MINISTRY OF TRANSPORT

RAILWAY ACCIDENT

Report on the Derailment and subsequent Collision that occurred on 18th April 1967 between Roade Junction and Northampton

IN THE
LONDON MIDLAND REGION
BRITISH RAILWAYS

LONDON: HER MAJESTY'S STATIONERY OFFICE

PRICE 4*s.* 3*d.* NET

MINISTRY OF TRANSPORT,
ST. CHRISTOPHER HOUSE,
SOUTHWARK STREET,
LONDON, S.E.1

6th September 1967

SIR,

I have the honour to report for the information of the Minster of Transport, in accordance with the Order dated 24th April 1967, the result of my Inquiry into the derailment of a goods train and its subsequent collision with a passenger train at about 14.31 on 18th April 1967 between Roade Junction and Northampton in the London Midland Region, British Railways.

The Down goods train of 69 empty mineral wagons became derailed at the 10th wagon while travelling at moderate speed on the Northampton loop to the West Coast main line between Roade Junction and Rugby shortly after passing Roade Junction, owing to a broken spring on that wagon. The train ran thus for about 1½ miles before more wagons derailed, some of them towards the Up line into the path of an approaching electric multiple unit passenger train which struck them at speed, though the brakes had been fully applied just before the collision. The first two coaches of this train were deflected down the embankment, the leading coach turning on its side, and a number of the wagons piled up around the rear coach.

There were about 45 passengers, of whom 21 were injured, though fortunately only two had to be detained in Northampton General hospital, one of these being discharged the next day. The driver of the passenger train was seriously injured but I am glad to report that both he and the passenger who was kept in hospital have made a good recovery.

The emergency services were called promptly and began to arrive at the site within 15 minutes. There were no special problems in getting passengers out but it was more difficult to release the driver from his damaged cab. This was accomplished at 14.55. In the meantime assistance was given by the residents of the nearby village of Milton Malsor and I am informed that the members of the Womens Institute of this village were quick to organise refreshment for those involved in the accident and for rescuers.

Special arrangements were made to take passengers to their destinations and for an emergency service to be run until the lines were re-opened to traffic at 17.45 on 20th April.

The day of the accident was fine with clear visibility.

DESCRIPTION

The Site

1. The 2-track route from Roade Junction through Northampton and Long Buckby to Rugby, the Down direction, forms a loop to the direct West Coast route which runs from Roade Junction, at M.P. 59¾, to Rugby at M.P. 82½, via Blisworth. The maximum speed on the Northampton loop is 75 m.p.h.

2. From Roade Junction the loop line runs for about 1¼ miles in a revetted cutting which becomes open at about M.P. 61. From about M.P. 61½ onwards, the formation changes to embankment and then to cutting, and at the place of the collision, near M.P. 62¾, the line is again on an embankment about 20 ft. high. Shortly before, at miles 62⅝, it passes over the Collingtree-Milton road on a girder bridge, (Bridge No. 7) the centre girder between the two tracks rising to about 2 ft. above rail level. Immediately on the approach side of this bridge there is a trailing connection between the Down and Up lines worked from Middleton Ground Frame. About 300 yards beyond the collision area an arch road bridge (Bridge No. 9) over the line, which is in curve on the Northampton side of it, restricts the view ahead of drivers as their trains approach the bridge, particularly in the Up direction from Northampton. Relevant parts of the route are shown on the drawing at the end of the report.

3. The track consists of 110A(lbs) flat bottom rails in 60 ft. lengths with Pandrol fastenings, on soft wood sleepers, laid in 1964. At the point of initial derailment, 61 miles 267 yards, it is in a right handed curve of 61 ch. radius, canted to 3¼ ins. for an equilibrium speed of 57 m.p.h. The gradient is falling in the Down direction, at 1 in 164 for ⅜ mile from M.P. 61, and thereafter at 1 in 200 for most of the distance to Northampton at M.P. 65¾.

