

FROM THE ARCHIVES

An archive photograph of East Midlands geology from the British Geological Survey collection

Greetwell Ironstone Mines

From the far east of the East Midlands region, the ironstone mines in the Greetwell area, east of Lincoln, feature in one of a series of BGS photos taken in 1933 by the Survey photographer, Jack Rhodes.

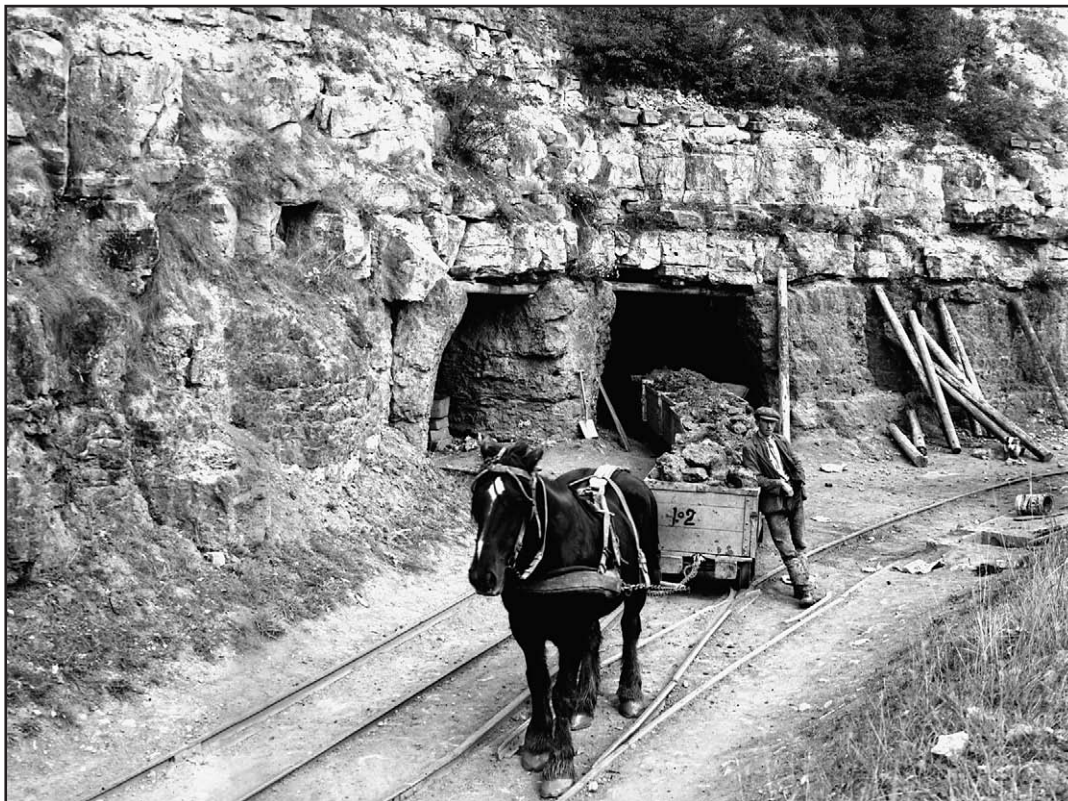
Ironstone was worked in the Greetwell district for at least 60 years, using both underground pillar-and-stall and opencast methods. Mining commenced around 1878 and ended just before World War II, although the opencast mines remained in operation throughout the war as a source of 'hard core' and 'pitching stone', which was obtained from the Lincolnshire Limestone overburden and was used for roads and aerodrome runways.

Geologically, the ironstone was worked from the Northampton Sand Formation of Aalenian age (in the early Mid Jurassic). The entire formation is about 3.5 m thick, with workable ores occurring as sideritic ironstones with berthierine ('chamosite') ooids, interbedded with sideritic and calcareous sandstone. In the Greetwell area, the Lincolnshire Limestone unconformably overlies the Northampton Sand Formation in most places. The Grantham Formation (formerly Lower Estuarine Series), which separates

these formations farther south, is mostly absent, though is represented locally by about 0.3 m of iron-stained sandstone with plant remains. At shallow depth, the ironstone weathers into a limonitic, 'boxstone' structure, and was obtained in this form from the opencast workings. This ore was blended with the less oxidised, blue-green ores won from the underground mines, and was sent to the ironworks at Scunthorpe, where it was usually mixed with the Frodingham ores before smelting. The overlying Lincolnshire Limestone was also worked for use as a flux in the smelting process.

The photograph shows ore-laden trucks emerging from the Long Harry Mine, which was entered by several adits dug into the sides of the opencast workings. The contrast between the darker coloured ores of the Northampton Sand Formation and the paler coloured, well-bedded Lincolnshire Limestone can be clearly seen. The working face was about 2.5 m high, leaving a bed of ironstone 0.3 m thick to form the roof. The main roadway was excavated in a northwest direction from the adit mouth, with pillar and stall workings extending underground for about 2km northeast from the roadway. A substantial fault, which throws down to the northeast, formed the boundary of the workings. Faulting, together with facies change along strike to the north, effectively constrained the extent of workable resources at Greetwell, with all viable reserves exhausted by the late 1930s, despite the imminent demands of World War II.

Andy Howard, British Geological Survey



Long Harry Mine, Greetwell, Lincoln, in September 1933 (BGS photograph # A00733, © NERC).