SAS/P

REPORT ON THE COLLISION

THAT OCCURRED ON THE 2ND SEPTEMBER 1971

AT WENTWORTH JUNCTION

IN THE EASTERN REGION OF

BRITISH RAILWAYS

SUMMARY

Time and Weather	15.45. Fine.
Nature of Accident	A Down coal train entered a section worked by the Permissive Block System but ran at a speed of about 10 m.p.h. into the rear of another coal train standing at the home signal controlled by the next signal box ahead.
Casualties:-	
Name and age	J. Lucas. 44.
Grade	Driver.
Length of Railway Service	27 years.
Injuries	Cut on right leg.
Type of Motive Power	Electric.
Conclusions	Driver Lucas, at the controls of the two locomotives that were hauling the second train, entered the section without first being cautioned that the section was already occupied by another train. He could, however, have stopped in time to avoid the collision had he been properly alert.
Recommendations	It would be better if the Down section concerned, and also a Permissive Block section on the Up line along the same route, could be worked by the Absolute Block system in future, and this is recommended.

SAS/P

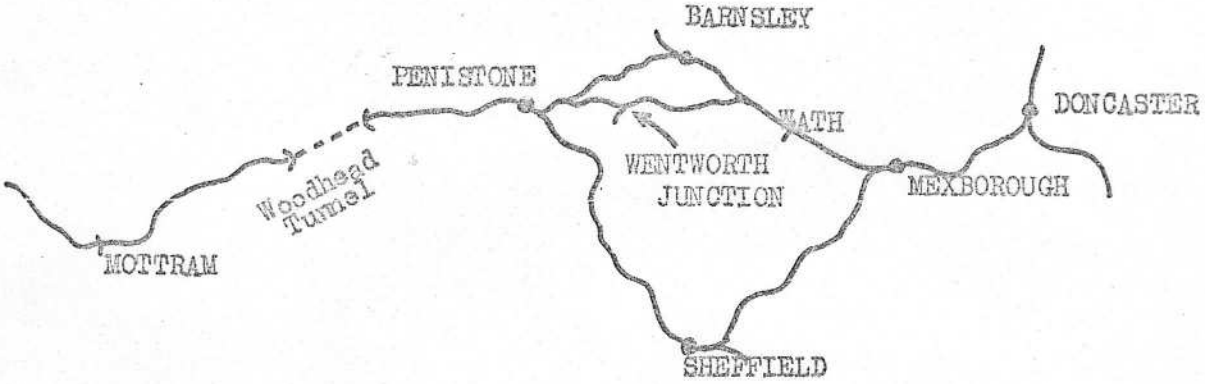
RAILWAY INSPECTORATE,
DEPARTMENT OF THE ENVIRONMENT,
2 MARSHAM STREET,
LONDON, S.W.1.

RI 2/3/0704.

31st. May 1972

Sir,

I have the honour to report for the information of the Secretary of State, in accordance with the Order of the 8th October 1971, the result of my Inquiry into the collision that occurred at 15.45 on the 2nd September 1971 at Wentworth Junction, near Barnsley, in the Eastern Region, British Railways, when a train containing coal on its way from Wath to Glazebrook, hauled by two electric locomotives working in multiple and assisted in the rear by a third, ran end on into another coal train which was stationary on the Down line. The accident occurred in daylight when the weather was fine and clear; fortunately there were no serious injuries as a result but the driver of the Glazebrook train, J Lucas, sustained a bad cut on his right leg and could not resume duty until nine days later.



2. The Glazebrook train had left the Wath marshalling yard at 13.40 and consisted of 28 wagons of coal with a brake van at the rear; the two electric locomotives which were hauling it were Nos. 26025 (leading) and 26011, and the assisting electric locomotive was No. 26038. The stationary train, which consisted of thirty 26-ton air-braked hopper wagons of coal, had been drawn in the Up direction from Wentworth Colliery onto the Down line by electric locomotives Nos. 26022 (leading) and 26014; the train was to be hauled in the Down direction by two other electric locomotives as soon as they were attached, with Nos. 26022 and 26014 assisting in multiple at the rear, its destination being the marshalling yard at Mottram, about 10 miles to the east of Manchester

3. The Glazebrook train was travelling at a speed of about 10 m.p.h. when it ran into the Mottram train; as a result of the collision locomotives Nos. 26025 and 26022 were forced upwards, off their four-wheeled bogies, and four wagons approximately in the middle of the Glazebrook train were derailed. Damage to the permanent way was only slight; it was possible to introduce single line

working along the Up line at 23.09 the same day but normal working was not resumed along both tracks until 11.02 on the 4th September, about 43 hours later.

