LONG RAKE SPAR MINE, YOULGREAVE

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Abstract: This mine worked a 2km long section towards the western end of Long Rake for calcite, with by-product lead ore, until mining ceased in April 1981 due to the depressed price of calcite and low ore reserves. Little has been published on this substantial mine.

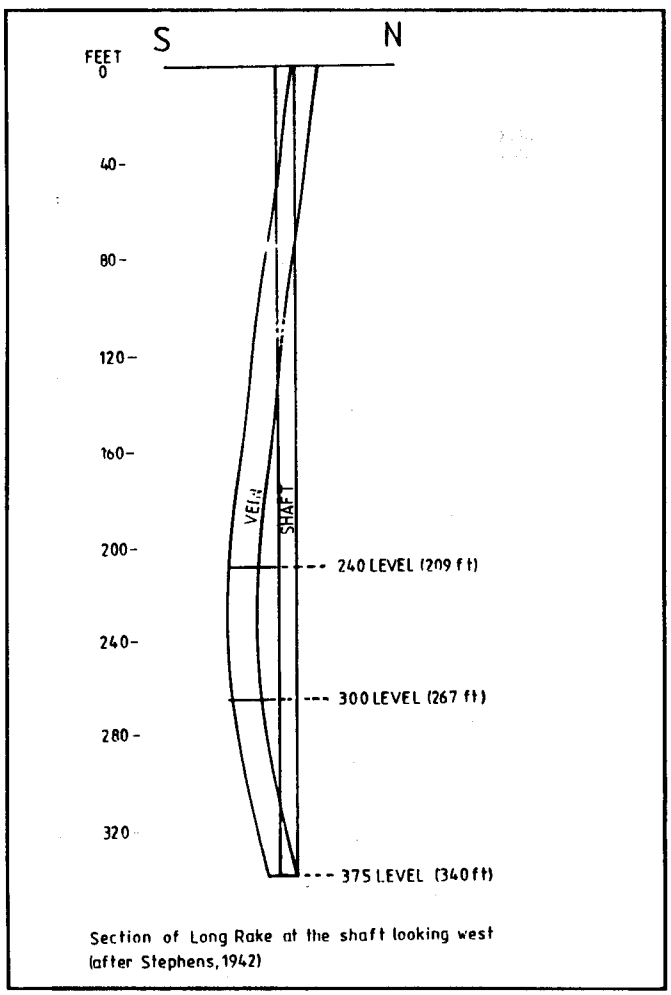
INTRODUCTION

These notes are to provide an idea of the activities of the Long Rake Spar Mine. They are not an exhaustive study of the mine and only literature readily available to the author has been consulted.

The shaft and dressing sheds of the mine are situated at SK 187.643, immediately on the south side of the Bakewell - Youlgreave-Hartington road which runs along the north side of the rake.

The rake is hosted by poorly bedded Monsal Dale Limestones (Brigantian (D_2)) (Cox and Bridge, 1977). Toadstone was reportedly encountered in exploratory workings at the bottom of the mine on the north side of the rake in the 1940s (Stephens 1942).

The vein, up to 6m wide, is filled with massive columnar and saccharoidal opaque white calcite (spar) occasionally stained with haematite. Galena occurs as strings and spots, usually close to the vein walls and occasionally in the centre of the vein. In parts of the vein large riders of limestone occur. At Long Rake Spar Mine the rake has an ENE-WSW orientation. It has a variable hade that changes both laterally and with depth. At the shaft (collared on the vein) the vein hades to the south at the top and becomes northerly about the 240 level and at the 300 level the vertical shaft re-enters the vein having been sunk through the limestone (Stephens 1942).



Section of Long Rake at the shaft looking west (after Stephens, 1942)

The workings to the west terminate, on all levels, in an area of disturbed ground where the rake has been lost. Despite cross cutting north and south only pockets and strings of spar have been found. The eastern workings in Arbor Low Mine (which also worked spar from Long Rake from 1925 until closure because of a shaft overwind in 1974), only some 100m away, terminate in similar ground.

Apart from a few lead mines/trials to the west of Arbor Low Mine which may be on Long Rake the rake has not been followed in this direction. To the east the rake has been followed and mined beneath the shale cover as far as Pickory Corner on the A6, a distance of over 8 km, producing lead, fluorite and baryte.

