

INTERSTATE COMMERCE COMMISSION
WASHINGTON

REPORT NO. 3656
THE CHESAPEAKE AND OHIO RAILWAY COMPANY
IN RE ACCIDENT
AT BREMO, VA., ON
SEPTEMBER 27, 1965

SUMMARY

Date: September 27, 1955

Railroad: Chesapeake and Ohio

Location: Bremo, Va.

Kind of accident: Head-end collision

Trains involved: Freight : Freight

Train numbers: Work Extra 5809 : Extra 5750 East

Locomotive numbers: Diesel-electric unit 5809 : Diesel-electric units 5750 and 5848

Consists: 42 cars, caboose : 86 cars, caboose

Estimated speeds: 3 m. p. h. : 28 m. p. h.

Operation: Signal indications

Tracks: Double, 5° curve; 0.86 percent descending grade eastward

Weather: Clear

Time: 8:40 a. m.

Casualties: 1 killed; 6 injured

Cause: Train being admitted to a block in which a preceding train was authorized to make a reverse movement.

INTERSTATE COMMERCE COMMISSION

REPORT NO. 3856

IN THE MATTER OF MAKING ACCIDENT INVESTIGATION REPORTS
UNDER THE ACCIDENT REPORTS ACT OF MAY 6, 1910.

THE CHESAPEAKE AND OHIO RAILWAY COMPANY

November 15, 1955

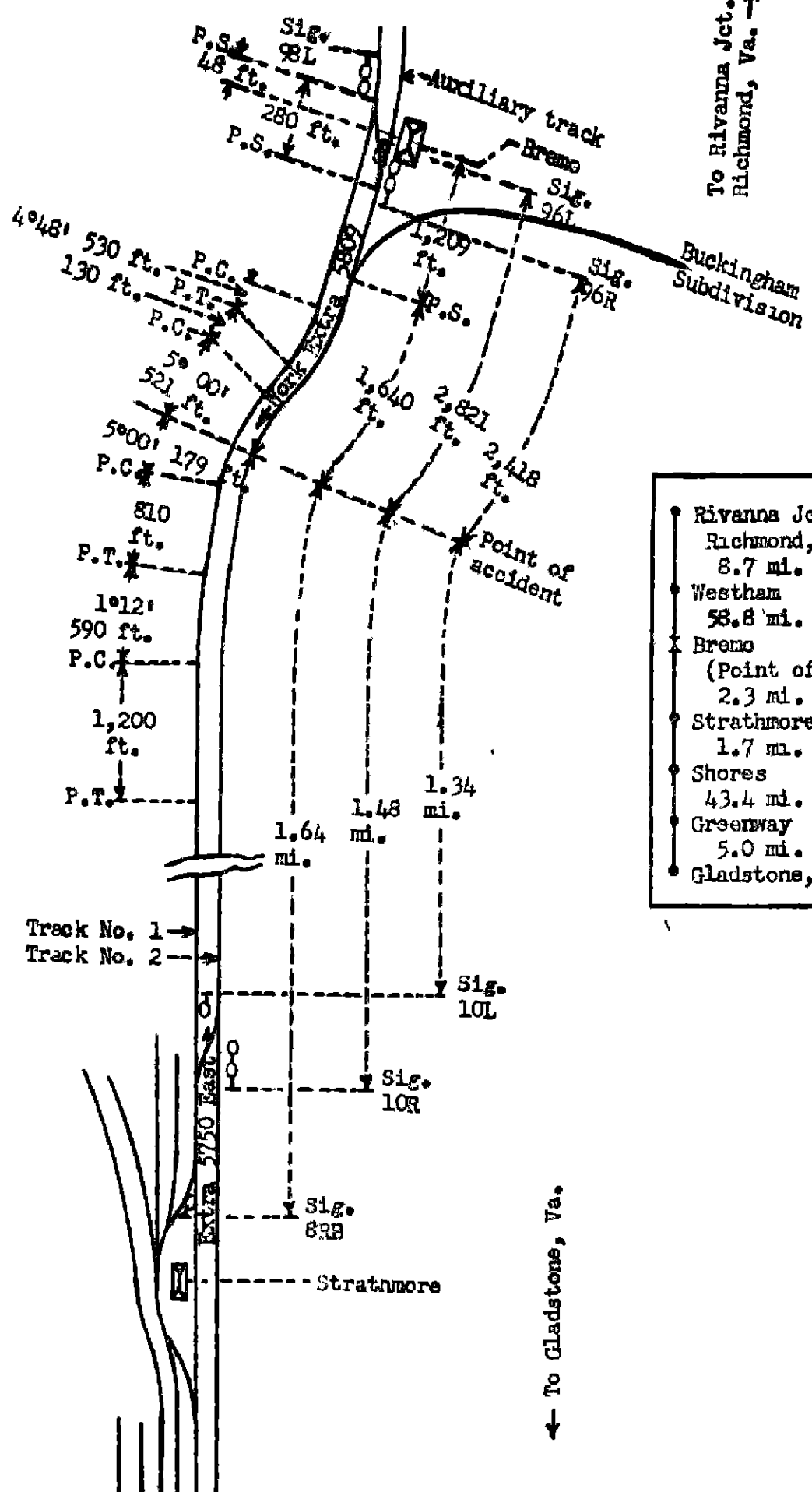
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Accident at Bremo, Va., on September 27, 1955, caused by
a train being admitted to a block in which a preceding
train was authorized to make a reverse movement.

