

Inv. 2102

INTERSTATE COMMERCE COMMISSION

WASHINGTON

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REPORT OF THE DIRECTOR

BUREAU OF SAFETY

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ACCIDENT ON THE

LOUISIANA & ARKANSAS RAILWAY

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MOORE, LA.

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SEPTEMBER 28, 1936

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INVESTIGATION NO. 2102

SUMMARY

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|                   |   |
|-------------------|---|
| Railroad:         | Louisiana & Arkansas                                    |
| Date:             | September 28, 1936                                      |
| Location:         | Moore, La.  |
| Kind of accident: | Derailment  |
| Train involved:   | Passenger   |
| Train number:     | No. 3   |
| Engine number:    | 392   |
| Consist:          | 6 cars  |
| Speed:            | 30-40 m.p.h.  |
| Track:            | 1 <sup>o</sup> curve and slightly descend-<br>ing grade |
| Weather:          | Clear   |
| Time:             | 11:50 p.m.  |
| Casualties:       | 2 killed and 2 injured                                  |
| Cause:            | Partly opened switch, due to<br>malicious tampering.    |

November 7, 1936.

To the Commission:

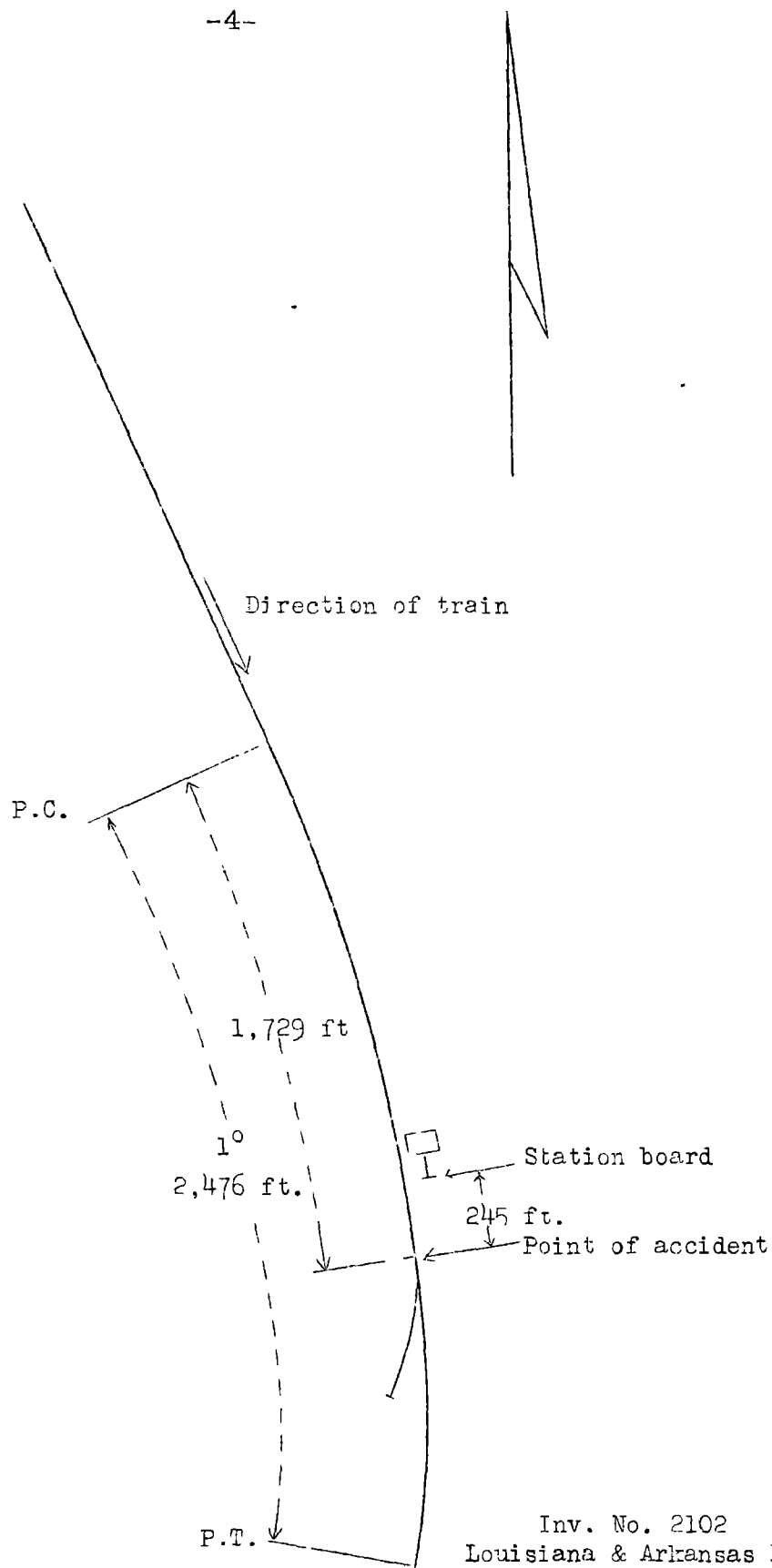
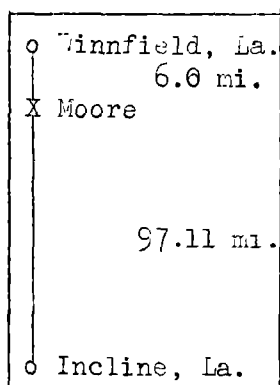
On September 28, 1936, there was a derailment of a passenger train on the Louisiana & Arkansas Railway at Moore, La., which resulted in the death of 2 employees and the injury of 2 employees.

