

MEMOIRS

1964



Dickinson, J.M. 1964
“The Appletreewick Lead Mining Company 1870 to 1872
Part 2 Engines: Dressing and Smelting of Ore”
Memoirs No.2, NCMRS, pp.1-7

Published by the

THE NORTHERN CAVERN & MINE RESEARCH SOCIETY
SKIPTON U.K.

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**THE APPLETREEWICK LEAD MINING COMPANY 1870 TO 1872.
Part 2. Engines; Dressing and Smelting of Ore.**

by

John M. Dickinson.

The earliest reference to engines is on April 6th 1870 to one George Tounson, to attending Engine for nine weeks at 25/- a week. Whether this engine was steam – or water- powered is not clear. It is evident that in May of 1870 an engineer was engaged to erect a steam engine at the mine, and by July of the same year, work was in hand on this project. A letter from Edward Gledhill, the engineer concerned, gives some details of the work carried out:-

Appletreewick Mining Co. Ltd.
Dr. to Edward Gledhill,

Claremont Hill
Shrewsbury.
26th Oct. 1870

Dear Sirs,

To time occupied from May last in selecting and purchasing suitable Engine and Boiler, deciding upon best position for fixing same and conducting the erection of steam power on the Mine. Modifying and adapting the old winding and pumping gear, and making same available for new arrangements.

Selecting and inspecting erection of “L” and “T” balance bobs, drawing and pumping pulleys and other pit work in and about the mine.

Also reconstruction of machinery at the Dibb, rearranging friction pulleys and fixing winding and pumping gear at turbine. Extending independent drawing and pumping ropes to rise, and laying down appropriate method of electrical signalling to such same, together with the supervision of other necessary alterations and modifications connected with the reconstruction of the Company’s machinery.

Brought forward	352	10	0
Paid travelling and other expences	136	1	11

Signed Edward Gledhill

It would appear that the engine referred to in this letter was for pumping. A further reference mentions the purchase of a small portable engine from Messrs. T. Campbell and Sons of Hunslet to power the crushing plant. Several bills from firms supplying plant for the steam project give a clear picture of the works:-

DURIE AND DAVIS

Iron and Brassfounders. Aberystwith Foundry.
16th Aug. 1870

To 1	“L” bob complete as per contract.			
2	Sockets for wire rope.			
4	Bolts and nuts for foundations.	13	13	0

For Cambrian Railway.

ELLISONS AND FAWCETT
 Providence . Iron Works Skipton.

To:-

June	11th	1870	1 Tee. Bob. Making, delivering and fixing	£35	0	0
June	27th	1870	Spear Rods connection, forging and fitting	4	7	0
July	25th	1870	Pump Rods forging and fitting	4	13	0
Sept	10th	1870	Hemp packing for Engine		9	7

There is also a rather intriguing receipt which offers scope for thinking that a third steam engine was bought (for winding?) from Messrs. John Fowler and Company, Steam and Locomotive works, Leeds:-

1871 for £92 19 7.

The object purchased is not stated, but judging by the price it must have been a steam engine or some other large plant.

DOLPHIN FOUNDRY

Hunslet Leeds,

Messrs the Appletreewick
 Lead Mining Company. Ltd.

25th Sept. 1871

			Dr. To Thomas Campbell and Son			
June	1	1871	To inspecting ore crushing arrangement	2	2	0
	11		Second hand portable engine	£105	0	0
			Contract for fixing Do. and Driving			
			Arrangement	25	0	0
			Carriage of Do.	5	0	0
	29		2nd authorised inspection	2	2	0
July	18	1871	Extra work for driving	10	0	0
Aug	26		1 Heavy spur wheel 6cwt 1qr 10lb bored and			
			slotted and 1 wall box 4 cwt 3 qrs	7	9	3
			1 man 18 days and 1 man 12½ days @ 6/-	9	3	0
			Railway fares and conveyance	2	12	0
			Mens expences, living 24 days @ 3/-	3	12	0
			Lead pipes for engine		6	0
			Fetching Do from Skipton and attaching		7	6
			Conveyance		9	0
				173	12	9

Whilst these heavy engineering works were in hand the miners were engaged in various ways making ready for the machinery:-

July 2nd 1870	George Hardacre and Partners.
	Getting stones and making room for Ballance Bob,
	43 days @ 3/-.
July 2nd 1870	John Mawer.
	Making Bob pit and engine bed. 17 days @ 3/6d.

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Aug 6th 1870 John Mawer and Company
 Building Engine House and walling pool £4 15 0

Sept 3rd 1870 John Mawer and Company
 Finishing Engine House and walling pool £6 10 0

A receipt dated June 14th 1870 to James Wignale, states "June 10th 1870. To 4 horses from Skipton to Appletreewick to assist get Boiler etc. to mine £2 0 0"

The coal for the steam engines came in the main from Whitwood Colliery, though some was brought from St. Johns Colliery. Some coke from an unnamed source was also used. The coal was delivered by the North Eastern at their Pateley Bridge station, whence it was carried to Appletreewick by horse and cart, the carters being on their own account and not employees of the mining company, e.g.

Mr. Wiseman Agent
 For Appletreewick Mine Company

To Robert Pickles.
 April 6th. Carting 49 ton 5 cwt of coal to Appletreewick.
 £10 13 1d.

