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LOCAL DREAMS: THE EARLY WORKINGS OF THE BRORA COLLIERY

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SYNOPSIS

The coals of Brora occur in Jurassic rocks and constitute the most northerly coalfield in Britain. This, the Sutherland coalfield, became of some local significance, saving both of fuel bills and by its accessibility encouraging local industry, principally salt and brick making.

Practical use of the coal first occurred in the 16th. century when coal was wrought from shoreline exposures south of the River Brora. The coals were used to feed the fire of the salt pans erected in 1598 by Jane Countess of Sutherland. These pans were a business speculation on demands for salt from the Baltic. In 1614 the erection of new salt pans by Jane's son John, the 5th. Earl of Sutherland, showed continued interest in the salt industry and also encouraged further working of local coals.[1]

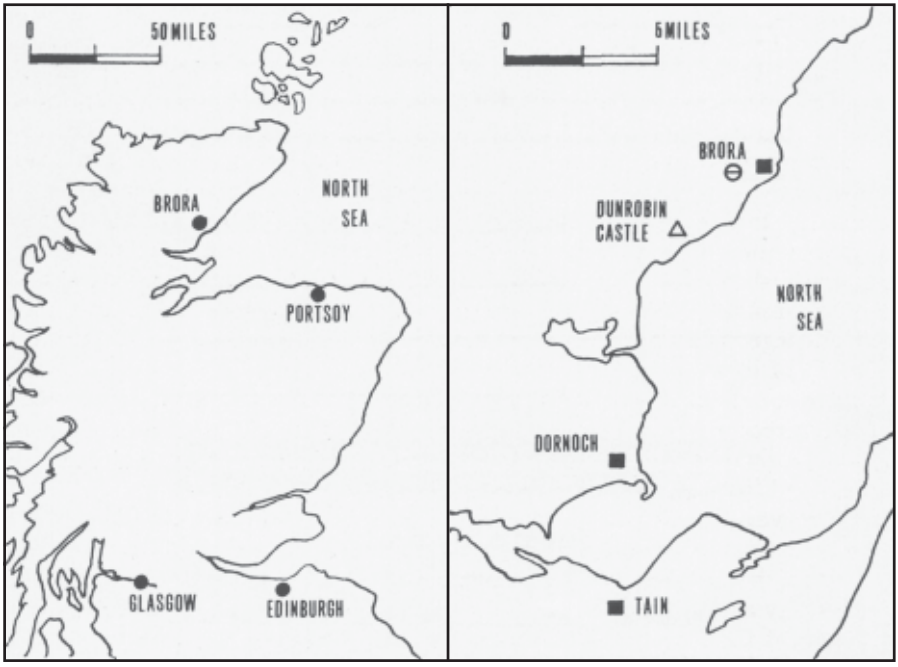

Figure 1. *Location maps for Brora and its general locality.*

The pit near Ault Sputie (sic) put out "good sea coals" suggesting that some coal export was also undertaken.[2] It was therefore the case that a sizeable local labour force developed, most of whom it would appear were killed when the Shean Park workings fell in sometime in the early 18th. century.[3]

The arrival of the salt masters Messrs Robertson & Mackenzie, from Portsoy, once more encouraged salt making and a revived interest in coal mining. The contract to supply coals was taken up by John Williams, who worked coals about the Sutherland Estate under lease. This John Williams, then an inexperienced speculator, built on his business abilities and working knowledge of mining to become of quite some note for he authored *The Mineral Kingdom* in his later years.[4]

Pennant in his *A tour of Scotland in* 1769 makes reference to what was probably Williams' workings on a 3ft. coal. The actual seam was about 3 ft. 8 ins. But a black pyritic dirt bed of flammable rubbish divided the good coals. The workings were then about 84 - 144 ft. below ground but can have been far from pleasant on account of the sulphury dirt band. Amusingly the coal was so smelly that it was used to chase off rats. However the sulphury flammable coals commonly fired at crop and so scared potential shippers for fear of spontaneous combustion on board boat that there was little export opportunity.[5] Williams' practical knowledge of mining was then so poor that he did not equate this fear with his cutting of the sulphury dirt band down amongst his sale coals and apart from setting fire to a ship enroute to Portsoy, this same flammable rubbish ignited his bing coals on at least one occasion. The coals put out were also extremely broken and small which was partly due to the miners working in the cramped conditions of Williams' tiny room and stoop system. It got so bad that coal sales took a tumble, excepting the coals for Robertson & Mackenzie's salt works. But their pans and grates were destroyed by the rubbish coals and the whole affair descended into fiasco and embarrassment. Poor Williams made matters worse for himself, for taking a fancy to a local girl he fathered a child and promptly fell foul of the Kirk officers. Williams surrendered his coal lease and the colliery to the salt company and about the time of Pennant's visit fled for the South of Scotland. There in time he rebuilt his fortunes and grew to considerable importance in the Lothians coalfield.[6]