4. The route is electrified on the 25kV 50 cycle, single phase, overhead wire system, and in the area of the collision a number of the structures supporting the wires are of the cantilever type. Track circuit block with multiple aspect colour light signals, is in use for train signalling. The signals are automatic or are controlled from Northampton No. 1 Box except those on the Up line protecting Roade Junction which are controlled from Rugby box which controls the junction. One signal, Up line semi-automatic 3-aspect signal No. NH 1-103 is at Bridge No. 9 It is controlled by the state of the track circuits ahead of it up to and a little beyond the signal ahead near M.P. 62, and shows the red aspect while any of these controlling track circuits are shunted.

The Trains

5. The goods train was the 12.40 from Willesden (Acton Lane Sidings) to Toton, (No. 7 D77) and it comprised 69 empty mineral wagons and 20 ton brake van drawn by an electric locomotive of 2950 h.p., weighing 74½ tons. The braking percentage of the air brake of the locomotive is 87%. All the wagons were of the 16 ton type with a tare weight of 7¼ tons except three of 21 tons with a tare weight of 10 tons 2 cwts. The total weight of the wagons and brake van was therefore about 580 tons. The length overall was 479 yds. The wagons were loose coupled and as most of them were not fitted with the vacuum brake there was no fitted head to the train which was timed therefore as a class 7 train with a maximum permitted speed of 40 m.p.h. There is a further restriction of 25 m.p.h. for this class of train between Roade Junction and Northampton because of the long falling gradient.

6. The electric multiple unit passenger train was a four-car set, type AM 10 and comprised, in the direction of travel, a battery driving trailer weighing 36¾ tons, a motor car weighing 56½ tons, a trailer weighing 31¼ tons, and a driving trailer weighing 33¾ tons. The train was part gangwayed and its length was 265 ft. The overall brake pressure of the air operated disc brakes was about 63% of the total weight of 158 tons. On this type of stock the driver's compartment is 5 ft. 8 ins. deep and is entered through a sliding door from a transverse passage immediately behind it. The driver's position is on the left. The guard's compartment is at the rear end of the second vehicle and there is no look-out provision for the guard.

The Course of the Accident and the Damage

7. There was a diagonal mark across the table of the high rail (cess rail) 65 ft. long beginning at 61 miles 267 yards, showing where a wheel flange had run over the top of the rail before dropping to the outside. Beyond this mark there was light but characteristic damage to rail fastenings and sleepers where one pair of wheels had run derailed. The wheel flange marks were heavier in the "four foot" than in the cess. 396 yards beyond the initial riding mark signs of a second axle being derailed became evident. 82 yards beyond the first sign of the second axle being derailed, there was a broken half plate of a 6-plate wagon spring, and within the next 12 yards, four more broken half plates were found. The top half plate, which has a scrolled end which fits into the shoe on the wagon sole plate, was found 128 yards beyond the last of the closely grouped five half plates. The position of these plates and a sketch of the springs are shown on the drawing. It will be noted that the plates of the spring are clamped together in a welded buckle, in which they are also held by a central rivet.

8. The marks of two derailed pairs of wheels continued to the trailing connection at miles 62⅝ where the derailment spread to other wagons. It was apparent that the derailed wheels had been guided to the left by the trailing connection and had thus caused the derailment of other wagons, some of which struck the mast of a cantilever structure and rebounded towards the Up line on which the passenger train was closely approaching. It was also clear that some wheels had ridden over the centre girder of the road bridge just beyond the crossover, and there were marks of derailed wheels on the sleepers of the Up line, in the four foot, ahead of the bridge. There were no indications however that the derailed wagons had spread across the Up line at this point so as to shunt the track circuits and put signal NH1 103 to Red. The point of the first collision was near M.P. 62¾, about 240 yards from the overline bridge under which the passenger train passed as it closed with the derailed freight train. The passenger train travelled about 70 yards after the collision before coming to rest. All the derailed goods wagons except one, which was cut into three pieces, were found on the Down side of the passenger train or on top of it. The way in which the first two cars of the passenger train went down the bank to the left and the character of the damage also suggests a sidelong blow with the wagons rather than a head-on collision.

