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**Peat exploitation on Thorne Moors. A case-  
study from the Yorkshire-Lincolnshire border  
1626-1963, with integrated notes on Hatfield Moors**

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## **7. PEAT WINNING ON CROWLE MOOR**

### **7.1 Crowle Moor: the Lincolnshire sector of Thorne Moors**

Between Thorne and Crowle, the ancient border separating Yorkshire and Lincolnshire followed the former courses of the Idle and Don rivers. In 1630, the inhabitants and tenants of Crowle, in Lincolnshire, were awarded exclusive turbary rights over 400 acres on the eastern part of Thorne Moors, which was over the county boundary in Yorkshire. In 1888, as a result of Section 50(1)(b) of the Local Government Act of that year [1], the county limit was moved westwards to encompass the whole of Crowle's turbary allocation [2]. This margin was demarcated by a straight line across vegetated peatland to divide Thorne Waste from Crowle Moor. This situation then prevailed for over a century, before being replaced in 1993 [3] by a boundary realigned along the courses of Swinefleet Warping Drain, Swinefleet Line Dyke, and then south beyond the Stainforth and Keadby Canal to Bletcher's Drain. This put the old Medge Hall site in Lincolnshire. The 1888 move occurred before the development of a locally unified moss litter industry, when the holdings of the early companies were all still separated, spatially and psychologically. It thus created an artificial division of the moors, which was reinforced by the approximately coincident barrier of Swinefleet Warping Drain, the first half of which had been opened in 1821 (Creyke 1825, 1845). The separation so formed continued to differentiate markedly the pattern and scale of peat winning that evolved on either side of Swinefleet Warping Drain. The clarity of this demarcation was recognized in the 1993 change.

### **7.2 The years to World War II**

There are few 19th century references to peat winning on Crowle Moor, though it was noted on occasion that peat was "dug" and dried there. For example, in the formalised wording of the Act of 1813 to enclose land in the parish of Crowle [4], it was forbidden to "cut or dig any Turves" until the Award had been made. At that time, most of Crowle Moor lay within Yorkshire, only the peat workings on the eastern side extending into Lincolnshire. Having been exploited by peat removal, this latter peripheral area was reclaimed in the 1840s, when already regarded as a worked out and derelict peat resource (Woodruffe-Peacock 1920-21, Neave 1986). The former, in alluding to Crowle Moor c.1842, referred to this type of peat removal:

a system of pit digging, locally called ‘honeycombing’, and finally filling in of the partition walls, section by section, – the deeper these pits are carried down into the peat so much the better for the future warped soil

He also wrote incidentally about peat winning on Crowle Moor when describing Crowle Old Decoy (Woodruffe-Peacock 1920). This duck decoy was about one mile west of Crowle Church, and operated c.1833-47. Woodruffe-Peacock stated:

This decoy and the quaking bog round it was famous in the [early 1840s] for *Scheuchzeria palustris* [Rannoch-rush] abounding there. It stretched over a wide area of turf pits in spongy bog ‘almost up to the carr edge’...‘most abundant at a little pool nearest to the decoy, but found in others too’. Now these ‘other pools,’ were I find on the edge of the carr, which in summer was a little drier than the neighbourhood of the decoy which was quaking bog. They were formed by the Crowle people cutting turves in former seasons.

In addition to endeavour by individuals, several small “peat moss mills” became established on Crowle Moor at different times, sometimes linked with other economic activity, particularly farming. All existed along Moor Middle Road, their peat worked within the strips (‘ribbons’) of moor extending north-westwards from the road to the parish boundary on the moors. The mills were remarked on by FitzRandolph and Hay (1926), who stated that companies had worked the peat for 50 years, though by inference in the earliest years not for moss litter. The initial company was probably the Crowle Charring & Condensing Co. In addition, from 1899 the British Moss Litter Co. extended its influence on Thorne Moors by becoming increasingly involved with Crowle Moor. The company’s Crowle Moor turves were conveyed to the existing mills at Swinefleet and Medge Hall. The British Moss Litter Co. continued to extract peat from Crowle Moor until 1956, when a severe fire destroyed many trams and balks. “The cutting knives and spades were stuck in the peat and left for years” (J. Eversham pers. comm.), and some of the abandoned stacks survived even longer [5].

The first located evidence of moss litter manufacture dates from the 1890s, but there is no evidence to exclude it from the previous decade, when litter companies began elsewhere on Thorne Moors [6]. The fifth edition of white’s *History, Gazetteer and Directory of Lincolnshire* (1892), in its entries for Crowle, listed Frank Amery, John Amery and Fergus Hunsley as farmers, “Moor edges”, and both David Amery and James Storey as “farmer and moss litter manufacturer, Moor edges”.

