BRITISH MINING No.55

MEMOIRS
1995

Gill, M.C., 1995
"Harald Bruff and the Greenhaugh Mining Company Ltd"
British Mining No.55, NMRS, pp.139-152

Published by the

THE NORTHERN MINE RESEARCH SOCIETY
SHEFFIELD U.K.

ISSN 0309-2199

HARALD BRUFF AND THE GREENHAUGH MINING COMPANY LTD

by Michael C. Gill

SYNOPSIS

The history of 20th century mining in the Dales, especially the shift from working lead ore to fluorspar and barytes, is a neglected topic. This paper, which is part of a broader study of this period, also marks the fiftieth anniversary, in January 1996, of the death of Harald John Lexow Bruff who was both the managing director and a founder of the Greenhaugh Mining Company Ltd, which worked mines at Appletreewick between 1914 and 1927.

INTRODUCTION

Lead mining in Yorkshire declined rapidly after 1872 and was moribund by 1900. For example, the annual output of lead concentrates from the Old Gang Mines fell from 1777 tons in the 1870s to only 23 tons between 1900 and 1913. The Arkengarthdale Mines closed in 1902, but the Stang & Cleasby Lead Mines Ltd raised 505 tons of concentrates from its Sloate Hole Mine, at Faggergill, between 1907 and 1912. In Nidderdale, except for some fossikers on Greenhow, only the Lolly Scar and Blayshaw Gill Mines were working and their combined annual output averaged 289 tons of concentrates between 1900 and 1910. Lead mining in Airedale and Wharfedale was dead, and only Lunehead Mine (now in Co. Durham), near Middleton in Teesdale, had made a significant diversification in the ores it produced. Although it was never a rich lead mine, from the 1860s it produced barytes and became the county's largest producer of that mineral when Raygill Mine closed in the 1890s. Lunehead's average annual output of lead concentrates was only six tons between 1908 and 1913, but that of barytes was 1571½ tons between 1900 and 1913. It closed during World War Two and production shifted to the nearby Closehouse Mine, which opened in 1938 and is still working. Some further work was done at Lunehead in the early 1960s.

Nearly all the former lead mining areas have seen attempts at lead, barytes and fluorspar mining and retreatment of dumps. None have been long-lived and, with two exceptions, both at Grassington, the largest concerns were in the Greenhow area. One interesting feature of the 20th century is the return to small groups of men, working in a fairly rudimentary way with scavenged plant, which is reminiscent of pre-19th century mining. Details of some of these ventures have been published, but there are still many gaps in our knowledge, especially of the smaller ones.[1-12]

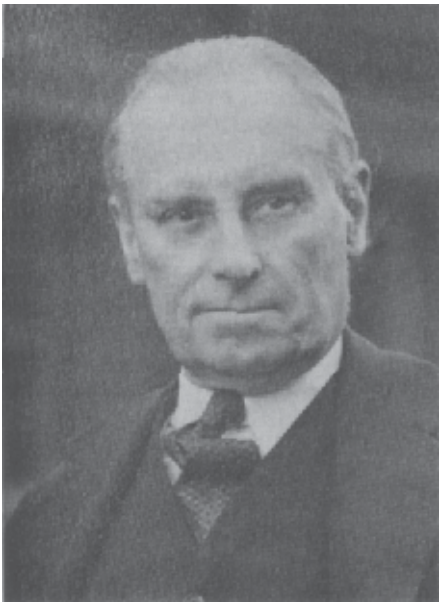
HARALD BRUFF

Harald John Lexow Bruff was born in Agra, India, c1874, and came to England as a draughtsman on the India Docks in London.[13,14] After working with the Great Western Railway, he joined the North-Eastern Railway, becoming bridge engineer. He was also a pioneer of structural welding using acetylene. In 1936 he visited Germany as the representative of the L.N.E.R.

and, while there, the German Government offered him a job, which he refused. He retired in 1938 and was presented with a silver tray, but during World War Two he worked for the Ministry of Supply in London, checking and overlooking welding plans in connection with tank design.

Bruff married Charlotte Sofie Rosenkilde, a Norwegian, in 1903 and they had a daughter, Ruby. She, in turn married Ulf Barkman, who worked at the Swedish legation in New York. Bruff's love for Greenhow Hill and its inhabitants began around 1907, when the mines had been closed for nearly 20 years and many younger people had left. The few remaining miners split their time between work on farms, road repairs and small-time mining. The community was in a decline which was not really halted until the 1970s, when many properties were renovated and used as homes by commuters. The desire for a '*pied à terre*' is not new, however, and in 1914 Bruff bought Kell House, near Craven Keld, as a gift to his wife. She had only seen Greenhow once, and then at its very worst, so her reply was that "*if he liked to live in that godforsaken place, he could. I certainly would not.*" By 1915, however, they were using the house for week-ends and holidays.