The spar produced was mainly used for pebble-dash, facing artificial stone, terrazzo, mosaic paving, facing, stucco and roof dressing purposes.

THE WORKINGS

1872 to 1913

The Mineral Statistics (Burt *et al* 1981) list several Long Rake Mines some of which are the Long Rake Spar Mine and others workings further east on Long Rake or on other veins that are reported as producing baryte and lead ore. Details of the entries that are probably Long Rake Spar Mine as a whole or in part are given here.

The mine was operating from at least 1877 to 1913 (the last year for which detailed mineral statistics were published). No detailed ore returns are available but details of ownership etc are tabulated below:

Owners	
1877 to 1880	W.G. Cooke and Co.
1881	Long Rake Mining Co. Ltd.
1887 to 1905	Long Rake Mining Co.
1911 to 1912	Long Rake Mines Ltd.
1913	Long Rake Spar Co. Ltd.

Chief Agents	
1887 to 1898	Jas Evans
1899 to 1905	J. Deeley
1911	J. Moors
1912	H.S. Pike
1913	Wade and Co.

From 1894 to 1913 between 2 and 6 miners were employed below ground and up to 6 at surface.

Early 1920s

Carruthers and Strahan (1923) recorded that at that time the Long Rake Spar Company was working intermittently. The shaft was 46 fathoms (88 m.) deep to water. The mine workings, principally for spar, also stopped at this depth. As well as calcite a maximum of 3-4 tons per annum of galena was produced as a by-product by hand jig or 'hotcher'.

1930s

A report in the *Derbyshire Times* (12 March 1932) stated that the mine had been acquired in 1910, after a period of some thirty years which had brought misfortune to nearly all involved with it, by Captain P. Potter of Youlgreave Hall, who was managing director and virtual owner. The article gave a general description of the mine and treatment of the ore, with photographs, and described the surface buildings as "splendidly designed with regard to conveying and dispensing of power". At that time it was producing about 12,000 tons of calcite and about 100 tons of lead ore annually.

Brown (1969) records that in 1936 a fatal accident occurred in the mine. A waggoner and his mate were killed while loading spar into a waggon from a chute. The front of the chute collapsed and about 30 tons of spar buried them. The waggoner was dead when extracted and his mate died of his injuries a short time later. The incident was blamed on the construction of the chute with one socket cut in spar which gave way leading to its total collapse.

Early 1940s

By the early 1940s, when Stephens (1942) reported on the mine it was owned by the Long Rake Spar Co. Ltd. The mine had three main levels, the 240 at 209 ft (66 m.) below collar, the 300 at 267 ft. (85 m.) below collar and the 375 at 340 ft. (108 m.) below collar. The 375 level was not served by the shaft but was reached by an incline near the shaft bottom.

The ends of the 240 level were 1500 ft. (477 m.) west and less than 100 ft. (30 m.) east of the shaft. The 240 level east entered old spar workings at this point. The 300 level ends were 1300 ft. (414 m.) west and 1340 ft. (426 m.) east and the 375 level ends were 490 ft. (156 m.) and 780 ft. (248 m.) east of the shaft.

In places the galena strings in the rake, as well as thin veins adjacent to the rake, were worked by the 'Old Man' and 800 ft. (255 m.) to 1000 ft. (318 m.) east of the shaft on the 300 level old lead workings in a parallel scrin to the north of the main rake extended at least below the 375 level.

Electric haulage was in use on the 300 level and below, the higher levels seem to have been unworked or partially removed by this time. Shaft haulage was by steam winder and, as the mine was dry except for surface water percolation, pumping was not required.

Run of mine ore was hand picked to two grades of spar (plus waste) - bests and seconds. The best grade was crushed and screen-dried. Seconds were crushed and screened and tabled/jigged for lead and the fines tabled for lead. Process water was collected from mine/mill roofing, supplemented by pumping from the mine when required and extensively re-circulated.

1960s

On 18th August 1960 the company was incorporated as the Long Rake Spar Co Ltd, Youlgreave, Directors Mrs M.E. Potter and Mr N. Lever (Information from Trevor Broadhurst on display at Peak District Mining Museum). Brown (1964) records that the mine was actively working in 1964. Production of spar and lead ore being reported as continuous with 15 miners working underground.