#### Location and method of operation

This accident occurred on the Alexandria District, which extends between Winnfield and Incline, La., a distance of 103.11 miles; in the vicinity of the point of accident this 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 at the switch of a spur track located 245 feet south of the station board at Moore; approaching this point from the north, the track is tangent for more than 1 mile, followed by a  $1^{\circ}$  curve to the right 2,476 feet in length, the accident occurring on this curve at a point 1,729 feet from its northern end. The grade for southbound trains is generally ascending for more than 1 mile to within 750 feet of the point of accident, varying from 0.33 to 0.796 percent; it is then level for 300 feet, followed by 0.133 percent descending grade to and beyond the point of accident.

The track is laid with 75-pound rails, 33 feet in length, with an average of 20 ties to the rail length, single-spiked and tieplated, and is ballasted with washed gravel to a depth of 12 or more inches; the track is well maintained. The speed of passenger trains is restricted to 40 miles per hour.

The spur-track switch is a facing-point switch for southbound trains, with a No. 9 turnout, and leads off the main track to the right. The switch stand, of the Ramapo type, is located on the right side of the track and is equipped with a lamp and two targets. The center of the lens, of the reflector type, is located about  $6\frac{1}{2}$  feet above the head-block and displays a green indication when the switch is lined for the main track and a red indication when lined for the spur track. The targets,  $15\frac{1}{2}$  inches by 15 inches, are placed below the lamp and display corresponding indications. At about the center of the curve the main track runs through a shallow cut, and due to this cut, and to trees and shrubbery on the inside of the curve, the view of the switch to be had by the engineman of a southbound train is limited to 900 feet.



Inv. No. 2102  
Louisiana & Arkansas Ry.  
Moore, La.  
Sept. 28, 1936

The weather was clear and the moon was shining at the time of the accident, which occurred about 11:50 p.m.

#### Description

Train No. 3, a southbound passenger train, consisted of 3 baggage cars, 1 combination mail and baggage car, 1 chair car, and 1 Pullman sleeping and club car, in the order named, hauled by engine 392, and was in charge of Conductor Barnidge and Engineman Beauchamp. The first three cars were of steel-underframe construction and the others were of steel construction. This train departed from Winnfield, about 6 miles north of Moore, at 11:40 p.m., according to the train sheet, 1 minute late, and was derailed at the spur-track switch at Moore while traveling at a speed estimated to have been between 30 and 40 miles per hour.

Engine 392, its tender, the first three cars, and the forward truck of the fourth car were derailed. The engine turned over on its left side at right angles to and to the right of the main track, 255 feet beyond the point of derailment, and was badly damaged. The derailed cars remained upright and only the first one was badly damaged. The employees killed were an engineman who was learning the road and a special agent, both of whom were on the engine, and those injured were the engineman and fireman.

