Mine Machinery

Open Cast

The ironstone seam at Nettleton Bottom was approximately 20ft deep in places and a considerable amount of earth had to be removed to expose the seam.

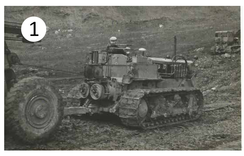
First top soil was removed and placed away from the main site. The subsoil and earth was then removed to expose the ironstone seam.

This was done by conventional earth moving machinery consisting of a crawler tractor towing a scraper. The scraper (also called a box scraper) was operated by steel wire rope and pulley systems operated by the driver via a twin drum winch mounted on the back of the crawler tractor.

The scraper box was lowered to touch the ground as the crawler moved forward. A cutting edge on the front edge of the box dug into the earth and the forward motion scraped up the earth and filled the box. Once the box was full, the box was raised clear of the ground and a door or apron was lowered to keep the earth in the box.

The load was then transported to another part of the site and spread out evenly on the ground. This was accomplished by the rear wall of the box being pulled forward to eject the soil.

A typical crawler and scraper operating are shown in figures 1, 2 and 3.


1


2


3

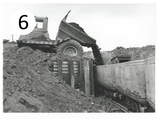

4

Once the ironstone seam was exposed a railway system was built and a loading bay constructed so the mine cars could be loaded with ironstone.

An excavator (face shovel) was brought in to excavate the ironstone from the seam and loaded it into the skip of shuttle dumpers. The dumpers transported the ore to the loading bay and tipped it into the mine cars. Figure 4 shows an aerial view of the South workings.

Figure 5 shows the face shovel loading a dumper and figure 6 shows the dumper loading a mine car.


5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The full train of mine cars was then hauled to the Nettleton Top mine by diesel locomotives, see figure 7.


7


8

Once at the top site the mine cars were unloaded by turning them upside down in a tippler, see figure 8.

The iron ore was deposited into a large bunker. It was then dispatched from the bunker into a fleet of dump trucks, see figure 9, and transported via a haul road to the railway sidings at Holton le Moor where it was tipped into railway cars. It was transported by British Rail to the steel works at Scunthorpe.


9

The north open cast workings were very similar, but a larger face shovel was used, see figure 10, and the iron ore loaded into dump trucks to be transported to Holton Le-Moor.


10

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On the north open cast works a seam of sand ran under the ironstone and a dragline, see figure 11, was used to excavate the sand which was then taken by dump truck to Nettelton Top yard to be passed through a sand washing plant, see figure 12, before being taking it to the Scunthorpe works.


11

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12

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