9. The position of the wrecked vehicles is illustrated on the drawing. The locomotive and 7 wagons stopped about 65 yards ahead of the wreckage, the 8th and 9th wagons were derailed but clear of the wreckage, the next 25 wagons were in a heap, partly surrounding the fourth car of the passenger train, the next 4 wagons were in line though derailed and the last 31 wagons and brake van, were on the rails. The leading car of the passenger train was lying on its left side pointing diagonally down the bank, the second car was also pointing down the bank though not on its side, and the third and fourth were more or less on the track alignment. In the front car the offside of the driver's compartment and part of the front had been stove in but not crushed against the transverse partition which was more or less intact. Though the car had turned on its side none of the interior framing had come loose and very few of the windows which were of toughened glass were broken. The interior damage to the second and third cars was light but the offside of the fourth car had suffered much more severely in side contact with a number of wagons. There was of course heavy damage to the motor bogies and power equipment of the train.

10. The remainder of the broken spring was found on the 10th wagon, 16 ton mineral wagon No. 118394, on the trailing right hand side. No defects, other than those attributable to the accident, were found on the other wagons, and it was apparent therefore that the derailment had started at the 10th wagon.

11. Three single track cantilever masts were destroyed. One, as mentioned, was by the trailing end of the crossover on the Down side and was obviously hit by a derailed wagon which the mast must in turn have deflected towards the Up line. The other two masts were in the area of collision. Approximately one half mile of overhead line equipment was brought down. Permanent way damage amounted to 8 lengths of track which required renewal, and some signalling and power cables were cut.

Evidence

As to the Events

12. *Driver R. V. Shellard* of the goods train said that he had had only one stop after leaving Willesden on time until approaching Wolverton Junction, about 9 miles before Roade Junction. After a short stop at a signal he had a clear run again, shutting off power after going through Roade Junction and allowing the train to travel under its own momentum down the falling gradient. He said that the train was gradually losing speed until near Middleton Ground Frame where he felt a snatch. He looked back and saw a wagon derailed and applied the brake. He then saw the electric multiple unit train approaching on the Up line; he hooted vigorously, got out of his seat and waved his arm to attract the attention of the other driver. Just after the Up train had passed he felt another bump. In the meantime the Driver's Safety Device (the modern equivalent of the dead man's pedal) had operated, applying the brake fully and cutting off power. After securing the engine he got out detonators and went forward to protect the Up line. He then returned to his train to find his guard. Shellard could not say whether the driver of the Up train had noticed his gestures but he had seen that he was standing at his controls.

13. Driver Shellard was fully aware of the 40 m.p.h. speed restriction for his train and was sure that he had not exceeded it. He also knew that there was a special restriction of 25 m.p.h. for his class of train from Roade Junction to Northampton on account of brake power and the falling gradient, but he said that he was confident that he had his train under control and that it was losing speed as he travelled down the gradient. He assessed his speed at the time of collision as about 30 m.p.h. He had not felt any noticeable buffering up after he shut off power, and did not feel any brake application by the guard, though he agreed that he would not necessarily feel such an application.

14. *Guard F.C. Morgan* of the freight train said that he had told Driver Shellard the number of wagons on the train before they started. He had also ascertained that the engine was single manned. He had walked up one side of the train before meeting the driver and had picked up a few brake handles, and after coupling the engine he did his normal examination down the other side. He thought that most of the train was loose coupled though a few of the wagons had screw couplings, and he tightened some of these.

15. Guard Morgan did not notice anything unusual about the journey and he thought that the 40 m.p.h. limit had not been exceeded. After leaving Roade Junction he applied the hand brake to take some of the load off the engine. He said that it probably tightened the couplings of the last 10 to 15 wagons. He was looking out through the left hand side window of the brake van from his seat, but could not see along the train as this type of wagon is as wide as the brake van over the side windows, and he was not therefore in a position to see a wagon running derailed if it remained close to the track. He did, however, see a platelayer run on to the track behind his brake van and point towards the train. As he stood up to go on to the platform of the van he felt a moderate impact followed a very short time later by a severe one which threw him across the van. He was not injured though severely shaken. He walked towards the wreckage and then went back to protect the train after being reminded of his duty by the District Inspector who had come to the scene from Northampton. Guard Morgan clearly remembered seeing wagons ahead of him rising in the air between the two impacts.