In 1909, a fire broke out on a part of Crowle Moor worked by the British Moss Litter Co. It was noted (*Doncaster Gazette* 20 August):

in a very short time the whole of the long rows of turf stacks extending for miles caught fire...It is estimated that about 500 acres of moorland and hundreds of stacks, each containing 30 or 40 tons of turves, have been destroyed. No exact estimate will be forthcoming for some time, but thousands of tons have been burnt out. Not only have the Company referred to suffered, but the following, whose farmsteads were on the Moor edges, have also had numerous stacks destroyed:- Messrs. [J.]W. Amery and Son [presumably David Amery], [Henry] Tune, J[ames]. Storey, J[ohn]. Amery and Son [John Henry Amery], F[ergus]. Hunsley and Son [William Hunsley]. Mr. A. Drinkall, who resides in the town [of Crowle], also suffered great loss.

The *Goole Times* (13 August) stated that “the farmers who have suffered are:- Messrs. D. Amery and Son, H. Tune, J. Storey, J. Amery and Son, and F. Hunsley and Son. Mr. A. Drinkall, who resides in the town, also suffered considerable loss”.

At the turn of the century, one of the foregoing, Fergus Hunsley, had a “hand-operated” mill (B. Hunsley pers. comm.) at grid reference SE759145, apparently constructed by himself. Where known, other operators seem to have relied on some form of power, probably mostly based on paraffin at that time.

During the war years 1916-18, the Crowle Military Tribunal received applications for exemption from military service from inter alia those in the local peat industry. Several instances are quoted. An application was refused from a “moss litter manufacturer, who applied for exemption for his drayman...He had two other men of military age” (*Goole Times* 3 March 1916). “A carter appealed for his son, 19 years of age, and pleaded illness. He was employed leading turf, and during his illness his son did the work, He also farmed 12 acres. The application was refused” (*Goole Times* 17 March 1916). “An engine driver...employed by a firm of peat moss litter manufacturers, was granted four months’ exemption” (*Goole Times* 31 May 1918). A final newspaper extract, also from 1918, noted that a “peat moss worker...was granted three months” exemption. It was stated that this was the only man left in the firm, “out of six previously engaged” (*Goole Times* 14 June 1918). An additional company that existed from at least 1915 to 1917 was B. Behrends & Co., “peat moss manufacturers” (*Goole Times* 12 March 1915–26 January 1917).

Writing in the 1920s, FitzRandolph and Hay (1926) reported:

the largest of the peat moss mills employs ten men as a rule, another, three or four, and several smaller ones are worked by one or two men only.

In 1921, the active peat operators numbered at least six (*Goole Times, Doncaster Gazette* 5 August):

About midday smoke was seen to be issuing from land in the occupation of Mr J.J. Cranidge, and the adjoining owners, who had a considerable quantity of peat in stack, made strenuous efforts to prevent the flames spreading. This was impossible, however, and peat stacks on land owned by Mr H. Tune were soon alight, considerable damage being done. Workmen were kept on day and night digging trenches, etc. by the British Moss Litter Co., Messrs Hirst and Thompson, and Messrs J.W. Storey and J.H. Amery.

In *Kelly's Directories of Lincolnshire* for 1903, 1913 and 1919 the only moss litter manufacturers on Crowle Moor are listed for the latter two years: David Amery & Son.

Crowle peat retained some significance as a source of fuel, especially during times of coal scarcity. In September 1919, there was a fire in outbuildings attached to the Red Lion Hotel. Their contents included "a quantity of peat" (*Goole Times* 3 October). Similarly, in February 1921, an alarm was raised following the discovery that "a quantity of packing cases, peat, etc., was blazing fiercely in the coal-house" of premises in the High Street (*Doncaster Chronicle* 11 February).

The relative importance of peat at that time may be gleaned from press reporting of the Crowle Military Tribunal in 1918. In August, it was observed (*Goole Times* 30 August) under the sub-heading 'The Importance of the Peat Industry':

A peat moss litter manufacturer at North End, for whom Mr. Symes appeared, applied for renewal of exemption. Mr. Symes pointed out that the peat industry was now of national importance owing to the coal shortage, and cited a similar case recently heard at Thorne, where, in view of the shortage of coal, peat workers had been granted temporary exemption. Applicant was prepared to sell peat as fuel.

Three months' exemption was granted on condition that the men continued to work three days a week on the land.

Mr. Symes also appeared in the cases of a peat moss worker at North End, and a peat moss litter manufacturer in North Street...The claims of the national importance of the industry, were again advanced, and evidence produced that the peat was being put on the market as fuel.

Three months' exemption were granted in each case.

Subsequently, in September 1918 (*Goole Times* 4 October), it was noted:

A peat moss litter manufacturer, for whom Mr. Symes appeared, applied for renewal of exemption for a peat moss worker, who resides at North End. The man is...the only workman left out of six in pre-war days. He had 1,500 tons of peat he was desirous of placing on the market, as there was an increasing demand for this as fuel. Three months' exemption was granted.

In *Kelly's Directory of Lincolnshire* for 1919, only David Amery & Son ("moss litter manufacturers, The Moors") and C.H. Tune ("farmer, The Moors") are listed.

The need for peat as fuel was again publicised in 1926. In an article on Crowle peat (*Doncaster Chronicle* 24 September), prompted by the national coal strike in that year, it was stated that peat fuel was again of some significance:

The "graving" of peat fuel, normally a sideline, takes place in July and August, and the drying occupies 12 months, after which the peat is fit for use. As there is usually little demand for black [fuel] peat, stocks are not large.

