

# The Stape Molasses Shale Mine and Railway

by Professor John Carne, of the Department of Industrial History at Huddersfield Polytechnic.

In a previous issue of "Moors Line", Mr. G. Reussner wrote an interesting article on the sidings of the Whitby branch, but inexplicably he omitted to mention what was, for a time, perhaps the most important connection, that of the short lived Stape Molasses Mine railway. Nowadays local schoolchildren make jokes about the Stape treacle mines, little do they realise that their joke is founded in fact, but why should they, the whole idea of mining for treacle smacks of Alice in Wonderland. The deposit at Stape is a geological freak, the only other known deposit being in South America where it has never been exploited.

## The Geological Background

In prehistoric times a close relative of what we know as sugar cane grew profusely over northern Europe. This plant grew to a height of fifty feet or more in huge swampy forests. At some time a great cataclysm overtook these cane forests (possibly a mini ice age) and laid them flat, other deposits overlaid the cane and over an enormous period of time heat and pressure changed it into an inferior form of coal. For some reason which we will never know the deposit in the area which is now known as Stape was not subject to such extreme treatment, the result was a band of porous shale containing a thick dark form of molasses.

## The Extraction History

The local people knew of the deposit from early times, since in one or two places at the foot of the escarpment of the Tabular Hills the raw molasses oozed to the surface. These locations were kept very secret for the molasses was highly prized, there is however what appears to be a reference to one in the Domesday Book. In Dr. Kendrick's book of 1625, 'The Spars of Yorkshire' there is an account of a visit to a 'Tunnel, near Rawcliffe', apparently the local people had driven a tunnel for some distance into the hillside and the molasses collected in pools in its side. I have never been able to locate this remarkable tunnel and there is no local memory of it. With the arrival of cheap sugar products from the colonies collection of the

molasses seems to have died out but during the trade recession of the mid 1880's the price of sugar rocketed and this was the impetus that made a small group of local gentlemen form the Stape Molasses Shale Mine Company, in an attempt to exploit the deposit (and make a quick profit).

An interesting account of the aims of the new company appears in the Yorkshire Gazette for July 15th 1887. The company was soon at work and by early December 1887 an exploratory shaft was being sunk North West of Stape. The company approached the North Eastern Railway to provide a connection to the mine, the N.E.R. loco, way and works committee minute No. 23572 gives:

'Received, letter dated 23rd November from Mr. Skelton (jnr.) requesting that the company lay down a branch siding north of Levisham on the Whitby branch to where he is sinking a shaft for molasses, his company expects to furnish a large volume of traffic. As this committee has no knowledge of the likely success of this venture and the requested branch siding would be of some length and through unknown country.

Ordered: That Mr. Cabry be instructed to visit the area and determine the practicality of the project and of laying down the necessary branch siding and to produce an estimate of the cost.'

Minute No. 23601 of December 21st gives:

'Received the report of Mr. Cabry (Minute No. 23572) and after some discussion: Resolved: That as the success of this project seems in doubt and the expense to the company in providing the requested branch siding would be great, that this committee cannot accede to the request of Mr. Skelton (jnr.). However if Mr. Skelton and his associates wish to lay down a branch siding on their own land entirely at their own expense, the company will lay down a siding to the company's boundary in connection. To be charged to capital.'

This setback did not delay the promoters for long and on further negotiation the N.E.R. agreed to provide secondhand material for the branch at cost or an annual payment of 5% on its value. The promoters set to work

with a will and by June 1888 were able to inform the N.E.R. that their branch was ready for traffic and that they would work the branch themselves to the N.E.R. exchange siding at Raindale. There is no record of what locomotive they were employing, the N.E.R. however provided the wagons (later they built special tank wagons for this traffic).

The branch diverged southwards from Raindale sidings and immediately swung west over the beck, past Raindale Mill and up Raindale, near the head of Raindale the line turned north west, crossed the road to Stape on the level and continued for  $\frac{3}{4}$  of a mile to the mine itself where it split into a number of sidings, one serving a small loco shed.

Work on the mine proceeded apace and by late February 1887 a rich seam of shale was discovered, in April a trial processing of the shale using a small experimental processing plant built in the company's new workshop had shown that they could expect a good yield and the company ordered a much larger plant on the same pattern from a Leeds firm. Perhaps a short account of how the molasses was extracted is in order. The shale was tipped into one end of a rotating, conical vessel rather like a larger version of the

vessel on a pre-mix concrete lorry, this vessel rotated inside a large furnace, the vessel had spiral scrapers on the inside to gradually move the shale up the vessel. The heat expelled the molasses from the shale and it ran back down the vessel to where it was collected. The processed shale came out of the upper end into narrow gauge tubs in which it was conveyed to waste tips.

The company started full scale production in October 1887 and were an immediate success, so much so that by January 1889 they were setting up a second processing plant and ordered a second loco to work their branch. This boom was short lived, by the early 1890's the price of imported sugar products started to fall, however by careful management the company kept its prices competitive and they settled down to a period of steady but lower output.

One product of the end of the boom was an attempt by the company to find a use for the processed shale (called cake). They discovered that the processing left about 5% of the molasses behind and that with an adequate air supply the cake would burn. This led to the company converting its processing plant to burn its own waste

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product (I am sure modern ecologists would approve). They also tried using cake to fire their engines but they were designed for coal burning with too small a grate area and consequently steamed badly on cake. In 1897 the company had discussions with the Newcastle firm of loco builders Stephenson & Co., who assured them that they could build a loco which would run on cake. The result was No. 3 'Gingerbread' (named after the miners slang name for the unprocessed shale), with a much larger grate area than the earlier engines. No. 3 was a great success and the company ordered a second engine in the following year, No. 4 "Mollasses". When No. 4 was delivered the company offered the two coal burning engines for sale, but there is no record of their fate.

The company's success lasted only until 1905 when a further decrease in the price of imported sugar products lost the company its markets and despite further economies the company ceased trading in March 1906. The engines were left in their shed and all the mining equipment was left as it was on the last day. Various proposals were made to reopen the mine but to no avail, in 1911 the N.E.R. pulled up its connection and the mine, railway and its equipment was left to rot. With the coming of the first World War local hope of reopening was rekindled but imported sugar still got through. The final blow came in the scrap drive of 1916 the N.E.R. reconnected the siding but only to remove the scrap. The mining equipment, locomotives Nos. 3 and 4 etc. were all cut up where they stood, eventually the track itself was lifted and the Stape Molasses Shale Mine and railway was no more.

#### What Remains Today?

The answer is virtually nothing, the afforestation of the 1920s-30s has virtually

wiped out all trace, what may be the abutments of the bridge over the beck at Raindale are just visible, the course of the branch up Raindale was largely used for a forestry road, beyond the road to Stape the trackbed is a farm access track, what remained of the mine buildings was bulldozed and the area planted with trees, the plugged mine shaft is just visible if you know where to look. The cake waste tips were removed during the second World War for fuel and their site eventually planted over. Few people today even believe in the existence of what was once a thriving industry. The last miner (Samuel Eddon) died in 1962.

I should like to thank the following:

The family of Samuel Eddon for access to his diaries, the staff of the North Yorkshire Archives department for their assistance in tracing the few remaining papers of the S.M.S.M. Co., the Public Record Office, Kew for access to the N.E.R. minutes books, the librarian at Huddersfield Polytechnic for her assistance in preparing this paper and lastly my wife for her proofreading, typing and most of all her patience.

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