16. *Driver D. E. Cross* of the Up electric multiple unit passenger train was not fit to give evidence at my Inquiry, and after he had recovered from his injuries and could be questioned, had no recollection of events after leaving Northampton. I was not therefore able to get his confirmation as to the aspect of signal NH1 103 as his train passed it. The *guard, A. McDonald,* said that he was standing in his compartment at the rear of the second coach when the collision happened. He held tightly to the seat and to the brake pipe and was not hurt. He did not hear or feel any brake application nor hear a hooter, but he said that his compartment was under the pantograph and was very noisy. He agreed that the application of the disc brakes was almost silent and that the brakes would not normally be heard when applied, as are the clasp brakes.

17. Guard McDonald found some difficulty in getting out of his compartment, and when he did so found Guard Malin, travelling as a passenger, already on the ground. He agreed that Malin should go back to protect while he, McDonald, attended to the passengers. He decided not to try to rescue the driver as it was necessary to clear an opening to reach him. He knew that the fire brigade with suitable equipment would soon arrive. He thought that the speed of the train was normal, probably 50 m.p.h., at the time of the collision.

18. *Guard E. F. Malin* was travelling as a passenger in the third coach. Just before the collision he had noticed a fierce brake application and had also heard hooting from the engine of the goods train. He said that the crash was very frightening and that it seemed a long time before everthing came to rest. He got out of the train quickly and went back to protect, meeting Driver Shellard of the goods train. He was able to make contact with the signalman on the telephone at signal NH1 103 and to ask for the emergency services, while Driver Shellard placed detonators. Malin then went back to the train to give assistance to passengers.

19. *Divisional Movements Inspector E. Baker* gave evidence as to the organisation of the relief and recovery work. He heard at 14.40 from the Station Manager, Northampton, of the accident, ensured that assistance was being called for and then went to the site getting there at 14.50. He checked on the protection and on the isolation of electric power and then, after seeing that passengers were being succoured, began work over the railway telephone system on the recovery arrangements. During this work the Railway Officers concerned arrived on the scene. Mr Baker remained at the site until midnight.

20. That the mineral train was derailed was noticed by members of a permanent way gang working at miles 62⅜. *Sub-ganger B. Steer* standing outside the Down line said that he noticed one wagon completely derailed about halfway along the train, and shouted as the brake van passed to attract the guard's attention. There did not seem to be a response so he ran to the nearest signalpost telephone to report to the signalman, telling him to block the lines. He did not hear the noise of the further derailment at the crossover about one quarter of a mile ahead or of the subsequent collision, but said he was running towards Roade Junction at the time in the direction of the nearest telephone. He thought that the speed was 25 to 30 m.p.h., normal for this type of train, and said that the nearside wagon wheels seemed to be running on the ends of the sleepers. He did not notice whether the wagons were buffered up or not.

21. *Sub-ganger R. W. Nightingale* working with Steer, stood clear for the train on the six foot side, towards the Up line. He saw dust rising under the train as the derailed wagon passed, and then after the train had travelled about 500 yards ahead he saw a wagon veer towards the Up line and a passenger train come into view on that line. He then saw the collision which took place about half a mile away from where he was standing, and ran to help. He confirmed Steer's estimate of 30 m.p.h. for the speed of the train and also said that at no time before the collision did any part of the mineral train cover the cess rail of the Up line.

As to the Track

22. *Permanent Way Inspector W. A. Clarke* gave evidence about the signs of first derailment as already described in para. 7 and of the track condition in that area. He agreed that there was a slight hump in the track a short distance before the point of climbing and that there were minor differences in cross levels. He said that there were incipient signs of intermittent side cutting on the curve but that they were slight, indicated more by a variation in brightness on the gauge face rather than by wear and he had not considered it necessary to take any steps about them. The rails were nearly new, having been laid in 1964. The method of maintenance here was by through mechanised packing and lining, which had last been done eighteen months previously, combined with a mobile gang. There were no drainage difficulties on this length of line.