Williams was succeeded by Hugh Houston as manager of the Inver-Brora Colliery for the salt company. Houston had been Williams' underling and followed the latter's practices, therefore the colliery stumbled on much as before. In Janurary 1776, an experienced coal viewer William Beaumont was invited north from Limekilns in Fifeshire to report on the state of Inver-Brora. The immediate result was the opening up of larger working rooms and the cutting out of the dirt bed. The coals then proved so sweet burning that the rats came out to warm themselves in front of it. The dangers of spontaneous combustion were also cleared and coal was then easily shipped out, finding markets in Inverness and Aberdeen. John Farey, visiting the colliery in 1812, was told that the seam was profitable and good by the local miners, who happily took the coals from seashore exposures for their own home fires. Farey also comments that by 1812 the old salt works along the shoreline were gone, completely

eroded away by the actions of a stormy sea.[7] Storm clouds were then once again gathering about the coal and salt enterprise. The storm clouds of competition hove to in the shape of imported Newcastle Coals on the Scottish market that destroyed any chance for Brora's coal agents. It proved so difficult to find markets that a business decision was taken to concentrate on salt production and also lime.[8] The salt company had hoped to prosper from the colliery and even planned a steam pumping engine, which points to expected profits, especially that there were then good remaining coal resources. But leasing problems torpedoed any hopes, the then Countess of Sutherland being in her minority no lease of any great length could be passed by her tutors, short leases were not profitable for long term investment.

Brora was beset by bad luck in the early 19th. century and Farey's overview of the area shows this clearly. Had opportunity presented itself more fairly the stop and then go routine of coal exploitation would have been avoided.

When the Marquis of Stafford and the Countess of Sutherland, his wife, had got into the local swing of things, every effort had been made to get experienced coal viewers from the south to come to Brora. William Hughes, a Flintshire coal viewer, had surveyed up the River Brora and fixed on a spot where if coal could be found, water power could be used to drive the mine. Boring took place and at 237 ft. a double seam was found, the upper bed about 3¼ ft. and the lower slightly over 1 ft. A seam of black clunch separated the beds, the dip of the working being about 1 in 4 to the south east. By 1812 several tons of

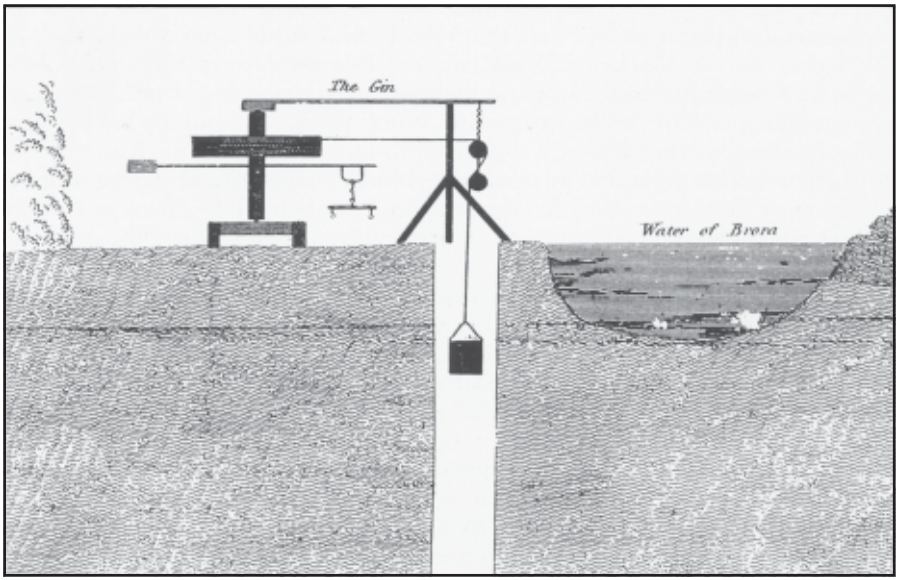

Figure II. Sketch of the gin-pit at the colliery by the Water of Brora, c.1810-11

the coal had been got out and used locally, especially in the fire places of Dunrobbin Castle. But the water wheels and pumps were not built quickly enough to stop the seam being drowned out, Farey reflecting almost sadly that he had been deprived:

> "of the advantage of inspecting the seam myself, by the pits then standing full of water, until the water-wheels and pumps should be finished ..."