Bruff's interest in the purity and diversity of dialect, especially that spoken by the folk of Greenhow Hill, was reflected in the publication of two books. These were about well-known characters who worked and lived on 'The Hill'.[15,16] He was also secretary of the Yorkshire Dialect Society, which published his two papers on Greenhow mining terms.[17,18] His interest in mining, and his desire to find employment for the people of Greenhow, led him to promote the formation of a company known as the Greenhaugh Mining Company Ltd, which began work in 1914 at Jamie Shaft. This was Bruff's name for Pratt Shaft at the Craven Moor Mining Company's Jamie Mine.[19] Bruff's company had great intentions, but these were curtailed by the shortages of materials etc caused by World War One and the fall in prices after it. Bruff was managing director until 1919, when he returned to the railway, having created some employment for the villagers.



Harald John Lexow Bruff.
Date unknown. (J.S. Burnley, Batley).

The Bruffs' interest in the village continued and they supported any functions at the village school. Likewise, Kell House was often used

for fund-raising parties. He took a leading role in erecting the War Memorial on Greenhow and, in 1928, he proposed the establishment of a Village Institute. This ambition was realised in 1937, when it was opened. The Institute, a large wooden building, which had been used during construction of the Angram and Scar House dams in Nidderdale, was near the Miners' Arms.

Speaking of her husband during the period 1919 to 1937, Mrs Bruff said:-

> "*nobody knows better than I who shared all my husband's joys and troubles, how heartbroken he was after his failure. He thought that all was lost and that life in the village would go back to its old conditions. He did not then realise until later that his enthusiasm had sown into the mind of the villager a small seed: the wish to carry on, not go back to inertia, but to make a success of life, making it worth while by individual efforts and initiative. He had shown them the way; he was great idealist.*"

> "*My husband had planned much, and hoped for the time being there was nothing to do. Then, after a few years, came the work for the village Institute or Hall. It was long in realising. The villagers came together, there were disagreements, disappointments and even great resentment, but the Institute got erected and here it has proved a great blessing to the village, and I hope it will continue to do so for many years. I am sure I am right when I say that the women in the village have been the backbone in keeping it going.*"[20]

Bruff died on January 29th 1946 and, after a service at St Mary's Church, Greenhow Hill, his ashes were scattered upon the hill he loved so much. A year later, his life was commemorated at the Institute, Greenhow Hill, where between 60 and 70 people met for a valediction. The Rev. T. Garnett Jones, Vicar of Winksley, also unveiled a portrait painting and a plaque, which were hung on the wall of the Institute. The portrait was painted by a Belgian artist friend, a refugee during the 1914-18 war, who had stayed with Mr and Mrs Bruff at Greenhow. The plaque in bronze, set on an oak mount, was inscribed: "*In remembrance of H.J.L. Bruff who died January 29th 1946, from Greenhow Hill parishioners in appreciation of voluntary services rendered.*"

Mrs Bruff left England soon afterwards to live with her daughter and son-in-law in New York.

THE GREENHAUGH MINING COMPANY LTD

Harald Bruff was already interested in reopening parts of the Greenhow mines by January 1911, when his diary tells us that he met Mr Boord, the mineral lord's estate agent, to discuss the terms of a possible lease of mines around Craven Cross. He had chosen this area because the Bradford Corporation's aqueduct tunnel, locally known as the Pipe Track, had proved

the Craven Moor Veins at a depth of about 70 fathoms from surface, deeper than any of the lead workings. Bruff envisaged working these veins from the nearby Woodhouse Gin Shaft and having no problem supporting the aqueduct tunnel because it was in solid limestone. He even proposed working up to the tunnel and backfilling all voids around it with concrete.

Mr Yorke, the mineral lord, was very cautious of such proposals, however, because of the famous test case of the Howley Park Coal and Cannel Company v North Western Railway Company, in 1912.[21] The judgement in this case established the right to vertical and lateral support in the case of a colliery working under a railway tunnel, near Morley, Leeds. This, Yorke's solicitor felt, placed an onerous liability on the owner, the responsibility for which he wanted to shift onto any lessee. Negotiations continued, but Bruff's attention was shifting westwards to the area around Jamie Mine, on Craven Moor. In the summer of 1912, for example, he examined a shaft sunk a few years before, by J. Busfield and Joe Pounder, to try Dodd and Will Hall's Veins for lead ore. James Backhouse advised that ore from the Stang & Cleasby company's Sloate Hole Mine in Arkengarthdale had mostly been sold to Messrs Walton & Co., lead smelters of Healyfield near Consett, for around £6 per ton less than the price of pig lead.