Feb 4th 1871 Thomas Pounder
 Carting 38 ton 7 cwt of coal to Engine £3 16 8d

Oct 7th 1871 John Bell
 Carting coals to Engine 34 ton 11 cwt @ 2/- £3 9 1d

In 1871 the supply of coal was changed and invoices are from "Joshua and Sons, Allerton Main Coal Wharf, Skipton", who also carried the coals to Appletreewick. Some idea of the amount of steam coal used by the engines be derived from these invoices. For example for the months of February March of 1871, 44 tons 9 cwts were supplied. The engines must have only used periodically to judge by this small amount of fuel used.

The engine men were on a higher rate than the miners and labourers although the stokers seem to have been poorly paid.

July 2nd 1870 William Johnson

Sept 3rd Tenting Engine 3 days @ 4/2
 " " " 23 days @ 4/2
 Oct 1st " " 19 days @ 4/2

Deduct lip subsist £4

Dec 3rd 1870 William Hardacre
 Stoker to engine 11 days @ 1/3.

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Sept. 2nd 1871	Petty Nixon Thomas Plint Attending Engine	4 weeks @ 25/-
Sept. 2nd 1871	William Hardacre Stoker to Engine when drawing	24 days @ 1/6d
Jan. 6th 1872	John Newbold Attending Crushing Engine	32 days @ 3/-
Feb. 3rd 1872.	John Newbold Petty Nixon Attending Pumping Engine	4 weeks @ 25/-
Feb. 3rd 1872.	Thomas Wiseman Attending Crushing Engine	21 days @ 3/-
Feb. 3rd 1872.	William Hardacre Stoking for Engine when drawing	24 days @ 1/6d
Feb. 3rd 1872	David Carlyon Assisting when spear rods broke	2 days @ 3/-

ORE DRESSING AND SMELTING

The main dressing floors appear to have been situated on the side of the valley of the river Dibb about ¼ mile North West of the mine, although a system of water channels can be traced towards the mine running from a small dam near Dibbles Bridge. A further water course runs from the valley below the Grimwith Reservoir following the Dibb Valley.

The receipts relating to the dressing of ore are as follows:-

Feb. 4th 1871	Thomas Baines Dressing ore for 19 tons of lead @ 15/-
July 1st 1871	Thomas Baines Dressing ore. 8 tons £6 Subsist on 6 ton £4 10s Dressing good ore 2.8 tons @ 12/6d
Aug. 5th 1871	Thomas Baines Dressing 48 tons 18 cwt of ore 30 0s 3d
Sept. 2nd 1871	Elijah Hellifield 4½ days at dressing floor @ 3/-
Jan. 6th 1872	Thomas Baines Dressing good ore and slimes 27 tons 6 cwt @ 12/6d

Heathfield Smelt Mills,

PATELEY BRIDGE, March 18th - 1872

APPLETREWICK MINING Co.

Dr. to THOMAS MOORE & BROTHERS.

1872					
Feb 28	For Smelting	To Balance acc'd		40	15 1/2
March	Smelted Crop	12 - 9 x - 0	18 x	14	0 3
"	Do Limes	5 - 12 x	2 - 22 x	7	17 9
"	Weighed Crop ore	14 - 10 - 0		"	7 3
"	Do Limes	1 10 - 4 - 0		"	5 1
				<hr/>	
				42	62.8.4
				42	63 5 5

April 10th 1872
 Packed
 By J. H. Moore.

20 MAR 72

Fig.1

APPLETREEWICK LEAD MINING COMPANY 1870 TO 1872. PART 2

The dressed ore was then carted to the smelt mills at Grassington Moor owned by the Duke of Devonshire, or to the Heathfield Smelting Mill near Pateley Bridge, which was run by a Thomas Moore and Brothers.

Aug. 1869 Mr. James Pratt of Greenho Hill
Leading peats to Smelt Mill 1 load @ 2/1d

Dr. To John Yorke Esq.
To 2 years rent for Peat House, due Mayday 1870 £2.

Dr. to Thomas Pounder
For leading Lead ore to Smelt Mill
7 tons 10 weys at 3d per Bing £2 16s 3d
2 loads of peat from Craven Moor to Appletreewick 5/-

Jan. 7th 1871 Thomas Pounder
Carting 19 tons 7 cwt of ore to Pateley £7 5s 0d

APPLETREEWICK MINING COMPANY

Dr. to Thomas Moore and Bros. Heathfield Smelt Mills. Pateley Bridge

1870

Oct. 4th	8 shifts slags hearth @ 5/-	2 0 0
	Roasting 31 Bings 7 cwt Slimes	1 19 10
	24 shifts smelting slimes	4 16 0
	8 shifts slag hearth @ 5/-	2 0 0
	Refining 68 slag pieces @ 4/0	13 7
Nov. 10th	Weighing out 157 pieces @ 8d	5 3
	Getting out slags and stobing fernices	<u>2 9</u>
		£12 1 5

SKIPTON-IN-CRAVEN

Feb. 7th 1871

Messrs the Appletreewick Mining Company to the Grassington Mines.
1871

Feb. 3rd To smelting ores. Tons 16. 12 @ 21/- £17 8s 7d
Rec. per Cheque
Signed J. Ray Eddy

HEATHFIELD SMELT MILLS

Dr. to Thomas Moore and Bros. P a t e l e y
Bridge

July 22nd 1871 The Appletreewick Mining Company
For Smelting and Roasting 15 tons 6 cwt 1 qr 20 lbs @ 22/6d £17 4s 8d

SKIPTON-IN-CRAVEN

The Appletreewick Mining Company

Nov. 14th 1871

To smelting Slags
Tons 5. 17. 2. 19 @ 75/-

£22 1s 3d

Signed J. Ray Eddy

To be Continued./