This seems to have been due to managerial squabbling over who was running the show at "shop-floor". Hughes who had arranged for men to come from Denbighshire for pit making had found himself ousted by them. The entire management of the concern was then entrusted to them until the spring of 1814 when they had in turn been chased off. The business of working had then fallen to some men from the Glasgow and Edinburgh coal mining districts. According to Farey they excelled themselves:

> "the levels had been lost, no air roads cut, the face of the coal irregularly carried forwards, and the gob thrown against it, and part of it permitted to get on fire ..."

The gob or colliery rubbish contained the dirt band materials which had caused so much bother before. The failure to maintain ventilation had allowed an accumulation of methane gas to develop which when it fired had set the gob alight. It was purely local bad management and the Marquis of Stafford realising this arranged for some of his own trusted men to come north. John German, a Staffordshire overseer, arrived with a group of the Marquis' miners to sort out the difficulties. Then under German's directions the Staffordshire miners started to clear out the workings and reset the ventilation, paying particular attention to the air gates. The main underground roads were opened up over 300 yards south west and north east and an underground tramway was laid to assist the working. Farey writing in 1815 suggests that at that time 2 new shafts were sinking and the Brora workings were starting anew under a good roof and with easy partings.[9]

Further investment at that time was seen in the relaying of the wooden tramway from the mines to the harbour with cast iron fishbelly rails.[10]

The early 19th. century salt boom also saw increased investment in the salt works, with the spending of over £2,000 on two new pans. It may be presumed that the Brora coals went for use there for they featured little on the open market, except about Portsoy, Aberdeen and Inverness. Coals were also used in the brick and tile works of a Staffordshire brick and tile maker attracted by the local availability of raw clays and coal as fuel. Brora's clays were tried successfully by Spode of Stoke in Staffordshire for stone ware goods about this time.[11]

The coal reserves about Brora ticked over for most of the middle period of the 19th. century until renewed interest brought minerals surveyors north in the 1870s. E. Jones of the Lilleshall Company carried out extensive trials and surveys in 1872.[12] But attention focussed on the remains of the 1810 workings and the Duke of Sutherland had these pumped out c1872-73. Pumping operations took 2 months and the shaft when reset was taken 40 ft. below the working' of 1810. By 1873 the 2 shafts set 30 ft. apart were near ready

one was for pumping and ventilation and the other for access. A 22 hp engine was used for driving the pumps, this being a beam engine; such a powerful engine was necessary to cope with continued water problems.

The pit was managed by an experienced Staffordshire miner named Edwards and was in 1873 still very basic. Access cannot have been encouraging to the nervous:

> "a moveable table is shunted across the top of the shaft, on which is placed an iron bucket about thirty inches deep, and twenty inches wide at the top. Into this bucket was put one leg each, and left the other hanging over, making ourselves as secure as we could by holding on to the rope. We were heaved a few inches up to allow the table to be drawn from under us, and we gradually sank into the darkness beneath ..."

Workings were on an incline from pit bottom to intersect the old worked seam, a 3 ft. 6 in. so-called furnace coal. Parrot coal occurred in the roof of the heading, so-called from the chattering parrot like noise of its burning. Parrot coals were often gassy but ventilation appears to have been good enough to clear out what little flammable gas there may have been below and candles were used. Water was a constant problem and both the shaft and dooks which were likened to "a muddy road after rains" were very wet.[13]