DESCRIPTION

4. The accident occurred on what is known locally as the "Worsborough Branch' but is, actually, a Barnsley avoiding line; the location is shown in Diagram No. 1. The "Branch", which is electrified on the 1,500 volts overhead system, extends from Aldham Junction to West Silkstone Junction, a distance of approximately eight miles; there are eight block sections between the two Junctions and the Down direction of trains is towards West Silkstone Junction. A single line branch half a mile in length leading to Wentworth Colliery joins the main line at Wentworth Junction. The traffic along the line consists, normally, of goods and mineral trains but the line is maintained to passenger train standards. The gradients are severe but it is not certain that the gradients diagram which I have reproduced is entirely correct; considerable mining subsidence has affected the line in places since the levels were last checked but the diagram depicts the gradients in general. I was told that there are no gradient boards along the line. Every block section is worked on the Absolute Block System, with two exceptions; on the Down line Permissive Block working operates between Kendall Green Crossing and Wentworth Junction, and also on the Up line between Worsborough Dale Crossing and Lewden Crossing. Kendall Green Crossing has two gates which can be placed either across the roadway or across the railway; their normal position is across the railway and the signalman has to go out onto the crossing in order to operate them.

5. The relevant parts of the Permissive Block System, quoted from the "Regulations for Train Signalling and Signalmen's General Instructions" are as follows:-

REGULATIONS FOR TRAIN SIGNALLING BY THE PERMISSIVE BLOCK SYSTEM

PERMISSIVE BLOCK SYSTEM

The object of the Permissive Block System is to permit more than one train to be in a block section on the same line at the same time.

Bell Signals

The undermentioned special bell signals will operate:-

Description	Code
Line Occupied Acceptance	2-4-2
Line clear to Home Signal	4-3

Regulation 1 (MODE OF SIGNALLING)

(i) The Is line clear signal may be sent although the Train out of section signal has not been received for the previous train provided the train is of a class which can be accepted by the box ahead in accordance with the Permissive Block Regulations.

(ii) When a train is to be accepted into an occupied section, the Is line clear signal must be acknowledged by the Line Occupied Acceptance bell signal (2-4-2) and the block indicator maintai at Train on line. The second train may then be allowed to ent the section in accordance with Permissive Block Regulation 4(i

Regulation 4

(iv) Where "Calling-on" and/or "Warning" signals are not provided

Goods Lines:- On receipt of the 2-4-2 bell signal, the train m be brought nearly to a stand at the signal controlling the entrance to the section, after which the signal must be lowere

Regulation 7 (BLOCKING BACK)

7(B) Outside Home Signal

(i) When the train or vehicles which have been placed outside the home signal are at a stand, the Train or vehicles at a stand signal (3-3-4) must be sent to the signal box in the rear.

The signalman at the box in rear must not offer a train to the box in advance in accordance with the Permissive Block Regulations until the 3-3-4 signal has been received and acknowledged.

6. All the signals concerned in the accident were of the semaphore type. At both Wentworth Junction and at Kendall Green Crossing there are Down Home signals; at Kendall Green this is the only signal, the box not having Down starting signal. Both signal boxes are on the Down side of the line and at Kendall Green the home signal is on the approach side of the signal box and of the crossing gates. There is a permanent speed restriction of 40 m.p.h. between Aldham Junction and West Silkstone Junction in either direction but a further speed restriction of 20 m.p.h. which has been imposed on account of colliery subsidence and was intended to be temporary has been in force several years.

EVIDENCE

7. Kendall Green signalbox was in the charge of Signalman S Simpson, a relief signalman who is 63 years of age. He told me that he received the "is line clear" bell signal for the Glazebrook train at 14.56 from the Worsborough Bridge Crossing signalman and that the train entered the sectio at 15.00. When he went out to put the crossing gates over the roadway, how ever, he found that one of them had developed a defect; the lower hinge was about to slip off its spigot. He therefore kept the Down home signal at

danger and sent for fitters and when the Glazebrook train reached the signal, at 15.05, the driver brought it to rest and then made his way to the signal box where he reported to Simpson that his visit was to comply with Rule No. 55. Because the "Worsborough Branch" is a goods line this precaution was not actually necessary but the driver, who was J Lucas, decided to take it, nevertheless.