The article continues:

The peat in the Crowle area is of the best quality. In the trade it is known as "live". When one layer is cut away from a depth of four feet or more – for all black peat is found around that depth – the one beneath will rise to the level it occupied; as opposed to the "dead" peat in the Staffordshire areas. Last June and July were warm, dry months, most suitable for cutting and drying purposes. My informant said that 60 tons that had been cut had dried so rapidly that if the strike lasted much longer, it would be ready for use.

It is likely that some fuel peat "purchased direct from the moor" was sold locally: "Crowle folk...have used it in fair quantities" as an adjunct to coal. The peat was also distributed by rail to populations up to c.30 miles away. However, despite this short-term boost to the peat industry, the *Chronicle's* correspondent reported the pessimistic longer-term view of his informant:

At present, the peat industry is not a paying proposition, with little demand, and the cost of labour half as much again as pre-war. It is only the possibility of coal developments on the moor that induces one to hold on.

In a reference from the 1920s, Potter (n.d.) observed that there were "three [peat] crushing mills" on the edge of Crowle Moor, and referred to Joseph Storey's mill (grid reference SE759145):

The lumps of dried peat were brought to the crusher on a kind of conveyor belt system. They were...soon shredded into fine peat & ready for the bale crusher.

In *Kelly's Directory of Lincolnshire* for 1922, several concerns manufacturing moss litter from Crowle Moor are listed: the Crowle Peat Moss Litter Co., Gilbert Thomas (“peat moss agent, The Moors”), Hirst & Thompson, Joseph Storey [7] (“peat moss merchant, Crowle wharf”), and the Yorkshire Peat Moss Litter Co. [8]. Charles H. Tune was listed as a farmer, “The Moors”. At this time, the Yorkshire Company’s offices were in Doncaster [9], those of the Crowle Company in Hull [10]. In 1926 there were “three or four companies” on Crowle Moor (*Doncaster Chronicle* 24 September).

The Crowle Peat Moss Litter Co. is somewhat enigmatic. It was apparently this company that employed the “engine driver” granted military exemption in 1918 (*Goole Times* 31 May, 4 October). In that year, the Crowle Peat Moss Litter Co. had 22 other employees, making it large by Crowle standards (*Goole Times* 4 October). The mill site was at grid reference SE756138.

The largest company on Crowle Moor became the British Moss Litter Co. of 1899. This process began in August of that year, when the company took over the business and assets of the Goole Moss Litter Co., which included the Swinefleet Works and 101 acres 3 roods 23 perches of land on Crowle Moor. On the same date, the company obtained 2 acres 3 roods 1 perch on Crowle Moor from its liquidated 1896 predecessor. The process of purchase continued, with further strips acquired in 1901, 1903, 1905, 1912 and 1914. In total, the 1901-14 acquisitions amounted to over 105 acres, with possibly further stretches leased or worked by agreement.

In 1925, a notice in the *Doncaster Gazette* (11 December) publicised the voluntary liquidation of the Yorkshire Peat Moss Litter Co., and announced a meeting of creditors. Despite its name, this too was a major Crowle firm, having agreements with the Coal, Peat & Oil Syndicate Ltd of Doncaster, including supplying peat for Leadbeater peat coke (see also note 8). The company was still listed in *Kelly's Directory of Lincolnshire* for 1926, and seems to have survived for a further eight years. In January 1931, there was a serious fire at the company’s mill (*Doncaster Gazette* 23 January):

The fire appeared to have started in the engine house and spread to the baling shed adjoining. These buildings were wooden structures, with corrugated iron roofs, and were totally destroyed. A large stack of about fifty thousand baling laths was also destroyed. The engine and the pressing machine were considerably damaged, but fortunately, the

strong gale which was blowing carried the flames away from the moors, where there is a large quantity of peat in stack, belonging to the different firms.

The above article referred to the mill “of the Yorkshire Peat Moss Litter Co., owned by Messrs. Major Brothers, of Hull”. The mill site, at grid reference SE757139, was sometimes called ‘Major’s Mill’ until comparatively recently.

In December 1934, the shares of the Yorkshire Peat Moss Litter Co. were purchased by the British Moss Litter Co., followed by those of the Crowle Peat Moss Litter Co. in January 1935. The properties of both companies were conveyed to the British Moss Litter Co. in December 1935, with both being liquidated in the following year. The Yorkshire Peat Moss Litter Co. had owned 23 acres 3 roods 19 perches on Crowle Moor. The Crowle Peat Moss Litter Co. had owned 58 acres 0 roods 18 perches. With the mills closed, both areas of associated workings were linked, by tramway, to the Medge Hall Works. As noted, the British Moss Litter Co. continued to extract peat until 1956.

