

## Murgatroyd's Ammonia-soda Works

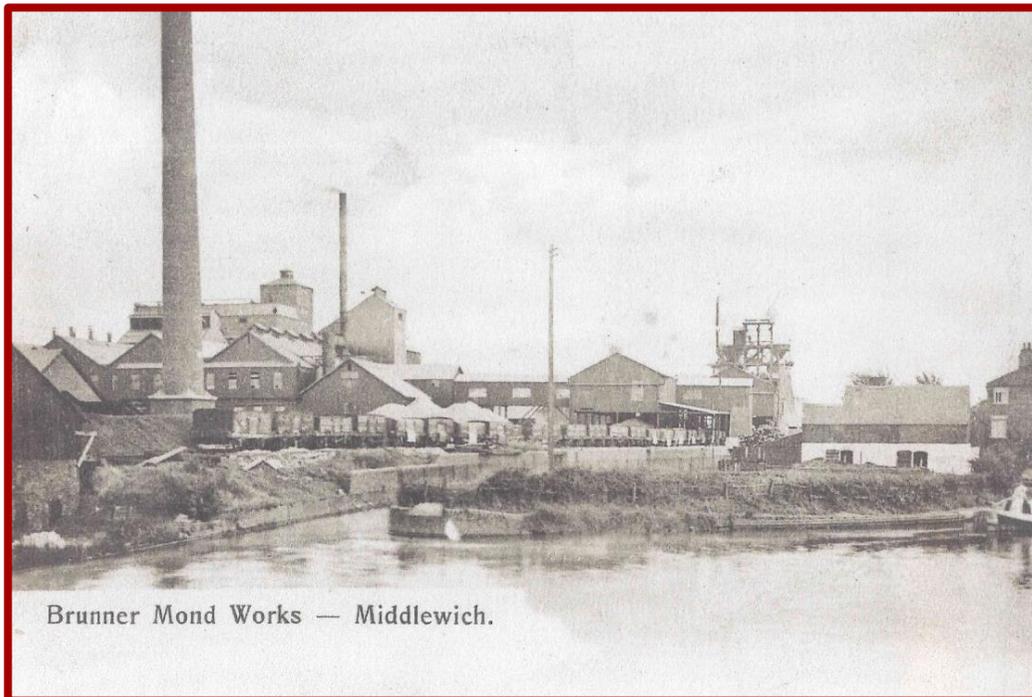
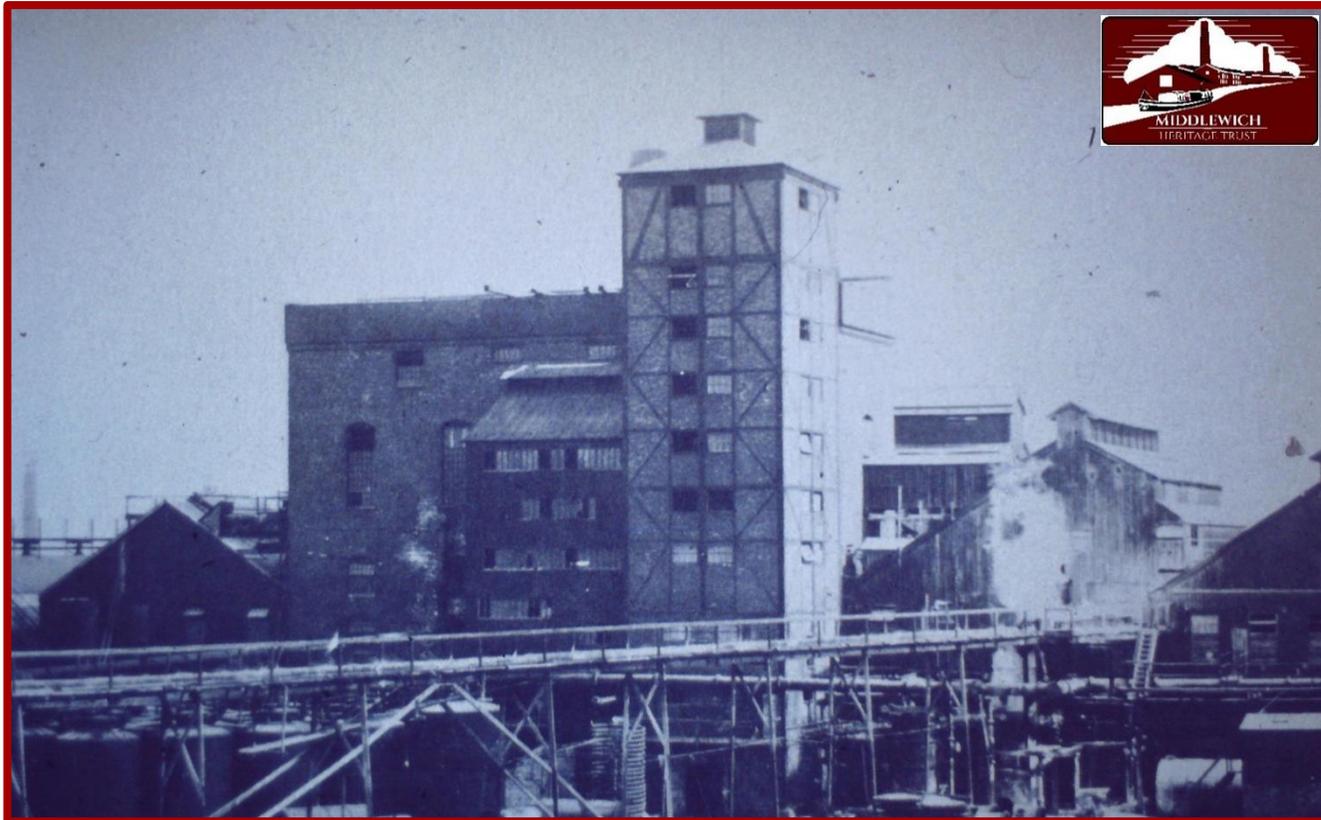
By January 1891 Murgatroyd made plans for his next enterprise, the erection of an **ammonia-soda plant**. He was joined in this venture by a German chemist, Hermann Aldendorff whose contract with Murgatroyd, refers to the construction of an ammonia-soda plant capable of producing 200 tons of soda ash per week at a maximum cost of £3 per ton. To provide the necessary capital, Murgatroyd formed the **Murgatroyd Ammonia Soda and Salt Syndicate Limited**.