23. *Mr. L. J. Soane, Divisional Civil Engineer*, Watford, had had detailed measurements taken of the track for six rail lengths on the approach to the point of climbing. These included longitudinal levels and cross levels, both measured under unloaded and loaded conditions. The measurements also included curvature and gauge. The gauge was on average ⅛ in. tight throughout with very small variations, and the curvature was very near indeed to the designed radius. The hump in the track to which the permanent way inspector had referred was at a peak between 7 and 4 sleepers before the point of climbing (17½–10 ft.). The gradient of the high rail in the direction of travel up to the peak, was ¾ in. in 15 ft., or 1 in 240, and of the low rail 9/16 in. in 10 ft., or 1 in 213. These figures refer to loaded conditions, the hump being less pronounced with the track unweighted. The track fell away from the hump towards the point of climbing at a rather easier slope. The cant varied little from the designed 3½ ins. but there was an increase in cant under loaded conditions of ⅜ in. in the 10 ft. leading to the foot of the hump, or 1 in 320. It was even for the last 20 ft. to the point of climbing. Mr. Soane agreed with Inspector Clarke that the intermittent side cutting was very slight and in fact not measurable by the normal rail gauges which are issued to the staff on the line.

As to the Mineral Train

24. *Mr. G. W. Acty, Assistant Divisional Carriage and Wagon Engineer (Wagons)* Euston, said that he examined the trains after the accident and found the broken spring on the 10th wagon. The rear half of the spring was still in the buckle and attached to the wagon, but the six plates of the other half were missing. The appearance of the ends of the fifth and sixth plates (the two lowest ones) still in the buckle showed the fractures to be old ones, whereas the other four fractures were new. He subsequently found, in company with other railway officials the missing plates on the track (see para. 7.). Mr. Acty added that he deduced from the marks on the track that the trailing right hand wheel was being carried, i.e. not taking much load, because of the intermittent character of the markings in the four-foot. This applied from the point at which the second pair of wheels became derailed. He was satisfied that this wagon was the first to be derailed because it had shed its spring plates at a point where only one wagon was derailed. He found no other clues in the wreckage, of faults which might have contributed to the derailment.

25. Mr. Acty thought that the effect of the two broken plates on the running of the wagon when empty would be very small, though of course it made the spring weaker and therefore lightened the load on the wheel under it and on the diagonally opposite wheel, in comparison with the loading of the other two wheels.

26. *Carriage and Wagon Examiner T. Trafini* examined the wagons that formed the empty mineral train as they arrived at Acton Lane Sidings, Willesden. He said that 43 arrived from London Power Sidings between 11.15 and 11.20 and were examined by him. 26 more wagons and brake van arrived from Chelsea at 11.55. When he examined these he found a defect card on the brake van, but the wagons were in good order as had been the other 43. The two groups of wagons were joined into a train and a sound brake van added. Trafini was satisfied that he had "checked every possible item on these wagons and that the train was in good order when it left".

27. Trafini said that faulty springs were found on occasions but the faults would be obvious ones, such as the spring being flat or obviously broken. He would not expect a spring to be defective simply because a wagon was standing unevenly; unevenness in the track in the sidings often caused this appearance. He said that there were not many spring defects on 16-ton mineral wagons.

The Wagon Spring

28. All six plates of the spring had broken squarely across at the rivet hole, with little unevenness in the line of the break. The two bottom plates, had been fractured over 9/10 ths of their cross section area for some time to judge by the corroded fracture faces. The breakages of the top four plates were obviously new.

29. The wagon had been built in 1952 and had been overhauled in 1965, though the springs were not renewed. An examination of the springs in the British Railways Research Department at Derby revealed that—

(a) all the springs had been manufactured by the one firm in 1951;

(b) the other 3 springs were well matched except that the pair to the broken spring was slightly stiffer than the other two. They were within the manufacturing tolerances for spring characteristics;

(c) there were small fatigue cracks on the tension side at the rivet hole in about half the number of plates of the unbroken springs, not large enough to affect the spring characteristics, but making the plates more vulnerable to brittle fracture;

(d) the four top plates of the broken spring had broken recently in a brittle manner. There were small fatigue cracks on the tension side in the fractured surfaces at the rivet hole in the top and the third plate;

(e) all the plates of the broken spring had failed under conditions of severe overloading, the two bottom ones at some time before the others.