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REPORT OF THE COMMISSION

CLARKE, Commissioner:

On September 27, 1955, there was a head-end collision between two freight trains on the Chesapeake and Ohio Railway at Bremo, Va., which resulted in the death of one train-service employee, and the injury of six train-service employees.

1
Under authority of section 17 (2) of the Interstate Commerce Act the above-entitled proceeding was referred by the Commission to Commissioner Clarke for consideration and disposition.



To Rivanna Jct.,
Richmond, Va. ↑

●	Rivanna Jct., Richmond, Va.	8.7 mi.
●	Westham	58.8 mi.
★	Bremo (Point of accident)	2.3 mi.
●	Strathmore	1.7 mi.
●	Shores	43.4 mi.
●	Greenway	5.0 mi.
●	Gladstone, Va.	

← To Gladstone, Va.

Report No. 3656
Chesapeake and Ohio Railway
Bremo, Va.
September 27, 1955

Location of Accident and Method of Operation

This accident occurred on that part of the Richmond Division extending between Gladstone, Va., and Rivanna Jct., Richmond, Va., 119.9 miles. Between Shores, 48.4 miles east of Gladstone, and Brems, 52.4 miles east of Gladstone, this is a double-track line, over which trains are operated in either direction on either track by signal indications. The main tracks from north to south are designated as track No. 1 and track No. 2. Between Brems and Westham, 58.8 miles east of Brems, it is a single-track line, over which trains are operated by signal indications. At Strathmore, 50.1 miles east of Gladstone, a number of yard tracks parallel the main tracks on the north. At a point 1,209 feet west of the station at Brems a line designated as the Buckingham Subdivision diverges from track No. 2 toward the south. The junction switch is facing-point for east-bound movements. The east end of double track at Brems is 48 feet west of the center-line of the station. An auxiliary track diverges from track No. 2 at a power-operated switch located 280 feet west of the east end of double track and parallels the single-track line on the south to a point a considerable distance east of the station. The accident occurred on track No. 2 at a point 1,640 feet west of the junction switch of the Buckingham Subdivision. From the west there are, in succession, a tangent 1,200 feet in length, a 1°12' curve to the right 590 feet, a tangent 810 feet, and a 5°00' curve to the right 179 feet to the point of accident and 521 feet eastward. From the east there are, in succession, a 4°48' curve to the right 530 feet in length, a tangent 130 feet, and the curve on which the accident occurred. The grade is 0.86 percent descending eastward at the point of accident.

Semi-automatic signal 8RB, governing east-bound movements from the east end of the yard at Strathmore to track No. 2, is located 1.64 miles west of the point of accident. Semi-automatic signal 1OR, governing east-bound movements on track No. 2, and semi-automatic signal 96R, governing east-bound movements from track No. 2 to the auxiliary track at Brems, are located, respectively, 1.48 miles west and 2,418 feet east of the point of accident. Semi-automatic signal 96L, governing west-bound movements from the auxiliary track

to track No. 2, and semi-automatic signal 10L, governing west-bound movements on track No. 2, are located, respectively, 2,821 feet east and 1.34 miles west of the point of accident. These signals are of the color-light type. The aspects applicable to this investigation and the corresponding indications and names are as follows:

<u>Signal</u>	<u>Aspect</u>	<u>Indication</u>	<u>Name</u>
8RB	Yellow	Proceed at Restricted Speed.	Restricting.
10R	Yellow-over-red	Proceed Prepared to Stop at Next Signal, Train Exceeding Medium Speed Must at Once Reduce to that Speed.	Approach.
96R	Red-over-yellow	Proceed at Restricted Speed.	Restricting.
8RB) 96L)	Red	Stop.	Stop.
10R	Red-over-red	Stop.	Stop.