8. At 15.20, while awaiting the arrival of the fitters, Simpson received a 3-3 bell signal from the signalman at Wentworth Junction to indicate that he was about to "block back"; a 3-3-4 signal was received at 15.33, which confirmed that a train had been shunted onto the Down line at Wentworth Junction and that it was standing on the approach side of the Down home signal. The fitters arriv by car from Barnsley at 15.25 and five minutes later they swung the gates across the roadway, one of them shouting to Simpson that they were now in working order Simpson promptly pushed back the gate-stop lever in order to lock the gates over the roadway, pulled the Down home signal lever which cleared the signal, and ser the "call attention" bell signal to Wentworth Junction, carrying out the three operations more or less simultaneously; the Wentworth Junction signalman acknowledged the "call attention" signal almost immediately and Simpson then sent the "is line clear" signal. He did not receive an acknowledgement of the "is line clear" signal, however, and by this time the Glazebrook train had restarted. Simpson then realised that, although the train had been detained at the Home signal almost half an hour, the driver had not been warned that the section ahea was already occupied by another train; it had not been possible in the circumstances to convey the warning by "bringing the train nearly to a stand" at the Home signal. He therefore went out of the signal box, the door of which is almo at ground level, and shouted to the driver that a train had been shunted onto th Down line at Wentworth Junction and when the driver turned his head towards him he assumed that his message had been heard and understood. The train proceeded on its way; in due course Simpson learned of the collision.

9. The signalman at Wentworth Junction was Relief Signalman A Tingey. He said that shortly before the collision the Mottram coal train was drawn from Wentworth Colliery by a diesel locomotive as far as the colliery branch outlet signal, No. 4. The locomotive was then uncoupled and allowed to run onto the spur known as the Down Block. Electric locomotives Nos. 26014 and 26022 which had previously arrived from Wath and were standing on the Down Main were run onto the colliery branch and attached to the coal train, which they then hauled on to the Down Main until it was on the approach side of the Down Home signal, No. 29. At the same time Tingey sent the "blocking back" bell signals to Kendall Green Crossing, as already described in Simpson's evidence.

10. At 15.34 a train of empty coal wagons from the Manchester area, hauled by two electric locomotives, Nos. 26009 and 26015, arrived on the Up Main at 15.34. These locomotives pushed the empty wagons through Points Nos. 8 and 7, and onto the colliery branch, ready for the diesel locomotive to propel them into the colliery sidings; the intention, then, was to put the two electric locomotives at the head of the Mottram train which was waiting on the Down Main, and to let them haul it away, assisted in the rear by Locomotives Nos. 26014 and 26022. Unfortunately, as Nos. 26009 and 26015 were negotiating No. 23 facing points, at 15.40, No. 26009 became derailed and the operations were brought to a halt.

11. The derailment, however, had no bearing on the collision which occurred a few minutes later. When Simpson sent the "is line clear" signal to Wentworth Junction, which he did at 15.35, Tingey could have allowed the Glazebrook train to enter the section by replying with the "line occupied acceptance" bell signal 2-4-2, but he did not do so because of his intention within a few minutes to attach two more locomotives to the Mottram train, making four in all, which is the maximum number of locomotives permitted to take current simultaneously from the overhead line equipment between Aldham Junction and his own signal box. The collision occurred, however, while he was using a telephone to report the derailment which had just occurred at Points No. 23.

12. Driver Lucas, who was working the Glazebrook train without a secondman, described how he was detained at the Kendall Green Crossing Home signal. When the gates were eventually put across the roadway and the Home signal was cleared he exchanged "crow signals" with the driver of the assisting locomotive to warn him to be ready to proceed, in accordance with Rule No. 133(c), and then started away. As he passed the signal box he noticed the signalman standing outside and heard him shout what sounded to him like "Home board blocked", from which he assumed that the signalman at Wentworth Junction was moving a train or a locomotive from one main line to the other and that the Home signal there would be kept at danger until the Down line was clear. He maintained a speed of about 20 m.p.h. and when the Wentworth Junction Down distant signal came into view and he saw that it was at caution he reduced his speed to about 15 m.p.h. Lucas then observed the two locomotives ahead, at the rear of the Mottram train, but because they were on a curve which turned to the right their actual position was not at first apparent and he assumed that they were at the head of a train on the Up line. He was within 400 yards of them when he realised they were on the Down line and he then immediately shut off power and applied the brake. It was soon clear that he was not going to be able to stop the train in time and, rather belatedly, he sounded three "pops" on the train horn to attract the attention of the driver of the assisting locomotive. The speed when the collision occurred was, Lucas said, about 10 m.p.h.