Soda ash, (**sodium carbonate Na<sub>2</sub>CO<sub>3</sub>**). Is used in industrial and environmental applications, detergents, metallurgy, glass, water treatments etc.

The construction of the works started in 1891 and was completed on 17th January 1893. The start-up took place without a hitch, and the planned production capacity was reached during the second month's operation. The essential difference between the ammonia-soda process operated by Brunner Mond and that operated by Murgatroyd was at the carbonation stage where brine is reacted with ammonia and carbon dioxide. In his process Murgatroyd chose to use a batch system of operation (Honigman batch carbonators) which compared to Brunner Mond's continuous Solvay tower process would be inherently less efficient and therefore would have cost more to produce the soda ash.

Aldendorff left the Company to return to Germany where he rose to an important position in the German chemical industry, and Murgatroyd began to take a more active part in the running of the chemical plant.

During 1894 the soda ash market began to deteriorate, prices fell by half in a few months. In addition to declining markets and competition from Brunner Mond, the position of the Murgatroyd Syndicate was further damaged by low process efficiency and poor product quality. Murgatroyd's untimely death followed and even with a new driving force of Ivan Levinstein, the fortunes of the Syndicate did not improve. Several months later, Brunner, Mond and Co offered to buy the chemical works, Levinstein persuaded the other directors to accept the offer. To safeguard the supply of salt to Levinstein's Blackley Works, he purchased Murgatroyd Salt Works.



Top: Murgatroyd's Soda Works, now Middlewich Works owned by Brunner Mond and later as ICI. This image taken in 1909 is largely as George Murgatroyd built it sixteen years earlier.

Left: The Brunner Mond works as seen from the canal junction. Date not known but certainly pre-1926. Note the railway connection to the canal junction.