All peat was seemingly graded and dried on Crowle Moor in much the same way as undertaken elsewhere on Thorne Moors. However, intriguingly, on workings other than those of the British Moss Litter Co., the only remembered width of cutting is 4ft 6in. There is at least one recorded early example of variation in the size of cut turves. Potter (n.d.) observed that the deeper, “more solid and compact” peat, which was useful as fuel, was graded into turves “much smaller than the top [litter] layers”. A market for fuel peat persisted in the 1930s. In that decade, a Crowle Moor strip owner received one wagon-load of peat turves per year from the British Moss Litter Co., for allowing a tram across her moorland. She burned the turves as a supplement to coal. This implies that turves of ‘black’ peat were readily available at that time, and that this residual requirement persisted for some years.

On Crowle Moor, the more extensive and systematic peat workings were divided into ‘ratches’ [11], a term synonymous with the ‘flats’ to the west, except that they were 2 chains wide. It is likely that the term went out of use on Crowle Moor in the 1950s. This would perhaps have occurred with the end of activity there by the British Moss Litter Co., which had the most expansive workings. Series of numerous parallel ratches lay at right angles to the permanent tramway balks, though their lengths were defined only by



the existing anthropogenic topography. The depth of cutting was always 4ft on the workings of the British Moss Litter Co., though was sometimes above – even 2ft – and below this figure elsewhere on Crowle Moor. Lockspits were essential, with some at least dug one turf away from the face, though most were probably at the base.

The peat was laid out in storage rows, and then built into walls [12], with FitzRandolph and Hay (1926) stating that once the peat was sufficiently dry, it was “gathered into heaps” known as pyramids. They added that women were employed to help “carry the blocks of peat and pile them into walls, pyramids, and stacks”. However, if adequately dry peat was available in pyramids, especially at a time of demand and good weather, stacking could be dispensed with, and wagons, for example, loaded from the pyramids. Stacks were intended as mill supplies for the winter. They were constructed like those elsewhere on Thorne Moors, being the product of the widening of the near side of each flanking ratch. The report in the *Doncaster Gazette* (20 August) on the 1909 fire described the stacks that were engulfed, noting that “in a very short time the whole of the long rows of turf stacks extending for miles caught fire”. It was estimated that 500 acres of moorland, “and hundreds of stacks, each containing 30 or 40 tons of turves”, were destroyed; “thousands of tons have been burned out”.

In the building of the stacks, the women ‘threw up’ for their menfolk: standing on wheelbarrows, they tossed the turves up to the men, who had positioned themselves on the stacks to complete them. The smaller peat producers did not routinely build their turves into larger stacks, if stacking was deemed to be necessary. This could involve carrying turves an unacceptably long distance to get enough of them to the best site for a large stack. They therefore constructed lesser stacks, known as ‘pikes’. These arose when or where any operator had relatively small quantities of dry peat requiring storage. This occurred, for example, if only one side of a ratch was worked during a year, or if residual turves required tidying and to be kept dry. If too many dried turves were at hand, usually as remaining groundstock towards the end of September, they were ‘piked’ to minimize the effects of winter wetting. This relatively generalized Crowle-based definition of a pike, as a diminutive, but otherwise typical, stack, may represent the original use of the term on Thorne Moors. As a widely-used dialect word, it was often applied to a small stack of hay. The more technical, prescribed definition, as

employed by the British Moss Litter Co. in post-war years, was perhaps a gradually more regulated one, arising from that agricultural origin.

Moving the peat for drying or storage involved human muscle effort. The Crowle Peat Moss Litter Co.'s employment of an "engine driver" in 1918 (*Goole Times* 31 May) referred to the stationary engine powering the mill, not a locomotive. Moving the peat was achieved by throwing the turves to their new positions, carrying them in a 'crate', or trundling them in wheelbarrows. It largely depended on distance. Abandoned crates were to be seen on Crowle Moor in the 1930s, when they were known as 'cratcheys' (singular 'cratch'). This terminology presumably indicates the origin of the word 'crate', as a corrupted form of 'cratch' [13].

Conveyance to the mills was undertaken by horse and dray, or tram if the scale of exploitation, or terrain, warranted it. On the trams, slatted wooden wagons were hauled by horse or pushed by hand. These and the lines of the British Moss Litter Co. at Crowle constitute the only Lincolnshire peat railways (Limbert & Roworth 2009), although they are ignored in the definitive account of Lincolnshire's industrial railways (Ashforth et al. 2010). Storey's Mill, as an example, served by two contiguous strips of peat, had about six wagons on its tram in the 1930s. They were pushed by hand to the mill, and were remembered as being at least superficially like those employed by the British Moss Litter Co. There is no evidence on Crowle Moor for any gauge other than 3ft. Storey's had – typically – a single 'permanent' line to the mill. There was no integration of temporary rails by turntables, as occurred on the British Moss Litter Co.'s relatively extensive Crowle holdings. From each Crowle mill (excluding the British Moss Litter Co. works), the peat, whether baled or loose, was taken by horse-drawn dray for railway conveyance, though in the 1930s motor lorries began to appear. For example, from that decade, one is recalled that regularly collected raw, unrefined peat for horticultural use in Hull. Further information on the utilization of Crowle peat may be ascertained from a printed memorandum sheet [14], in use in 1924, of the Crowle Peat Moss Litter Co. This advertised "Peat Moss Litter for Bedding Cattle. Granulated Peat for Poultry. Peat Dust for Packing and Fuel Peat".