#### Summary of evidence

Engineman Beauchamp stated that on approaching Moore he was operating his train at a speed of about 35 miles per hour and on first seeing the lamp at the spur-track switch, approximately 400 or 500 feet distant, he called its green indication to the fireman, who repeated it. He was looking out of his side window, noticed an object which he took to be an animal, and placed his hand on the brake valve in case it should attempt to cross the track in front of the engine. The engine was about 200 or 225 feet from the switch when he first noticed this object and he also saw that the switch points were lined for a main-track movement, but on nearing the switch he saw that the object was a man standing sideways, south of the switch and with his back toward the track, and when 100 feet from the switch saw the man lean around and jerk the switch lever out of the socket with his right hand, shoving it to a cocked position, and then run westward toward the woods with his hand or forearm over his head, shielding his face so he could not be identified. The switch light then showed partly red and partly green indications, but Engineman Beauchamp said he

did not see the position of the switch points as the engine was too close; he immediately placed the brake valve in emergency position, closed the throttle, and opened the sand blowers.

Fireman Delcore stated that he saw the green indication of the switch lamp when it was about 100 yards distant, but he did not see any one in the vicinity of the switch. He then left his seatbox to sand the flues and had just resumed his place on the seatbox when the engine became derailed. The engineman called out a warning and the fireman immediately closed the feed valve, pulled the safety chain which shuts off the flow of oil to the firebox, and the engine started to turn over. Fireman Delcore estimated the speed to have been between 30 and 35 miles per hour at the time of the accident.

Conductor Barnidge stated that as soon as the train stopped he got off and went to the head end, and about 1 hour 15 minutes after the occurrence of the accident he examined the switch and found the switch points open, the right point being open about 1 inch; he had noticed that the switch was cocked when he first went to the head end. The first flange marks were on the bolt at the heel of the switch point on the west side, and about 12 or 15 feet from the switch stand there were marks indicating that the wheels had passed over the rail on the spur track and then back on the main line. The frog was in good condition and there was nothing to indicate that the switch had been run through. The switch lock was lying about 2 feet from the headblock, and also was in good condition. Train Porter Horton saw the open switch points and also saw the switch lamp lying on the ground near the north headblock. Baggage man Lanford stated that about 1 or 2 hours after the accident he observed the switch points and he thought the west switch point was open from  $\frac{1}{2}$  to 1 inch.

Section Foreman Carrier, in charge of this section, arrived at the scene about 1:25 a.m. September 29, and found that the switch stand was not damaged, while the headrod was firmly fastened and none of the connections showed evidence of tampering. Subsequently he found the lock in the grass about  $4\frac{1}{2}$  feet west of the stand; it was open but not damaged, and the wire with which he had fastened it to the lever was missing. The switch points were half open, but in good condition; the clip on the west switch point, located about 11 feet 4 inches from the point, was bent downward, so that the point could not be lined back for the main line, and there were two flange marks on it; also, the west angle bar at the heel of the switch was bent and broken and the other angle bar was bent. His last

inspection of this switch prior to the accident was on September 25, at which time it was in good condition and properly locked.

Assistant Engineer Danforth stated that the switch stand and connections were found to be intact, and careful examination of the lock indicated that it had not been struck violently, or hammered or pried open; he fastened the lock in the keeper on the switch lever and attempted to pry it open, but was unable to open it without the use of a key. Examination of the switch showed a mark where the rim of a wheel had dropped off on the gauge side of the stock rail; there also was a flange mark on the base of the west switch point, followed by flange marks on the clip and then two flange marks on the base of the west main-track rail extending for a distance of about  $12\frac{1}{2}$  feet; the next two tieplates were marked, followed by marks on the ties to a point 129 feet south of the switch point. That portion of the spur track just south of the switch ties had been pulled toward the main track 6 or more inches and the east rail was torn loose, showing evidence of having been canted toward the main track, thus allowing the west derailed wheels to pass over it toward the main track. Beginning south of the flange marks on the tieplates on the west main-track rail, or 27 feet from the switch point, the west main-track rail was intact and not marked for a distance of 88 feet. At a point 23.3 feet south of the east switch point there was a flange mark on a spike and a tieplate, between east main-track rail and the turnout rail of the spur track, followed by from one to four flange marks on the ties between the two rails extending a distance of 72 feet. Inspection of the track for a distance of approximately 800 feet north of the point of accident disclosed it to be in good condition; the elevation of the high rail on the curve was  $2\frac{1}{2}$  inches and there was a variation of only  $\frac{1}{4}$  inch in the elevation, while the gauge measured from tight to  $\frac{1}{2}$  inch wide. There was no indication of anything having been dragging on the track.