The mineral lord, Mr Yorke, resisted the idea of leasing to a limited liability company. As an alternative, a small partnership to run the mines and build up capital as it worked was proposed. By January 1914, this had become the Greenhaugh Mining Company and its proposed directors were as follows:-

Ordinary Shares	£
J.G. Angus	100
H.J.L. Bruff	100
E.P. Cross	100
F.T. Lambert	250
A.R. Roxburg	100
D. Saul	50
L. Shann	25
R.J. Dunnel	250
	975

Founder Shares	£
J.C. Angus	200
H.J.L. Bruff	500
J. Backhouse	25
C. Jones	25
	750

They decided to open Jamie Shaft where, in addition to any lead ore they might get, there was a likelihood that reserves of fluorspar would be found. Bruff was also working on a scheme to work the barytes-rich flatting beds under Nussey Knott, and he was looking at the possibility of reopening Cockhill Level and using it to get under Craven Moor. This caused some of the participants to express concern that the venture, which had been planned as a small affair, was becoming quite big.

The cost of delivering spar gravel from Greenhow to Middlesbrough was estimated as being between 6s 4d and 7s 0d per ton, as follows:-

Approximate calculation of profits on fluorspar, based on prices of labour and cost of carriage obtained from N.E. Railway and Yorkshire Motor Traction Co. in February and March 1914.

	s	d
Getting (including ammunition)	2	0
Carting five miles a 2½	1	0
Carriage by rail to Middlesbrough	6	0
Royalty	1	2
Cost of making road about £300, the interest on which at 5% is £15. Quantity per annum is 85 * 50 weeks equals 4250 hours - this represents	0	1
Upkeep of roads	0	1
Upkeep of huts for screens etc	0	1
	10	5
Administration	0	7
	11	0
Present price per ton of fluorspar in Middlesbrough	17	6
Deduct above costs	11	0
PROFIT	6	6

By now matters had progressed enough for Bruff to buy a house in the area and so, on May 21st 1914, he bought Kell House for £45 from Mr Lax a Leeds builder. Rudolf Salvesen arrived from Norway on the 29th. His job, as engineer, was to open and run the mine. A prospecting licence was granted and the company's registration was proposed for August 1914. Materials, including timber and ex-railway, iron signal-ladders for opening Jamie Shaft, began to arrive in June. Some of the latter were still in the Waterhole Vein stopes at Gillfield Level in the early 1970s. In the event, however, the uncertainty caused by the outbreak of war in Belgium delayed the company's launch and, on September 2nd 1914, the men were given one week's notice that the work would be stopped. The company was not registered until August 25th 1915, when Mr Murray and Mr Cross (a Harrogate solicitor) were to be directors.[22] Mr Stansfield, Cross's head man, was to be secretary at £26 per annum, and the Company's registered office was to be at Cross's address. This delay meant that the government classed the company as speculative and it had to pay premium prices for new equipment, while established mines got subsidized prices. Bruff kept Rudolf Salvesen at his own cost during the intervening year, which allowed some work to be done.

The water in the bottom of Jamie Shaft was estimated to be about six fathoms deep, standing at around 23½ fathoms below the surface, depending on the weather. The Craven Moor Mining Company had sunk the shaft to a depth of 30 fathoms, where the vein had been driven on, east and west, for about 95 feet. The engine sump was 15 feet deep.[23] The main working horizon was the 26 fathom level. Here, to the east, a north-south vein was cut and followed north for 100 feet to where Lodge Vein, stepped 80 feet south by the north-