13. Assisting Locomotive No. 26038 was being worked by Driver K Lee who had W Quinn as his secondman. After the Glazebrook train had reached Kendall Green and had been halted there Driver Lucas walked back to tell him they were being detained because of the defective level crossing gate. When he and Driver Lucas restarted the train, however, he remained unaware that the section ahead was occupied by another train but he told me that when he observed that the Wentworth Junction distant signal was at caution he reduced power in order to bring down the speed. On reaching Strafford Crossing he noticed the stationary locomotives which were about 400 to 500 yards ahead and Quinn, from the offside of the locomotive cab, confirmed that they were on the Down line; Lee said that he then shut off power completely and applied the brake but that his locomotive kept in contact with the train's brake van up to the moment of the impact. Lee said he did not hear any "pop" horn blasts from the leading locomotive.

14. The main cause of the collision was that Driver Lucas was allowed to go forward from Kendall Green Crossing without first being properly warned that a train was occupying the Down line at Wentworth Junction on the approach side of the Home signal, and for this Signalman Simpson must be held responsible.

In accordance with the Regulations for Train Signalling the driver of the Glazebrook train should have been cautioned by being brought nearly to a stand at the Down Home signal, which would have indicated to him that the section ahead was already occupied by another train, but it had not been possible to warn the driver in this way because of the need to stop the train at the Home signal and to keep it waiting there until the crossing gates were put in order. That being so, Simpson should, in my opinion, have either detained the train at Kendall Green until the Mottran train had gone forward out of the section, as it soon would have done but for the derailment at Wentworth Junction, or he should have cautioned Driver Lucas verbally before clearing the Down Home signal, which was only 20 yards from the crossing.

15. I think Driver Lucas was much nearer to the Mottram train than 400 yards when he realised or noticed that it was on the Down line and not on the Up line as he at first assumed, and I find it difficult to accept that Driver Lee at the controls of the assisting locomotive also saw the Mottram train and shut off power at a similar distance. Driver Lucas would, I feel, have been able to stop his train within 400 yards on the rising gradient of 1 in 136 at a speed of 15 m.p.h., which he said was the train's speed when he applied the brake, or even at the maximum permitted speed of 20 m.p.h. I am inclined to the view that the drivers were exceeding the 20 m.p.h. speed limit as they drew near Wentworth Junction.

16. The need to retain Permissive Block Working between Kendall Green and Wentworth Junction, and also between Worsborough Dale Crossing and Lewden Crossing, should, in my opinion, be reviewed and if these two sections can be worked on the Absolute Block system on both lines in future so much the better; I understand that Permissive Block Working on the Down Line between Kendall Green Crossing and Wentworth Junction dates from the time when the line was worked by steam locomotives which had to be halted at Wentworth Junction to enable the drivers to replenish the tenders with water and there does not seem to be any need for it now. I recommend this for consideration.

I have the honour to be,
Sir
Your obedient Servant,

C H Hewison

C H HEWISON

The Permanent Secretary,
Department of the Environment.