### **7.3 The Scientific Peat Company and Poly-Peat Products (to 1975)**

Only one Crowle mill, with its associated workings, seems to have had more-or-less continual occupation from the early moss litter years, being the only enterprise from before World War II to survive into the 1950s and beyond. The mill and workings were a part of Moors Farm, with both the farmhouse and mill situated at grid reference SE758141. In the 1930s, peat was still being marketed from there, with the hand-graved turves conveyed in horse-drawn wagons on a single rail to the mill. The wagons were wooden with slatted sides, having a capacity of c.10cwt.

The farm was purchased c.1940 by Clifford Cowling, who began to supply firewood, rear livestock and grow crops on his 26 acres. Initially, he did not work the peat, and his other operations declined later in the decade, largely forced by illness. Change ensued in 1947. The Scientific Peat Co. was set up by Cowling and William Thomas, who had also come to live on the edge of Crowle Moor. Thomas was responsible for the company name. The mill was reactivated and the abandoned peat workings were exploited again. In 1950, Herbert Pickett, a Crowle Moor resident, joined them as an additional partner. The company, though ostensibly 'Scientific', simply crushed and screened raw peat, much of it destined for horticultural use. The peat was graded and dried in a conventional way, though the storage stacks were relatively small. Significantly, the turves were conveyed to the mill on a trailer pulled by the Cowling's Fordson Standard tractor. This began, coincidentally, in the same year that on the other side of the county divide the 'Railway Seven' first travelled on the narrow gauge.

The Scientific Peat Co. remained small and did not flourish, relying on a casual employee to augment work done by the owners. Its peat workings never exceeded Cowling's 4 acres. At that time, the mill was still dependent on its existing paraffin engine. The dried turves were shovelled into the tearing machine, and the fragmented peat was then elevated on to a screen, which simply comprised a manually-operated potato riddle. The finer, granulated material passed through to the floor below, with the coarser, fibrous peat and lumps left behind on the screen, to be cleared separately. From there, the screened peat went for horticulture, with the coarser residue (tailings) finding an occasional customer as horse-bedding or deep-litter for poultry. All the peat was sold in 1cwt hessian sugar beet pulp bags, and these were conveyed by road to customers. In 1951, the company was bought by two local men, Sid Pickett – son of

Herbert Pickett – and Herbert Mason. It was intended both to win peat and revive agriculture. However, after three years, farming was abandoned, all effort becoming concentrated on the peat. Some of the cart-warp, apparently laid by a former owner as a return load when conveying peat to the local railhead, was removed to expose the peat beneath it.

Under its new ownership, the Scientific Peat Co.'s activities developed, with casuals and up to eight full-time workers also eventually employed. In 1960, the company name was changed to Poly-Peat Products. Those working on the moor – the casual, and if necessary, full-time employees – took peat as they knew how or learned, clearing their own baring as they progressed. Although the permanent workers were usually involved in transporting peat to the mill, and running the latter, they also had to grave turves if stocks were becoming depleted. At the workings the peat was, as in earlier years, put into storage rows and then walled. Subsequently, if drying was adequate, the walled peat was taken to the mill, with pyramiding undertaken only if further drying was required. Small stacks containing c.2 tons of peat were constructed from walls or pyramids, as available, for winter supplies. However, it became difficult to grave enough peat to build up sufficient stocks for winter orders. Thus, relatively dry, well-vegetated balks or banks were resorted to in winter, the peat being suitable for transportation and use almost immediately after graving.

Eventually, it became necessary for the mill to be reconstructed, with the plant improved and augmented. For example, a baler that already existed at the site was redeployed, producing 2cwt lathed and wired bales. The peat crusher was redesigned, combining a hammer-mill and the existing tearer. A powered rotary-screen was installed, with this peat falling automatically into bags, initially of hessian, but later almost entirely of polythene. In 1955, the paraffin engine was replaced by a Ruston & Hornsby diesel engine, and two years later the mill also acquired an electricity supply. In the peat workings, innovations were tried, and these eventually became dominant. Although tractor power was relied upon for internal transportation of the turves, a tram was also laid c.1954. The mill's former rails had been long abandoned, and their successor, extending for only c.200yd, was short-lived and simply an expedient. It was employed to help remove peat from an area inaccessible to a tractor. The lines, wheels and axles were all salvaged; and two slatted wooden wagons were constructed, each

capable of holding c.10cwt of peat. They were loaded by hand, and then the wagons were pushed to a point where the loads could be transhipped for conveyance by tractor and trailer to the mill. With the purchase of a flanking stretch of moor in 1957, this access problem was alleviated, so the line and its rolling stock became superfluous and were abandoned. Other similar acquisitions on the moor gradually aggregated into a holding of 64 acres of land when eventually sold. However, the peat workings still only extended over c.4 acres.