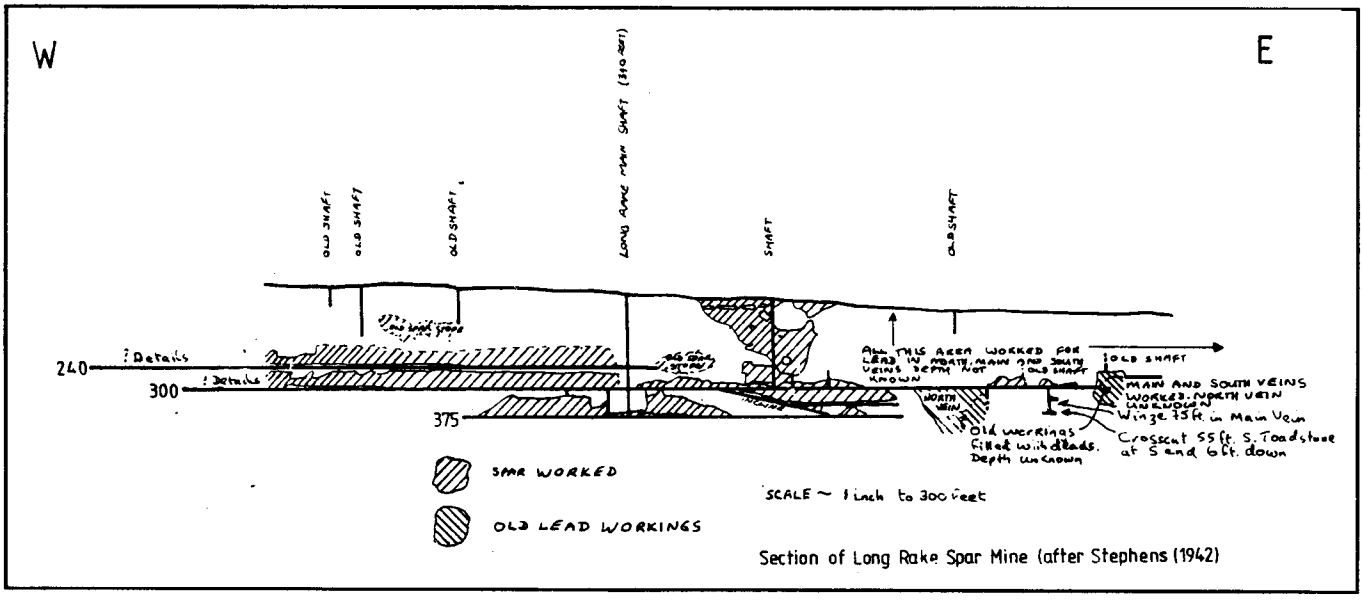
1970s

In 1972 the mine was sold and then was operated as a subsidiary of DSF (Derbyshire Silica Firebrick) Refractories Ltd, of Friden, though it remained known as the Long Rake Spar Co. The author visited the mine in 1979 and was shown the workings by the manager.

The shaft was descended in the cage, very cramped for the three of us, which was still being wound by the old steam winder having been converted some time before to run on compressed air because the boiler had been condemned.

The 300 level was the main working level. It was railed throughout its length and was protected by a pillar of vein stuff for much of its length. Ring arching and timbering was used in some areas as necessary. The vein had been almost totally removed between the 300 level and the surface, with occasional timbers, vein stuff pillars and concrete pillars for support. The incline to the 375 level and that level were still accessible but no mining was undertaken from them.

Only two men were working spar. They were compressed air picking out a surface pillar to the east of the shaft allowing the spar to fall into the stope below. They later loaded the spar from



Section of Long Rake Spar Mine (after Stephens (1942)

a hopper into trams to be trammed and wound to the surface. Underground recent spar working had been carried out close to the west end of the 300 level and spar was also trammed out from here.