COLLISION AT WENTWORTH JUNCTION

NEAR BARNSLEY ON 2nd SEPTEMBER 1971

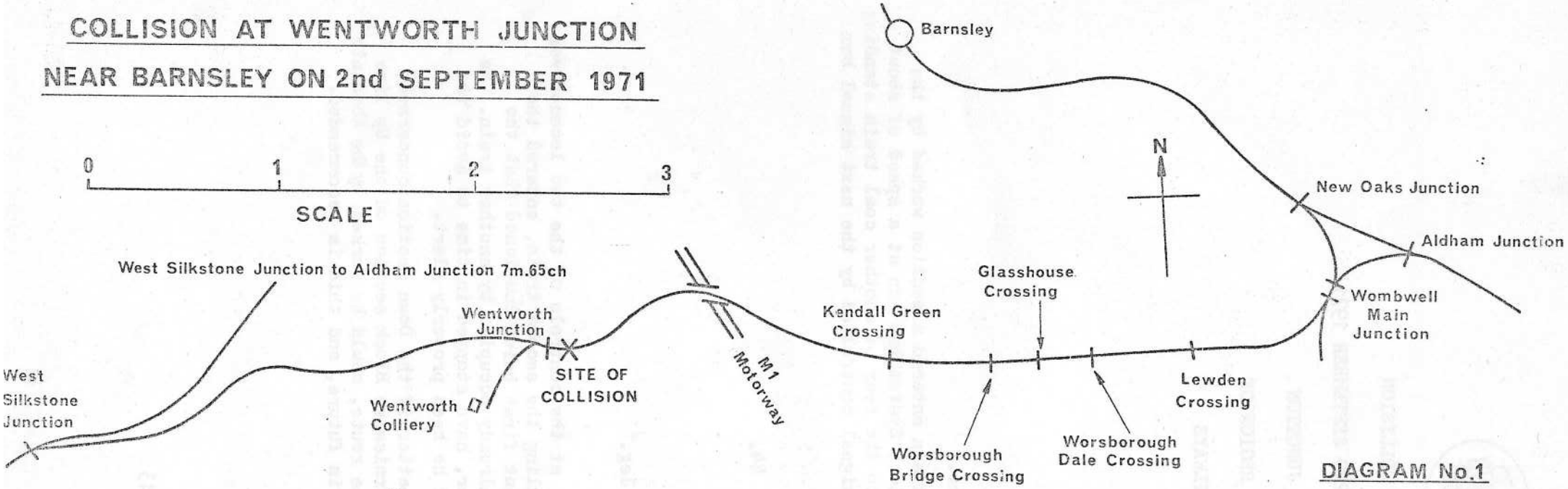


DIAGRAM No.1

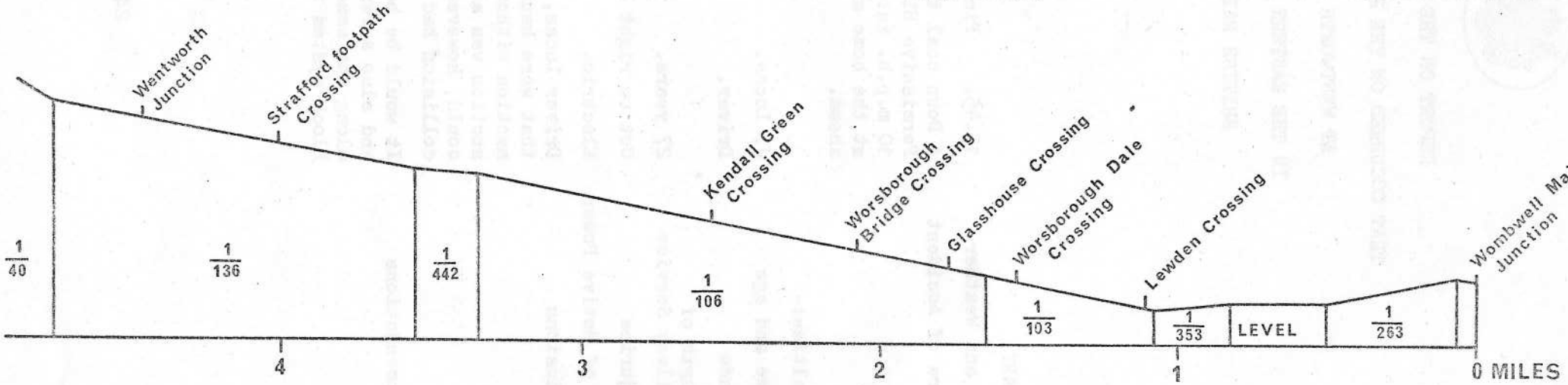


DIAGRAM OF GRADIENTS FROM WOMBWELL MAIN JUNCTION

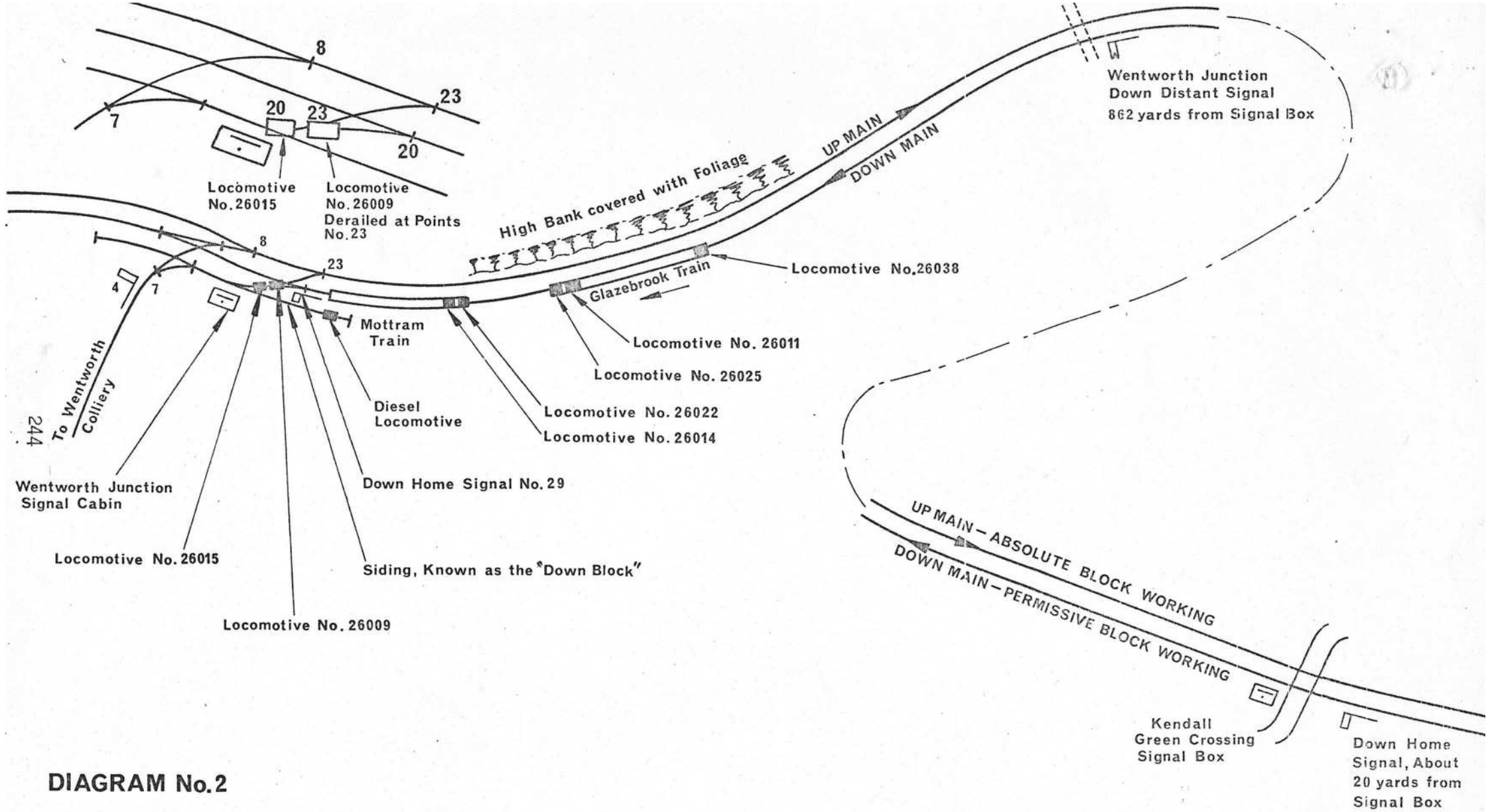

8
23
7
20
23
20
Locomotive No. 26015
Locomotive No. 26009 Derailed at Points No. 23
High Bank covered with Foliage
UP MAIN
DOWN MAIN
Wentworth Junction Down Distant Signal 862 yards from Signal Box
8
23
4
7
Locomotive No. 26038
Glazebrook Train
Mottram Train
Locomotive No. 26011
Locomotive No. 26025
To Wentworth Colliery
Diesel Locomotive
Locomotive No. 26022
Locomotive No. 26014
Wentworth Junction Signal Cabin
Down Home Signal No. 29
Locomotive No. 26015
Siding, Known as the "Down Block"
Locomotive No. 26009
UP MAIN – ABSOLUTE BLOCK WORKING
DOWN MAIN – PERMISSIVE BLOCK WORKING
Kendall Green Crossing Signal Box
Down Home Signal, About 20 yards from Signal Box

DIAGRAM No. 2