30. It is probable that all the plates of the spring had broken before it came apart through the bumping of the derailed wheel on the sleepers. The fact that the detached part of No. 1 plate was found 128 yards ahead of the other five would be due to the scrolled end being held by the shackle bolt of the spring shoe until it pivoted free of it. It is unlikely though that the four top plates of the spring were whole when the derailment began, and broke thereafter. It is very unusual for all the plates of a spring to break as a result of a derailment, particularly when speed is not high and the wagon is empty, and in fact the other three springs of the wagon were in good order when examined after the accident. It was possible that the spring had broken some time before the derailment, either during the journey, or shortly before it, and had been held in place by the tightness of the welded buckle. The surfaces of the fractures had not been working against each other, but the flexing of the spring after each leaf broke would have separated it from its other half fractionally, and the empty wagon might have run for some distance with the spring still held in the buckle, until it eventually worked loose. The rough treatment applied to the spring when the axle became derailed would certainly have loosened the broken plates from the buckle.

31. It was established that the wagon, after its last journey loaded with coal, had been unloaded by grab at Chelsea. The normal working of this equipment, as the grab is dropped on to the coal before closing to pick it up, causes shock; variations in handling by the operator could increase the shock at times. Such shocks should not damage sound springs but they might have been the final cause of breakage of a spring already weakened.

Conclusions and Remarks

32. I am satisfied that the prime cause of this derailment was the broken spring on the 10th wagon of the goods train. I think it probable that the leading wheels of the wagon were the first to derail, the near side wheel being unweighted by the weak, defective spring above the diagonally opposite trailing wheel. When the trailing wheels in turn derailed some distance further on the snatching of the wheel under the defective spring as it bumped over the sleepers would have quickly shaken the broken plates loose from the buckle.

33. I suspect that most if not all of the top four plates of this spring had broken before the derailment and I think it likely that they had in fact broken before the journey started, for there was no specific reason for them to have broken during the journey. Impact on the wagon by grab unloading may have been the final cause of fracture of plates in a spring already weakened by the old fractures in the two broken plates and by fatigue cracks at the rivet holes in two of the other plates.

34. Imperfections in the track were within permissible limits. No doubt they caused the wagon to derail where it did, but they would not have endangered rolling stock in good condition.

35. The speed of the goods train should have been lower than it was when the derailment took place, but the special speed restriction here is related only to braking power and not to wagon stability. The speed of the train which was certainly less than 40 m.p.h. was not a contributory cause of the derailment. I am satisfied that Driver Shellard was fully alert and did all he could to minimise the subsequent collision when he discovered his train to be derailed.

36. The timing of the approach to each other of the two trains after the derailment was such that the subsequent collision could not be avoided. If the derailed wagons had moved at an early stage over the opposite line to shunt the track circuit controls and thereby put Up line signal NH1 103 to danger the driver of the passenger train would have been warned and would have been able to reduce speed greatly, if not to stop, before the collision. This did not happen however and the signal must have been at clear as the passenger train approached and Driver Cross would only have had a comparatively short view ahead of the goods train as his train ran through the overbridge. I do not doubt that he was driving his train with proper vigilance.

37. I accept that when the wagon was overhauled in 1965 the springs were properly examined and tested for deflection before being passed as fit for further service. The springs are not however dismembered at this examination and the test is for performance. There might therefore have been incipient fatigue cracks at that time within the buckle which would not have been detected. A significant feature of the Research Department's examination of the four springs was the number of plates with small fatigue cracks on the tension side of the rivet holes. At the time when these springs were manufactured, 1951, the design did not call for the edge of the rivet hole to be "radiused", or hot punched from the tension side, and the rivet holes in all these springs had sharp edges from which these fatigue cracks had developed. The modification for "radiusing" the rivet holes was added in July 1955 and that permitting hot punching from the tension side in September 1956. The indications are therefore that the pre-July 1955 springs, which have already had a good life in service, should be scrapped and replaced by springs of later manufacture. I understand however from Mr. Robson, the Chief Engineer (Traction and Rolling Stock) to the Railways Board, that instructions have now been issued that the springs on all unfitted mineral wagons, if manufactured more than ten years before the date that they come under notice, are to be exchanged for reconditioned or new springs, and that all springs manufactured before 1956 will be scrapped when removed from wagons at Workshop repairs or elsewhere. This programme will be facilitated by the policy to scrap wagons of this type built before 1955, which is being actively followed. These steps seem comprehensive and should certainly reduce the incidence of broken springs.

