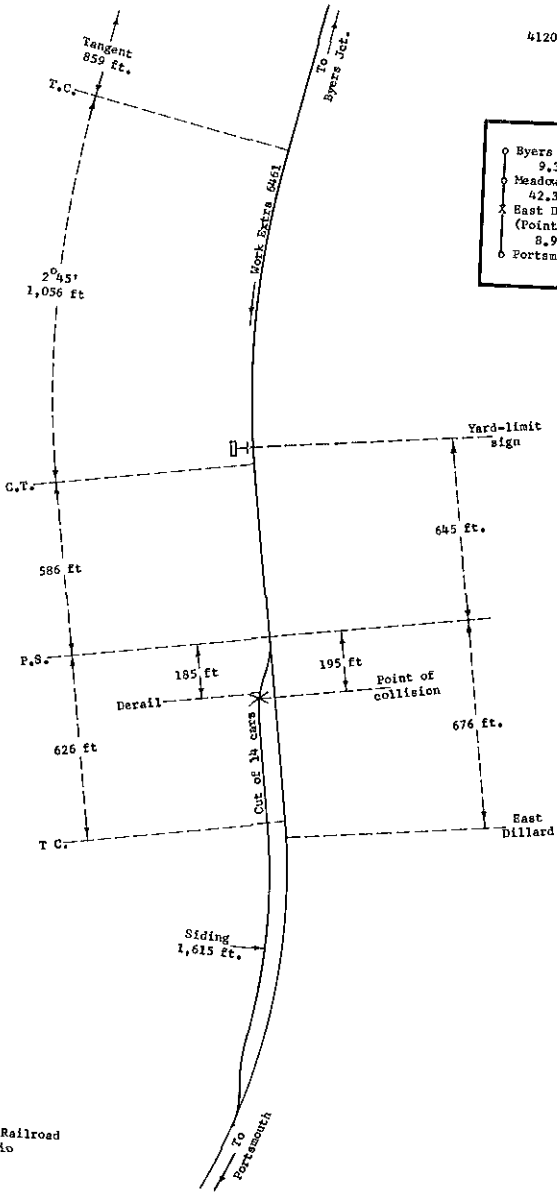
The six diesel-electric units and first 9 cars were derailed and stopped in various positions on or near the structures of the siding and main track. The two easternmost cars of the cut of 14 cars were also derailed. The 6 diesel-electric units were heavily damaged. Of the 11 cars derailed, 2 were destroyed, 5 were heavily damaged and 4 were somewhat damaged.

Other Factors

The accident occurred at 9:15 p.m., in clear weather.

The maximum authorized speed for all trains in the territory involved is 25 miles per hour.

According to their daily time returns, all the crew members of Work Extra 6461 had been on duty 4 hours 20 minutes at the time of the accident, after having been off duty in excess of 16 hours. The road foreman of engines had been on duty 13 hours 45 minutes at the time of the accident, after having been off duty in excess of 24 hours.



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|---|----------------------|
| ○ | Byers Jct., Ohio |
| ○ | 9.3 mi. |
| ○ | Meadow Run Wye |
| ○ | 42.3 mi. |
| X | East Dillard |
| | (Point of collision) |
| ○ | 8.9 mi. |
| ○ | Portsmouth, Ohio |

The Baltimore and Ohio Railroad
 East Dillard, Ohio
 May 21, 1967