

controlled “slave units” were tried on eastbound coal out of Hinton. These units were cut in about half way into a very long train of perhaps 200+ cars. This experiment was short lived, and within a few years the idea of a helper out of Ronceverte surfaced again. This began a regular practice again in the 1980s up to the present.

It was not regular practice, but occasionally a pusher was sent from Clifton Forge to Alleghany on the rear of a westbound manifest freight. In this case 2-8-4s were used (per photographic evidence). See the photo on page 15.

East From Handley

Pushers on some coal trains eastbound leaving Handley was a bonus from the 1955-56 traffic surge that caused the return of stored steam and gave steam locomotives on the C&O their last hurrah. When H-8s were brought out of storage they operated out of Handley as they always had, leaving there with about 90 loads, then when the grade eased off around Hawks Nest they could add more tonnage at Thurmond, Quinimont, or Meadow Creek, all without a helper.

When a Tidewater-bound train came into Handley with 140 or 144 cars, the load was too much for an H-8 to take up the lower New River gorge. At that time they simply used two K-4s, one that had brought the train from Peach Creek or Danville, with a second one added as pusher. The K-4s came off the ready track at Handley coupled together then proceeded to their separate ends of the train. The pusher stayed all the way to Hinton.

Scary Hill Pusher

The Scary Hill pusher, which was based at St. Albans, West Virginia, assisted westbound and eastbound coal trains over the 0.30% grade east and westbound to the summit at Teays. The 2-6-6-2 Mallets were the standard pushers for this service. See the June 2010 issue of this magazine for the full story.

The Limeville Pusher

The Northern Subdivision was opened in 1917, branching off from the Cincinnati Division main line at Limeville, Kentucky, crossing the Ohio on the monumental Limeville (Sciotoville) Bridge of great fame. The grade approaching the bridge from the



J-3 No. 606 and J-3A 610 pull a heavy train near Little Rock Tunnel in July 1949. When passenger trains exceeded 14 cars, a helper was required. (J. I. Kelly Photo, C&OHS Collection, COHS 316)

junction with the Cincinnati Division at NJ Cabin was 0.71%, but it was short, at just under two miles. A pusher district was established here to assist westbound coal trains approaching the bridge on this grade, with the helper locomotive stationed at NJ cabin. We're not sure of the date this was established, but our 1927 profile drawing shows this operation, so it was certainly in place then.

By this time, the H-7 2-8-8-2 simple articulateds were handling many, if not most, of the coal trains headed for the Hocking Valley's Parsons yard in Columbus, traveling over the Northern Subdivision. The first portion of this line was completed in 1917 between Limeville Junction and Waverly, Ohio (for a junction with the Norfolk & Western), and the final leg into Columbus was completed in 1926.

After 1930, most of the trains on this line were handled by the new Super Power 2-10-4s, and 2-8-8-2s became the pushers at Limeville. They remained so to the end of steam. Even when most of the H-7s were sold in the early 1940s, the C&O retained a few, including enough to handle the Limeville pusher operation. Occasionally H-8s and T-1s also were used as pushers out of Limeville. This operation was eliminated when diesel power took over.

The Powell Hill Helper

On the Hocking Division, helpers were needed for coal trains westbound (north geographically) out of Columbus. The coal trains in the post-1930 era usually had a 2-10-4 for road power, and the helpers, coupled to the front as doubleheaders, were usually K-3a 2-8-2 Mikados helping the road engine. They cut off at Powell, after about 13 miles of 0.50% grade, turned on the wye there, and returned to Columbus.

The Corey Hill Pusher

In Kentucky, the Corey Hill Pusher operation added helpers mostly to manifest freight trains between Aden and Olive Hill on the Lexington Subdivision. The grades Westbound from Aden to Mountain Top started out at about 1.13% for about five miles west of Aden, and then jumped to 2.67% for the last two miles to Mountain Top. Eastbound, the grade began just out of Olive Hill at 2.65% for about three miles to Mountain Top. In the late steam era, 2-6-6-2s were used to assist freight trains in both directions. These were the steepest main line grades on the entire C&O system, though mercifully short. The pushers were stationed at Olive Hill where water was available and an automatic coaling machine replenished fuel. CTC was installed in



H-7 2-8-8-2 No. 1578 shoves a westbound coal train up the steep approach to Limeville bridge in September 1950. Note the smoke from the lead engine in the distance beyond the bridge. After the train's rear had reached the bridge the pusher would return to its pocket near NJ Cabin at Limeville Junction. (Gene Huddleston Photo, C&OHS Collection, COHS 1446)

this area in the 1940s, so the pushers could go to the Mountain Top siding at the top of the grade and could be dispatched from there to make the next shove. There was no facility to turn the 2-6-6-2s, so they always faced west.

Chicago Division

The western-most major helper operations were on the Chicago Division. The first was located between Stevens (Kentucky) yard at the end of the Cincinnati Division, through Cincinnati, and up the steep grades out of that city to the Chicago Division yard at Cheviot, Ohio. The C&O had no major yard inside Cincinnati, so there was a need to move heavy trains on transfer runs as well as through-trains between Stevens and Cheviot.

The ruling grade eastbound from the B&O crossing in Cincinnati to Cheviot was 1.91%. To surmount this grade required multiple steam locomotives. Westbound trains would have helpers added at C&O's small four-track Liberty Street yard in Cincinnati. Trains of about forty cars took as many as four or six locomotives to reach the summit

at Cheviot. The locomotives used for this were usually H-4 and H-5 2-6-6-2 Mallets and K-1 2-8-2 Mikados. It was common to have two or three Mallets on the front, one or two cut in in the middle of the train and another one or two pushing. Since the route was short, these helpers ran back from Cheviot to the helper station at Liberty Street for additional work after each movement.

West from Cheviot, the Chicago Division's Miami Subdivision line ran northwest across the southwest-running drainage patterns of the state, creating numerous stiff grades on a "saw-tooth" profile. Helpers (doubleheaders) out of Cheviot descended the 1.1% grade known as Dent Hill to Miami and across the Great Miami River at Fernald. Westbound from Fernald to Okeana the grades then ascended from 0.5% to 1.0% for six miles. At Okeana, the grade stiffened to 1.0% to 1.12% for eight miles to Peoria. This was known as Okeana Hill and was the ruling grade westbound, just as Dent Hill was the ruling grade eastbound.

The final grade requiring helpers was the seven miles between Economy and Losantville where one river and two creek crossings each had 1.0% grades leading in and out of each small valley.

Westbound out of Cheviot, almost every train was doubleheaded with K-2 Mikados. The helper stayed with the train across these grades for 49 miles to Boston, or on to Losantville (81 miles) when needed. Helpers would turn on wyes at either Boston or Losantville.

At Peru, which was located in the Wabash River Valley, westbound trains routinely used either G-7 2-8-0s or K-2 2-8-2s as helpers. They assisted the train to the towns of Twelve Mile, 12 miles west of Peru, or Fulton, 18 miles west of Peru. Grades in this stretch of track ranged from 0.5 % to 1.1% . The helper would run in reverse, returning to Peru to assist the next train. Most helper work here utilized doubleheading and only rarely was a pusher used. Helpers were seldom required eastbound from Peru except where tonnage required it or for special train movements.