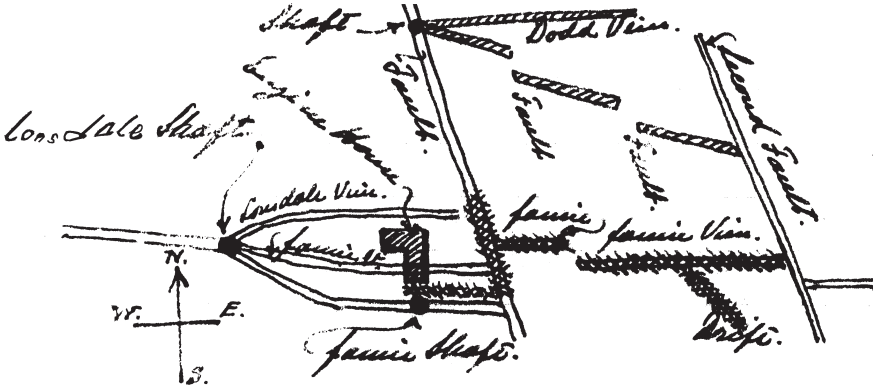
south vein, was cut and worked over a distance of 400 feet eastwards. Work in the 30 fathom level at Jamie Mine was hampered by water, which in the end overcame the pumps then in use. This was partly because water pumped out of the mine was piped over the moor to a series of shakeholes which are directly connected with Mongo Gill Hole. The water, therefore, returned to the vein via the natural watercourses in the cave, which are within 50 yards of the shaft. It is also likely that some water was led directly into the cave, because a wooden launder measuring about four inches square internally was found in Freezeland, which is very near Jamie Shaft.

Repairs to Jamie Shaft were underway again in early April 1915 and the shaft was found to enter the top of a partly stowed stope. In mid July, when the shaft was repaired to water level, this stope was found to extend a short distance both eastwards and westwards. A wooden cistern, made from three inch thick planks and measuring nine by three by three-and-a-half feet deep, was found. This was probably at the top of the original bucket lift and served as a sump for the plunger pump.

Little mining was done, but 54 cwts of lead ore, probably from old wastes, were sold in July 1916. Preparations were also made to drain Jamie Shaft, using an Evans steam sinking pump, capable of 10,000 gallons per hour. A straight-line Ingersoll-Rand air compressor, giving 80 cubic feet per minute, was used to drive two wet-feed jack hammers by the same company. Pumping began on October 16th and by November 28th Bruff was able to examine the 26 fathom level, where he noted two flooded sumps. The military representative, one Admiral Middleton of Ripon, demanded that the company produce five tons of ore per month and so the pump was worked continuously in some very wet weather and was often beaten by the inflow. Also, work was often stopped because of coal shortages, caused by the war. Nevertheless, by August 1917, Bruff noted that 977 feet of levels were open and that drifts had been driven on Lonsdale and Jamie Veins. The ore proved to be good, with one vein reputedly carrying a 12 inch rib of galena.

In complying with Middleton's demand, which he had no authority to make, the Greenhaugh Mining Company became so short of cash that it tried to raise new capital. In January 1918 two directors, Miall and Murray, each agreed to find half of the £150 needed for the next pay. Miall was also negotiating with the directors of Great Challinor Mines Ltd, which owned Cyffty (or Pencraig) Mine near Llanrwst, for them to take debentures in it. The Challinor directors, however, wanted to take control. Bruff himself was negotiating with Guy Lambert, who was interested in investing money, but he apparently died days before a deal was due to be made. The Brimsdown Lead Company also held £500 worth of ordinary shares.

There were then tensions within the board of directors, with Miall trying to get rid of Bruff. He wrote to another director saying that Bruff "*had not the faintest idea of business*". Although Bruff wanted to stay on the board, he



offered to return to his job with the North-Eastern Railway, but did not do this until 1919, when W.W. Varvill was installed as manager.

Fuel costs remained heavy after the war, with coal costing 50 shillings per ton at the mine. In the coal strike of 1919, the boilers were fired with peat for five weeks. The peat, which had dried during a long drought, was dug from the moor nearby. Also in 1919, the company reopened the second air shaft onto California Level and an attempt was made to work the Aket Coal from it, for the steam plant at Jamie Mine. This air shaft was 138 feet deep to the coal and connected to the level via a 10 foot rise. The seam was 18 inches thick and dipped at 12°, but it had been worked out on the high side and little appears to have been done. The abandonment plan was signed by W.W. Varvill on August 5th 1922.[24]

Work at Jamie Mine limped on until 1919, when it was suspended until the Blackhill Level could be driven up to it. This was never done, however, and the mine remained closed. The shaft ran in around 1945 and was obliterated in 1967 when the dumps were removed for road fill. Only the original Jamie Mine boiler house and a few concrete beds remain.