Master Mechanic Roberts stated that he examined the engine before it was moved from the scene, and while it was badly damaged due to the derailment he could find nothing that would indicate a defective condition that could have contributed to the cause of the accident. Inspection of the engine and tender wheels disclosed marks on the left main driving wheel which indicated that it had run over the edge of a rail. It was his opinion that the engine truck was the first to be derailed.

Sheriff Sholars, of Winn Parish, stated that he arrived at the scene of accident about 1:30 a.m., September 29, and

found the switch points and lever in the position as stated by other witnesses. Bloodhounds were brought to the scene about 10 a.m. and he was informed by the man in charge of the dogs that they picked up the trail of some person in the woods west of the track, this trail leading to the switch stand and then back through a clump of bushes west of the track and down a nearby gravel road to the point where a passenger on the train had seen an automobile as he alighted from the train immediately after the accident.

The engine crew of Extra 506, a southbound train which passed the switch involved between 7 and 7:25 p.m., on the night of the accident, stated that the switch points were properly lined and that the lamp, displaying a green indication, was seen by them for a distance of 500 or 600 feet.

Inspection of the engine by the Commission's inspectors before it was picked up and also after it was rerailed did not disclose any condition that could have contributed to the cause of the accident. There were marks on the tire of the left main driving wheel which were  $3/8$  inch deep and 15 inches in length on the flange and 5 inches in length on the tread; both marks ran diagonally and apparently were made as a result of the derailment. The brake equipment was in good condition and in place, except that the two main brake rods were broken; however, they were held up by a carrier and appeared to have snapped after the derailment occurred.

At the time the Commission's inspectors examined the track, the west switch point had been removed, the brace repaired, and the point replaced, and the two angle bars and bolts at the heel of the switch point had been renewed. The two original angle bars were lying nearby, and the outside bar showed wheel scars; it was partly broken in two and bent, and the inside bar was bent. Marks of derailment were noted substantially as described by railroad employees. A check of the adjustment of the switch points showed the points to have a throw of  $4\frac{1}{2}$  inches and the bolts through the east ends of tierods were rusted and showed conclusively that they had not been disturbed for a long time, while the remaining four holes in each of the transit clips of the west switch point were fairly well filled with rust, indicating that the bolts, after repairs to the switch point had been made, were put back in the same holes from which they had been removed.

On October 2, between 12:55 and 1:55 a.m., with the weather clear and the moon shining, vision tests were made with the same type of engine as that involved in the accident.



Moving southward around the curve, both the red and the green indications of the switch lamp could be seen from the engine-man's side of the cab for a distance of 900 feet. With the switch about one-fourth open, the green indication could be seen at a distance of 450 feet, and when about 210 feet from the switch, in addition to the green indication, a little of the red indication could be seen. With the switch about one-half open, a flicker of both red and green was seen at a distance of 475 feet, and a steady red and green at 425 feet. A man standing at the switch could be seen for a distance of 650 feet.

#### Discussion

According to the statements of the engineman the switch was opened to a cocked position as the train approached. He had seen the green indication of the switch lamp when the engine was approximately 400 or 500 feet from the switch and then saw a dark object which he later identified as a man and saw him throw the switch; and while the engineman immediately applied the air brakes in emergency there was not sufficient distance to stop the train before reaching the switch. After the accident the switch points were found to be partly open and the switch lever in a cocked position, with the open lock lying on the ground nearby; neither the switch nor lock had been damaged and the lock indicated that it had been opened with a key. Marks on the track and the position of the equipment indicated that the engine-truck wheels were the first to be derailed. At the time of this investigation it had not been determined by whom this switch was opened.

#### Conclusion

This accident was caused by a switch being cocked or partly opened with malicious intent, directly in front of an approaching train.

Respectfully submitted,

W. J. PATTERSON,

Director.