I have the honour to be,

Sir,

Your obedient Servant,

W. P. REED,

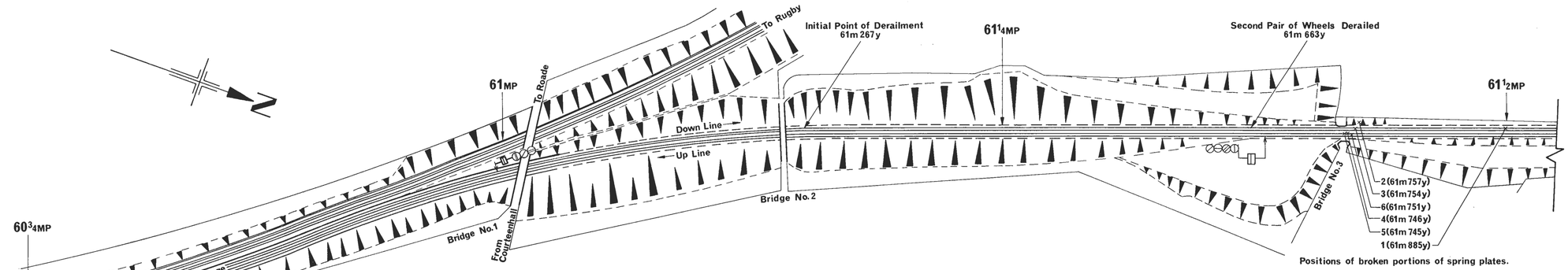
Colonel

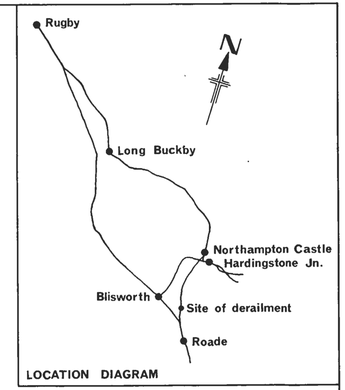
The Secretary

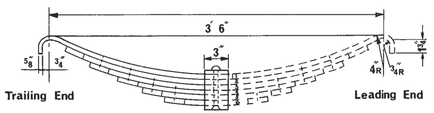
Ministry of Transport

(96508) Dd. 136106 K.9 10/67 Hw.

DERAILMENT AND COLLISION BETWEEN ROADE JUNCTION AND NORTHAMPTON 18·4·67



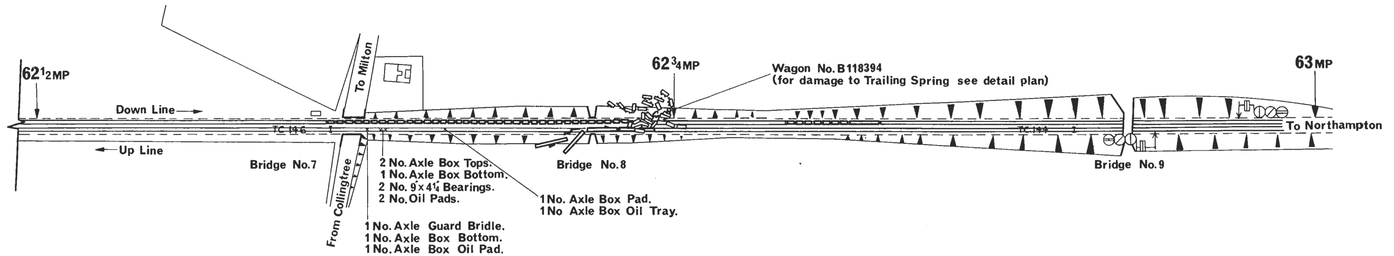




Detail of Trailing Spring on Six Foot Side of Wagon No. B.118394.

Scale: 3 inches to 1 foot.

Scale: 132 feet to 1 inch.



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