The Company also reopened East Shaft in early 1917 and renamed it Foxholes Mine. Sunk to Blackhill Level, at a depth of 36 fathoms, by the West Craven Moor Mining Company Ltd, this shaft gave access to Blackhill, South, Foxholes, Harker and South Bathole Veins. It was not until June 1919, however, that the shaft was cleared and a ladderway was completed to the bottom. As part of this development, Gill Crosscut, which ran from Blackhill Level towards Willie Water's Vein, was reopened to the foot of Gill Shaft (originally Jh Gill's Shaft). This shaft, which is a worked out pipe, was cleared and straightened to a depth of 26 fathoms, using a jib and a small horse whim for winding. Later it was fitted with a Holman diagonal air hoist, driven from the compressor at Foxholes. The underlay section of the shaft was lagged with timber mats on the footwall side for the kibble to slide on.

At the 20 fathom level, a heading was driven along a flatting bed. The bed dips at 15° NE and is three feet thick, containing fluorspar, barytes and galena in payable quantities.

Gill Shaft's principal function was to provide ventilation and an alternative access for Foxholes Mine, but the company also drove Gill Crosscut further north, towards Willie Water's Vein (the western extension of Hardgate End Vein). Only some 85 feet were completed, however. At Foxholes, the shaft was straightened and fitted with a guided kibble, powered by a Fowler steam engine. A second straight-line Ingersoll-Rand air compressor, giving 250 cubic feet per minute, was used to drive wet-feed jack hammers also by Ingersoll-Rand. The Fowler engine was almost certainly the one listed amongst the plant at the Stoney Grooves mines by Bruff in June 1917.

High Stoney Grooves

46 rails (long & short). Long rails = 18' 0"
8 broad flange waggon wheels, with bearings, suitable for us.
Cast iron saw bench. Much rusted, but might be made use of.
Crab. Rusted, but looks serviceable. No brake.
Iron bars. Round and flat can come in useful for stee [ladder] rungs. Also some big flat straps off the beams.
Engine and boiler by Fowler of Leeds. Portable boiler gone. Engine might be repaired, with winding gear rather corroded.
Chains and shackles, but not much used.
Old pump beams may be worth removing as the heart is good, being pitch pine.