In March 1955, the mill and workings were visited by Hull University students (Foley 1955):

Crowle Peat Farm was appreciated by members of the party. The “Scientific Peat Farm” looked like a tumbledown shack.

One of the erstwhile students wrote (G.G. Robinson in litt.) that the operation “appeared to be two or three men digging and stacking and moving the turves along a light railway to a small shredding machine”. It was noted at that time (Foley 1955) that 58 acres had been cleared, which was incorrect; the peat workings only covered c.4 acres. It was also observed, with greater accuracy, that output achieved 30 tons of peat per week, and that “the reserves will probably last for 100 years”. Four tons were graded from each “chain”, an area defined as 22yd long x 4ft 6in wide x 4ft deep.

Some of the Scientific Peat Co.’s customers collected their bagged or baled screened peat, but others had theirs delivered. The main customers for the peat remained those involved in horticulture, although direct supplies to nurseries became gradually superseded by sales to wholesalers. Other related uses included potato and vegetable packing, and mushroom growing. For a number of years, tailings continued to have some use as horse bedding and deep-litter for poultry. A residual market for the deeper fuel peat persisted for some decades, but latterly it was not considered worthwhile, and was discouraged. The last customer was an Eastoft blacksmith, who had some graded by Poly-Peat Products on one occasion in the 1960s.

For a decade or so from the mid-1950s, some tailings were used by Nitrogen Fertilisers Ltd of Flixborough [15]. Small quantities of tailings were purchased by this company (in sugar beet pulp bags), but the amount available gradually decreased as the mill operation – including screening – was improved. The tailings were used by Nitrogen

Fertilisers in its Linde Plant, which produced ammonia from the free hydrogen in coke-oven gas. The tailings (later mixed with sawdust) were employed in 'spent oxide boxes' as a gas filter/absorbent in the initial process of cleaning the coke-oven gas, before separation of the hydrogen and other gases for ammonia production. These gases were piped to the Plant from the blast furnaces of Lysaght's Normanby Park steelworks, Scunthorpe. The gases were distilled, and the resultant acid was converted into ammonium sulphate.

Also in the mid-1950s, the Scientific Peat Co. commenced the production of horticultural growing media. At first, activity centred only on the loam-based John Innes formulations. The JI range comprises a Seed Compost and a Potting Compost. The specified bulk ingredients for both, in their correct proportions, are a "medium clay" loam which must be partially sterilized, together with peat and suitable sand. The Seed Compost requires two parts (by bulk) of loam and one part each (by bulk) of peat and sand. It has a relatively low nutrient content, with measured quantities added of superphosphate of lime and calcium carbonate. The Potting Compost requires (also by bulk) seven parts of loam, three parts of peat and two parts of sand. The fertilizers added (known as the John Innes Base) are measured amounts of hoof and horn grist, superphosphate of lime and potassium sulphate, plus calcium carbonate. The potting compost is available for use as Numbers 1-3, each with successively higher nutrient levels. For No. 2, the rates of hoof and horn grist, superphosphate of lime and potassium sulphate are doubled, and for No. 3 they are trebled. The rates of calcium carbonate are also increased accordingly (Lawrence & Newell 1962, Bunt 1976).

For the Crowle versions, the peat was blended to achieve a correct acidity level, with the loam originating from Crowle Brickworks. The sand had two different origins. That for the Seed Compost came from a quarry at Blaxton, Doncaster, and the coarser material for the Potting Compost from Welton, near Hull. Facilities were acquired at the mill to allow the sieving and heat sterilizing of the loam. Then, after being left for a day, it was mixed with the other bulk ingredients and the fertilizers, in a drum-mixer, the resultant compound being bagged directly from the latter. The bags were polythene and held 4st of compost. Later, 7lb and 14lb bags were also marketed. Most of this output went to wholesalers.

The increasing use of polythene, apparently for the first time anywhere on Thorne Moors, led to the change of name in 1960 to Poly-Peat Products. The use of polythene bags also encouraged a growth in retail sales from the site. The Scientific Peat Co. had raised relatively little retail turnover, but Poly-Peat Products was able to develop this aspect of its trade. At their respective subsequent peaks, wholesale and retail sales of products each amounted to c.25 tons of peat per week. Approximately half of this was sold as composts, with much of the remainder as bagged raw peat, though with some sales of hand-graved turves. It is interesting to note that Poly-Peat Products' letter-heading in the 1960s described them as "Peat Producers and Scientific Blenders & Granulators" [16].

By the mid-1960s, experimentation by Poly-Peat Products had led to the invention of a loam-free compost marketed under the name of 'Lincolnshire Triple'. This was promoted alongside the John Innes products, and was intended to replace them, though this did not occur for some years. 'Lincolnshire Triple' comprised screened and heat-sterilized blended peat, "washed river sand" from a Wakefield quarry, plus calcium carbonate and a combination of fertilizers, hence the 'Triple' appellation. It too was sold in 4st polythene bags.