These signals form part of a traffic-control system which extends between Greenway, 47.4 miles west of Bremo, and Westham. Signals 8RB, 10R, and 10L are controlled from Strathmore. The control machine is operated by the operator under the supervision of the train dispatcher. Signals 96R and 96L are controlled from a control machine at Richmond which is operated by the train dispatcher. Miniature lamps on the panel of each control machine indicate track occupancy, the position of each power-operated switch, and whether each controlled signal is displaying an aspect to proceed or an aspect to stop. At the time the accident occurred the circuit were so arranged that track occupancy by a train east of signal 96R was not shown on the panel of the control machine at Strathmore. The aspect displayed by signal 10R was not indicated on the control machine at Richmond. The control circuits of the signals were so arranged that after an east-bound train cleared the section of track between signals 10R and 96R, and

the code was transmitted to cause signal 1OR to display an aspect to proceed for a following movement, this signal would indicate Proceed-prepared-to-stop-at-next-signal.

This carrier's operating rules read in part as follows:

DEFINITIONS

Absolute Block Section.--The length of track between two adjacent opposing absolute block signals.

Absolute Block Signal.--A home block signal, the most restrictive indication of which is "stop", governing a block under Automatic Block System Rules.

Medium Speed.--One half maximum authorized speed, but not exceeding 30 miles per hour.

Restricted Speed.--Proceed prepared to stop short of train, obstruction, or anything that may require the speed of the train to be reduced, but not exceeding 15 miles per hour.

271. On portions of the road so specified on the timetable * * * trains and engines will run in either direction, on tracks so specified, by block signals whose indications will supersede timetable superiority * * *. Trains operating under these rules, unless otherwise provided, will retain their authorized identity.

279. Rules 279 and 280 will not be in effect unless specifically designated on the timetable or by special instructions. Where so designated, trains or engines may enter and use an absolute block section in accordance with the block signal indications displayed.

Such trains or engines may move in either direction, without flag protection, within the absolute block section.

280. When trains or engines clear on tracks within an absolute block section, the conductor or engineman must report clear to the train dispatcher, through the operator.

The train dispatcher must not admit a train or engine to an absolute block section occupied by a train or engine * * *

Timetable special instructions provide that rules Nos. 271, 279, and 290 are in effect on tracks Nos. 1 and 2 between the eastward absolute block signal at Shores and the westward absolute block signals at Bremo.

The maximum authorized speed for freight trains is 40 miles per hour.

Description of Accident

Work Extra 5809, a local freight train, consisted, from east to west, of 42 cars, a caboose, and Diesel-electric unit 5809. This train originated at Strathmore. It was authorized to operate as a work extra on the Buckingham Subdivision and was designated as Work Extra 5809 while moving between Strathmore and Bremo. It departed east-bound from Strathmore, passed signal 8RB, which indicated Proceed-at-restricted-speed, and entered track No. 2 at 8:11 a. m. At Bremo it passed signal 96R, which indicated Proceed-at-restricted-speed, and stopped with the east end of the train on the auxiliary track and the locomotive, which was on the west end of the train, standing between signals 96R and 96L. A short time later this train began a west-bound movement, and while moving westward on track No. 2 at an estimated speed of 3 miles per hour it collided with Extra 5750 East at a point 1,640 feet west of the junction switch of the Buckingham Subdivision.

Extra 5750 East, an east-bound freight train, consisted of Diesel-electric units 5750 and 5848, coupled in multiple-unit control, one Diesel-electric unit in tow, 85 cars, and a caboose. This train departed from Gladstone at 6:45 a. m. It passed signal 10R, which indicated Proceed-prepared-to-stop-at-next-signal, at 8:39 a. m., and while moving on track No. 2 at a speed of about 28 miles per hour it collided with Work Extra 5809.

The locomotive, the caboose, and the first five cars of Work Extra 5809, and the locomotive and the first 11 cars of Extra 5750 East were derailed. The locomotive of Work Extra 5809 stopped upright and in line with the track at a point approximately 250 feet east of the point of collision. The first Diesel-electric unit of Extra 5750 East stopped upright and in line with the track. The front end was against the front end of the locomotive of Work Extra 5809. The second Diesel-electric unit stopped with the front end near the rear end of the first unit and the rear end about 12 feet south of track No. 2. The derailed cars stopped in various positions on or near the tracks. The Diesel-electric units were badly damaged, several of the derailed cars were destroyed, and the other derailed cars were considerably damaged.

The engineer of Work Extra 5809 was killed. The conductor and the front brakeman of Work Extra 5809, the engineer, the fireman, and the front brakeman of Extra 5750 East, and a fireman not on duty who was on the locomotive of Extra 5750 East were injured.