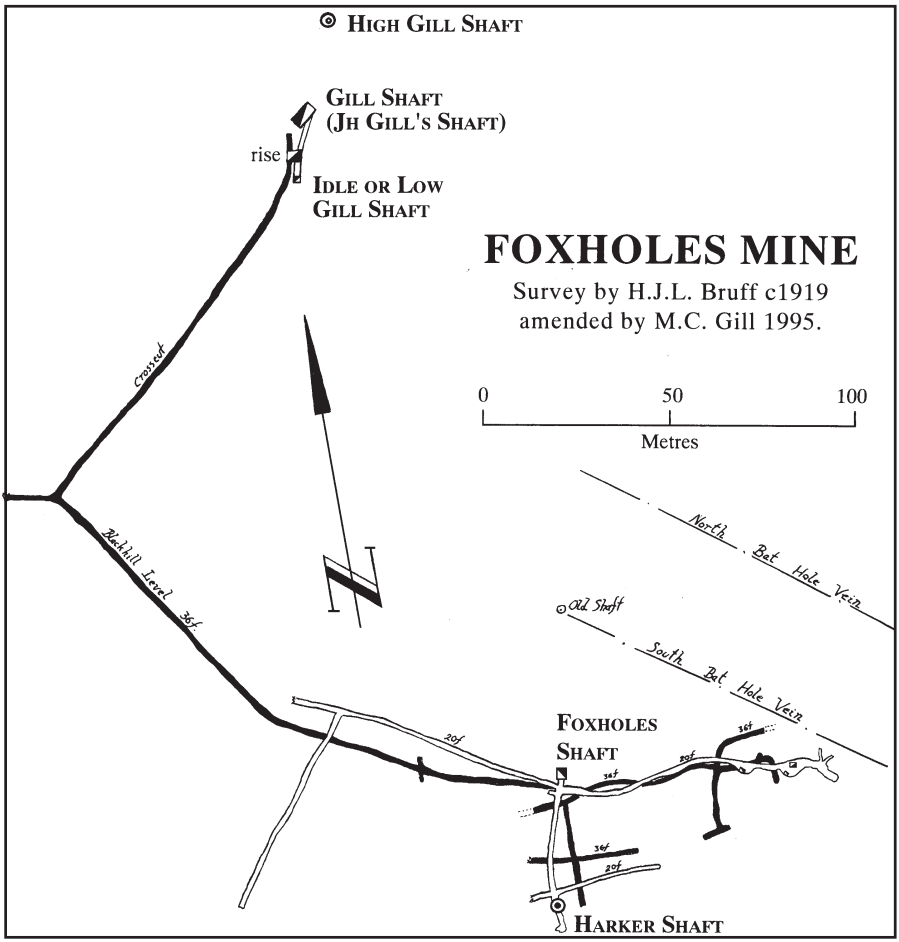
Low Stoney Grooves

61 assorted rails on old railway track.
2 Waggons. Complete, but gauge wider than ours.
2 Gin Wheels. Will come in useful, 2 foot diameter overall.
Round iron rods.
Shafts, pulleys and metal wheels - rusty.
Circular buddle, shafting, plummer blocks and tooth wheels. Rusty.
One large iron waterwheel.
One little wooden waterwheel. Timber good.
Pump beams - rotted outside.
Barracks building 46 feet by 12 feet 4 inches. Corrugated sheeting on wood. Fair state of preservation, some corrosion. Roof also corrugated iron. Building 8 foot to the eaves and 12 feet 4 inches to ridge. Inside - wooden bedsteads etc, in three compartments.
Iron bars, blacksmith's tools and saw for bench at High Stoney.
Glazed sanitary pipes. 54 and 6 at High Stoney. 2' 8" long by 9" bore.

A board meeting on November 9th 1918 was told that "*Varvill had been released and that he would be ready in the course of a few days to take up his duties with us.*" This suggests that war-time restrictions on labour mobility were being relaxed. Varvill, who took over from Bruff as manager, had worked for Henry Gamman at Cwmystwyth Mine in Cardiganshire between 1898 and 1913, but it is not known from which mine he came to Greenhow.[25] He listed the underground work at Foxholes as follows:-

1. The adit was continued eastwards along Blackhill Vein and, by 1920, had proved a 60 foot long oreshoot, averaging 12% lead over a stoping width of 30 inches. This level was intended to eventually connect with the Jamie workings.

2. A crosscut south from the shaft bottom to Harker Vein with 15 fathoms of unworked backs.



3. A crosscut (sic) *south from a point 200 feet east of the shaft at the adit level along a north-south vein to cut Harker Vein, with 35 fathoms of unworked backs.*

In addition to these workings, a trial for barytes was being made at Nussey Knott, about three-quarters of a mile to the west. Here, the waygate onto the Middle Flatting Bed had been reopened in July 1918. The shaft was only 20 feet deep, but the bed dipped away from it at about 15° to the foot of Gin Shaft, where it was 35 fathoms deep. The bed, which was comprised mainly of up to five feet of solid barytes with clay on top, had been worked by lead miners who had followed rich, but irregular, patches of lead ore.[26] The company drove an incline down the bed and, whilst not in regular work, 400 tons were produced in 1918, 530 tons in 1919 and 150 tons in 1920. These figures include barytes obtained from old dumps.[27] Also during 1919, the labour

force increased from 12 to 50. Most of the newcomers were demobilized soldiers, glad to take on any job. Despite this optimism, however, the company's mines were closed through part of 1920 and 1921 as the result of a general trade depression.

After the war, the company sought funding to open Gill Heads Mine for fluorspar, and antipathy towards Bruff resurfaced. H.C. Embleton, a Newcastle colliery owner, insisted that he gave up all his shares as a condition of subrenting £360 towards the £2000 required, but although Bruff resigned his seat on the board in May 1920, he appears to have held onto his shares.

The lead miners worked Gill Heads Vein from a low level, which is buried by the dumps from the Middle Level, about 25 feet above it. Some work was done here in 1917, when a considerable tonnage of fluorspar from the dumps was sent to Sheffield, but the lead stopes still contained large amounts of fluorspar. Varvill's report for the year ending September 30th 1922 shows that mining was concentrated at Gill Heads Mine and, except for reworking dumps at Blackhill and Jamie, the other mines were closed.[28] The Blackhill dumps were also nearing exhaustion.