The first owners of the old Scientific Peat Co. had themselves attempted to create crude John Innes composts (naturally burned warp soil was regarded as adequately sterilized!), but the quantities were very small and the results understandably poor. They also produced a modest amount of bulb-fibre, and like the composts, this was improved upon and expanded by their successors. For the latter, the bulb-fibre comprised a combination of screened, blended peat, oyster-shell 'grit' and wood charcoal. Although it had originally been sold in the hessian bags, these too became replaced by polythene bags, holding 2lb and 4lb of the fibre. These bags were also aggregated into larger ones.

The earliest known activity anywhere on Thorne Moors that can be regarded as akin to the modern concept of surficial peat harvesting (rotavation and milling) was undertaken by the Scientific Peat Co. In 1953, an area was cleared measuring c.4 x c.1 chains. From this, a thin, dry surface layer was removed by fork. The peat was shovelled directly into a trailer, towed by the Cowling's Fordson Standard tractor. Three men

were involved during that summer. The company experimented further in 1954, in the same area. A tractor-led disc-harrow was pulled over peat cleared of vegetation, which loosened the surface layer, allowing it to be shovelled into a trailer and taken to the mill. It was already adequately dry. This method proved successful, and was thus expanded. Eventually, up to 20 acres of this type of working existed, with traditional hand-graving (and drying) almost entirely eliminated. The latter became merely a winter job on surviving balks to increase stocks when discing was impractical. Graving with a knife finally ceased in 1972.

During one year in the 1960s, Poly-Peat Products briefly experimented with a tractor-led David Brown Hurricane forage-harvester, on loan to them. After disc-harrowing, the peat was windrowed using an adapted David Brown tool-bar. When adequately dry, the forage-harvester was taken over it. This picked up the peat and blew it into an attached trailer, but created so much dust as to make it unusable. Taking damper peat simply caused the chute to the trailer to become clogged. Thus the forage-harvester had to be abandoned for this purpose.

From 1969, as a response to the general expansion of the horticultural market, others became involved on Crowle Moor, as described by Limbert and Roworth (2009). At that time, Herbert Mason was, for personal reasons, unable to take more than a nominal role in Poly-Peat Products, and eventually wanted to relinquish his share. In 1972, both partners agreed to sell the company, and did so to the Clayfields Development Co. of Doncaster. Poly-Peat Products became a member of the Development Co., with continuity underpinned by the employment of Sid Pickett as Foreman, though he left after a few months.

Poly-Peat Products began to diminish, and sold relatively little peat, mostly to a wholesaler, though some retail sales were still achieved. An advertisement published in 1974 in Crowle Parish Council's *Introducing Crowle* listed the products available as "Garden Peat John Innes Compost Lincs. Triple Compost Rose & Shrub Peat Welton Grit Sterilised Soil". Under the Clayfields Development Co., Poly-Peat Products almost entirely relied on discing to remove peat, but briefly introduced a Case track-mounted excavator, the first excavator on Crowle Moor. In addition to drainage work, this dug peat from the ground, which was loaded directly into a tractor-borne trailer for



the mill. However, being regarded as uneconomic for the small amount of peat being won, it was replaced by the tried formula of discing.

Within a year of involvement, the Clayfields Development Co. offered the business to Ron Parkin, a past employee of Poly-Peat Products who had begun to work for Clayfields. He accepted, also retained the Poly-Peat name, and was successful in expanding it, with up to 11 full-time and part-time employees at work on the peat or at the mill. He purchased a Whitlock 505 wheel-mounted backhoe-loader, which was better adapted to the moorland conditions and performed well. The bucket was employed to clear the surface, the backhoe to excavate trenches and remove the peat. This was immediately loaded by the Whitlock, as required, into a tractor-led trailer for removal to the mill. In 1974, the Whitlock was replaced by a JCB 3C wheel-mounted backhoe-loader.

Ron Parkin decided to abandon the John Innes composts and the bulb-fibre, but conversely, took on the production of 'Bio-humus'. This, a product of Pan Britannica Industries Ltd of Waltham Cross, was marketed by them from 1948 to 1992. It was a general pre-planting medium for use in the home or garden, and from 1974 Pan Britannica used Poly-Peat Products as a source of peat for it. The former provided seaweed extract and other nutrients to Poly-Peat Products, who added calcium carbonate, and mixed them all with blended peat, as directed. The incipient compost was precipitated from an elevator into a heap in a shed, to allow bacterial digestion under natural conditions. Three such heaps were employed, at different stages. After about one week of digestion, the material could be transferred by the Whitlock and then the JCB, to a contractor's lorry, for conveyance to Waltham Cross, where the completion of the process was effected.

In 1975, a firm was formed called the Parkland Peat Co., to take over Poly-Peat Products, having purchased it from the Clayfields Development Co. Ron Parkin was no longer involved, and with the new name, the nominal continuity with the past was broken.