The weather was clear at the time of the accident, which occurred about 8:40 a. m.

Discussion

When Work Extra 5809 arrived at Bremo it stopped with the west car of the train opposite the station. After freight was loaded and unloaded the conductor received permission from the train dispatcher, through the agent, to move the train westward on track No. 2 a sufficient distance to enter the Buckingham Subdivision. As this train was moving westward over the junction switch of the Buckingham Subdivision the enginemen were in their respective positions in the control compartment of the locomotive, the conductor was in the caboose, and the front brakeman was on the second car east of the caboose. The swing brakeman and the flagman alighted at the switch. Members of the crew estimated that at this time the train was moving at a speed of 8 to 12 miles per hour. The fireman said that as the locomotive was approaching the

point where the accident occurred he and the engineer were looking eastward and watching for hand signals from members of the train crew. Before the collision occurred the fireman glanced in the opposite direction and saw Extra 5750 East approaching. He called a warning, and the engineer immediately made an emergency application of the brakes. The fireman estimated that the train was moving at a speed of about 3 miles per hour when the collision occurred.

As Extra 5750 East was approaching the point where the accident occurred the enginemen and the front brakeman were in the control compartment of the first Diesel-electric unit. The conductor and the flagman were in the caboose. The engineer said that he saw Work Extra 5809 when the trains were a considerable distance apart. Because of curvature of the track and tall weeds along the track he could not see which track Work Extra 5809 was occupying, and he assumed that it was moving on track No. 1. When he reached a point 500 or 600 feet west of the locomotive of Work Extra 5809 he saw that it was moving on track No. 2. He then made an emergency application of the brakes. According to the tape of the speed-recording device, the train was moving at a speed of about 28 miles per hour at the time of the collision.

The train dispatcher said that before the accident occurred he was under the impression that signal 10R could not display an aspect to proceed while a train was occupying the section of track between that signal and the opposing controlled signals at Brems. Since Work Extra 5809 at no time cleared the section of track west of signal 96L, the dispatcher thought that Extra 5750 East would be held at signal 10R. For this reason he did not consider it necessary to instruct the operator at Strathmore to hold Extra 5750 East until Work Extra 5809 cleared track No. 2. About 8:40 a. m. the operator at Strathmore reported that Extra 5750 East had passed at 8:39 a. m. At this time Work Extra 5809 had departed west-bound from the station at Brems.

The operator at Strathmore said that it was not customary to obtain permission from the train dispatcher before permitting east-bound trains to proceed on track No. 2. He understood that in this vicinity trains are authorized to move in either direction within an absolute block section, but he said he thought protection for such movements was provided by the signal system. Track occupancy between signals 96R and 96L is not indicated on the panel of the control machine at Strathmore, and after the locomotive of Work Extra 5809 moved east of signal 96R the operator assumed that the train was clear of the block. When Extra 5750 East entered the approach circuit he lined the route for the train to proceed.

The rules of this carrier provide that in the vicinity of the point of accident trains or engines which receive the proper signal indication to enter an absolute block section may move in either direction within that absolute block section without flag protection. An absolute block section is defined as the length of track between two adjacent opposing absolute block signals. The rules also provide that the train dispatcher must not admit a train or engine to an occupied absolute block section. In the instant case the train dispatcher understood these rules. However, he was under the impression that signal 10R could not display an aspect to proceed until after Work Extra 5809 had cleared the main track or moved east of the absolute signals governing west-bound movements at Brems, and he considered further protection for the westward movement of Work Extra 5809 unnecessary.

At the time the accident occurred the controlling circuits of the signal system were so arranged that the block for following movements extended only from signal 10R to signal 96R, and after Work Extra 5809 moved east of signal 96R Extra 5750 East received the proper signal indication to enter the block at signal 10R. Extra 5750 East passed signal 10R before Work Extra 5809 moved west of signal 96R, and after this occurred the signal system provided no protection between the opposing movements. After the accident occurred

the controlling circuits of the signals were changed and are now so arranged that an aspect to permit a following movement between the absolute signals at Strathmore and the opposing absolute signals at Brems cannot be displayed. The controlling circuits of the signals at all other locations on the line of this carrier where rules Nos. 279 and 280 are in effect are also arranged in this manner.

Cause

This accident was caused by a train being admitted to a block in which a preceding train was authorized to make a reverse movement.

Dated at Washington, D. C., this fifteenth day of November, 1955.

By the Commission, Commissioner Clarke.

(SEAL)

HAROLD D. McCOY,
Secretary.