OUTPUT OF FLUORSPAR FOR 12 MONTHS ENDING 30/09/1922

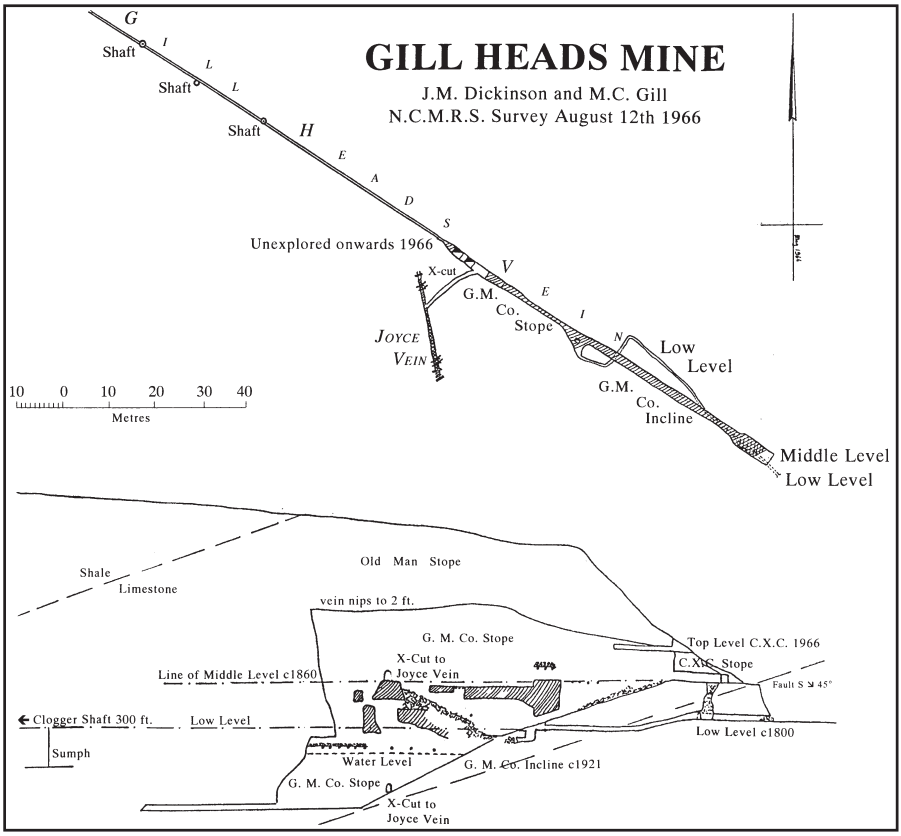
	Tons	Receipts/£
1921 (October to December)	459.86	521.43
1922 (January to September)	4565.02	6420.89

(Includes some output from Jamie and Blackhill mine dumps)

In 1920 an incline, dipping at 1 in 2½, was driven down the vein from about 35 feet inbye of the Middle Level portal. In 1922 the bottom level was 40 feet below the adit and was drained by a crevice in the limestone. Eventually the incline was 230 feet long and was around 90 feet below adit at the bottom. Stoping was done over 300 feet of vein, with a maximum height of 140 feet above the bottom of the incline. The downward extension of the vein was cut off by a fault-plane which dipped southwards at 45°. In this area, a stoping width of between six and ten feet yielded rich fluorspar. A branch vein, called Joyce Vein, was also developed both from within the mine and at its outcrop. It carried fluorspar and varied in width from one to six feet.

Road access to the mine was poor and so most of the spar was hauled up a very steep inclined railway from the Middle Level entrance to a dressing plant on the edge of the gill. This plant had a diesel engine to drive the screen, jigs, pump and table, while the crusher was driven by a steam engine.

Working costs in 1922 amounted to 30s 2d per ton, against a selling price of 28s 4d, a loss of 1s 10d per ton. This improved to 29s 1d for working, selling at 29s 6d. Most of the spar was sent to America, being loaded as a ballast, and the strength of the pound against the dollar caused more problems. By 1925 the mine had closed, owing to low prices, and operations were moved



to the Appletreewick Mine where development work had begun in 1923. A shaft on the South Vein was fitted with a headgear, probably taken from Foxholes. South Vein, which was up to 20 feet wide in places and filled with calcite brangled with lead ore, had been worked to a depth of 140 feet in the 1870s. The shaft was sunk to the 188 foot level and large amounts of calcite were removed. It was taken to the Gill Heads plant, using a 24-inch-gauge light railway laid across Appletreewick Pasture, and the lead ore was separated. After washing and sizing, the calcite was sold to builders for pebble-dashing. There is some confusion about the means of traction on the railway, however, as Dickinson says, "*the tubs were hauled by a Sentinel steam locomotive and later a petrol engined locomotive*", while Boddy refers to using "*a small steam locomotive to pull the trucks over to Gillheads*," adding "*but the track was too light, and the ground too soft, so it had to go back to the makers. We next got a Fordson tractor. It did the job well on the whole, but if the rails were wet or frosty, it started to run back, and sometime went half a mile.*"[29,30] The Industrial Railway Society's records show that a four-wheeled, petrol-engined locomotive, built by Muir Hill Engineering Ltd of Manchester,

works number A113, was supplied to the Greenhaugh Mining Company in 1926. It is later believed to have worked in a stone quarry near Pateley Bridge.[31] It is likely that the Fordson was used as a stop-gap between the Sentinel and the Muir Hill locomotives. Most of track has been lifted, but a short section can still be seen where it crosses the Appletreewick to Greenhow road.