#### **7.4 A note on the transition to mechanisation**

In summary, the Scientific Peat Co./Poly-Peat Products existed from 1947 to 1975. The company was the only such operation on Crowle Moor in the post-war period, and initially relied on traditional peat winning methods, no different from those that had been employed elsewhere on Crowle Moor. Movement of the peat was by a Fordson Standard tractor and trailer, augmented for a time by two wooden wagons on narrow gauge rails. Manual peat winning began to be eclipsed by mechanised surficial peat removal from 1953. However, three points relating to the former require notice here:

- Peat turves 12in long x 9in wide x 6in thick were usually graved by the employees, though other sizes were acceptable if they were more familiar to the worker involved. For example, some were cut longer to accord with existing practice by the British Moss Litter Co. Two Irish workers (not part of the main Irish immigration, as noted in section 4.7 note [2]) produced turves appreciably larger. One customer in the mid-1960s estimated the turves he purchased (for garden use) to be 15in long x 6in wide x 6in thick, which *may* be a reference to ‘British Moss’ sized turves
- The last use of graving knives was in 1972. Traditional peat winning and drying had become merely a winter job on surviving balks, to increase stocks when mechanical peat removal was impractical
- An abandoned crate pressed into service in the winters of 1952-53 and 1953-54 is likely to have been the last of all at Crowle. It was useful for removing turves from stretches of moor beyond the reach of the tractor and trailer during those wetter months

Other businesses were set up to exploit Crowle peat from 1969, when manual working on the whole of Thorne Moors was all but over. Every newcomer on Crowle Moor was reliant on mechanisation from the outset, summarized by Limbert and Roworth (2009).

#### **7.5 Notes**

[1] An Act to amend the Laws relating to Local Government in England and Wales, and for other purposes connected therewith. [13 August 1888]

[2] *In the Matter of Crowle Waste or Crowle Moors, Crowle, Humberside*. Decision by G.D. Squibb, Chief Commons Commissioner, dated 24 January 1975. Commons Registration Act 1965. Reference Nos 24/D/17-31, Crowle Waste or Crowle Moors, Crowle, Register Unit No. CL.83. London: Office of the Commons Commissioners

[3] The Humberside and South Yorkshire (County Boundaries) Order 1993. Statutory Instrument 1993 No. 168

[4] An Act for Inclosing Lands in the Townships of *Crowle Eastoft* and *Ealand*, in the Parish of *Crowle* in the County of *Lincoln*, and extending into the West Riding of the County of *York*. [22 June 1813]

[5] A photograph, taken in 1970, of British Moss Litter Co. workings abandoned in the mid-1950s, together with partially dismantled stacks (the remaining part of each having been too wet to be worth removing), is published in Robinson (1970, 1972) and Green (1987). A further photograph, showing inter alia a small stack of turves on Crowle Moor, is also shown in Robinson (1972)

[6] Following the death, in November 1903, of a boy whilst employed in pony-driving for the British Moss Litter Co. on Crowle Moor, the Foreman, William Eyre, stated that it was “the first accident that has occurred in his section for 17 years [since 1886]” (*Goole Times, Doncaster Gazette* 20 November). If this was a reference to peat winning on Crowle Moor, it may be the earliest one to moss litter exploitation there. Equally significantly, a Crowle blacksmith was using “turf”, presumably from Crowle Moor, to heat metal in 1887 (*Doncaster Gazette* 1 July). Perhaps both moss litter and some fuel peat were being exploited in that decade

[7] Joseph Storey was listed for Crowle Wharf as he resided there. James Storey, founder of the firm Storey & Sons, had died in 1913 (*Goole Times, Doncaster Gazette* 18 July). Potter (n.d.), describing living on the edge of Crowle Moor during the 1920s, referred to Joseph Storey’s mill

[8] In May 1921, the Yorkshire Peat Moss Litter Co. (registered office in Goole) entered into a ten year agreement with Coal Peat & Oil Ltd (registered office in Doncaster), to build and rent a works at the latter’s property at White Moss, Alsager, Cheshire. This was for the “reception and manufacture of the Peat on the Moor” into “Peat Moss Litter and otherwise”, and to buy agreed minimum tonnages per year from them. The peat was to be conveyed away via Radway Green on the North Staffordshire Railway. From ‘Agreement for the Sale and Purchase of Peat between Coal Peat & Oil Ltd and the Yorkshire Peat Moss Litter Company Ltd, 28th May 1921’, in the possession of the writer

[9] From a letter held in private hands

[10] From a printed memorandum sheet held in private hands

[11] This is a dialect word to be equated with a ‘reach’, indicating a long straight course, as of a river, or a distance between two points (*OED*)

[12] Potter (n.d.) referred to these as ‘chains’, which might have been based on a misunderstanding

[13] This is a midland and northern English dialect term for inter alia a movable sparred frame or box (Wright 1898)

[14] See note 10

[15] Nitrogen Fertilisers Ltd of Flixborough first occupied this site in 1938, producing sulphuric acid, ammonia and ammonium sulphate. The basic raw materials were sulphur for sulphuric acid, coke-oven gas (piped from the Normanby Park steelworks) for ammonia manufacture, and coal for power. The production of ammonium sulphate normally absorbed all the acid made, with ammonium sulphate and liquid ammonia being sold

[16] From letters held in private hands