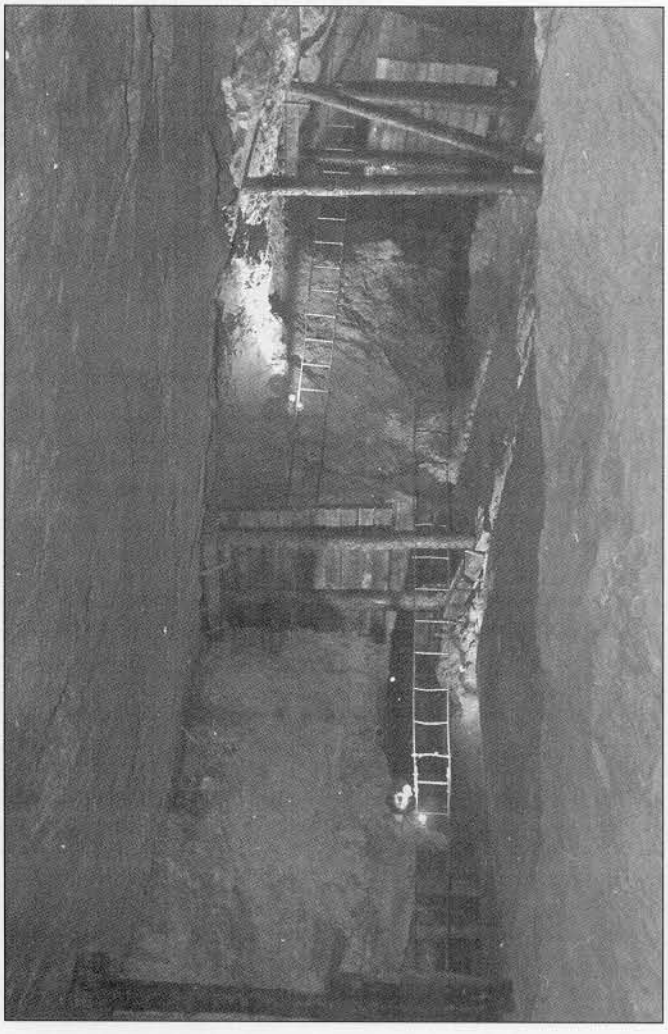
At the east end of the 300 level an Eimco rocker shovel had recently been used for mucking out (?) development work. Three battery electric locos were on the 300 level, in the charging station near the shaft bottom or in the level nearby. At least one of these was ex Millclose Mine and was built in the 1930s. Tramming was by small tubs, about ½ ton capacity, that were hauled along the levels and pushed into the cage to be wound to the surface.

The second way out of the mine was about 0.5 km, east of the shaft and consisted of a series of ladders, mainly steel, climbing the semi-open stope to the surface via small pillars and wooden stagings. It was still accessible several years after the mine closed.

Development had obviously been minimal since Stephens reported on the mine. The ends had not progressed far and little, if any, work had been done on the 375 level which was prone to flooding in wet winters.

At surface the run of mine spar was blended with surface worked spar brought in from ?Bradwell Moor. It was hand picked on a short picking belt to remove limestone blocks before being crushed and washed. The coarser grades were jigged and the finer grades tabled to extract galena which was bagged for sale (to a Swedish smelter as no UK smelter was able to smelt lead ore). Most of the spar produced was sold for the preparation of facing blocks for buildings, pebble-dashing and roofing applications. Waste limestone etc was sold on for aggregate. The mill was cramped around the shaft and operated by one man.

The Great Stope in Long Rake. (Photo - Martin Critchley).



Despite the managers optimism about developing the ground between the 300 and 375 levels via the incline the mine ceased production in April 1981. (What happened to the long, linen backed section of the mine in the managers office?).

1980s to present

In 1985 T. and T. Broadhurst (Minerals) took over the mine. They had been involved previously in calcite, fluorite and barite exploitation, and have operated the surface plant continuously since then. Some years later Trevor Broadhurst donated a small exhibit to Peak District Mining Museum giving a brief history of the mine, and outlining the different products the company produced. Some of the track from the mine, some tubs and a "Greenbat" electric locomotive originally thought to have been from Millclose, but later revealed as originally sold direct to Longrake about 1936, were donated and have now been installed at the Temple Mine, part of the Museum.

CONCLUSIONS

It is clear that the mine was extensive by the early 1920s but there is no record of activities before then. Development and production continued vigorously until the early 1940s but from then mining seems to have concentrated on extracting blocked out spar and then pillars without new development or investment in equipment and machinery. Closure in 1981 was the inevitable end of the mine as accessible spar was almost exhausted and the machinery and mill very run down. The surface plant is, however, still successfully operating, and many features of the older plant, including the winding engine, headstocks, and buildings are still in place.

ACKNOWLEDGEMENTS

To Trevor Broadhurst for the information on the mine, now displayed at the Museum.

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