By 1926, only R.T. Murray remained of the original directors. The other three, Embleton, Wilson and Critchley, came from the North-East. The closure of the Appletreewick Mine in 1927 marked the end of the Greenhaugh Mining Company Ltd, and an Extra-ordinary General Meeting of the shareholders, held at the General Station Hotel, Newcastle Upon Tyne, on August 15th 1928, passed a resolution to wind up the company's affairs. This was confirmed by an EGM at the same place on Sepember 1st. George James Dodds was appointed Liquidator, and the final meeting for winding up was held on November 4th 1929.

The venture, which was never a large one, grew out of Bruff's idea, but was dogged by problems caused by World War One and its aftermath. Varvill's comment in his 1922 report, whilst specific to Gill Heads, probably best sums up the company's problems from the outset. "*We were greatly hampered by having to work the mine with no cash reserve at all. All our margin of profit went in paying debts, so we have not been able to accumulate any working reserve. This has compelled us to work from hand to mouth, and prevented us from instituting a number of minor economies through lack of money to purchase the necessary equipment. To take one example:- Through lack of a small power-driven pump, we had to resort to drawing water by hand. The mine* [Gill Heads] *is liable to be flooded in its lower workings after heavy rain, and although this drains away, it means the loss of a day or two in those workings. This example could be multiplied several times over in other branches, all of which tend to increase working costs.*" Nevertheless, apart from Lunehead/Closehouse and some much smaller operations, the Greenhaugh Mining Company Ltd was by far the longest-lived mining venture in the Yorkshire Dales this century.

ACKNOWLEDGEMENTS

The author would like to thank: the British Cave Research Association's Mining Recorder for transcriptions of Bruff's diaries; J.S. Burnley for providing a copy of the photograph used in the report on Bruff's Funeral Service and obituary; J.G. Blacker; the late J.M. Dickinson; Mrs S.M. Garnett Jones; Dr J.O. Myers and M. Street.

H.J.L. Bruff's annotated copy of *T'ill an T'oad uns upuv Greenho'* is held in the Special Collections at the Brotherton Library, University of Leeds.

APPENDIX

GREENHAUGH MINING COMPANY LIMITED
(Public Records Office, Kew. Ref No. BT31/22959/141377)

Registered 25/08/1915. Capital £7500 in 7500 £1 shares. By 06/04/1927 this had been increased to £35,000 in 35,000 £1 shares, of which 5750 were wholly paid and 4698 were considered as paid. The company's total debt was £10,254

Office: 25/08/1915 - 25/11/1922 = 1 Princes Street, Harrogate
25/11/1922 - 11/05/1923 = 4 Princes Street, Harrogate
11/05/1923 = Gill Heads Mine.

Secretary: W. Stansfield November 1915
G.W. Middleton April 1916 - May 1923
A. Kingham May 1923 - ?

Directors: Harald J.L. Bruff
Richard Thomas Murray
Thomas Lawrence Shann

Mine Agent: W.W. Varvill in 1919 - 1926

SHAREHOLDERS - 1915.

SURNAME	FIRST NAMES	OCCUPATION	RESIDENCE
Bruff	H.J.L.	Engineer	Knaresborough
Bruff	Charlotte Sofie	Married Woman	Knaresborough
Cross	Edward Peel	Solicitor	Harrogate
Dunnell	Albert Francis	Solicitor	York
Lambert	Frank Fitzroy	Produce Merchant	Bewerley
Murray	Richard Thomas	Gentleman	Farnham, Knares'h
Shann	Thomas Lawrence	Gentleman	Knaresborough

DIRECTORS - 17/05/1926

Murray	Richard Thomas	Farmer	Knaresborough
Embleton	Henry Cawood	Mining Engineer	Felling on Tyne
Wilson	Charles Anthony	Colliery Agent	Newcastle upon Tyne
Critchley	Stephen Harry	Merchant	Alnwick

Numbers employed by the Greenhaugh Mining Co., from the *List of Mines*.

Year	U/G	Sur	Total	Year	U/G	Sur	Total
1915	2	2	4	1922	13	20	33
1916	18	36	54	1923	17	27	44
1917	14	10	24	1924	10	25	35
1918	?	?	?	1925	13	26	39
1919	18	25	43	1926	8	20	28
1920	27	25	52	1927	13	22	35
1921	11	9	20				

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