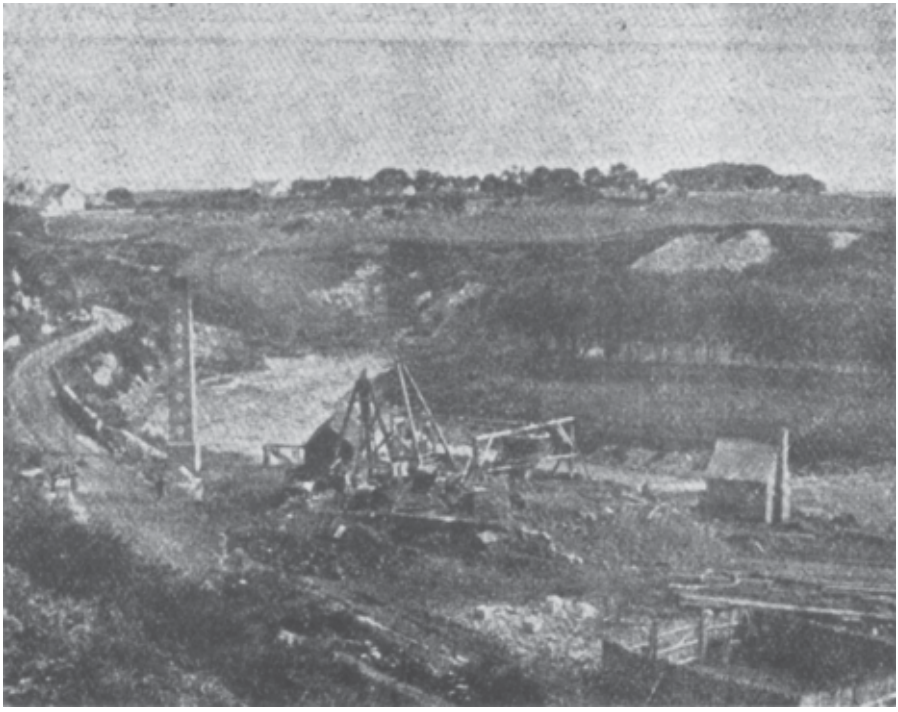

PLATE I. Brora Colliery lay close to the waters of Brora, but the mine waters were so acidic that when exhausted into the river the fish died. The water therefore to be drained directly out to the sea, an early example of maritime pollution.

The 1873 workings were productive by July of that year and found immediate use in brick burning. Brick making from local clay was then active and a brick making machine was churning out brick for use in cottage building about the Sutherland Estate. It was also the intention to make clay floor tiles for these cottages, then part of the Duke of Sutherland's intense local social investment.[14]

Local railway development eased coal distribution, the Duke of Sutherland was deeply involved in railways and no doubt found great satisfaction in the first railway truck of 6 tons of Brora coal reaching Inverness in August 1873.[15] In that town the local agent for Brora coals was D. Middleton & Company who organised its sale about the North East of Scotland.[16] In 1874 the coal from Brora sold at 20/- per ton about Nairn and this was on average 5/6d. less per ton than the coal brought north from the Scottish Lowlands or from the North East of England.[17]

But Brora coals still did not quite make it on account of working problems. The coal seam varied from 270 ft. to 300 ft. from the surface and therefore there was a pronounced dip that ran at 1 in 4 to the South East. The angled seam working caused the local miners great difficulty from water and just general inexperience. It may be noted that some coal seams about Edinburgh were more inclined but worked successfully and the impression of Brora remains that the miners were not always sure of what they were doing. Indeed they must have burnt much of potential profit in coals for the pumping engine necessary to keep the mines water free. The sad truth was that Brora could only be wrought to profit where coals of better quality could not be got.[18]

In conclusion Brora was a small time working which attracted local investment in the search for cheap fuel in an area where, due to transport costs, coals were expensive. Combo industrial units of coal, clay and salt working developed from the locally available resources and were of considerable investment value to the Sutherland Family. Brora's seaside location allowed it an important share in the Scottish salt industry, though its periods of productivity were short and stormy. Problems associated to all its industries were attributable to business speculation and naivety in working. It did not attract the best of workers probably on account of Brora's distance from profitable markets. It was always speculative and experienced miners tended to stay at the centres of their success as for example about the Lowlands. Fortune hunters who did go north did not improve the quality of mining and it is a sad reflection of local ability that English miners had to be brought in to sort out the difficulties. The linking of the Sutherland Family to the Marquis of Stafford probably did more than any other thing to set mining in the right direction. The "railway" Duke of Sutherland was described as:

> "a real dook, a driving his own engine on his own railway and a burning his own blessed coals,"[19]

this sums up much of the ethos behind Brora, for local fuel for local industry was always the dream of entrepreneurs and Brora, miles from the coal resources of England and Scotland, allowed that dream to materialise to some extent.

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The tale of “his own blessed coals” is attributed to an ex-navvie formerly employed about the Sutherland Railway, and heard as an old man’s tale in the Inverness locomotive sheds c1921.

Source notes:
I. The *Monthly Magazine* carries a letter from John Farey of London relative to the colliery at Brora. The letter followed on earlier correspondence on the spontaneous ignition of coal dumps at Brora. Farey details much of the mining experience about Brora and though respectful of Williams pulls no punches. It must, though, be noted that the critique of Williams arose from Farey’s informant having been Hugh Houston, Williams’ underling. It may therefore be the case that some views expressed the personal and professional prejudice of Hugh Houston and Farey.

II. Early photographs of Brora are rare and that used appeared in:
CADELL, Henry M. *The geology and scenery of Sutherland.* 1896. p.87.

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